

Do human rights entitlements in a secular state depend on use of an inclusive definition of religion?

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Abstract

A fundamental human right is the right to choose a religion and to then exercise that choice by encouraging the chosen religion to guide one's own behavior as well as the behavior of one's children, family and culture. The US Constitution purports to secure that right by ensuring that governmental actions which "touch the religious sphere," have a "secular purpose," and a religiously "neutral effect." However, neutrality is lost when government gerrymanders the definition of religion to exclude from the religious sphere functionally equivalent non-theistic views about inherently religious subjects such as the cause, nature and purpose of life. The gerrymander causes the excluded views to be treated as non-religious or "secular." That classification encourages government endorsement, particularly in public education, of the core tenets of non-theistic religions like Atheism and "Secular" Humanism and a suppression of the views of their theistic competitors. A particular problem arises in origins science education where materialistic answers to the ultimate questions of life are treated as secular, while legitimate criticisms of those explanations are suppressed as religious. The effect is governmental religious advocacy rather than neutrality, and a correlative loss of religious rights. This paper argues that to secure fundamental human rights a secular government must employ an inclusive definition of religion, one that will produce neutral religious effects.

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I. Introduction

This paper does not seek to ground human rights in any universal principle. Rather, it analyzes the foundations of human rights entitlements. The idea of a human right may exist in the abstract, however until a state acts to entitle and then secure it, the idea does not become a right. A thesis of this paper is that human rights entitlements in any particular state will be significantly influenced by any religious bias the state embraces. The reason is that ideas about human rights depend on one's particular conception of what it means to be human. Since all religions provide answers to that question, any religious bias of a state will influence the human rights entitlements allowed to its citizens.

Although many kinds of states exist, this paper contrasts human rights entitlements allowed by states having a theistic or atheistic bias against a truly secular state founded on a law that deprives the state of having any religious bias. It contends that true secularity in such a state depends on the state's implementation of its secular commandment with an inclusive or neutral definition of religion.

This paper does not advocate any particular state bias or non-bias. Instead it logically analyzes how a truly secular state would approach its task of fulfilling its non-religious commitment, primarily in public education. Rather than address all educational issues, it focuses on origins science education that addresses ultimate religious questions concerning the cause, nature and purpose of life. It then shows how state use of a narrow theistic definition of religion will cause the so-called secular state to be pseudo-secular, one whose actions produce functionally religious effects that are antagonistic to its commitment to be non-religious.

The secular state analysis uses the United States as a model as its Constitution requires it to be secular. In addition a substantial body of US law fleshes out knotty questions regarding the definition of religion. Although these cases may not be applicable in other jurisdictions, they essentially deal with universal concepts like the ideas of religion and religious neutrality. The paper does not advocate that all states embrace secularity. Rather it wrestles with the issue of how a secular state should act to fulfill a commitment to secularity like that embodied in the First and Fourteenth amendments of the US Constitution.

The author employs a "plain English" writing style, like that required by the US Securities and Exchange Commission in prospectuses to be read by non-professional laymen.

A. Human Rights depend on what it means to be human.

In 1952 the noted Jurist Felix S. Cohen, suggested that human rights ultimately depend on what it means to be human:

"What rights, if any, can a man claim of me not because he is my brother or my neighbor or my colleague or co-religionist or fellow-citizen, but just because he's human?"²

I believe many will agree. Our human rights turn on what it means to be human. But to "know" what it means to be human we must answer three other questions.

1. Where do we come from – what is the origin of life?
2. What is the nature of life and what happens when it ends?
3. What is the meaning or purpose of life, if any?

Answers to these three questions will provide the basics of what it means to be human. Once an agreement is reached as to the basics, one can begin to identify human rights, if any.

The analysis starts with a more detailed examination of each of these three questions.

1. *Where do we come from – what is the origin of life?*

There are a variety of answers to this ultimate question. However, the principle competing explanations are Theistic and Atheistic.

As used herein, Theistic refers to traditional theism – the idea of a God or intelligence that created the universe and thereafter intervened to create life for a purpose. For a Theist, life is a creation, not an occurrence. Life is due to mind-directed and natural causes.

As used herein Atheism refers to the idea that God does not exist or has been absent from the natural world at all relevant times. This includes the idea that the universe is self-existing or due to a God that does not subsequently intervene following its initial instantiation. Under this view there is no relevant supernatural as life just arises autonomously from unguided evolutionary processes due to natural or material causes such as random interactions of matter, energy and the forces. Life arises without direction from an external intelligence. The natural world is self-ordering so even if there is an exterior mind, as in Deism or Unguided Theistic Evolution, it does not direct or influence the unfolding of natural history.

A functional Theist is an agent whose actions have the effect of supporting Theism regardless of whether the actor intends a Theistic effect or is a believing Theist. An Atheist can be a functional Theist. Similarly, A functional Atheist is an agent whose actions have the effect of supporting Atheism regardless of whether the actor intends an Atheistic effect or is a believing Atheist. Thus, A Theist can be a functional Atheist.

The term functional is used in the sense of not what an individual subjectively believes, as subjective belief is not intersubjectively accessible. Instead it is used to describe the *effect* of an act which *supports*, an Atheistic or Theistic tenet or explanation. A demonstration of support is objectively accessible and its effects may be ascertained, predicted and sometimes tested.

The idea of classifying actions by their functional effect is embedded in US Establishment Clause jurisprudence. It asks whether a particular governmental activity has both a secular purpose and a religiously neutral *effect*.³ A violation may occur even if a non-religious intent is shown but the action has a non-neutral religious effect. As with all dichotomies, there are exceptions. However, I believe the pragmatic Functional Theistic vs. Functional Atheistic dichotomy is helpful for this analysis of human rights.

Once we embrace a viewpoint about the origin of life we are prepared to address and answer the second question, which is:

2. *What is the nature of life and what happens when we die?*

For the Atheist life is just an occurrence. It just happens. It arises via unguided natural or material causes. Per the laws of entropy, it ends on death. Life is finite, not eternal. This would not be true for many Pantheists who believe life has a spiritual dimension that is reincarnated after death into another physical being.

The Theist holds that life is a creation, not just an occurrence. As a creation it has an inherent purpose. Most theists believe it does not end on death, but continues in a spiritual realm, which is often divided into heaven or hell. The final destination often depends on how the individual fulfills the purpose for which he or she was created during life. In this sense life has both a physical and spiritual dimension, including a “soul.”

Given the cause and nature of life, we can ask the third key question:

3. *What is the inherent purpose of life if any? How should life be lived?*

The Atheistic view logically entails that life has no inherent purpose. This is because it is an occurrence, not a creation. Purpose only derives from an active mind or some form of intelligence. Purpose reflects a “choice” made by a mind for a purpose. Often the choices made are manifested by the output generated by the mind. This paper reflects innumerable choices made by the mind of its author. Hopefully, the purpose is clearly manifested.

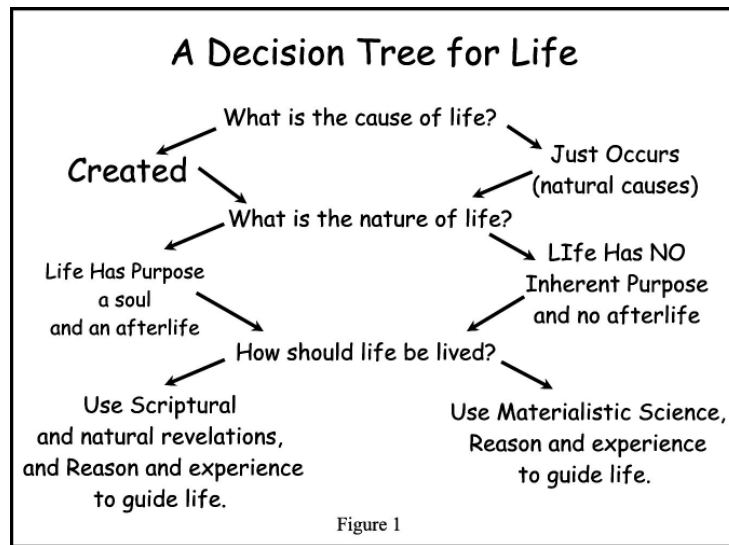
Those who embrace a random materialistic process to explain life, must logically accept that life has no inherent purpose. I can, as an intelligent agent, throw a set of perfect dice. The result cannot be intended as it depends entirely on contingencies not controlled by the mind. Thus, if seven comes up, that result reflects luck, not intention. The die in the universe have a seemingly infinite number of possibilities. Kenneth Miller, a Catholic evolutionary biologist recognizes that if we rewind the evolutionary clock and started over, we could not expect human life to arise the second time around.⁴

Since life is not imbued with an inherent purpose, the Atheist is logically left to human reason to define the purpose of life. Reason led Atheistic Epicureans to logically define the purpose of life as one that avoids pain and disturbance while seeking pleasure or happiness.⁵ Epicureanism is the precursor to the modern religion of “Secular” Humanism. Humanist Manifesto II traces its “roots from ancient China, classical Greece and Rome, through the Renaissance and the Enlightenment, to the scientific revolution of the modern world.”⁶ “Secular” Humanists, look to materialistic science in its comprehensive sense and human reason to inform decisions about how life should be lived.⁷

For the Theist, life has an inherent purpose. Hence, it is to be led to achieve that purpose. Typically, the theist informs his view of the purpose of life from a mix of subjective, logical, experiential and scientific inputs, guided by scriptural and natural revelations about God’s intentions. Scriptural revelations include commands, like the Ten Commandments, and teachings such as those of Jesus in the Gospels.

The Christian religion defines the purpose of life very subjectively with each individual being created differently to satisfy a unique purpose. Rick Warren’s popular book, *The Purpose Driven Life: What on earth am I here for?*,⁸ explains that the specific purpose depends on a personal experience with the Holy Spirit of Jesus, who said: “If any man would come after me, he must pick up his cross daily and follow me.”⁹

Thus, what it means to be human will depend on our answers to these fundamental and ultimate questions. And we immediately notice that there will be many different and varied conflicting responses. The first question, where do we come from, actually is the root of a profound decision tree that will influence all of the rest of our decisions of life. An example of this idea is roughly diagramed in the illustration in Figure 1.



Conceptions of human rights arise as the third tier is informed by the second and first as to what it means to be human. The views of Jesus will provide a profoundly different idea of what it means to be human than those of Stalin.

B. Religions inform our concepts of what it means to be human, and therefore our concepts of human rights.

When we step back and look at these three key questions, it becomes obvious that the questions which lead us to decide what it means to be human, are all religious questions. They amount to *ultimate questions* about *matters of ultimate concern*. When we ask where do we come from, we are inexorably led to ask what is the unconditional non-dependent reality upon which life depends. The answers to that question and its immediate corollaries “profoundly relate the life of man to the world in which he lives.” According to the US Supreme Court, that is the nature of religion:

“By its nature, religion - in the comprehensive sense in which the Constitution uses that word - is an aspect of human thought and action which profoundly relates the life of man to the world in which he lives.”¹⁰

In the *Myth of Religious Neutrality*, Roy Clouser distinguishes between religious and nonreligious beliefs. In doing so he shows that the ultimate questions we have just addressed define the parameters of the religious sphere.

For Clouser all religious belief begins with a belief about what is the “unconditional non-dependent reality.”

“A religious belief is a belief in something as divine per se no matter how that is further described, where “divine per se” means having unconditionally non-dependent reality.”¹¹

For the traditional theist the ultimate or unconditional non-dependent reality is a self-existing creator God who created the world *ex-nihilo* and then created life in His image.

However, for the Atheist, the non-dependent reality is a self-existing universe that reduces to nothing more than matter, energy and the forces. Life just arises via unguided evolutionary processes, not by the intellect of a supernatural entity.

Consequently, the unconditional non-dependent reality is the answer to the question – Where do we come from? For the traditional theist we come from a creator God. For the Atheist we come from a series of unguided natural causes that arise out of a self-existing universe consisting only of matter, energy and the forces. For the Pantheist, which are herein lumped with Atheists for purposes of simplicity, the ultimate non-dependent reality is an amorphous invisible spirit that imbues everything.

Clouser then recognizes that “although this definition captures the essential core of religious belief in its primary sense,” it does not “cover still other beliefs in realities thought to be divine dependent rather than divine per se.” Nor does it “cover still other beliefs that also deserve to be called ‘religious’ in yet other secondary senses.” So to complete his definition of religious belief he shows that

“A belief is a religious belief provided that:

- (1) It is a belief in something as divine per se no matter how that is further described, or
- (2) it is a belief about how the non-divine depends upon the divine per se, or
- (3) it is a belief about how humans come to stand in proper relation to the divine per se; and
- (4) where the central core of divinity per se is to have the status of unconditional non-dependent reality.”¹²

Based on this definition of religious belief, Clouser then classifies religions into three broad categories, the traditional theistic, the naturalistic (or materialistic) and the pantheistic. In many respects the Pantheistic and Naturalistic are harmonious, as they do not depend on a creator God that intervenes in the universe to make life for a specific purpose.

Notice also, that Clouser’s secondary set of religious beliefs also amount to answers to the second and third tier questions of our decision tree of life. Based on what we believe is Divine per se, we then formulate religious beliefs about the nature and purpose of life - how it is related to the world in which it is lived and how it should be lived.

Clouser’s definition of religious belief is consistent with a functional definition that has been embraced by the United States Supreme Court. In 1957 Judge Peters in the California case of *Fellowship of Humanity vs. Country of Alameda*, held that religion defined functionally includes non-theistic belief systems which function in the lives of their adherents in the same manner as traditional theistic beliefs function in the lives of traditional theists. “Secular” Humanism was the religion of the Fellowship of Humanity congregations. As a consequence, for Judge Peters religions take a position about but not necessarily in the supernatural (either embracing or denying it). Based on that belief they then adopt “a system of moral practice directly resulting from an adherence to the belief.”¹³

Seven years later the Supreme Court of the United States adopted Judge Peters functional concept of religion holding that one need not believe in a Supreme Being to be deemed to have religious beliefs that would qualify a conscientious objector for an exemption from the draft.

Like Clouser's view of religion, the Court held that religion includes "beliefs which are based upon a power or being, *or upon a faith*, to which all else is subordinate *or upon which all else is ultimately dependent*."¹⁴ Justice Clark closed the opinion for the majority citing Paul Tillich's view that religions address "matters of ultimate concern."¹⁵

Thus, religions address and answer these ultimate questions that tell us what it means to be human. Ergo, religions tend to define human rights.

C. Human rights entitlements provided by a state will be influenced by its religious bias.

Since religions define what it means to be human, then the position that a state takes with respect to religion will tend to define the human rights it allows for its citizens. The term "state" is used in its broadest sense, to include federal, state and local governments and their agencies, such as public schools.

Although religions define human rights, they do not actually become reduced to legally enforceable entitlements until government has taken that step. Thus, the extent to which government will implement human rights defined by any particular religious perspective will depend on the extent to which government favors or embraces those religious perspectives.

II. Three state positions with respect to religion, and how they influence human rights entitlements

A. Introduction: Theocratic, Atheocratic and Secular States

One may identify at least three governmental positions or "models" respecting religion: Theistic, Atheistic, and Secular. As used herein a theocracy is a state that promotes or endorses a particular theistic religious perspective. An Atheocracy is one which endorses an essentially Atheistic or non-theistic religious perspective. A secular state is one, which is non-religious or neutral with respect to all religious perspectives and therefore endorses or favors none.

An unofficial fourth position can be labeled a Pseudo-Secular state – one, which claims to be secular or neutral, but is functionally an Atheocracy or Theocracy. Of course there are many variants in between. But this pragmatic classification should aid our analysis of how the religious bias of a state affects its human rights entitlements.

B. The Theocratic State

Iran is an example of a Theocracy. It embraces a particular religion - Islam. It is a government that mandates that it not be separated from Islam. Instead, the function of government is to promote it. Islam holds that the unconditional non-dependent reality is Allah, a creator God that has made life with both a physical and spiritual dimension. When the body experiences physical death, the body is transformed to go to either heaven or hell depending on how life has been lived. The purpose and meaning of life – how it should be lived is then specified in Allah's revelations to Mohammed in the Koran and Sharia Law. The Sharia law is generally based on the Koran and the Hadith, a set of narrations concerning the words and deeds of the Islamic prophet Muhammad.

Accordingly, the human rights entitlements of Iranians will be defined by the religion of Islam, the belief system that actually defines the state. One who converts from Islam to another religion such as Christianity may be deprived of his right to life.¹⁶ The issue in the Egyptian revolution of 2011 is whether the ten percent Coptic Christian community will survive an Islamic takeover of the new government.¹⁷ Spouses are entitled to the human right of fidelity from his/her spouse. Some interpret the law as requiring only 100 lashes as the penalty rather than stoning to death. But 100 lashes may result in death as in the case of a 14-year-old Bangladeshi girl.¹⁸ The roles of men and women may be prescribed by religion and then enforced by the state, resulting in gender discrimination. Thus, in a strict Theocracy religious freedom and human rights entitlements may depend on both religious tenets and cultural traditions.

C. The Atheocratic State

An Atheocracy is a state which has embraced a materialistic or atheistic religion, like North Korea and Marxist Russia. The Atheist seeks an environment devoid of the notion of God. If God is mentioned, it normally only occurs in a derogatory sense. God does not appear on the coin or on monuments. Theistic wisdom recorded in scriptures that might be coincidentally embraced is attributed to human reason rather than God.

The tenets of Atheism are clearly set forth in the Humanist Manifesto promulgated in 1933 as a religion called “Religious Humanism.” The Manifesto proclaims that we come from a self-existing universe not from the creative mind of a non-existent supernatural entity called God.¹⁹ As a consequence, life arises from an unguided evolutionary process over billions of years, and it ends in death. There is no heaven or hell. Since there is no God, Atheists by default rely on reason and materialistic science to guide life, not the revelations of scriptures provided by what they believe to be a mythical and non-existent deity.²⁰

Communist Russia was an Atheocracy. Using the logic of Atheism and materialism it held that the goal of government should be to provide for the collective and to abolish the private. Individuality was to be subverted to the needs of the collective. Private property was abolished. Traditional Theism was subverted. Like Iran, one could not freely choose what to believe about the ultimate questions of life. In communist China, the state systematically represses theistic religions.²¹

“Secular” Humanism does not necessarily promote the collective, but it makes it possible. This is because it puts the state in the position of deciding what is and is not “reasonable” using human reason. What is reasonable in any given circumstances depends on the input into the logic of reason. Given faulty presuppositions or conclusions of fact and law, the logic of reason will yield disastrous results. In the end, “Secular” Humanism depends entirely on the input generated by those who control the input. Slavery and all sorts of human evils, including human sacrifice and genocides have been justified using the algorithm of human reason informed by atrocious input. Thus, the inherent dilemma of using reason alone as a guide for life is that the output of reason is only as good as its input. Poorly informed reason will logically produce poorly informed conclusions.

The Humanist Manifesto seeks to cause its religion to be embraced by all institutions, not just its churches:

“Religious humanism maintains that all associations and institutions exist for the fulfillment of human life. The intelligent evaluation, transformation, control, and

direction of such associations and institutions with a view to the enhancement of human life is the purpose and program of humanism. *Certainly religious institutions, their ritualistic forms, ecclesiastical methods, and communal activities must be reconstituted as rapidly as experience allows, in order to function effectively in the modern world.*"²²

So, like the Iranian theocracy, "Secular" Humanism seeks an Atheocracy. To do this it seeks to remove God and His wisdom from all institutions, both public and private. The core tenets of Atheism were published in anti-Christian advertisements by a number of Atheistic organizations during the Christmas season in 2010.²³

Tenet: There is no Supernatural or God

Advertisement: A Santa Clause is saying with a thumbs up: **"YES, VIRGINIA, THERE IS NO GOD."** "FFRF.org Freedom From Religion Foundation."

Tenet: Since life is not created it evolves due to unguided evolutionary processes:

Advertisement: An image of Darwin sits next to a petition to: **"Praise Darwin: Evolve Beyond Belief"** "FFRF.org Freedom From Religion Foundation."

Tenet: Since life reduces to matter, there is no afterlife.

Advertisement: A poster proclaims: **"Enjoy Life Now, There is No Afterlife."** "FFRF.org Freedom From Religion Foundation."

Tenet: Since there is no God, people should rely on reason.

Advertisement: A billboard shows Three Wisemen being guided by a star. Underneath is the caption: **"You KNOW it's a Myth: This Season Celebrate Reason."** "American Atheists * Reasonable Since 1963 atheists.org"

Tenet: Have faith in human reason rather than the wisdom of God

Advertisement: A billboard shows a bearded gentleman urging us to: **"Sleep In On Sundays: 'I have faith in people, not in a God.'"** "FFRF.org Freedom From Religion Foundation."

The Atheistic Model of Government has not been friendly to human rights entitlements. The reason is that ultimately what is deemed to be reasonable merely mimics the beliefs of whoever is in control, which presumably is a functional Atheist, who, like the rest of us, is inherently selfish.²⁴ He who is in control can control the input that informs reason. By controlling the input, he controls the output. Hitler used poorly informed reason during the Third Reich to very efficiently exterminate 6 million Jews.

D. The Secular State

1. Evolution of the Secular State in the US.

The previous discussion regarding Theocracies and Atheocracies focused on the negatives of each to illustrate their impact on human rights entitlements. But each have significant positives. The absolutes of traditional Theists tend to optimize both the mental and physical health of the individual family and culture. However, the non-theistic appeal to human reason may aid the correction of theistic traditions and texts that sanction human rights abuses.

A third model, which has become increasingly popular in pluralistic cultures, is the so-called “secular state.” Secular means not religious. Under this model the government strives to be “not religious” due to the diversity of religious views of its citizens. Such a government favors neither the theist nor the atheist. By establishing a neutral position with respect to competing religious views it becomes secular.

An example of this idea may be found in the US. The following analysis briefly details how the US acquired its commitment to secularity, the manner in which a US state may achieve secularity, and how the US Courts have demarcated the secular and religious spheres. The demarcation is important. As state activities cross from the secular into the religious sphere their primary effect must be religiously neutral. Although US law is not binding on non-US states, an understanding of the struggles of the US in implementing its command to be secular, may be helpful for any state seeking to adopt or implement a commitment to secularity.

The commitment of US federal, state and local governments to secularity arises out of the Declaration of Independence and the First and 14th Amendments to the US Constitution. The Declaration of Independence is based on a Theistic belief that a creator God endows all humans with an unalienable right to liberty.²⁵ An essence of that liberty is the freedom to choose what to believe. A God that endows one with that choice logically permits a human the liberty to choose to believe in something other than God. This is consistent with a Christian belief that God does not command acceptance, rather He invites it.²⁶ Thus, the secular state does not impose an obligation on its citizens to believe or disbelieve in God. Rather, due to its recognition of an unalienable right to liberty it precludes itself from interfering with the religious choices of those it serves.

This concept was reduced to a legally enforceable commitment of the US Federal government via the First Amendment to the US Constitution in 1791, which states:

“Congress shall make no law respecting an establishment of religion or abridging the free exercise thereof;”²⁷

However, notice that the law was only applicable to the “Congress” of the Federal government and not to the states. In 1791 many of the states had their own state churches and were quasi-theocratic. Thus, although the Amendment required the federal government to be not religious or secular, the same limitation did not apply to state or local governments. Public schools could and did teach the Bible.

The rights of US states to limit human right entitlements was a primary cause of the 1861-5 civil war. Southern states treated slaves as property rather than as humans having unalienable rights to life, liberty and property. After the South lost the war, the power of all US states to deprive their citizens of life, liberty and property was withdrawn by the 14th Amendment in 1868 which states that:

“Section 1.... No ...State [shall] deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws.”²⁸

In 1940 the Supreme Court held in *Cantwell v. Connecticut*²⁹ that this withdrawal of power from the states to deprive a person of his liberty, had the effect of imposing on the states the requirements of the First Amendment. Thus, after *Cantwell*, no US state or local government

or governmental agency could adopt a law or policy “respecting an establishment of religion, or abridging the free exercise thereof.”

Cantwell involved the conviction of Jehovah’s Witnesses that solicited contributions in public places for religious purposes in violation of a state statute. The Court reversed the conviction on the grounds that the state statute prohibited the free exercise of the defendants’ religious and speech rights under the First Amendment, and that deprivation was invalid under the Fourteenth Amendment. Nine years later the Supreme Court in *McCullum v. Board Of Education*³⁰ held that the withdrawal of power extends to public schools, thereby precluding public schools from promoting a particular religious perspective in the classroom.

Thus, secularity was imposed on all US governmental entities in 1940 by depriving them of the power to adopt laws and policies “respecting an establishment of religion or abridging the free exercise thereof.” Notice how the limitation on governmental power actually effects an entitlement of human rights. The concept of limits on governmental power is significant to the concept of human rights. If the citizens of the state are to have the unalienable right to make certain choices, then government must be limited in its power to direct and interfere with those choices.

2. The two ways a state may achieve secularity.

The US cases since *McCullum* indicate there are two general ways a state may achieve secularity. One method is to simply avoid entry into the religious sphere. This is a policy of exclusion. Government simply excludes from its affairs any religious activity or discussion. When it controls the forum it can easily do this by closing the door to religious subject matter. Under this model the governmental sphere is very limited, because so many matters touch upon the religious. The state may levy taxes to fund a police or fire department, but may not levy taxes to build a temple, mosque or place for the propagation of an establishment of religion. Schools can exclude religion by limiting their curriculum to the teaching of the mundane like mathematics, reading, writing and operational science. By excluding subjects that teach about the cause, nature and purpose of life it can remain secular.

The other way a state may be secular is to be neutral as to religious subject matter. If it has a secular purpose to do so, it may encounter the religious subject if it treats it objectively and neutrally. This allows the state to enter the “religious sphere” as an umpire, mediator or moderator, but not as a contestant, a coach or a fan.

The 1968 case of *Epperson v. Arkansas* illustrates the two secular alternatives. In *Epperson*, the State of Arkansas passed a law prohibiting the teaching of evolution in a biology class. The Supreme Court reversed because the statute did not outlaw all teaching of origins, it just outlawed one of competing perspectives.

“Arkansas’ law cannot be defended as an act of religious neutrality. Arkansas did not seek to excise from the curricula of its schools and universities all discussion of the origin of man.”³¹

If Arkansas had taken the approach of exclusion by removing the religious subject matter from the classroom, the statute would have been valid. This would ensure a truly secular posture. Arkansas public schools could have chosen to teach operational science but not origins science.

However, Epperson also explained the standard that was required if the school chose to expand the curriculum to subjects that take the state into the religious sphere:

“While study of religions and of the Bible *from a literary and historic viewpoint, presented objectively* as part of a secular program of education, need not collide with the First Amendment's prohibition, the State may not adopt programs or practices in its public schools or colleges which ‘*aid or oppose*’ any religion.”³²

The requirement that the activity not “aid or oppose,” or “favor or disfavor,” or “endorse” any religion, essentially mandates that government activities that touch religion must have a religiously neutral effect. A neutral judge at a jury trial presumably does not favor either side. He allows the facts and the law to render the judgement, not his personal bias.

This secular relationship between the state and its citizens is very profound. It theoretically reduces significantly the scope of government power to control the choices of those it serves. In this sense the secular model would seem to enhance choice and therefore human rights entitlements.

3. But, what does it mean to be “secular?”

a. Since secular means “not religious,” the definition of *religion* will define the boundary between the secular and religious spheres.

As explained by the first listed definition of the popular Random House Webster’s Dictionary, secular means “not regarded as religious”...“not pertaining to or connected with religion.”³³ Similarly the US Supreme Court defines a secular purpose as one which does not seek to “endorse or disapprove of religion.”³⁴

Thus, the meaning of “secular” depends entirely on the meaning of religion. Furthermore, the exclusion in the dictionary definition is very broad. Anything “pertaining to or connected with religion” is excluded from the secular. The First Amendment uses a similar exclusionary preposition. Government may not adopt a policy “*respecting* an establishment of religion.” Thus policies “respecting” religion are excluded from the secular governmental sphere.

Therefore, to define the boundaries of the “secular sphere,” one must first define the word “religion” and the scope of the religious sphere. Having done that one may catalogue those ideas that fit within the definition of religion or within the religious sphere and then properly classify the remainder as secular – not religious. Figure 2 shown below under II.D.3.f. reflects this concept. One might metaphorically think of the religious sphere like the sun at the center of our solar system. All beyond the solar corona is classified as the secular. Just as the sun provides energy for life outside it, the religious sphere profoundly informs choices made in the secular sphere. Justice Marshall writing for the majority in *Gillette v. US* succinctly explained the concept:

“[W]hen government activities *touch on the religious sphere*, they must be *secular in purpose*, evenhanded in operation, and neutral in primary impact.”³⁵

Consequently, agents of a secular state must know the scope of the religious sphere to ensure that their activities within it have both a secular purpose and a religiously neutral effect.

b. The substantive content of religion addresses matters of ultimate concern rather than the mundane.

In our quest for the meaning of religion we recall that Roy Clouser and the US Supreme Court have concluded that religions address “ultimate questions” about matters of “ultimate concern.” But, what are matters of ultimate concern?

We find in the same Random House Webster’s Dictionary that defines “secular” as “not religious” the following definition which reveals the content of religion and the matters of “ultimate concern:”

“Religion.... n. 1. a set of beliefs concerning the cause, nature, and purpose of the universe, esp. when considered as the creation of a superhuman agency or agencies, usually involving devotional and ritual observances, and often containing a moral code governing the conduct of human affairs.”

All of these subjects – the cause, nature and purpose of life - fall into the category of ultimate questions. They are “profound” or “ultimate,” because how we answer them will affect how we live our lives. They “profoundly relate the life of man to the world in which he lives.”

This catalogue of religious subject matter is consistent with Judge Peters definition of religion in *Fellowship of Humanity vs. County of Alameda*:

“Religion simply includes: (1) a belief, not necessarily referring to supernatural powers; (2) a cult, involving a gregarious association openly expressing the belief; (3) a system of moral practice directly resulting from an adherence to the belief; and (4) an organization within the cult designed to observe the tenets of belief.³⁶

Twenty-two years following *Fellowship*, Judge Adams embraced a similar but more detailed set of criteria that catalogue the subject matter. In *Malnak v. Yogi* (3rd Cir. 1979) and *Africa v. US* (3rd Cir. 1981), he listed three criteria for a religion.

“First, a religion addresses *fundamental and ultimate questions* having to do with deep and imponderable matters.

Second, a religion is comprehensive in nature; it consists of a belief-system as opposed to an isolated teaching.

Third, a religion often can be recognized by the presence of certain formal and external signs.³⁷

The subject matter of the belief system is listed in the first criteria – “fundamental and ultimate question.” Adams further explained “fundamental and ultimate questions” as:

“Fundamental and ultimate questions. Traditional religions consider and attempt to come to terms with what could best be described as

“ultimate” questions-*questions having to do with, among other things, life and death, right and wrong, and good and evil.* Not every tenet of an established theology need focus upon such elemental matters, of course; still, it is difficult to conceive of a religion that does not address these larger concerns. For, above all else, religions are characterized by their adherence to and promotion of certain “*underlying theories of man's nature or his place in the Universe.*” (emphasis added)³⁸

A definition very much like the Random House definition and consistent with the Peters and Adams definitions was adopted by Judge Hand in 1987 after extensive testimony from a variety of experts. His holding that “Secular” Humanism is a religion under the Establishment Clause of the First Amendment was based on his conclusion that:

“[all religions] may be classified *by the questions they raise and issues they address.* Some of these matters overlap with non-religious governmental concerns. A religion, however, approaches them on the basis of *certain fundamental assumptions with which governments are unconcerned.* These assumptions may be grouped as *about:*

- 1) the existence of supernatural and/or transcendent reality;
- 2) the nature of man;
- 3) the ultimate end, or goal or purpose of man’s existence, both individually and collectively;
- 4) the purpose and nature of the universe.”³⁹

Notice that each of these “fundamental assumptions” all “profoundly relate the life of man to the world in which he lives.” The assumptions provide answers to ultimate questions about the cause, nature and purpose of life. According to Justice Frankfurter this concept describes the nature of religion in the “comprehensive sense in which the Constitution uses that word.”⁴⁰

Based on the above one might summarize the subject matter content of religion as beliefs about matters of ultimate concern, such as the cause, nature and purpose or meaning of life. But is religion limited to just theistic beliefs about these matters? Are functionally equivalent non-theistic beliefs to be excluded and therefore treated as “secular?”

c. Religion is a functional concept that includes Atheistic beliefs.

Following *Cantwell’s* 1940 application of the First Amendment to state and local government, courts were required to decide the scope of religion and thereby set the boundaries of the religious sphere where state intrusion was regulated. Where does the sphere begin and end? What divides the religious from the secular? The critical issue was whether religion includes atheistic or non-theistic beliefs. Beginning with *Fellowship of Humanity* in 1957, a long line of cases have affirmed that the word “religion” must include non-theistic beliefs about ultimate questions to avoid religious discrimination.

In *Fellowship of Humanity* 14 Secular Humanist churches owned real estate that was exempt from county property taxes if it was used “exclusively for religious worship.” The County denied the exemption, because Secular Humanists deny rather than worship God. Thus the County defined religion as being limited to theistic beliefs. The Atheists complained for their belief system functioned in their lives in the same manner as traditional theistic beliefs

functioned in the lives of traditional theists. If the tax exemption was allowed for one class of believers because of their particular belief about the origin of life, but not by another who had a different belief about the same issue, it would be discriminatory. The California Court of Appeals, per Judge Peters, agreed. Since the belief systems function in the same manner for both groups, it would be discriminatory to allow a tax exemption for one group while denying it to the other. Peters expressed the test this way:

“Thus the only inquiry in such a case is the objective one of whether or not the belief occupies the same place in the lives of its holders that the orthodox beliefs occupy in the lives of believing majorities,.... *Under this test the belief or nonbelief in a Supreme Being is a false factor.*”⁴¹

A month after this ruling the DC Circuit Court of Appeals in *Washington Ethical Society*⁴² came to the same conclusion with respect to a “Secular” Humanist Church in Washington DC. Four years later the Supreme Court was confronted with an Atheist who claimed that his right to freely exercise his religion was abridged by a statute, which required him to profess a belief in God to hold a public office. In finding that the Free Exercise clause of the First Amendment extends to atheistic or non-theistic beliefs it stated:

“Neither [a State nor the Federal Government] can constitutionally pass laws or impose requirements which aid all religions as against non-believers, and neither can aid those religions based on a belief in the existence of God *as against those religions founded on different beliefs.*”⁴³

The famous Note 11 to the opinion of the Court by Justice Black, explained that: “Among religions in this country which do not teach what would generally be considered a belief in the existence of God are Buddhism, Taoism, Ethical Culture, Secular Humanism and others. See *Washington Ethical Society v. District of Columbia*, 101 U.S. App. D.C. 371, 249 F.2d 127; *Fellowship of Humanity v. County of Alameda*, 153 Cal. App. 2d 673, 315 P.2d 394.” Thus the decision in *Torcaso* that religion includes Atheistic beliefs was based primarily on the thorough analysis of Judge Peters in *Fellowship* and its subsequent approval by the DC Circuit Court of Appeals in *Washington Ethical Society*.

The movement of the boundaries of religion in the US to include non-theistic beliefs has been primarily due to Atheists who have claimed a religious classification whenever necessary to advance the tenets of their belief system. In pursuit of this goal, Atheists sought to declare unconstitutional Sunday closing laws for certain non-essential businesses in the 1961 Supreme Court case of *McGowan v. Maryland*.⁴⁴ Atheists believed they could not further the tenets of their religion to remove God from the market place if they did not object to laws requiring that businesses close on Sunday, thereby honoring the idea of God. To have legal standing to make the claim under the Establishment Clause they had to assert that the laws offended their religious beliefs. Although the Court declined their request to enjoin the laws, the Court did hold that Atheists had standing to pursue their claim under the Establishment Clause.

Four years after the Sunday closing law case, the US Supreme Court in 1965 was again asked to decide whether belief in a Supreme Being was a necessary condition to the definition of religion. The court held *not*, as to do so would effectively discriminate between different but functionally equivalent beliefs. As a consequence, the court embraced Judge Peters’ functional definition of religion in adopting its “parallel position test:”

“The test might be stated in these words: A sincere and meaningful belief which occupies in the life of its possessor a place parallel to that filled by the God of those admittedly qualifying for the exemption comes within the statutory definition [of religious].”⁴⁵

Another example is the 1992 Supreme Court case of *Lee v. Weisman*.⁴⁶ In this case Atheists argued for a comprehensive definition of the word religion while Theists sought to define it narrowly as limited to only belief in God. The issue arose in the context of a so-called non-preferential prayer at a high school graduation ceremony. The prayer was designed by Theists to be “non-preferential,” or “non-sectarian” by ensuring that its mention of God would not identify any particular God. The argument was based on the premise that if religion is limited to theistic beliefs the prayer would not invoke any religious discrimination by the state. It would not cause the state to favor one religious belief over another. Hence, it was deemed to be a religiously “neutral” act of the state.

In rejecting this argument, the Supreme Court agreed with the Atheists appeal to the inclusive definition. “Religion” within the meaning of the Establishment Clause of the First Amendment includes non-theistic beliefs and therefore state endorsement of the prayer was actually preferential in that it preferred “theistic over nontheistic religion.”⁴⁷

In other contexts, where Atheists have sought state support of their activities, they have generally been unsuccessfully in arguing for a narrow theistic definition. Two striking examples of this occurred in two cases involving public education. In 1979 the Third Circuit Court of appeals in *Malnak v. Yogi*⁴⁸ enjoined a course in the Science of Transcendental Meditation as it promoted religious beliefs in violation of the Establishment Clause. Although the course was labeled science, it was actually religious even though it was non-theistic.⁴⁹ Similarly, in *Smith v. Board of Education*, Judge Hand rejected the argument of Humanists that “Secular” Humanism was science rather than religion.⁵⁰

This inclusive view of religion is consistent with Stephen Prothero’s excellent review of all of the major religions of the world in *God is not One* (2010).⁵¹ In particular, Prothero discusses the irrelevance of any deity to the religions of Buddhism, Confucianism, and other Eastern religions. An entire chapter is devoted to the religion of Atheism.

Atheism is promoted by numerous organizations including those that have embraced “Secular” Humanism, such as the Unitarian Universalist Church which is experiencing rapid growth in the United States. It is an ancient religion that finds its origins in Epicurianism and Jainism.⁵² It arose in the third and fourth centuries BC from the ideas of Democritus, a Greek philosopher. He argued that all natural phenomena may be reduced to atoms and voids. Epicurus and Lucretius subsequently developed that idea into a functional religion called Epicureanism. The Epicureans argued that because matter rather than God explains life, it should be lived per human reason.⁵³ These are essentially the core tenets of Modern “Secular” Humanism. The universe is self-existing, not God created, there is no supernatural and therefore life arises via unguided evolutionary processes and ends on death.

Stephen Prothero, likens “Secular” Humanism to Confucianism, with one difference. As explained in the original Manifesto published in 1933 “Secular” Humanism is a religion that seeks to replace Traditional Theism in all institutions – “it insists on emptying the world of the sacred.”⁵⁴ Hence, unlike Confucianism, it is an aggressive evangelistic religion.

In 2005 the Seventh Circuit Court of Appeals, held that Atheism is an Establishment Clause religion in holding that prisoners who are Atheists may organize Atheist clubs or churches under lenient prison regulations for religious groups.⁵⁵

The US Civil Rights Act of 1964 prohibits not only race discrimination but also religious discrimination in the work place. Thus covered employers may not base employment decisions on religious preferences of the employer or employee. In 2008 the Equal Employment Opportunity Commission adopted a manual to aid enforcement of the religious discrimination provisions of the Act. The manual defines religion as concerned with “ultimate ideas’ about ‘life, purpose, and death,” and includes atheism and other “religious beliefs that are new, uncommon,” citing many of the cases discussed above.⁵⁶

In addition to Atheism and “Secular” Humanism, the US Courts have recognized Scientology, Wicca, certain aspects of Transcendental Meditation and the non-theistic World Church of the Creator as religions.⁵⁷

d. The secular sphere encompasses the remainder – the mundane as opposed to the profound.

Since religion addresses ultimate questions like the cause, nature and purpose of life, and includes both theistic and atheistic positions on those questions, then the secular encompasses the remainder. Religions address the ultimate while the secular address the mundane. The mundane deals with “human affairs, concerns, and activities that are often practical, immediate, transitory, and ordinary.”⁵⁸

For example, in *Lemon v. Kurtzman*, the Court considered a statute that defined purely secular subjects as including “mathematics, modern foreign languages, physical science, and physical education.”⁵⁹ Interestingly, the list did not include life science. Life science is secular in content until it addresses evolution and its historical narrative about the origin and nature of life. Health science may also stray into religious subject matter if it addresses issues about how life should be lived that exceed notions of disease avoidance. For example, sex education often addresses both how to avoid sexually transmitted diseases as well as sexual lifestyles and issues of sexual morality.

The 1961 *McGowan* case addresses the demarcation between the religious and the secular. In *McGowan* the US Supreme Court concluded that a law which provides a day of rest for everyone does not itself inherently address or cause the state to take a position on ultimate questions or matters of ultimate concern. The Sunday closing laws in question merely provided a day of rest for everyone, both theists and atheists. In their concurrence Justice Frankfurter and Harlan explained that “in the comprehensive sense in which the Constitution uses that word,” religion is “an aspect of human thought and action which profoundly relates the life of man to the world in which lives.”⁶⁰ A Sunday closing law does not do that. It does not relate the life of man to the world in which he lives, it merely provides everyone with a day of rest.

Since *McGowan*, a number of cases have been decided that make similar distinctions. These cases have held that beliefs regarding diet,⁶¹ or veganism,⁶² or facial piercings⁶³ do not address ultimate questions and are therefore not necessarily actionable. On the other hand, transcendental meditation⁶⁴ and a non-theistic white supremacism based on “Survival of the Fittest and natural selection have both been held to be religious.”⁶⁵

e. **Religion must be defined the same for both state support and entitlement to avoid discrimination and infringement of rights.**

The First and 14th Amendments secure two religious entitlements. Under the Free Exercise Clause the state may not abridge the right to freely exercise one's religion. The other right, expressed in the Establishment Clause, is the right of the citizen to have a government that is religiously neutral. One that will not enact a law "respecting an establishment of religion," and thereby discriminate among religious viewpoints by favoring one over another. The core value then of the Establishment Clause is religious neutrality:

"An attack founded on disparate treatment of "religious" claims invokes what is perhaps the central purpose of the Establishment Clause - the purpose of ensuring governmental neutrality in matters of religion.....Necessarily the constitutional value at issue is "neutrality."⁶⁶

The difference between the two clauses is that the free exercise clause precludes state *interference* with a religious viewpoint, while the Establishment Clause precludes state *support* of a particular religious viewpoint. This is important for the Establishment Clause effectively states by implication that the state may only support secular viewpoints. Indeed, even to venture into the religious sphere requires a "secular purpose."

In a number of cases non-theistic religions have argued that religion should have two different meanings. They argue it should have an expansive meaning under the Free Exercise Clause, so that their non-traditional beliefs will be protected from state interference. However, they claim it should have a narrow meaning under the Establishment Clause, thereby allowing their beliefs to be supported by the state, particularly in public schools.⁶⁷ They claim the two-tiered approach is necessary to ensure that government authority is not unduly proscribed.

It was first asserted in the 1979 case of *Malnak v. Yogi*,⁶⁸ where defendants sought to teach the "Science of Transcendental Meditation" in New Jersey public schools. Defendants asserted that even if TCM was religious for Free Exercise purposes it should be considered "science" for Establishment Clause purposes, thereby allowing government to support its teaching in public schools. Judge Adams rejected the argument on two grounds. He first noted that the word "religion" is used only once in the phrase: "[government] shall not adopt any law [or policy] respecting an establishment of religion or abridging the free exercise *thereof*." Thus, logically, the meaning of the word religion in the Establishment Clause is directly incorporated into the Free Exercise Clause by virtue of the word "thereof."

Adams explained more persuasively that a dual definition of religion would allow non-theists a tremendous advantage over theists. By treating non-theism as religious for Free Exercise purposes but as secular for Establishment Clause purposes it would enable the Government to promote non-theism over theism.⁶⁹ This dual definitional approach would license schools to teach atheistic views while banning their theistic competitors. Adams explained this was inherently discriminatory. For government to be truly neutral and secular, it had to use the same inclusive definition in both clauses for the First Amendment to have its intended neutral effect.

Another way to achieve the same effect as a dual definition is to seek a secular classification for a set of beliefs about matters of ultimate concern. "Secular" Humanists initially proclaimed their belief system to be religious, but then sought to deny it by classifying it as

science. A core goal of the “Secular” Humanism reborn in 1933 was to promote it in public schools.⁷⁰ Following the 1948 decision in *McCullum* which ruled that religion can’t be taught in public schools and *Fellowship of Humanity in 1957* which ruled that “Secular” Humanism was a religion, some Humanists recognized that the religious label and classification was problematic. The Manifesto boldly claimed it to be a religion called “Religious Humanism,” not “Secular” Humanism. But after *Cantwell* and *McCullum* it could not be promoted in public schools or other public places. Accordingly, the 1973 version of the Manifesto deleted the “Religious” modifier, and some began to refer to it as “Secular” rather than “Religious” Humanism.

The noted author, political theorist, and former Atheist, J. Budziszewski, drew the same conclusion simply from reading and comparing the different iterations of the Manifestos: “These flaccid committee products make a dull read, but a fascinating comparison: they show how an antireligious worldview became an unofficially established religion but had to stop calling itself a religion to finish the job.”⁷¹

Judge Hand came to the same conclusion in *Smith v. Board* in 1987. In *Smith* parents claimed that certain home economics, sociology and history books promoted the religion of “Secular” Humanism. Since the decision in California did not control the law in Alabama and was not a case that dealt with the Establishment Clause, Judge Hand divided the case into two phases. The first phase determined whether “Secular” Humanism was a religion. The second then addressed the issue of whether the textbooks promoted that religion. If “Secular” Humanism was not a religion, the second phase was not needed.

The first phase was extensive lasting for weeks with testimony from numerous experts and theologians. The most interesting was the testimony of Paul Kurtz, a co-author of Humanist Manifesto II. In earlier writings he had agreed with the religious classification in the First Manifesto. However, he testified that he no longer believed it was religious. When asked what it was if it was not religious, he testified that it was “science,” just as the Transcendental Meditationists in *Malnak v. Yogi* had classified their religious program.

Judge Hand noted this testimony in his opinion and found Kurtz’s claim to be irrational:

Dr. Paul Kurtz testified that *secular humanism is a scientific methodology*, not a religious movement. . . . Dr. Kurtz’s attempt to revise history to comply with his personal beliefs is of no concern to this Court. . . . *For first amendment purposes, the commitment of humanists to a non-supernatural and non-transcendent analysis, even to the point of hostility towards and outright attacks on all theistic religions, prevents them from maintaining the fiction that this is a non-religious discipline.* This Court is concerned with the logic and consistency, the **rationality**, one might say, of Dr. Kurtz’s contention that secular humanism is not a religious system, but science. Secular humanism is religious for first amendment purposes *because it makes statements based on faith-assumptions.*⁷² (emphasis added)

Judge Hand’s conclusion that the home economics, history and social studies books in question promoted “Secular” Humanism in violation of the Establishment Clause was reversed by the Eleventh Circuit Court of Appeals. However, that Court left standing his conclusion that “Secular” Humanism is a religion.

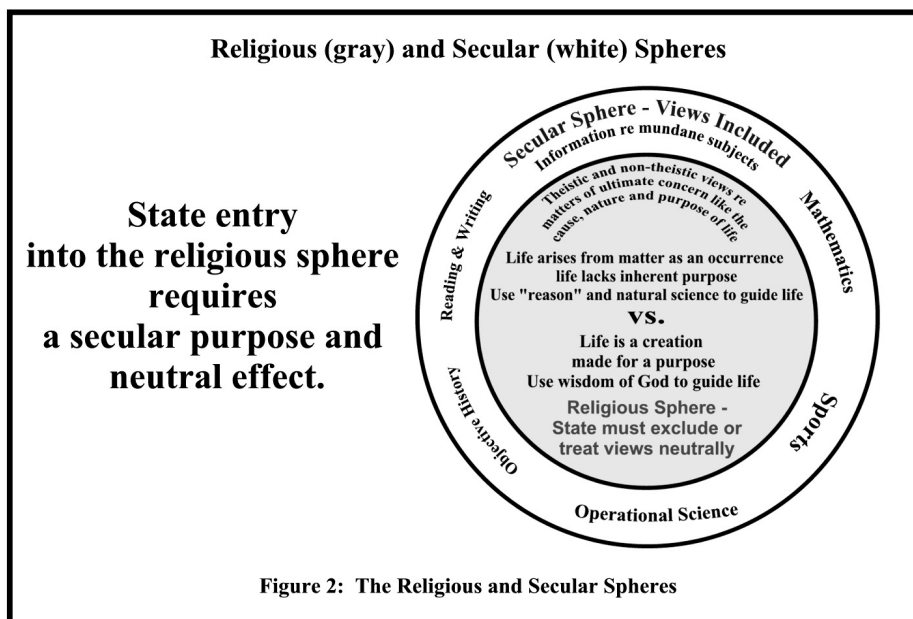
Thus in the US where the Constitution requires government to be truly secular, it seems that the Courts, for the most part, have defined religion in an inclusive sense to ensure that activities of the state are truly neutral in purpose and effect.

f. Summary – religion is an organized set of beliefs about matters of ultimate concern, such as the cause, nature and purpose of life.

The foregoing shows that in a secular state that seeks neutrality between competing religious viewpoints, the scope of the religious sphere turns on the nature of the subject matter addressed, rather than on a particular viewpoint. Religion in the US is not a set of beliefs *in* God, rather, it is an organized set of beliefs *about* matters of ultimate concern, such as the cause, nature and purpose of life.

This inclusive definition of religion expands the scope of the religious sphere and thereby reduces significantly the scope of the secular and governmental spheres. This expands individual rights to choose what to believe about matters of ultimate concern. It puts conflicting ideas on a level playing field where they may compete. It provides opportunity for the winner of the competition to influence the parameters of other entitlements, hopefully with the view of developing entitlements designed to optimize the mental and physical health of the individual, family and culture. A chronological listing of a number of the relevant cases supporting this US definition is appended. They are each discussed in more detail in *Kitzmiller’s Error*.⁷³

It then follows that if the religious sphere is concerned with ultimate questions like the cause, nature and purpose of life, the secular sphere consists of what is left - the mundane. This would include public safety, law enforcement, public health, national defense, and commerce and public education focused on basic subjects such as reading, writing, math, history, operational science and religious subjects that could be taught for a secular purpose with a neutral effect. The scope of the religious and secular spheres under this inclusive definition of religion would look something like this:



The illustration shows that when government activities cross the boundary from the white secular sphere into the gray religious sphere, when they “touch on the religious sphere,

they must be secular in purpose, evenhanded in operation, and neutral in primary impact.”⁷⁴ In a sense then the gray reflects the extent of human religious rights, while the white reflects areas where the state may impose its authority for legitimate secular purposes. The illustration at the end of this article on the reverse of the list of cases diagrams the two the spheres using the two different definitions of religion. The diagrams shows the effect of a popular narrow definition in contrast with the inclusive definition shown above.

III. Ensuring Secularity and the religious rights it entitles.

All states act through agents. The challenge for the secular state is that all of its agents are likely to have a conscious or unconscious religious bias. The same is true of most judges, juries, and umpires. For this reason, judges and jurors must swear to seek to control their personal bias so that the effect of the state action is objective. If they don't they may be removed. In the same manner public school teachers, school administrators and other state officials and employees must seek to control their individual religious biases so that the primary effect of the action of the state is either not religious or religiously neutral. Of course, this is an actual impossibility. But, just as we do not close down courts because of the impossibility of justice being served 100% of the time, we also need not abandon the idea of a state that constantly strives for neutrality and true secularity. Our faith is that in an honest striving for neutrality the state may come ever closer to the goal. Furthermore, in a secular state the stadium is filled with rival fans who will immediately recognize and heckle the calls of an umpire that unduly favors one team over the other.

A. Informing religious choices in a secular state.

1. A secular state will seek to objectively inform choices about religious issues to achieve a neutral effect.

We should expect a state that seeks true secularity to devote significant attention to how it informs children about subject matter that is inherently religious – subject matter that addresses the ultimate religious questions – Where do we come from, what is the nature of life and how should it be lived? This is because in a secular state like the US it is the right of the parent to direct the religious choices of their children and it is the right of the child to choose what to believe. A secular state is legally committed to not interfere with those choices.

In the United States children are required to attend public schools, if the Parent does not provide a suitable private or parochial alternative. The right of a parent to inform and the right of the child to choose what to believe will be jeopardized if the state uses curriculum that has the effect of indoctrinating students to accept a particular response to an ultimate religious question. In this respect the US Supreme Court has explained that the child's public education in the secular US is subject to *a trust* that the state will not seek to indoctrinate the child into accepting a particular religious belief. The nature of the trust is important, as the courts have recognized that the minds of children are not fully developed and are vulnerable to manipulation. This was explained by Justice Brennan in *Edwards v. Aguillard* , in writing for the majority:

“The [US Supreme] Court has been particularly vigilant in monitoring compliance with the Establishment Clause in elementary and secondary schools. Families entrust public schools with the education of their children, but condition their trust on the understanding that the classroom will not purposely be used to advance religious views that may conflict with the private beliefs of the student and his or her family.

Students in such institutions are impressionable and their attendance is involuntary... The State exerts great authority and coercive power through mandatory attendance requirements, and because of the students' emulation of teachers as role models and the children's susceptibility to peer pressure.... Furthermore, "[t]he public school is at once the symbol of our democracy and the most pervasive means for promoting our common destiny. In no activity of the State is it more vital to keep out divisive forces than in its schools" ⁷⁵

It is also important, as the children that are being objectively informed taught or indoctrinated will ultimately be the arbiters of the policies that inform the government and direct "our common destiny." It is their future votes that will eventually shape the power and authority of government in the secular arena. If the government indoctrinates rather than informs those minds with a particular religious bias then governmental policies can eventually be expected to reflect the indoctrination as well. At that point the government is no longer secular. It becomes a functional theocracy or atheocracy. Accordingly, a truly secular state will respect these rights by developing curriculum that strives to objectively inform rather than to indoctrinate.

The simplest way for the state to satisfy its secular trust is to exclude from the curriculum subject matter that touches on the religious sphere. Simply limit the curricula to the teaching of reading, writing, mathematics, operational science, health, sports, and other subjects that do not invoke a religious discussion. In fact the move of the state into public schooling was founded on this idea. In *Everson v. Board of Education*, Justice Jackson noted that:

"Our public school . . . is organized on the premise that secular education can be isolated from all religious teaching so that the school can inculcate all needed temporal knowledge and also maintain a strict and lofty neutrality as to religion. The assumption is that after the individual has been instructed in worldly wisdom he will be better fitted to choose his religion. Whether such a disjunction is possible, and if possible whether it is wise, are questions I need not try to answer."⁷⁶

The problem with the premise is that public schooling about the mundane inevitably takes the state into the religious sphere. Courses in health, physical and life sciences generate discussions about all the religious questions of life, the origin of the universe, the origin of life, the origin of the diversity of life, the nature of life and how life should be lived. A truly secular curriculum can address these subjects, but only if it objectively *informs* students about the religious subject so that the teaching has a religiously neutral effect.

But is objectivity and neutrality possible with certain subjects? The nature or wisdom of a particular religion, human sexuality, the sanctity of life, morals and ethics would seem to defy objective explanations that have a neutral effect. Any so-called "objective" and "neutral" explanation," may likely be an illusion. We are not asking teachers to call balls and strikes we are asking them to teach about matters that confound the wisest of scientists, physicians, philosophers and theologians. Every teacher will have a religious bias and it is extremely difficult to monitor the extent to which the bias is affecting or steering the instruction of exceedingly complex and ambiguous subject matter.

Accordingly, subjects which "excessively entangle" the state with religion are ones a truly secular state should avoid.⁷⁷ This strategy satisfies its public trust and thereby respects the human rights of the parent and child. Subject matter abstinence can be an excellent secular

strategy. **But only if** the policy of exclusion correctly defines the scope of the religious sphere so that all of the competing viewpoints are excluded and not just those that support a particular theistic or atheistic view.

Some subjects simply can't be avoided. One is origins science. Scientific inquiry necessarily leads to the question of origins. When science asks why an apple falls from a tree, it is inexorably led to next ask: *Where does the apple come from?* Where did the tree come from? Where did its seed come from? Where did all plants come from? Where did all of life come from? Where did the universe come from? Notice, our minds have led us from the mundane to the ultimate. We have irresistibly moved from the secular to the religious.

Furthermore legitimate secular and scientific purposes exist for investigating the question of origins. It helps science better understand the nature of life, how it arises, how it operates and is maintained and what causes its physical death. Scientific knowledge about the nature of life can then lead to predictions about ways to further investigate and cure disease and otherwise optimize the mental and physical health of the individual, family and culture.

For example, the two competing hypotheses about the nature of life, are that it is either a design or an occurrence.⁷⁸ These differing views can affect strategies for the development of scientific knowledge. The hypothesis that life is not designed and is just an occurrence - the product of random processes and natural evolutionary sorting - led to the prediction that the 98.5% of the genome that does not code for proteins was evolutionary junk that accumulated over billions of years from random evolutionary mistakes. Since it was junk, it need not be investigated. The competing hypothesis that the apparent design of life is real and not an illusion led others to predict that the junk was actually functional as good design would dispose of and not replicate enormous landfills of junk. Hence, rather than be ignored it should be carefully investigated. The prediction of the teleologists has prevailed. Now significant resources are being devoted to the study of the junk.⁷⁹

How then should origins science be taught in a secular state so that the effect produces good science education that is religiously neutral? This is a complex and controversial question. It was addressed a few years ago by a biochemist, biologist, psychologist and three lawyers, all of whom had prior experience in developing objective state science standards. The product of their work was a 4-page conceptual framework that defines terms and described premises upon which principles of objectivity were stated to enhance science and education while producing a religiously neutral effect. This *Statement of Objectives regarding Origins Science* is available on line.⁸⁰ The following suggestions borrow from some of those concepts.

a. Teaching Origins Science in a Truly Secular State

- (1.) Students should understand that origins science addresses ultimate religious questions that may profoundly influence their religious and secular worldviews.**

Student field trips usually start with a series of warnings about dangers and difficulties children may encounter along the way. Similarly, a journey into the question of origins takes the child into the core of the religious sphere, a place that may be dangerous to religious worldviews and lifestyles, which their parents wish them to embrace. This venture is not concerned with physical threats, rather with threats to the religious training and development of an

impressionable mind and the freedom of those minds to choose what to believe. As we have seen, what the child chooses to believe about how her life is related to the world in which it is to be lived will profoundly affect her choices about how it will be lived.

Science can provide the knowledge necessary to build a GPS navigational system. However, it is religion that will inform our decisions about the input to the device – the actual destination we have set for our lives and the side trips along the way.

Although religions are informed by science, students should understand that they are also informed by many other valid inputs, including subjective personal experiences, cultural traditions, family, and one’s individual assessment of the wisdom of a particular religious viewpoint. Accordingly, students should understand that valid religious beliefs do not need to conform to scientific hypotheses about the origin and nature of life. Scientific hypotheses about origins, unlike laws, are ideas that students are free to reject or embrace.

On the other hand, the child should also understand that origins science does produce explanations that do address ultimate religious questions that may influence their religious choices. The state should explain the educational purpose for opening the discussion and the goal that it be conducted objectively. Students should understand that the goal of the secular state is to reasonably inform children as to the actual state of current scientific knowledge about this sensitive issue in a manner that will have a neutral effect on their religious beliefs and those their parents would like them to accept.

A child’s knowledge that the discussion is one that impacts religion and therefore must be unbiased, objective and religiously neutral will further open the mind of the child and encourage her to assess for herself the extent of the objectivity and the plausibility of the hypotheses presented. It will also provide a green light for inquiry that may encourage the objectivity of the teacher.

(2) Students should understand that science does not actually know the cause of the universe, the cause of life and the cause of much of the diversity of life.

As another preliminary students should also understand that science remains ignorant about many things. Because of the ignorance, it seeks to reduce it by increasing understanding of the natural world. It investigates things it does not know. We do not know the origin of the universe, the origin of life or the origin of much of the biodiversity of life.⁸¹ So all of those fundamentally important questions remain under investigation. The case is not closed. Furthermore, it is quite likely that science will never know the answers to these ultimate questions.

The knowledge that science does not know has the effect of keeping open the mind of the child. That freedom and open-mindedness then triggers the curiosity of the mind and licenses it to explore, investigate and critically analyze. Children can be like crime scene investigators when they study origins.

(3) Students should understand the two competing views of origins.

Next students need to understand the principle competing hypotheses regarding the origin and nature of life. One hypothesis is that life and the universe arises via intelligent causes. It is

based on the apparent fine-tuning of the universe and the fact that the numerous integrated systems which comprise life run on prescriptive information that appears to be instantiated by an intelligence rather than constraints provided by random interactions of matter, energy and the forces.⁸² Richard Dawkins and many others have repeatedly acknowledged that "Biology is the study of complicated things that give the appearance of having been designed for a purpose."⁸³ As recently as 2007 in an issue of PNAS, explained that "the challenge for evolutionary biologists is to explain how seemingly well designed features of organism, where the fit of function to biological structure and organization often seems superb, is achieved without a sentient Designer."⁸⁴ This design hypothesis supports traditional theistic religions.

The competing hypothesis is that the appearance of design in the natural world is just an illusion, like the illusions of a rising sun and flat earth. This claim holds that the apparent design of life can be adequately explained by a series of natural causes without direction from a mind or some form of intelligence. Everything arises from within the system, nothing from without it. This hypothesis argues that the apparent design arises from a combination of chemical necessity and contingent or random events, influenced by natural sorting or "selection" processes which yield increasing fit or functional objects. It holds that natural or material causes alone are adequate to explain all of natural history. It could be labeled the materialistic hypothesis. It supports atheistic or non-theistic religions.

Since both sides agree life looks designed, the critical issue is whether mindless material causes alone are adequate to explain the fine-tuning of the universe and the sophisticated messages that run life.

Students should understand the basic ideas of the two competing viewpoints so that they may assess the evidentiary effect and plausibility of inferences that may be drawn from the data which support them. In developing curricula explaining the two views, the state must carefully consider inputs from both teleologists and materialists and collect and carefully review reading materials offered by experts to support their competing claims. Students should understand that all experts are likely to have a religious bias that may affect their viewpoints.

(4) Students should understand the basic difference between empirical science and historical origins science.

Students should understand that origins science is an historical science rather than a purely experimental science. Experimental sciences seek to develop intersubjectively accessible knowledge through the formulation of hypotheses, the collection of data through direct observation and experiment and the testing of hypotheses per a scientific method. The process uses deductive and inductive reasoning that seeks to deny or confirm the hypothesis.

In contrast historical sciences develop hypotheses about the cause of past events which have not been observed, may not be observed and are not susceptible to testing in the laboratory. As explained by Carol Cleland, a philosopher of science, historical sciences seek an inference to the "best" of competing explanations.⁸⁵ Critical to the method is the postulation of multiple competing hypotheses and the objective search for data or clues that will both rule in one hypothesis and also rule out the competitors. Cleland concludes that a failure to rule out a competing historical hypothesis leaves the hypothesis to be tested nothing more than a speculation or a "dreaded just-so story."⁸⁶ A form of abductive reasoning is used that seeks to determine the probability that a particular hypothesized event occurred. For the explanation to be the "best" of competing possibilities, it must be more probable than the competitors.

The famous evolutionary biologist Ernst Mayr put it this way:

“. . . Darwin introduced historicity into science. Evolutionary biology, in contrast with physics and chemistry, is a historical science – the evolutionist attempts to explain events and processes that have already taken place. *Laws and experiments are inappropriate techniques for the explication of such events and processes. Instead one constructs a historical narrative, consisting of a tentative reconstruction of the particular scenario that led to the events one is trying to explain.*”⁸⁷

Consequently, origins science is like a murder investigation where the crime scene is billions of years old and the case is never closed. One seeks clues that will both rule in one hypothesis while ruling out another.⁸⁸ Biologist Kenneth Miller, explains that the historical scientist simply applies “good, old fashioned detective work to the clues that have been left behind” to explain the cause of events.⁸⁹ This understanding will put the student in the shoes of an apprentice crime scene investigator who is shifting through the constantly changing mix of data in search of a clue that will both rule in one of the competing hypotheses while ruling out the other. For science the investigation will never end, but the student does not have that luxury. The student must decide now how to steer her life. Knowledge that science does not know leaves the mind of the Student free to make that choice and hold that belief firmly or tentatively.

In seeking to encourage critical analysis of the competing hypotheses, one might imagine the state furnishing each student with a crime scene/origins of life investigation report. The assignment would be to analyze the relevant data and chose which of three competing explanations best account for it: Life is best explained by: (a) a combination of physical/chemical necessity and random events, (b) a combination of intelligence, physical/chemical necessity and random events, or (c) we don’t know, the data is insufficient to determine the probabilities – more information is needed. The students might be told to tear off the final conclusion and keep it to themselves. Thus, the student might be graded on the proficiency and objectivity of her analysis, but not on her final conclusion.

(5) Students should understand the influence of methodological naturalism on explanations of origins.

Methodological Naturalism or scientific materialism is a doctrine or dogma which holds that science can only provide natural explanations of natural phenomena using only natural causes. It is sometimes called a “Rule” of science.⁹⁰ It is used by most institutions of science in the US.⁹¹ When the Rule is applied to the questions of the origin and nature of life only natural cause or materialistic explanations are allowed. Thus, if one asks one who follows the Rule: “*Where do we come from?*” his explanation must be: “We come from a series of natural causes and not from any intelligent cause.” If one asks what is the nature of life, then the response must be that life is an occurrence, not a design, even if it looks designed.

The actual existence, use and effect of the Rule is candidly explained by the renowned evolutionary biologist Richard Lewontin:

[W]e have a prior commitment, a commitment to materialism. It is not that the methods and institutions of science somehow compel us to accept a material explanation of the phenomenal world, but, on the contrary, that we are forced by our a priori adherence to material causes to create an

apparatus of investigation and a set of concepts that produce material explanations, no matter how counter-intuitive, no matter how mystifying to the uninitiated. *Moreover, that materialism is absolute, for we cannot allow a Divine Foot in the door.*⁹²

The Rule is functionally atheistic as atheism depends on materialistic explanations of the origin and nature of life and the rule allows no alternative. Notice the Rule's effect on the three competing explanations under (4) above. It rules that only materialistic explanations are allowed. The student is not presented with alternatives (a), (b) or (c). The student isn't even allowed the "we don't know" response. Rather than analyze the data against competing hypotheses, she is led to explain how it supports the required natural cause explanations of life.

Although a private school or privately funded institution of science might actually use the Rule, a truly secular public school can not use it to suppress information relevant to the religiously charged question of origins. The suppression would rob the state of its secularity and neutrality. If it did employ the Rule to suppress contradictory knowledge it would be promoting functional atheism. As a consequence a secular school must ignore the Rule in presenting scientifically derived information relevant to the issue. It must also ensure that students understand that materialistic explanations of origins in current textbooks use a Rule that suppresses data that support the competing explanation. Finally, the secular school must supplement the texts to show students the evidence that has been suppressed.

Students need to realize that use of the "Rule" is considered by some as a species of a fallacious "God of the gaps" argument. A God of the gaps argument assumes *apriori* that God created everything, so that any gap in our teleological historical narrative of origins is presumed to have been one wrought by an act of God. Methodological Naturalism functions in the same fallacious manner. It assumes *apriori* that a natural cause exists for everything, so that any gap in our natural cause historical narrative of origins is presumed to have been the product of a natural cause. A secular state should inform students of the God and Naturalism of the Gaps arguments, but should not employ either in seeking to inform students about the actual state of our scientific knowledge regarding origins.

Students should also be informed of other assumptions commonly used to support explanations, such as the assumption that life did arise from a series of unexplained natural causes, and the assumption of biological continuity. In addition to the use of the assumptions the state should ensure that students understand the validity of the foundations for their use and their effect on explanation. This will enable the student to decide whether to employ the assumption in developing their own conclusions regarding this religiously charged subject.

(6) Students should understand teleological and materialistic theories about the Origin of the Universe

Cosmology addresses the ultimate origins question – the origin of the universe and of the matter, energy and forces found within it. Courses in physical science usually deal with big bang cosmology. However, they often fail to show students the data which suggests the universe is finite rather than infinite and self-existing. Nor do they show how the features of the cosmos appear to be "fine-tuned" or designed for life. If any of a number of physical constants and characteristics of matter, energy and the forces were slightly altered the universe would be far different than it is and inhospitable to life. There is no known law that requires all the constants

to be what they are. Furthermore, within a single universe there appears to be insufficient time and opportunity for the fine-tuning to be plausibly attributable to chance.⁹³

A counter-argument is that perhaps the universe is actually infinite in its extent such that an infinite number of big bangs have occurred. Bradley Monton, an Atheist, argues that when infinity is placed in the numerator of the probability calculation, chance renders natural cause explanations plausible.⁹⁴

A neutral educator could analyze the competing positions and develop reasonably accurate summaries that could be presented to the students. The summaries could be accompanied by reading lists submitted by representatives of the two perspectives for the curious student. The teacher could inform the students that no one knows for certain the origin of the universe. It is still a scientific mystery, with respect to which the state is not taking a position. In this manner the mind of the student would be left open and his freedom of religious choice would be respected. This would also respect the rights of parents to direct the religious education of their children, consistent with the law that requires the state to be religiously neutral.

(7) Students should understand hypotheses about the chemical evolution of life and scientific criticisms of those ideas.

Perhaps the most mysterious event that arose following the big bang, was the origin of life itself. As mentioned above, life science is significantly different than physical science. Life runs on prescriptive information that instantiate cybernetic controls that construct, operate, maintain and end life.⁹⁵ In contrast, physical systems are ordered by physical constraints defined by the specific characteristics of matter, energy and the forces and the laws of motion and thermodynamics.

Students should know that science has yet to arrive at any coherent natural cause explanation for the origin of life. One organization has posted a one million dollar origin of life prize for the first scientist to develop a highly plausible natural process mechanism for a chemical origin of life.⁹⁶ The prize has yet to be claimed.

The mystery of life arises due to two undisputed scientific facts. First, life runs on coded messages embedded in linear strands of DNA. The messages are incomprehensibly more complex than this article, yet they exhibit the same characteristics. The specific *sequence* of the symbols that comprise the messages determine their functional effect and meaning.

The second key fact is that the sequences of genetic letters in the messages themselves are not determined by any physical or chemical necessity. The four genetic bases consisting of adenine, guanine, cytosine and thymine can occupy any slot on the sugar-phosphate backbone of DNA. Each position on the backbone is like a four-way switch. Because they are chemically and physically arbitrary the switch can be set at any of the four positions. This provides DNA with the capacity to carry an almost infinite amount of prescriptive information. If the sequences were not aperiodic there would be no information and no life.

Nobel Laureate and evolutionary biologist Jacques Monod concluded that this fact reflects the “ultimate ratio,” the ultimate mystery of life:

“The *ultimate ratio* of all the teleonomic structures and performances of living beings is thus enclosed in the sequences of residues making up polypeptide fibers. . . . In a sense, a very real sense, it is at this level of chemical organization that the secret of life lies, if indeed there is any one such secret. **And if one were able not only to describe these sequences but to pronounce the law by which they assemble, one could declare the secret penetrated, the *ultimate ratio* discovered.**”⁹⁷

Given the lack of necessity to account for the sequences, Monod concluded that chance *must* explain the mystery as that is all that’s left within a materialistic belief system.⁹⁸ But most origin of life scientists recognize that chance is not plausible. Accordingly, the origin of life is a complete mystery if it is to be accounted for by natural causes. Origin of life expert Andrew Knoll has said that humans are basically ignorant as to any natural cause for the origin of life itself.⁹⁹ There is also no known natural cause for the origin of the genetic code.¹⁰⁰ The best of millions of possibilities has been said to exhibit “Eerie Perfection.”¹⁰¹

Thus, life looks designed, and natural causes have not explained why its apparent designed origin is actually an illusion.

However, if one looks at a standard biology textbook, one is led to a different conclusion. Students are provided with a brief discussion of the Miller-Urey experiment and various ideas about how life might have arisen via some form of self-organization. However, the discussions omit legitimate scientific critiques of the ideas.¹⁰² After showing these ideas, the chapter usually ends with a sentence like, “once life got started, it all unfolded via random mutation and natural selection.” The omission of core problems with chemical evolution hypotheses causes the impressionable mind of the student to believe it somehow happened that way, with the details of how it happened to be filled in as new data is discovered. Thus the books rely on a naturalism of the Gaps explanation.

Objective curriculum regarding chemical evolution could simply show students proposed scientific explanations of the origin of life as well as scientific criticisms of those explanations.”¹⁰³ This information would again keep the mind of the child open as to this inherently religious question. The critical analysis would also aid their understanding of both biology and biological evolution – the origin of the diversity of life.

(8) Students should understand the strength and weaknesses of theories of biological evolution.

Students should understand that biological evolution seeks to explain the diversity of life using only natural or material causes. It assumes chemical evolution occurred, even though that assumption is based on an essential state of ignorance, as mentioned by Dr. Knoll.¹⁰⁴ It then argues that once life arose and began to replicate, random variations in the original messages of life occasionally produced positive new functions (adaptations) that increased the fitness of populations of the organism. Over billions of years of descent with modification, first life evolved into all the varieties of life that currently inhabit the Earth, plus many more that have become extinct.

Students should understand that the principle debate over evolutionary theory turns on its ability to adequately explain macro-evolutionary changes. There appears to be general agreement that random variation and natural selection can explain the fine-tuning of variation

within populations of interbreeding organisms and even some level of speciation, commonly referred to as “micro-evolution.” However, numerous scientists have expressed reservations about the adequacy of random mutation and natural selection to explain large scale increases in complexity, or macro-evolutionary change.¹⁰⁵ A 2004 compilation of articles lists 26 major unanswered questions facing evolutionary biology, including the origin of organismal forms like the major body plans that arose during the Cambrian Explosion “in a burst.”¹⁰⁶

Although the truth of universal common ancestry is itself a topic of much debate, the critical issue raised by new knowledge of the genome is with the efficacy of random mutation to produce new useful information - biological innovations.¹⁰⁷ Professor Michael Behe, an internationally known biochemist, argues that evolutionary biologists have yet to provide any plausible detailed explanation of how random mutation and natural selection could have produced irreducibly complex biological systems, such as a bacterial flagellum. His argument is detailed in *Darwin's Black Box* and *The Edge of Evolution*.¹⁰⁸ In the latter Behe argues that natural selection has a limit which is fixed by the exponential increase in waiting times necessary for the random occurrence of multi-step innovations.

Other scientists claim the argument of irreducible complexity has been defeated. However, Behe and others respond by pointing out that the objections remain unsupported by detailed showings of how natural causes have coincidentally combined to produce the exquisitely fine-tuned biological systems required for life.¹⁰⁹ The problem is that innovation often requires a series of simultaneous molecular steps to arise. For example, it may take a functionless duplicate gene as many as 13 or 14 mutations to evolve a new function like a new binding site. Natural selection discards rather than selects that which is not functional. Work by Behe, Axe and Gauger show¹¹⁰ that the waiting times for a new function that requires seven mutations to be statistically implausible due to exponential decreases in probabilities and corresponding increases in waiting times.

Actually, a revolution appears to be occurring in bio-science and evolutionary biology due to recent discoveries. The sequencing of the entire genomes of a number of organisms have revealed that much of the human genome previously thought to be an accumulation of evolutionary “junk” is actually functional.¹¹¹ James A. Shapiro, a molecular biologist at the University of Chicago, believes the revolution will replace random mutation and natural selection as the core mechanisms of change.¹¹² The revolution and need for a new theory of evolution was evidenced by a conference held in Altenburg, Austria in July 2008 where sixteen “rock star” of evolutionary biologists met to develop a revised “evolutionary synthesis.”¹¹³

One of the more interesting results of the explosion in bio-information is the demise of the “myth” of Junk DNA. Until the results of the Human Genome and Encode projects came in during the last ten years, evolutionary biologists claimed that 98.5% of the genome amounted to evolutionary junk because it did not code for proteins. It now turns out that most of the junk appears functional. The problem is that we don't know how to read the many new codes associated with the new seemingly functional areas.

Given the new knowledge and the entrenchment of evolutionary theory in modern science by methodological naturalism, it will be a challenge for a truly secular state to develop secular teaching about biological evolution – curriculum that is designed to inform students as to the actual state of our scientific knowledge about the subject. A materialistic bias is entrenched and the target is one that is moving at an exponential rate. By the time curriculum is developed the knowledge base has changed.

At the minimum students should understand this phenomena. In the mean time the secular state could establish working groups dedicated to the development of objective curricula standards not driven by methodological naturalism that would encourage public schools to teach the subject objectively and without theistic or atheistic bias. This will require a careful study of the scientific arguments and evidence on both sides of the debate. This might include the development of outside resources commenting on the two perspectives.

This kind of curriculum would open the mind of students, develop the skills of critical analysis, and enhance understanding of life science.¹¹⁴ By presenting the materials in a scientifically objective manner the state would satisfy its obligation to provide excellent science education that has a religiously neutral effect.

(9) Scriptural and Dogmatic Accounts of Origins

The function of science is to seek to explain the natural world using empirical methods to the extent possible. It is not the function of science to seek to validate either an atheistic or theistic belief. Accordingly, religious dogmas driven by methodological naturalism or scriptural revelations would seem to be outside the scope of a truly secular science education.

b. Informing Choices about other religious subjects.

Public education also addresses other religious subjects in curricula regarding health, science, social studies and history. These include human sexuality, the sanctity of life, ethics and morality, and history that recounts the effects of religion on culture. In a truly secular state educators will recognize that these subjects take the curriculum into the religious sphere as well. All religions take a position on human sexuality as it has a profound effect on the mental and physical health of the individual, family and culture.

As to these other matters of religion, a truly secular state should abstain or use scrupulous care as it informs children's religious choices about these subjects. The complex and profoundly sensitive nature of these subjects may render a neutral teaching to impressionable children practically impossible.¹¹⁵

2. A truly secular state will encourage a fair competition between competing religious viewpoints.

In summary, a truly secular state will encourage fair competitions between competing religious viewpoints, while a Theocracy or Atheocracy will naturally suppress competition against the preferred viewpoint. Thus the effect of a truly secular state model will cause the wisdom of God which has been cultivated and tested over thousands of years to take the field against reason based explanations informed by controlled atheistic inputs. The critical question for the citizens of the state is which set of ideas best optimizes the mental and physical health of the individual, family and culture.

Consequently, an ideal secular state produces output that has taken into account the inputs of the absolutes of theistic religions and the reason-based inputs of Atheistic religions. If the competition is real and the contest properly structured the best input should be recognizable and embraced for the development of other human rights entitlements.

B. Use of a theistic definition of religion causes a secular state to become pseudo secular and functionally Atheistic.

1. Introduction.

As previously explained, a secular state has two ways to achieve secularity. One is to exclude or avoid religious subject matter. The other is to treat it neutrally. However, when government defines religion as just Theistic, then Atheism becomes non-religion or secular. This discriminatory classification makes exclusion the simplest way for a state to satisfy its neutral obligation. By scrupulously avoiding mention of God and theistic views it will never enter the religious sphere. As long as it keeps out of the sphere it avoids the need to treat theism and atheism neutrally, as the obligation of neutrality only arises when the state ventures into the religious sphere. It also permits the state to expand its sphere of influence over functionally religious subject matter so long as it excludes theistic viewpoints. After systematic suppression of evidence supporting an inference to God and His revelatory wisdom, the process and teaching becomes godless – atheistic - not truly secular. Although the state calls itself “secular,” it becomes a pseudo secular Atheocracy.

The discriminatory definition is often sought to be justified by the false dichotomy that theistic viewpoints are entirely based on faith and myths while the non-theistic views are entirely based on objective science and reason. This dichotomy encourages educators to exclude the theistic views not only because they are religious, but also because they are deemed subjective.

The dichotomy is false in many respects. Theistic views are grounded as much in reason, science and common sense as atheistic belief systems. Furthermore, non-theistic views about the cause, nature and purpose of life depend on faith-based historical narratives or genesis accounts, as well as myths and dogmas. Methodological Naturalism functions as a dogma that supports the genesis narratives used to support natural cause answers to the ultimate religious questions.

A narrow theistic definition of religion confines theistic input to a private playing field, thereby leaving the public playing field dominated by functionally equivalent atheistic views. As explained by US Supreme Court, the only way to treat a subject neutrally is to classify it in a manner that allows it to compete with functionally equivalent but different ideas. When theism and atheism are separated into two different classes the separation itself eliminates competition and thereby the possibility of neutral treatment. Dual classifications of functional competitive equivalents foster discrimination and hatred. It puts people into superior and inferior classes. It treats theists as second class citizens, who probably should not even be entitled to hold public office. A recent story in the BBC News illustrates this serious problem:

“Can religion & politics mix? Many feel religion and politics don't mix well. It isn't hard to see why with some minority groups espousing extreme views. So should there be a complete divide, *a line that isn't crossed?*”¹¹⁶

The author of the article implicitly defines religion as limited to theistic beliefs, particularly “extreme” Christian beliefs. Functional Atheists are claiming that these views should be excluded from pseudo-secular politics, thereby also rendering politics functionally atheistic. A Minister of a local church being criticized for urging the members of his congregation to vote in a way that supports Christian views explained: "I don't think as Christians we should be in the ghetto and not taking part in what's going on in the world."

Another example of the effects of a narrow classification are the advertisements published at Christmas 2010 explicitly promoting Atheism. See II.C, above. The advertisements published by the “Freedom of Religion Foundation” give the appearance of one seeking to systematically cleanse the culture of theistic beliefs. Notice that its strategy depends entirely on a theistic definition of religion. Functionally, the “Freedom of Religion Foundation” is a religious foundation that does not seek freedom from all religion, only freedom from theistic religion. It is functionally Atheistic and therefore, religious.

We have seen the effects of this kind of discrimination in the area of race and gender relations. Until all humans, regardless of their color and ethnicities are put into the same class, equal or neutral treatment is a near impossibility. Separate but equal schools do not work. Dual classifications inevitably treat one class as the superior and the other as the inferior. Putting atheism into the secular public class and theism into a private class of its own licenses the state to simply exclude all theistic ideas as religious and thereafter endorse a pseudo secular agenda which is functionally atheistic.

2. The theistic definition of religion discriminates against theism in a pluralistic state

Prior to 1940 the US was probably 90% or more theistic and mostly Christian. Most of Western culture has over 2000 years fallen into the habit of thinking of religion as just theistic. Atheists in some cultures were classified as non-persons to be burned at the stake. Accordingly, in the early Colonial environment it was permissible for the states to both legally and politically favor Theistic perspectives. *Cantwell* and *McColum* changed that dynamic when the Court held that the 14th Amendment withdrew from the states the right to favor theistic religion.

Although the law and the plurality of religious beliefs have changed, the popular idea that religion is just theistic has not. For the most part institutions of science and public education continue to use a popular theistic definition, rather than the recognized legal and inclusive definition of religion. If the use of this discriminatory definition continues, it is logical to predict that secular states will become pseudo secular states that are functionally atheistic.

3. Methodological Naturalism or “the Rule” effectively requires science to be functionally Atheistic and religious.

Stephen Jay Gould is the author of the idea that science and religion must be separated into two non-overlapping magisteria or separate classes.¹¹⁷ Hence, just as a “secular” state must be non-religious so to must be secular “science.” However, a problem arises for modern institutions of science and science education, because they have embraced the functionally atheistic dogma of Methodological Naturalism or scientific materialism.

As previously explained in III.A.1.a., methodological naturalism, or “The Rule,” holds that science can only provide natural explanations of natural phenomena using only natural or material causes. As we have seen, when applied to the questions of the origin and nature of life only functionally atheistic explanations are permitted. When the Rule is used, then science becomes religious unless religion is defined as only theistic. Hence, science wed to the Rule, can be secular and not religious only through the use of a Theistic definition of religion that classifies atheism as not religious. In contrast, when institutions of science employ an inclusive definition that includes Atheism, the Rule that permits only atheistic answers to ultimate questions causes

science to be functionally religious. Ergo, to become truly objective, functionally agnostic and secular, institutions of science must abandon the Rule as an irrefutable assumption or dogma.

Use of the Rule in science education was made obligatory on state schools existing in the Middle Judicial District of the state of Pennsylvania per the decision of judge John Jones in the case of *Kitzmiller v. Dover Area School District*, decided in December 2005.¹¹⁸ The case is detailed in the 115 page law review article previously mentioned and available on the internet.¹¹⁹

In *Kitzmiller* the School Board of the Dover Area School District was controlled by Theists who believed that evolutionary theory should be taught objectively and neutrally, consistent with the discussion in Section III.A.1.a (6)-(8) above. As a consequence they adopted a policy that would encourage teachers to objectively inform students about biological evolution. Biological evolution addresses two of the ultimate religious questions,– “*Where do we come from and what is the nature of life?*” Specifically the policy adopted by the School Board called for teachers “to advise students of gaps/problems in Darwin’s theory and of other theories of evolution, including, but not limited to intelligent design.”

In its essence, the policy sought to inform students of both the strengths and weaknesses of evolutionary theory so that they might be equipped to make their own informed choices about what to believe regarding these ultimate questions. Students were to also be informed about a book that discussed the idea of intelligent design and its scientific critiques of evolutionary theory.¹²⁰ The policy was needed, because adherence to the Rule typically results in curriculum that allows only robust explanations of evolutionary narratives and only negative mention of intelligent design.

However, using a theistic definition of religion, Judge Jones concluded that the policy was designed to promote the idea of intelligent design and was therefor “religion.” This is because ID leads to or “involves a supernatural designer.”¹²¹ Defendants, not challenging Jones definition of religion, objected to the religious classification, claiming that ID is merely a tentative scientific hypothesis based on the apparent design of life and legitimate scientific critiques of evolutionary theory. The response of the institutions of science, which Jones embraced, was that science is governed by the “Rule,” “methodological naturalism,” which allows only “natural explanations” using only natural or material causes to explain natural phenomena. The court concluded that since ID challenges the adequacy of natural causes to explain life, it is essentially an attack on the Rule itself and therefor an attack on science. Thus, using the narrow definition of religion Judge Jones found that the hypothesis of design is not science, but is religion. The corollary of this inadequate definition of religion is that the dogma that permits only functionally atheistic explanations of origins is science and not religion.

The dichotomy that Judge Jones and institutions of science employ is that origins explanations fall into two classes, the religious and the scientific. Religions explain with intelligent causes, while science explains with natural causes. Of course the dichotomy is false. Religions also explain with faith based natural cause explanations, particularly non-theistic ones like Atheism and “Secular” Humanism. Had Jones employed the inclusive definition of religion, he would have had to find the Policy constitutionally necessary rather than illegal.¹²²

The result of this use of a discriminatory definition of religion is that a natural cause explanation of life, which is the core tenet of Atheism and “Secular” Humanism, is classified as secular science while any disagreement with the idea is classified as religion. This rubric essentially requires science education to be functionally Atheistic rather than functionally

secular, neutral and objective. It also causes science itself to be an activity that functionally promotes a particular religious perspective – Atheism.

Use of this false system of classification produces deceptive effects and non-neutral religious effects. Most think of science as an objective rather than an atheistic enterprise. They believe it is governed by the scientific method rather than an Atheistic dogma. One reason for this impression is that the public is routinely told that science should be believed because it is in fact an objective search for the truth and all of its explanations are based on observation and empirical testing. This is reflected in Philosopher of Science Paul Kurtz’s explanation of the difference between science and religion:

“There is a profound difference between science and religion in its conception of truth. Science *requires an open mind*, free inquiry, critical thinking, *and the willingness to question assumptions*, and peer review. The test of a theory or hypothesis is independent (at least one would hope) of bias, prejudice, faith, or tradition; and it is justified by the evidence, logical consistency, and mathematical coherence.”¹²³

However, we learned from *Kitzmiller* that this description of institutional science is not true. Institutions of Science use the “Rule” which closes the minds of scientists and forbids “free inquiry” as to the most profound questions of life. The actual existence, use and effect of the Rule are candidly explained above under III.A.3.5. by the renowned evolutionary biologist Richard Lewontin as he admits that “we have a prior commitment, a commitment to materialism....Moreover, that materialism *is absolute*, for we cannot allow a Divine Foot in the door.”¹²⁴

Lewontin’s explanation of how science actually operates reveals the evangelistic nature of methodological naturalism—the divine foot must, at all costs, be excluded. The ruling in *Kitzmiller* did just that. Not only did it forbid mention of the design alternative, it forbid legitimate criticisms of natural cause explanations. Lewontin explains that there is no room in science for anything other than an atheistic perspective. Furthermore, science must be constantly vigilant to ensure that not a whiff of teleology gets in the door. For once a single toe enters, then the apparent design of the universe¹²⁵ and of living systems makes it impossible to keep the rest out. Notice how the Kurtz description of science is completely at odds with Lewontin’s. One is objective and the other is Atheistic. Due to the obvious inconsistency, the Rule has for the most part been an “unwritten rule,” of which the public and patrons of science are unaware.¹²⁶

4. Enforcement of the Rule causes institutions of science and science education to be functionally Atheistic

A huge problem with the Rule is that to be effective it needs to be enforced. If it is not enforced it ceases to be a Rule or a dogma. Institutions of science enforce the rule in a variety of ways explained in *Kitzmiller’s Error*.¹²⁷ Perhaps the most effective enforcement mechanism is to ensure that scientists who break the Rule are excommunicated from the realm of science. A number of lists have been developed over the years that identify rule breakers. The Discovery Institute list contains over 800 PhD’s in the biological and related sciences that have publicly affirmed their doubts about the adequacy of random mutation and natural selection to explain all of life.¹²⁸ The problem is that it is very difficult to get additions to the list post *Kitzmiller*, for those who identify themselves have to look for another career unless they have tenure or are in private sector jobs not dependent on the blessing of the institutions of science.

A film that documents the strategy employed by functionally Atheistic science is *Expelled: No Intelligence Allowed*, starring Ben Stein.¹²⁹ The film uses the metaphor of the former Berlin Wall to illustrate the way methodological naturalism suppresses dissent. The actual Berlin Wall was erected to keep certain theistic ideas out of the communist empire. Similarly methodological naturalism serves to keep theistic viewpoints out of science. Those who break the rule are excommunicated, persecuted, and exiled from the academic and scientific community. One of the persecuted, biologist Jerry Bergman, PhD, chronicles the cases of many other dissidents in a new book.¹³⁰ Caroline Crocker, PhD, a molecular biologist lost an entire career representing over twenty years of accomplishment, because she approached the subject with an open mind.¹³¹

The argument most often advanced for the use of methodological naturalism in science is that good science cannot be done without it. The idea is that a scientist cannot ask why an apple falls from a tree and then begin the discussion by positing the hand of God as the cause. It is true that in seeking to answer most questions, we should look for a natural cause. However, when the question turns to an ultimate historical question not amenable to empirical confirmation a variety of factors demand an open rather than closed mind. This is particularly true when the search for natural cause explanations comes up empty handed, as in the case of all origins questions, and as new molecular and biochemical evidence reveal unimaginably sophisticated hardware and software in the simplest living systems.

Kitzmiller's Error includes an extensive discussion of a number of problems with the Rule. It's stated purpose is functionally religious rather than scientific, it functions as an orthodoxy that frustrates rather than advances scientific testing of explanations, it is contrary rather than equivalent to the scientific method, it is used irrefutably only in areas of science that inform religion, and it is promoted with religious zeal rather than healthy scientific skepticism.¹³²

Professor of Law Johnny Rex Buckles makes a strong case that Methodological Naturalism serves a valid purpose if it is used as a refutable presumption. However, as a dogma he concludes, consistent with *Kitzmiller's Error*, that it is inconsistent with the Establishment Clause in the context of origins science education.¹³³ The idea of a refutable presumption is commonly found in rules of evidence that govern evidentiary hearings in courts of law. For example, they typically demand actual testimony from a witness rather than hearsay per the "hearsay rule." However, the hearsay rule has numerous exceptions designed to ensure that the rule promotes rather than impedes justice. One exception permits testimony about a dying declaration as it would be impossible to call the declarant. Others allow the admission of ancient documents. Similarly, rules of science are normally pragmatic, as exceptions to empiricism litter modern science, particularly in historical and other soft sciences. Once working assumptions about ultimate unanswered questions are turned into irrefutable dogmas, science stops and religion begins.¹³⁴

In applying assumptions one must recognize how the output will be used. Answers to origins question not only inform applied and operational sciences, but they also inform religions, both Theistic and Atheistic. A strong argument can be made that the impact of methodological naturalism on religion is far more important than its impact on operational and applied sciences, which often don't need or use irrefutable presumptions. Religions show us where to go, while science tells us how to get there. Thus, science provides the GPS navigation system, but a destination must be set for it to have utility. Religions provide the foundations for the input into the GPS.

5. The Atheistic dogma is also applied in subjective sciences.

A huge difficulty with an Atheistic science is that modern “science” has expanded its realm enormously from the science that was practiced even 100 years ago. As explained by Francis Bacon in his proposal of the scientific method in the *Novum Organum*,¹³⁵ science is an enterprise that seeks to develop for its patrons knowledge in bits and pieces incrementally, based entirely on empiricism, observation and testing with the goal of developing intersubjectively accessible knowledge. This model of science can explain why an apple falls from a tree, but it cannot explain where the apple ultimately came from. Empirical science seeks to identify truly objective facts and laws. What has happened in the past 100 years is that science has expanded its scope of explanation from experimentally tested facts and laws to subjective matters of opinion.

The expansion was pioneered by geology and evolutionary biology, both of which depend on the development of historical narratives like why the dinosaurs became extinct and how humans arose via random mutations from apes. As explained by Ernst Mayer, Darwin introduced historicity into science. Opening the flood gates of science to opinion has caused practically every other endeavor or activity in which man engages to be classified as “science.” Science now includes, social sciences, economic sciences, behavioral sciences, science of human sexuality, mathematical sciences, health sciences, psychological science, education science, etc. A recent article describes how science, using an Atheistic account of origins, can help us make moral and ethical choices, like “would you kill a crying baby to save yourself and others from hostile soldiers outside?”¹³⁶ Another example is evolutionary ethics which seeks to establish an Atheistic basis for morals and ethics based on evolutionary biology and its influence on evolutionary psychology and sociobiology. This shows science assuming the same role as Christian Churches. EE is dependent entirely on functionally Atheistic evolutionary explanations of the origin and nature of life. How is EE functionally different from wisdom contained in the Bible, the Koran or Torah?

If all of these soft sciences define religion as just theistic and then exclude it from their realm, they too will become enterprises that advance functional Atheism. Any government that supports these atheistic endeavors and enterprises will itself become functionally Atheistic and a functional Atheocracy.

Consider the teaching of biological origins as described above. In the Kitzmiller case the court found unconstitutional a school policy to teach biological origins neutrally and objectively. Instead, public schools are only permitted to explain the origin of life with functionally Atheistic explanations. Under this model, only evidence which supports natural cause explanations are permitted. Hence all of the controversies mentioned under III.A.1.a. above, must be suppressed. The suppression robs students of an informed choice about whether to embrace Atheism. The theft occurs both consciously and subconsciously. It deprives both the parent and the child of a fundamental religious liberty.

The subconscious effect of strong natural cause explanations was demonstrated in a recent experiment. Research by two experts in psychology and behavioral science confirmed that explanations about origins amount to “ultimate explanations” that trigger subconscious religious responses.¹³⁷ They provided 126 subjects with a strong or a weak natural cause or “scientific” explanation of the origin of the universe and of life. These “ultimate explanations” were followed by a series of rapid response questions that indicated the subconscious effect of

the explanation on the subject's belief or disbelief in God. They concluded, as one might expect, that the strong explanation caused an "automatic" or subconscious negative "evaluation" of God and a positive evaluation of "science" or no God, while the weak explanation "automatically" produced the opposite effect.¹³⁸

Thus true secularity is lost when government uses a theistic definition to support science and science education that is functionally atheistic.

C. Keeping the secular state truly secular

A truly secular state must use the inclusive definition to achieve religiously neutral educational effects. Accordingly, parents in a secular jurisdiction should require their local schools to use that inclusive definition. When curriculum decisions are being made, parents should determine whether the curriculum addresses religious subject matter. Does it address matters of ultimate concern such as the cause, nature and purpose of life? If so, the school should show the secular need for the teaching and how it will yield a religiously neutral effect.

Regardless of whether an institution of science feels a necessity to embrace Atheism, secular education may not. Hence, if institutions of science wish to advance their ideas in public schools they must assist the public school in identifying and including comprehensive curricula along the lines suggested under III.A.1.a. above. This will preserve the human right of the parent and child to choose what to believe about religion - matters of ultimate concern.

Use of an inclusive definition should also facilitate the preservation of history and cultural traditions. Using the theistic definition of religion, Atheists actively seek to expunge theistic invocations, benedictions, monuments, signs, symbols, slogans, holidays, songs, music and speech from all places touched by a tax dollar, thereby rendering the state godless. However in the context of an inclusive definition, state endorsement of these Atheistic goals would itself be a violation of its commitment to secularity. Rewriting history and outlawing cultural traditions to promote the bidding of Atheists would be acts of religious favoritism, not acts of religious neutrality.

A critical error made by many theists is to describe their non-theistic opponents as secularists who promote secularism. But secular means not religious and those opponents are functionally religious as they support Atheistic views and seek to herd theists into private ghettos. The effects of their actions are not functionally neutral. A true secularist invites competition among all the religious perspectives. Those who support non-theistic religious viewpoints while suppressing theistic views are "pseudo secularists," not secularists.

In a truly secular culture the religious motive of the competitor is irrelevant, as most everyone has a religious bias. When an Atheist/materialist argues that scientific evidence presented by another scientist must be ignored, because he was seen carrying a Bible, the proponent need only show that Eugenie Scott, the CEO of the National Center for Science Education is carrying a copy of the Humanist Manifesto III that bears her signed endorsement. The Atheist/materialist is as religiously motivated as the theist. An inclusive definition recognizes the fact that all of the competing parties likely have conflicting religious motives, just as both parties at a trial have conflicting motives. Motive then ceases to be an issue. When motives cease to be an issue, the focus can then be turned to the real issue: which proponent has the most adequate explanation – the best explanation based on the relevant evidence?

In a truly secular state the label “secularist,” is only applicable to one who seeks genuine neutrality, one who seeks to be a good umpire. In this respect a genuine secularist is a peacemaker and seeker of the truth, not an advocate for any particular religious bias. Institutions of Science and public education need to be genuine secularists, thereby promoting exciting competitions between diverse religious viewpoints and increasing our intersubjectively accessible knowledge of the world.

IV. Conclusions

1. Human rights depend on what it means to be human.
2. What it means to be human depends on answers to three religious questions regarding the cause, nature and purpose of life. Generally the differing answers will fall into two categories, theistic and atheistic.
3. The human rights entitlements allowed by the state will be influenced by its religious bias or a commitment to be non-religious or secular.
4. Theocratic states will tend to limit human rights to those allowed by the particular theistic religion embraced by the state.
5. Similarly, an Atheocracy will provide human rights based on the views of the Atheists who control the input that informs the State. In particular, public education of the citizens of the Atheocracy will be informed by Atheism rather than theism.
6. A state may become truly secular or non-religious by prohibiting the adoption of policies respecting an establishment of religion or that abridge the free exercise thereof. But true secularity will be achieved only if “religion” is defined inclusively as an organized set of beliefs about ultimate questions or matters of ultimate concern, such as the cause, nature and purpose of life. Use of the inclusive definition of religion will require the primary effect of its activities to be neutral with respect to all religions both theistic and non-theistic.

In its role as an educator of children, a truly secular state should decline to teach or inform with respect to religious subjects that defy neutral treatment and that are more appropriately informed by parents and private religious organizations. With respect to other subjects that touch on the religious sphere such as origins science, a truly secular state must carefully investigate and inform students with an objective description of the actual state of our scientific knowledge that includes critical analysis of competing materialistic and teleological hypotheses.

7. The US and many other countries which claim to be secular, are likely pseudo secular to the extent that they employ a theistic definition of religion in ways that cause the state to endorse atheistic religious viewpoints as secular. All governments, which seek genuine secularity, should use an inclusive definition of religion in assessing the legality of its activities, which touch upon the religious sphere. The development of effective strategies for achieving secularity is exceedingly complex and will be controversial. The devil always resides in the details.

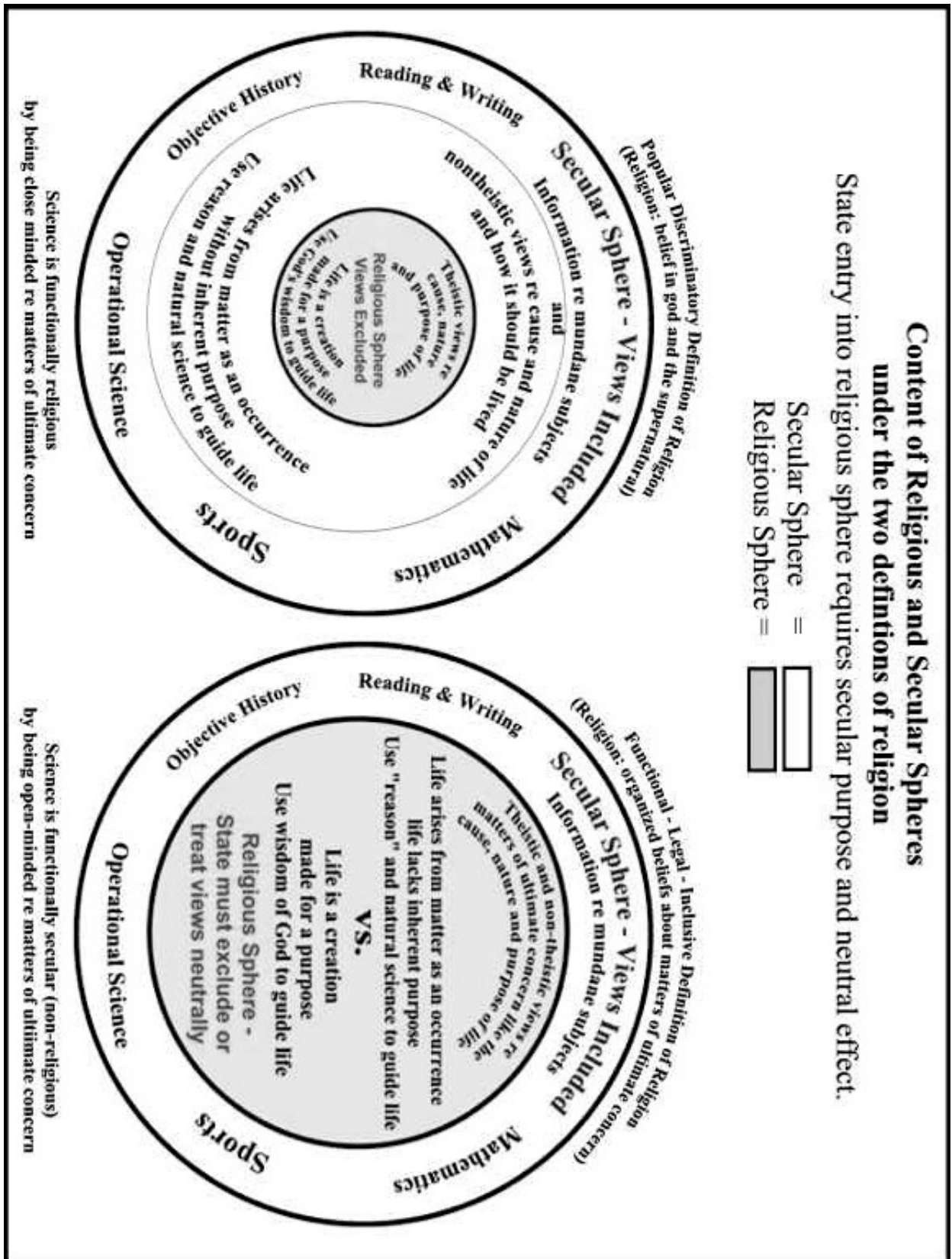
Appendix A
IMPORTANT CASES RE DEFINITION OF RELIGION

“[Government] shall make no [policy] respecting an establishment of religion, or prohibiting the free exercise thereof;”

- 1933 Humanist Manifesto published. It declares a new religion to replace traditional religion. Designed to be taught in public schools. It denies the supernatural, affirms that the universe is self-existing and that life arises from unguided evolutionary change. The purpose of life should be guided by reason and science per the scientific method.
- 1940 Religion clauses apply to states; *Cantwell v. Conn.*, 310 U.S. 296
- 1944 State may not take a position on the validity of a religious belief: *U.S. v. Ballard*, 322 U.S. 78 (The draftsmen “fashioned a charter of government which envisaged the widest possible toleration of conflicting views.”)
- 1947 Separation is to be achieved by neutrality, not exclusion: *Everson v. Board*, 330 U.S. 1, 8-9 (state subsidies of transportation to parochial schools upheld using “separation of church and state” dictum. Separation “requires the state to be neutral in its relations with groups of religious believers and non-believers;” Government “cannot exclude individual Catholics.. Mohammedans, .. Non-believers,.. or the members of any other faith, because of their faith, or lack of it.”)
- 1957 “Secular” Humanism, an atheistic belief system, is a religion: *Fellowship of Humanity v. County of Alameda*, 153 Cal.App.2d 673. Fourteen “Secular” Humanist churches receive tax exemptions permitted only for property used exclusively for “religious worship.” Judge Peters adopts a functional definition of religion. The test is “whether or not the belief occupies the same place in the lives of its holders that the orthodox beliefs occupy in the lives of believing majorities;” “Religion simply includes: (1) a belief, not necessarily referring to supernatural powers; (2) a cult, involving a gregarious association openly expressing the belief; (3) a system of moral practice directly resulting from an adherence to the belief; and (4) an organization within the cult designed to observe the tenets of the belief.” Judge Peters decision was followed a month later by the DC Circuit in *Washington Ethical Society v. District of Columbia* (DC Cir 1957).
- 1961 Supreme Court embraces “comprehensive” definition: “By its nature, religion - in the comprehensive sense in which the Constitution uses that word - is an aspect of human thought and action which profoundly relates the life of man to the world in which he lives. Religious beliefs pervade,.... virtually all human activity.” *McGowan v. Maryland*, 366 U.S. 420 (1961); But, Sunday closing laws do not invoke religious subject matter as they provide a day of rest for all religious persons, including disbelievers. “The Establishment Clause withdrew from the sphere of legitimate legislative concern and competence a specific, but comprehensive, area of human conduct: man's belief or disbelief in the verity of some transcendental idea and man's expression in action of that belief or disbelief.” See also *Torcaso v. Watson*, 367 U.S. 488 (1961)
- 1965 The Supreme Court adopts the Fellowship of Humanity Parallel Position Test: *United States v. Seeger*, 380 U.S. 163 (1965). Conscientious objectors may qualify for a religious exemption from combat even though they do not believe in a “Supreme Being.” “Within [the phrase ‘religious training and belief’] would come all sincere religious beliefs which are based upon a power or being, or upon a faith, to which all else is subordinate or upon which all else is ultimately dependent.” “Over 250 sects inhabit our land. Some believe in a purely personal God, some in a supernatural deity; others think of religion as a way of life envisioning as its ultimate goal the day when all men can live together in perfect understanding and peace.”
- 1969 Second & Ninth Circuits find religion includes non-theistic Scientology: *Founding Church of Scientology v. U.S.*, 409 F.2d 1146 (DC Cir 1969); *Church of Scientology v.CIR*, 823 F.2d (9th Cir 1987)
- 1970 The Supreme Court recognizes confusion over the broad meaning of religion *Welsh V. United States*, 398 U.S. 333: “But very few registrants are fully aware of the broad scope of the word “religious” as used in 6 (j), and accordingly a registrant's statement that his beliefs are nonreligious is a highly unreliable guide for those charged with administering the exemption.”
- 1979 The meaning of “religion” is functional and means the same in the EC and FEC. Non-theistic religions like transcendental meditation may not be taught in public schools in the guise of “science.” *Malnak v. Yogi*, 592 F.2d 197 (3rd Cir 1979) “It seems unavoidable, from *Seeger*, *Welsh*, and *Torcaso*, that the theistic formulation presumed to be applicable . . . is no longer sustainable.” “First, a religion addresses fundamental and ultimate questions having to do with deep and imponderable matters.” A diet regime is not a subject matter of religion [*Africa v. Commonwealth of Penn.* (3rd Cir 1981)] “Appellants . . .do not consider SCI/TM to be a religion. But the question of the definition of religion for first amendment purposes is one for the courts, and is not controlled by the subjective perceptions of believers. Supporters of new belief systems may not ‘choose’ to be non-religious, particularly in the establishment clause context. There is some indication that SCI/TM has attempted a transformation from a religion to a secular science in order to gain access to the public schools.”
- 1983 Second and Tenth Circuits embrace a broad definition of religion: *U.S. v. Sun Myung Moon* 718 F.2d 1210 (2nd Cir, 1983); and *United States V. Meyers*, 95 F.3d 1475, (10th Cir 1996)
- 1987 Religion is a set of beliefs about the cause, nature and purpose of life. Analysis showing “Secular” Humanism a religion not reversed. , *Smith v. Board*, 655 F. Supp. 939 (S.D. Ala. 1987); reversed on other grounds, 827 F.2d 684 (11th Cir. 1987).
- 1992 Either belief or disbelief in God is an impermissible religious orthodoxy: *Lee v. Weisman*, 505 U.S. 577 “[A] nonpreferentialist who would condemn subjecting public school graduates to, say, the Anglican liturgy would still need to explain why the government's preference for theistic over nontheistic religion is constitutional.” The “settled law” is that the “Clause applies ‘to each of us, be he Jew or Agnostic, Christian or Atheist, Buddhist or Freethinker’”
- 2005 Atheism is an Establishment Clause Religion – Atheists are entitled to have “church” in prison. *Kaufman v. McCaughtry*, 419 F.3d 678 (7th Cir.2005)
- 2008 EEOC Compliance Manual defines religion as concerned with “‘ultimate ideas’ about ‘life, purpose, and death,’ and includes atheism and other “religious beliefs that are new, uncommon,” citing many of the cases discussed above.

Appendix B

Graphic Illustration of the Religious and Secular Spheres under Two Definitions of Religion



Notes

1 John H. Calvert, JD (B.A. in Geology), graduated from the University of Missouri School of Law in 1968, and practiced law
with Lathrop & Gage of Kansas City until 2001. Since then he has specialized in constitutionally appropriate methods for
teaching origins science in public schools, primarily through Intelligent Design network, inc., a non-profit corporation that
seeks institutional objectivity in origins science. He is the author of *Kitzmiller's Error: Using an Exclusive Rather Than
Inclusive Definition of Religion*, *Liberty University Law Review* (Spring 2009) at
2 http://www.intelligentdesignnetwork.org/Kitzmiller%27s_Error.pdf
3 Felix S. Cohen, *Human Rights: An Appeal to Philosophers*, *The Review of Metaphysics*, Vol. 6, No. 4 (Jun., 1953), pp. 617-
622 <http://www.jstor.org/pss/20123340>
4 *Lemon v. Kurtzman*, 403 U.S. 602, 612 (1971). "First, the statute must have a secular legislative purpose; second, its principal
or primary effect must be one that neither advances nor inhibits religion,... finally, the statute must not foster "an excessive
government entanglement with religion."
5 Kenneth R. Miller, *Finding Darwin's God: A Scientists Search for Common Ground Between God and Evolution*, 211-12
(Harper Collins, 1999): "The observation that Gould finds so remarkable follows naturally from the cause-and-effect links
that extend upward from quantum physics through chemistry and biochemistry into the undirected input of variation into
living, genetic systems. Gould may not have recognized the physical roots of his observations, but they are nonetheless there
for all to see. The natural history of evolution is unrepeatable because the [random] nature of matter made it unpredictable in
the first place. Wind that tape back, and it will surely come out differently next time around, not just for the Burgess shale,
but for every important event in the evolutionary history of life."
6 Benjamin Wiker, *Moral Darwinism: How We Became Hedonists*, 10 (2002).
7 *Humanist Manifesto II* (1973), [http://www.americanhumanist.org/Who_We_Are/About_](http://www.americanhumanist.org/Who_We_Are/About_Humanism/Humanist_Manifesto_II)
8 [Humanism/Humanist_Manifesto_II](http://www.americanhumanist.org/Who_We_Are/About_Humanism/Humanist_Manifesto_II).
9 John Calvert, *Kitzmiller's Error: Using an Exclusive rather than Inclusive Definition of Religion*, 3 *Liberty University Law*
10 *Review*, p 236-238 (Spring 2009) available at http://www.intelligentdesignnetwork.org/Kitzmiller%27s_Error.pdf
11 Rick Warren, *The Purpose Driven Life: What on earth am I here for?* (Zondervan 2002)
12 Luke 9:23 (NIV)
13 *McGowan v. Maryland*, 366 U.S. 420, 461 (1961) (Frankfurter, J., concurring) (joined by Harlan, J.).
14 Roy A. Clouser, *The Myth of Religious Neutrality: An Essay on the Hidden Role of Religious Belief in Theories*, 23 (Notre
15 Dame Press, revised edition 2005)
16 *Id.* at 24.
17 *Fellowship of Humanity v. County of Alameda*, 315 P.2d 394, 406 (Cal. Ct. App. 1957).
18 *U.S. v. Seeger*, 380 U.S. 163, 176 (1965) (emphasis added).
19 *Id.* at 187: "'And if that word [God] has not much meaning for you, translate it, and speak of the depths of your life, of the
source of your being, of your ultimate concern, of what you take seriously without any reservation. Perhaps, in order to do so,
you must forget everything traditional that you have learned about God . . . ' Tillich, *The Shaking of the Foundations* 57
(1948). (Emphasis supplied.)'
20 Lionel Beehner, *Religious Conversion and Sharia Law* (Council on Foreign Relations, June 8, 2007)
21 Yaroslav Trofimov, *As Islamists Flex Muscle, Egypt's Christians Dispair*, *The Wall Street Journal*, Vol. CCLVII, No. 135. p
22 1 (June 12, 2011)
23 Farid Ahmed and Moni Basu, *Only 14, Bangladeshi girl charged with adultery was lashed to death*, (CNN World, March 29,
24 2011); http://articles.cnn.com/2011-03-29/world/bangladesh.lashing.death_1_alya-lashes-elders?_s=PM:WORLD
25 *Humanist Manifesto I* (1933), http://www.americanhumanist.org/Who_We_Are/About_Humanism/Humanist_Manifesto_I.
(emphasis added)
26 *Kitzmiller's Error*, *supra* p. 236-8 (2009)
27 David Alkman, *Beijing's Theology of Repression*, *The Wall Street Journal*, Vol 258 No. 8, p A15 (July 11, 2011)
28 *Kitzmiller's Error at 237*, quoting from the *Humanist Manifesto of 1933*.
Copies of the advertisements are posted at http://www.intelligentdesignnetwork.org/Tenets_of_Atheism.jpgg
CS Lewis, *Mere Christianity: What one must believe to be a Christian*, p. 19, (McMillan, 1952). Jesus described the trait as a
log that we must remove from our eye to take the speck out of the eye of another. Matt. 7:3-5 (NIV)
"We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain
unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness."
Jesus said: "If any man would come after me, he must first deny himself, pick up his cross daily and follow me."²⁶ "If"
means optional. Luke 9:23 (NIV)
First Amendment, Constitution of the United States of America
Fourteenth Amendment to the Constitution of the United States of America. The key provision of the Fourteenth Amendment
is contained in Section 1: "Section 1.... All persons born or naturalized in the United States, and subject to the jurisdiction
thereof, are citizens of the United States and of the State wherein they reside. No State shall make or enforce any law which
shall abridge the privileges or immunities of citizens of the United States; nor shall any State deprive any person of life,

liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws.”

Cantwell v. Connecticut, 310 U.S. 296 (1940). See also *Kitzmiller’s Error* at 247.

McCollum v. Bd. of Educ., 333 U.S. 203 (1948); See *Kitzmiller’s Error* at 250

Epperson v. Arkansas, 393 U.S. 97, 109 (1968).

Epperson v. Arkansas, at 106

Random House Webster’s Unabridged Dictionary (1999).

Lynch v. Donnelly, 465 U.S. 668, 690 (1984).

Gillette v. U.S., 401 U.S. 437, 450 (1971) (emphasis added).

Fellowship of Humanity v. County of Alameda, 315 P.2d 394, 406 (Cal. Ct. App. 1957)

Africa v. Pennsylvania, 662 F.2d 1025, 1032 (3rd Cir. 1981) (emphasis added).

Africa v. Pennsylvania, at 1033

Smith v. Bd. of Sch. Comm’rs of Mobile County, 655 F. Supp. 939, 979 (S.D. Ala. 1987), *rev’d on other grounds*, 827 F.2d 684 (11th Cir. 1987).

McGowan v. Maryland, 366 U.S. 420, 461 (1961) (Frankfurter, J., concurring) (joined by Harlan, J.).

Fellowship of Humanity v. County of Alameda, 315 P.2d 394, 401 (Cal. Ct. App. 1957) *Id.*

Washington Ethical Soc’y v. District of Columbia, 249 F.2d 127 (D.C. Cir. 1957).

Torcaso v. Watkins, 367 U.S. 488, 495 (1961).

McGowan v. Maryland, 366 U.S. 420 (1961)

U.S. v. Seeger, 380 U.S. 163, 187 (1965).

Lee v. Weisman, 505 U.S. 577 (1992)

Lee v. Weisman, 505 U.S. 577, 617 (1992); In a concurring opinion Justices O’Connor, Stevens and Souter, explained: “[A] nonpreferentialist who would condemn subjecting public school graduates to, say, the Anglican liturgy would still need to explain why the government’s preference for theistic over **nontheistic religion** is constitutional.” ...The “settled law” is that the “[Establishment] Clause applies ‘to each of us, be he Jew or Agnostic, Christian or Atheist, Buddhist or Freethinker’”

Malnak v. Yogi, 592 F.2d 197 (3rd Cir 1979)

See *Kitzmiller’s Error* at 263.

See *Kitzmiller’s Error* at 269-70.

Stephen Prothero, *God is not One: The eight rival religions that run the world and why their differences matter*, (HarperOne, 2010)

Johnny Rex Buckles, *The Constitutionality of the Monkey Wrench: Exploring the Case for Intelligent Design*, 3 Liberty U.L.Rev. 329, 365-368 (2009)

Kitzmiller’s Error at 236.

Stephen Prothero, *God is Not One: The Eight Rival Religions that Run the World and Why their Differences Matter*, p. 101 (Harper One 2010)

Kaufman v. McCaughtry, 419 F.3d 678, 682 (7th Cir. 2005) (emphasis added) (citations omitted) (quoting *Wallace v. Jaffree*, 472 U.S. 38, 52-53 (1985), and quoting *Torcaso v. Watkins*, 367 U.S. 488, 495, 495 n.11 (1961)). “As the [Supreme] Court put it in *Wallace v. Jaffree*: At one time it was thought that this right [referring to the right to choose one’s own creed] merely proscribed the preference of one Christian sect over another, but would not require equal respect for the conscience of the infidel, the atheist, or the adherent of a non-Christian faith such as Islam or Judaism. But when the underlying principle has been examined in the crucible of litigation, the Court has unambiguously concluded that the individual freedom of conscience protected by the First Amendment embraces the right to select any religious faith or none at all. *In keeping with this idea, the Court has adopted a broad definition of “religion” that includes nontheistic and atheistic beliefs, as well as theistic ones.* Thus, in *Torcaso v. Watkins*, it said that a state cannot “pass laws or impose requirements which aid all religions as against non-believers, and neither can [it] aid those religions based on a belief in the existence of God as against those religions founded on different beliefs.” *Indeed, Torcaso specifically included “Secular Humanism” as an example of a religion.*” *Equal Emp. Opportunity Commission, Compliance Manual* § 12-1.A.1, Jul. 22, 2008, available at http://www.eeoc.gov/policy/docs/religion.html#_ftnref211.

Kitzmiller’s Error at 259 and *Peterson v. Wilmur Communications, Inc.*, 205 F. Supp. 2d 1014, 1014-15 (E.D. Wisc. 2002).

Webster’s Third New International Dictionary of the English Language (2003)

Lemon v. Kurtzman, 403 U.S. 602, 610 (1971).

McGowan v. Maryland, 366 U.S. 420, 461 (1961) (Frankfurter, J., concurring) (joined by Harlan, J.).

Africa v. Pennsylvania., 662 F.2d 1025 (3d Cir. 1981)

Friedman v. Southern California Permanente Medical Group, 102 Cal. App.4th 39, 125 Cal. Rptr.2d 663 (2002).

Cloutier v. Costco Wholesale Corp., 390 F.3d 126 (1st Cir. 2004).

Malnak v. Yogi, 592 F.2d 197 (3d Cir. 1979)

Peterson v. Wilmur Communications, Inc., 205 F. Supp. 2d 1014, 1014-15 (E.D. Wisc. 2002).

Gillette v. United States, 401 U.S. 437, 449-50 (1971).

67 See generally, *Kitzmiller's Error* at 241-44
68 Malnak v. Yogi, 592 F.2d 197, 211-12 (3d Cir. 1979).
69 See *Kitzmiller's Error* at 241-244
70 See *Kitzmiller's Error* at 236. One of its founders, John Dewey, was an educational reformer and a signatory to the original
71 Humanist Manifest which proclaimed the new religion.
72 J. Budziszewski, *The Humanist Manifestos (1933, 1973, 1999)*. *First Things: Monthly J. Religion & Pub. Life*, Mar. 1, 2000,
73 at 42, available at 2000 WLNR 6752920.
74 *Smith v. Bd. of Sch. Comm'rs of Mobile County*, 655 F. Supp. 939, 982 (S.D. Ala. 1987), *rev'd on other grounds*, 827 F.2d
75 684 (11th Cir. 1987) (emphasis added).
76 *Kitzmiller's Error*, p. 244-73.
77 *Gillette v. U.S.*, 401 U.S. 437, 450 (1971) (emphasis added).
78 *Edwards v. Aguillard*, 482 U.S. 578, 583-4 (1987)
79 *Everson v. Bd. of Educ.*, 330 U.S. 1, 23-24 (1947) (emphasis added) (Jackson, J., dissenting) (holding that a state may pay the
80 bus fares of all students, including those who attend parochial schools).
81 See *Kitzmiller's Error*, p. 319-21
82 See *National Science Education Standards* 138 ("ABILITIES TO DISTINGUISH BETWEEN NATURAL OBJECTS AND
83 OBJECTS MADE BY HUMANS: Some objects occur in nature; others have been designed and made by people to solve
84 human problems and enhance the quality of life. . . . Objects can be categorized into two groups natural and designed.")
85 (emphasis added).
86 Jonathan Wells, *The Myth of Junk DNA* (Discovery Institute Press 2011)
87 *Statement of Objectives Regarding Origins Science*
88 http://www.intelligentdesignnetwork.org/Statement_of_Objectives_Feb_12_07.pdf
89 See in general *Kitzmiller's Error* at 221-234
90 See *Kitzmiller's Error* at 221-234 for a more detailed discussion of the competing hypotheses.
91 See generally Richard Dawkins, *The Blind Watchmaker: Why The Evidence of Evolution Reveals A Universe Without Design*
92 6, 21 (1996)
93 Adam S. Wilkins, *Between "Design" and "Bricolage": Genetic Networks, Levels of Selection, and Adaptive Evolution*,
94 PNAS, at 8591 (May 15, 2007); "[T]he challenge for evolutionary biologists is to explain how seemingly well designed
95 features of [an] organism, where the fit of function to biological structure and organization often seems superb, is achieved
96 without a sentient Designer."
97 See generally Carol Cleland, *Historical Science, Experimental Science and the Scientific Method*, *Geology*, Nov. 2000, at
98 987-990 (describing the difference between historical and experimental scientific methodology). See generally *Kitzmiller's*
99 *Error* at 222-3 and 293.
100 *Id.*
101 Ernst Mayr, *Darwin's Influence on Modern Thought*, *Scientific American*, Jul. 2000, at 80 (emphasis added).
102 See Carol Cleland, *Historical Science*, *supra* at 990 and *Kitzmiller's Error* at 222-3
103 Kenneth Miller, *Finding Darwin's God*, 22-23 (1999).
104 Judge Jones in the *Kitzmiller* case made clear that Methodological Naturalism is not a truth, as he described it as a "rigorous
105 attachment," a "convention," a "ground rule." *Kitzmiller v. Dover Area Sch. Dist.*, 400 F. Supp. 2d 707, 736 (M.D. Pa.
106 2005) (stating that "[t]his rigorous attachment to "natural" explanations is an essential attribute to science by definition and
107 by convention."). Its effect in teaching origins is described in: Daniel Schwabauer and John Calvert, *The Rule* (Intelligent
108 Design Network 2002) (a one-act play about a biology teacher who has been charged with teaching religion in his biology
109 class, when he was actually just explaining to his students the nature and effect of the methodological naturalism – the Rule!).
110 See *Kitzmiller's Error*, p 282-306
111 Richard Lewontin, *Billions and Billions of Demons* 44 *N.Y. Rev. of Books* 31 (Jan. 9, 1997) (emphasis added).
112 See *Kitzmiller's Error* at 224-6
113 Bradley Monton, *Seeking God in Science: An Atheist Defends Intelligent Design*, p. 96 (Broadview Press 2009) "[A]nother
114 possibility [for how our universe evolved] is that the universe is spatially infinite, and has been spatially infinite every since
115 the big bang (assuming that the big bang hypothesis is true)."
116 David L. Abel, *Constraints vs. Controls*, *The Open Cybernetics & Systemics Journal*, 2010, 4, 14-27
117 "The Origin-of-Life Prize" ® (hereafter called "the Prize") will be awarded for proposing a highly plausible natural-process
118 mechanism for the spontaneous rise of genetic instructions in nature sufficient to give rise to life. The explanation must be
119 consistent with empirical biochemical, kinetic, and thermodynamic concepts as further delineated herein, and be published in
120 a well-respected, peer-reviewed science journal(s)." Go to <http://lifeorigin.info/>. The prize is offered by the Origin-of-Life
121 Science Foundation, Inc., a 501(c)3 science and education foundation with corporate headquarters near NASA's Goddard
122 Space Flight Center just off the Washington, D. C. Beltway in Greenbelt, MD. 113 Hedgewood Drive, 20770-1610 Fax 301-
123 441-8135
124 Jacques Monod, *Chance and Necessity* 95-96, (Austryn Wainhouse trans., Vintage
125 Books ,1971) (1970).

98 Id, at 112.

99 “[W]e don’t really know how life originated on this planet. There have been a variety of experiments that tell us some possible roads, but we remain in substantial ignorance.” NOVA – Origins (NOVA),

100 <http://www.pbs.org/wgbh/nova/orgins/knoll.html> (last visited Mar. 27, 2009). See also SHAPIRO, *supra* note 51.

101 David Berlinski, *On the Origins of Life, Commentary Magazine*, Feb. 2006, at 22-33; Robert Shapiro, *A Simpler Origin of Life*, SCIENTIFIC AMERICAN, Jun. 2007, at 46-53.

102 In *Life’s Solution: Inevitable Humans in a Lonely Universe*, paleontologist Simon Conway Morris devotes a sub-chapter to the extraordinary efficiency of the Genetic Code, which he calls “EERIE PERFECTION.” Simon Conway Morris, *Life’s Solution: Inevitable Humans in a Lonely Universe* 13 (2003). See also Stephen J. Freeland & Laurence D. Hurst, *The Genetic Code is One in a Million, Journal of Molecular Evolution*, Sep. 1998, at 238-48.

103 John H. Calvert & William S. Harris, *The Authors’ Suggested Findings of Fact and Conclusions of Law*, P. 25, PAR 15.C. (2005), <http://www.KansasScience2005.com>. (submitted to the Kansas State Board of Education Hearing Committee on May 26, 2005).

104 See: Dee Schoenberger, *The Silenced Hearings* (2008); *Teaching Origins Objectively*. P. 16-19 (New Liberty Video 2006), available at http://www.arn.org/arnproducts/php/video_show_item.php?id=75.

105 See NOVA, *supra* note 99.

106 The Discovery Institute maintains a website of scientists holding doctoral degrees that have publicly stated their skepticism of the ability of random mutation and natural selection to account for the complexity of life. As of 2008, the list had grown to over 700, many of whom are highly regarded. The statement reads: “A SCIENTIFIC DISSENT FROM DARWINISM. We are skeptical of claims for the ability of random mutation and natural selection to account for the complexity of life. Careful examination of the evidence for Darwinian theory should be encouraged.”

107 <http://www.discovery.org/scripts/viewDB/filesDB-download.php?command=download&id=660> (last visited March 27, 2009).

108 Gerd Muller and Stuart Newman compiled articles by seventeen scientists. Gerd Muller & Stuart Muller, *Origination of Organismal Form* (2003). In the introductory chapter, they develop a list of 26 questions addressed and that remain unanswered, including: “Why did metazoan body plans arise in a burst?” (i.e. the “Cambrian Explosion”); “Why do similar morphologies arise independently and repeatedly?”; “Why do distantly related lineages produce similar *designs*?” (emphasis added); “Why do building elements organize as fixed body plans and organ forms?”; “How are new elements introduced into existing body plans?” *Id.* at 5.

109 Ann K. Gauger and Douglas D. Axe, *The Evolutionary Accessibility of New Enzyme Functions: A Case Study from the Biotin Pathway*, (Biocomplexity, Vol. 2011, issue 1, p1; 2011); see also Michael Behe, *The Edge of Evolution* *supra* note 72, at 44-63; Michael J. Behe and David W. Snoke, *Simulating evolution by gene duplication of protein features that require multiple amino acid residues*, PROTEIN SCI., Sept. 2, 2004). New discoveries show that genes may be expressed in many different ways so that one gene may function to produce many different gene products. Large parts of the genome appear to be ordered per codes yet to be discovered. Some of the depth of this fascinating mystery is found in a compilation of articles published in 2006. See, e.g., David G. King, et al., *Tuning Knobs in the Genome: Evolution of Simple Sequence Repeats by Indirect Selection*, THE IMPLICIT GENOME 77 (Lynn Caporale ed., 2006). See also James A. Shapiro, *A Third Way*, BOSTON REV., Feb./Mar. 1997, at 32, available at <http://shapiro.bsd.uchicago.edu/Shapiro.1997.BostonReview1997.ThirdWay.pdf>.

110 Michael Behe, Ph.D., *Darwin’s Black Box: The Biochemical Challenge to Evolution* (1996); see also Michael J. Behe, *The Edge of Evolution: The Search for the Limits of Darwinism* (2007); Michael Behe, *Reply to My Critics: A Response to Reviews of Darwin’s Black Box: The Biochemical Challenge to Evolution*, 16 *Biology and Phil.* 685-709 (2001); *Id.*, Behe, *supra*, *Reply to My Critics*.

111 See Note 107, *supra*

112 John S. Matick, *The Hidden Genetic Program of Complex Organisms, Scientific American*, Oct. 2004, at 61. “Assumptions can be dangerous, especially in science. They usually start as the most plausible or comfortable interpretation of the available facts. But when their truth cannot be immediately tested and their flaws are not obvious, assumptions often graduate to articles of faith, and new observations are forced to fit them. Eventually, if the volume of troublesome information becomes unsustainable, the orthodoxy must collapse.

113 See also, Jonathan Wells, *The Myth of Junk DNA*, (The Discovery Institute Press 2011)

114 See SHAPIRO, *supra* note 107.

115 Suzan Mazur, *The Altenberg 16: Will the Real Theory of Evolution Please Stand Up?*, available at <http://www.scoop.co.nz/stories/HL0807/S00053.htm> (last modified Jul. 6, 2008).

See: Dee Schoenberger, *The Silenced Hearings*, P. 62-3, (2008).

For example, can the immature minds of primary school students ever appreciate or comprehend a presentation on human sexuality which may seem balanced to an adult. How is it possible, given that the decision making capacity of the brain does not mature until the early 20’s. The problem of the immaturity of the adolescent brain is explained by the Juvenile Justice Center of the American Bar Association: “Dr. Elizabeth Sowell, a member of the UCLA brain research team, has led studies of brain development from adolescence to adulthood. She and her colleagues found that the frontal lobe undergoes far more change during adolescence than at any other stage of life. **It is also the last part of the brain to develop, which means that**

even as they become fully capable in other areas, adolescents cannot reason as well as adults: “[m]aturation, particularly in the frontal lobes, has been shown to correlate with measures of cognitive functioning.” Adam Ortiz, *Adolescence, Brain Development and Legal Culpability*, Juvenile Justice Center, American Bar Association (January 4, 2004)
116 BBC News, *Can Religion & Politics Mix*, York and North Yorkshire Edition, June 22, 2011; available at
117 http://www.bbc.co.uk/northyorkshire/content/articles/2005/09/12/religion_politics_faith_feature.shtml
Stephen Jay Gould, "Nonoverlapping Magisteria," *Natural History* 106 (March 1997): 16-22; available at
118 http://www.stephenjaygould.org/library/gould_noma.html
Kitzmiller v. Dover Area School Dist., 400 F. Supp. 2d 707 (M.D. Pa., 2005)
119 John Calvert, *Kitzmiller's Error: Using an Exclusive Rather Than an Inclusive Definition of Religion*, 3 Liberty University
Law Review 213-328 (Spring 2009); http://www.intelligentdesignnetwork.org/Kitzmiller%27s_Error.pdf
120 See *Kitzmiller's Error* at 317. *Of Pandas and People* bears a copyright of 1993 and therefore omits important information
since developed. However, compared to existing biology textbooks that employ MN without even disclosing its use, it may
be far more objective. See Jonathan Wells, *Icons of Evolution: Science or Myth: Why Much of What We Teach About*
Evolution Is Wrong 29-59 (2000). A recent textbook limited only to biological evolution is Stephen C. Meyer, et. al, *Explore*
Evolution: The Arguments for and Against Neo-Darwinism (2007).
121 *Kitzmiller v. Dover Area School Dist.*, 400 F. Supp. 2d 707, 720 (M.D. Pa., 2005)
122 *Kitzmiller's Error* at 306-327. The Kitzmiller decision was not appealed due to a change in the composition of the Board
from conservative to liberal. A proper appeal likely would have produced a different result as it would have been heard by
the Third Circuit Court of appeals, the court that had embraced the inclusive definition of religion in *Malnak v. Yogi* in
finding the Science of Transcendental Meditation religious.
123 Paul Kurtz, *Overview of the Issues*, in *Science and Religion: Are they Compatible?* 13 (Paul Kurtz ed., 2003) (emphasis
added).
124 See Note 92
125 Francis Collins, the former Head of the Human Genome Project and now director of the National Institutes of Health, argues
that the fine tuning of the universe makes him a cosmological creationist. See Francis S. Collins, *The Language of Life, A*
scientist presents evidence for belief, p. 75 (Free Press, 2006)
126 Robert Wright, *Three Scientists and Their Gods* 70-71 (1988) (emphasis added): I'm not sure whether he [a computer
scientist] disagrees with me or simply doesn't know what the word *teleological* means. It wouldn't surprise me if the latter
was the case: he is generally insensitive to the unwritten rules of scientific conduct, one of which is to scrupulously avoid
even the faintest teleological overtones.
127 *Kitzmiller's Error* at 290-306.
128 The statement reads: "A SCIENTIFIC DISSENT FROM DARWINISM. We are skeptical of claims for the ability of
random mutation and natural selection to account for the complexity of life. Careful examination of the evidence for
Darwinian theory should be encouraged." [http://www.discovery.org/scripts/viewDB/filesDB-](http://www.discovery.org/scripts/viewDB/filesDB-download.php?command=download&id=660)
[download.php?command=download&id=660](http://www.discovery.org/scripts/viewDB/filesDB-download.php?command=download&id=660).
129 *Expelled: No Intelligence Allowed*, (Premise Media Corp. 2008) (starring Ben Stein).
130 Jerry Bergman, *Slaughter of the Dissidents: The Shocking Truth About Killing the Careers of Darwin Doubters* (2008).
131 Dr. Caroline Crocker, *Free to Think: Why Scientific Integrity Matters*, (Leaf Cutter Press, 2010)
132 *Kitzmiller's Error*, 282-306
133 Johnny Rex Buckles, *The Constitutionality of the Monkey Wrench: Exploring the Case for Intelligent Design*, 3 Liberty
U.L.Rev. 329, 365-368 (2009)
134 *Kitzmiller's Error* at 282-306
135 Francis Bacon, *The New Organon or True Directions Concerning the Interpretation of Nature*, (1620).
136 Kristen Ohlson, *The End of Morality, Discover*, p. 32-37 and 92 (July/August 2011)
137 Jesse Preston and Nicholas Epley, *Science and God: An Automatic Opposition Between Ultimate Explanations*, 45 J. OF
Experimental Soc. Psychology 238-241 (2008) (research finding that scientific explanations of origins subconsciously reduce
belief in God as the strength of the explanation increases).
138 *Id.* The paper is interesting because the authors used the narrow and popular definition of religion in describing their results.
Thus the paper describes a competition between "science and religion" that is actually a competition between two different
religious views about the cause of life and the universe.