

# Fundamentals

These essays on various scientific issues will begin with a discussion of the metascientific philosophy on which they are based. In the absence of absolute consensus and standardization, an explanation of scientific vocabulary as it is understood by this writer will also be offered.

Theories are conceptual devices for organizing knowledge. They are explanatory fictions that enable and sustain science. Theories explain facts and generate hypotheses. Hypotheses are rules for the anticipation of experience. They are predictions of observational consequences derived from theories. Theories imply hypotheses, which are then compared to nature.

Science may fail to examine the philosophy on which it is based, but it cannot operate without it. Facts are not grasped in themselves. There can be no theory-independent observation because theory determines what is relevant, recognized, meaningful, significant and appreciated. The irrelevant simply does not register.

In *Causality and Modern Science*, Mario Bunge writes of the impossibility of sheer, disinterested, uncommitted description:

Pure description, “unhampered by theory”, “unbiased by interpretation”, entirely hypothesis-free, is a myth invented by traditional positivism, intuitionism, and phenomenology. Science ignores wholly uninterpreted facts; the very selection of facts is guided by theoretical principles (such as criteria of relevance) and by hypotheses of an explanatory nature. The interpretation of pointer readings is based on theoretical considerations embodied in the very building of the measuring apparatus; even the wording of the so-called protocol sentences entails a host of assumptions about the relevancy of the factors usually present in every concrete situation. No scientific statement is meaningful outside a theoretical system. In short, science is both descriptive and explanatory; and description can be distinguished from explanation but not separated from it.

In the absence of presupposition, there is a corresponding absence of knowledge, because presupposition is necessary to structure perception so as to allow the acquisition of knowledge. Without it, a researcher would neither know what experiments to perform nor have a logical basis for their design. Such researchers could only either sit sucking their thumbs and wait for facts to come up and bite them, which seldom happens, or grasp randomly for them without knowing what they would mean if found.

The term *theory* is often used as a pejorative when discussing other people’s explanations and as an honorific for one’s own useless speculations. The claim that because something is a theory it is not “scientific” is just another in the parade of false dichotomies. The phrase “just a theory” could be an expression of instrumentalism, but is curious and suspect. It is typically the hallmark of a nonscientist, or at least a nonphilosopher, engaged in specious sloganeering. In one sense, scientific theories are the greatest achievement of which the human mind is capable, making the word *just* inapplicable to them.

Conservatives accuse liberals of wanting to change the definition of *marriage* but think nothing of changing the definition of *theory*. Facts are discovered (and sometimes predicted) and theories are invented to explain them. The empirical is demonstrative and theoretical is explanatory. Prognosis (hypothesis) is a test of diagnosis (description) and of etiology (explanation).

Theories may be tentatively corroborated, but are neither proven nor verified. Theories do not graduate to the status of fact, contrary to the views expressed by Dr. Burber in *9 Chickweed Lane* by Brooke McEldowney. A theory is a theory and always will be. A theory is not a fact, except that it factually exists. It is an *explanation* of the facts.

In a letter to the *Los Angeles Times*, 6/22/05, Stephen N. Berberich writes, "Global warming, as Darwin's study of evolution, remains a theory." The former is either factual or hypothetical. The latter indeed "remains a theory," as all theories must. Berberich mistakenly believes that there could be an alternative.

Research is directed by hypotheses, which are predictions about facts yet to be discovered. They are deductive consequences inferred from theories. Edward L. Wright contends that "scientific theories are hypotheses that have passed many empirical tests." But, just as theories do not transmute into facts, hypotheses do not become theories.

Facts are subject to truth claims, proof and disproof. One cannot prove that all swans are white, but one can operationally prove that *this* swan is white. For a hypothesis to be testable, there must exist a logically possible observation statement with which it is inconsistent. Hypotheses prove to be either right or wrong, accurate or inaccurate. Theories are neither true nor false, but better or worse in terms of efficacy. Theories compete with each other on the basis of differential value and are graded in proportion to their success. They are distinguished and are ranked (*pro rata, ad valorem*) according to their relative descriptive, predictive and explanatory utility. The theory that explains the data with the help of the fewest *ad hoc* hypotheses wins. Theories become obsolete when they can no longer do as much intellectual work as their competitors.

Paul Dirac says, "It is more important to have beauty in one's equations than to have them fit experiment." Beauty cannot compensate for any lack of fit, but given fit, which is primary and necessary, beauty, in the form of parsimony, is the evaluative factor on which theories are ranked. "All we have are theories" is like saying we do not know why the Cassini spacecraft made it into orbit around Saturn. Our theories yield practical success, with some yielding more than others. Because theories perform differentially, scientists, knowing better than to tar them all with the same brush, appreciate them differentially.

Since a theory does not claim to depict fact, it cannot be proved to be untrue. It can, however, be falsified when another theory is shown to be better, according to the criterion of parsimony, which is reflected in Ockham's Razor, to be discussed in due course. Falsification is a relative term. The falsification of a theory does not require that it be proved to be untrue, but only that another theory be shown to be better. A particular theory is falsified when its explanatory inferiority to an alternative theory is demonstrated.

Imre Lakatos contrasts what he calls naive falsificationism, which rejects a theory when any of its hypotheses is falsified, with a sophisticated form that rejects a theory only when an alternative explains everything the old one did and more. In other words, the new theory must subsume the old and generate novel hypotheses. A form of naive falsificationism wherein theories are held to be falsifiable but not verifiable serves adequately for most scientists.

Positivists only proposed the verifiability criterion in the weak sense, acknowledging that no finite number of tests can absolutely confirm a theory. And Karl Popper himself admitted that falsifiability, too, could only be applied in its weak sense, since, as per the Duhem-Quine Thesis (hypotheses cannot be tested in isolation), no finite number of observations can provide certainty that a judgment will never be reversed in the future. Whereas pseudoscientists would rather fight than switch, scientists would rather switch than lose.

Harold Brown writes of Popper that “he has so often been misinterpreted as holding a doctrine of conclusive falsifiability.” “Popper,” writes Brown, “points out that no strict disproof of a scientific theory is possible because experimental results can always be challenged.”

In *The Logic of Scientific Discovery*, Popper writes:

In point of fact, no conclusive disproof of a theory can ever be produced; for it is always possible to say that the experimental results are not reliable, or that the discrepancies which are asserted to exist between the experimental results and the theory are only apparent and that they will disappear with the advance of our understanding. (In the struggle against Einstein, both these arguments were often used in support of Newtonian mechanics, and similar arguments abound in the field of the social sciences.) If you insist on strict proof (or strict disproof) in the empirical sciences, you will never benefit from experience, and never learn from it how wrong you are.

Henry David Thoreau advises, “If you have built castles in the air, your work need not be lost; that is where they should be. Now put the foundations under them.” Like dream, revelation is an acceptable source of theory in the context of Popperian hypothetico-deductive conjecture and refutation. But such material is merely an aspirant; a candidate to be tested and, if found wanting, rejected. Science is the creation and perpetuation of the useful at the expense of the useless. All pertinent, enabling arguments are welcome to compete, but good riddance to any concept unable to survive trial by ordeal. Thus is *candidacy* arbitrary and unconstrained. However, candidate theories must ultimately put up or shut up, with losers walking (*Detur digniori. Palmam qui meruit ferat. Da locum melioribus*).

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In philosophy, the triad of normative sciences consists of logic, ethics and aesthetics, respectively addressing the true, the good and the beautiful.

Logic is defined as correct reasoning. Alternatives are thus incorrect by definition. If anything is absolute and unassailable, then it is logic, where no room is left for compromise. Just as a story brought into the realm of drama must adapt to the rules of drama, so it is with logic, the arbiter of final resort. More specifically, logic is the study of the conditions of valid inference. Validity consists in truth preservation, while soundness results from the truth of the propositions on which an argument is based. To the extent that truth is good, preserving it is better than not, making logic better than any alternative. Anything other than the best is tautologically worse (*vero nil verius*). The result of this tautology combined with the goodness of truth is that adherence to logic cannot constitute chauvinism. This writer once heard someone say, “Anything can be proved with logic.” Where something untrue is demonstrated, logic is a misnomer and the demonstration does not constitute proof.

In *Sex and Character*, Otto Weininger says, “Logic and ethics are fundamentally the same. They are no more than duty to oneself.” Thus is logic a deontological imperative and the highest possible virtue (*vivere est cogitare*). Intelligence affords an opportunity that in turn entails an obligation. Failure to recognize and employ the best explanation is not only indefensible dereliction of duty and fundamental impropriety, but is also ethical misconduct and self-betrayal.

Interpretations of facts may be indexed to institutions, but logic is fixed. Therefore, for those who irrationally hold to falsified theories, the problem must be miscast as a false dilemma in order to hide the superiority of the opponent via a deflationary reading. Also, the absence of logical stringency may be conducive to obedience, but not to disciplined thinking. Such an absence, as discussed in a subsequent essay, is at least an insubstantial substratum for the conduct of ethics, if not a substantial impediment.

These essays will concentrate on a small sample of the many logical failure modes. The following websites may be consulted on the topic of fallacies:

[www.nizkor.org/features/fallacies](http://www.nizkor.org/features/fallacies)  
[leo.stcloudstate.edu/acadwrite/logic.html](http://leo.stcloudstate.edu/acadwrite/logic.html)  
[usabig.com/autonomist/fallacies.html](http://usabig.com/autonomist/fallacies.html)  
[www.csun.edu/~dgdw61315/fallacies.html](http://www.csun.edu/~dgdw61315/fallacies.html)  
[www.fallacyfiles.org](http://www.fallacyfiles.org)

Being what Daniel Dennett calls “informavores,” people naturally seek knowledge. In this endeavor, logic is designed to protect people from themselves, at least those unable to recognize their duties. (In the *Non Sequitur* cartoon of 1/19/09, science is referred to as “the designated driver.”) Nerds are those who naturally have a lesser need for such protection because, for them, science is not a foreign language. They can stand on the shoulders of giants without getting nose bleeds (*vérité sans peur*). They have the ability to be moved by reason and do what reason dictates *because* reason dictates it.

Science is about doing one’s best (*malo mori quam fœdari*). The pursuit of excellence being a duty and not merely a matter of taste, nerds fulfill their duties with care and attention, as opposed to those for whom logic is discretionary. Nerds strive to be “in the know” because they are not satisfied with being merely in the guess or in the hope. A radical theist once expressed gratitude for the rarity of scientifically inclined minds. Stupidity appears to love company every bit as much as does misery.

Nonnerd scientists are those for whom science is something they do and like, but it is not an expression of their nature. Nonnerds are therefore guilty of the inconsistent and mere opportunistic application of logic, while nerds naturally appreciate and submit to logic, which entails the categorical dismissal of the irrelevant. Therefore, they are never off duty because they know that fallacy does not become validity because of a change of venue, such as when one goes home from work.

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Ludwig Wittgenstein asserts that mathematics (which may be regarded as quantitative logic) does not discover or establish truth; it fixes meaning. The statement “ $2+2\neq 4$ ” shows ignorance of the meaning of the terms because 4 is *definable* as  $2+2$ , and vice versa. In other

words, operating in the analytic realm, a mathematical equation is tautological, as opposed to being “just a theory.” A married bachelor is oxymoronic, while an unmarried bachelor is tautological, as is the phrase “Jesus loves you.” “Do I have a choice?” says Jesus on *South Park* when asked if he could forgive. On a lighter note, Wittgenstein also claims that “a good British film” is a logical impossibility. Though certainty is available within such contexts, it is often overestimated elsewhere.

Paradoxes sometimes arise when compound questions are posed that are based on unrecognized false premises. Albert Einstein’s great achievement resulted from his correct discrimination of fact and theory. He resolved the paradox of how, given absolute space and time, the speed of light could be constant for all observers. It cannot. Absolute space and time may be given, but only as theoretical assumptions, while the invariance of the speed of light is an empirical fact. Having been recognized as a phantom problem, absolute space and time yielded to relativity. Later, dealing with quantum mechanics, Einstein forgot his own lesson when he asserted that God would not play dice with the universe. The empirical fact of the playing of dice having been established, either God would indeed play dice or God is not the one doing the playing.

In the *Los Angeles Times*, 10/29/04, Mark Swed writes of a certain phenomenon “perhaps demonstrating Einstein’s theory that people age differently in different time frames.” Relativity is the theory, whereas the differential aging that it explains is a fact. At most, it is Einstein’s hypothesis that different time frames exist.

Copernicus appreciated that geocentrism, though it was given, need not be taken. Given circular planetary orbits, the heliocentric model of Copernicus still had trouble explaining observed planetary motion. Kepler did not take what was given, but instead used something better, namely ellipses.

Peter Mitchell was puzzled when scalar metabolism seemed to be giving rise to vectorial transport. This would violate the Curie principle (a derivative of the second law of thermodynamics), which holds that an effect cannot be more asymmetrical than its cause. Vectorial transport was a fact, whereas scalar metabolism was an assumption. Mitchell postulated that enzymatic catalysis is inherently vectorial. When enzymes are randomly oriented, as in solution, the vector sum of their catalytic activity is zero. Vectorial transport results when enzymes become collectively polarized via interaction with a membrane.

In *Culture and Value*, Wittgenstein observes that people are often seduced by language into asking bogus, misbegotten questions. Mistaken concepts and the misprojection of categories give rise to phantom problems. Fundamentally ill-formed controversies cannot yield a stable answer. They are not solved but dissolved. Puzzles that are not soluble in principle are not proper puzzles. Accordingly, Wittgenstein offers the following proposition in his *Tractatus Logico-Philosophicus*:

- 6.5 For an answer which cannot be expressed the question too cannot be expressed.  
The riddle does not exist.  
If a question can be put at all, then it can also be answered.

Eastern gurus are smart enough to recognize the necessarily oxymoronic structure of religious language and embrace it in the form of the koan. Westerners ask Zen gurus oxymoronic compound questions with the general form: “What is the answer to an unanswerable question?”

When absurdities are offered as answers, westerners are frustrated because they mistakenly believe that a better answers exists, a nod being as good as a wink to the blind.

In the *Los Angeles Times*, 11/4/07, Orville Schell, observes that George Orwell, in his *Politics and the English Language*, shows that corrupted language leads to corrupted thinking. Orwell, in his *Politics and the English Language*, writes, “Above all what is needed is to let the meaning choose the word, and not the other way around.” Martin Heidegger considers the “business” of philosophy to be “to protect the power of the most elemental words.”

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William of Ockham (d. 1349) used the cardinal logical principle of parsimony to argue that natural theology is impossible. His rendition of this tenet is known as Ockham’s Razor and is given variously as: *Pluralitas non est ponenda sine neccesitate*, *Essentia non sunt multiplicanda praeter necessitatem* or *Entia praeter necessitatem non esse multiplicanda*, and typically translated as “Plurality should not be posited unnecessarily.” This can be expressed as an imperative, such as “Do not exceed logical necessity,” “Avoid the avoidable and eliminate the unnecessary” or “*No le busques tres picos al toro.*” Since imperatives (such as the Ten Commandments) lack truth value, the search for the wisdom underlying these prohibitions prompts the question: “Why not?”

Ockham’s Razor is an injunction against the folly of explanatory profligacy and prodigality. It is founded on the empirical fact that the better theory is the one that requires the aid of the fewest *ad hoc* postulates. It is the recognition that theories are weakened and worsened by the dead weight of extraneous, nonload-bearing, lily-gilding, ornamental complication without compensating explanatory utility. It is neither an aesthetic nor an emotive assertion. It is a command to minimize waste and unit explanatory cost, and to maximize specific explanatory capacity. In his *Tractatus Logico-Philosophicus*, Ludwig Wittgenstein reformulates the principle:

Ockham’s Razor is, of course, not an arbitrary rule nor one justified by its practical success. It simply says that unnecessary elements in a symbolism mean nothing. Signs which serve one purpose are logically equivalent, signs which serve no purpose are logically meaningless.

Ockham’s Razor is a formula not for truth, but for provisional, contingent victory, with winning recognized as a moral imperative. It is not an admonition not to fix what “ain’t broke,” as all theories are inevitably flawed. It merely reflects the fact that the least “broke” wins. It states that ad hoc hypothesizing should be done as much as necessary but as little as possible because it is better that way. It does not demand that explanations be inappropriately simple, but only that they be no more complex than is necessary. Reductionism assuredly oversimplifies nature, but it is logically right and should be done whenever possible.

Someone (possibly Nicolas Slonimsky) once said that if one does not understand the music of John Cage, then one does not really understand that of Mozart. Scientists can *do* science, but perhaps only philosophers can understand it. Alas, as noted by Seth Lloyd in the *Los Angeles Times Book Review*, 2/18/07, “Being muddle-headed about philosophy may well be a precondition for a scientific career.” Unlike philosophers, scientists are largely content to play the game and see little point in scrutinizing the rules. Wittgenstein observed that many “commonly held assumptions . . . are so deeply embedded as to be very rarely examined.”

In *Sky & Telescope*, 3/04, Dan Falk, writes that Ockham's Razor is "the idea that, among competing hypotheses, the simplest is most often correct." This is wrong. Ockham's Razor in no way involves probability. Yet even scientists are heard to say that the simplest explanation is "usually" the best or has the "best chance" of being right. This principle seems not to be intuitively obvious when applied to science. But moving into the context of golf, paradoxically, it suddenly becomes self-evident that the low score wins. It is never said that the low scorer in golf is *usually* the winner or *probably* the winner, as if there were additional relevant determinants. Victory in golf is not underdetermined by the score, which subsumes any penalties assessed. Nor is the character of the player relevant. A higher score achieved by a more virtuous player still constitutes a loss. Nevertheless, sore losers are apt to rationalize such victories as "opinion."

Both good and bad theories fit the facts, just as all rounds of golf comprise 18 holes. But merit, in both science and golf, is inversely proportional to the labor required to complete the task. Theories, like golf scores, are neither true nor false, and neither right nor wrong. They are better or worse. As in golf, the simpler explanation is better, not merely preferred. Explanations are worsened by *ad hoc* hypotheses as golf scores are worsened by additional strokes. Explanations are strengthened by the elimination of the unnecessary. And again, the concept of probability is not applicable.

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The appeal to ignorance fallacy (*argumentum ad ignorantiam*) is the failure to recognize that the burden of proof is unilateral, and is often used to rationalize a failure to meet that burden. Triumphant theories are equated with lesser ones by saying that they are both just theories. Similarly, a likeness of Andrew Johnson should be on Mount Rushmore next to that of Lincoln because they were both *just* presidents. Gerald Ford and Tiger Woods should be next to each other in the golf Hall of Fame because they are both *just* golfers.

Conservatives decry imposed equality of outcome. In that same spirit, they should also recognize that theories can lose fair and square. If you are not playing by the rules of golf, then you are playing a game other than golf. In a game of golf, people do not just play. Somebody *wins*. Theories do not merely coexist, but compete. The criterion for deciding the winner in both golf and science is parsimony, as expressed in Ockham's Razor. Every player in a golf tournament accomplishes the same task, but the player using the fewest strokes wins. In weightlifting, two people may tie for the most weight lifted, but the winner is the person with the lowest body weight. In science, the theory that explains the data while employing the fewest *ad hoc* hypotheses wins.

As further discussed in a subsequent essay, conservatives occasionally turn liberal and demand "equal time" for theories in spite of differential merit. All golfers might be equally worthy and accomplished *if* their scores were ignored. But grounds for ignoring them do not exist within the rules of golf. Golfers are arithmetically tested against golf courses and then ranked against each other. Theories are simultaneously tested against nature and then similarly ranked each other.

Bertrand Russell writes, "As science gains credence through an on-going revelation of empirically proven processes, more and more people are convinced that it offers the most reasonable and attractive explanation for how and why things happen as they do." Parsimony, demonstrated by arithmetic, determines relative explanatory utility, irrespective of the power to convince or attract. The parsimony of the null hypothesis (the presupposition that the difference

between the experimental and control groups is statistically insignificant) is impeccable and impervious to criticism or doubt (*sine dubio*). Demonstrating the explanatory superiority of some alternative provides grounds for rejecting the null hypothesis, but does nothing to challenge the propriety of its presupposition.

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Blame for personal limitations and inadequacies is often deflected by projection and universalization. To a closed mind, the nonapparent becomes mistaken for the nonexistent. This apparently affords the comforting rationalization that “If I do not know it, then it cannot be known because nature could not fool *me*.” Daniel Dennett calls this “The Philosophers’ Syndrome: mistaking a failure of imagination for an insight into necessity.” Impossibility cannot be inferred from inconceivability. Nor can one person’s ignorance be solipsistically used as the standard by which humanity and nature itself are measured. Rather, the domain of conceivability should be expanded. If something seems unimaginable, then, as Dennett suggests, think harder.

The Philosophers’ Syndrome is a pseudoexhaustion of natural explanation that is accomplished via a biased generalization or slothful induction fallacy. What is actually exhausted in the process are the possibilities not of nature but of the thinker’s own imagination. It is a pathetically sorry excuse for a process of elimination, since it entails elimination from one’s imagination, not from nature. It is a mistake to use personal limitations rather than logic to define the limits of possibility space, and unconscionable to equate the unknown with the unknowable.

The Philosophers’ Syndrome is typical of those who refuse to accept J.B.S. Haldane’s speculation that “the universe is not only queerer than we suppose, but queerer than we *can* suppose. As Georg Christoph Lichtenberg says, “Trim your hedge as you wish and plant your flowers in the patterns you can understand, but do not judge the garden of nature from your little window-box.” It is wrong to declare that DNA cannot mediate heredity, even if certain early twentieth-century biochemists could not imagine how it could. The Bernoulli effect is not necessarily an evil, insidious, secularist lie, even if many people cannot imagine how airplanes fly.

Extrapolation of one’s worst qualities, including ignorance, serves as convenient, destigmatizing and defensively narcissistic rationalization for those in denial with respect to the possibility of anyone doing better. In doing so, theists, who routinely denounce secular humanists for using man as the measure of all things, use themselves as just such a standard. In a sense, such measures are a necessary function of the subject due to the nature of subjectivity. For zebras, zebra is the measure of all things, as there is no other choice. However, failing to think of an explanation and failing recognize one when it is encountered often results in the pot calling sugar black.

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Some also attribute magic to the calendar and falsely attribute completion and exhaustion to science, reasoning that if science has not discovered something *yet*, then it never will (*omne ignotum pro magnifico*). Whatever science has not yet learned or resolved, presuming unparsimoniously in the meantime is an improper way to deal with ignorance. Properly, one should rest upon the null hypothesis (*les bras croisés*) awaiting its falsification. One can look back in history and find a time when any particular phenomenon was unexplained. All

phenomena are unexplained at one time or another. Failure to explain a phenomenon by a certain date is not proof of explanatory impossibility. A comprehensive inventory of all of nature's capacities can never be compiled with certainty, so the discovery of absolutely all such capacities may never in fact occur. And even if it does, science takes time. Thus, time taken is not necessarily time wasted. Or, as Baltasar Gracián puts it, "Things are done quickly enough if done well."

An obituary for Hans Bethe in the *Los Angeles Times*, 3/8/05, reads in part:

Bethe received the Nobel Prize for his explanation of how the sun and other stars are able to pour forth so much energy over long periods of time. Before he began his seminal work in 1938, researchers had speculated that the light and heat emitted by stars were caused either by chemical reactions or the compression of gases by the bodies' massive gravity.

Calculations ruled out both models, however. The mass of the sun was sufficient to sustain such reactions only for a few tens of millions of years, not the billions that astronomers knew our local star had survived.

Scientists are accused of presupposing nature and then seeking natural explanations. In Bethe's case, regardless of the motive for searching for a natural remedy, the point is that one was found. Just because a mechanism is not conceived of by a certain date does not mean that it never will be.

The obituary for Jerry Falwell that appeared in the *Los Angeles Times*, 5/16/07, reads in part, "During the 1950s and '60s, Falwell spoke out against the civil rights movement and the Supreme Court's order to desegregate public schools in *Brown vs. Board of Education*. In his view, God insisted upon segregating the races, and he claimed to find proof of that in the Bible. (He later repudiated those remarks, apologizing and admitting he had been wrong.)" Therefore, the reversal of even fundamentalist views may be pending, so be patient.

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Faith is the holding of a conviction that owes nothing to reason. It is desire misinterpreted as belief, with the desired stipulated as being actual via arbitrary, gratuitous reification. It is thus the affirmative counterpart of denial. An object of faith is not a fact but merely a hope, or rather, it is factual but only in the same sense that Hamlet is Danish, this being a literary fact about a fictional character. Alister McGrath, in his *The Twilight of Atheism: The Rise and Fall of Disbelief in the Modern World*, absurdly argues that the longing for God is itself evidence of His existence. However, as desire is not truth-preserving, faith does not support truth-preserving inference. With no assessable truth value, faith cannot be the basis of knowledge claims. The fact that faith is not truth-preserving is relevant whenever truth is sought. When it is not, then and only then is faith applicable. Faith is unnecessary for belief in anything that is available to perception, and therefore part of nature. Faith is wishful thinking that is required for belief only in the unbelievable.

On his radio program 7/29/08, Dennis Prager asserted that people do and should hope that a good God exists and condemns bad people to hell while sending good people to heaven. The hope for justice indicates a recognition of its propriety and is uncontroversially justified

because justice, tautologically, is to be desired. The problem arises when people irresponsibly do more than hope and believe in divine justice solely *because* of their ontologically irrelevant hope, and for no other reason. Wanting is not getting, and hope as Prager may for divine justice or married bachelors or square circles, shame on him should he expect them. “Hope is the confusion of the desire for a thing with its probability,” notes Arthur Schopenhauer. “As long as the heart preserves desire, the mind preserves illusion,” observes François-Auguste-René de Chateaubriand. It can only be hoped that the Bible is Truth, whereas scientists are knowers rather than mere hoppers. George W. Bush says that his opponents “hope against the evidence” when they doubt the existence of Iraqi weapons of mass destruction. Thus does a man of faith (and of faith-based military intelligence) condemn the practice.

It was reported that Illinois Senator Barack Obama “criticized liberals who dismiss religion as ‘inherently irrational.’” Apparently, simple but dangerous tautologies such as this should be kept secret. The definition of rationalism as an exorbitant faith in reason is itself a rationalization by those adhering to everything worse than reason. Susan Salter Reynolds writes, “It is the fate of the intellectual . . . to be forever excluded from faith.”

In response to Bill Maher’s suggestion that religion was based on delusion, Mike Huckabee could not understand how Martin Luther King could do good work if he were delusional, as if either good or bad behavior was necessarily inconsistent with delusion. Dr. King need only have recognized the wrong of innocent people suffering, which has nothing to do with the supernatural. It was right and good of him to help people whether God liked it or not. The delusion in question would only explain his failure as an ontologist, and would not preclude success as a humanitarian. If Huckabee cannot understand this, then let him think harder.

Former House Majority Leader Tom DeLay has been quoted as saying that society “treats Christianity like a second-rate superstition.” How this treatment is unjust is not explained. Even if gradation is appropriate and Christianity is actually a first-rate superstition, it qualitatively remains superstition until it deserves confidence, which would eliminate the need for faith and make it science rather than religion.

Unlike faith, confidence refers to the worthiness of expectations, independent of hopes and desires. For example, confidence is associated with and deserved by the prediction that the sun will rise in the east tomorrow, whereas the prediction that the sun will rise in the west does not deserve confidence and thus requires faith to be believed. A proposition cannot be more or less deserving of faith than another, whereas confidence is deserved and can therefore be deserved differentially among propositions. Faith is necessary only where confidence is unwarranted. Science is the logic-based process of generating confidence, while religion is a faith-based process of generating not knowledge but comfort.

Belief is not knowledge, except about the subject’s own mind. Science does not involve the holding and challenging of beliefs, for it is not a belief system but a recognition system in which logic is recognized as truth-preserving. If Tiger Woods emerges from a golf tournament with the lowest score, he should not merely be *believed* to be the winner, but rather *recognized* as such. One is not to believe in the existence of atoms, but rather recognize the benefits and advantages of pretending that they exist. Theorizing the existence of electrons allows the development of electronics.

If faith engendered belief, which has truth value, then it would be subject to rational criticism. But faith is blind in that articles of faith require neither empirical nor logical content and are thus literally non-sense. Unlike confidence, faith is subject neither to evidentiary criteria nor to standards of logic, so a “test of faith” is an oxymoron. Because contradiction provides

grounds for rejection only in logic, it is only fact-driven confidence that can be tested, not desire-driven faith.

Victor J. Stenger has written a book titled *God: The Failed Hypothesis*. For those who have faith, God is not a hypothesis but a stipulation. God clearly fails logical tests, but faith is not subject to testing.

Pat Buchanan worried (4/21/05) about people having their faith shaken by *The Da Vinci Code*. Faith is not subject such effects. That which is shakable is not faith, but mere opinion or false confidence.

Science is often accused of attempting to destroy people's faith. To the extent that any such attempt employs reason, it fails even to address the issue. Even if science had the goal of undermining faith, it could not, as it deals exclusively with facts and logic, which can only affect confidence and are irrelevant to faith. Thus, no harm, no foul.

It has been wrongly claimed that faith has its limits. Logic embodies the standards of veracity, which yield knowledge and constrain confidence. In "the struggle between knowledge and faith," the former involves truth, while the latter does not. Faith is an alternative to knowledge because it goes unencumbered by such incidentals as facts. Such infinite malleability, which is related to Jacques Derrida's concept of "undecidability," is not necessarily to be envied. Alan Turing asserts that a solution that generates infinite answers must be wrong. This poses no problem for the faithful because faith involves a pathological tolerance of wrong, due to the willingness to be unknowingly wrong, while logic entails the prevention of wrong. Arthur C. Clarke goes further, saying, "faith is the ability to believe what you know isn't true."

Some Christians claim that the Bible overrides empirical facts (*Dios me libre de hombre de un libro*), even though faith yields logically groundless (and therefore unreliable) belief because, unlike logic, it is not truth-preserving. Conclusions derived from methods that are not truth-preserving need not be believed, whereas logical conclusions, such as those found in mathematics, remain true even in spite of disbelief. Preachers provide constant reminders that divine grace and forgiveness are unmerited. Being equally unmerited, faith would seem to represent a returning of the favor. However, while faith is neither merited nor earned nor deserved, confidence is.

Dr. Francis Collins has written a book titled *The Language of God: A Scientist Presents Evidence for Belief*. There is certainly evidence for the existence of belief, but religious faith is independent of evidence. Collins has said elsewhere that science is enhanced by God. In the event, God provides no explanations that deserve confidence. Collins (reported in *Los Angeles Times*, 8/17/06) "urges his fellow scientists to give up the arrogant assumption that the only questions worth asking are those science can answer." That nothing other than science can answer a question with confidence is not an assumption. The assertion is that it is worth asking questions that cannot be answered. Perhaps this is because such questions can be answered arbitrarily so as to suit the asker. The report continues, "So it seemed unfair to Collins to reject the divine simply because God's existence could not be proved." Even if the possibility is not to be rejected, it must still bear the burden of proof in order to avoid an *argumentum ad ignorantiam*. If the guilt of a criminal defendant cannot be proved, the possibility of guilt may still be entertained, but the defendant is acquitted.

Emma Darwin said that "feeling, not reasoning" leads to faith. Whatever leads to faith, faith leads not to truth, except by accident. It has alternatively been claimed that faith can be arrived at by reason. Actually, it is by reason that faith is invalidated. What actually happens is that faith is used to fill gaps in knowledge when people cannot bring themselves to behave

properly and responsibly. Many theists demand faith and disclaim concern with logic, but then ironically offer theological arguments in the form of syllogisms as if to inspire confidence instead of faith, thus trying to do battle after denying themselves the ground on which to fight. They also say that science can say what *can* be done but not what *should* be done. They often then use statistics to say what should be done.

According to G.K. Chesterton, “When men choose not to believe in God, they do not thereafter believe in nothing. They then become capable of believing in anything.” One cannot believe in God without being willing to believe anything, in the sense of there being no logical restrictions. Otherwise, faith would be unnecessary. God is a thing only to the extent that He is natural, such that to believe in Him is to believe not in any thing but in that which is no thing. Logical people believe in the beliefworthy, whereas faith is the extension of belief beyond the beliefworthy. It is only with the application of logical rigor that truth is determined, identified and preserved. Chesterton misconstrues the concept when he oxymoronically says, “You can only find truth with logic if you have already found truth without it.” Without logic, it cannot be known to be truth. Also, it is not a matter of choosing to believe in God but of Him choosing to be believable. Chesterton does assess accurately the arbitrary nature of religion when he observes, “There are no rules of architecture for a castle in the clouds.” If, as some claim (see the essay on ethics), nonbelievers are unfit to hold public office, then perhaps believers are unfit to engage in science. Logic determines what deserves confidence, whereas “believers” will believe anything.

It is absurd when demands for proof are made by people of faith who make no such demands on their religion. Faith *per se* is either valid or not, and so should thus be applied to everything or nothing. Accordingly, people of faith need not test drugs; they need only have faith. As further discussed below, atheism, like pharmacological ineffectiveness, is simply the null hypothesis. The burden of proof rests on the hypotheses of particular phenomena, while hypothesized noumena carry additional logical burdens.

In the *Los Angeles Times* of 7/28/04, Crispin Sartwell contends that “no human values . . . rest on science or reason . . . . All human values rest on faith.” This is true only in the absence of civilization, which does in fact occur and which is virtually defined by reason-based values. Certain fundamental human values are based on the tautological (and perfectly scientific) fact that pain hurts. Though uncertainty regarding one’s own pain is absurd, Sartwell seems to believe that it can never be known with certainty and must be taken on faith. He is to be greatly pitied if he cannot even know whether or not he is in pain. As faith is not truth-preserving, anything that rests on faith is untrustworthy, and thus is not a “value” within civilization.

In the *Mallard Fillmore* cartoon 12/14/04, a character tells Santa Claus, “I’ve never stopped believing in you! Of course, I also still believe in the U.N.” Anything can be believed in via faith because it depends on no empirical excuse. A headline in the *Los Angeles Times*, 6/6/08, reads, “Paranoid, for a reason.” This could be in reference to a physiological explanation, but the superficial jokes is that paranoia is defined by the absence of a good reason, as is faith.

In the *Dilbert* cartoon of 2/16/06, Dilbert says, “I need help making unrealistic assumptions to support a business case for a bad idea.” Dogbert responds, “Easy. There’s a hole in the back of our wardrobe closet that leads to a magic world of preposterous business assumptions.” Dilbert says, “We don’t have a wardrobe closet.” Dogbert says, “Assume we do.” Religion is similarly based entirely on stipulation in the inevitable absence of data. According to

the “think system” in *The Music Man*, if things are not as one wishes them to be, then, employing denial, simply pretend that they are.

In the *Los Angeles Times* (*Current* section), 11/26/06, Michael Bywater wrongly blames science for the deficiencies of those who do not understand it. He claims that science includes “articles of faith,” when in fact it deals exclusively with logic and mathematically quantifiable confidence. He tries to equate religion and science, but only the latter necessarily shows its work, even if, irrelevantly, “it is no easier for the layman to believe.”

Bywater characterizes religion as a “valid way of thinking,” though logical validity entails truth preservation, which faith does not. Religion also “delivers results,” but only in the form of comfort, not knowledge. Rather than “admitting no doubt,” as Bywater claims, science determines, admits and quantifies it. Bywater regrets that certain scientific assertions are tautological, as is, unproblematically, every mathematical equation.

“Not to acknowledge” his falsehoods, Bywater claims, would be infantile. Ethically, whether or not logic is mature, it is tautologically correct.

In the *Los Angeles Times*, 1/29/07, Lawrence H. Summers writes of high school biology teachers who “have as much faith in ‘intelligent design’ as evolution.” This is how it should be, with faith in both being equally nonexistent. Only confidence is legitimate and differentially deserved.

In the *Pearls Before Swine* cartoon of Stephan Pastis for 5/14/07, Rat prays, “Hello, God. You don’t know me. I’m Rat. You say ask and it shall be given. So give me one billion dollars and the looks to attract Rachel McAdams.” When nothing changes, Rat says, “My faith is waning.” It is only confidence that would properly wane in this situation, faith being independent of outcome.

In the *Los Angeles Times*, 10/7/07, Lee Siegel writes, “When our anti-religionists attack the mechanism of religious faith by demanding that our beliefs be underpinned by science, statistics and cold logic, they are, in effect, attacking our right to believe in unseen, unprovable things at all.” The actual attack is made by logic, not people. There exists no right to engage in folly with impunity, which would otherwise require multiculturalism, affirmative action and social promotion. Siegel subsequently asserts that the “assault on religious faith amounts to an attack on the human imagination,” which is untrue, given that Popperian conjecture does not involve belief. Imagine what you like, but refutation is refutation. There exists differential explanatory utility among unseen entities.

Siegel then absurdly claims that “you cannot prove the existence of truth [and] beauty,” which, if true, would mean that mathematics could not exist and that when Siegel feels pain or pleasure, he is willing to entertain the possibility that he is mistaken, when in fact subjective experience is indubitable. He further claims that the application of logic constitutes “attacking the act of faith itself, faith in anything that can’t be proved.” This is an accent fallacy because an attack on the act of faith itself includes faith even in what *can* be proved, which is unnecessary.

Science, speculates Siegel, “may well be moving us into a new dark age of heartless utilitarianism,” which is in no way inconsistent with facts and sanity. He himself writes earlier in the piece of “throwing the sacred bathwater out with the baby. The analytic philosophers used to call such arguments that so sorely miss the mark ‘category mistakes.’” It is Siegel who is willing to eschew logic’s truth preservation and thus truth itself in favor of faith’s lack of same.

On television, 12/23/07, Sean Hannity asked whether all the major religions could be wrong (*vox populi, vox Dei*). They could. As to whether any could be right, they could, but only by accident. To the extent that the methods of religionists are truth-preserving, they are science

rather than religion. To the extent that they are faith-based and thus not truth-preserving, they are indeed religion and only accidentally correct if at all. Hannity is also lucky that interrogatives lack truth value, as his question implies that he would consider offering a fallacious *argumentum ad populum*.

In a commentary in the *Los Angeles Times*, 1/2/08, Julia Keller writes of religious belief, “Why dignify it with constant rebuttals?” It is because education is good and right and proper and noble, and also more civilized than crusades, inquisitions or genocide. Writing respectively of believers and the Cathedral of Lausanne, Keller asks, “What’s the harm in their faith, if it results in this lovely handiwork?” Perhaps the end justifies the means. But even if “lovely handiwork” could also result from the belief that  $2+2=5$ , the belief itself would still be erroneous. Keller asserts, “The mystery at the heart of religious faith isn’t about syllogisms or axioms,” hence its inferiority due to lack of truth preservation. “It’s not about logic.” It is about something worse. Keller nevertheless notes that current atheist literature sells well in spite of a “self-congratulatory tone,” though this has been properly earned, unlike the self-granted social promotion of religion. There can be no higher value than truth, which logic preserves and faith does not.

In the *Los Angeles Times*, 4/1/08, Jonah Goldberg writes, “The Darwin fish ostensibly symbolizes the superiority of progressive-minded science over backward-looking faith. I think this is a false juxtaposition, but I would have a lot more respect for the folks who believe it if they aimed their brave contempt for religion at those who might behead them for it.” Given that Goldberg’s “brave contempt” is aimed at mere bumper stickers, he need have no greater respect for himself. The absence of an *argumentum ad baculum* does not make wrong any less wrong. Also, the Darwin fish is merely a rebuttal to an existing bumper sticker, making Goldberg a defender of victims of impartiality.

The *Los Angeles Times*, 2/7/09, reports, “Doctors thought that combining two newer drugs . . . would help people with advanced colon cancer. Instead, it made the disease worse and made the patients more miserable, a study found. ‘This will stand out as a warning,’ said Dr. Cornelis Punt, the studies leader. ‘You have to do the randomized studies to see what really happens.’” Logic embodies the adequate warning, though some need to learn the hard way (*eventus stultorum magister*). Knowledge is simply not produced without seeing “what really happens.”

In the *Los Angeles Times*, 2/24/10, abortion opponent Raymond Dennehy is quoted as saying, “There are only two issues in an argument: the facts, and the conclusions you draw from the facts.” He is also reported as being “a Roman Catholic,” which could not be the case if he relied purely on argument. He thus applies a double standard when demanding of abortion supporters just such reliance, as he seems to in the article. Alternatively, if he allows himself something beyond argument, then he must allow his opponents the same.

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All religious discourse involves a characteristic perversion of language that does violence to the meanings of words. The resulting puzzles, being the consequence of semantic confusion, require not solution but dissolution. Accomplishing this does not require new theories but merely reminders of things that are already known. This conforms to the Republican way of enforcing existing laws rather than creating new ones. Unfortunately, the warnings that aid in this endeavor and that are canonical in the East (as in Buddhism) are heretical in the West.

Religion attempts the coherent, intelligible formulation of a project cast in oxymoronic terms that guarantee failure. It rests on an expedient rumor and takes the vacuous, uninformative, logically inadmissible form of misparsed urban legend in the style of magic realism and with the evidentiary validity of hearsay. It is gossip (*ore tenus*) aspiring to journalism but amounting only to rhozzum.

The late Henry Morris said that “scientific data aren’t the ultimate authority.” They are, however, facts, which alone can provide knowledge and in which confidence is warranted, while God’s authority exists only by stipulation, not demonstration, and so must be taken on faith, which is not truth-preserving. Faith in God is no more valid than faith in chance because both are merely faith, the object of which is irrelevant. Confidence is earned, while faith is not, because the latter is not dependent on a proposition’s worthiness of belief. With respect to explanation, the ultimate authority is parsimony.

God is ontologically challenged. Like the terms *unicorn* and *first female Pope*, the word *god* has definition and meaning, but is not ontologically referential. Like component vectors and the average American, God is an abstraction with no factual correlates, making Him a grammatical rather than an empirical proposition.

As for the ontological argument, the imaginary is not logically obliged to exist outside of the imagination. As Kant observes, the mere existence of a name does not imply the existence of its referent, and the ontological argument is an argument not just for the existence of God but for the existence of everything imaginable, including the Tooth Fairy. It is the responsibility of an omnipotent God to argue for Himself. Those who can, do, and the omnipotent tautologically can. Those who cannot are either fictional or less than omnipotent. Also, Pascal’s wager is properly named because it is not a valid argument (*gageure est la preuve des sots*). It can function only as an *argumentum ad baculum/crumenam*.

It is said that man chose to disobey God, but God chose to absent Himself from nature and avoid discovery. By working in ways every bit as mysterious as those of a nonexistent god, He leaves no unambiguously attributable footprints (*vestigia nulla retrorsum*), covers His tracks and thus is the author of His own plausible deniability, making Himself an idle postulate and the ultimate *ad hoc* hypothesis. The stereotypical “stubborn unbeliever” may be excused given the stubbornness on the part of a God who refuses to earn belief and thus stubbornly remains unbelieeworthy, thus necessitating faith.

It is claimed at [answeringgenesis.com](http://answeringgenesis.com) (AiG) that “evolution is, at its heart, an attempt to get rid of a Creator.” Creationism is, at its heart, an attempt to force out of hiding a Creator who refuses to cooperate. No “attempt” is required “to get rid of a Creator” who will not bother to show up in the first place. What kind of a God would allow evil? One who would make up for it in the afterlife, or a nonexistent one. The latter explanation is more parsimonious and therefore better, though rarely does it occur to the faithful to cut the Gordian knot.

Thus, God is God only by acclamation, is sought to no end and must be worshipped *in absentia*. Such a categorically undiscoverable *Deus Absconditus* is not susceptible to analysis, can contribute nothing to human knowledge and makes theology impossible, as per Romans 11:33 (*ignoti nulla cupido*). Therefore, theology is unable to reject the null hypothesis. Specifying the identity of indiscernibles in the face of intractable indeterminacy is the sin of Plato and can yield only sterile debate (*à propos de rien*). Whether or not it is figuratively true of Los Angeles, it is literally true of religion that there is no “there” there, it being all sizzle and no steak. If April 1st is national atheists day, as one bumper sticker proclaims, then national theists day should be April 31st.

Charles Lindbergh said, “How can one work for the idol of science when it demands the sacrifice of cities full of children, makes robots of men, and blinds their eyes to God?” It is politics that demands inhumane sacrifices and God who makes Himself unavailable even to the sighted. How can one work for the idol of religion when it demands the sacrifice of logic and has many unpleasant consequences?

God is occasionally discredited selectively. In 1997, Governor Mike Huckabee held up the passage of Senate Bill 491 for weeks because he objected to the phrase “acts of God,” saying that blame for tornadoes should not fall on the Almighty. Huckabee suggested that the phrase “natural disaster” be used. Fine, but why not natural everything? The idea seems to be that God can only be responsible for good and not bad. Beside the fact that an omnipotent being is capable of anything, this view is not even remotely biblical, given God’s destruction of Sodom and Gomorrah in Genesis, the plagues visited upon Egypt in Exodus, the hardships visited upon Job, and so forth. In a related matter, when certain athletes credit their success to God (*solo deo gloria*), it prompts the question: If God gets *all* the glory, why should the athletes get *any* of the money?

Cartoonist Johnny Hart says, “Jews and Muslims who don’t accept Jesus will burn in hell,” which indeed they do in works of fiction, just as nonhuman animals talk in *Animal Farm*. Dante’s *Inferno* is poetry or, at most, stipulation, not eyewitness reportage. It is a trivial matter to stipulate what God or Hamlet would or could or should do. This, however, does not involve actuality, the trick being to discover what God *does* do and the problem being that His apparent nonactivity is consistent with nonexistence. Perhaps “Satan is real” and “Jesus lives,” but not convincingly so. Being undeserving of confidence, such things can only be believed by way of faith.

A suspected or prospective drug is simply not a drug until its effect is shown to be so significant that grounds exist for rejecting the null hypothesis. Similarly, God is not God until He gets off His divine behind and provides such grounds, which He is perfectly welcome to do. Those who can, do, and the omnipotent tautologically can. (In the *Prickly City* cartoon of 1/9/09, Winslow complains, “What good is a sense of entitlement if I have to earn it?”) Theists may argue that God *could* show Himself *if* He wanted to, which may very well be, the problem being that “woulda, coulda, shoulda” does not seem to be a respected attitude among conservatives, given that it is one for which they ridicule liberals. Even if it be arbitrarily stipulated that God possesses properties such as omniscience, omnipotence and omnibenevolence, until His logical burden is met, He is but a woulda-coulda-shoulda god, just as RINOs are “Republicans in name only.”

In an old joke, a woman on her wedding night claims to be a virgin despite having been married thrice before. When asked to explain, she says that her first husband had a war wound that left him impotent, her second turned out not to like women and her third was a Democrat who would just sit on the side of the bed and tell how wonderful things were going to be. Conservatives shamelessly employ Democrat-style pie-in-the-sky promises of future boons when invoking heaven. Talk, whether liberal or conservative, is cheap, especially ecclesiastic rodomontade.

It is said that the Bible must be true because it contains historically accurate material. If a story exists in which Superman is said to have flown over the Eiffel Tower, and such a tower actually exists, then Superman must have actually existed as well. Dashell Hammett wrote of actual places in San Francisco. Therefore, Sam Spade must be real. It is said that the Bible must be true because Josephus knew of the existence of Christians. So do most people. Thousands of

people are said to have seen Jesus following His resurrection, but only in the same sense that no fewer people have seen Superman fly: in literature. It is asked in the film *Spartan* how one fakes a DNA test. One does not. Instead, one issues a mendacious press release. How does one make people think that they have seen Superman fly? One does not. One simply reports that they did.

It is said (by Gene Scott, for one) that martyrdom demonstrates sincerity. The contention is that martyrdom is endured only by those who know their doctrines to be true. Numerous *kama kazi* pilots sacrificed themselves for their emperor. Therefore, Hirohito must have been divine, just as every religion that produces martyrs must be true. Likewise, the slaughter of monks in Tibet in 1959 proves Buddhism. Marcelo O. Magnasco and Constantino Baikouzis report that *The Odyssey* accurately describes a unique cluster of astronomical events in the year 1178 BC. Consequently, those who believe that Biblical archeology has supernatural implications are left powerless to resist belief in the divinity of Poseidon.

As to the issue of “playing God,” some one has to, and God Himself will not. Playing God is also something done by those who would judge the status of people’s souls, as when people are told that they will go to hell if they vote for a Democrat.

Miracles are sometimes desperately employed to explain anomalies that an orthodox theory does not. The genetic principle of qualitative immutability (like begets like) rules them out because, as a nonreactive agent, God violates Newton’s third law, which prohibits the exertion of mechanical force with impunity. As a substitute for an explanation of the lawful regularities of normal phenomena, the invocation of God is unparsimonious and throws away the baby in order to save the bathwater. Even if miracles occur, the induction problem makes recognizing them a dilemma. They are the exception rather than the rule, and therefore do not deserve presupposition. Neither do they contribute to the rejection of the null hypothesis because, like noise, they are sporadic and unpredictable, and thus have no cumulative quantitative influence. David Hume states it quite simply: “No testimony is sufficient to establish a miracle unless the testimony be of such a kind that its falsehood would be more miraculous than the fact which it endeavors to establish.”

Anecdotal reports of allegedly answered prayers do not amount to a potent alternative hypothesis, as prayers can be “answered” accidentally. When not answered at all, God’s indifference is indistinguishable from His nonexistence, and is even less parsimonious. In accordance with Ockham’s Razor, the best possible explanation is to be presumed and then worsened only as necessary. That is, it is to be worsened as much as necessary, but as little as possible. When a miracle is claimed as an explanation for an event the existence of which is highly unlikely, the event itself is most parsimoniously explained as fiction.

On FOX-TV, 1/15/09, Mary Schiavo spoke of a “miracle landing by the pilot,” which would make sense if the pilot were God. Mike Corona, 1/16/09 called his acquittal a miracle, which was an implicit admission of guilt given that a miracle is not required for the acquittal of the innocent.

In a letter to the *Los Angeles Times*, 1/21/11, Jack Kaczorowski writes regarding miracles, “For those of us who believe, consistency and readily ascertained answers do not constitute the criteria for truth.” Were such people to encounter the truth, they would neither be able to recognize it nor know what to do with it. Therefore, including them in the conversation serves no purpose other than entertainment. The FDA is wasted on them because the very concept of testing is an affront. For those of us who are sane, the criteria for truth are whatever logic dictates.

In the *Los Angeles Times*, 7/8/13, Lawrence M. Krauss makes some statistical observations about miracles. Responding in a letter to that newspaper, 7/11/13, Nathan Post writes, "In a nutshell, he is saying that . . . that miracles do not occur." Krauss is merely observing that the cause of any such miracles is not attributable to Lourdes because what pass for miracles occur less frequently there than what is average for the world in general. Post continues, "One thing we do know is that if a single miracle occurred at Lourdes, Krauss would be proved wrong." This is untrue because Krauss merely observes that the null hypothesis remains unfalsified. No single miracle could be relevant. Unless there are significantly *more* miracles at Lourdes, then no effect is observed and there is nothing to be discussed. Post then writes, "Another assumption Krauss appears to be making is that God is some kind of spiritual gum machine: You put something in and something comes out. If true, that would betray an incredible ignorance of the church or its thinking on the subject." Krauss makes no such assumptions, but merely acknowledges the fact that unless "something comes out" in response to something being put in, there is no effect to be explained. Post concludes, "One wonders if Krauss would recognize a miracle if one sat up and bit him on the ankle." At least Krauss seems aware of the statistical criteria on which such recognition depends. By contrast, given his apparent inability to distinguish statistical logic from a hole in the ground, Post may be ignored with impunity.

Some people consider it wrong to question the existence of God, though the burden of proof rests not on the null hypothesis but on alternatives. The most parsimonious proposition *deserves* the benefit of the doubt, while all others deserve its detriment. Doubt is properly placed on God's existence, there being no need to doubt His nonexistence. God's existence does not deserve presupposition, while His nonexistence does, and it is this that is to be questioned. Until some answer is forthcoming, that is the end of it. Propositions can be doubted or affirmed groundlessly. But for religion (or anything else) to be "wrongly questioned" is impossible because interrogatives lack truth value.

The concept of doubt is not applicable to tautological truths such as are found in the analytic realm of logic and can be misapplied elsewhere. In *On Certainty*, Ludwig Wittgenstein writes, "If someone doubted whether the earth had existed a hundred years ago, I should not understand, for this reason: I would not know what such a person would still allow to be counted as evidence and what not. . . . [W]e should say that he had no grounds for this suspicion. . . . And couldn't we peacefully leave him to doubt it, since it makes no difference at all?" Wittgenstein also observes that doubt itself rests on what is beyond doubt, but that a doubt without an end is not even a doubt.

Leslie Fiedler reveals that "what I want written on my gravestone is 'Often wrong, but never in doubt.'" Religion rest on the finality of dogmatism and its illusory, philosophically unwarranted relief from doubt, whereas science, properly conducted, is always in doubt when it should be, but never wrong.

Logic teaches the proper management of ignorance and uncertainty such that science, conducted properly, can never be wrong because it forestalls the issuance of words that may later have to be eaten due to being irresponsibly declarative. Subjunctivity, on the other hand, "means never having to say you're sorry." However individual scientists may misbehave, science itself, to its credit and unlike religion, stops short of such folly, while the irresponsible invocation of the supernatural is to "chew more than can be bitten off." (Someone once told this writer that he defended the latter's "right to be wrong." Such a gesture makes absolutely no difference because this writer is trained in how to avoid being wrong and consequently reserves no such right.

However, it being the thought that counts, this writer nevertheless thanks said person for his ultimately futile gesture and reciprocates by defending that person's right to be a unicorn.)

In the *Mallard Fillmore* cartoon of 9/18/06, Mallard says, "Hey! Remember when the media *admitted* that they were irresponsible and hasty in doing thousands of *gleeful* stories about the *White House* 'outing' CIA agent Valerie Plame, when it was *really* some guy at the State Department? Oh, yeah. Neither do I." Remember when the media were *actually* irresponsible because the guilt of the White House was reported declaratively rather than subjunctively? Neither does this writer. Also, legions of theists are seldom less gleeful when *they* are similarly wrong.

It can be said that an issue "remains an open question." According to the Duhem-Quine Thesis, all empirically and theoretically contingent questions remain perpetually open. There is no terminus to be reached because description is never complete and explanation is never final. Doubt is an inherent and unavoidable aspect of contingency and can be avoided only within the analytic realm of self-evident necessity exemplified by logic and mathematics. However, Ockham's Razor dictates the allocation of the benefit and the detriment of that doubt. It establishes the null hypothesis as the proper default position and avoids the *argumentum ad ignorantiam*, a fallacy explicitly rejected in the criminal justice system, where defendants are innocent until proven guilty and indecision equals acquittal.

On the most fundamental, logical level, grounds for controversy about atheism are lacking because it, like the presumption of criminal innocence and all null hypotheses, requires neither proof nor defense (*levamen probationis*) and may be taken for granted because it indeed *is* granted. The *argumentum ad ignorantiam* constitutes a failure to recognize and presume the most parsimonious proposition. Thus the presumption of criminal innocence arises naturally from logic, such that the burden of proof rests *logically* on the prosecution. Therefore, even if, in terms of legal history, the presumption of criminal innocence actually arose proximally and superficially from liberal, bleeding-heart altruism, it need not have.

In Joe Martin's *Mr. Boffo* cartoon of 8/15/05 titled "People unclear on the concept," a baseball umpire observes a tag at home plate and says, "Sorry, boys, but that one was just too close to call!" Similarly, lack of appreciation for the presumption of innocence should perhaps disqualify one from jury duty. In criminal justice, indecision (on the level of individual jurors) constitutes acquittal by failure to falsify the presumption of innocence. Opposing views can be legitimized only by demonstrating that the *argumentum ad ignorantiam* is not fallacious.

Criminal trials are wasteful and futile if allowance is not made for the possibility of guilt (what might be called aguiltism), but guilt is unworthy of presumption. The mere suspicion of guilt is overridden by the presumption of innocence, which in no way precludes conviction, but can only be overcome by a demonstrably superior explanation. Proof is conclusive. But without conclusive proof one way or the other, innocence wins. In order for guilt to win, it is required to prove itself to be a better explanation than innocence. Acquittal requires neither proof nor even evidence of innocence.

The scientific commitment to naturalism is a commitment merely to the correct presupposition, while allowing for the possibility of its falsification, just as the presumption of criminal innocence allows for the possibility of guilt such that convictions actually happen. Moreover, the explanatorily inferior remains so until its superiors are falsified. Naturalism (the presumption of explanatory naturalness) is analogous to what may be called innocentism, which allows for guilt, but places the burden of proof where it properly rests.

Atheism, materialism and naturalism are no more radical or improper than innocentism. Again, one who does not understand John Cage may not *really* understand Mozart. Logically, neither God nor criminal guilt may legitimately be regarded as existent until the burden of proof has been successfully borne.

Nothing need be explained away that is legitimately *presumed* away. Criminal guilt need not be explained away because it is absent at the start, awaiting proof. It is not, as theists contend regarding atheists, that God must “be explained away in terms of natural causes,” but that the natural ones are explanatorily better and must be recognized as such. Nature, not human imagination, must be proven guilty. Nor is any Devil’s Advocate necessary, as the null hypothesis needs no advocacy. What have been called the “smug presumptions” of science are the correct ones, making any smugness well earned.

In the *Mallard Fillmore* cartoon of 10/04/04, Bruce Tinsley makes fun of Dan Rather by attributing to him the assertion that Nixon and Elvis are still alive. Let him not forget Jesus. In the cartoon of 1/28/05, lacking inspiration, Tinsley repeats the joke: “An independent commission has found CBS News guilty of ‘myopic zeal’ in its George Bush-National Guard story, but found no evidence of political bias, a conclusion accepted by nearly everyone who believes in the tooth fairy, spontaneous combustion, or that Dan Rather quit of his own free will.” Incredulity regarding the tooth fairy is apparently no impediment to belief in God. The expression “spontaneous combustion” should probably be placed in scare quotes to imply spontaneous *human* combustion, otherwise there is no controversy, as combustion is in fact spontaneous given the proper conditions. It is amusing to see conservatives criticize the journalistic standards of Dan Rather as if those of the gospels were any better. Please take note that throughout these essays, unless otherwise specified, all cartoons referred to will be the *Mallard Fillmore* cartoon of Bruce Tinsley.

Author Anne Lamott is quoted in the *Los Angeles Times*, 3/12/05, as saying, “I don’t know why God won’t just spritz away our hardships and frustration.” The situation is perfectly well explained by His nonexistence.

In the cartoon of 6/7/05, a character says, “The Associated Press stylebook clearly states that when you have a story that makes a Republican administration look bad, the ‘Magic Eight Ball’ counts as a second source! If you’d gone to journalism school, you’d know this stuff.” The same might be said of divinity school. If journalistic standards are not to be applied to the Bible, then they must *a fortiori* be abandoned when dealing with less important matters.

In the *Los Angeles Times*, 8/14/05, Dennis Prager, as if invoking the Curie principle, laments that “people depict God in a way that renders him less intelligent than his creations.” (A later essay will observe this to be true even of the intelligent design community.) God’s intelligence, like all His properties, exist only by stipulation, not demonstration. He may thus be depicted at the pleasure of the depicter. Nothing, it is said, can separate Christians from the love of God, until, of course, Christians themselves cease the stipulation of that love.

In a letter to the *Los Angeles Times*, 9/23/05, Larry Cahill writes that “Darwin understood that atheism is as logically indefensible as is theism, and that agnosticism is the only logically defensible position regarding the existence of God.” The writer identifies himself as “Fellow, Center for the Neurobiology of Learning and Memory, UC Irvine.” Such a person should be responsible for distinguishing a null hypothesis from a hole in the ground. The criminal justice system knows better than to allow agnosticism to replace the presumption of criminal innocence

with an *argumentum ad ignorantiam*. Logic similarly cuts off the dubious retreats to religious agnosticism.

If there can be no evidence to decide an issue, then there is no issue. Something is not a fact if its truth or falsehood makes no difference to experience. That which could never become apparent could never matter and may be eliminated without explanatory loss (*amissum quod nescitur non amittitur*). Even if it be supposed that God could be defined so as to be relevant to nature, until the null hypothesis is rejected, God remains an explanation in search of an explanandum (the opposite of the Philosophers' Syndrome). Even if He is not beyond discovery, He is unworthy of presumption.

In the cartoon of 9/26/05, a sign at the U.S. border reads, "POSTED! Trespassers will be given free social services, jobs, in-state tuition, and *LOTS* of other cool stuff." Conservatives consider this a joke because they believe that free rides such as this should be reserved for God.

In the cartoon of 9/27/05, titled "Inside the Mind of a California Legislator," said Legislator thinks, "Let's see. We have a chronic influx of illegal aliens who strain our social-service systems, some of whom carry types of tuberculosis that cost over a million bucks per patient to treat and some of whom could be terrorists. Obviously these people need *driver's licenses!*" Looking inside the mind of a conservative cartoonist, God needs an undeserved free ride.

In the *Los Angeles Times*, 1/1/06, Dennis Prager writes of "worshipping false gods." When written with a small *g*, such worship is possibly oxymoronic, while with a capital *g*, it is tautological. This recalls General William Boykin's assertion that Allah is not a "real God," wrongly implying the possibility that a god *could* be real.

In the *Los Angeles Times*, 1/5/06, Jonah Goldberg, writes of liberal "myth-making," the liberal "fable business" and the liberal strategy: "Print the legend," all of which is topped by the Bible. In the *Los Angeles Times*, 2/9/06, Goldberg writes of the ploy of "the high school geek who insists that his girlfriend is really hot but lives in an undisclosed location in Canada." Such is it with God. Goldberg also mentions the phrase: "You can't beat something with nothing," which is a good description of the superiority of science relative to religion.

In a letter to the *Los Angeles Times*, 8/21/06, Kim Monson writes, "In my opinion, one cannot be a scientist and deny the possibility of God's existence." Nor can the possibility of criminal guilt be denied. However, until proven, it must yield to the rightfully presumed opposite view. One cannot be a scientist nor even a mere juror without appreciating this.

In the cartoon of 9/17/06, Mallard writes, "Dear Department of Agriculture, I'm really excited about your programs that pay farmers not to grow things, and pay doctors not to raise cows, and pay lawyers not to raise wheat, and stockbrokers not to raise sheep. Where do I sign up to get paid for not raising cows in my apartment?" Actually, Mallard would only be eligible for such a program if he *could* raise cows in his apartment. It is only farmers and ranchers who pose a threat of raising crops and livestock, while doctors and lawyers and stockbrokers manage not to do such things even without such payments. Theists happily pay God worship in return for His doing nothing that deserves confidence, hence the need for faith.

In the *Los Angeles Times Book Review*, 11/12/06, Robert Lee Hotz writes that Richard Dawkins "is himself a fundamentalist, rejecting any compromise or accommodation." It is logic that properly and tautologically rejects wrong and fallacy, such that logical fundamentalism is the only kind that cannot yield error. In the same section, Jon Wiener quotes Howard K. Smith as rejecting the idea that "truth is to be found somewhere between right and wrong, equidistant between good and evil." Tautologically, wrong is not to be accommodated. (At worst, Hegelian

synthesis should distinguish between baby and bathwater, allowing the selection and preservation of the best from both thesis and antithesis.) Hotz further writes of Dawkins, “Although stoutly proclaiming his opposition to all religions, he spends little time on the perceived shortcomings of Jews, Hindus, Sikhs, Jains or Muslims.” Mosaicism seems to be less of a problem outside Christianity, or at least outside the Abrahamic religions. For example, discussing the circumstances of the birth of the Buddha, Joseph Campbell, in *Transformations of Myth Through Time*, observes, “Nobody thinks this happened.” He later writes, “Now when Brahma the Creator opened the world egg out of which the whole universe came – we’re talking mythologically; the Hindus don’t think there was an egg that the god opened – out came nine elephants.” Also, even conservatives who declare that Republicans are as bad as Democrats typically spend the vast majority of their time enumerating the faults of the latter. Hotz writes of Owen Gingerich, “He notes correctly that materialism is itself a metaphysical presupposition and not (as too many of its proponents suggest) a scientific fact.” It is not merely *a* presupposition, but the correct one. It is immaterialism that is undeserving of presumption and bears the burden of proof, just as criminal innocence is logically worthy of presumption, while guilt is not. Similarly, it is immaterialism that must be shown to be a scientific fact, while materialism need not. Immaterialism, however, could only be demonstrated via data that are tautologically unavailable. Hotz writes that atheism is “beyond the bounds of scientific proof.” It is certainly beyond any such burden, which instead rests on theism.

In the *Los Angeles Times*, 3/4/07, Charlotte Allen writes, “Those who wish the Bible didn’t forbid them from doing things they’d like to do can tell themselves that if the canonical Gospels got the resurrection story wrong, other parts of the Old and New Testaments must have got it wrong too.” No such necessity exists. Whatever the Bible does or does not forbid, there is no need to consult it when dealing with the intuitively obvious. Just as a case of criminal prosecution need not be proven wrong, the Bible need not be shown to “have got it wrong.” As the burden of proof lies with the makers of extraordinary claims, it is the getting of it right that is to be shown. Allen writes of “those who seek to debunk [the Bible’s] claims” and “the demolition of Christianity that depends on Christianity for its existence,” as if testing were demanded by nothing else. Science has plenty to do even without dealing with the Bible. The nature of claims is to solicit testing. It seems like entrapment to blame science merely for responding to such solicitation. Those who cannot stand the heat should abstain from such claims and perhaps try the scientific approach of hypothesizing, which by itself involves no claiming. Allen also ridicules the idea that Gnostic Gospels “fatally undermined the truth of Christianity.” Again, undermining is unnecessary. Rather, any such truth is to be established logically or remain a misnomer.

In a letter to the *Los Angeles Times*, 3/17/07, Curt Walstead erroneously claims that there is an “attribute that . . . atheists share with believers – faith. It’s true that no one can prove without a doubt that God exists. On the other hand, no one can prove that he does not.” This *argumentum ad ignorantiam* is fallacious and therefore useless except as entertainment. Walstead continues, “Faith, contrary to the popular notion, does not have to be blind.” In fact, contrary to Walstead’s notion, it must be blind in order to distinguish itself from confidence, making the phrase “blind faith” tautological. Walstead concludes that atheism “is ultimately based on faith that is no different from the faith of a believer,” thus proclaiming his unfitness for jury duty because of his inability to distinguish either the presumption of criminal innocence or the null hypothesis from a hole in the ground. Faith is required to believe that an untested medicine is effective, while none is required to presume (correctly) that it is not.

The same error is on exhibit at [answeringgenesis.com](http://answeringgenesis.com): “From a logical point of view, how could God’s non-existence be proven?” From a logical point of view, God’s non-existence is the null hypothesis, and thus never needs to be proven. It is further observed that “atheism is just as much an assertion as theism. Therefore the burden of proof falls equally.” This is the *argumentum ad ignorantiam*. The burden of proof falls no more equally here than it does between the prosecution and defense in criminal law. Creationists thus imply that the basis of criminal law is faulty. It is the less parsimonious assertion that bears the burden of proof, as is appreciated by anyone fit for jury duty.

Referring to *A Dynamic God: Living an Unconventional Catholic Faith* by Nancy Mairs, David Ulin writes in the *Los Angeles Times*, 10/16/07, “God . . . exists almost entirely beyond conscious comprehension,” which is to say that it is almost as if He did not exist. Mairs writes, “The need to reduce God to a person having mental states with which we are familiar . . . does God little service and ourselves even less.” The need to elevate God to a person having any mental states is bad enough. When God behaves indistinguishably from the nonexistent, then there exist no grounds for rejecting the null hypothesis.

In October 2007, Ann Coulter made naive supersessionist comments that constituted an accent fallacy, saying, “We just want Jews to be perfected,” as if Christianity did not leave vast and arithmetically demonstrable room for improvement. Besides, Christians claim not to be perfect, but merely forgiven.

In a letter to the *Los Angeles Times*, 1/1/08, P.J. Gendell writes, “ I always find debates between believers and nonbelievers amusing, especially because they are really just opposite sides of the same coin. The believer takes on faith that God exists, and the atheist takes on faith that God doesn’t. The only intellectually supportable position is that of the agnostic, who simply says, ‘We just don’t know.’” The correct position is exemplified by our criminal justice system, which properly presumes (with no faith involved) the more parsimonious proposition (innocence), such that “We just don’t know” constitutes acquittal. Since theism (like criminal prosecution) bears the burden of proof, while atheism (like criminal defense) does not, the only intellectually supportable position is that people who fail to recognize this asymmetry (like Gendell) are unfit for jury duty, which is itself very “amusing.” Agnosticism constitutes a fallacious *argumentum ad ignorantiam*, whereas atheism is a null hypothesis. Proper atheism (like proper criminal innocentism) trivially results from the absence of sufficient stupidity to misplace the burden of proof.

On KOCE television, 3/1/09, Pastor John Huffman said, “It takes faith to believe; it takes faith to disbelieve.” Neither faith nor confidence is necessary in the absence of belief. Presupposition, which is necessary to determine what one is prepared to observe, does not, even provisionally, involve faith because it does not involve belief. Propriety of presupposition is determined by arithmetic. By its very nature, science presupposes least and best, while religion, is obliged to presuppose more and worse.

On his television program 5/14/09, Sean Hannity asked if the *New York Times* were promoting an atheist agenda. God Himself does just that, given His voluntary imitation of a nonexistent god.

In the *Los Angeles Times*, 8/14/09, Gary P. Taylor writes of “the New Atheists, “Their collective arguments against God over the centuries are amusingly infantile, rising only occasionally above IQ-lowering narcissism.” No such argument could be as amusingly infantile as the notion that any such argument is necessary. Just as with arguing against criminal guilt, the

issue of arguing against God simply does not arise. And it is hard to beat the idea of creation in the image of God for fostering narcissism.

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Some people strain to bring science and religion into conflict. These domains are incommensurable and irreconcilable. They can neither overlap nor interpenetrate, and thus cannot conflict. The only possible conflict is between the sciences of different eras or between caricatures of science or religion resulting from category errors, such as when religion is used as folk science. Conservatives scold liberals for their pre-9/11 mentality when the paleocons among them employ a pre-911 B.C. mentality.

Deviation *per se* is often considered bad, even if it constitutes improvement. (People complain when history is rewritten, as if there were anything else to be done with it.) Science demands deviation in the form of improvement, such that the status quo is to be bettered, not maintained. In the *Mallard Fillmore* cartoon of 3/31/06, the concept of medical journals changing their minds seems to be ridiculed. Religion is even more seldom subject to upgrading and improvement. It is the nature of science to improve and of religion to be entrenched. And yet, the pot insists on calling the sugar black. Science entails error correction and therefore progresses (*jamais arrièrè*). To the extent that religion portrays itself as science, it must advance apace with science. Unfortunately, within religion, the possibility of error is seldom acknowledged (*Cartusia nunquam reformata quia nunquam deformata*). If folly is persistence in error, then it is right to stop and sin no more.

The No True Scotsman fallacy notwithstanding, the phrase “junk science” is oxymoronic, as is “true faith.” As with logic, the superiority of science is virtually tautological, as it is part of the definition of science. If behavior is logically and epistemologically proper, then it is science, otherwise not. If evidence is possible, then science applies. Religion is involved if faith is required, which would be because evidence is not possible.

In the *Los Angeles Times*, 7/24/04, someone [reference now lost] writes, “Admitting mistakes isn’t easy for any of us, and this is especially true of scientists.” This is true only if they are not scientists by nature. Hugh Ross has written that “Big bang cosmology . . . points directly to the existence of a transcendent Creator – a fact [atheistic scientists] dare not concede.” This is true only in the same trivial sense that they also “dare not concede” that 3 is less than 2. Science gladly concedes whatever is true. It is nonscientists who react improperly to data, like a dog that sniffs the finger that points to evidence. Most evidence that purports to point to God points actually to human ignorance, exemplifying the Philosophers’ Syndrome.

God is said to be needed because science does not have all the answers. Actually, science is that domain beyond which answers cannot exist. It is the realm of all legitimate questions and their answers. Religion is thus relegated to posing pseudoquestions, which have no answers. The asking of actual questions constitutes science, while the asking of unanswerable pseudoquestions constitutes nonsensical folly. It is answerability by science that makes a query a question rather than a pseudoquestion. In a sense, religious questions are not merely unanswerable but unaskable.

Ken Ham’s ministry is called Answers in Genesis, though religion deals in pseudoquestions, to which there can be no answers. Additionally, not all answers are explanations, which are what science provides. Extreme religionists would rather trust what they

take to be God's own version of history instead of meddlesome facts. They urge people to "stand up for God as the creator," even though omnipotence is by definition the absolute lack of any need for such help (Acts 17:25). Whether or not love means never having to say you're sorry, omnipotence means never needing help.

Science is sometimes accused of actively excluding God from its explanations and "creating a godless orthodoxy." Science has been called "a culture often determined to prove that God does not and never did exist." Since the nonexistence of God is the null hypothesis, any such effort is totally unnecessary and redundant (*il porte lanterne à midi*).

That God is a concept without a percept is not the issue. The emperor's new clothes need not be seen, but they must have explanatory utility. Science welcomes any and all help, but welcomes neither waste nor folly, delegating these to other fields. God is perfectly welcome in science, but only to the extent that He is helpful in advancing knowledge. But whenever God is brought into science, He proves to be no more than nugatory dead weight devoid of significant explanatory purchase.

Again, science happily welcomes God to the extent that He makes himself useful. Those who can, such as the omnipotent, do. Thus, if God fails to help, then only He, not science, is at fault. Science is no more to blame for the absence of God than it is for the absence of such pseudo-objects as square circles, round squares and four-sided triangles. It makes no sense for science to acknowledge (nor is it necessary for science to deny) the unacknowledgeable. Given His stipulated omnipotence, which science cannot impede, the responsibility for His absence is absolutely His.

Pope John Paul II called hell "the state of those who freely and definitively separate themselves from God. As Aunt Juley says in *Howards End*, "The warning is all the other way." Responsibility is proportional to ability, making the omnipotent omniresponsible.

It has been claimed that opposing religion is to say that there is no God and no supernatural. To say that there is no God is all that can be said responsibly. If allowance is to be made for the possibility of one god, then it is also to be made for the possibility of many. And if the *argumentum ad antiquitatem* is wrongly deemed applicable, then note that Hinduism is older than Christianity.

Science is interested in and traffics exclusively in truth. Science accordingly does not employ faith, which is not truth-preserving and is necessary only for belief in the unbelievable, including God. If He would deign to make Himself worthy of belief, then science could legitimately extend to Him. Those who can, do, and the omnipotent tautologically can.

Religious fundamentalism seeks the universal acknowledgment of the absolute sovereignty of God. Science acknowledges anything, given an adequate excuse. However, let not God's inscrutability be forgotten, for it too is absolute.

On his radio program 4/14/08, Jim Svejda commented that Anton Bruckner had two Gods: Wagner and "the real one." Any reality on His part would allow Him into science. Science happily acknowledges the possibility of God. It is God who fails to demonstrate His actuality. In the mean time, science does nothing more sinister than apply the conservative principle of person responsibility in making God responsible for His own self-imposed absence. Just as God's absence from science is self-inflicted, the *cordon sanitaire* between science and religion is self-imposed by religion when it invokes the supernatural. In a letter to the *Los Angeles Times*, 7/25/04, Miguel A. Guanipa laments that God is "still waiting for some vindication from the scientific community." In fact, said community cannot possibly do any more. Either the

oxymoronic is being demanded of science, or the ball is squarely in God's court, and responsibility for His inability to achieve explanatory traction must be laid at His door. Until God gets off His divine behind and does superior explanatory work by making a statistically significant difference, nature wins by default.

Pope Benedict XVI has spoken of "a form of rationality which totally excludes God from man's vision." Logic excludes God only from presupposition, leaving Him free to prove (or exclude) Himself. Properly, atheism is not a claim that God is completely fictional. It is merely the proper presupposition. If the contrary is provable, then let it be proven, all being well that ends well. It is, however, the most, not the least, parsimonious proposition that is to be presupposed. Consequently, whether or not it is possible to prove that God does not exist, it is possible to prove that He is unworthy of presupposition.

Pope Benedict XVI has also written oxymoronically of "the logic of faith in God." However, one cannot reason one's way to God because His existence cannot be proven by logic. This is no more remarkable than the fact that one cannot reason one's way to 3 being less than 2. Belief that 3 is less than 2 cannot be arrived at through logic, and therefore requires faith. Faith is required for belief in the alternate hypothesis when grounds for rejecting the null hypothesis are lacking.

Science does not deny God. It simply does not give Him an undeserved sinecure. In spite of His purported omnipotence, God, in practical terms, is indistinguishable from an inutile layabout. It is not exactly a case of "don't ask, don't tell." To the extent that it is consistent with logic, science is willing to ask, but God fails to tell enough to falsify the null hypothesis. His absence from scientific discourse is thus simply the result of quality control. In practice, His admission into science would have to depend on multiculturalism, affirmative action, tokenism or social promotion as a smuggled-in, malingering, freeloading stowaway. *Deus ex machina* may not always be shameful in the theater, but it is in science. President George W. Bush advocates "holding people to high standards." Gratuitously granting God an exemption to the ordeal of reason and muling Him over the border would be un-Republican behavior in the form of something-for-nothing liberal welfare.

Impartiality forbids duplicity. Consistency allows no double standards. Ockham's Razor is the logical (and by extension ethical) imperative that expresses why science would be emptier for God's presence than for His absence, and makes no exception for Him. An explanation is better without unnecessary ornament, just as a golf score is better with fewer strokes. In *The Merchant of Venice* (III.ii.), Bassanio says, "The world is still deceived with ornament. . . . In religion, / What damned error, but some sober brow / Will bless it, and approve it with a text, / Hiding the grossness with fair ornament?" As Wittgenstein says, anything, including God, that is unnecessary in an explanation is meaningless. Neither God nor any other unnecessary explanatory complication is exempt from therapeutic elimination.

Having an open mind does not entail having an empty one. As Judith Traherne says in *Dark Victory*, "My head's just woozy, not vacant." A mind should be open to the possibility of anything that might be theoretically promising, but it should also be sufficiently discriminating to recognize and reject folly. In the Popperian system, which involves both conjecture *and* refutation, new ideas are welcome but are subject to testing. An open mind is necessary in the criminal justice system in that allowance is to be made for the possibility of guilt, though it is wrongly presumed. Similarly, the effects of a magician may be baffling, but magic is not part of the null hypothesis and is thus not the proper presupposition. (Arthur C. Clarke asserts, "Any

sufficiently advanced technology is indistinguishable from magic.”) The goal is not merely freethinking, but rightthinking.

It has been reported that Alain Badiou “identifies evil as the attempt to create and live within a closed system of knowledge.” The closed mind is one that eschews a winning theory in favor of its inferior and then annoyingly rationalizes this misconduct. In the *Los Angeles Times*, 9/24/06, Deborah Blum writes of William James, “He worried that a close-minded community of science could become a kind of cult itself, devoted to its own beliefs and no more.” It is the general public that is too often too cowardly to allow for naturalistic explanations or too stupid to form a proper null hypothesis. Science happily accepts all that is logical and of demonstrable explanatory utility. If science is “devoted to its own beliefs and no more,” it is because their beliefs have been earned and all else is less deserving. This writer has an open mind in the sense that he is willing to be persuaded that 3 is less than 2 or that  $2+2=5$ . The impediment to such persuasion is not a closed mind but arithmetic, for which this writer is not to blame.

All conjectural entities, including God, demons (as with the demon theory of disease) and epicycles are all allowed into science as candidates to be auditioned competitively. When they fail, adherents to these failed explanations who are sore losers are useful only for amusement.

Jerry Falwell dismissed global warming as “hocus-pocus,” a *tu quoque* fallacy at best coming from a theist. Whatever is *not* “hocus-pocus” is the province of science. If the accusation that science has “no respect for religion” is true, then it is only because respect is granted *pro rata/ad valorem*. Nonsense is welcome in poetry, but not in science. It is the systematic exclusion of nonsense from science that prevents it from following religion beyond the limits of language and reason (*ultra licitum*). Science is properly exclusionary in that it eliminates all options except the possibilities that respect the constraints of the problem.

Religion would not exist if it had no benefit, and many harbor an aesthetic dislike of science. Nevertheless, the only responsibility of science is to be veridical, and hunches and emotions are not truth-preserving. Whatever the emotional consequence of excluding God, He may be omitted to no ill explanatory effect.

Michael Shermer (ScientificAmerican.com, 6/21/04) asserts that “the question of God’s existence is a scientifically insoluble one.” This is not the case for God’s explanatory utility. The issue of His existence never even arises until the null hypothesis is rejected. It cannot be said that there is no God, only that there is no discernible one, given the absence of grounds for rejecting the null hypothesis.

God is a part of science precisely to the extent that He is a natural, physical (and therefore influential) being. To the extent that He is not, He is impotent in the realm of nature and irrelevant to it. A concept bereft of explanatory utility does not deserve to be entertained, so the issue of God is simply unable to arise (*credat Judæus Apella*).

Atheistic science is sometimes oxymoronically accused of being “a secular religion,” as by Ann Coulter in her book *Godless*. This is a literal falsehood because it cannot be true in any nonmetaphorical sense. This oxymoron is also exemplified by Philip Pullman, who, when discussing theocratic absolutism and totalitarianism in the *Los Angeles Times*, 5/1/05, writes that, “some theocracies are atheist.” (He adds, “I don’t think it’s possible that there is a God.” Even if possible, it is not a possibility that deserves presupposition.) Similarly, Ford Vox has called Universism “the world’s first rational religion.”

Setting aside the issue of nontheistic religions such as Buddhism, the idea of atheistic, secular religion is a rationalization that lacks even enough truth to qualify as a *tu quoque* fallacy.

If atheism is a religion, then health is a disease. As Ludwig Wittgenstein says, “The absence of idols is not an idol,” and, further, “All that philosophy can do is to destroy idols.” Literally, religion is the reconnection with something. Reconnection with nature is unnecessary because alienation from nature is impossible. Therefore, if people insist that atheism is a religion, let naturalism be invoked to set against supernaturalism because, logically and lexically, naturalism cannot be a religion.

Alternatively, the assertion is made that it takes as much faith to believe in natural explanations as it does to believe in God. Even scientists, it is said, must have faith. But whatever the demands of an individual’s neurosis, science is not to blame for the folly of its practitioners. Anything can be done incorrectly, and instances of failure can always be cherry-picked from history. If fault does not accrue to religion for things like the Inquisition, then neither does it accrue to science for faith and other human faults. Faith is a perversion of reason, the one faculty by which man earns the merit that gives him dominion. Faith is applicable nowhere in science, except as an object of study in psychopathology. As stated, the *tu quoque* argument that science requires as much faith as does religion is not merely invalid but unsound as well. That science involves any faith whatsoever is itself an article of faith, and untrue as well.

In the *Los Angeles Times*, 12/23/05, Laurie Zoloth writes, “If the public is to have any faith in research, it must be above reproach.” Reproach is in no way relevant to faith. Being above reproach is necessary only for logic and only achievable thereby. Zoloth continues, “Science is valid because it cannot be taken on faith alone.” Anything can be taken on faith alone. Science is valid because it need not be taken on faith *at all*.

References have been made to the “Church of Global Warming,” which is stipulated as condemnable because the church of *anything* is logically inferior to the *science* of anything. In a letter to the *Los Angeles Times*, 2/6/07, Chris Knox writes, “Global warming has become a religion for members of the green left in America. Now we are told that we must accept their gospel without question. The report told us two things: First, that they are not completely sure that global warming is caused by humans; and second, that there is nothing we can do about it.” Christians expect *their* gospel to be thus accepted, such that the pot is calling the kettle black *if* the charge is correct. Facts are to be recognized as such and accepted. Those who cannot should not benefit from social promotion. Science is the endeavor that admits when it is “not completely sure,” whereas religion is constitutively unable to be sure at all. The report in question stated that nothing could be done qualitatively to stop global warming, but did state that it could indeed be slowed.

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A category error is committed when emotional response is considered relevant to the evaluation of scientific theories. Some people report being unmoved by atheistic science, as if emotions constituted principles. Science exists neither to move nor to comfort nor to entertain, but to provide knowledge. The goal in science is to make the explanation better, not to make the explainer happier. Mathematical equations are meant to be right, not to be fun, for truth preservation is not to be found in the emotive realm. Comfort at the expense of logic is inconsistent with civilization, and resort to invalid appeals is beyond what reason could countenance. Whatever its consolations for those beguiled by it, faith gives optimism a bad name because, except as a palliative, psychological sop, nothing else recommends it.

In her *Averno*, Louise Glück writes, “But ignorance / cannot will knowledge. Ignorance / wills something imagined, which it believes exists.” She also writes of poets “making, in silence, omen of mere event, until the world reflects the deepest needs of the soul.” Faith can only be justified by private, personal desperation, there being no valid, impartial, external excuse for it.

It is only in an emotional or sociological sense that one can speak of “time-tested theology” (*vires acquirit eundo*). Feel-good, luxurious, hedonistic escapism is indeed useful, but for entertainment purposes only. Religion may also have utilitarian value in the husbandry of savages. However, desire, fear and prejudice can constitute enabling presuppositions only to the extent that things such as comfort and a sense of community are ends that justifies such means.

As with Weininger’s equation of logic and ethics, Epictetus equates reason with both freedom and ethics (for which the pornographic, hedonistic appeal to desire and comfort is a very fragile basis), in contrast to slavery and savagery. He warns that stubborn resistance to truth may be associated with misplaced pride masquerading as strength of character.

For scientists (or “nerds,” if one prefers), there are no such things as inconvenient facts (*Wahrheit gegen Freund und Feind*), while supernaturalists willingly jump out of the frying pan and into the void, or so they wrongly think. Scientists are those for whom facts do not “get in the way.” Scientists put themselves at the mercy of logic, leaving others to be ruled by emotion and to subordinate logic to comfort, which is possible in the realm of religion, where there is no accountability.

Nietzsche observes, “The charm of knowledge would be small, were it not that so much shame has to be overcome on the way to it.” Scientists face no such obstacles (*piuttosto mendicante che ignorante*). It is regrettable that society is such that, for so many, logic requires heroism. (Bill Moyers has said, “One of the biggest changes in politics in my lifetime is that the delusional is no longer marginal.”) Lack of shame among the illogical seems to have less to do with the lack of a sense of shame than with the lack of an ability to recognize shame-worthy errors. In other words, the problem is faulty error detection. Lucid dreaming is often sought, but lucidity is sometimes abandoned during consciousness, such that people are not alerted by logical incongruities.

In the *Los Angeles Times*, 12/19/04, Gary Lawrence, disparagingly refers to “those who believe that human intellect is the highest hope for mankind.” There are higher hopes, but no higher facts. Secularism is a matter of recognition born of sanity and sobriety. It is religion that provides the means of withdrawal from the rigors sanity, sobriety and adulthood for those who are otherwise unable to cope.

In the *Los Angeles Times*, 8/2/05, Hanif Kureishi writes, “You can’t ask people to give up their religion; that would be absurd. Religions may be illusions, and they may betray infantile wishes in their desire for certainty but they are important and profound illusions.” The piece cites Shabbir Akhtar, who, in his book *A Faith for All Seasons*, writes, “Allah is the subject of faith and loving obedience, not of rational inquiry or purely discursive thought. Unaided human reason is inferior in status to the gift of faith.” This can be true only for the purpose of comfort.

In the *Los Angeles Times*, 3/15/07, Sam Harris writes, “The truth is, there is not a person on Earth who has a good reason to believe that Jesus rose from the dead or that Muhammad spoke to the angel Gabriel in a cave.” They do it for comfort, which is arguably a “good reason,” but they certainly have no *logical* excuse. Harris also writes of those “who are less willing to profess certainty about any article of faith,” an activity that would be oxymoronic except to the extent that certainty can apply to the comfort derived from articles of faith.

For Lorenzo Semple, “Alaska is a very good place to lose yourself, but a very bad place to find yourself.” Others apply this perspective on the grandest possible scale. William Blake refers to Newton’s universe as “abominable Void, this soul-shudd’ring Vacuum.” In the *Prickly City* cartoon of 3/30/08, Winslow says, “Hello, universe. It’s me . . . Winslow. You’re so big. It makes me feel . . . small. That’s not very nice.” Even if the truth hurts, it is folly to blame the messenger. As such, science did not kill God any more than Walter Cronkite killed John F. Kennedy. Blame is deserved not by secular scientists but by a God who is responsible for making it possible for Him to be ignored by having created a universe that is best explained by theories that cause supernaturalists distress. Unable to handle the truth, some people expediently deny whatever they consider to be too bad to be true, employing voluntary ignorance or the psychologically compensatory reconstruction of reality for the purpose of believing what logically is not to be believed. When comfort is the goal and logic fails to achieve it, these people, apparently at all costs, desperately resort to mental misbehavior, with mystery used as ego defense. However, an orgy of comfort may be followed by a hangover. There may be no atheists in fox holes, but nor are there innocents in torture chambers. As a Turkish proverb advises, “If you fall into the sea, hold onto a snake.” Nevertheless, maturation entails reconciliation with facts.

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Science advances at a slow pace because it seeks knowledge, which results only from proper experimental design. By contrast, pseudoscience may “advance” arbitrarily rapidly because it is not constrained by the need for its conclusions to constitute actual knowledge. Consequently, the experimental designs employed by pseudoscientists are often quite comical.

*The Bible Code* is a good example of failure to employ the proper controls required to test the null hypothesis, which does not state that there are no apparent prophecies or messages encoded in the Bible, but that they occur no more frequently in the Bible than in other books. The author, Michael Drosnin, said that he would be surprised to find such messages in other books. The subjunctivity of the statement clearly demonstrates that the proper experiment, which would resolve the matter of surprise, was not performed. Until the other shoe drops, the null hypothesis remains untested. “When my critics find a message about the assassination of a prime minister encrypted in *Moby Dick*,” he writes, “I’ll believe them.” He has it backwards. It is only when such messages are found in other books at a significantly lower frequency that grounds will arise for considering Drosnin’s claim. Until then, the experiment that would reveal an explanandum has simply not been performed because what is to be explained is a *difference* between the Bible and all other books. The situation is equivalent to testing a drug and reporting that it cured 18% of the subject treated, but not reporting that a placebo cured 20%. Failure to report the latter indicates either incompetence, cowardice or fraud. The alternative hypothesis bears the burden of proof and the experimenter bears the responsibility to distinguish proper experimental design from a hole in the ground, such that those controls necessary to prevent accent fallacies from arising are implemented. Drosnin points out that the similarly coded messages that *were* subsequently found in other books, including nine assassination messages in *Moby Dick*, do not prove the Bible code is not real. This is true, but is no more than an *argumentum ad ignorantiam*. Until grounds exist for the rejection of the null hypothesis, the issue of Bible codes simply does not arise, just as a substance is not a drug until it outperforms a placebo.

Raw improbability is not a valid standard of significance, though Bible code proponents try to use it as such. What matters is the improbability of the difference between experimental and control groups. However improbable, if a phenomenon occurs no more frequently than in the control group, the null hypothesis stands unfalsified, the burden of proof having rested on the experimenters seeking to demonstrate said difference.

In a lottery, the winning combination is established and fixed, but a Bible code phrase can be anything that makes linguistic sense. In the former case, the population of purchased combinations is searched for a match with it. The probability of winning is low for any particular player, but high for the population as a whole. Odds are also low for any particular interval used in a Bible code search, so the interval is varied and multiple searches are conducted over the same data set until success occurs. Combinatorics yields a large possibility space, but the complexity of the data is matched by that of the search strategy, which does not predetermine or predict which interval is to be expected to succeed nor what particular phrase will be found.

Except for certain linguistic rules, all sequences of a given size are equally unlikely, as are all lottery numbers. A phrase that makes linguistic sense is no more unlikely than all other sequences of its size that do not. So, while it is true that any sensible phrase found in the text is improbable, all others of its size are equally so.

Whatever the improbability of coincidences, they are not impossible. A geological feature on Mars looks like a human face, as did the Great Stone Face in New Hampshire. Italy looks like boot, and Great Britain looks like a man riding a pig. Stuff happens. Deal with it. (also see: [cs.anu.edu.au/~bdm/dilugim/torah.html](http://cs.anu.edu.au/~bdm/dilugim/torah.html))

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A program was aired on PBS titled *The Question of God*, which actually dealt with the pseudoquestion of God. In it, Margaret Klenck claims that “rational understanding is only one way of understanding, and we have become such slaves . . . to [it]. When [you] hold a child, you are understanding things about that creature that you’re not using your cognition for.” Emotions are subjective, and thus are informative principally about the subject, but not necessarily the object, which gives legitimacy to the question “*How* do you know?” At best, emotion affords insight into the object unreliably. Like hallucination, emotion is arbitrary and not truth-preserving with respect to external reality and cannot, for instance, be used to judge the truth of a mathematical equation. Truth claims based on hallucination are legitimate aspirants because conjecture is not conducted on an evidentiary basis, making the source of conjecture irrelevant. Truth claims are, however, objectively meaningless until tested. Hallucination, dream and imagination can be the basis of hypotheses, but these must be tested to establish truth. The Popperian method involves conjecture *and* refutation, with the refuted not constituting knowledge, and only logic can provide necessary and sufficient grounds for refutation. Even if reason is not the sole path to knowledge, all alternatives are worse. Also, the question of the show’s title is about God, not his believers. Excuses given for belief are informative only about the latter.

Klenck also says, “I think we’re going to fall into a real trap if we continue to assume that rationality is here, and everything else is below it, and that science and religion are incompatible, and that emotions are a lesser form. We become paupers, because we can’t bring in so much else, we can’t bring in so much of history, and emotional experience.” The superiority of logic is

tautological, not assumed. Failing to recognize this as self-evident or assuming otherwise is folly. And again, what is brought in by emotion is only true subjectively, not necessarily objectively.

Winifred Gallagher says, "But just because it's not scientific doesn't mean it's not true." It does, however, mean that it is not known to be true. "I don't understand why science in our age by some people is regarded as sort of the be all and end all of reality." It is only the be all and end all of the knowledge of reality.

Peter Kreeft observes, "There has never been a society in history which thought that courage, and justice, and charity, and honesty were vices, and that lying, and cheating, and stealing, and raping, and betraying were virtues." Nevertheless, the claim is still sometimes made that Judeo-Christian morality is somehow unique. Kreeft asks, "If all of humanity is subject to moral obligation, what's the source of that moral obligation? How could it be something less than humanity?" It is not less. It is emergent at the level human level, like algebra and trigonometry. "So from the moral law to a moral lawgiver," who need not be nonhuman if humans can recognize the propriety of such law.

C.S. Lewis is quoted as saying, "If there was a controlling power outside the universe, the only way in which we could expect it to show itself would be inside ourselves as an influence or a command trying to get us to behave in a certain way. And that is just what we find in ourselves." Why is this the only way? At best, causal degeneracy would seem to be involved, as natural influences would be expected there as well. Lewis also says, "This Rule of Right and Wrong . . . must somehow be a real thing . . . not made up by ourselves." Wrong is a real thing, and the rule can be made up on that basis.

Francis Collins reports, "Lewis argues that if you are looking for evidence of a God who cares about us as individuals, where could you more likely look than within your own heart at this very central concept of what's right and what's wrong. And there it is." It is there if one is lucky. A God who cared even more might be expected to have distributed that concept even more widely. "In the one place where you think you might most learn something about God, that's exactly where you find it." Why would one's heart be such a place? "And not only does it tell you something about the fact that there is a spiritual nature that is somehow written within our hearts, but it also tells you something about the nature of God Himself, which is that He is a good and holy God. That what we have there is a glimpse of what He stands for." Why is it not merely that for which humans stand? Also, evil is found there as well. That it "tells you something" beyond that is pure speculation.

According to Armand Nicholi, Lewis asserts that desire implies the desired. Similarly, a magician's trick implies magic, but does not demonstrate it. Peter Kreeft observes, "Lewis argued innate, deep desires do not exist unless they correspond to something that can satisfy them. If there is hunger, there is food. If there is sexual desire, there is sex. If there is curiosity, there is knowledge. So if there is the desire for this thing that is beyond this world, there must be something beyond this world." Tautologically, no knowledge or satisfaction can come from anything "beyond this world." And technically, "beyond this world," *things* do not exist.

God may want His creatures to seek Him, but He seems not to want to be found. If desire for God's existence is evidence of God's existence, then desire for God's nonexistence, which is occasionally attributed to atheists, is evidence of His nonexistence.

James Como says of Lewis:

“He was a literary critic. And as such, he said, ‘I know myth when I see it, I know legend when I see it and I know an eye-witness account when I see it. I recognize metaphor when it’s there. All of this is in the Bible. All of it is inspired. But far from all of it is literal history.’ Well Dyson and Tolkien pointed out that the only difference was we don’t know that Osiris walked the earth. But Jesus left footprints. People saw and talked about it.”

If Lewis could recognize an eye-witness account, then so could others, including the Evangelists, who could have intentionally incorporated this particular quality into fictional Gospels. Also, the kind of recognition of which Lewis speaks is not infallible. It is not unusual for historical figures both to leave footprints and to have their stories exaggerated, such as by Herodotus or Parson Weemes. It makes sense that the Holy Family *would* have fled to Egypt, which is also why it makes sense in a fictional story. As observed in *The Winslow Boy*, “damaging admissions” imply truth, so including them when lying helps avoid suspicion. Application of the criterion of embarrassment would compel belief in the apocryphal story of Jesus killing a child. Footprints were also left by the Buddha, providing either as strong a claim for divinity as that of Jesus, or a demonstration that both stories could have been embellished.

Frederick Lee observes:

“Is this story made up or not? And the key thing there is, here is a man, Jesus Christ, who’s documented as claiming to be the son of God. Now, I’ve seen patients do that in my psychiatric rotations – ‘I’m Napoleon, I’m Caesar, I’m God, I’m Jesus,’ but they’re invariably psychotic. And yet, from the scriptures, from all the witnesses that we have, what Jesus said reflects some of the deepest, most insightful wisdom into human nature. He’s not a lunatic, okay? He’s not crazy. There’s no other alternative, other than to assume that this bizarre claim, this fantastic claim, that’s never been made or spoken by human lips in the history of the world has to be true. There’s no other explanation.”

At issue is the nature of this documentation. Lee is receiving this story secondhand (at best), as he lacks the benefit of examining Jesus by way of a psychiatric rotation. According to Lee, only psychotics make such claims, but Jesus was not psychotic because he dispensed wisdom and therefore must be God because he claimed to be. Even if psychotics cannot dispense wisdom, they can have wisdom attributed to them decades after they die. Similarly, this claim of divinity, like those of George Washington chopping down a cherry tree and throwing a dollar across the Potomac, need not be historically accurate. The combination of traits that so impresses Lee could have been synthesized by the Evangelists in the manner of Parson Weemes and merely attributed to Jesus, perhaps with no greater reliability. Like Weemes, it is only the Evangelists who need not be lunatics, as the sanity of Jesus could be no more than urban legend. In other words, there *is* another explanation and Lee is guilty of the Philosophers’ Syndrome. It could be that Jesus did not sin in the same sense that Superman flew. As with stories of miracles, there is no need to explain what does not demonstrably exist. The need to explain cold fusion does not arise until it is phenomenally demonstrated. Bible stories need not be explained. Only the actual needs explanation, not the merely possible nor the impossible. What is unappreciated by those

suffering from the Philosophers' Syndrome is that mystery occurs when something is unknown, not when when something *is* known about God *or anything else*, except the ignorance of the observer.

With bald-faced self-contradiction, Lee asserts that the claim was made only once in history after admitting that it is so common that he has heard it himself in person and not just by report. (He also contradicts himself when saying that if there is no afterlife, then hell is still a possibility.) According to Lee himself, then, if one merely demonstrates to him that one is not psychotic and then claims to be God, he will be powerless to doubt it.

The website for this show features the following statement: "How each of us understands the meaning of life comes down to how we answer one ultimate question: Does God really exist?" If God mattered, then the question could be answered affirmatively and faith would be unnecessary. Also, meaning is a subjective phenomenon. A text written in a language unfamiliar to the reader may have meaning in some sense, but not to the reader.

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Certain issues announced in this essay will now be revisited and developed further, as they will be in subsequent essays, so as to explain and reemphasize some of the most often misunderstood philosophical underpinnings of science.

Traditional metaphysics is an ungrounded, stillborn nonstarter because it is impossible by definition. It is a failed attempt to apply phenomenal standards to noumenality illegitimately. That which can be experienced is within the domain of physics, and therefore not *metaphysics*. Conservatives refer to insufficiently observant believers as "practical secularists," which is a tautological accent fallacy, just as "practical theology" is oxymoronic.

Science is an activity. It is something that people do. No research program is possible within traditional metaphysics, which is hampered not only by a total lack of data, but by the impossibility of any. It is a nonextensional discourse that Heidegger calls "the exploration of nothing." Its sterility makes it a field in which all effort would be wasted and physical resources would be expended without any advantage. It is therefore a futilitarian *cul-de sac* to be avoided.

The Pope John Paul II asked scientists not to seek answers that, unknown to him, cannot exist but that he wrongly believed to be at risk of being found. Properly, time should not be wasted seeking answers that are *not* at risk of being found. It is simply not forgivable to hope that, given sufficient research, 3 will someday be found to be less than 2 (*rusticus expectat dum defluat annis at ille labitur et labetur in omne volubilis ævum*).

"For we walk by faith, not by sight," writes Saint Paul (II Cor 5:7). But to the extent that Christians also view the world and think correctly, they are doing science. Even the Lutheran Immanuel Kant, whose mission was to rebut David Hume by defending traditional metaphysics, says that that is all one could do. Kant defines noumena as inaccessible and unobservable. Recognizing that knowledge is circumscribed by the *a priori* forms of sensibility and the categories of logic, and that contradictions occur when the attempt is made to make the infinite finite, he thus declares transcendent metaphysics to be factually impossible, while Alfred Ayer declares it to be *logically* impossible.

Facts and knowledge are isomorphic and coterminous with nature. The secular tautologically exhausts the realm of knowledge, owing to the impossibility of searching beyond nature, which would constitute a fool's errand in a tautologically blind alley. Unlike prophesy,

theories issue in hypotheses, which are definite predictions of future experience that do not transcend the scope of the law statements on which they are based. If no relevant experience is possible, such that no test could decide truth or falsehood, then the proposition is incapable of factual content, is nonsensical, and any issue arising from it is a pseudoquestion.

Ernst Mach did not believe that atoms existed because he could not see them. They existed nevertheless, and had explanatory utility. The legitimacy of belief extends beyond sight but not beyond explanatory utility. As the explanation of the real by the impossible (*obscurum per obscurius*), the metaphysical enterprise is misconceived in principle. The holding of a metaphysical world view not only makes for an intolerably indiscriminate ontology, but it is actually less a matter of world-viewing than of wish-making.

As noted above, science is rendered possible by presupposition. Modern metaphysics is the study of absolute presuppositions, which define the boundaries of knowledge by constituting the framework that provides the limits within which justification takes place and the background against which truth and falsehood are distinguished. Modern metaphysics poses questions *about* science rather than in it. The assertion that all presuppositions are equal *a priori* is an *argumentum ad ignorantiam*, which violates Ockham's Razor. In fact, presuppositions are differentially enabling.

AiG states: "All philosophical systems start with axioms (presuppositions), or unprovable propositions accepted as true, and deduce theorems from them. Therefore Christians should not be faulted for having axioms." Science does not accept its axioms as unprovably true but rather as of provably greater parsimony and explanatory value. People are to be faulted not for having axioms but for having inferior ones, unless the propriety of social promotion can be demonstrated.

It is falsely claimed on the AiG site that skeptics "have no right to object when Christians start from their own presuppositions." Scientists do not start from "their own" presuppositions, but from the best ones, giving them every right to object when Christians start from ones that are worse.

It is also noted on AiG that a certain skeptic "seems to be using the tactic of throwing the burden of proof on those asserting an affirmative proposition . . . . But then an example of self-refutation occurs: the proposition: 'The burden of proof falls on the affirmative proposition' is itself an affirmative proposition, so requires proof in itself!" The claim that the inner quote is an affirmative proposition and requires proof would also be an affirmative proposition requiring proof. Thus is the refutation itself refuted, and so forth. The burden of proof actually falls on the less parsimonious proposition.

In a letter to the *Los Angeles Times*, 4/1/05, James Bell writes that Michael Shermer "wants to limit scientific inquiry to the purely natural," as if any other option were possible. Whatever Shermer does or does not want, nature and logic accomplish just such limitation. Bell contends that such limitation "perforce rules out any design possibilities." Actually, it would include all possibilities that could in principle be knowable, excluding only unknowable ones, which in fact exclude themselves. Bell asks, "[W]hy must we shut down the brain?" We should not, but nor should we opt for Bell's policy of using it incorrectly. Science is limited to knowledge. It deals with what can be known, while that which cannot is relegated to religion. If something is known, then it became so by way of science.

In the *Non Sequitur* cartoon of 6/6/05 by Wiley Miller, preconceptual science is described as "the new science of reaching a conclusion *before* doing research, then simply dismissing

anything contrary to your preconceived notions.” It is hoped that “a conclusion” is not being confused with a presupposition.

In the *Los Angeles Times*, 12/29/07 Rabbi David Wolpe is quoted as saying that “science is powerful, but it’s narrow.” Science is indeed restricted to the realm of the possibly factual and relevant, beyond which is the realm of the impossibly factual and impossibly relevant. As metaphysicality precludes relevance, science encompasses anything that could ever possibly matter. This issue also arises when Andrew Sullivan writes that conservatism, in contrast to fundamentalism, is “an acceptance of the unknowability of ultimate truth.” The concepts of truth and falsehood are not applicable to the unknowable. Nothing can be relevant without being knowable. Would that more self-labeled conservatives accepted the unknowability of the unknowable. Someone also once said, “There is more to the universe than what science can study.” There is no practical sense in which this is true. If it can matter, then it can be studied. If it cannot be studied, then it cannot matter.

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“Proving the skeptics wrong” can be done only in some peculiar, colloquial sense. What can never be wrong is skepticism in the intransitive, epistemological sense. Even if the null hypothesis turns out to be wrong, it still constitutes the proper presupposition pending its rejection. For example, the presumption of criminal innocence is not merely a civil right but a logical standard. Failure to implement it is not merely the denial of a right. It is logical dereliction. The conviction of criminal defendants does not make it wrong to have presumed their innocence, and skeptics cannot be proved wrong if all they do is recognize the correct presupposition and recognize where the burden of proof properly rests.

Even though some people have been known to say, “I was skeptical *at first*,” the justification for skepticism requires no appeal to experience (*eventus stultorum magister*). Doubt is self-justifying, while the arbitrary suspension of disbelief is justified only for the purpose of entertainment. Doubting Thomas deserves no blame for his skepticism, as nothing is to be believed without justification, and some things are simply not to be believed. The claim that skeptics are “masters of suspicion” has it backwards. Theists are the speculators who believe their speculations groundlessly.

Skepticism is in no way prejudicial. It is the fulfillment of the logical demand for parsimony prior to the rendering of judgment. Just as the presumption of criminal innocence is not an assertion that crime does not occur, skepticism is merely a recognition of where the burden of proof properly lies. The skeptic is not obliged to prove that a magician does not employ actual magic. The burden of proof rests on the claim of magic.

Skepticism is applicable only to genuine questions, as explained by Ludwig Wittgenstein in his *Tractatus Logico-Philosophicus*: “Skepticism is not irrefutable, but palpably senseless, if it would doubt where a question cannot be asked. For doubt can only exist where there is a question; a question only where there is an answer, and this only where something can be said.” Ockham’s Razor dictates a parsimonious strategy of minimizing folly while waiting for facts to emerge if there is, in principle, something for which to wait. In cases where facts are not possible, bothering to wait is frivolous absurdity. Again, no work need be done to determine that a prospective drug is no more effective than a placebo, work being required only to prove otherwise. Given that nature is the most parsimonious presupposition, skepticism allows for

Mahayana atheism, wherein there is no work to be done (*fait accompli*), whereas belief in the supernatural requires work, much of which is not even possible.

Skepticism is more than metaphysics deserves because it is only applicable in situations where something can be known. Legitimate questions have answers by definition, and only a significant proposition can be significantly contradicted. As pseudoquestions cannot engender substantive, profitable debate, grounds for either doubt or suspicion about God are lacking.

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Science deals with nature, which is defined by the extent of space, time and causality. Only nature, that realm coextensive with space, time and causality, is accessible to science. Science is a natural, physical, empirical, synthetic, perceptual, rational, cognitive enterprise.

Religion, ostensibly, deals with the supernatural, which is, by definition, beyond nature and its properties. By definition, neither perception, cognition nor instrumentation can encounter or interact with that which is transcendent of nature, as the transcendent is tautologically, categorically unknowable. How does one know this? The same way that one knows that  $2+2=4$ . That is the meaning of the terms. Logic knows for one. In other words, “What’s not to know?”

Observability constitutes failure to transcend nature. That which can be perceived or imagined is disqualified from being supernatural. Contrary assertions make a mockery of the prefix *super*, as in the old anti-drug abuse slogan: “Why do you think they call it *dope*?” This is similar to the situation in which a person denies the presence of subliminal messages in a movie because they perceived none, when perceiving them would disqualify them as subliminal. If the supernatural could be known, then it would cease to be *supernatural*. It transcends nature only to the extent that information about it is not forthcoming. Thus, religion concerns nothing that can be apprehended.

It is said that naturalists choose what counts as evidence, while empiricists wait and see what shows up. As explained by Bunge above, no one is free from presupposition, even when they claim otherwise. If evidence of the supernatural is possible, it can only be because the supernatural is a subset of nature, which is absurd. Nature is the realm that is coextensive with evidence. Again, it is the impossibility of evidence that puts the “super” in the supernatural. Otherwise, the prefix is misapplied. And whether naturalist or empiricist, all are subject to logic.

Any process that gives rise to knowledge constitutes science. The mere possibility of knowing something makes it a matter of science rather than religion. Were theology able to show its work, it would be a branch of science rather than religion. Since nothing can be known that goes beyond all possible experience, *religious experience* is an oxymoron because being experienced disqualifies something from being transcendent of experience. Seeking God is futile because being found would disqualify Him from being God. God is scrutable only to the extent that he is natural, and inconsequential to the extent that He is supernatural.

“No human has yet grasped 1% of what can be known about spiritual realities,” writes John Marks Templeton. It could be said that 100% has been grasped, which is nothing. “Spiritual realities” is, if not an oxymoron, then at best an irrelevancy.

Dennis Prager describes relativism as the uncritical withholding of judgment and evaluation.

There exists no possible alternative to relativism in the realm of religion due to the tautological absence of supernatural data, data being tautologically part of nature. Whether or not the

politically correct stance of holding any religion to be as good as any other is accurate, none is as explanatorily good as science.

Science properly tries for natural explanations for the same reason golfers try for birdies instead of bogies. Natural explanations are not merely sought but found because when nature is interrogated, it, unlike the supernatural, can oblige. And just as failure to prove innocence does not constitute proof of guilt, failure to find a natural explanation does not constitute the finding of a supernatural one. Failure to recognize this can lead to an *argumentum ad ignorantiam*.

In his 1896 essay “The Will to Believe,” William James writes that “a rule of thinking which would absolutely prevent me from acknowledging certain kinds of truth if those kinds of truth were really there, would be an irrational rule.” The issue is not whether a truth is “really there,” but whether it has been demonstrated. Until then, it is not known to be “really there.” And what could it mean for a supernatural entity to be “really there?”

William James also writes that even if he tried to explain the contents of his library to his dog, the dog still could not comprehend it. James analogizes this to the inability of the human mind to comprehend God’s creation. A dog’s incomprehension would be equally great if told the truth or told a lie. Mentality superior to that of a dog is demonstrated by dealing with ignorance parsimoniously rather than prodigally. God may or may not be responsible for “creation,” but until ignorance is replaced by knowledge, He is unworthy of presupposition.

There exists a Templeton Prize for Progress Toward Research or Discoveries about Spiritual Realities. Once something is demonstrated to be a reality, it is disqualified from being spiritual. The 2005 recipient, Charles Townes, says multiverse models cannot be tested. They can be tested against other cosmological theories for their relative explanatory power. Townes does not know why the laws of physics would vary among universes. If they cannot, being a product of necessity rather than contingency, then perhaps natural constraints are in place that make God unnecessary. When there are questions about whether the universe was planned, the burden of proof rests on askers.

It is reported of Townes in the *Los Angeles Times*, 3/10/05, that his ideas about the convergence of science and religion “put him at odds with some scientists,” which is proper because it puts him at odds with science. Had he said that  $2+2=5$ , he would be at odds not just with mathematicians but mathematics itself.

Townes, speaking of science and religion, says, “their differences are largely superficial.” This is only true if it is actually ancient science that is being construed as religion and then compared to modern science. He asks how the origin of the universe can be explained without God. The answer is: better, given quantum mechanics.

It is reported of Townes, “The sheer number of stars and planets, he said, would likely increase the probability of intelligent life elsewhere,” as if there were an alternative, such is his bizarre concept of probability. Increasing the number of planets would unavoidably increase the probability of everything.

Causality does not exhaust the realm of determination, but nature exhausts the realm of causality. A universe that is not causally isolated is having the prefix *uni* misapplied to it. The issue is neither materialism nor atheism but euonymy. The tautological causal closure of nature means that causes have natural effects only to the extent that those causes are not supernatural. Supernatural causes of natural effects comprise an empty class. They are as oxymoronic as married bachelors, the quest for which is not an example of the problem of induction, as it would

be foolish to say, “Just because science has not yet found a married bachelor does not mean there aren’t any.”

Causality, as it is commonly understood, is known not to extend into the quantum realm, which is still part of nature. If causality is not universally applicable *within* nature, then it does not deserve to be presupposed to extend *beyond* nature. Nature is known to influence nature, while the supernatural is not. Natural causes are a fact. Supernatural causes cannot even be a hope. At worst, the autonomy, sufficiency, integrity and sovereignty of nature is more parsimoniously presupposed than is the supernatural.

Tautologically, beyond the fact that the phrase “spiritual phenomena” is oxymoronic, phenomena have natural causes because nature includes the causes of phenomena. Whatever boundary is crossed by such causes is not one between nature and the supernatural. A cause in one room of a house may have an effect in another room, but both rooms are subsets of nature. The supernatural is the realm back to which causal pathways cannot extend, hence the prefix *super*. Meteoroids can fall to earth and become meteorites, but the space from which they come is included in nature, even though they cross some intranatural boundary. Even if virtual particles can be said to emerge from beyond nature into natural existence, they do so acausally. As explained in a subsequent essay, this may apply to the universe as a whole. The normality of the randomness of quantum fluctuation puts the burden of proof on those proposing a cause for any particular such event, such as the winning of a particular lottery number, even though causality is simply not a concept applicable to quantum events. If a quantum event were said to be masquerading as random though actually the result of a supernatural cause, the burden of proof rests on those seeking to unmask it. The randomness of such events is rightfully presupposed, such that it need not be proved, but is also observed, such that it stands unfalsified even after being tested.

That natural effects (phenomena) have natural causes need not be proved. It is properly presupposed. That phenomena *can* have supernatural causes requires proof, which is not obtained by way of the Philosophers’ Syndrome. Whatever can effect nature is itself necessarily part of nature. Regardless of whether scientific laws explain all phenomena, all phenomena are tautologically subject to natural law. Causally indeterminate phenomena are presupposed to have natural causes until proven otherwise. Those unable to recognize this are unfit for jury duty. Alas, though human imagination can be exhausted in the search for natural explanations, the supernatural cannot be proven without being disqualified as supernatural. Nature is known to exist, while the supernatural is not and cannot be. The noumenal, then, cannot legitimately be even suspected.

Supernatural agency only makes sense for supernatural patency, both of which are categorically unobservable and thus irrelevant. Unobservable entities are not entitled to be postulated if they do not give rise to observable effects, which are required for relevance. To be legitimately, justifiably posited, an entity need not be concrete itself, but must have concrete consequences. In other words, there must be “*evidence* of things not seen.”

Metaphysics is often disanalogously explained using the example of wind, which is felt but not seen. Alas, being felt is a demonstration of the wind’s physicality. Tautologically, spirit cannot influence matter, for doing so would disqualify it from being spirit. In contrast to wind, the effects of which are actually detectable, the accidents of bread and wine remain following transubstantiation, such that no detectable change occurs and there is nothing to explain, just as when a drug and a placebo do not differ in their effects. As the accidents of bread and wine are

all that can be known about them, postulating any more constitutes the sin of Plato (*dare pondus fumo*).

If no thought can reach the void, then how can it reach us? Even if nature supervenes on the transcendent, it does not do so in a demonstrable, statistically significant manner that would justify rejection of the null hypothesis. Supernatural causation, though the first resort for fools, is not even a last resort, but none at all. Even if it were, claiming that the supernatural “cannot be ruled out” is, at best, a recognition of the problem of induction. Ascribing to the statement any greater significance constitutes an *argumentum ad ignorantiam*. Being tautologically incapable of producing attributable empirical consequences, the supernatural is exegetically impotent, arbitrarily and spuriously ontologized. It is not merely unattractive as a theoretical option, but null and void, incoherently conceived, inevitably nonsensical and lacking rational warrant. It cannot be known, but only gratuitously stipulated on the basis of desire.

In *The God of Hope and the End of the World*, John Polkinghorne claims, “[B]oth science and theology have to express their belief in the existence of unseen realities, be they confined quarks forever hidden within nuclear matter or be it the invisible reality of the divine presence.” Actually, science involves neither faith nor even belief. Science (and one may as well add sanity and sobriety) is not a belief system, for facts are not to be believed, but recognized. People are admired for standing up for their beliefs, which can conflict with those of others. No such conflict arises when standing up for facts, include the differential explanatory power of theories. The postulation of unseen entities that are of inferior (or no) explanatory utility is wasteful (or futile). Science thus delegates to religion the task of dealing with those theoretical fictions that are useless, except perhaps in the realm of emotion, while keeping for itself those that are explanatorily useful. Thus, even though both God and quarks are “unseen,” Polkinghorne disanalogizes them. He also oxymoronically writes of “reality inaccessible to scientific investigation,” *reality* being an unmerited honorific for the categorically inaccessible.

According to AllAboutPhilosophy.org, given naturalistic presuppositions, the question of God’s existence “would be impossible to answer from an evidentiary standpoint simply because anything which God might have done (that is, any supernatural act which might serve as evidence for His existence) would have to be explained away in terms of natural causes, not because we know what those natural causes could possibly be, but simply because a supernatural God is not allowed to exist!” In fact, a supernatural God is not only allowed but is tautological. The problem is in getting such a being to influence nature. A natural God is oxymoronic. Explanation “in terms of natural causes” is a logical imperative, and not a fault to be blamed on people. Though God Himself is notoriously stingy with the particulars (Isaiah 40:28), an omnipotent being is tautologically able to make Himself known, so it is no use pretending that science or philosophy could stand in His way. Therefore, let Him provide grounds for rejecting the null hypothesis. Those who can, do, and the omnipotent can, if they exist. Alas, though it is the nature of science to show its work, the work of religion is unshowable by its very nature. Even if such work could be shown, it would still bear the burden of proof. “We” need not “know what those natural causes could possibly be” any more than the innocence of a criminal defendant needs to be proven, nature and criminal innocence being the correct default presumptions. Theism is theoretically handicapped by its basis in oxymoron and pragmatically handicapped by an intractable evidentiary vacuum that makes inquiry futile. Sciences entails investigation of the investigable, which the noumenal, by definition, is not. No explanation is needed for the unknowable.

This is not an assertion that the conclusions of supernaturalists are false just because their argument is invalid and/or unsound (*argumentum ad logicam*). Neither unsoundness nor invalidity necessitate a false conclusion. Unsound and invalid arguments may yield true conclusions (*interdum vulgus rectum videt*), but they are unsupported by their premises, so their truth is accidental and no credit accrues. Even if one is right, one is so merely by accident if one lacks license to infer one's conclusion because the showing of one's work is inadequate.

In the *Los Angeles Times*, 6/19/05, Dennis Prager acknowledges the artificiality of his God's masculinity, that mask being a mere psychological convenience. Prager admits that the Bible characterizes God as "sexually neuter" and "entirely devoid of sexual characteristics," and, obviously, a biological trait such as gender cannot be possessed by a being who is neither biological nor even material. In order to qualify as supernatural, God must, tautologically, transcend the properties of nature. He therefore transcends not only the duality of male and female, but also (rather inconveniently for some people) the dualities of good and evil and of existence and nonexistence.

In the *Los Angeles Times*, 7/10/05, Dennis Prager claims that the idea of the Jews being divinely chosen would seem irrational "only to an atheist." This is an attribution of rationality to atheist, whereas theists are apparently unable to recognize irrationality or its epistemological uselessness and impropriety. It is also an acknowledgment of the failure of the idea of being divinely chosen when judged impartially. Any failure to explain how some particular thing could occur naturally is as nothing compared to the systematic failure to explain how anything could occur other than naturally. Everything (every thing) that occurs does so naturally because nature is the realm of existence (things) and occurrence (events). Beyond nature, these concepts are not applicable. Prager continues, "But anyone, even the atheist, must look at the evidence and conclude that the Jews play a role in history that defies reason." If the Philosophers' Syndrome is to be avoided, then think harder. It is religion that truly defies reason.

In the *Los Angeles Times*, 10/11/05, Margaret Wertheim accuses string theorists of indulging in speculation because they speak of unobservable dimensions. It is the theory that is to blame for having unforeseen collateral consequences, not the scientists for reporting them. If string theory proves distasteful, then let a theory of greater prowess supersede it. Whatever the shortcomings of string theory, physicists would have no reason to bother with it unless its predecessors were even worse. Features of orthodox theories that cannot be tested may generate hypotheses without empirically accessible consequences, but all theories can be tested for their explanatory utility, whether or not their hypotheses concern empirical facts.

That testable hypotheses cannot be derived from string theory is disputed. In the *Los Angeles Times Book Review*, 10/8/06, K.C. Cole offers the following example of premature and misplaced pessimism: "When the ghostly neutrino popped up in one of Pauli's equations, the physicist admitted he'd done 'a terrible thing. I have postulated a particle that cannot be detected.' Then in 1956, traces of neutrinos were seen in the wash of radiation spewing from newly commissioned nuclear reactors."

In a letter to *Vanity Fair*, 11/07, regarding Christopher Hitchens, Charles Falzon writes, "He trivializes our need to search for a role in the universe that is greater than anything science or logic can deal with. . . . Wanting to connect with a transcendent creator is integral to what makes us human." Such a need trivializes itself, since what is beyond logic need not be true and cannot be known to be. Its alleged ubiquity results from slothful induction, as no such need is shared by this writer. More fundamentally, wanting is not getting, especially when the object of

desire is as pathologically oxymoronic as connection with transcendence, which would disqualify it as transcendent. Humans should work to find better things to make them not merely human, but civilized.

In another letter appearing in the same issue of *Vanity Fair*, Dennis Krabbenhoft writes of the universe that “it sure looks to me as if there’s a mind behind it all.” Looks can be illusory, especially to the untrained, as when Sean Hannity inferred consciousness when observing the vegetative Terri Schiavo.

It is reported in the *Los Angeles Times*, 12/15/07, that Dr. Francis Collins told Karen Kaplan, “Science can say nothing about what’s outside of nature. So to use a scientific argument to say that God can’t be real is a complete disconnect of a rational mind.” God could be real, just not relevant, being that He lies out of reach of detection, as Collins acknowledges. The burden of proof rests not with the parsimonious null hypothesis, and to use any kind of argument to say that God *is* real is futile for the reason that Collins cites. Science can say nothing about what lies beyond nature, and nothing else can say as much as science with confidence and truth preservation. That there is or could be a supernatural at all is beyond knowing. Thus, with the null hypothesis holding that there is not, the case stands closed.

On his radio program 1/22/08, Dennis Prager, sarcastically spoke of those who “knew religion was just a fairy tale.” Supernaturalists know no differently *and* bear the burden of proof. If they *could* know such a thing, then it would be a matter of science rather than religion, which it is not. Supernaturalists are thus left merely to hope.

In a letter to the *Los Angeles Times*, 3/8/08, Mitchell E. Harris scolds a writer for wanting to make uncertainty about the existence of God a virtue when in fact it already is, given the absence of grounds for certainty. Harris finds it “tragic” that someone would try “to make lack of conviction a virtue.” He continues, “Throughout Western history, it has been conviction, not its absence, that has been virtuous. John F. Kennedy’s ‘Profiles in Courage’ was about political leaders who did what they thought was right, albeit unpopular.” Atheists, if behaving properly, do better. They do not what they think is right but what is known to be right according to logic. Logic decides for them, and they are smart enough to recognize this as right. “Uncertainty, indecisiveness, lack of confidence, hesitation – I fail to see the virtue,” writes Harris, who needs to look harder. The alternative (certainty) arrived at arbitrarily – this writer fails to see the sanity. There is no indecision involved in the recognition of indeterminacy. The uncertainty of which Harris writes is not a virtue but a fact, the recognition of which is a virtue. Accordingly, there could be no more fundamental vice than to fail to recognize that groundless, baseless, arbitrary certainty is oxymoronic. If certainty and confidence are virtues even in the absence of any grounds for them, then let Harris declare whether the statement  $7+x=12$  is true or false, or else reveal himself lacking in virtue according to his own standard. Unjustified conviction is a matter best left between Harris and the mental health community. Harris rejects “uncertainty for its own sake,” when he should be equally troubled by certainty for its own sake. For those of us who know better, such a position is good only for a joke. For example, in the *Doonesbury* cartoon of 1/28/07, a “belief tank” is described as being like a think tank but without the doubt.

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Hylephobic nonscientists sometimes employ an *argumentum ad ignorantiam* to criticize scientists for employing materialistic presuppositions. The physical and material may not exhaust nature, but naturalism, which accommodates immaterial fields and forces, survives as a

nonfungible enabling framework. Naturalism is neither an arbitrary whim nor an emotive bias but an ontological and epistemological imperative. Depending on one's philosophical stance, alternatives either exist only incoherently beyond the limits of language and reason, or their violation of Ockham's Razor disqualifies them from deserving to be presuppositions, even if it were possible for them eventually to be found efficacious. Naturalism is thus used either by default or at least as the proper null hypothesis. As the most parsimonious alternative, nature is deservedly presupposed until it is proven that any alternative is even possible, much less actual. And even if an alternative is possible and actual, it is not necessarily better. In a sense, without possibility or actuality, an alternative lacks even the opportunity to be worse, so it is less than worse.

Despite challenging claims to its propriety, eliminative materialism is merely the dictate of Ockham's Razor, and phrases such as "a secular cast of mind" are tautological. Scientists are not afraid to abandon materialism. Not having the luxury of operating in the absence of logical rigor, beyond which nonsense has a clear field, they are simply not stupid enough to be attracted to forlorn alternatives that lie beyond what the constitutive standards of science permit.

Again, the invisibility of wind is not inconsistent with its materiality, whereas it could not even be felt were it not material. A black hole is a spatiotemporal phenomenon. Even if it is dimensionless and without extension, it remains, qualitatively, space. Even if time within it is frozen, it remains time, as opposed to eternity. The extent to which it represents noumenal transcendence is the extent to which it is constitutively irrelevant.

AiG states, "This commitment to materialist presuppositions explains why so many evolutionists cling onto their faith, no matter how absurd the explanations." Materialist presuppositions are the correct ones, and so uniquely deserve commitment. Evolutionists are wrong to have faith when only confidence is appropriate. Scientists are the ones who change with the times as facts accumulate, with no unjustified "clinging," so common in the dogmatic realm of religion. Scientific explanations are always bounded by nature and logic, and so are ill-equipped to compete with the absurdity of explanations not so constrained, such as those of religion. Being constrained by knowledge and logic, proper scientists do not pretend to know what they do not, while religionists often pretend to know the unknowable. Konrad Lorenz said that a good scientist is prepared to discard several cherished ideas before breakfast. It is nonscientists who "cling."

A commentary by crime novelist Andrew Klavan was published 7/25/03 in the *Los Angeles Times* with the title "Putting our faith in science: When it comes to spirituality, biologists and physicists are in over their heads." This statement is true because there is no alternative, but it is true of scientists least of all. It is thus not only an accent fallacy, but it is also an example of the pot calling the sugar black.

Klavan says, "I question the authority of these men. . . . ability in one field does not necessarily translate into insight in another." And yet, comically, he does not question his own authority to exempt himself from his own *argumentum ad hominem* and to declare what constitutes "another" field.

He continues, "The science of today is allowed to argue its case against the religion of thousands of years ago. Any reasonable person would get the impression that faith hasn't a leg to stand on." The religion of today has not changed substantially in all that time, and it is nearly always erroneously offered as science. When so offered, it must take its lumps. That faith has no leg on which to stand is so by definition. Belief that has a leg on which to stand is called *confidence*, whereas faith is belief in spite of the absence of any such legs. Even if "spiritual

underpinnings” were “open to speculation,” they would not be deserving of presupposition in violation of Ockham’s Razor. And according to Wittgenstein, both speculation and skepticism are only possible with respect to a genuine question, which is one that could in principle be answered correctly and lead to insight. Spiritual speculation is oxymoronic and can thus generate only unanswerable pseudoquestions.

Klavan speaks of the possibility that “mysticism can reach a truth that science can’t.” Mysticism is not truth-preserving and does not involve truth value. It is thus absolutely inconsequential epistemologically, whereas truth and science are coextensive. He concludes, “Materialism, after all, is an interesting little idea-but what’s it made of?” The answer is: parsimony, while mysticism is made of profligacy. Accordingly, Ockham’s Razor awards the victory to the former, there being no littler idea than mysticism.

In a response printed 8/3/03, Dr. Jay R. Hodes says of the limits of knowledge, “That’s where spirituality enters.” This applies only to those for whom logic is indistinguishable from a hole in the ground. Gaps in knowledge are properly filled with assumptions of innocence, not guilt. Doing otherwise is failure in the form of the *argumentum ad ignorantiam*. The inferiority of arbitrarily extravagant explanations makes their presupposition wrong, both logically and ethically.

Edward J. Larson writes in the *Los Angeles Times*, 8/26/05, “Scientists look for natural explanations for natural phenomena.” They first presume them before looking for them. They look for them because they are the only ones capable of being found. Also, the expression “natural phenomena” is tautological. He continues, “Science is a particular way of looking at natural phenomena.” It is not just *any* particular way, but the truth-determining, truth-recognizing, truth-preserving way.

In the cartoon of 10/5/05, a pessimist says, “The glass is half empty.” An optimist says, “The glass is half full!” A journalist says, “The glass is symptomatic of the institutional racism in American society.” If the journalist were conservative, then the word *racism* would be replaced by *secularism*.

Scientists are disapprovingly labeled as secularist as if they had a choice, secularism deriving trivially from the, necessary, tautological, constitutive secularity of nature, and secularists being merely the recognizers of this. Imagining significance to the labeling of science as secular is an accent fallacy committed by the unknowingly secular.

Pope Benedict XVI has spoken of “arid secularism,” as if secularism should be irresponsibly less arid than is allowed for by nature. Again, blame wrongly falls on the messenger. Joseph Ratzinger, as he was then, writes of Christianity as an “alternative to . . . vacuous entertainments,” as if anything could be as vacuous as religion.

In the *Los Angeles Times*, 12/8/08, David Klinghoffer writes, “It could be that materialism . . . is a prejudice rather than a fact.” Properly, it is neither, though the charge of prejudice makes for a convenient rationalization by the desperate. Like the presumption of criminal innocence, it is the proper presupposition *pending* judgment, with immaterialism bearing the burden of proof. As such, materialism is simply a reflection of sanity. Like anything else, materialism may be adopted accidentally or arbitrarily. But properly, its adherents simply lack the requisite stupidity to do otherwise.

Materialism is thus the inevitable consequence of yielding to logic, while all other stances result from yielding to something worse.

On his television program, 3/1/05, Sean Hannity observed that we should not rush to judgment about the conduct of police officers because they put their lives on the line for us. This is untrue. Regardless of what police or any other people normally do, judgment is simply not to be rushed. Ty Detmer, winner of the 1990 Heisman trophy, is quoted as saying (12/07), “You’ve got to get all the facts before you rush to judgment.” Having all the facts, rushing in a pejorative sense would not seem to be an applicable concept.

Margaret Wertheim writes (*Los Angeles Times*, 3/22/05) a piece titled, “Why Science Can’t Show Us God.” The actual reason is that science cannot yet publicize subjective hallucination. She claims that “science can say nothing about sin.” Even if true, this is an accent fallacy if it implies that anything other than science could do better. She further claims that “rational inference can never substitute for personal experience of the divine.” Rational inference has no need to stoop so low, for nothing is as good as the truth-preserving nature of rational inference and demonstrable, peer-reviewable facts.

Theists try to accuse atheists of not having read the Bible. Even if true, as written in the *Los Angeles Times*, 5/11/06, “‘I don’t have to watch pornography in order to be able to dialogue about it,’ said Matthew Pinto, president of Ascension Press, a Catholic publication.”

In a letter to the *Los Angeles Times*, 8/21/06, Arthur Yuwiler writes, “Science . . . is completely silent on whether there is or is not a God. . . . but until someone can devise a test for an all-powerful God, or aesthetics or ethics or metaphysics, people can believe these aspects as they wish, for science has nothing to do with them.” On whatever science is silent, everything else is even more so. People can believe as they wish, but not necessarily properly, for until testing is conducted, the null hypothesis holds.

In *Why Faith Matters* (review by Jonathan Kirsch, in the *Los Angeles Times*, 9/26/08), David J. Wolpe writes, “Acceptance of mystery is an act not of resignation but humility.” Humility is called for when an object of faith is unworthy of confidence, in proportion to which arrogance is legitimate. Additionally, it is misbehavior to replace mystery with gap-filling gods, and failure to recognize the resolution of mystery is simple stupidity. Wolpe, also writes “Religion is neither an answer to a question nor the solution to a problem. It is a response to the wonder of existence and a guide to life.” It is not, however, a truth-preserving one. The dispute is not with the social utility of falsehood, but only with its supposed truth. Wolpe muses, “Surely with a touch of imagination, and a touch less arrogance, we can appreciate that there is much in this world, its creation, governance and majesty, that we do not begin to understand.” There is vanishingly little that we do not *begin* to understand, and it is worse than arrogant to replace mystery with inferior explanations. Reviewer Kirsch observes, “‘That everything from the cathedral at Chartres to relief missions is a result of an evolutionary misfiring is impossible to maintain,’ writes Wolpe, thus repudiating the argument of naysayers like [Christopher] Hitchens who are perfectly willing to throw out the baby with the bathwater.” Any truth involved with the baby is not metaphysical. In the case of cathedrals, it is architectural, and achievable without religion. Similarly, compassion suffices to inspire relief. The baby is welcome, but not the insupportable contention that religion need be its source, except among idiots.

Commenting on Bill Maher’s film *Religulous* in the *Los Angeles Times*, 10/7/08, rabbi David Wolpe claims that the unprecedented carnage of the twentieth century cannot be ascribed to religion, though it was made possible not by atheism but by unprecedented technology. “If faith is, in part, the summit of our hopes, a guide and an aspiration, then what does Maher’s creed leave him with?” Wolpe asks. It leaves one with a guide to truth, which faith does not

preserve (and hopefully not with a dangling preposition). Wolpe continues, “It should not be hard to understand why someone might choose ancient wisdom over modern nihilism.” The wisdom in question is about comfort, not knowledge, and an appeal to its age is a fallacious *argumentum ad antiquitatem*. Wisdom having to do with truth is to be found underlying Ockham’s Razor. Wolpe asserts, “It is not heroic to believe we are accidents of chemistry.” It is, however, cowardly to deny truth and the logic from which it derives. Truth is true, whether heroic or not. (Also, as discussed in due course, it is, at best, an accent fallacy to suggest that “accidents of chemistry” is the best explanation that science has to offer.) “In truth,” Wolpe writes, “the existence of God is not an antidote to fear but a consequence of wonder.” This is a false dichotomy, as the former is often the case, and science is a *better* consequence of wonder. Then, claims Wolpe, “God does not come about through faulty reasoning.” This true if He is only a matter of speculation, for neither does He come about through *proper* reasoning. Without evidence, suspicion cannot give rise to criminal conviction *without* faulty reasoning. “*Religulous* repeatedly calls faith irrational. True, it is not a product of pure reason, but then what is, apart from mathematics?” Wolpe asks. Mathematics is a quantitative subset of logic, the ultimate arbiter to which science is subject. Without reason, or at least logic, there is no confidence. Because it is not a product of reason, faith can only be relevant psychologically and sociologically, not logically, epistemologically or ontologically. Certain “marvels,” Wolpe writes, “can reasonably be thought to have an origin in a nonphysical entity: that is, God.” This is true only conjecturally, and not parsimoniously. It is only when more parsimonious explanations are refuted that lesser ones earn adoption. He then opines, “Centuries of people emboldened by, and ennobled by, faith can reasonably be thought to have something more than foolish illusions in their minds and hearts.” While constituting an additional *argumentum ad antiquitatem*, this is true neither necessarily nor parsimoniously. Though it may be thought, it remains undemonstrated. Also, ascribing mental states to the heart is itself illusory, making it no better than poetic metaphor. After citing good done by religion, Wolpe writes, “That does not make it true, but it is worthy of thought: Why should something so ‘irrational,’ a mere ‘neurological disorder,’ be so helpful to society?” Why should it not? Emotions are irrational but their exercise by art does society as much good as anything. This is a psychological issue, not an ontological one, helpfulness being ontologically irrelevant. Nor does anything else make it ontologically true, in spite of any sociological truth. Wolpe concludes, “Many of us suspect – or yes, believe – that there is more to the world than we know.” Science could not exist otherwise. However, belief beyond logic does not involve knowledge, and is thus irresponsible.

In a letter to the *Los Angeles Times*, 10/12/08, Stanley R. Moore accuses Gregory Rodriguez of merely assuming “that religious faith cannot be grounded in evidence.” Anything that can be is a matter of science and confidence rather than religion and faith. It is the nature of evidence to provide confidence and to be irrelevant to faith. Moore continues, “People of faith believe for the same reason a person holds any worldview – it makes sense of a wider range of our deepest experiences.” It is the very nature of science to make not just better sense but the best possible sense of all experience given the evidence, not in spite of it. People of faith thus believe at the expense of explanatory quality, sacrificing explanation for comfort. Moore then writes of “the possibility that faith appeals not to our weaknesses but to our strengths,” as if any appeal to anything could excuse its failure of truth preservation.

On his radio program, 12/4/08, Dennis Prager said that atheists believe in nothing, at least theologically. This is true, though atheists are in no way to blame, for it is the nature of theology that when God is sought, nothing is found. Being found would disqualify God from being

supernatural and would eliminate the need for faith, on which facts are not dependent. Ontologically, atheists believe in everything, while supernaturalists believe in more than everything. Prager further said that the left lives in a bubble of made-up falsehood. Perhaps, but the right lives by faith, which is not necessary for what is not made up. Where things are not made up, faith is unnecessary. Prager accused atheists of offering nothing beautiful. What they offer is truth, which, to some, constitutes beauty. Fundamentally, though, truth is not an aesthetic category. Prager accused the left of coercing belief in nonsense. Properly, the goal is to do right whether it is believed or not, but also to abstain from social promotion. The right should be free to underperform, but not to avoid the consequent eating of dust.

In a letter to the *Los Angeles Times*, 1/19/09, Jim Walters writes, “Does science per se lead to atheism?” Science begins with it, the challenge being to disprove it. Walters claims that “a negative is notoriously difficult to prove, especially if the subject is as amorphous as God.” Null hypotheses require no proof, so difficulty is irrelevant, as is being “amorphous.” What is important about the “subject” (actually, the object in the epistemological sense) is its explanatory power. Walters continues, “Scientists, almost by definition, are beyond their expertise in questions of theism/atheism.” Fully by definition, nonscientists are *further* beyond *their* expertise. Walters then writes, “Science achieves its truth claims by taking something that has defined boundaries and can be tested by replicable experiments.” Thus, even Walters admits that truth is a property that cannot apply to God. Let God submit to testing. Those who can, do, and the omnipotent tautologically can. Just as a drug is not a drug until it proves itself to be more efficacious than a placebo, until grounds exist for rejecting the null hypothesis, there simply is no God. Belief in Him requires faith because He has failed to earn confidence. Walters then suggests that “life’s biggest questions,” which he says “are not scientific,” may lie in the subjective aesthetic realm, where there is no accounting.

In a letter to the *Los Angeles Times*, 2/16/09, Rory Johnston writes, “Christians are not trying to introduce theology into school, they are simply trying to thwart the introduction of atheism.” All subjects should be introduced into school. Trying to thwart the introduction of atheism is like trying to thwart the introduction of the concept of innocence into the criminal justice system. It is the null hypothesis on which the entire enterprise is founded. Let God introduce Himself as an alternative. Those who can, do, and the omnipotent tautologically can. “Children of faith are faced with pressures from all sides telling them that science has proved that God does not exist,” continues Johnston. This should not be the case because science has no need to do any such thing, as the null hypothesis is presumed and requires no proof. “Although ‘intelligent design’ has no substance nor any place in the science classroom, the question of ‘Is it possible that Darwin was wrong?’ most certainly does. (The answer is indisputably yes.) Yet teachers have been threatened with disciplinary action just for asking it.” All scientists could be wrong about certain things. Copernicus was wrong about orbital shapes, but not about heliocentrism. Darwin was demonstrably wrong about certain of his geological conjectures, but has never been shown to be wrong about phylogeny. As discussed in subsequent essays, additional astronomy has occurred since Copernicus, and additional biology has occurred since Darwin. Though Copernicus was wrong about some things, Kepler was wrong about fewer, Newton about fewer still, and Einstein about fewer still. The same applies to Darwin and his successors.

In the *Los Angeles Times*, 5/17/09, Charlotte Allen wrongly faults atheists for not “making serious metaphysical or epistemological arguments against God’s existence.” Epistemologically, such arguments are unnecessary. Null hypotheses, such as criminal innocence, bear no burden of proof. If theists are so smart, then let them distinguish an

*argumentum ad ignorantiam* from a hole in the ground. For her part, Allen merely observes that atheists are boring (*nihil ad rem*), but does not show that they are wrong. For all her supposed concern about epistemology, Allen wastes her time writing about the *motivation* of atheists, which is irrelevant. The equation  $2+2=4$  remains valid even when espoused by an angry, vindictive mathematician. Allen also writes that it is wrong to hold “that if science can’t prove something, it doesn’t exist.” It could exist, but science could fail to prove it only if it did not matter. Either science can prove it, or its existence is irrelevant. In a pitiful attempt to blame the messenger, Allen refers to agnostics as “a group despised as wishy-washy by atheists.” Agnosticism is disqualified by logic, whether or not it is criticized by atheists. Allen claims that “faith is never easy in this world of injustice,” though it should be, as only confidence would be thus threatened. Whether easy or not, faith is unnecessary unless confidence is unattainable.

In a letter to the *Los Angeles Times*, 7/24/11, Roger Clegg writes that cultivating faith “does not require one to ignore things like history and science: . . . [Blaise] Pascal was, among other things, a pioneer in chemistry and mathematics.” Bully for him. But why stop with chemistry and mathematics? In the final scene of *As You Like It*, Jaques says, “[H]e’s as good at any thing, and yet a fool.” Why not get *everything* right? And faith *does* involve ignoring the fundamental logic of science.

In a letter to the *Los Angeles Times*, 10/16/11, William A. Cowell writes, “We should be skeptical of any theory that asks us for unquestioning allegiance just because the name of science is stamped on it.” Skepticism should be intransitive and simply involves recognizing where the burden of proof rests. No such request for allegiance comes from science. It is religion that asks such things of its adherents, and having the name of religion is stamped on it is even less of a guarantee. Any allegiance demanded by science is not to any particular theory but to logic. Cowell continues, “‘Science’ had stated that quasicrystals did not exist. This month an Israeli scientist was given the Nobel Prize for discovering them.” It was a scientist who made this discovery, not a theologian. It was science that made any needed correction. However, if “science” is to be put in scare quotes, then perhaps a “scientist” is not to be trusted and Cowell should not believe that any such discovery took place. Cowell concludes, “True science’s and true Christianity’s goal should be the same: the truth.” Unfortunately, Christianity can stumble upon truth only by accident because it does not surrender itself to logic, relying instead on faith, which is not truth preserving. And once the truth is found, Christians do not always recognize it or settle for it. Scientists are those who can both recognize and handle the truth.