

A Theorem Concerning God

by

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Preface

This is not written as, nor intended to be, an academic work. No particular care has been exercised to ensure that the ideas and proofs presented therein are unique in the literature. They *are*, however, my own original thoughts and have been presented as such on various internet forums for some time now without drawing any objections.

With much of the knowledge of the world literally at our fingertips, it has never been easier to write a document like this and have it turn out reasonably accurate. For example, if one is typing along and wishes to know the volume of the ocean, or the surface area of the earth, or the likely number of species, one can generally discover these numbers (all used in constructing arguments in the text) in a matter of seconds without leaving one's chair or moving one's hands from the keyboard. When writing about something like the Bible, it helps enormously that every important revision of the Bible is available instantly online, and that some of these revisions are critically annotated, that one can readily discover the dates of the Bronze versus Iron ages (and review the evidence that leads scholars to assign them), one can discover the estimated life expectancy at various times and in various cultures of the ancient and modern world and so much more, all a mere click away.

I would therefore like to acknowledge *the Internet itself* as the emerging superorganismal brain of humanity, one that reasons by rational consensus, that amplifies all of our own individual talents, knowledge, and abilities, granting the least of us a greater reach and command of facts and the arguments of the past than the most brilliant of the pre-1980's modern academics, philosophers, and visionaries.

In this brain, Google is surely its functional core, and Wikipedia its collective, ever-growing, ever-changing, memory, and I would like to thank both of them just for existing. There are undoubtedly many people who have received Nobel Prizes who didn't deserve them, but the creators of the Internet, Google,

and Wikipedia in particular do, as together they have already done more to bring about World Peace in a rational world than the entire Holocene's worth of politicians. The truth will indeed set the world free, given time. The poorest villages in the world, if they have an internet connection and functioning web interface, have immediate access to the knowledge of the world, a circumstance that is creating a quiet revolution already but whose full impact will not be felt for another twenty years, when the generation that grew up with this access comes of age.

I would also like to acknowledge my heavy use of my personal favorite online Bible (and Quran, and Book of Mormon, and more) – the *Skeptics Annotated Bible* website. Every member of the Abrahamic religions *owes it to the ideal of truth* to visit this site, begin with Genesis, and *work their way through* the Bible, the Quran, and the Book of Mormon, reading carefully the annotations and applying their critical faculties to what they read. They should force themselves to read the *collected* absurdities, inconsistencies (places where the Bible contains exact, polar opposites of many of its most popular assertions, so that one can “prove” a thing and its opposite by selective quotation with the greatest of ease), instances of God behaving violently, immorally, cruelly, instances of sexual description and discrimination, contradictions of known science and history, and much more, to get a clear idea of just how *much* of the Bible (and Quran, and Book of Mormon) is *nonsense* by the simple standard of using your common sense and your innate moral sense to judge *it*, rather than applying a dishonest uncritical credulity to its assertions and pretending to “believe” that the impossible is somehow still true.

Whenever writing an article such as this that directly attacks the superstitious belief systems of a large fraction of the world's population, one always risks offending friends or acquaintances (or perfect strangers!) that subscribe to those beliefs and don't like them being called superstitions. All that I can say to these individuals is that in general you do not hesitate to call all of the *other* superstitious belief systems that have been used at

one time or another by their proper name, and so you should not really object so much when your own is called by what it is by somebody else. To many a Christian, a polytheist Hindu is a superstitious peasant, a Wiccan believes in nonsense, an islander that has made a religion out of wrecked world war II planes is an object of ridicule (however politely they might speak in the presence of one). Christian culture speaks openly of Norse and Roman and Greek and Persian and Native American and Indian and ancient Sumerian *mythology*. The same is generally true in the opposite direction as well, of course – the Muslim considers the Christian deluded, the Jew considers Christianity and Islam alike to be complex heresies, the Hindu thinks all three are nonsense, all four of *these* think that you have to be batshit crazy to be a Mormon because it is *obvious* that its “sacred text” is just superstitious fantasy dreamed up by Joseph Smith in a process no different from what we see played out in modern times by prophet wannabes in places named Waco and Jonestown , but without visiting congressmen or the FBI.

Wikipedia, of course, maintains an entire page with a list of Messiah claimants including Koresh, and my personal current favorite, Wayne Bent¹. Is there anyone alive who doesn't realize that nothing separates Wayne Bent from Jesus or any other cult figure of any other time but modern skepticism, one count of criminal sexual contact with a minor and two counts of contributing to the delinquency of a minor?

So lighten up. There is really nothing that separates your own superstitious belief from that of Wayne Bent and his followers but a few hundred years (time for the facts to be lost in the mist of time and obscured by the myths and legends), tradition, and the fact that you were raised to *turn off your critical faculties* when considering your *own* faith, however intact they

¹Obviously, since you are very likely reading this at a computer, you too can look up in a matter of seconds any names or events that aren't familiar with. So google up Wayne Bent, and be sure to read the letters between Bent and his Seven Young Virgins who devoutly want to lie naked with him and be Consummated by the Son of God.

remain for everybody else's.

1 Introduction

It is rare in the history of mankind that an actual theorem has been stated, let alone proven in a satisfactory way, concerning God. This lack of any empirically or rationally provable results has been one of the major stumbling blocks to rational religion, and of course that which is not, or cannot, be made rational remains *irrational* to the great dismay and mutual destruction of humanity.

This document proves, from simple premises and definitions consistent with the more or less standard model of God, an actual theorem concerning God and the Universe² that might be of interest in the eternal conflict between those that allege that God “created” the Universe and those that allege that there is no God and that the Universe didn’t require a creator. It does not resolve the question of whether or not there is a God, but it puts an end rather nicely to the question of whether or not any hypothesized God created a distinct and separate Universe. It is an *ontological* proof, but it avoids the fallacies associated with Anselm’s Ontological Proof of God and doesn’t require an axiom of infinity (although it can tolerate one) and thereby dodges some of the Gödelian Russell paradoxes of set theory as well.

It will become apparent as one studies and understands this theorem that it establishes *strict constraints* on theisms in order for them to be *reasonable* and hence *possible*. It does not address the deeper (and more difficult) issue as to whether or not any of theistic religion is *plausible*, as that requires further assumptions to be made and (as will be described in my book-

²Lest there be any semantic confusion, let us make it clear from the beginning that the word “Universe”, in English, means “everything that exists”. To avoid temporal confusion, we will use the word in a strictly time-independent way, one consistent with the modern concepts of e.g. relativity theory.

If any set of “things” has objective real existence *anywhere, anywhen, anyhow*, it is a part of the Universe. A more complete definition will be given later in the section on the premises of the theorem but this will suffice to avoid misunderstandings in the preliminary sections.

under-construction *Axioms*) these assumptions invariably prove that God exists only by begging the question, by directly or indirectly including the conclusion in the premises. The axioms and definitions used below to prove this theorem, however, are ones that are frankly difficult to disagree with and still use English words in their commonly accepted (and nevertheless carefully defined) way, and do *not* beg the question addressed as the proof requires genuine synthesis from all of the axioms as well as input from various well-founded mathematical theories.

Let me be blunt: **Most theistic religions of the world are not in accord with this theorem and hence are literally impossible.** Because the theorem is based on *reason* (and its axioms are such that they can hardly be challenged and end up with a system of rational knowledge at all) this is simply too bad for those religions. They are *incorrect*. There is not the slightest window left open for them to be correct and have God possess certain key properties that *those religions themselves* ascribe to God. Augustine, Aquinas or Anselm, ardent Christian theists that they were, would have to accept this conclusion even as all of their arguments *for* a Christian theistic “Creator” deity (such as asserting that a God that is real is greater than any imaginary God so that somehow my imagination of God becomes a proof of God) have long since been shown to be fallacious and even somewhat silly as e.g. General Semantics has carefully drawn lines between “things in our imagination” (the map) and “things that have objective existential being” (the territory) where the former is most certainly not identical to or in any sort of logically necessary one to one correspondance with the latter.

As to *why* the theorem proven below has been missed by all of the world’s philosopher, the answer is simple. First of all, it really hasn’t; the assertion itself is the basis for a whole family of the world’s religions³ and a common heresy of many of the

³In particular, the variants of Vedantic Hinduism and Buddhism, to the extent that Buddhism is a religion at all.

newer ones. The assertion played an important role in the Enlightenment of Europe and in the establishment of the United States. It was the directly stated belief of Franklin, Jefferson, Thomas Paine, George Washington, and many other of America's founding fathers and important philosophers around the globe.

The *assertion* has thus been around for a very long time – only the *proof* has been lacking. The proof given below is (as far as I know) unique and has only been possible for the last few decades, and then only accessible to someone with an interest in and knowledge of philosophy, religion, physics, mathematics, and computer science as elements are drawn from all of these disciplines to make the argument.

Second, most philosophical reasoning about God has focused on “proving” or “disproving” God's *existence* using reason, a process that has continued long after Hume's *correct and unassailable* observation that such a proof is impossible – God cannot be proven by (reasonable) inference as finite observations can never suffice to prove the infinite, and God cannot be deduced without begging the question in the axioms used in the proof. The inexorable progress of science in closing the gaps in human knowledge has systematically reduced the empirical plausibility of any model of a God that intervenes in the Universe in detectable ways – there is simply no reliable, systematic body of evidence that suggests that this occurs.

This theorem treats the question of God's existence as being fundamentally unprovable, empirically unsupported, but possibly *true anyway*. This possibility is allowed by and logically consistent with Gödel's theorems, wherein there exist true – or false – but unprovable theorems in any sufficiently complex system of *formal* reason, and of course empirically absence of evidence is not necessary or sufficient evidence of absence, it merely reduces the *plausibility* of the assertion *given* the evidence in a purely Bayesian sense, especially given competing explanations that *are* well supported and leave little room.

To deliberately avoid being bogged down in the mire, then,

the assertion proven below is a simple *conditional* statement – if God exists, *then* certain conclusions can be drawn concerning Its nature. No attempt is made to use these conclusions in *reductio ad absurdem* to prove or disprove the condition because post-Hume we know *a priori* that this is impossible. The conditional theorem thus proven leaves the possibility of rational belief (in God) in perfect balance with rational disbelief as being one of the questions that cannot be answered with certainty by any finite being, while *strongly constraining* the set of admissible consistent theistic systems contingent upon axiomatically asserted belief.

Why should we bother to state and prove such an obviously “dangerous” theorem in a world already pulled apart by religious conflict? On a daily basis individuals commit murder and acts of war in the name of their favorite brand of supposedly divinely inspired perfectly true theistic scripture. This theorem proves that the detailed descriptions of the properties assigned to God in these scriptures to be not merely unlikely, not merely unsupported by positive evidence and contradicted by much negative evidence, they are *a priori impossible*. They assert one property in particular – the assertion of an essential dualism between a “standard model” God and Everything Else – that is essentially self-contradictory.

One can prove *anything* from inconsistent axioms, from a contradiction, and so it has proven throughout human history where every possible variant of human faith has spoken of God’s love and in the same breath asserted God’s wrath, has spoken of God’s perfect justice and followed it up with a description of God’s supposed actions that *any child* could see are perfectly unjust, has spoken of God’s desire for peace and goodwill and followed it with war, persecution, torture, murder, slavery, greed all in the name of that God. While religion can be a source of good, it is all too often a source of *genuine evil* in the world as people fight over a vision of deity that is now *demonstrably false*.

It is a fundamental and empirically supported belief of the author of this work that the world is ill-served by unreason, by deliberate self-delusion on the part of each and every hu-

man alive. Humans cannot, through the empirical process or for that matter through pure logic, arrive at *perfect, unconditional* knowledge of *any* truth – we simply build the best, most consistent web of *provisional* knowledge that the evidence of our senses and common sense can manage. We quite literally *should* believe that which it is *best* to self-consistently believe, *given the unbiased evidence and the rest of the interlocking network of beliefs*. This is precisely the basis of the scientific worldview, which is infinitely open-minded about non-contradictory assertions, but which requires *sound reasons* and *consistency with other soundly held beliefs* in order to assign any significant *probability* or *plausibility* to an assertion.

It is not the basis of scriptural theistic religions, which positively *thrive* on anecdotally reported *implausible* assertion after assertion in their myths, legends, creeds and tenets. Yet because these theisms admit *pure magic* as a causal agency in the Universe – basically anything at all can happen merely because God wills it so – *no possible contradiction between their myths, however absurd, and science will suffice to convince them that their core mythology and derived creed is false!* For that reason a proof that demonstrates a *logical* inconsistency is infinitely precious.

The world is just completing the first of the revolutions begun with the Enlightenment. The Age of Kings is over, and freedom from individual or hegemonic rule to a greater or lesser extent is now nearly universal around the world. Never before have the people of the world been more free to shape the mutual destiny of humanity in constructive ways, guided by human reason. The second revolution is well underway – the liberation of the human species from literal belief, enforced by threats and extortion, in complex Bronze Age mythologies that distort the worldview and judgement of all their adherents and that today are very nearly the *only* significant cause of large scale human misery outside of impersonal natural disasters and the equally natural accidents of life. Given all of the evidence of falsehoods in their theistic scriptures *plus* the proof that their core belief system isn't just contradicted by evidence, it is *logically impos-*

sible, perhaps the world can at last carry this revolution through to a bloodless conclusion, by simply convincing a single generation of to *reject* the inconsistent and demonstrably false scriptural theisms of their parents and/or society in favor of any of the beliefs systems that are consistent with the theorem below: atheism, pandeism, a modern secular Buddhism, scientific rationalism.

None of these worldviews have a *salvation* meme or a *damnation* meme. They leave humanity free to decide its own destiny without any threat but ourselves and nature. If anything, they obligate good and socially constructive behavior *more strongly* than any of the theisms, because *The Good* is no longer defined to be “believing what this scripture tells you to believe because of its great authority”, it is “believing what makes the most sense”. It is *pure common sense* for all enlightened secular humans to seek a peaceful and safe world, to engineer a world that maximizes fairness and personal human freedom, that provides challenges for those endowed with greater abilities and protections for those unfortunate enough to have lesser ones.

To make this point inescapably clear, the next section is a strong argument – a veritable *polemic* – against authority-based scriptural theisms in general, those of the Abrahamic faiths (which are largely responsible for the remaining upheaval and war in the world) in particular.

2 A Purely Gratuitous Polemic Against Theism

Since the Enlightenment and the invention of observational science, theistic scriptural mythology has been in decline. Theistic scriptures have had their supposedly divinely inspired basis stripped away by the unrelenting contradiction of their creation mythology, their historical legends, their morality, and their “science” by the modern “scientific worldview” that results from examining nature itself with an unbiased eye, by the systematic

study of history and archeology, by their deep and unreconcilable conflict with secular morality.

Nowhere is this conflict more glaringly apparent than in the various scriptural texts of the Abrahamic religions (Judaism, Christianity, Islam) – Vedantic Hinduism is organized monistic pandeism and acknowledges up front that its scriptures *are* myths and legends to be mined for parabolic insight, not “divinely inspired truth”, and Buddhism isn’t a religion, it is an essentially atheistic psychosocial philosophy that unfortunately incorporates some of the religious cosmology of Vedic Hinduism, in particular the notion of serial reincarnation, that is probably false. For this reason this gratuitous polemic will focus on the Abrahamic faiths, as they are the ones that seem perfectly capable of inspiring their adherents to commit horrific acts – suicide bombing, crusading wars, unrepentant murder in broad daylight, torture, maiming, and much more – all *in the name of God* as described in their scriptural mythology.

We begin at the beginning, with Genesis, a book common to *all* the Abrahamic faiths, a book that is *essential* to the rationale of salvation put forth in Christianity, a book that has been shown to be nearly pure myth – false from cover to cover. The creation sequence it describes is not only false but absurd, with flowering trees and plants preceding the sun and the moon and the stars, with the moon glowing with its own light, with the sky a solid bowl (“firmament”) that bounds the seas upon which the earth floats and through which rain is poured. The flood myth could only have been written by superstitious bronze age shamans who were completely unaware of the diversity and number of species and who were unable to do *simple arithmetic*, and forever after has been an enormous problem for Biblical literalists and apologists who do not want to face the fact that the Genesis is manifestly false and contradicted by mere common sense and numbers even *before* one considers things like radiometric dating, the fossil record, and a few moments spent looking through the eyes of the Hubble.

In case some literalists are reading this (and have not already

turned away lest they be tempted into disbelief) let's run just one set of purely common sense numbers and consider the flood: Mount Everest is roughly 360,000 inches high. There are roughly 60,000 minutes in forty days and nights. Allowing for the rest of the land mass, it would have had to rain at least *five inches a minute on every square meter of the planet* to flood the earth to the top of Everest, diluting the salinity of the oceans with (4.6×10^{18} cubic meters of fresh water compared to 1.3×10^{18} cubic meters of ocean) by more than a factor of four.

Rooted plant species (fresh or salt water) within a 100 meters of sea level (which is the vast majority of them) would be at the bottom of a water column roughly 9000 meters high, and would therefore be subjected to roughly *900 atmospheres of pressure*. First the freshwater plants would be subjected to an osmolar insult as they are immersed in salt water (even dilute salt water is too salty for most land plants) and left there for months (literally pickling them). Second the *saltwater* plants and *all oceanic animal species* are subjected to an osmolar insult as they are submerged in water only less than 1/4 as saline as they are evolved to tolerate and left there for months (indeed, it is obviously impossible for the salt water salinity to have ever been restored without the miraculous removal of the water completely off of the planet earth). Sessile and bottom-dwelling animal species such as corals, mussels, sea snails, reef fish – would find their habitats completely disrupted, their cell chemistry broken down, their oxygen supply shut off, the temperature outside of their range of survivability. The arctic polar caps would, of course, melt.

Any one of these insults would suffice to kill every single member of most land or oceanic species of animal *or* plant on the spot, so presumably they would *all* have to be accomodated on the ark. Even the relatively few animals, birds, or reptiles that live on the surface of the oceans require air to breathe and would be unable to fly or rest on the ocean's surface, unable to sleep and breathe in a five-inch-a-minute rain. Bear in mind that the current *world record rate of rainfall* is a mere twelve inches

of rain in 42 minutes in Holt, Missouri – a bit over a quarter an inch a minute – this is twenty times higher and is *inescapable*, falling at this rate *everywhere*.

A reasonable estimate for the number of species that would almost certainly have been exterminated, including, for example, all mammals, nearly all rooted plants, all saltwater fish, all birds, all sessile ocean or lake species, all freshwater fish, all reptiles except *maybe* e.g. saltwater turtles, all amphibians, all arthropods) conservatively number at least a million, possibly as many as ten million, as we're still *discovering* new species at a fairly good clip. Merely *collecting* a breeding population of all of these species has proven beyond the abilities of hundreds of thousands of modern scientists travelling by means both ancient and modern to all parts of the globe, bearing in mind (for example) poison dart frogs that are fatal to carelessly handle and that live out their lives inside the water trapped inside bromeliads growing high in the canopy of Amazonian rain forests. Yet Noah had to not only collect them in a single lifetime, travelling not only to the new world but to nearly every single island in e.g. the South Pacific where unique species are to be found, but then to *load* them all into a Wal-Mart sized *wooden boat*.

Of course most of these species are evolved to survive in very specific ecological niches – you can't just throw them into a basket, a crate, or a cage and leave them for a couple of months in the near-desert (Mediterranean) middle eastern environment and expect them to survive. They require air conditioning, heating, humidity, refrigeration, ventilation, special food, delicate handling, water with just the right chemistry, and a veterinarian or zookeeper familiar with all of these needs and capable of maintaining them and dealing with problems. Many have a life cycle far *shorter* than 40 days and would require an entire mini-ecology that accomodated their increase during the trip. Polar bears and penguins would not survive two months at tropical temperatures; cacti would not survive two months in 100% humid air, and *all* of the animals would require actively driven ventilation simply to avoid expiring in their own waste carbon

dioxide. None of this technology or knowledge was available to Noah, and building a simple zoo with artificial ecosystems capable of keeping a breeding population of every earth species alive for two months is impossible *now* with electricity, refrigeration and air conditioning, and a full knowledge of chemistry, biology, and animal medicine. It is safe to say that it is completely absurd to imagine that Noah could have managed it, especially with the *tiny window* for ventilation the Bible gives the ark.

Then there is the loading problem. If Noah (and his sons) were *very* sprightly and energetic, and loaded a new species and their food and physical environment every *two minutes* working 24x7, it would take them at least a year – hardly a day – to load the ark (and during the loading, all of those species both *inside* the ark as well as *outside* waiting in line have to be kept alive). The preferred “out” for literalists is the assertion that God caused all of the species to come to the ark on their own, creating a rather hilarious view of poison dart frogs hopping along the damp, damp Amazon rain forest canopy, then swimming across the salty salty sea, making their way across the dry dry desert, all arriving on just one day to stand in line with a bit of coral from a south pacific atoll and a couple of sea anemones for its turn at loading. Right.

Not to worry, the problem doesn't go away, not even if God *hand* delivered them *preloaded* onto the ark. Once loaded, Noah and his sons would have at most *four or five seconds per species* to feed and water all of these species, many of them highly delicate and susceptible to disease, check them to see if they need medical care, and remove their excrement or otherwise service their environments a *single time* over 40 days, a rate that would necessarily *persist* until the ecologies were rebuilt back in their native habitats. For some animals, a food supply alone sufficient to last until natural food could once again be obtained post-flood would occupy far greater volume than the animal itself, and in the case of the high metabolism carnivores the food supply would itself need a food supply in far greater numbers than the Bible indicates.

Now, just where did breeding populations (which invariably is *far* more than a mere 1 to 7 pairs of animals, whatever the Bible might say) of all of the species go? Allowing for an ark that is a full 200 meters long, 100 meters wide, and 40 meters high (in every instance larger than biblical literalists suggest, although completely absurd from the point of view of engineering actual wooden ships capable of withstanding the turbulent storm associated with the thermodynamics of a five-inch-a-minute rain that was *not* simply poured through the windows of a solid firmament from “heaven”) the ark contains less than a million cubic meters – online Bible literalist sites often cite about half of this. This volume has to hold all of the 1-2 million animals and plants species *in suitable environments*, including (for example) a full set of saltwater aquariums for saltwater species that cannot tolerate water with 1/4 the amount of salt that they are evolved for, each at a suitable temperature and with only fish and sessile creatures that can survive living together without killing one another, a full set of freshwater aquariums ditto, a dessicated section where cacti and desert animals can survive the crushing humidity, a refrigerated environment for penguins and polar bears, alkaline pools to hold plants and animals evolved to live in narrow ecological niches in e.g. Death Valley, a set of high pressure aquariums in which to keep fish and plants from the deep ocean trenches that cannot survive outside of a narrow pressure range and that die when brought to the surface. Go to the zoo of your choice and *seriously* try to imagine moving that into a Wal Mart, bearing in mind that the biggest and best zoos in existence only have a *trivial fraction* of all Flood-susceptible species present.

One way or another, all of these species, their local ecology, their food supply, access aisles and flooring capable of holding up tons of weight per square meter, forced air ventilation that can extract air from a five-inch-a-minute rain in sufficient quantity to keep everything breathing and exhaust all of their metabolic heat energy from the de facto insulation in the form of all the other animals surrounding them, lights (don't want to go in

there and feed the mambas in the dark, do we), heating and/or cooling apparatus all has to be packed into a volume of strictly *less than a half of a cubic meter per animal*. Ouch!

Then there is the simple violation of mass-energy conservation associated with the covering of the earth with a six-mile thick layer of fresh water (diluting the salinity of the ocean by a factor of four as noted), requiring the release of roughly 1×10^{29} Joules of heat of vaporization “somewhere” in the process, followed by the magical *disappearance* of all of this water afterwards – leaving the salt miraculously *only back in the ocean* – as on a solid sphere *there is no place for it to drain to* whatever the Bible might claim and of course there is no trace of it today and if it simply evaporated (to nowhere) it would have left the salt behind *everywhere*.

It really does seem as though it would have been *a whole lot simpler* for God to simply poof all of the *people* that were annoying him out of existence (given that he could make all of this water just vanish) and leave all of the poor plants and animals and Noah’s *alone*. One day Noah wakes up and look! His family is the only set of surviving humans! Time for some more good healthy *incest*, of course, and it’s truly *amazing* that human variations such as pigmies and aboriginal Australians and so on had time to *evolve* from this one family given a mere 6000 years or so from complete racial homogeneity in the form of a single family that miraculously avoided the problems of inbreeding from too small a starting population (as did all of those animals).

There is one final arithmetic puzzle to work out. How in the world did the Galapagos tortoises (for example) get back to the Galapagos? How is it that only new world plants and animals went to the new world, old world plants and animals to the old world, the little rainforest frogs made it bad to their dead, pickled and crushed bromeliads in the tops of their dead rain forest trees in time to have a crop of little poison dart frog babies that had enough to eat in the form of still *other* stuff that had to have been on the ark and used to carefully build full

ecologies *right back up* to where they were before, as the fossil record has no break in continuity? Whatever problem we had with loading the ark or caring for the species on the ark in real time are *dwarfed* by the problem of just how Noah – alone and starving in a post-apocalyptic world and having trouble with his sons uncovering his nakedness – in a mere three hundred years managed to get *all the animals* back *exactly where they belong* before the air conditioning and bronze age ice machines broke down, before the lions, tigers and bears managed to eat all of the deer, all of the cows, pretty much all of the prey animals as their appetite vastly exceeds the rate at which these animals reproduce (which is why there is only *one tiger* in many, many square miles of jungle living off of the prey animals there, in ecological equilibrium). The odds of Noah being able to do this – imagine the papyrus spreadsheet required just to *keep track of* where all of these species belong and all of their ecological requirements, a body of knowledge that *alone* would damn near fill the ark – are very, very small. Teensy. Miniscule. Call them zero – this is absurd.

Genesis apologists, of course, simply ignore the actual numbers and make up their own, shrugging their shoulders and invoking a miracle whenever even *their* overheated imaginations cannot make them work out. The simple fact of the matter, however, is that *this story is absurd!* It violates *every precept of common sense* on the basis of the *simple arithmetic* involved. An ark this size (with its truly tiny ventilation window) might have sufficed to hold the few dozen domesticated and wild species that immediately came to the minds of the *humans* who adopted this variation of an existing Sumerian flood myth into their own mythology – it was sufficiently reasonable for the day and established from the beginning that the God of the Hebrew offshoot of the Sumerian civilization could kick butt and take names compared to e.g. Innana.

However, we *now* know that rain falls from clouds and not through a solid bowl of sky, that mass-energy is conserved, that the earth is round and contains vast numbers of species that

evolved to live in very specific ecological niches, that the highest mountain is nearly nine kilometers above sea level, that salinity of water varies according to its freshwater dilution, that water pressure increases roughly one atmosphere per ten meters of depth and that animals and plants evolved to live in a particular pressure range usually die when taken out of that range as all sorts of cell chemistry stops working correctly, that arctic animals evolved to live in cold climates *exist* that couldn't possibly survive an unrefrigerated trip to the desert, that the world is not flat and that animals live in continents and islands that are completely disconnected from Noah's presumed Sumerian location by thousands of miles of shark-and-storm filled saltwater ocean that poison dart frogs, finches, Galapagos tortoises, and a few hundred thousand more plant and animal species could never have crossed to arrive at Noah's ark on a "single day". The authors of this story did *not*.

It hence becomes infinitely implausible. Apologists shouldn't even bother *trying* to use reason to argue that it *is* somehow plausible; they might as well just fall back on *raw magic* – a purely supernatural miracle. God reached down with his invisible hand and went 'poof', and the ark was filled. In fact, he probably created a dimensional warp so that the inside of the ark was vastly larger than the outside, large enough for all of the animal environments. Those environments, of course, were perfectly supported by electrical equipment and machinery (or just God's Naked Will keeping the polar bears cool and the desert cacti dry and the rain forest frogs fed) – or perhaps he just turned the interior of the ark into a giant freezer set at absolute zero, flash froze all of the animals, and stuffed them in. There is *always* a *possible* way for the most absurd of assertions to be true as long as one is willing to admit pure magic as a solution. Afterwards, God magically returned all of the animals and plants to their ecological niches – if he brought them by magic, he could put them back by magic – and arranged for them to eat magically generated manna and to miraculously manage to rebuild their species from too small a gene pool by magically

manipulating their genes so unlikely things happened. After all, that is how he magically *created* everything from nothing in the first place – using his awesome God Magic! What is surprising about that!

This, of course, sounds rather like a science fiction story or fantasy, not like a credible description of the real world. Noah's ark is possible only if *everything we think we know about our world is false* because we *never* observe magic in the operation of the real world when we look carefully. In fact, it appears to obey *absolute physical laws* that are quite literally *never broken!* Only if we live in a *whimsical* world where at any minute absolutely anything can happen is this sort of thing plausible. It is quantitatively more likely that a shattered piece of glass will rise up off of the floor and reassemble itself into an unbroken whole, that an omelet will somehow slide out of the pan once again an egg, than the mythology of the Flood be true.

At the same time that science has provided devastating blows to the Bible's scientific credibility (and this is only a single example – it is rare that the Bible gets *any* science correct) the Bible's has had its *historical* inconsistency exposed by careful archeological and historical research that has revealed that many of the events that are supposedly “perfectly” represented never took place, many of the places represented never existed, many event are presented more than once with contradictions between them *independent* of historical evidence for either one. Moving on from the Old Testament (tempting as it as as a common text to all the Abrahamic faiths) to the New, we consider a single example: it is *impossible* to reconcile the two supposedly historical accounts of the Nativity presented in Matthew and Luke. The accounts are separated by at least a decade in time (two different Herods, Herod the Great and Herod Antipas) and an entirely distinct series of events (an unrecorded slaughter of innocents, a flight to Egypt versus going home unconcerned and visiting Jerusalem – home of Herod Antipas at the time – every

year)⁴.

Of course, how would the authors of these gospels (whoever they really were) have *known* all of these contradictory details, anyway? They were not eyewitnesses – there *were* no surviving eyewitnesses by the time that they wrote. They were writing at the very least decades after the historical Jesus (supposing that such a man actually existed) died, some sixty to ninety years after the events in question, in an age where humans rarely lived to reach fifty and almost never reached the eighty to ninety years of age necessary to bear adult witness circa 70 CE to events that occurred circa 6 BCE to 8 CE (depending on whether you prefer Matthew or Luke). Is it any wonder they report two completely distinct legends, neither of them particularly plausible? They are both some unknowable mix of myth (whole-cloth fiction) and legend (fiction with perhaps some small basis in historical reality) – all we can be certain of is that they cannot *both* be true and therefore they stand as a concrete proof by contradiction to any assertion that the New Testament is divinely inspired perfect truth, or even a less taxing mundane but merely *accurate* eyewitness accounting of the events its books claim to describe.

Of course there are many contradictions with scientific fact in the Gospels, easily sufficient proof that Jesus lacked preternatural knowledge and hence was no prophet. Jesus asserts that from the beginning of creation God made humans (and animals) male and female, confounded by the radiometrically dated fossil record, observational cosmological and physical evidence, and common sense. Epilepsy is (not) caused by devils. Illness is (not) caused by Satan – it is caused by bacteria, viruses, and genetic accidents. The story of Noah's ark is (not!) literally true. People are (not) crippled by God as a punishment for sin. No good person could ever have been blinded by a *just* God simply to give Jesus the opportunity to work a miracle by restoring their sight. People who cannot speak are (not) possessed by

⁴The author is grateful to Richard Carrier and this article for this argument, which he makes http://www.infidels.org/library/modern/richard_carrier/quirinius.html

devils. In the end days the moon will (not) cease to give its light (it never did) and the stars will (not) fall from the solid bowl of the sky (as it isn't).

Finally, the theistic scriptures of the three Abrahamic faiths are all rather obviously *morally* imperfect and are so full of pure contradiction that the discernment of “truth” therein requires an exercise in apologist hermeneutics that a more objective (and skeptical) soul would call mere cherrypicking and creative interpretation. Many, many verses state or show by example that proposition *A* is divine will and perfect truth where other verses state that *not A* is divine will and perfect truth. As any student of logic knows, *any proposition can be proven* given contradictory axioms, and over the centuries nearly every moral proposition *has* been “proven” with full scriptural support.

It is quite simple to select verses or stories that present as moral, God-commanded examples (that we should presumably emulate) actions such as war, brutal murder, infanticide, and genocide; the ownership and abuse of slaves; the subjugation and sexual abuse of women; and the death penalty for freedom of thought (for example, daring to question the perfect truth of the scriptural theisms themselves) and far more.

Nearly every chapter of the Quran describes the punishments God will inflict on the unbeliever – it adopts the extortion meme invented primarily in the New Testament and perfects it. It describes in sickening detail the skin of a nonbeliever being burned off by God, then regrown just so it can be burned off again, for eternity. It treats women as chattel instead of equals, permitting their male owners (in the form of father, brother, husband, son) to commit horrific crimes by modern standards on their personal whim. Infinite punishment is infinitely unjust for any finite crime, especially the *entirely reasonable* one of apostasy or disbelief due to the lack of any *evidence* supporting the absurd claims of the Abrahamic theistic scriptures.

Jesus himself threatens his followers with eternal torment, tells his followers repeatedly to “tell no one” of the miracles he works (guess *that* one didn't happen), tells his apostles that

he makes his parables deliberately confusing so that most people will not understand them and thereby be saved – hardly the actions of a just, loving superbeing capable of arranging the Universe and planning every event therein who presumably *wants* to not torture all the *unsaved* for eternity. In case this isn't enough, Paul makes the sad truth quite clear. Those who are saved aren't saved by good works or by simply accepting Jesus. They are saved because they were tagged for salvation by Jesus back when he created the Universe. All of the damned are *similarly* predestined for damnation:

God shall send them strong delusion, that they should believe a lie: That they all might be damned.

2 Th.2:11-12

Paul reveals that humans are not damned because they are tempted by Satan. They are damned because they are deliberately deluded by the will of Jesus (who is God), induced to believe a lie.

However, if you feel ill-used by being born blind just so that Jesus can heal your blindness using his patented mix of God-spit and filthy dirt, if you object to being predestined for damnation back when time began, don't complain to Jesus/God about it:

Therefore hath he mercy on whom he will have mercy, and whom he will he hardeneth. Thou wilt say then unto me, Why doth he yet find fault? For who hath resisted his will? Nay but, O man, who art thou that repliest against God? Shall the thing formed say to him that formed it, Why hast thou made me thus? Hath not the potter power over the clay, of the same lump to make one vessel unto honour, and another unto dishonour? What if God, willing to shew his wrath, and to make his power known, endured with much longsuffering the vessels of wrath fitted to destruction: And that he might make known the riches of his glory on the vessels of mercy, which he

had afore prepared unto glory...

Romans 9:18-23

Clearly there is no point in whining about being damned or in feeling special about being saved – it 's all just Jesus's irresistible will being worked out in either case. Jesus makes some human vessels all pretty intending to put them on an eternal shelf, and other human vessels he made ugly just so that he can smash them and thereby demonstrate his awesome power.

This leads to an irresistible vision of *God, that supposedly omnipotent omniscient omnibeneficent creator of the Cosmos* as a twelve-year old boy in the back yard, playing G.I. Joe versus Cobra, making the Joe dolls⁵ and the Cobra dolls fight, picking winners and losers, Joe in the right hand, Cobra in the left hand, bam, kapow. When he gets bored collects all of the dolls he *likes best* – which may well include some of the really cool Cobra dolls, God likes what God likes and no *doll* is gonna call him on it – and lines them up to have a victory celebration with him. All the rest he douses with gasoline, sticks a bunch of firecrackers and wreaks other various insults onto their persons, dumps them onto the backyard grill and *lights them on fire* just to watch them blow up⁶.

⁵I mean “action figures”...

⁶Seriously. In an informal survey, some 80 or 90% of all young men who ever played with these particular dol- ahem, I mean “action figures” stretching all the way back to the 60's, if pressed, will admit to dousing at least one AF with gasoline and blowing it up with firecrackers sometime between the ages of nine and thirteen. Younger than that, they're unlikely to have access to either one. Much older than that, they no longer care and besides, their Joes and Cobra Commanders all got blown up when they were younger! In that narrow window of opportunity, however, the temptation to stage a *real* war with action figures is apparently just irresistible.

Sure, I'm male – I'll come clean and admit that I did it (along with literally all of my friends often in the course of whole-neighborhood Joe wars). The rest of you, you know who you are, stop pretending!

Nowadays, of course, this may no longer be true, because kids go online and simply blow *each other* up in virtual reality in games like *Call of Duty*. These games do, however, have an important lesson that games with dolls lacked. The mean survival time of players in most tries is somewhere in the

This is a sorry example of morality, one where even my writing of these words isn't an expression of my own thoughts or free will, it is merely me being a faithful lump of clay. Even if Jesus really *was* an actual person (there is some doubt brought about by a complete lack of contemporaneous corroborative evidence *outside of* the obviously biased third-hand and repeatedly redacted manuscript evidence of the Gospels themselves and a single offhand line in Josephus that could easily have been an insertion due to e.g. Eusebius) and really *is* God, he or his contemporary followers can hardly *blame* me for being deluded by the "lie" of a complete lack of evidence and the theorem proven later in this paper – I'm doing what he created me to do, "he hardeneth" my beliefs through the direct action of his will!

The Old Testament, common to all of these faiths, is morally just plain terrible. Numbers 21, for example, portrays the extermination and looting of the Amorites by Moses (who was, recall, a *good man* – a Saint and Patriarch of all Abrahamic faiths) just because they quite reasonably objected to giving the Israelites free passage across their land. What would happen to me if I wanted to walk across my neighbor's yard (even for a good reason) and my neighbor said no, and my response was to get out a shotgun and blow him away and steal his house and everything in it? Would I, too, become a Saint and Patriarch in the eyes of the world? Numbers 31 is even more horrific, portraying genocide, homicide, infanticide, robbery, and the slavery and inevitable rape of virgin female slaves by their soldier-captors on a *grand scale as being commanded by God* through his mouthpiece,

ballpark of one to two minutes. No matter how carefully you play, there are too many places and ways somebody on the other side can – and does – kill you with a gun, a bomb, a grenade, even a tactical nuclear weapon. In the natural course of events, they teach all of the players one very important truth: your probability of survival unmaimed in a *real* up-close and personal ambush or firefight is basically very, very low, no matter how good you are, no matter how lucky.

It may well be that MMRPG war games in which no one *ever wins* because the game *never ends* may bring about *world peace in a generation* where two thousand years of abstract moral instruction failed...

Moses and carried out by the land- and loot-hungry soldiers of the Israelites.

It is very difficult to perform the mental gymnastics required to somehow transform any of these into *perfectly good actions*, moral examples that we should emulate (although nothing is beyond an apologist in any of these faiths who holds the Bible, or the Quran, to be inerrant – there is no scriptural law, commandment, or event so wicked and base on the surface that they cannot transform into fool’s gold using the philosopher’s stone of “perfect faith” and inverted reasoning). At the very least even those apologists eventually must agree that we *now* hold all of these things to be highly *immoral*, and when *modern* armies conduct a war in this way – as they have, and continue to do – we call them cruel, wicked and evil. It is difficult to accept as exemplary morality *any* text that portrays slaughtering babies by spitting them on swords in front of their dying mothers as a good thing, and yet this sort of thing is commonplace in *many* of the theistic scriptural myths and legends that persist today as the basis of modern religions.

For many people, these inconsistencies are enough to demonstrate that at the very least, documents such as the Bible are not perfect truth *or* exemplary morality and that we consequently cannot study them and “interpret” them as if they are⁷. Instead of being “divinely inspired”, they are simply documents written

⁷If Satan is the father of lies, *hermeneutics* – the *science* of lies – is the *mother*. According to the sound principles of hermeneutics, no written scripture ever means what it says, and no interpretation the scripture is ever given, however violently that interpretation is enforced for a century or three, cannot be further shifted into something else entirely if the interpretation turns out to be incorrect or morally repugnant – again. Today Genesis is literal truth. Tomorrow (once it is positively proven to be a myth) is *poetry*, it is *figurative* truth. Once the poetry is shown to be horrible and wicked, falsely portraying man as a fallen being where in fact he is merely evolved and hence “unfinished”, it shifts somewhere else, perhaps it is a secret code, perhaps it is “metaphor” for the human condition or life cycle.

The one thing Christian hermeneutics and exegesis will never, ever do, however, is to conclude “Wow, this whole book is a bunch of baloney. I’ll bet hardly any of this ever happened. It makes no sense at all.”

by men, filled with myths, legends, stories, lies, and all the other imperfect desiderata of the human condition, corrupted by thousands of years of manuscript transmission and redaction, and we have to use reason and a moral sense derived *independent* of the theistic scriptures in order to judge those scriptures and separate out the real gold from all of the dross. However, even such a skeptical view of the scriptures admits a narrow window of possibility that their *basic* portrayal of God, however distorted by the authors and oral transmitters and manuscript recopyists and redactors deliberate and accidental over the centuries and millennia since their inception, is essentially accurate.

In particular, the lack of a *single actual constructive theorem* concerning God leaves open a window of possibility that it isn't actually impossible for your choice of scriptural theism to be *basically* correct even though perhaps the transmission of this *essential* truth has been corrupted by recording errors or errors in transmission, the incorporation of various myths, parts that we should accept as *figurative*, not literal truth. Leaving aside the obvious difficulty with this – if God at one time took the trouble to transmit perfect truths to the ancients back when writing was still brand new, it seems odd that God wouldn't take the trouble to somehow ensure its accurate recording and perfect retransmission over the ages or better yet, arrange a *recommunication of His tenets in modern times* where we have the ability to *perfectly* record and test the event and message – it is certainly the case that because they cannot be *logically proven* to be incorrect, a large class of the citizens of the world continue to hold to them.

Most do so by rejecting instead the principles and conclusions of *science* when they conflict with the divine pronouncements of the theisms, but many otherwise rational people hold onto them by “juggling” science and theistic belief in their minds. For example, even the *Catholic Church* now acknowledges that Genesis is poetry and myth, that it does not describe the actual physical process whereby the world of our experience came to be as it is. It formally accepts the experimental evidence for the Big Bang

and that we evolved through a process of reproduction with mutation plus natural selection, as revealed by the radiometrically dated, consistent, fossil record and with genetic studies of modern species that are entirely consistent with this process and are highly explanatory.

The Catholic Church is therefore at this point a *heresy by its own prior standards*, standards that persisted over nearly two thousand years, standards that would have the current Pope a de facto excommunicant of the Pope of a hundred years ago. For most of the history of the Christian church, modern Christians would have been imprisoned, hung, burned at the stake, tortured, or exiled and ostracized for rejecting Genesis and its stories of the direct creation of the Universe over six days culminating in Adam and Eve in Eden, the literal truth of the Temptation, the doctrine of Original Sin, the myth of the Flood, and all the other nonsense – with the full participation and agreement of the Christian church of those times. Those who think otherwise are encourage to study *Saint* Bellarmine’s infamous letter to Galileo and the details of his prosecution and conviction, his forced recanting and withdrawal of his works, and his house arrest for the rest of his life as an *alternative* to being tortured and burned alive after being excommunicated – and this for the “sin” of doubting the literal truth of the Biblical passages which *clearly state* that the sun goes around the earth and not the other way around.

By that standard, the most vehement Biblical literalist is a heretic today, because Galileo turned out to be correct and *everybody knows it*.

All but the most superstitious members in the rank and file or top hierarchy of the principle Abrahamic theisms now de facto or de jure acknowledge that the Bible is not perfect truth and can be doubted, since “doubt” in the Book of Genesis and geocentric Biblical cosmology has long since proceeded to certainty *beyond* any reasonable doubt that it is *false*. These globally dominant theisms have opted to accept the conclusions of reason (at least where they are more or less forced to by the *tremendous power*

of scientific truth inferred from actual evidence instead of divine revelation) instead of rejecting reason itself where it conflicts with the Bible. This is to be applauded as a very good first step. They have formally recognized that *if* a scripture-based religion is to be accepted somehow as perfect truth, it helps not to incorporate and stand by scriptural claims that *any six year old in modern society who hasn't been brainwashed by overzealous theistic parents* could tell you are lies and myths. One trip to one good museum of natural history, one week spent watching the science or discovery or comedy or history channels is all it takes.

However, instead of performing the obvious *next* step of doubting the divine origin and supernatural claims of *all* of the Old Testament, *all* of the divine claims of the New Testament (where its credibility is substantially diminished by the known falsehoods in the Old Testament – Jesus, for example, is portrayed as explicitly believing that the Flood myth is true, hardly possible for God incarnate and in possession of preternatural knowledge of all things), *all* of the divine claims of the Quran or the Book of Mormon and inevitably *dissolving* these theistic religions on the basis that – given their miserable track record where their claims can be checked – they are all rather dubious and unlikely to be true where they *cannot* so easily be checked, the Abrahamic faiths have fallen back onto a *smaller* set of “perfect truths” that are still held to be divinely inspired, ones that it presumes will not be so easily contradicted by reason or the historical process. They have opted for a process of gradual decurtion as science and history and reason nibble away on the edges of this “reduced” scripture, betting that the process will leave it with an unassailable core within which its essential assertions of a (possibly triune) creator of the Universe that communicated *some* revelations by means of divine inspiration or angelic intervention are safe, so that the “light” of these reduced scriptures can continue to shine through the window of at least *possibility*, if

not probability, a gap that can continue to be bridged by faith⁸. In particular, the Old Testament is now widely viewed as being shaky and difficult to defend (although it is still there to be cherrypicked at will, or for its prophecies and historical statements to be “interpreted” as needed). Still, all or part of the *New Testament*, the *Quran*, the *Book of Mormon* are (for these religions) still divinely inspired perfect truth.

This window is now *closed*. The theorem proven below is completely inconsistent with the Abrahamic theisms. Of course, this theorem (even if widely accepted as being derived in a valid way from axioms that are accepted as true) won’t make them all disappear overnight, and perhaps it shouldn’t. As critics of this work will no doubt be quick to point out, the very same theisms that have wrought and continue to wreak much *evil* – usually by defending their indefensible core scripture with fire and sword, by defending their own considerable secular power, by looting much wealth from the pockets of their “believers” for wicked and self-serving purposes – have also contributed much good. For good and for ill, theisms manifestly supply a human need and there is evidence that there are brain structures associated with “religious feeling”. Religious theism provides a framework for much of that which makes us human, and most religions have at least *part* of their morality in common and in common with the secular morality that has emerged in countries like the United States, not from divine revelation but from a well-reasoned attempt to build a safe and equitable society.

The world’s biggest problem all along has been the *lack of critical thinking* where religions are concerned. Only a handful of religions, notably the Quakers and Universalists in the United States, reject scriptural theism itself while retaining belief in a vision of God that is rather consistent with the theorem proven below, calling on humans to *use* their reason and *listen* to their own heart rather than take as “truth” the dusty and wicked sto-

⁸Defined in this context as “Believing something for no good reason at all, believing something for *actively bad* reasons, reasons that should convince you that the *opposite* thing is true.”

ries told in ancient epics and continually rewritten not to glorify God or seek “the good”, but to solidify the degree of control they exert over their adherents. These “reasonable” religions still provide a meeting place where marrying and burying can occur, where neighbors can meet in fellowship, where people can get together and learn from each other what is the good and what is the bad and to do good things. Once *the bad* in scriptural theism is rejected on logical and reasonable grounds (which will include nearly the whole ball of wax, for most of the world’s scriptural theisms) it opens the door for human society to deliberately construct a religious view that does *not* directly contradict natural science or rely on any sort of scripture, one with an ethical basis and fundamental beliefs concerning the origin and nature of the Universe that can be *shared* by the purely secular atheist and those that continue to believe in God without any serious conflict.

When something is *true* it is true for reasons other than “it was written”, especially when it was written long ago. Most of what was written long ago is openly false. We know this. The writers of that time lacked the tools we now use to *objectively* and *systematically* determine probable truth. There is no reason to accord “the ancients” any degree of unreasonable respect, as the *best* of them – men like Plato, Buddha, Jesus – were just *men*, men raised in superstitious times and lacking even one tenth of the knowledge we now possess to fuel their reason and hence their conclusions. Nobody should be surprised that they often turn out to be wrong.

Nothing humans accept as “truth” should *ever* be so accepted on the basis of *authority*. It should be completely defensible, defensible in such a way that no two humans of good will can examine the same arguments and evidence and arrive at different conclusions. It is one of the saddest aspects of human existence that theistic religions are *fundamentally characterized* by precisely these two stigmata – they must be accepted *solely* on the basis of scriptural authority and it is *impossible* for any two humans of good will to examine the arguments and evidence of

scripture and the real world and arrive at the same conclusions.

For this reason, I *openly invite* the debate of this theorem. Although one or two of its premises are a bit technical – not everybody has even heard of information theory even as much of the functionality of their brains and computers are directly derivable from its premises, even though the theory of statistical mechanics in physics is derivable from its premises, even though it has been shown by E. T. Jaynes and others (including my own work in progress) that it is the *fundamental basis of the theory of human knowledge* – the proof itself is so very simple, really, that I believe that it is rather accessible and will stand up in a way that ontological proofs and so on in the past have not. Each person who learns of this document, retrieves it from the sites where it is freely distributed or purchases the inexpensive monograph, and then *reads* it will have to *decide for themselves* whether or not it is correct, and if they conclude that it really must be true, they will have to adjust their own religious beliefs accordingly and (one hopes) spread the word. There is nothing below that needs to be taken on faith, nothing below that requires validation by evidence, nothing below that should be accepted on the basis of authority.

To those who wish to *reject* this theorem, especially those who wish to reject it because it contradicts the scriptural authority of the theism they have been brought up with, I have only one request. Try to find a flaw in the reason, and engage in the *debate* using *words* and *reason*. Try *not* to get angry and issue *fatwahs*, religious edicts, excommunications, try not to become violent and hurt people as your worldview is knocked topsy and turvy. All I suggest is that you believe in a *consistent* view of God if you wish to believe in God at all, and reject inconsistent theisms as being impossible. Jihad (struggle) solves nothing, unless it is the struggle of *each* of us with our own ignorance as we use *reason* to make *sense* of the world in which we live.

If there is a source of real *evil* in the human world, it isn't storms and earthquakes, death and disease. Those are all just

aspects of the natural world, both moderately inevitable (to the extent that they cannot be avoided or ameliorated using reason); they have happened in the past and are to be expected to happen in the future quite independent of the morality or immorality of our actions. Prophecying them, interpreting them as a punishment of Deity inflicted on the guilty and innocent alike is as pointless as prophecying that the sun will rise tomorrow. Natural events are *impersonal* and hence not evil at all.

No, the real source of the evil we do to one another is *unreason*. It is the many horrific acts and horrible distortions of life and social interaction brought about by different fundamental religious worldviews that are *rotten at the core*, not only unreasonable but *impossible* in a way that goes beyond opinion, in a way that doesn't merely rely on our inability to prove them *false* in order to give them credence as being plausibly *true*. None of them make sense; all of them have many adherents who are fully prepared to defend their senselessness to the death by violent or socially coercive means.

Think about that as you try to decide how to act as you learn one very important *contingent truth* about the nature of God below.

3 Axioms and Definitions

As I am endeavoring to communicate in unequivocal terms in the work-in-progress *Axioms* (and as is already well known by mathematicians and logicians⁹), there is very, very little that can be considered to be *a priori* truth in the entire realm of human intellectual endeavor. Most of what was once considered *a priori* truth from the time of the early Greek mathematicians and geometers has slowly, painfully been revealed to be *contingent* truth, truth that can only be derived from *unprovable axioms* – assumptions that are necessary to the development

⁹See e.g. *Mathematics, the Loss of Certainty* by Morris Kline, 1980, who does a brilliant job of communicating this point.

of logical arguments. Modern mathematics is developed from sets of propositions that are no longer advanced as self-evident *truth*, but rather as just that – propositions. If you change the propositions you get a different, but quite possibly *equally valid* contingent theory.

For us to use reason in addressing questions about God, we therefore will require a *common* set of assumptions and a *consistent* set of definitions. Otherwise, with different assumptions or contradictory assumptions who could be surprised if one arrives at different conclusions (or any conclusion at all, given that one can prove *anything* from a contradiction)?

The theorem concerning God that this short work will state and prove therefore follows from a set of axioms and definitions, as any theorem must. This theorem concerns God and the Universe, so it seems suitable to start by precisely defining these two terms. Otherwise you could fail to understand the proof simply because the words used mean something different to *you* in your everyday discourse, perhaps because you speak a different language than English, perhaps because you simply never thought about their precise meaning.

The Universe: The Universe is defined to be *everything that exists*. This definition must be carefully qualified because we must not take the *narrow* viewpoint that everything that exists is the single space-time in which we appear to live. We must allow for the possibility of multiple space-time continua, or larger spaces in which our space-time is *embedded*. This is not to allege that we *know* whether or not such a larger space exists, only that when we use the term *Universe* we are referring to the *union* of all dimensions that have objective existence, known or unknown, simply connected, multiply connected, or disjoint, together with all of their contents. It is time-independent (obviously so, given that what we call “time” is a single dimension in *our* space-time continuum).

The point is that any assertion such as “*A* exists (or existed, or will exist) but is not a part of the Universe” is a direct contradiction of the term Universe for any *A*. If a thing has

objective being, it is in the set of all things that have objective being. Note well that this existential definition of the set itself completely avoids all difficulties with e.g. Russell paradoxes (for those that know what they are) as “sets” do not have objective being, they are merely figments of our imagination where the Universe is precisely the set of what is real *whether or not* we can correctly or precisely imagine it. Nor does this existential set have the problems associated with infinite Universal *abstract* sets for much the same reason – the Universe is precisely what it is, infinite or not, and our beliefs concerning it will not affect the reality in any way.

God: Our proof requires that we associate with the term God only *four* of the various qualities often associated with Deity. There may be other properties one *wishes* to assert, but in order to build a consistent rational theory of God, one must begin somewhere with a *minimal* set that everybody can agree on and then see if the others *can* be consistently asserted or asserted in a way that agrees with experience. The term “God” in this work refers to something that possesses that following qualities, that are common to nearly all monotheistic or monistic religious faiths

Unitary Being God must have *objective existence* in order to be God, and not just “be a myth” or “be an idea”. Also, there can be just one (or One, if you prefer) God at least with a capital G that has all of the properties we require.

Omniscience God must possess a *complete* knowledge of the state of the Universe, right down to the last electron in the last space-time continuum, the last hidden dimension. For the moment we defer a discussion of just what “knowledge” is, but even without it we can agree that if God’s knowledge of the Universe is *incomplete* – if there are things some otherwise very large and powerful being with objective existence doesn’t know – then that being is not *God*, it is just a bigger and more powerful natural creature, existing *within* a partly unknown Universe, much like ourselves.

We might well fear such a being. We might well obey it out of that fear. We would never worship it; indeed all *free* humans would hate it to the precise extent that it imposed its will by fiat upon us.

Omnipresence God must be “everywhere”. In general this has been associated with omniscience – in order to know everything one must observe everything. In order to observe everything, one must be spatially contiguous in order to perform the observation. Of course any physicist knows that this is all very sloppy and incorrect – observation-derived knowledge is only meaningful in terms of *entropy*, which is missing information. We’ve already agreed that God has no missing information and is in a zero-entropy state relative to the Universe, which of course has *consequences*, one of them being the theorem we seek to state and prove. Nevertheless, omnipresence will be retained as a harmless and natural adjunct of omniscience and a reasonable property of God.

Omnipotence This is a tough one. It is usually interpreted as “God can do anything God wants to”, but this is at once far too narrow and too broad (as was recognized even by the “philosophers” of the Church, e.g. Thomas Aquinas). God cannot make $\pi = 3$. God cannot possess contradictory properties or perform contradictory acts. God cannot make the impossible (defined as something that is *logically contradictory*) happen. However, this property is essentially irrelevant to my argument below – it is in fact a contingent *corollary* of the only valid basis for information-theoretic omniscience and not really a separate property.

We will stop here. Most of the rest of the properties theistic religions ascribe to God – Creator of the Universe, omnibenevolence, perfectly just, perfectly jealous, perfectly cruel, perfectly loving – are either (as we shall see) directly self-contradictory of the definitions and properties already listed above or fairly

obvious anthropomorphic projections of human traits onto the Godhead (and are even more contradictory in combination with each other, as we contemplate an all-loving God who consigns self-aware creations to eternal fiery torment). Perhaps we will in the end have some room for more properties, perhaps not, but we must not introduce contradictions from the beginning.

Finally, we need a single assertion each from *information theory* and *physics*. From physics we need the idea that things that exist have *properties*. Properties we typically ascribe to things like quarks and electrons in physics (elementary particles out of which larger objects are built) include things like:

- Position.
- Momentum.
- Time.
- Mass-Energy
- Charge
- ...

Things that exist, at least insofar as our direct experience goes, seem to have *intrinsic* properties, and in the case of so-called elementary particles, they are *irreducible* intrinsic properties.

The theorem below doesn't rely on any particular set of these properties, the independence or relationships between the properties, or whether or not we *know* what a complete set of the properties *are*, only that things that exist have them. It is valid whether or not we know what they are, it is valid however they might be "causally" intertwined and interrelated. It is valid whether or not they are classical or quantum properties or something else altogether.

I don't know what it would mean to say that a thing exists but has no properties at all – that it has no properties of its own and isn't made up of things that have properties of their own that it inherits in aggregate, that it cannot be correlated

in any way with things that have properties (as that correlation would be a property). Such a thing would presumably “exist” at no place and at no time (in any generalized sense) and would in no way affect anything that did exist at some place and some time. I’d be pretty comfortable redefining the meaning of the word “exist” so that it *excluded* such a thing, if need be, but I don’t think that it is.

We need to carefully bear in mind that *coordinates* we might use to symbolically represent those properties are not the properties themselves but rather our semantic or mathematical *description* of those properties. Given that the Universe is the set of all things that exist, and that things that exist have properties, and that properties can be represented in the abstract as *coordinates*, physics posits a *coordinate description* of the Universe that is the set of all of the coordinates corresponding to all of the properties of all of the things that actually exist.

This “Universal set” of coordinates is at its most abstract *information*, and we can use information theory to deduce certain very important conclusions concerning it and the Universe of actual things with actual properties that this coordinate description represents. We will need only one of these deductions below. We begin by mentally *compressing* the coordinate description – eliminating all redundant information. This leads us to an *irreducible* specification of the *state* of the Universe as a complete set of non-redundant coordinates (where a lot of the reduction will appear in the form of exact or approximate coordinate relationships, a.k.a. “the laws of nature”). This information is *self-encoded* in the actual things that exist in the actual Universe.

We cannot represent this fully reduced coordinate description (which might well be infinite in size) within any system with *less* information content (where if infinite, we would require no less cardinality, since compressed it might well still be infinite in size). If we could, it wouldn’t be fully reduced! Note that we are pretty safe in insisting on the existence of a maximum compression (or minimal representation of the information) be-

cause there is an information-theoretic strict lower bound of "no information" that is insufficient to reconstruct any non-empty coordinate description at all. There is no guarantee that our original, sufficient coordinatization of the state of the Universe is minimal, but somewhere between it and zero there must be one (possibly even more than one) that *is* minimal, a state of maximum compression.

That's all we really need below, I'm sorry I went so tediously about arriving at this simple statement but I wanted to make sure that it was clear.

4 The Pandeist Theorem

Let us now (at last) state the basic theorem:

If God exists, then God is identical to the Universe.

That is, the theorem is a statement of *conditional pandeism*. If God exists at all, God must *be* absolutely everything that exists.

We start with what is really just an ontological or semantic observation, something that is immediately obvious from the meanings of the words themselves. We have carefully defined the Universe to be *everything that exists*, the set consisting of all that has objective existential reality, *in accord with common usage*. The word literally means "turned to one", the union of all that has being.

It is therefore quite obvious that *if* God exists (has being), God must be either a *part* of the Universe or the *whole* Universe¹⁰.

God by the property of *omniscience* must have precisely the irreducible information content of the entire Universe.

¹⁰It is also immediately quite obvious that God cannot have created the Universe – if God existed to do any such thing, so did the Universe, as the set of everything that exists, existed, or will exist.

4.1 Proof One

Suppose God is only part of the Universe.

Let us call the irreducible information content of the non-God part of the Universe I_N , the irreducible information content of the God part of the Universe I_G , and the irreducible information content of the entire Universe I_U (where of course any of these quantities could be infinite).

It is obvious that:

$$I_U \equiv I_G + I_N \quad (1)$$

as the irreducible information content of the whole must match the total irreducible information content of the disjoint parts.

Also,

$$I_N \not\equiv I_G \quad (2)$$

as the non-God and God parts are disjoint and cannot be mutually reducible.

Clearly,

$$I_G \equiv I_U \quad (3)$$

as that's the meaning of omniscience.

Therefore:

$$I_N \equiv \emptyset \quad (4)$$

The only way the irreducible information content of the non-God part of the irreducible information content of the entire Universe can be encoded in the irreducible information content of the God part is if the irreducible information content of the non-God part is *null* – no information at all.

No *existing system* has null information content (this is why we needed the principle that a physical system *is* its own minimal encoding, that a system “knows”

its own state in an incompressible way), so we conclude that *if* God exists at all, the non-God part of the Universe is (quite literally) *no-thing*, nothing. It does not exist¹¹.

For readers already familiar with (information or physical) entropy, the proof is largely unnecessary. All that is required is to note that entropy is an *extensive* quantity, one that scales with system size, one that *is* the log of the missing information required to precisely “know” the state of the system. Any disjunctive partitioning of an irreducible system therefore introduces entropy of the whole relative to any nonzero part.

There are numerous ways to illustrate this entropy. Some of these ways are quite literally “ancient wisdom” of a sort; others are quite modern. Before we proceed to a *second* proof of this theorem that proceeds from very *different* grounds, let us look at a few of them as they may be more compelling to a lay person who doesn’t have a good idea of what “entropy” actually is.

4.2 Example: Partitioning a Finite Binary String

If you are not at least a bit of a mathematician, you are probably not happy with the proof above because you don’t understand it. The idea of “information” or the “state” of a system may seem very abstract. To illuminate the situation, let’s consider a very, very simple “Universe” where you can *count up* the difficulties that illustrate the point a case at a time, and then extrapolate this example to the general case, where without exception the difficulties we encounter will be *much, much worse!*

Information theory is often applied to the encoding of a message in *binary*, so let’s consider a very small *binary Universe*. It has a very small number of *possible* states, only one of which we will consider to be “existential reality” and hence “the message”

¹¹Note well that the exact same reasoning applied symmetrically the other way suggests that if there *is* a non-empty, non-God part of the Universe, then there is no God (that satisfies the standard model properties listed above). Believers in a dualist “creator” would do well to contemplate this.

that we seek to know. The information in a *single* such string is incompressible and irreducible – every bit is necessary to communicate the message as there is no metric of “closeness”, only identity or non-identity. In the case of Universes, of course, there can only be precisely one if there are any at all. Let’s look, then, at what happens when we partition a simple, irreducible binary string with a handful of bits *as* a Universe into two pieces.

At first glance this example seems inadequate – what about processes, consciousness, free will, awareness, abstract knowledge, and all that? However, it turns out that we can use our imaginations to do away with all of them. All of them, note well, involve *time*, involve a sort of “doing” in a system that changes from instant to instant. However, we can completely *ignore* time in our meditations, as the time that events occur in the real Universe is just more knowledge, more data. The Universe itself is “timeless” – it is the union of all things that actually exist not at any *particular* place and time but at *all* times and places that themselves actually exist. We can therefore completely ignore the dynamics of “reason” in general – sequential operations performed on data – because the operations themselves will necessarily have a description to differentiate them from all other possible operations and sequential orderings and that description is still *more* data.

Ultimately, you can then think of the Universe in all of its dynamic glory – all places, times, dimensions hidden or otherwise, and “stuff” therein that has objective being – as being a *really, really, large* (possibly *infinitely* large) DVD recording: a binary string. When time is a *part* of the data on the DVD – the part that makes the movie “happen” – the DVD itself becomes an abstract timeless set of data, and God (if God exists) must *both* be a part of that data *and* somehow encode on the part that is It the data that is all of the rest.

Instead of “information”, then – which seems rather abstract – we will consider data, as we have plenty of concrete experience with data in the context of computers, and every schoolchild with sufficient mental capacity learns about binary numbers by

the time they are in high school. We don't need to think of a particularly *long* binary string, because we can always imagine making a quite short one longer, and longer, and longer (without bound) in one of the time-honored methods of imagining infinity, as long as we get some idea of how the other quantities we shall discuss scale up as we do so.

Let's let our Universe have only eight such bits – enough to illustrate the problems and yet easy to count. We can then write a possible state of this tiny Universe as: **01001001**. Our representation is not unique, of course. This bitstring is perhaps more easily recognizable as the decimal integer 73. The point is that *all knowledge* of this teensy, finite Universe has to be self-encoded. There is no “outside” we can use to store *additional* knowledge such as bit location or a rule connecting the value of the fifth bit to the value of the second bit – to encode that we would have to adjoin *more bits* onto our bit universe, and then we'd have to adjoin still more bits to specify how to *decode* the encoded information, and... all of this *can*, actually, be handled (and thinking about it and handling it is part of what theoretical computer scientists and number-theoretic mathematicians and mathematical philosophers *do*) but as I said, including it all simply makes things *worse* from the point of view of this theorem as the Universe will forever be chasing its own tail, trying to encode how it encodes its previous metaphysical level of encoding on the next one, and then discovering that now *that* is an abstract string of binary data with no *a priori necessary* secret decoder ring.

Now let us partition this bitstring into a small piece (the non-God part) and a larger piece (the God part): **01001001** where I will boldface the non-God part just so that we can keep track of it below. For purposes of illustration we'll place the non-God part on the left, but bear in mind that we could have selected *any two bits* to be non-God, or equivalently there is already *information* being encoded outside of our system when I perform the partitioning in this way and we'll have to account for this information later.

In this particular case, from the *outside* (which we usually would *like* to call a God’s eye view, only there is no outside to the *real* Universe where God could perch to obtain such a look) we can easily point to a bit string in the God part (which I will do with ()’s) such as **010(01)001** or **010010(01)** and say “Aha! Look! God knows about non-God!” simply because we see the naked bitstring recapitulated in God somewhere. But this isn’t quite right. Consider the following four possibilities:

00001001

01001001 (!)

10001001

11001001

If we consider *separately* what God knows:

001001

it certainly doesn’t seem to contain any information that uniquely specifies which of the four possibilities listed is *the actual* one and only existentially unique Universe. It is just the number $001001 = 9$, after all. It is simply not a profound meta-physical truth that the number nine uniquely implies the number **01** = 1 (or the more informative number **01000000** = 64) due to some *self-encoded rule*¹² buried in the number 9!

All four of these seem to be *possible* Universes from the set of all data Universes that have eight bits of information. If we restrict our *one* actual existential Universe **01001001** to the smaller sub-Universe **001001**, we introduce *entropy* into the reduced description. We have lost *information* – even though we can indeed identify fragments of the latter that correspond to the former, they are information *about the latter* in and of themselves and we need a *higher level set of rules* to identify the particular bit fragments that we omitted. God cannot really be

¹²Although the Beatles *did* seem to suggest otherwise in the song “Revolution Number 9” off of the White Album, which I’m listening to as I type this. Cosmic!

said to “know” all of **01001001** unless God *is* 01001001, as *only in this case is all of the information required uniquely specified in God!*

To make it completely clear, our original Universe could just as easily have turned out to be **11001001** so that **11001001** describes **non-God**God. In *this* specific case there *is no bit string 11 in God*. We’d have to use something like **1100(1)00(1)** to “discover” that it is there, or invent another rule such as **11[00]1001** where []’s mean “select these two bits and invert them to get non-God’s state value”. Our ruleset instantly vastly increases in size as we’ve introduced selection *and* bit inversion in any permutation, allowing us to encode *any* bit combination (in either order) in non-God as *any* two bits (in either order) of God. Either way, things are getting quite complex and we should feel increasingly uncomfortable about the arbitrariness of these rules and the bald fact that there are *many* possible rules that *could* give us a connection but nothing in the string **001001** *itself* to give us any hint of which rule we are supposed to be using to somehow “uniquely decode” **11** versus **01** from the contents of God alone in order to consider it to be legitimate “knowledge”. The decoding rules simply aren’t there, and even if we adjoin them somehow they won’t be unique!

Entropy is shifty stuff. If we start with two *disjoint* strings **01** and **001001** and imagine that we *have* somehow discovered a unique decoding rule buried in a (much larger, obviously) bit string, we then have to consider *all of the ways* we can combine the two strings because there was *nothing special or resolvable* about having the former on the *left* of the string on the latter, or even having them unmixed! All of the following are possible ways that the *same data* could be ordered in the *actual* Universe, given only the binary information inherent in each placed into an eight bit Universe of *possibilities*:

01001001
00101001
00011001

00011001

...

00101001

00011001

...

00100101

Looks like we need to consider *all the permutations of bit order* and I'm being *generous* here and still leaving both bitstrings in *left-right order* although once we start putting the two together even *relative* bit position becomes additional information required to specify the *particular* "decoding" of the two separate entities from knowledge of only the God part 001001 into the actual unique existential Universe 01001001 compared to any of the other permutations in our Universe, where bit order is "knowledge" of the whole and hence matters..

Even this is not enough. Once we step outside of the God part, there is literally no limit on the number of ways to transform the number 9 (in binary or any other representation) into the number 73 (ditto). It is not only infinite, it is a *scary* infinity, one that blows up as fast as you imagine any part of it. There is (perhaps) some *minimal* number of bits required to encode a "secret knowledge decoder ring" that precisely gives you two-bit not-God from six-bit God, but it isn't *six* bits, there is obviously no *maximum* number¹³ and finally there is neither *time* nor *process* inherent in this "God's Eye View" of the essentially *stationary* Universe where we've "unrolled" all temporal sequences into an aggregate of events, into merely static "data", so that *decoding itself cannot really occur* as it is a *transformative, sequential process*¹⁴.

¹³Imagine, for example, that I take 9 and divide it by 9 to make 1, then use 1 in an infinite series for the inverse tangent to successively approach the value of $\pi/4$, then *after an infinite number of steps* divide by π and multiply by 292. Voila! 73! Or if you prefer a *Hitchhiker's* view, one can decode the entire visible Universe into the number 42. A *badly infinite* number of ways.

¹⁴It is precisely this sort of thing that makes information theoretic esti-

Hmm, looks like our simple, binary string was hardly simple after all! After all, the Beatles *also* had *Revolution One* on the *same album* as *Revolution Number Nine*, and perhaps – just perhaps – this is *the* correct encoding/decoding of God vs non-God in our tiny existential Universe. This doesn't seem very *plausible*, of course, and it is precisely this sense of plausibility that you need to encourage in yourself to grasp the point of the theorem above.

Obviously, our binary representation of a data Universe can be extended by adding as many bits as we like to both the God and non-God partitions without changing the conclusions of the argument. As long as the non-God part of the Universe possesses any *conceptual* variability, the God part certainly *can* contain data and *can* contain encoded rules that with a suitable *external* decoder and process *can* transform that data into a match for the non-God part, but the only way to know if the result matches is to *look*, because one can *always* imagine the same right hand part conjoined to *any* of the possible left hand parts. “Looking” here is impossible, as we've eliminated time and interaction and really the possibility of external data transformations using data-encoded rules. Only when the God and non-God parts of the system *and the decoder* are all part of a single static view of the Universe can that Universe be said to be “perfectly known” (lack information entropy) and only if God

mates of *a priori* probability so dicey and makes Bayesian priors so important – when estimating the probability of rolling the number six on a single die, it really helps to *know a whole lot of things about the die and how it is to be cast* such as *how many sides it has* and *whether or not it we possess complete data on the physics problem that its casting represents* (an argument due to E. T. Jaynes). It all comes down to the fact that the *existential Universe* has zero self-encoded entropy – its state is its state, period and questions of the *size* of that state space in the abstract are irrelevant. Any partitioning of it followed by restriction to the non-empty sub-Universes introduces *relative information entropy* into both sub-Universes in a manner completely independent of time or process. I am deeply tempted to wax poetic about open and closed systems in physics and the Nakajima-Zwanzig Generalized Master Equation and its tremendous importance in *metaphysical philosophy* but I'll do that later in *Axioms* and besides, I just did.

is the whole Universe can it be said that God is a zero entropy God, missing *no* information concerning the state of the Universe, exists. Partitioning is still possible, relative entropy can exist, “process” can exist in the form of global patterns in the static Universe, but one cannot point to any strict subset of the Universe and say this part is God and still *perfectly knows all about* the Universal complement of that part – everything else.

4.3 Proof Two

In the first proof, we saw that when we consider the irreducible information content of any partitioning of the Universe (defined as everything that exists), it is not possible for that entire Universe to be partitioned into two (or, obviously, more) non-empty irreducible sets and have one contain a *necessary* and *perfect* representation of the other. This was because entropy is an *extensive* quantity – all of the information carrying capacity of the “God channel” is being consumed by irreducibly specifying the *God* state and there is none left over for specifying the *not-God* state. The God channel can irreducibly encode the Universe only if it *is* the irreducibly encoded Universe. One is led to a contradiction whether or not one begins with the fully reduced Universe and attempts to partition it or one begins with it partitioned, fully reduces each partition, and then attempts to “identify” one part in the other, although this short work contents itself only with the simplest sufficient proof and doesn’t examine all possible variants of partitioning on domains with various dimensionality and cardinality. The problem is in the partitioning itself – the moment the whole is broken up into two distinct parts, *at least one bit of entropy* is introduced that differentiates one part from the other even if the two sets are otherwise *identical*.

If God can perfectly visualize all non-God real existing things in Its real existing but distinct “mind’s eye” (anthropomorphizing, of course, but what else can one do when thinking about knowledge), then it knows that its knowledge is *of* those things

(in Its mind) and is *not* those things (outside of Its mind) – not to know this is to not know all things. The map, after all, is *not the territory* – God is as subject to this precept of General Semantics as any other informational system. God’s knowledge is therefore not complete – it cannot know these things as they really are *outside* of Its mind, its abstract knowledge is not the same as the territory itself any more than *your* abstract knowledge is. Furthermore God cannot, as we saw above, be certain that its visualization is in fact correct, that its secret decoder ring is giving it the right values for the non-God part as the mapping it defines is certainly not unique, the space of possibilities it selects from is large, and recall, in this *timeless* view of things there is no such thing as *looking*. There is only an enormous DVD, broken into two pieces, where even if one piece contains a complete redundant copy of the data on the other there is no way of *knowing* that from possession of the one piece only – even if it is large and complex enough to contain a complete language and encoding system that self-consistently says that it does: it could simply be mistaken.

However, there is another way to prove the same conclusion in an entirely different context. This proof similarly relies on the axioms and definitions used in the first proof but in a very different way. To them we add the axioms that support *Gödel’s theorem*, as they appear manifestly true for the Universe itself. Suppose then, as before, that the existential Universe has a self-encoded irreducible state that is capable of *symbolically encoded self-reference*. This is not a terrible stretch, since you *are* a part of the Universe and you *are* thinking about the Universe in symbolically encoded ways – it is therefore *empirically* self-evident that this is true to any mind thinking about itself and the Universe. The proof then follows as:

In order for God to possess *complete* abstract/symbolic knowledge of the Universe, that knowledge must include an expression of arithmetic, as the abstract expression of arithmetic manifestly exists in human

knowledge if nowhere else; God's knowledge could hardly be complete if God cannot add two and two to get four. This body of knowledge is therefore subject to Gödel's first (completeness) theorem; since it is capable of the expression of arithmetic (and is in any event intrinsically both complex and self-referential, containing all *human*-known examples of Gödelian knots of unknowable propositions or set-theoretic paradoxes as a simple subset) it can be *complete* or *consistent* but *not both*.

God's knowledge of the Universe cannot therefore be symbolic (encoded in any way that has to be decoded by a deductive process) and inconsistent with the *true* state of the Universe and still be arguably correct knowledge. The Universe is *real* and hence cannot be inconsistent – it simply is what it is (timelessly). Neither can its symbolic knowledge be incomplete or God is not omniscient and hence is not God.

This is a contradiction. God's knowledge of the Universe must be both consistent and complete in order not to violate the definition of God given above, but if that knowledge is indirect and symbolic, capable of self-reference and encoded at a high level upon itself, Gödel's theorem tells us that it *can't* be both complete and consistent.

God's omniscient knowledge of the Universe cannot, therefore, be indirect and symbolic. Symbolic reduction and projection of the existential reality (all state information) of the Universe into a subset of the Universe as code that is *necessarily* self-referential and capable of expressing arithmetic renders it incomplete, inconsistent, or (most likely) *both*.

In order for God to be omniscient (and omnipresent and omnipotent), its knowledge can only be *direct*

knowledge *of* the Universe itself *as* the Universe itself, complete and consistent by the existential property of the Universe.

Therefore: *If God exists, God is the Universe itself.*

Another amusing corollary comes from considering Gödel's second (consistency) theorem:

If God can *prove* that its symbolic, encoded knowledge of the Universe is consistent, then it *isn't* consistent. God can therefore never be *certain* that any symbolic encoding of the knowledge of the Universe (including itself) is consistent and hence true.

Again, only existential, self-encoded information lacking any partitioning and the consequently necessary layer of projective abstraction is guaranteed to be complete and consistent when speaking of the Universe.

We conclude that God's knowledge of the Universe (including itself) *cannot* therefore be a symbolic *map* or encoding of any sort, which is a result that is entirely consistent with the information theoretic analysis above. In addition to the entropy problem, the self-referential symbolic representation suffices to trigger Gödel's theorems so that true omniscience is literally *impossible*. Again, let's try to illuminate the difficulty with a concrete example, this one familiar to all readers as they contemplate their *own* knowledge of the Universe.

4.4 Example: Human Knowledge

A *God* partition of the Universe, whatever its material or immaterial microscopic self-encoded nature, is in exactly the same boat as a *human* partition of the Universe as it attempts to "know" both the outside Universe and itself on top of its irreducibly self-encoded brain that is itself merely a part – a very small part compared to the Universe itself – of what it wants to

know¹⁵.

Of course *we* can and do acquire a high-level, coarse-grained, approximate overview, a symbolic map that neglects *most of the detail* of the territory being mapped just so that it will *fit* in our limited storage and processing capacity, but this sort of knowledge can hardly be called “omniscience” whatever the scale of any real being that does the same. Furthermore, since any such map is *necessarily* self-referential, any being that relies on it can *never* make it into a complete and consistent system of knowledge, and cannot be certain that such knowledge as it thinks that it has is merely consistent, let alone complete. These are all *mathematical* results and are as close to *a priori* truths as it is possible to be in any system of symbolic reason, so I really don’t think there is much chance that they will be refuted by any rational argument or empirical observation.

We are left with an inescapable conclusion:

If God is real (and hence at least part of the Universe) and *if* God is omniscient and omnipresent, then God’s knowledge cannot be any sort of *symbolic map* of the state of the Universe, it can only be

¹⁵It is quite certain, for example, that it takes *many many neurons* to encode just the *word* “neuron”, and far more to encode the general *properties* of neurons, and still more to encode the *particular functional state* of one particular neuron out of the entire brain, and a truly vast number of neurons to encode the particular state of the molecules, atoms, electrons and quarks and photons and gluons at a single instant in time. Indeed, it probably is quite literally beyond our capacity to “know” the full microscopic detail of a single instant in the history of a single neuron in the human brain *using the entire brain’s high level capacity to encode it!*

Note that the same thing is simple engineering as far as information storage devices are concerned. A single bit in a computer memory chip requires many, many atoms, let alone elementary particles, to encode. The amount of *quantum* state information in the *projective subspace* of the Universe represented by the physical matter of the single-bit storage device is vast, and the large numbers are *necessary* to achieve macroscopic state stability and reproducibility in the face of inevitable and *unknowable* entanglements of its state with the state of the rest of the Universe, the inevitable bleed of entropy from whatever is *not* it into it.

the *irreducibly self-encoded territory* of the Universe itself.

or

If God exists, God is necessarily the Universe itself!

Q.E.D. Twice, even!

Those who wish to (for example) take the manifest existence of a non-empty Universe *at all* as de facto evidence of God should be somewhat relieved by this theorem as it provides them with a single way in which their belief can be consistent, and that is if the non-empty Universe and God are equivalent¹⁶. There is nothing *logically or empirically inconsistent* about the utter equivalence of Universe and God. Obviously the Universe is omnipresent, by definition. Obviously the Universe is omniscient (of its own self-encoded state), again by definition. The Universe may or may not be omnipotent in the naive sense of the word, but it is a simple identity of being that everything real is in some sense the “will” of God if God is equivalent to the Universe. God is not impossible, and it is up to each sentient being to make up their own mind concerning the extent to which sentient existence versus nonexistence constitutes “evidence” that makes the equivalence plausible¹⁷.

¹⁶It is worth noting that those that do *not* consider mere existence of something in contrast with compete and utter nonexistence as evidence of God shouldn't be particularly bothered by this theorem either, given that is a *conditional* theorem beginning with *if* God exists... The atheist and pandeist alike can agree that *whether or not* one *names* the Universe “God” hardly matters. Either way, it is what it is, the foundation of our being, awesomely complex (and yet simple), and the source of individual awareness in the form of ongoing discovery.

¹⁷This is the one place where empirical probability estimates are very, very difficult as we lack even the *possibility* of formulating a sensible Bayesian prior. The mere fact of our existence is the moral equivalent of reaching our metaphysical hand into an even more metaphysical urn and pulling out a *physical* Cosmos, ourselves included. What can this tell us about the contents of the urn and the process that prepared it? Only that the urn was not empty – it contained at least one ball. Mind you, there is a truly

The consequences of this theorem are profound. If God exists, then *everything* is God: you are (a part of) God, I am God, a telephone pole is God, a speck of interstellar dust floating in intergalactic space is God, any hidden dimensions or alternative Cosmi are God – God is all that has being. Jesus (if he existed at all outside of myth and legend) was no *more* (nor less) God than you are – and *said so* on several occasions in the New Testament and Gnostics, all studiously ignored. Miracles become enormously implausible as they suggest that God’s mind is inconsistent but the real is never inconsistent – to quote C. S. Lewis’s Aslan (speaking as God): “Do you think that I would break the Laws that I made?” Physical Law *throughout* the visible and invisible Universe quite literally *is* the mind of God (where now “mind” and “matter” are indistinguishable – both are in the abstract and concrete merely *self-encoded state information*), and your actions, completely determined by the utterly mechanical operation of your component parts in that mind, are not *morally* good or bad any more than the Law of Universal Gravitation and consequent orbiting of the planets about the Sun is good or bad. We can immediately apply this theorem to most of the world religions and reject their theisms out of hand except to the extent that they capture this theorem (some do very much, in rare and beautiful parts interspersed with their extortionist threats of eternal torments for unbelievers and other nonsense).

5 Possible Models of God

We now can see beyond any doubt that *if* God exists (and has the standard properties ascribed to God), God is the Universe. There are a number of “instant” corollaries to this theorem. The staggering amount of *information* encoded in that one ball – and none of it has the slightest bearing on whether or not the urn is now empty, whether or not we will ever have the opportunity to draw another ball, whether or not the urn itself is in any sense *alive*, and whether or not it is possible to construct an even more strained metaphor given that there is no urn.

condition “if God exists at all, then” is a presumed preamble for all of the following:

- God did not create the Universe. The Universe of all that has objective being cannot have been created, as the creator would have to have objective being in order to do the creating.
- God did not create *part* of the Universe. Creation is an act with a presumed arrow *in time* and the Universal set is timeless (time is just a parameter of events in the set). Also, God is already the whole thing, no part of which could have been created.

The following are *empirical* corollaries or open questions conditioned in the same way, based on e.g. the evidence of our own objective existence and experience of information entropic time:

- God (as the Universe) is *no less sentient* than the aggregate sentience of all sentient beings within the Universe. My own human mind is a lower bound on the sentience of God looking at the only thing that exists to be looked at, Itself. My ability to “look” and “appreciate” is contingent upon a *lack* of perfect knowledge and my existence as a subset with *high* information entropy relative to the whole, which permits me to experience the passing of time.
- The upper bound of sentience, where the entire Universe is self-aware and able to experience entropic time *in a high level way* appears to be blocked by both the zero-entropy requirement and Gödel’s theorem. However, if the Universe is *open* (especially if it possesses an open infinity of dimensionality) then for certain orderings of limits God could function as Its *own* source of information entropy for an infinite interior out of a larger infinite exterior.

This leaves this as an *open question* – perhaps *the* open question that separates an atheist, a pandeist, and a panendeist, and

the one that permits all three to be considered choices that can be made differently and yet rationally. However, the theorem has implications for the *current* formulation of panendeism as the belief that God is a superset of the Universe – the correct formulation that is consistent with the theorem above would be God is the Universe that is an *open* superset of the *visible Cosmos*. This correction is itself a healthy one from the rational point of view, as at least some aspects of this as a theory are in principle capable of verification – development of consistent, evidence-backed theories in physics for additional dimensions connected to *this* Cosmos, development of consistent, evidence-backed theories in physics for additional/parallel or embedded Cosmi.

If God is real, God is the Universe, so the only sensible way to *look* for God is to *study* the Universe, at least as much of the Universe as we can *see*. Cosmology and physics together, then, are the only possible natural, reason-based placed where science and religion can meet at the metaphysical cusp between plausible knowledge based on evidence and the unknown that lies forever beyond our reach.

We thus see that although we do not, and cannot, address the question of whether or not the Universe (which we can certainly see and which appears to have concrete objective existence) *is* in fact God, this proof has many consequences for *conditional* models of God, and it can certainly guide any serious search for God, now that one knows where to look. Let us explore the compatibility of this theorem with existing world theisms, and then spend a short time considering whether or not *any* existing models for God survive the test of this theorem.

5.1 Theistic Models

The world's major theisms, with the exception of a few relatively small sects, derive more or less exclusively from *theistic scriptures*. These scriptures have a variety of ascribed authorship – in the case of some relatively modern scriptures (Islam,

Mormonism) there is a high probability that the authors were, in fact, two specific historical humans named Muhammed and Joseph Smith (possibly with help in the latter case). In the case of older religions: Christianity, Judaism, Hinduism, Buddhism – although authorship is in some cases ascribed to particular individuals, e.g. Moses, specific apostles, there is little outside of the traditions of the theisms themselves to support this attribution historically, and hence it falls into the category of legend: stories that might be true but collectively are probably not.

For all religions older than Islam, these theistic scriptures were increased and perpetuated from their unknown origins by means of a succession of more or less widely dispersed manuscript copies. Since this work deals with information entropy it is worth noting in passing for the enlightenment of Biblical scholars that there *is* such a thing as information theory and information entropy. It is, in fact, possible to quantify the information entropy in all extant manuscript copies and thereby plot the diffusion of entropy into the presumed “original” manuscripts, although in nearly all of the older cases there was almost certainly an extended period of time where there *were* no original manuscripts and what are now sacred texts were then sacred sayings, perpetuated by word of mouth and hence if anything even more susceptible to the influx of information entropy. The work of Bart Ehrman summarized in *Misquoting Jesus* is a fine example of the kind of scholarship that is required to make this sort of thing quantitative, although unfortunately the book lacks actual graphs of a quantitative information theoretic analysis.

If we were to systematically critique even *one* of the scriptural theisms in its totality we’d be here forever, as scriptures tend towards the prolix, so we will try hard¹⁸ to confine our attentions to *only* the primary issue of consistency of e.g. the creation mythology (if any) with the theorem, plus any fairly directly associated disiderata that come to mind. This work will

¹⁸I promise! After all, I’ve already had my rant against Abrahamic theisms above...

view with great skepticism any assertion that the mythologies are themselves a *metaphor* and will focus instead on whether they are plausible as “divine revelation of truth”.

5.1.1 Yahweh

Judaism begins at the beginning as the basis for all of the Abrahamic faiths, with *The Book of Genesis*. The authorship of this book is attributed to Moses, but modern historical analysis more or less categorically rejects that possibility. In Genesis alone, for example several distinct, overlapping stories are told, including two different statements of the creation of women at entirely different times and circumstances, in quite different literary “voices”. In addition:

And Zillah, she also bare Tubal-Cain, an instructor of every artificer in brass and iron: and the sister of Tubal-Cain was Naamah.

Genesis 4:22

Iron positively dates this passage to being written *after* the beginning of the Iron Age in the Middle East – around 1200 BCE. This passage was therefore written at *least* 200 years after the

presumed dates of Moses and Exodus. However, this passage is indicative of a much greater degree of anachronism. Tubal-Cain is a seventh generation descendent of Adam, living long *before* the presumed flood that was in turn long *before* the time of Moses. This passage is describing events that supposedly occurred some 3000 years earlier. Furthermore, the tone of the verse makes it clear that he was an *instructor* of artificers, plural, something that could only have been written long after instructors were commonplace, long *after* the beginning of the Iron Age. It is probably pretty safe to say that it was written sometime in the first millenium BCE, long after the discovery of iron, when iron workers were no doubt relatively commonplace and such a verse would raise no eyebrows.

One *might* be able to quibble about whether or not iron was known to Moses in spite of the lack of any objective evidence for the use of iron earlier than 1200 BCE, but one can be *quite certain* that it was not known in 4000 BCE, before even the *early Bronze Age* in Mesopotamia. A historical fourth or fifth millenium BCE Tubal-Cain might have been a potter, but not a worker of metals. Not that one really *should* need to quibble over this sort of thing in a work that is an obvious mythology, but on the basis of this single passage we can be reasonably certain that Genesis was not written by Moses at all, but rather was written long afterwards to describe individuals known only as myths or legends, not real people.

This should instantly remove any possible cachet of Genesis as a “divinely inspired work” written by a patriarch and saint beloved of God – at least the bit about Adam and Eve and their offspring was the product of an anonymous author who lived at least hundreds if not thousands of years after Moses (if Moses lived at all and isn’t *himself* just a legendary figure). It is difficult to say, since our oldest manuscript fragments of the Old Testament are scarcely older than our oldest manuscript fragments of the *New* Testament, since it is entirely plausible that all manuscript copies of the Torah were destroyed in the sack of Israel by the Babylonians and were secretly reconstructed

from verbal transmissions (interpolating and writing anew as required) in perhaps the fifth or sixth century BCE instead of from a copy that “miraculously” survived. By then iron would have been commonplace, of course, which perfectly explains its insertion into a Jewish version of prevelant Sumerian creation mythology.

With that said, let’s examine that mythology. Is God the Universe? No, God moves over a preexisting deep, dark, body of water with a surface (so up and down already exist, gravity exists, the space where God moves already exists, time already exists, and none of these *are* God, God is *inside* of them, a simple *part* of the Universe.

It is dark, so God creates light and “divides it from the darkness” making day and night, in spite of the fact that there is no sun, there are no stars yet. God then creates a firmament (solid body) in the middle of the deep water and uses it to create a *cavity* that holds off the waters above from the waters below, calling this solid body *heaven*. God then pulls waters out of this cavity until the irregular bottom emerges, creating the *earth* from the lower firmament. God then creates grass, seed-bearing herbs, and fruit trees (still no sun, remember, and no bees).

Only then does God create the *lights* of the sun, moon, and stars and *hangs* them on the solid overhead bowl of heaven to “give light upon the earth”, in the process *recreating* day and night. The moon, note well, is luminescent, not reflective, the firmament is a bubble that *surrounds* the earth and holds off the waters above, everything *hangs* from the sky and can be shaken down by earthquakes. Finally, he fills in the animals and makes a single pair of humans.

There is no purpose to be served by pointing out that all of this is *systematically contradicted* by every single thing we have learned in physics, chemistry, biology, geology, cosmology, history and archeology. Not a single word of it is even a good *metaphor* for what the evidence tells us. No human being who was *ignorant* of the existence of the Book of Genesis (and hence lacked socially conditioned confirmation bias) would *ever* exam-

ine the actual evidence concerning the natural history of the world and construct on the basis of that study a model that was in correspondance with Genesis in *any way*.

However, all we care about in *this* context is that the God portrayed is a *part* of the Universe, not the whole thing, and that the Universe created has finite physical boundaries, is shaped like a bubble placed in a pre-existing gravitational field. God cannot therefore have perfect knowledge of the Universe, and very probably lacks perfect knowledge of even thy dynamic contents of this bubble, as God is *outside* of and *distinct* from the bubble and clearly existed in space and time before the bubble of the firmament partitioned a bunch of stuff that already existed in that space and time. This God is not God, it is just a cosmic engineer with finite abilities and knowledge and bound to time, just like us.

This latter view is *repeatedly* reinforced by all the later books of the Old (and New) Testament. Time and again God is presented with events that obviously surprised and annoyed him, where either experience is hardly possible for a standard model omniscient omnipotent Deity that predestined the events in questions. The God of the Old Testament is a pimply adolescent playing with toys that are distinct from itself, not a self-actualized, compassionate, superbeing, that *is* the toys it is playing with.

We can therefore positively conclude that *the God of the Old Testament is impossible* as it contradicts this *theorem* concerning God. Even if you are willing to *completely ignore* the staggeringly perfect contradiction of Genesis by evidence-based knowledge, even if you are willing to invoke *simple magic* to explain all of the contradictions of science and history and ethics evident in the stories, even if you wish to use hermeneutics to *interpret* your way out of all of these difficulties, it is simply not possible to ignore the fact that the God portrayed is a Creator, distinct from its Creation, and that this is a Gödelian paradox that is information theoretically impossible if God is to be God.

5.1.2 Hinduism

Hinduism is, perhaps surprisingly, remarkably compatible with the theorem proven above. if one examines the Hindu creation myths, they describe a Universe that *is in fact* God. This Universe undergoes a *cycle* of creation and destruction (called *yu-gas*) that take place over a very long time – a cycle that could fit a physical cosmology of a closed Cosmos that explodes in a big bang, expands to some minimum density, and then collapses in a big crunch to explode again. This is a valid cosmological model, and there is some degree of evidence *supporting it* as scientists ponder the extent of and effect of “dark matter” of various sorts and whether or not it suffices to close the Universe gravitationally.

Pure Vedantic Hinduism as described in particular in the *Upanishads* is monist and either pandeist or panendeist – Brahman *is* the Universe, we (as Atman or “God-souls”) *are* a part of Brahman and Brahman itself, parts separated from the whole to be able to *appreciate* the whole and ever seeking to rejoin the whole and its perfect state of being as all things. Brahman in the *Upanishads* is not a *being* that is *worshipped* – they make it absolutely clear that Brahman is indifferent to worship and is not the *object* of worship. Brahman is that in the core of the mind that is pure awareness, a *process* and not a *thing*:

That which the mind cannot know, but *by* which the mind knows, know that alone to be Brahman. Brahman is not that being which is worshipped of men.

That which the eye cannot see, but *by* which the eye sees, know that alone to be Brahman. Brahman is not that being which is worshipped of men.

That which the ear cannot hear, but *by* which ear hears, know that alone to be Brahma. Brahman is not the being which is worshipped of men.

...

If you think you know It well, you indeed know It very little. That whom you see in the beings and gods is but a very little portion of It.

The *Kena* Upanishad

Viewing this as a simple riddle, the answer to the riddle is clearly *information*. The Brahman is *all information* and all information is self-encoded in the *Universe*, and is indeed that *by* which you know at the level of symbolic encoding and macroscopic sensation and yet cannot know as it is information theoretically impossible to encode a high level, compressive, semantic *abstraction* of the actual state data used to encode it.

Brahman, therefore, is the raw naked Universe, timeless information. Atman is our finite, information compressive, symbolic, dynamic, entropy rich *experience* of the Universe, bound to time. Underneath it all Atman is just Brahman – atoms, molecules, elementary particles, energy, all engaged in a zero-entropy dance completely driven by unbreakable natural law, but through a complex alchemy of self-similar self-organized emergent systems, through the powerful but natural process of mutation plus natural selection in a free-energy (information!) rich environment, Atman is the Universe capturing a symbolic model of itself, the mirror through which Brahman, if only for a fleeting time, can see, and experience, itself.

However, Hinduism is *also* an enormous body of myths and stories and legends in a *polytheism*, where there isn't just one God, there are many, where humans who are also gods abound, where some of those humans who are gods are self-aware as God and hence able to work miracles and so on. This is all obvious myth, contradicted by experience, etc. If there is a single difference between this “common” Hinduism and (say) Christianity, it is that *Hinduism at its worst still recognizes that its myths are myths!*

No Hindus that I know of (and I have known many, given that I grew up in India) actually think that gods such as Ganesh (the elephant headed God) have *objective existence* as real be-

ings. They are *openly* known to be metaphors, anthropomorphic projections of deity onto strange and wonderful teaching stories designed to bring one to a moment of Enlightenment where one realizes that Atman is Brahman, liberating oneself forever from any lesser conception of God. In Hinduism even the Gods require enlightenment, even the Gods are mere Atman striving towards the moment of perfect realization that they are not distinct beings bound to time but rather tiny chips of self-awareness that by their very existence grant the Universe eyes through which It can see itself.

To be *fully* compatible with the theorem above, Hinduism doesn't have very far to go. Like all ancient religions, it has its more "orthodox" sects who take its scriptures far too seriously, it has ties to an ancient and evil caste system, it has unprovable and extremely implausible theistic assertions such as a belief in serial immortality through a process of divine/karmic justice and rebirth, all of it extremely dubious and in many cases socially undesirable expressions of theistic unreason. Hinduism, while generally peaceable, has certainly historically been perfectly capable of divinely sanctioned war, murder, sexual abuse, and portrays plenty of immorality as being moral. Its primary two scriptural epics, the *Mahabharata* and the *Ramayana* describe *enormous wars* filled with love, rape, faith, betrayal, murder, torture, good guys behaving badly and bad guys behaving well, where nearly all of the good guys *and* the bad guys are *Gods*, where our wars simply mimic or extend the wars in heaven.

While these are wonderful world literature and among my favorite stories, they are obviously not historically correct and should be treated as the mythologies that they obviously are, not as documents that ultimately *obscure* the core concept of God as All.

Before leaving Hinduism, it is worth pointing out that there is one rather famous scene in the *Mahabharata* which illustrates somewhat the paradox of its Vedic orthodoxy when compared to its core Vedantic belief set. The scene is the battlefield above Kurukshetra, where Arjuna, Krishna's best friend who has Kr-

ishna as his charioteer, tires of the killing of his cousins. For a moment his determination to *act* wanes, and he wishes nothing more but to withdraw from all of the horror and violence. To prevent this, to give Arjuna the strength to begin the slaughter that he was *predestined* to perform to cleanse the earth of evil for a time, Krishna reveals his *Visvaroopā*, his *true self*. His true self *is* all things, all times, all places, all beings. Krishna is Vishnu, Mahavishnu is Brahman, the entirety of being, aware. Arjuna is shown that *he is incapable of sin*, as it is all a game he is playing with *Himself*, that he is ever the killer and the killed, the windshield and the bug, the arrow and the heart that is pierced, the suffering and the joyful soul, and throughout it all is Krishna/Brahman, the Universal One that both is all things and fractally experiences all things through all of the eyes that can see.

Take it for what you will.

5.1.3 Buddhism

At about the same time that the Upanishads were being composed and driven by very much the same “protestant” movement that was rejecting the largely *ritualistic* pantheistic Vedic Hinduism of the fifth century BCE in favor of a more spiritual and intellectual search for a pandeistic vision of Universal God, a back-country prince grew disgusted with his life of wealth and pleasure in a world filled with suffering. Unable to rationalize an infinite cycle of rebirth into a world filled with suffering, he gave his crown back to his father, left his wife and children, and took off on a quest for Enlightenment that was all of the rage at the time. The countryside was full of itinerant preachers, each with their own body of disciples, each claiming to have more or less of the “truth” about All Things. They were supported by alms, engaged in all sorts of ascetic practices that were supposed to lead to realization of the Truth (always the capital T, of course), and would alternate preaching in exchange for food with vigorous debates with gurus of the various competing schools that

also claimed to have it.

As the legend has it, after forty years of mortification and discipline and meditation and effort, this prince-turned-disciple one day just plain gave up. He'd starved himself, taught himself to ignore heat and cold, sat in approved positions for hours, recited what he was taught to recite, and come up empty. Nothing he had experienced *felt* like Enlightenment, and nothing at all explained how to deal with the dilemma that had sent him to the road in the first place – the existence of suffering. In spite of following many rituals of many Gods, in spite of his trying very hard to realize his Atman as Brahman, outside of a literal appreciation of the words he had accomplished nothing like a direct knowledge of their reality.

He left his tree, went and bought himself a big meal, and satiated, lay down for the best sleep he'd had in forty years. When he woke up, he suddenly realized that food and sleep had done what forty years of effort had not – led him to direct, transcendental Enlightenment. He had long since discovered and enumerated the many *causes* of suffering – suddenly he found the *solution* to it. Suffering, he saw, was strictly in the mind. He had long since learned to discipline his mind – his ascetism had taught him that if nothing else. By thinking the right thoughts, engaging in the right actions, living the right life, one could *avoid* suffering. By acting on the causes, one could eliminate the effects!

He immediately went out and began (somewhat reluctantly) to teach his great insight, and found that nearly all of the ascetics he encountered on the road were similarly disillusioned; when he presented his rational plan for self-discipline plus compassion to eliminate suffering, they were all over it. Many were “Enlightened” on the spot, and became his disciples and later spreaders of the good word themselves. Almost against his will, he was forced to organize simply to accommodate the influx of seekers who were attracted to his words. Alone of all his competitors before or since, he taught his message on the pure basis of *empiricism*. *Do not believe me*, he said, just because it is *me*

that is saying it. My authority means nothing. Try it out, and if it works for you *then* believe that what I tell you is true.

Buddha lived an entirely natural life, and we can be almost certain that he worked no supernatural miracles (although his existence has inevitably been mythicized, a thing that I think he would have found most distasteful as he was a man pursuing truth *without* the capital that means “theistic scripture” or “bullshit myth”). He’d simply made a wonderful discovery in human psychology and ethics and wished to share it. This discovery is also noteworthy as being an *entirely atheistic* discovery – it was very early empirical science, and neither God nor Gods nor human souls played any significant role in it. The prevailing religious structure, however tolerant it generally was of heresy as there wasn’t any particularly strong system of orthodoxy in place to combat it, eventually grew weary of this competition that said that worshipping the Gods with appropriate rituals and gifts to the priests wasn’t necessary, that the implicit serial rebirth with cosmic justice wrought upon sinners was unlikely, and that the priesthood itself was pretty much a bunch of Un-enlightened exploiters that needed to work on suffering themselves. They (apocryphally, at least) arranged for Buddha to be poisoned as he stayed in a small inn far from his supporters, and that was that.

Buddha made pretty much no assertions about God at all, except to warn his followers that worshipping Gods and arguing about Gods was a waste of time and to be avoided. He denied the existence of the soul, and was lukewarm to the idea of serial rebirth, denying that *he* at least could remember anything from previous lives and so what did it matter if he had had them? He had certainly not lived a blameless life – his wife never forgave him or became one of his “converts” for walking out on her and abandoning his responsibilities in an act of supreme narcissism as if *his* Enlightenment were important, while *she* still had to deal with changing diapers, cooking, living very much for others (and probably living a far richer and more satisfying life than the Buddha thereby, I suspect). He had a lifelong “problem” with

women and only established a path for women in his philosophy after one of his followers talked him into seeing the necessity of it – otherwise he thought that they were a pointless distraction of the *men* (who *were* important) as they sought Enlightenment while following his way. Finally, as great as his discovery of empirical psychosociology was, he failed to *transcend* his discovery and invent an actual scientific method, or to apply his insights to other aspects of the world.

After his death, his sayings and teachings, his most famous sermons, were preserved for many years within the memories of his most committed followers. As this body of first-hand memories began to drift and decay from the inevitable process of death and information degradation in the transmission chain, his surviving disciples (supposedly) all got together, pooled their memories, and built up the most accurate compendium of his actual words and actions that their memories permitted, using a fairly strict criterion for what they included. These were codified and rituals were established to ensure their *precise* retransmission, rituals that worked well enough that there is considerable correspondance along distinct transmission chains, suggesting that the entropy content is still fairly low. The best known collection of these sermons and sayings are the *Pali Canons*, although in the 2500 years since there have been philosophical splits and distinct schools built up around the *mythical* Buddha, schools that have greatly exaggerated the cosmic significance of the whole thing and that (by their nature) have opposed any sort of mutation or natural evolution of the core sayings and beliefs.

At the same time, the local *Hindu* establishment immediately co-opted Buddha as an avatar of Mahavishnu who ushered in a new *Yuga*, thereby making him their own, end of story, case closed. Many converts could not get this idea completely out of their heads; Buddha *must* have been somehow special or else why is everybody following him? Buddha is therefore revered as something between a philosopher, the world's first clinical psychologist, and a god, even within Buddhism itself.

The latter, at least, would have shocked him and directly contradicts his teachings. The mere thought that people called “Buddhists” would sit around gilded statues representing himself and burn incense “to” Buddha while chanting rote statements in a dead language that most of the chanters cannot even understand would have appalled him, I think. Buddha would never have been a Buddhist, as the Enlightenment he preached doesn’t come from ritually emulating the Enlightened, it comes from practicing mindfulness and living compassionately and without attachment, which doesn’t require incense or chanting at all.

In any event, since Buddhism is *not a religion*, but rather an essentially atheistic human social philosophy or practice, since Buddha made *no* assertions of God or Gods other than to point out that if they existed as beings bound to the wheel of time they were no more enlightened than you or I and hence were *not* worthy of our worship, obviously there is nothing inconsistent about Buddhism and this theorem. Indeed, Buddha probably had a direct intuition of this theorem (as have many others over the centuries), and recognized that the Universe itself was the only possible God, and that as such it *did not matter* what you did in your life as far as *God* was concerned. What mattered, and what matters now, is how you live your life in *human* terms: You can choose to live “well” and thereby avoid suffering or the infliction of suffering to the extent possible, or you can live “badly” and cause the suffering of others and unnecessarily suffer yourself.

5.1.4 Christianity

We can begin by noting that Christianity begins pre-rejected as it is a heretical sect of Orthodox Judaism. It shares the strict belief in the literal truth of the Book of Genesis, and Jesus in several places indicates that he *personally* believes that its myths are actual truths, commanding his followers:

Think not that I am come to destroy the law, or the

prophets: I am not come to destroy, but to fulfill. For verily I say unto you, Till heaven and earth pass, one jot or one tittle shall in no wise pass from the law, till all be fulfilled.

Matthew 5:17-18

The *law* here is clearly the Law of the Old Testament. Jesus thereby endorses slavery, marriage by rape, the possession of many women, the killing of innocent people as witches, the stoning of adulterers and unbelievers¹⁹, wars against non-Jewish tribes and their subsequent extermination, looting, and enslavement.

Lest we in any way miss his approval, remember that:

And after six days Jesus taketh Peter, James, and John his brother, and bringeth them up into an high mountain apart, And was transfigured before them: and his face did shine as the sun, and his raiment was white as the light. And, behold, there appeared unto them Moses and Elias talking with him.

Matthew 17:1-3

Jesus could have selected *anyone* from *all of space and time* to appear on the mountain with him, as time is not a barrier for a transcendent Deity. He could have selected Ghandi, or Mother Teresa, Rumi, Buddha, Muhammed. He could have selected me – I’m not such a bad guy. Who did he choose? He chose *Jewish Patriarchs*, who were *the* basis of the Jewish religion. Note well that this is the same Moses who commanded his troops to slaughter the male children right down to babies in arms, all of the women that they didn’t want, and keep the rest of the women to use as slaves as they willed. Note that the virginity requirement was clearly arbitrary and optional – can

¹⁹Note well that the famous passage about “casting the first stone” is known to be a *late addition* to the New Testament, probably in response to this very verse, as it is not present in the earliest manuscript copies of the New Testament.

you imagine them holding a “virginity check” out there in the midst of a genocidal abattoir, holding women down one at a time and poking a finger into her to see if she was still a virgin, sending her off to be cleaned up for rape later that night if she was and slashing her throat or gutting her if she wasn’t?

I can’t. I imagine that (assuming that anything like this scene every actually occurred) the soldiers did what soldiers ever do when their brutality is given free rein, and killed all the ugly ones and kept the pretty ones for themselves, virgin or not. God knows they wouldn’t be virgin for long either way.

The point is that Jesus had plenty of *better* choices for people to invite to his transfiguration; he was making an endorsement statement by selecting Moses in favor of somebody that actually *opposed* genocide, femicide, infanticide, slavery, rape and robbery, all prominently featured in Numbers 31. We are therefore quite safe in saying the Jesus must have believed in the literal truth of the Old Testament and the divine approval of Moses in particular – he was a Jew, after all, and in *fact* only death with Gentiles at all under duress.

In spite of the Council of Nicaea’s successful effort to suppress Arianism and other heresies (so that Christianity could become the state religion of the bloody-handed Roman Empire and thereby be spread by Imperial edict to the four corners of the globe), Trinitarianism makes no sense at all and directly contradicts the theorem above. Even though one can certainly find *some* passages in the Old and New Testaments and other theistic writings of Judaism and Christianity that suggest a transcendental God that is the Universe, most of them are quite dualistic or worse. Trinitarianism asserts *four or more* levels of Deity – God the creator, hairy thunderer; God the son, sort-of-human; God the holy spirit – the *only* vision of the three that might be in agreement with the theorem, providing that all of the *Universe* is in fact the substance of the holy spirit, an assertion that is not commonly made. In general, in fact, humans and the material world are a fourth realm, and heaven and hell and the angels and demons constitute a fifth and a sixth, with God distinct

from *all* of them and all of them distinct from each other.

It is an absurd cosmology and theistic worldview, where God literally creates his own opponents (knowing of course that He will Prevail in the End, given that it is *His* hand that holds both Joe and the Cobra Commander and the gasoline and grill are always handy).

However, it is useful to point out that the New Testament is *far from consistent* on what it presents as the *actual* beliefs of Jesus concerning God:

And when he was gone forth into the way, there came one running, and kneeled to him, and asked him, Good Master, what shall I do that I may inherit eternal life? And Jesus said unto him, Why callest thou me good? there is none good but one, that is, God.

Mark 10:17-18

Jesus openly states in this passage that he is *not* God, and furthermore, that he is not *good!* It sounds like it is *Jesus's* belief that he is just a man. Or consider:

And whosoever speaketh a word against the Son of man, it shall be forgiven him: but whosoever speaketh against the Holy Ghost, it shall not be forgiven him, neither in this world, neither in the world to come.

Matthew 12:32

Again, it sounds very much like Jesus is openly acknowledging that he is not God (how could blaspheming against *God* be forgiven) – the Holy Spirit is the only real vision of God. This verse, mind you, is in *all three Synoptic Gospels* and is in the rejected Gospel of Thomas (a collection of the sayings of Jesus that was rejected at Nicaea as being openly non-trinitarian):

Jesus said, "Whoever blasphemes against the Father will be forgiven, and whoever blasphemes against the

son will be forgiven, but whoever blasphemes against the holy spirit will not be forgiven, either on earth or in heaven.”

Thomas 44

That's *four times* this is cited as one of the sayings of Jesus by a supposed Apostle. Note well that the last one – which I find personally the most plausible – has Jesus acknowledging that *neither he nor* the prevailing view of God as the Father and Creator are correct visions of God, so that speaking out against them is easily forgivable. It is only God as the Holy Spirit that pervades all things, God the Universal, that matters.

So it might well be that once you strip off all of the obvious mythology, the miracles, the self-aggrandizement, the endorsements of the barbaric laws of a bloodthirsty semi-nomadic tribe developed in the middle of the Bronze Age when life was hard and it was enslave or be enslaved by every competing tribe, there is a tiny core of genuine insight illuminating this mythicized human who may or may not have ever existed – the myth has long since obscured the man. Jesus himself may have had the insight that for God to be God, God must be everything, the very spirit that sustains all things.

And what is that spirit? In its most abstract, it is *information*, of course. John is easily the most mystical of the Gospels, and what does it tell us:

In the beginning was the Word, and the Word was with God, and the Word was God.

John 1:1

Sure, John probably means that *Jesus* is “the Word”, sure he is still trapped by thinking in time and of creation and beginnings, but still, as a *metaphor* (and it is surely that regardless) this can easily be interpreted as: “The Universe is all of its information (the Word) is God”.

We must give Christianity low marks overall as being non-compliant with the theorem above, but allow for the fact that it

is so internally inconsistent that in *places* it can at least be *interpreted* as being compliant. It is interesting that whenever I encounter a *non*-literalist Christian, someone who doesn't believe in the literal truth of Genesis, for example, the overall pattern of their conception of God is often in far better agreement with the theorem than the texts that underlie their supposed theism allow. They indeed worship the holy spirit far more than the hairy thunderer/creator or even the tortured son/redeemer. It is the feeling of *communion* with all things, the reconciliation of the pain of their existence with a greater thing that transcends their short lives, that matters to them. Even Jesus as the redeemer stands as a symbol of hope that there is *meaning* to their lives, that this "isn't all that there is".

If one generously interprets this as the profound hope that the actual Universe is God as an open set, that within its infinite vastness "all things are possible" (that aren't overtly contradictory, of course), then their beliefs are not inconsistent with the theorem above, which allows for an infinite God to be an exemplar of *Hilbert's Grand Hotel*²⁰, a place that always has room to stay for the night, a place where – although no one can bring cigars into the Hotel (in fact, it isn't clear that the Hotel has an outside to bring cigars in *from*), there is always a freshly rolled cigar waiting for you in your room when you arrive.

5.1.5 Islam

I'm hesitant to even write this brief critique on Islam. It's quite literally dangerous, because of course I'm going to give it extremely low marks for compliance, and because at least some adherents to most of the variants of Islam have proven willing to commit horrible crimes against anyone that questions their beliefs. They are a world religion that *still* hews quite close to the Bronze Age barbarity laid out in the Old Testament (which of course it shares with Christianity and Judaism). As such,

²⁰Look it up on Wikipedia, of course. Why do you think Wikipedia is there?

it portrays an intensely dualist vision of God, a God utterly separate from Its Creation, a God that is literally readying the barbecue grill and the firecrackers and much worse for all of the action figures that It decides to torch.

Things that Islam has going against it are:

- It inherits immediate violation of the theorem above from its inclusion of the Old Testament. The God it portrays is therefore impossible.
- It makes it quite clear that Islam as *distinct* from Judaism or Christianity is if anything *more* dualistic. Its God is *very much* separate from and superior to Its supposed creation.
- Its God is *very, very strict*. It has absolutely no patience or tolerance. It is completely unforgiving. Either you are Muslim and live precisely the way the Quran requires, or you burn. Period.
- When the Quran says that you burn (and it does, over five hundred times) for disbelief, it leaves little to the imagination.
- According to Islam, women are pure chattel. Their salvation is entirely contingent upon the beliefs of their male owners and their obedience and acquiescence in their ownership.
- And so much more... It is moderately difficult to find things in the Quran that are going *for* it from a rational point of view.

A few quotes directly from the Quran should suffice to establish these principles:

And of them were (some) who believed therein and of them were (some) who turned away from it. Hell is sufficient for (their) burning. Lo! Those who disbelieve Our revelations, We shall expose them to the

Fire. As often as their skins are consumed We shall exchange them for fresh skins that they may taste the torment. Lo! Allah is ever Mighty, Wise.

4:55-56

If you disbelieve in the Quran (which is self-certified to be Allah's revelations, and Muhammed couldn't possibly have *lied* about that or even been *mistaken*, could he?) then Allah will not content himself with simply burning you alive *once* – he'll heal you over and over again so you can experience the agony over and over.

As for the Disbelievers, Whether thou warn them or thou warn them not it is all one for them; they believe not. Allah hath sealed their hearing and their hearts, and on their eyes there is a covering. Theirs will be an awful doom.

2:6-7

If you disbelieve, it isn't your fault. Allah (who is all powerful) has sealed your hearing, covered your eyes, and closed your heart so you won't believe. Compassionate, merciful, and yet we have to assume from this statement that It *wants* to inflict upon you an "awful doom". This doom positively dominates the Quran.

Why should one believe the Quran? Because Lo! It itself says that it is true!

Lo! those who hide aught of the Scripture which Allah hath revealed and purchase a small gain therewith, they eat into their bellies nothing else than fire. Allah will not speak to them on the Day of Resurrection, nor will He make them grow. Theirs will be a painful doom. Those are they who purchase error at the price of guidance, and torment at the price of pardon. How constant are they in their strife to reach the Fire! That is because Allah hath revealed the Scripture with the truth. Lo! those who find (a

cause of) disagreement in the Scripture are in open schism.

2:174-176

So the Quran says that you will burn in hell if you fail to believe that it is telling the truth because it says that it is telling the truth and if you don't believe it you will burn in hell... which clearly makes it true, doesn't it, because it is simply impossible that it is *lying* or *mistaken*.

But *is* the Quran ever mistaken? If it is, then there is good reason to consider it fallible, and not divinely inspired. If a single Surah of Muhammed is directly contradicted by modern science or common sense or modern ethics, it is in the same boat as Genesis quite *aside* from its inheritance as an Abrahamic religion. Let's see:

Allah it is Who raised up the heavens without visible supports, then mounted the Throne, and compelled the sun and the moon to be of service, each runneth unto an appointed term; He ordereth the course; He detaileth the revelations, that haply ye may be certain of the meeting with your Lord. And He it is Who spread out the earth and placed therein firm hills and flowing streams, and of all fruits He placed therein two spouses (male and female). He covereth the night with the day. Lo! herein verily are portents for people who take thought.

3:2-3

This completely confirms the Genesis model – a flat earth covered by a bowl of solid sky across which ran a sun and moon compelled to “be of service”, and of course Adam and Eve – all contradicted by modern cosmology, geology, and the radiometrically dated fossil record.

A token unto them is night. We strip it of the day, and lo! they are in darkness. And the sun runneth

on unto a resting-place for him. That is the measuring of the Mighty, the Wise. And for the moon We have appointed mansions till she return like an old shrivelled palm-leaf. It is not for the sun to overtake the moon, nor doth the night outstrip the day. They float each in an orbit.

36:37-40

There is no resting place for the sun, there are no mansions for the moon. The Sun does not float in an orbit *about the earth* which is what these verses clearly imply. It certainly doesn't say anything about the earth *spinning on its axis* which is the *real* source of night and day.

The Quran invokes many of the Old Testament and New Testament figures by name and attempts to co-opt them into the new faith. Adam, Noah, Moses, Jesus – all of these are now prophets of Allah (and by name-dropping, Muhammed becomes next in line in the succession of prophethood). For example:

I convey unto you the messages of my Lord and give good counsel unto you, and know from Allah that which ye know not. Marvel ye that there should come unto you a Reminder from your Lord by means of a man among you, that he may warn you, and that ye may keep from evil, and that haply ye may find mercy. But they denied him, so We saved him and those with him in the ship, and We drowned those who denied Our tokens. Lo! they were blind folk.

7:62-64

This makes it quite clear that Muhammed considers the Old Testament to be true. He invokes (as did Jesus) the story of Noah as proof that he will do horrible things to anyone that fails to listen to his messengers. Muhammed is (by association) just such a messenger. Therefore listen to absolutely everything that Muhammed says as if it comes straight from God.

Once again it seems as though a *truly* “compassionate and merciful” dualistic God would find a more compassionate, more

merciful, and vastly simpler solution than drowning everything (including all of the innocent animals) but a single man and his family.

Isn't it odd that an infinite, omniscient, all powerful being would *deliberately* lead people astray, would *deliberately* predestine many for eternal torment? Wouldn't such a being be able to manifest Itself to *each person individually* instead of forcing us to believe the frankly unbelievable words of somebody who *claims* to be talking for It. This being is so powerful that It supposedly created a Cosmos that is at least 27 billion light years across, filled with at least a *trillion galaxies* of maybe a *trillion stars each*, and did it all in *one day* but when it comes time to actually *communicate* with a mere six billion or so human beings that It supposedly loves even *more* than the inanimate but enormous stars It created just to light up the sky for them, the best It can ever manage is to speak through a *mouthpiece*? I don't think so.

No, *I* think that anybody who ever, ever, claims to speak for God doesn't. They are lying or mistaken. In fact, I think it is the sign of a *weak argument*, often one that is *de facto absurd* when someone has to invoke authority *at all* to convince people to accept it as true. If the authority is invoked together with *threats* – believe what I tell you or you'll be cast into a fiery furnace by my best buddy God whose words these *really* are – it is a sure sign that the thing you are being asked to believe is so unbelievable that it would *take* threats for you to even think twice about it if you were using your common sense. Remember, Buddha – in extreme contrast to Muhammed – said to believe what he said not because he said it, not because it was a revelation of God, but because if you *tried* his suggestions they would *work*²¹.

Surprisingly, the Quran has *almost no actual content* once you remove the authority-driven *extortion and threats* from it.

²¹And, because by and large they are pretty sensible suggestions, they *do* work for quite a lot of people, completely without supernatural aid.

Once you remove all the verses that threaten unbelievers with a painful doom, that threaten believers that backslide with a painful doom, that threaten those that would assign “partners” to Allah (guess you had to be there) to a painful doom, those that dare to disbelieve Muhammed (Allah’s messenger) to a painful doom, once one removes the horribly explicit descriptions of torment, the lines suggesting that disbelievers who fight against Muslims will be punished in *this* world by having their hands cut off and being crucified upside down, once one removes the commandments to retaliate against anyone who *dares* to question the faith, the permission to purchase many wives and to take for your personal sexual use female slaves captured in war, how much is left? Not much at all.

The Quran is painful to read because it is *boring!* By the end of the very *first Surah* you *get* it. Allah will burn unbelievers. No need to say it *hundreds of times* as if that somehow makes it more true. No *reason* to say it when there are other, better things to say. Yet Muhammed failed to speak out against slavery, for equality of women, for science instead of magic, for reason instead of superstition.

The Quran is (like the Bible before it and the Book of Mormon after) *very hard on women*. Women are worth only *half* as much as a man in the Quran, on a good day. The Quran also permits marrying your own female first cousins (demonstrating a lack of knowledge of genetics, unsurprising):

O Prophet! Lo! We have made lawful unto thee thy wives unto whom thou hast paid their dowries, and those whom thy right hand possesseth of those whom Allah hath given thee as spoils of war, and the daughters of thine uncle on the father’s side and the daughters of thine aunts on the father’s side, and the daughters of thine uncle on the mother’s side and the daughters of thine aunts on the mother’s side who emigrated with thee, and a believing woman if she give herself unto the Prophet and the Prophet desire

to ask her in marriage - a privilege for thee only, not for the (rest of) believers - We are Aware of that which We enjoined upon them concerning their wives and those whom their right hands possess - that thou mayst be free from blame, for Allah is ever Forgiving, Merciful.

33:50

Note well the bit in there about how Muhammed (the Prophet) gets *special privileges* – it's *good* to be the mouthpiece of God, because you get special mating privileges.

Is it any wonder that I'm concerned about writing this? The Quran *does* actually forbid believers from responding to an attack any way more violent than the attack itself (which means that believers are absolutely permitted to fight against *this* attack by using *reason* and engaging in *free debate* of a document that I find entirely unbelievable from beginning to end), but – like so many theistic documents, there are *other* places that openly invite the spreading of the faith by more violent means and promise instant paradise to those who die in such a struggle. Is it at all surprising that apostasy is rare in Islam? The core theism promises hundreds of times that they'll be tortured forever if they turn away from the faith no matter how little sense it makes. Many Muslim governments and societies consider apostasy an actual crime, even a capital crime.

This is not a religion that appeals to reason. It holds a knife at your throat and a gun at your head in this life, and promises you even worse punishments in the next should you *dare* to use reason to assess its claims. It wreaks unashamed violence against the persons of any who dare to speak out against it, who dare to openly mock it, who choose to leave it.

With all of this bad stuff, the Quran does have *some* very good stuff. It requires that believers act for the good of society (at least for *their* society, given that it positively endorses the enslavement of nonbelievers), care for widows and orphans, at least try to love your wives (in spite of the fact that they are

your possessions, bought and paid for) and treat them equally (while acknowledging that this isn't really possible when you have more than one, but that's OK guys, Allah understands and it's the effort that counts). However, the *most* interesting aspect of Islam is Sufism.

The Sufi are Islamic mystics, and there is at least some reason to believe that the cult predated actual Islam. Sufi's believe that all religions are *the same*, that God is God by any name or description, that God is ubiquitous and Universal. In fact, there is little difference between Sufism and Vedantic Hinduism. The goal of Sufis is to attain a kind of reunion with God. It is non-dogmatic, non-theistic (it holds that the Truth it seeks cannot be put into words), and non-violent. Sufism is a variant of Islam that is not completely incompatible with the theorem proven above – it once again appears to be a case of direct insight that unfortunately couldn't be proven using reason at the time. Given the assertion that God exists, a Sufi could peacefully coexist with an atheist or a deist.

So things are bleak for Islam, but not entirely hopeless. The problem is that *I* at least, see no way to salvage *any significant part* of the Quran to serve as a radically hermeneutically reinterpreted basis for a kinder gentler more rational Islam. If one tried with it what Jefferson attempted with the Gospels, to strip out the obviously self-serving mythology and extortion, the extreme claims, the punishments, the actual *moral precepts* of the Quran could be reduced to at most a page or two, and would *leave out* things like the freedom of religion, freedom of speech, freedom of thought, freedom to pursue happiness in any way that doesn't interfere with the rights or freedoms of others.

5.1.6 Mormonism

The story of the origin of Mormonism is strangely similar to the supposed origin of Islam, only even more bizarre. A farmer supposedly discovers golden tablets written in a strange language on his farm. Of course this farmer is illiterate, so what does he

do? He *prays to God* and God graciously grants him the ability, promised in a part of the New Testament that was absent from the earliest copies of Mark and hence was a latter-day addition, to *speak* – or rather read – in tongues. He then proceeds to dictate the contents of the tablets to a literate friend. The tablets apparently contain an entire set of new books to add to the Bible! They detail the supposed travels of a “lost tribe of Israel” that came to the new world sometime in the ballpark of 580 BCE, which puts it square on the period that the Babylonian captivity was ending. The chaos of this period is somehow unrecorded in the Book of Mormon.

The amazing thing about the Book of Mormon is how *anybody* could have *ever* taken it seriously. The writing is terrible. It is salted with “Biblical” sounding phrases such as “And it came to pass” and “exceedingly” as in “exceedingly glad” to the point where it is positively embarrassing. It is chock full of anachronisms – things like steel swords (in the New World, which didn’t even have *iron* implements when Columbus arrived), compasses (used by Nephi while sailing to the New World), Old World animals and plants carried to the New World “where they flourished” – but not for long, as there was no trace of them when Columbus arrived. It *quotes long passages from the New Testament* in spite of the fact that it wouldn’t be written for six or seven hundred years yet. It is openly racist – the good guys in it are always white skinned, the bad guys are always dark skinned.

The Book of Mormon is in fact the first piece of science fiction written in the New World! It is a pure religious fantasy, from cover to cover, without a lick of truth in it, the whole-cloth invention of the author. It should come with the standard disclaimer about fiction in the front – that its contents bear no resemblance to any person that has ever lived or events that ever occurred.

None of which matters to anyone raised Mormon. Even the failure to find Semetic DNA in any of the New World populations doesn’t daunt believers, as they have a social system of ostracization and punishment second only to that of Islam with

which to prevent apostasy. They do suffer from the disadvantage of being located in the United States, which takes a dim view of them taking any *overt* steps that violate freedom of religion, but all of the steps that can be taken short of actual violence are generally employed. As is the rule more than the exception with the Abrahamic religions, it is very hard on women, permitting polygyny (but naturally, not polyandry), concentrating church power among the men.

As far as our purposes here are concerned, none of this really matters. As an Abrahamic construction, it inherits and perpetuates the dualistic Abrahamic God, perpetuates the extortive hellfire meme in a way that powerfully echoes the words of Muhammed. This means that the God it describes and its creation mythology are absolutely contradicted by the theorem proven above.

5.1.7 Bahá'í

Bahá'í is a distinct monotheism that nevertheless has certain roots in primarily the Abrahamic faiths (roots that cause some people to consider it a syncretism). It's theistic scriptures were relatively recently authored by the prophet *Báh'u'lláh* during a tumultuous period of religious upheaval in nineteenth century Persia, although they have been extended by others since.

To some extent Bahá'í inherits the contradiction of the theorem above from its associated Abrahamic ancestry. It portrays a standard model of monotheistic God as e.g. omnipotent, omnipresent, omniscient, and the dualistic creator of all things in the Universe. As we have seen, this directly contradicts the definition of Universe (God must be a subset of the Universe and therefore cannot create it) and any dualism between God separate from Universe with "knowledge" of the latter in the form of any sort of high level symbolic decomposition necessarily being compressive and violating omniscience and ensuring the *certainty* that God Itself cannot be certain of the completeness or truth of God's knowledge. However, the faith is considerably

more mystical than e.g. Judaism, Christianity, or Islam, and claims that the specific attributes of God that it asserts are really just a *metaphor* intended to guide humans along a path of *spiritual enlightenment*²².

As world religions go, Bahá'í actually exhibits a surprising degree of rationality and enlightenment in its teachings. For example, it has more or less completely moderated the “heaven and hell” meme of its parent faiths into poles of an *ordinal metric of nearness to God* in terms of the harmony of one’s life practices with God’s divinely expressed will, not as reward or punishment inflicted on hapless humans by the *angry* Allah portrayed by Muhammed, or the God whose name is *Jealous* in the Old Testament, or the Jesus who teaches one to cut off one’s own hand if ‘it’ sins or else count on experiencing the fires of eternal torment. This is far more in accord with the Hindu or Buddhist concept of God than with the Abrahamic faiths, although Bahá'í appears to stop short of endorsing serial immortality in human incarnations – it leaves what happens to one’s “rational soul” after death mystical and unknown. Indeed, Bahá'í, in its attempt to become the Universal world religion, has co-opted connections to Hinduism and Buddhism as well.

Some of the *really good things* in the tenets of Bahá'í include:

- The essential unity of God, religion, and mankind.
- Explicit equality between men and women.
- The elimination of all forms of prejudice.
- World Peace.
- Harmony between religion and science – the idea that religion must be *rational* and conform to what we know of the

²²Where I cannot but agree, although I would couch it conditionally – *if* one believes that God exists, then the attributes assigned to him in any theism are obviously anthropomorphic projections of humans on God, not the other way around. The *only path* that flows the other way comes from studying the Universe itself using reason and giving up on divine revelation altogether.

Universe instead of prescriptively irrational and assertive of an obviously false mythology in the face of evidence that contradicts it.

- The need for the independent investigation of truth.
- Universal compulsory education.

There are a few other tenets that are increasingly political – establishment of a universal language, the need to live in obedience to one’s government and avoid partisan bickering, elimination of extremes of wealth and poverty. Without endorsing any of the details, all of this seems quite sensible in principle, although Bahá’i does not seem to recognize the possibility that a “rational soul” could in *good faith* choose not to believe in God at all due to a lack of scientific evidence for Its existence.

I will take Bahá’i at its own word – it asserts that it seeks a harmony between religion and reason, that its system of beliefs is rational. It makes specific provision for the serial appearance of messengers that communicate great truths about the Universe, although as far as I know it hasn’t recognized Galileo, Descartes, Newton, Gauss, Riemann, Lorentz, Darwin, Einstein, Bohr, Schrödinger, Hume, Russell, Gödel, Whitehead, Dirac, Feynman or the cast of millions of scientists, historians, and philosophers worldwide who over the last five hundred years as having contributed *more to the enlightenment of the world than all of the religious prophets of the world combined* over the course of recorded human history.

I hereby pronounce myself just such a messenger²³. In or-

²³And while I’m at it, let me promote Galileo, Descartes, Newton, etc. to sainthood in its list of messengers. *Anybody* can have a good or bad idea about the Universe, and *reason exists* as a means of sorting out the good from the bad on the basis of evidence and consistency with the entire Bayesian network of human knowledge. That is, I’m at least as qualified to offer up a provisional truth about All Things as the next guy – perhaps more qualified than most given that I’ve spent my life studying philosophy and physics and mathematics and computing – and I’m *not* asserting it as any sort of divine revelation, only as something that I think *makes sense*, offered up so you can consider it and see if it makes sense to *you* as well.

der for Bahá'í to not be in conflict with the *theorem* above (and hence be arguably conditionally rational on a precisely equal footing with e.g. atheism) it needs to explicitly shift its core assertion about God so that *God is explicitly identified with the Universe* and not a dualistically separate entity, so that “creation” no longer means what *all the world religions assert that it does* – an act of an *outsider* to *create* a cosmos, but rather means “cause” in the precise sense used in physics – the ongoing evolution of “stuff” (mass-energy) in interaction according to natural law. If God exists at all, the Universe is necessarily God’s self-encoded mind. If God does not exist, the Universe is still very much a self-encoded system with exactly the same rules.

Does making this shift really matter? I think that it does. For one thing, it shifts the burden or responsibility onto *us* for making the human world whatever it is we want it to be. We cannot but do God’s will, because that Will is built into the laws of physics that utterly dictate our actions right down to the last twitch of the last elementary particle – ‘sin’ exists only as we define it to exist, and our definition will ultimately be *practical* and not a matter of divine revelation. I like Bahá'í *because* the rules above seem entirely practical – they satisfy the *intuitive* test of goodness and ‘taste sweet’ where so much of theism tastes like leftover shit from a brutal age, written down by self-aggrandizing charlatans who were not content laying out their intellectual wares in a bazaar to be considered with reason and free will but had to incorporate *extortionist violence* of an angry and punitive God who would *get you, my pretty*²⁴ if you didn’t buy into *every word* of their tripe.

Sweetness, however, is not enough. Any religion that asserts the *inflexible truth* of its theistic prescription on the basis of some sort of divine authority granted a specific “messenger” to whom truths are revealed as *preternatural knowledge* is rotten at the core. Reason as a path to knowledge of the real world is one

²⁴...and your little dog, too!

of successive approximation, progressive discovery. It requires the flexibility to ascribe to any set of assertions *not* “perfect truth” as “divinely revealed” but *provisional* truth, *plausible* truth, things that make sense as of our knowledge *right now*, where the degree of belief we ascribe to them can *vary* as new evidence and arguments come to light.

Right now I believe very strongly in gravity, for example, not because God has Revealed the Truth About Gravity to Newton, or to Einstein, but because there is a large body of consistent evidence in the greater connected system of modern physics that strongly supports the assertions of certain mathematical laws *in context*. Is it *fundamentally true*? I don’t know – probably not. One day we will put salt on the tail of gravitons, or somebody will make string theory or supersymmetry work as a *better* theory of gravitation, one that supercedes and perhaps fundamentally changes the way we think of it. That won’t make Newton’s Law of Gravitation suddenly *false* in context, it will simply explain and predict *more*, and *better*, the Universe we can observe.

As a “messenger” to Bahá’i, let me therefore add one *other* change to its tenets. The *tenets of any reason based religion must be capable of varying over time as better arguments and evidence comes along or they will inevitably be revealed as false!* So let’s throw away any and all of the silly assertions like the one that there won’t be any more messengers for 1000 years, that the tenets of the religion are perfect as they stand, and so on. Why not make a religion that really does try to use *reason* to infer or deduce properties of God (as does the theorem above) instead of the false methodology of direct revelation? Why not lay religion out in the *bazaar* of human ideas not as a mandatory set of theistic writings but in the same sense that physics is laid out (and indeed, any such set will necessarily have physics *exactly as it stands* as a *subset*).

Bahá’i is therefore arguably the second closest to being in compliance with the theorem above behind Vedantic Hinduism, and by virtue of being put together well into the age of reason, it has a social and moral structure that is far better attuned to

the needs of the modern world. All it needs is to acknowledge that God and the Universe are one (so that each of us *is* a part of God, not something distinct from It in *any sense*), the ability to *change*, to loosen up its own dogma and constantly subject *it* to the ongoing test of reason and argument, to stop asserting its own tenets as being divinely inspired any more than *any* discovery of the human mind is divinely inspired. Every scientist, every seeker of truth on this planet then becomes a source of *non-divine*, purely mundane, revelation, revelation of the *trustworthy* sort, contributing authors to a system of *imperfect, incomplete* beliefs that we can accept because they are arguably the *best* set of beliefs (given the evidence) that we have come up with – so far. I would then give it *my* blessing as being a rational pan-deism with positive social value not in immediate contradiction of its own “infinite claims” for the Deity it worships through study.

5.1.8 Jehovah’s Witnesses

A religion or a cult? I vote for cult, although really, is there a difference beyond the number of people who buy in? My biggest problem with Jehovah’s Witnesses is that – quite beyond the inconsistency of their belief set and the incompatibility of the God they worship with the theorem above – they practice (or try to practice) what amounts to child sacrifice.

Hey now, you might say; Isn’t that a bit extreme? I mean *annoying*, sure, who hasn’t had their weekend disturbed at least one time by a Sunday-best dressed couple handing out tracts that promise (sigh) that if you don’t drink their particular brand of grape-ade God will deny you any hope of everlasting life on a mythical ‘Paradise’ even if in all other respects you’ve lived an exemplary life and clothed the widow and orphan and been faithful to your spouse and been kind to children and pets, but *child sacrifice*?

True story: An acquaintance of mine is the son of a pair of Jehovah’s Witnesses. Now unless you’ve *read* all of the dogma

associated with this obscure splinter sect/cult of Christianity, you probably don't know that it takes some of the verses in the Bible that make out blood to be an unholy thing – probably intended to keep people from drinking human blood in ritual sacrifices or part of the usual Abrahamic terror of a woman's menstrual cycle (a thing that the God of the Old and New Testament obviously hates and is disgusted by, even though It presumably designed it) – and transforms them into a religious rule against transfusions. That's right, Jehovah's Witnesses consider receiving blood products under any circumstances to be a sin!

Consequently, they will not permit themselves or their offspring to receive transfusions or anything that is made out of blood or blood plasma.

My friend, as it turned out, had an RH-incompatibility with his mother. What this means is that his mother was literally allergic to her own fetus's blood. Throughout the pregnancy this is bad, as the antibodies in the mother's blood cross the placenta and cause red blood cells in the developing fetus to lyse and create *bilirubin* so that the fetus becomes jaundiced. At birth it is *very* bad, as the placenta ruptures and the mother's blood and the baby's blood actively mix for a short while.

In *any modern scientific society* this is no big deal anymore. The problem can easily and safely be treated with shots of RhoGam, a blood-derived product that effectively blocks the antibodies and protects the infant's blood cells. Without treatment infants can develop²⁵:

- Hydrops fetalis (potentially deadly fluid build up and swelling in the baby)
- Kernicterus (brain damage due to high levels of bilirubin)
- Neurological syndrome with mental deficiency, movement disorder, hearing loss, speech disorder, and seizures

In other words, the infant is likely to either die or suffer severe brain damage, which is arguably *worse* than death. But

²⁵According the National Institute of Health's website on the condition

RhoGam is a blood-derived product, and because of an *Old Testament* scriptural line requiring that the blood of *animals* be spilled out on the ground, Jehovah's Witnesses routinely refuse RhoGam treatment for their pregnant women and when they have a choice refuse the treatment for their newborn infants.

They don't always have a choice. In the case of my friend, the enlightened state of New York intervened and *compelled* the use of RhoGam on his behalf, against the strenuous objections of his father. As a consequence, my friend is alive and has a very functional brain, and despises Jehovah's Witnesses for being so deluded by an ancient scriptural text that they would sacrifice their own children just as surely through their *inaction* as any ancient tribes (including the Hebrews) did to Moloch did with action.

Every year children below the age of any sort of informed consent die because their parents and religious society tell them to refuse blood transfusions. So do many adults, basically *committing suicide* which is itself a bit of a sin in many religions including Christianity in general rather than permitting themselves to be "excommunicated" for accepting blood products. In fact, rather paradoxically, it isn't unknown for a Jehovah's Witness to be an alcoholic, drink until their liver fails and they start bleeding internally, and refuse the transfusions that might save their life. Drinking yourself to death, you see, isn't an excommunicable offense (but accepting blood is).

Remember this story the next time Jehovah's Witnesses come knocking at your door. When they ask you if you want a copy of the Watchtower, ask them if they have a copy of Awake magazine, the official Jehovah's Witnesses tract, which *proudly* portrays the pictures of young children (under twelve years of age) who died rather than accept blood. Ask them if they are still practicing child sacrifice to Moloch by refusing RhoGam treatment of infants born to an Rh-incompatible mother, all because of a silly interpretation of a line in the Bible that doesn't say

anything about *blood transfusion* or *humans*²⁶. Ask them how a compassionate God could *possibly* want for them to permit their own child's brain to be damaged by an easily preventable and remarkably common condition. And then *slam the door in their face!*

We (as a rational, secular human society) are *far too tolerant* of religious radicalism, especially radicalism that crosses the line and starts killing people. When the Pope of the Catholic Church visits HIV-ridden Africa and exhorts people *not to use condoms* even in the context of *conjugal* sex, where it is not infrequently the case that one partner is infected and the other isn't, the Pope *might as well be holding a gun to the head of some of the people he's addressing and pulling the trigger!* The Pope murders those people with words that aren't even *in* either the Old or the New Testaments – Jesus, for all of his preternatural knowledge, somehow failed to add “blessed are those that don't

²⁶The line is in Deuteronomy 12, requiring that the blood of slaughtered animals be spilled out on the ground and not eaten, probably because in those days bloodborne parasites were commonplace and because this ensured a compassionate slaughter of the animal in question by having its throat cut, a practice that continues today among both Jews and Muslims. It prohibits eating blood “as the life” of the animal and asserts that they must not eat “the life and the flesh”. Of course a transfusion isn't the same as eating, humans are supposedly not the same as animals, the transfusion recipient hardly ever “eats” the blood (product) of an anonymous donor *and* their flesh, and the donor in general was not killed during the donation so it is difficult to assert that they are (not) eating the donor's life, but once some *prophet wannabe* gets it in his head that *he alone* has the right interpretation of obscure lines in a religious text and creates what amounts to a *new* text that a group of poor fools buy into, no abomination is impossible in “the name of God”.

Even more amusing, in a sick rather than ha-ha way – Jehovah's Witnesses don't follow any of the *rest* of the dietary restrictions in the Old Testament, so pork and shrimp are perfectly OK, they don't bother to ensure that the leg of lamb they eat didn't come from a firstborn lamb (prohibited *in between* the two sets of verses that prohibit drinking blood), and I'm reasonably certain that they don't require their women to sacrifice two turtledoves after their period so that they can become clean in the eyes of God once again.

wear a lambgut on their willy to prevent the transmission of disease or pregnancy” to his sermon on the mount (the same place he failed to say “blessed are those that free their slaves”, “blessed are women, who are the full equals of men”, “blessed are those that use reason and empirical methods to read My words as they are written in the stars in the heavens, the rocks of the earth, the cells of your body”). I have no doubt that the Pope would be appalled that the Jehovah’s Witnesses murder their own children on the basis of other words by withholding RhoGam, but is somehow blind to the murderous effect of his own words.

5.1.9 Scientology

It’s hard to know where to put Scientology. Again, is it a cult, or a religion, or a psychosocial pyramid scheme based on absolutely terrible science? Decisions, decisions.

The one thing that *is* “clear” – the state towards which Scientology is suppose to move one once one has paid enough money to its auditors – is that Scientology doesn’t say much of anything about God. Oh, there is a “Supreme Being” alluded to here and there, maybe, but Scientology isn’t about *worship* and doesn’t assign any particular attributes (that I know of, at least, as an admitted outsider) to that Being.

So it’s hard to say if this Being is consistent with the theorem above, not that it really matters. Sure, why not? Or, maybe not. Other than that, the teachings public and private of this “religion” resemble a mixture of really, really bad Science Fiction (the only kind L. Ron Hubbard wrote, although as a long running SF fan I am fond of one or two of his space opera stories, e.g. “Battlefield Earth”) and quack psychiatry. It makes various supernatural claims (such as the existence of a “soul” that survives death, called a *thetan*, a process of transcendent judgement that determines the progress of that soul along the path to clarity based on the quality of its embodied life – in a lot of ways, it is like Buddhism (another not-really-a-religion),

and hence it quite naturally attracts people in much the same way.

However, to be a Buddhist all one has to do is say “I am a Buddhist”, accept the Four Noble Truths and begin to practice the Eightfold Way and poof! You’re a Buddhist! Nothing to sign, no need for a church, or priests, or donations. If you feel really inspired and want some organization, you can go whole hog and become a Buddhist monk and retire from the world, but Buddhism is essentially egalitarian and purely lay practice is perfectly all right and even was specified by the Buddha long ago (and, given a lack of evidence from reincarnation, is probably a *more ethical* form of Buddhism because if one has only *one* life to live it is hardly ethical to ask other people to work to support you with alms when you are perfectly capable of supporting yourself).

Not so Scientology. I cannot just sit here and say “Gee, I think I’ll be a Scientologist”. It costs *money* to be a Scientologist. Nor can I just go to the Internet or a bookstore to buy a book to learn the practice of Scientology (they way I can Buddhism or Hinduism or Christianity or Islam) – it is chock full of “secret teachings” that get increasingly wild and unbelievable as one ascends its highly selective inner circle. It costs *money* to be audited, and one has to be audited many times to reach the inner circle.

So, church, cult, pyramid scheme? You decide. All that is *absolutely certain* is that it is almost as dangerous to tweak the tail of Scientology in any public forum as it is to wear tee-shirts with pictures of Muhammed holding up a poster saying “Support freedom of political and religious thought! Wear my picture on your tee-shirt!” – except that where Islam issues fatwahs calling for your death or administers ad hoc beatings on public streets for this sort of blasphemy, Scientology responds with lawyers and lawsuits funded (one must assume) from its vast coffers of money extracted from all of those people being audited! What was that part about the first amendment, again? Did I miss something?

Let me be clear about one thing. I *personally* think Scientology is a complete fraud, a pyramidal cult, not a religion at all. That makes me at the very least a *suppressive personality* if not an active *hopelessly antisocial personality*, which is also de facto proof that the church's psychology is complete bullshit, as I actually get along fine with children and pets, am generally liked by my colleagues and students, and am happy and well adjusted in life. I'm *already* "clear" in that I know *exactly what I know and why I know it* right down to the axiomatic basis of the knowledge and why it is arguably the *best* set of things for me to believe. Can any of them say the same? The day they put salt on the tail of a thetan and publish the results in *Physical Review*, maybe...

That does it for major theisms, although as I said one or two of the religions above aren't particularly major and one or two aren't really theisms.

Note Well! My critique above, regardless of its polemic nature, is a *perfectly reasonable analysis* based on the theorem I prove, accepted scientific knowledge, and the best secular morality I can muster on the basis of reason. This does *not* mean that all Scientologists, Jehovah's Witnesses, Mormons, Muslims, Christians, Jews, Buddhists, or Hindus are bad people. They are *mistaken* people to the extent that they believe in an impossible God that is omniscient but distinct from the Universe. In many cases, their theistic scriptures can easily be shown to contain *bad things* – lies, myths, legends, the immoral presented as the moral – suggesting that at the very least those scriptures need to be *rewritten*, purged of all of the obvious nonsense, keeping the good parts, and adopting a *Universal* view of God that will inevitably bring the theisms into *convergence*.

After all, if God exists, there is only one set of religious assertions that is correct. Prophecy and divine revelation have proven a most unreliable way of obtaining the *truth* about God – a statement that doesn't even *require* proof beyond the observation that the world is splintered between hundreds, thousands, tens of thousands of religious cults and schools and churches,

with complete disconnections in their theistic support and with substantial contradictions between all of them. In science, when two people make competing claims, there is a systematic way of deciding between the two based on *evidence* and on *how well the explanations fit into the entire body of reason*, and inevitably scientists make the *best* decision when and as the evidence and arguments warrant it, reserving the right to *change their minds later* on the basis of new evidence or arguments as needed!

Why doesn't this happen in religion? Because religion relies on authority, divine revelation, and an *income stream* obtained from the faithful that makes apostasy or alteration of creed *bad for business*. Because religion turns *away* from reason and asks people to believe *in spite of* the fact that their beliefs are hopelessly contradicted by common sense and science. God couldn't possibly have constructed a lying Universe, but the only way that e.g. Genesis could be correct is if It *did!* If religions made a real effort, they could pull a decent morality out of the union of their scriptures, augmented with secular conclusions as needed. They could adopt an ecumenical Universal God. They could encourage their adherents to use *reason* and not *faith* when deciding what to believe. And the conflicts associated with religious *differences* would silently vanish from the world scene – peace in the Middle East being the least of the consequences.

So no, all of these faiths or philosophies have good aspects and bad aspects and have adherents who are lovely, non-violent people who try their very best to live moral lives by *any* standards. Viewed *as metaphor*, as *mythopoeic literature*, some of their stories are very worthwhile and can teach valuable lessons. This has nothing to do with whether or not their basic supernatural or moral tenets are *correct*. If the model of God they hypothesize is not in agreement with a God who *is* the Universe, then that God is impossible – it cannot be omniscient. With this we conclude our summary of the *principle* theisms.

5.2 Non-Theistic Religions

There are a few non-theistic or semi-theistic religions to consider as well. Obviously we could have included Buddhism here as a non-theistic religion as easily as above, since the Buddha was at the very least a heretic protestant relative to the Hinduism of his day and explicitly warned his followers to pretty much ignore the Gods, as they too (if they existed) were bound to the *same* wheel of petty desires and actions and suffering and had to follow the *same* path to be liberated from that suffering.

For the purposes of this work, we will consider non-theisms as being:

- Sufficiently well defined and organized as to be referenced by a name or generic descriptor.
- Associated with a worldview axiom that answers the question of probable or plausible existence of God(s) existence *positively* (axiomatically asserts the existence of one God or many Gods). Note well: By this standard, atheism is *not a religion*, it is the *absence* of a religion²⁷, and it will not be considered below. Obviously if (one thinks it most plausible or probable that) God does not exist, a conditional theorem predicated upon Its existence is meaningless.
- A set of beliefs that at least some significant numbers of humans (still) adhere to, with more or less commonality.

This means that we will ignore e.g. the Greek, Roman,

²⁷If you want to *really piss off* an atheist, call atheism a religion. Bear in mind when you do so that you're just being silly, for two reasons. One is that the term "religion" and the term "worldview" *don't mean the same thing* – religion in the context of theism clearly references a supernatural axiom, where worldviews can include a religious axiom or not. So it is not true that any set of personal beliefs constitutes a religion; they rather constitute a worldview, one that may or may not be religious. Beyond that it is like calling a person who is aspectic (sterile) infected, it is like calling a person who is broke wealthy, it is like asserting that a thing and its opposite are equivalent. Which is just plain silly, Q.E.D.

Norse, Egyptian pantheons, all sorts of “local” mythologies (even where they are still held to be at least some individuals).

- A set of beliefs that are *not specified in any holy writings or scripture* that lay out a specific *doctrine* that was revealed to specific favored individuals by God or the Gods. Obviously this is a fine line, but it doesn’t really matter if I get some wrong or you disagree whether they should be here or above.
- Simply because there are so many, I will ignore all or most syncretic religions and all real polytheisms. No cargo cults, no *voudoun*, sorry. IMO they are so obviously false that one doesn’t really need to say much about them anyway, but in any event polytheisms are in *instant* contradiction with the theorem and syncretic religions usually have roots in one of the religions mentioned above, and you can judge their compliance with the theorem as easily as I can at this point.

This set of criteria still leaves us a few non-theistic religious belief systems to think about. Some are connected to e.g. oral mythologies or have at this point writings of one sort or another, but as far as I know those writings are *not authoritative* and do *not claim to be divinely inspired truth* – they are offered as personal vision or collective myth or axiomatic assertion without the self-righteous, arrogant, and absurd claims of e.g. the Abrahamic theisms.

5.2.1 The Great Spirit

The Great Spirit (*Wakan Tanka*, *Gitchi Manitou* of Native American cultures) is a beautiful example of a non-theistic belief in an active, personal, non-anthropomorphic Deity that is intertwined with the fabric of the Universe itself on the large scale and yet is personally engaged with the web of living things and the world

on an earthly scale. These cultures are not completely homogeneous, and there are a variety of creation mythologies that need not concern us as (in my opinion at least) these cultures have always been aware that their mythologies *are* myths, that their legends *are* legends, that their sacred stories *are* stories, and thus they have avoided the curse of socially enforced orthodoxy or any sort of insistence on “belief”. The myths themselves are intended and used as teaching stories that guide individual behavior in ways that support the individual and the community, not as metaphysical speculation. These religions also seem to lack the hellfire and damnation meme – the Great Spirit doesn’t punish people for being bad, doesn’t inflict eternal torment on people for “not believing in It”. In these cultures, a life out of balance with the Great Spirit, with the earth, with the community is its *own* punishment.

It is easy to over-romanticize these religions, and therefore important to remember that however successful they might have been *within* a community, pre-Columbian Native American tribal Stone Age cultures were many and were in more or less perpetual competition. Life was very close to the state of nature, and aspects of it were ugly, nasty, brutish, and short²⁸. Tribal wars were nearly ubiquitous and were very nearly ritualized. Torturing captives to death and ritual cannibalism were commonplace. Because each tribe had a *personal, tribal* vision of God, God naturally approved of all of these actions and indeed would sometimes help the tribe against their enemies. Life was filled with suffering as well as joy, and this intense mixture *was* the gift of the Great Spirit.

In post-Columbian times, the very process of romanticizing has, I suspect, injected memes of non-tribal Universalism into these tribal religions as what was a narrow and insular tribe has been submerged into the “tribe” of all of mankind. The concept of the Great Spirit as a somewhat nostalgic deity survives, but

²⁸According to Wikipedia, life expectancy in pre-Columbian North America (yes, they have an explicit entry for just that) was 25-30 years. Even at that, it was longer than life in the Eurasian Bronze Age (18).

at this point tribal war, ritual torture and sacrifice, cannibalism, and all of the negative intertribal conflicts have faded.

So, is the *concept* of the Great Spirit compatible with the theorem above? If one takes the mythology literally, no. If one takes the actual spiritual *practice*, the personal *view* of the Great Spirit as a thing that is ubiquitous, a sort of a “life force” of the world itself, then maybe. Once again, there is an intuitional view of Deity that was pervasive in North America and clearly visible in their myths and sacred stories that all things were one with the Great Spirit, even as they *manifested* that spirit as Spider Woman, Buffalo Woman, the Old Man, as a creator who was often a trickster with a wry sense of humor who laid out the hills and covered them with trees and game and enemies to fight. All things had their own particular spirits, including the rocks, the hills, the trees, the animals, and of course the people. Were these spirits separate from and yet one with the Great Spirit? I have no idea, and given the number of pre-literate cultures involved and the *evolution* of their belief systems (especially after contact with the Christian Europeans who completely destroyed pre-Columbian intertribal society wherever they encountered it) I doubt that anybody really knows or that any single answer is universally correct.

Let's give them the benefit of the doubt, and say that at the very least some of the cultures were *developing* an increasingly monotheistic and monist view of Deity at the beginning of the sixteenth century. Whether or not that view would ever have converged on the conditional pandeism proven in the theorem above on their own is a moot point, but to the extent that these religions survive in the modern world among Native American tribal groups, they are perfectly capable of incorporating this theorem into their current meme set now, should they choose to do so, without doing any great harm to the cultural mythology.

5.2.2 Unitarian Universalism

Unitarian Universalism is perfectly compatible with the pan-deist theorem, although since it lacks any specific “authoritative” creed or dogma each Universalist chooses their own personal view, or lack of view, of Deity. Over half of Universalists indicate that they are agnostic or atheistic and thereby lack any particular vision of a necessary God at all. The purpose of the religion is not so much to *worship a dualistic Creator God* (although some do) as to participate in shared spiritual and ethical growth in a community social setting, where my use of the term “spiritual” in this sentence is not necessarily any sort of supernaturalism (although it may be, according to the personal inclinations of each individual), but rather describes that part of the inner contemplative aspect of human nature that is the wellspring of religious impulses in the first place.

The roots of Unitarian Universalism appear to date back to the earliest forms of Unitarian apostolic Christianity, but were declared heresy at the infamous Council of Nicaea in 325 CE when Trinitarianism was established as the orthodox creed and that creed was subsequently enforced with torture and mortal sanction throughout the *Holy* Roman Empire. It was rediscovered (or reinvented) during the turmoil of the reformation in the sixteenth century by a Spanish physician, Michael Servetus, who was (naturally) burned at the stake for his trouble. His heretical works, however, survived and by the end of the sixteenth century Unitarian churches began appearing in communities that would tolerate them. Their creed began by *rejecting* the divine truth of the Bible, but *continuing* to view it, and the life and teachings of Jesus, as a source of moral inspiration. In particular, it rejected:

- Original Sin.
- Predestination.
- Damnation.

- Sundry mythology, as evidence revealed it as such.

Universalists have emphasized using *reason* and *common sense* to assess the claims of *all* religious and spiritual writings from *all* the world faiths, rejecting as mythology things that seem implausible while still accepting as insight or wisdom those parts that seem ethically or spiritually praiseworthy (continuing to use spiritually without supernatural connotation). Initially it was based primarily on de-mythicized Christian scriptures, but relying as it does on the judgement of each individual it has long since embraced the “good parts” of Buddhism, Christianity, Paganism, various Spiritualisms, Sufism, Bahá’i and more, viewing all of these as *myths* that nevertheless can help us gain insight into our spiritual selves and seek *personal salvation*.

Salvation, of course, is not necessarily defined or viewed in the same way that it is in Christianity or Islam; it is more akin to the Enlightenment of Buddhism or Hinduism (and a significant number of Universalists view themselves as primarily Buddhist in their core personal beliefs). To the extent that it *is* Christian, it is akin to the beliefs of Christian Universalists (who differ only in that they retain some formal Christian theistic structure, rejecting eternal damnation while nevertheless retaining Jesus as God made manifest, the model of a perfect human, and the ultimate source of salvation by means of a reconciliation of each human soul with God).

Because Unitarian Universalism is obviously rather a non-theistic potpourri, it equally obviously can be in complete agreement with the theorem above, to the precise extent that each and every *individual* Universalist learns of the theorem, assesses its validity for themselves, decides for themselves if they do choose to believe in God (the condition of the theorem) and then conclude that God is indeed Universal. It is certainly consistent with what appears to be the core beliefs of Unitarian Universalism in general, right down to the fact that it leaves the *personal choice* of whether or not to believe in the probable existence of God up to each individual based on their *own* experience and as-

assessment of the remarkable data of their own sentient existence.

Outside of that, I personally think that Universalism is a perfectly lovely religion, a *rational* religion. It focuses on ethical humanism and the practical need to foster a rational ethical society that does not rely on Bronze Age supernaturalist or theistic mandates as its basis. It leaves the choice to believe or not believe in God up to each individual without making any dogmatic statement about it either way, permitting atheist and deist alike to participate in *non-supernatural* spiritual growth and religious fellowship. It provides a social platform for marrying and burying, the moral instruction of youth absent any extortionist brainwashing, for doing good works together. Not everybody “needs” to participate in such an organization, but many do, and even if reason tells one that there is no God and death is just death, death of a loved one is a *tragedy* and it is easier to bear when the burden is shared by a supporting fellowship and community.

I therefore have to give it strong marks, and openly invite Universalists to contemplate the theorem proven in this work as a possible *rational basis* for the further progression of Universalist conditional belief.

5.2.3 Quakerism

The Society of Friends, or Quakerism, is another non-theistic offshoot of Christianity that began by rejecting the Bible as divinely inspired truth, and instead viewed *Christ Itself* as the actual word, or logos, of truth. It further asserted that each and every individual has an inner voice that is of Christ, the Holy Spirit itself, and that proper religious practice is to open one’s heart and listen to that voice. It rejects an objectified and dualistic vision of an external, judging deity in favor of the discovery of deity within.

It (with some justice) claims its roots in pre-Nicaea apostolic Christianity, just as do Unitarian Universalists and Christian Universalists. It arose primirily in England in 1650, founded by

George Fox, but spread rapidly to the colonies where it flourished. As usual, it was treated as a form of apostasy or heresy by the prevailing Christian churches; as usual, its earliest members were beaten, imprisoned, executed, and deprived of political power and rights before finding a place in the New World where they could more or less be left alone.

Quakers are most definitely non-theists, rejecting *creed* in the form of theistic revelations that must be clung to against all reason and common sense (where the latter, after all, is an important part of that inner light that illuminates each person's search for truth) while still retaining *doctrine* – the idea that sure, there have been inspired people in the past who have written things that are well worth reading and that can help lead one to truth, and that some of those writings give a loose structure to the Society of Friends.

I confess that I absolutely adore Quakerism, much as I like Unitarian Universalism, because both focus on personal rational choice, with the Unitarians arguably focussing a bit more on the rational in contrast to the spiritual, the Quakers focussing a bit more on the spiritual in contrast to the rational, but both firmly in touch with common sense and both flexible enough to accomodate *new additions* to human knowledge and wisdom because they recognize that *the human discovery of knowledge and wisdom did not end in the Bronze Age!*

Most Quakers I know personally are quite comfortable with physical cosmology, evolution, modern science and simply choose to believe in a Universal Loving God that is a source of personal salvation. To the best of my knowledge, Quaker *doctrine* does not lean towards universal judgement of sin and eternal hell for those who do not make the cut – to the extent that it is still predominantly if somewhat metaphorically Christian, its core doctrine is close to the creed of Christian Universalists without the assertion of divine truth, but of course each Quaker has to make up their own mind about that, based on their own *direct* spiritual experience.

Quakerism is (like Universalism) quite broad; there are ag-

nostic and atheist Quakers as well as Christians those with other core beliefs.

Things to really like about Quakerism:

- No preachers, priests, cardinals, popes, ministers. All Friends are rigorously *equal*, and each and every one can listen to the holy spirit within without dogmatic instruction. It utterly rejects *authority* as a sound basis for *belief*. Enough to make one fall in love right there.
- No kings, princes, lords, earls, dukes, magnates, presidents, rulers-for-life. All Friends are the social equals of all humans on the planet, period. Quakers did not remove their hats or bow down to royalty long before anyone else thought of it.
- Friends as a general rule recognize the absolute *moral* equality of all humans. Women are equal to men. Blacks are equals of whites. They were feminists before feminism was invented, abolitionists before abolitionism was in vogue.
- Friends do not *dictate* sexual morality or ethics, although their doctrine supports the formation of loving relationships in all areas of life at all times. All Quaker fellowships affirm marriage as a good thing; *many* Quaker fellowships affirm homosexuality and homosexual marriages, especially in the more developed countries where this is the majority view. Unfortunately, this is one small area where a hint of social prejudices and residual theism still corrupt the purity of Quaker philosophy and thought, but I have every confidence that this too shall pass as Friends around the world listen to their hearts – and the extensive evidence that regardless of what Romans or the Old Testament say, homosexuality is largely innate and not a simple matter of choice and is quite inoffensive to the Holy Spirit as long as the homosexual relationship is *loving*.
- Quakers are rigorously, religiously, non-violent. With very

few exceptions, Quakers over the ages have refused to participate in the violent resolution of the many conflicts that have occurred on this planet. Perhaps to a fault – in my own opinion there is an ethical and biological case for violence as a necessary means for establishing and maintaining a just society, and historically there have been (mostly) ‘just’ wars. But their beliefs here are *consistent* and absolutely to be respected.

Of course, the real question is, is Quakerism compatible with the pandeist theorem above? Again the knee-jerk reaction must be no – Quakerism originally was a *Christian* heresy, or return to Apostolic orthodoxy, as you prefer, and hence inherited a lot of Biblical “baggage” (that continues to trouble it with inconsistencies as in the case of homosexuality) even as it nominally rejected the Bible as a theistic creed. It is therefore has dualist roots. However, it also has a considerable *Universalist* character, and I don’t know that there is anything in its *Doctrine* that contradicts the theorem. It is certainly again the case that any Quaker who reads the assertion of the theorem and its proof is free to listen to their own heart and judge for themselves whether or not it is correct, and to indeed treat *it* as a source of new doctrine and insight into a God that *is* all things, a God that *is* awareness in their heart not as a matter of belief but as a direct consequence of a conditional proof in information theory.

So I have to give Quakers very high marks as well as being moderately rational, extremely ethical, remarkably liberal, and *capable* of encompassing a non-theistic doctrine of a Universal God that does not contradict the theorem above (which is, recall, mute on the question of God’s existence and on many of the other hypothesized properties of God beyond omni-this and that that are obvious properties of *only* the Universe itself).

5.2.4 Deism

Now we come to the nearly “generic” non-theisms – the various flavors of deism. Deism is simply a belief in God, often iden-

tifying God as the creator of the Universe but not necessarily as a dualist sort of creator. Deism is not a creed with a specific scriptural theism, and deists are generally rationalists who elect to believe in God but otherwise *completely accept* the scientific process as leading to truth. Consequently (lacking any evidence to the contrary, and motivated by a correct definition of “natural” that identifies Nature and the Universe) deists generally believe in a perfectly natural Universe devoid of any sort of supernaturalist miracles.

Individual deists (and schools of deism) differ greatly in what they believe in concerning e.g. the human soul, afterlife, creation, the existence of a moral imperative from Deity, post-mortem divine justice. They are more or less united in rejecting all forms of theism and at the very least viewing any reports of miracles or supernaturalism with the greatest possible degree of skepticism.

Historically, many of the Founding Fathers of the United States were deists: Jefferson, Franklin, Paine were prominent deists and both spoke and wrote extensively against theism. Lincoln was either an atheist or a deist – he was forced to pretend to being a Christian because Christians are ruthless to politicians who do not share their personal theistic delusion (where I call it a delusion in the precise sense that it violates the *proven* theorem above and hence is self-contradictory and *cannot* be correct as it is theistically specified in the Bible).

Deism is *conditionally compatible* with the pandeist theorem. A deist who believes in a *distinct*, dualistic God who created the Universe is obviously inconsistent. Such a thing is impossible, because God (if It exists) is at the very least part of the Universe, the set of everything that exists. God could therefore never create the Universe quite aside from whether or not God *is* the Universe – that’s a simple contradiction of what the words *mean*. A deist who believes in God that *is* the Universe is a pandeist, and is not only compatible with the theorem, but is now affirmed in their conditional belief as being demonstrably proven as a theorem of information theory.

This leaves open many questions about a conditional pandeist or deist belief system – whether or not God is sentient, whether or not God (granted sentience) cares about morality, whether or not a system of perfect justice is plausible, whether or not a Universal awareness or soul exists that can mediate any sort of perpetuation of life experience. All of these *should* be legitimate areas of metaphysical, reason-based speculation, with the firm understanding that the resulting systems of belief, no matter how consistent and hence not actively *impossible* are likely to all remain moderately implausible in the absence of reliable affirming evidence.

5.2.5 Pandeism

Pandeism is the belief that God is the Universe²⁹. Obviously, by this definition pandeism is in perfect accord with the pandeist theorem proven in this work. *If* a standard model omniscient God exists – something that can never be *proven* or *disproven* by means of either pure reason or experimental observation – then it is certain that God *is* the self-encoded Universe or else God must fail in omniscience and seems unlikely to be able to satisfy any reasonable physical model for omnipresence or omnipotence, both of which are manifest attributes of a God that is all places

²⁹Note well that this usage is not in complete accord with conventional usage, which would identify *pantheism* as the idea that God is the Universe and make pandeism the more complicated belief that God created the Universe by becoming the universe. The problem with the former terminology is that it conflates a *pandeity* – a God that is everything, with *theism*, which has been consistently used in the context of this work *strictly* to reference religions that assert God *and* have an associated theistic *dogma*, sacred scriptures with divine revelatory truths contained therein.

Deism has commonly been used to connote rational belief in God in the absence of any specific (necessarily *irrational*) scripture or creation mythology, and "creation" is not a necessary attribute of God; rather the opposite. As we have noted, the notion of a God that "creates and becomes the Universe" is self-contradictory because the Universe is everything that exists, including God if God exists, and the statement "the Universe existed and at some particular time created the Universe" doesn't seem to have any sensible meaning.

and times and events.

Pandeism, then, is a consistent special case of deism in general, where deistic beliefs in a creator God or a dualistic God of any sort are contradicted by the theorem and hence impossible. Pandeism, like deism, has no specific theistic creed or scripture that defines the belief as a *system*, so there is freedom so far to consider a God that is the *sentient* Universe, or a God that is the *non-sentient* Universe, or to further attempt to specify God by ascribing attributes that do not appear, at least, to contradict the necessary minimal set.

Any such attributes, of course, are ultimately subject to the test of reason, and may prove to be difficult or impossible to accommodate in any reasonable (conditional) model of pandeity. Sentience is one of the most challenging of the possible assertions – most people who choose to believe in God would like to believe in a *personal* God, that is, one that is sentient and capable of the same sort of high level cognitive function that humans are. However, if God is the Universe, this becomes a very difficult assertion to sustain, for reasons directly connected to information entropy and the compression of information necessary to sustain at least *our* plausible models of awareness.

Here the issue is simple: We know that God cannot use any high-level symbolic encoding of God's own complete state, because the process of encoding introduces entropy compared to the bare irreducible self-encoded state data in God. Just as you cannot, with your brain, have high level cognitive knowledge of every elementary particle in every neuron in your brain, God suffers the same sort of difficult. However, just as *you* with your relatively small number of connections have considerable intelligence and processing power (all of it coarse grained and fuzzy, averaging over all sorts of microscopic detail in order to arrive at general inferences and apparent truths) it is not completely implausible that the microscopic structure of the Universe itself forms one way or another an enormous brain that is capable of very high level thought; indeed one can interpret all of the mechanical operations of the visible Universe *as* the manifest

thoughts of that brain.

Because of the uncertainties of information scaling in a possibly unbounded Cosmos in a possibly unbounded Universe of possibly unbounded dimensionality, I personally have been unable to work out whether or not this sort of sentience is or isn't plausible. We have already observed in our *local* part of the Cosmos that sufficiently complex physical systems exhibit surprising and unexpected degrees of self-organizing critical behavior, and self-similarity is another poorly understood but empirically well-verified phenomenon in both mathematics and physics, where e.g. the Mandelbrot set is a fairly well known example of self-similar embedded structures of systematically increasing complexity in a very simple ruleset applied to a small "universe" of points. The information entropy of the Mandelbrot set is in one sense zero, as it is generated from a very compact deterministic ruleset, but in another sense its fractal disorder, increasing without bound on the microscale, can *function* as entropy for many purposes. Another apropos example is a random number generator, which can generate "information entropy" of a sort from a zero entropy finite state mathematical algorithm.

When the state information available to set up a "random number generator" scales to infinity, one has to confront the ordering of limits – does the psuedoentropy available to the system scale towards "real entropy" sufficiently fast that things like thought and awareness and discovery can emerge from a deterministic self-encoded zero entropy system? No theory I'm aware of is yet capable of addressing this issue.

This leads us to our final, perhaps most interesting, non-theistic system.

5.2.6 Panendeism

Pandendeism is a fairly recently coined term to describe a sort of "open" pandeism similar to what I more specifically mused upon at the end of the previous section. According to the panendeist website, any deist who believes that the universe is a part (but

not the whole) of God can be considered a panendeist. More explicitly, it asserts that “panendeists believe in a god that is present in everything but extends beyond the universe... In other words, god is the universe but is also greater than the universe.”

I have to confess, these words on a site supposedly devoted to rational religion give me a bit of a headache. Let’s eliminate the use of the term “god” and “universe” per se, and reduce these statements to pure set theory.

Suppose U is “the set of all things that exist”. Suppose some set G exists. Then it is *absolutely certain* that $G \subset U$ (G is a strict subset of U) or $G \subseteq U$ (where G could conceivably be all of U).

Fine, so now assert $G \equiv U$. One *cannot* at that point, also assert $U \subset G$ (set U is a *strict subset* of G), so that G is a *larger* set than the set that contains it. Or rather, one can assert it all you want but it is obviously mathematically and logically impossible no matter *what* particular existential set G is asserted to be.

Note that honestly we don’t even need to assert that U is the set of everything that *exists*. Any set specifier could be used in place of existence and the observation above would still hold – no set can at one time be a strict subset, equivalent to, and a strict superset of any other set, any more than a number can be at once strictly greater than, strictly less than, and equal to any number. To assert such things destroy all meaning; it is pure nonsense.

This is *especially* true in the case of the *Universe*, because the set of all things *that exist* has special properties. Again, consider the more obvious case of numbers. The set of *all natural numbers* is reasonably well defined, with or without an axiom of infinity. If I assert a set that is a *superset* of the natural numbers, such as the real numbers, I am basically saying that there exist real numbers that are not natural numbers, which is perfectly true.

Now consider the problem when we try the same thing with the set of all things that exist. If I assert a *strict superset* of all things that exist, I am stating that in this set there are en-

tities that *don't exist*. To assert that God is “greater than” the Universe is thus equivalent to stating that God is at least partly *imaginary*, unreal, nonexistent, because the Universe is *already* everything that exists.

I find it vaguely irritating when people use words in this sort of way. I imagine that the problem is that they are being sloppy in their usage, and perhaps they mean to say *Cosmos* where they instead say *Universe*, where of course the Cosmos might well be a strict subset of the Universe, although we have no sound empirical reason to think that it is at this point. Or, perhaps they mean to use the term “greater than” in some subjective and arbitrary way – as a way of saying “has a more complex structure than one might naively expect” or the like.

The site does attempt to explain it further with vaguely poetic metaphors, such as the idea that the whole is more than the sum of its parts, but this of course breaks down given that the Universe *is* the whole; the question is only whether God is *also* the whole or just one of its parts as it is impossible that the Universe could be only a part of God. It attempts to suggest that we are *more* than just our cells, and in a similar (also very sloppy) way God might be *more* than just the Universe. But this is doubly treacherous – we are not more than our cells, the “we” of our self-awareness is far *less*. High level awareness is *always* enormously compressive; our thoughts and feelings, however sublime, are a tiny, tiny bit of information compared to the vast sea of information self-encoded within our cells and constantly updated by dynamical interactions with the entire Universe. Also, this more or less assumes that there is something inherently mystical or spiritual about complexity or awareness, that it is “greater than” the microscopic interactions that give rise to it. More important *to us*, I agree – the only place where “importance” can exist – but ordinal arguments of “greatness” smack of Descartes failed arguments for a cause (God) that is “greater than” the effect (Descartes). To ourselves we are enormously important – to the Universe, from the point of view of physics, we are simply particularly efficient generators of entropy.

Let me attempt to replace the poetry and set-theoretic and information-theoretic contradictions with a more concrete and consistent definition of panendeism. In physics and mathematics, there is a profound difference between open sets and closed sets, between finite sets and infinite sets. Let us suppose that the Universe does, in fact, consist of *only the one Cosmos we seem to live in* – so that there *are* no more actual Cosmi, there are no hidden dimensions or hidden variables, so that the actual spacetime we inhabit plus the mass-energy in it are pretty much “it” as far as existence goes. Let us assume further that the Universe isn’t much bigger than what we can see – that there really is a boundary to it or that it closes topologically in some way that lacks a boundary (such as a toroidal boundary condition). In this case spacetime is *closed* and *finite*. The information content of the Universe, however large, is not unbounded (especially if spacetime is granular on some microscopic scale, e.g. the planck scale) and the information *density* of the Universe is actually remarkably low.

In this case it is difficult to sensibly postulate God at all, even a God that is the Universe. To the best of our ability to see, all the way out to the limits of our ability to see, the Universe appears to be lifeless and mechanical, with a fair bit of “disorder” but in a *well defined state* that clearly has zero *global* entropy. If the stars or the rocks are parts of God’s Brain, there is no obvious way they could be thinking of much of anything at all besides *what they are* and *what they are doing*, with all of reality the collective result of their microscopic collective motion. The motion might *appear* to be random or reasoned and ordered, in much the same way that Monte Carlo computations *appear* to sample interaction spaces randomly that exhibit phase transitions and other highly organized behavior, but in reality both reality and the random number generators used in the computations aren’t random at all. The kind of “free will” exhibited by an e.g. Ising model computation leading to an “organized choice” of a predominantly spin up or spin down system is an illusion, an artifact of the *appearance* of non-deterministic

outcomes, and our own free will or God's free will is similarly an illusion, something that disappears if the Universe is a closed finite state system with zero entropy.

If the Universe is *open and infinite*, on the other hand, the game is, as they say, afoot. Step right up and lay your bets. Nobody will be able to say what the outcome is, because an *infinite* amount of information is required to fully specify the state of an infinite system, and no *part* of that system can have a complete knowledge of the state information of the *whole*. Note that *now* we're using set theory and information theory in the correct, ordinal way, because for an open infinite system, *the whole is not specifiable*. We can invent *symbols* such as ∞ to stand for the *concept*, and can even wrap our heads around the concept and learn to use it in constructive ways, but one can no more grasp *the whole real number line* than one can fly to the moon on the back of a pig with wings.

If the Universe contains an *infinite number of Cosmi*, each with an *infinite number of dimensions* and with at least some of those dimensions *infinitely unbounded* and with nonrepeating behavior evidence on *all length and time scales in all the dimensions of all of the Cosmi*, well, we're starting to talk about something that is very complex indeed. Infinitely complex. I for one don't feel comfortable *rejecting* the notion that this infinitely infinite real Universe might be able to function as its *own source of entropy* and yet be everywhere locally perfectly defined and in a unique state. It could possess awareness on an infinite set of utterly incommensurate scales.

Would the Universe in this case arguably be God? Could the Universe not have enough "processing power", as it were, in the infinite exterior of any finite domain to have *asymptotically* complete knowledge of that domain in a high level symbolic form at the expense of its *self* awareness of the open exterior whereup that information is encoded and dynamically flows as "thoughts"? Note that this in no way asserts that God is *greater* than the Universe, only that a Universe that is *sufficiently* large and complex might have properties that are more or less equiva-

lent to those usually attributed to God *including at least a form of high-level self-awareness*.

To illustrate the point with a hopefully apropos metaphor, consider Hilbert's Grand Hotel, which has an infinite number of rooms. The way the metaphor usually is described is that although it is strictly forbidden to bring cigars into the hotel, every morning a fresh new cigar is delivered to your room. Where did it come from? Well, when the hotel was built, there was a cigar in every room left there compliments of the builder. Every day, after you smoke the one in your room, the person with the next highest room number than yours hands his cigar down to you, and gets a cigar from the person with the next highest number than his. Every day this goes on, and even if you stay there an infinite number of nights, smoking a cigar a day, there is no reason to think that you will exhaust the supply.

Now imagine that the owner of this hotel still wasn't happy. Even though he can accommodate an infinite number of guests arriving every day for an infinite number of days and *still* offer them all a tasty cigar every day without ever having to have more cigars delivered, he wants more. He adds on to every room an infinite number of doors to an infinite number of corridors with an infinite number of rooms each on them. The rooms aren't large enough – he wants his guests to have a truly sybaritic experience – so he makes them all infinitely large and fills them with an infinite amount of furniture so that they won't appear too sparse. He wants to make the guest's experience Universal, so that *everybody* is a guest in his hotel, so he does away with the outside of the hotel altogether. Hotel guests may think that they are leaving, but in a twilight zone-y sort of way they are merely leaving one *room* that happens to be furnished so that it looks like a hotel in favor of another room that happens to be tricked out to look like an entire external Cosmos. Finally, he *still* isn't satisfied, so he plays the cleverest trick of all. He puts his entire Hotel into *every room* of the Hotel, which is possible because (after all) they're infinitely big.

There is always room for more in Hilbert's Universal Panen-

deist Hotel, where the rooms themselves are the latest in artificial intelligence and anticipate your every need, reconforming themselves at will even as they *simulate* your presence because *you* are just a part of the furniture, a part of the contents of the inside of the Hotel itself, every bit as much as you are a guest that came to spend the night. Or is it the rooms that are the guests and you that are the artificial intelligence? Nothing is as it seems, because underlying everything there are layers within layers, overlaying everything are layers on top of layers, in an infinite sequence of layers in both directions both ascending and descending.

If you're going to assert a panendeist God, then, it appears to me that:

- It must be a pandeist God, identical to the Universe, but
- It is a *very complex* – open, unbounded, infinite Hilbert Hotel of a *Universe*, one large enough to contain as many cigars as you ever might care to smoke.

This is all very speculative, of course, and not *much* better than calling the whole greater than the sum of its parts, but at least we can avoid that much. I would conclude that panendeism of *this* sort is nothing but an “open and complex” pandeism and hence is completely compatible with the theorem proven above, and indeed is much *more* appealing, more congruent to the intuitive idea of God than “closed” pandeism, for anyone include to assert the existence of God in the first place. The model is hardly provable, but I don't think it is actively self-contradictory and it leaves *open* the possibility of a “personal” God that is much greater than the *visible* Cosmos.

Truthfully, though, if the theorem proven in this work proves anything, it proves that one really has to do real mathematics in order to do rational metaphysics. One has to precisely define one's terms, and avoid making poetic and metaphorical statements in *English* unless they are specific illustrations of points that you actually obtain rigorously. To to be honest, I cannot prove that either pandeism itself or panendeism are globally

(conditionally) consistent, only that any other model of God is (conditionally) *inconsistent*. These two models (and the various other theisms or non-theisms that are “close” to these two, possibly with some heretical tweaking) are at least “possible” models of Deity

6 Consistency with Physics and Natural Science

Hopefully it is clear that the theorem above is utterly consistent with natural science. It makes no assertions about the Universe itself, and permits us to learn of the Universe *as* symbolic encoding subsystems riding our own personal cusps of entropy quite independent of whether or not we view this as learning about God \equiv Universe or just Universe with God $\equiv \emptyset$. With the assertion of necessary contingent identity we are no longer strictly capable of differentiating the two. A pandeist scientist or philosopher studying the Universe is not necessarily irrational, nor is he or she particularly distinguishable, from an atheist scientist or philosopher who loves the subject of his or her work.

They are differentiated, if at all, by very subtle differences in their point of view, nothing like the gulf that separates a Muslim scientist or Christian scientist when they confront the enormous disjunctions between their supposedly divinely inspired scriptural mythology and straightforward observations and conclusions of physics, cosmology, biology, chemistry, history, and modern secular ethical theory. Both experience a sense of wonder and awe that might be called “worship” when confronting and exploring the beauty of all that is. Neither has any particular reason to expect things like life after death, resurrection of a personal soul in a physical body, heaven, hell, demons. Neither has any particular reason to think that God *cares* about being worshipped or *cares* about how humans behave. In a sense it doesn't *matter* if the Universe is God or is just the Universe because the possibility for information exchange from *inside* the

Universe with *the Universe itself* makes no sense at all.

A panendeist, on the other hand, can keep open the *possibility* of God as Universe where the Universe is *much larger* (infinitely larger) than even *infinite* subsets. To be honest, our understanding of the mathematics and information theoretic possibilities in this sort of limit is none too solid, and it is very difficult to *rationally* reject *any* possibility. This is especially true if we hypothesize a *coupling* between our “visible” spacetime and other spacetimes (or other dimensions in general). This coupling (in physics) permits *information* to be exchanged between spacetimes, which in turn means that the entropy of spacetime need *not* be (internally) constant! In fact, spacetime becomes a subsystem in the Nakajima-Zwanzig sense, and the rest of the Universe becomes a bath, the moreso since it is a truly *infinite* bath with truly *unknown* coupling.

Since spacetime from the *outside* where as a set of dimensions embedded in a much larger space one can actually think of it as *having* and outside, much as the surface of a beach ball can be inside a larger (higher dimensional) space) is static, this opens up the possibility of Hilbert Grand Hotel flows of information and entropy down to, and action upon, our particular spacetime. Here we have to be *very careful* with what we can reasonably believe.

There is a natural temptation to say that now “anything is possible”. God could indeed have “created” the Universe by assembling parts of *Itself* (not creating them, mind you, as creation is still impossible but by building our particular room in the Hilbert Hotel out of lumber and furnishings provided in the (inexhaustible) rest of it. God in this instance could very definitely be sentient, God could work miracles of the first and second kinds in *this* spacetime (where a miracle of the first kind violates the second law of thermodynamics and consists of the highly improbable within the bounds of microdynamic physics in our associated spacetime dynamical bundle, and a miracle of the second kind violates *both* the first law *and* the second law of thermodynamics and might consist of the transfer of mass-

energy *and* information into our spacetime from the “outside”).

This is all *true but irrelevant*. As is (or will be) carefully laid out in *Axioms*, if we develop the axiomatic theory of evidence-based knowledge as the *best* we can know of the Universe we live in given our collective experience and finite vision, anything is *possible* but almost nothing is *plausible*. We quite literally have *no reason* beyond our imaginations to believe any such thing. We have been unable to observe anything like a systematic violation of our inferred laws of physics in this spacetime, which includes *both* the generalized first law (viewed as the conservation of mass-energy as well as a slew of other fields of information associated with self-encoded elementary entities in our best-guess field theory) *and* the second law, which basically states that whenever we do experiments on a macroscopic scale that averages fairly over the dynamics of the microscale, we always see something happen that is macroscopically likely, not unlikely.

It is very clear that the *best* thing to believe is the one that is *most consistent* with the available information, the one we can *least easily disbelieve*. A rational panendeist, therefore, has no real excuse for openly embracing some scriptural theism or accepting its tales of “miracles and magic” uncritically. Extraordinary claims require extraordinary evidence; otherwise we should rather expect that any of the far more likely explanations for even “miraculous” occurrences are correct.

From this we can see that a rational panendeist (as opposed to a theist who is an *irrational* panendeist) should be highly skeptical of theistic claims and demand extraordinary proof *even compared to the already high standard of proof or evidence used in natural science!* This is perfectly clear. One is basically inferring a *vast extension* to the spacetime we directly observe on the basis of indirect evidence. One requires a more or less complete, consistent, testable theory to even *begin* to collect non-anecdotal evidence to support or not support that theory.

A perfect example is given by the theory of evolution and various creationist arguments. The theory of evolution via reproduction with variation followed by natural selection is per-

fectly sensible and requires no new science – only a long-running statistical process.

The theory of direct divine creation (or intelligent design, or whatever) *starts* by positing as a *fact* the existence of God (or a thinly disguised “intelligent designer”). The God (if we call things by their right name and assert God) must be a panendeist sort of God with enormous exterior complexity in order to be able to “think about our spacetime” at all and act upon it. This vast, vast being must be able to reason *symbolically* all the way down to our scale of being and has to have done nothing more over a timescale that ranges from thousands to billions of years but move matter around in ways that directly violate physical and statistical laws *while preserving the illusion that those laws are perfectly satisfied* to create/design the *appearance* of a systematic hierarchy of systematic progression of species in consonance with an environment that this being (presumably) is *also* causing to vary in apparently unplanned and unorganized ways. This is not an easy theory to formulate intelligibly, and we would never be tempted to do so based on the evidence were it *not* for supposedly divinely inspired scriptural mythologies that picture God like a person only much much bigger and meaner.

If we compare the former to nature by means of observation and experiment, we find truly, extraordinarily excellent agreement. We find mountains of evidence of time-ordered rocks with a clear progression of species in correspondance with the age of those rocks. We can validate the ages of the rocks in many ways. We examine the chemistry, the biochemistry, the statistical mechanics, the computational statistics, the fossil record, and most recently the *genetic* record and find that it is *all* consistent with the theory of evolution, usually spectacularly so, so much so that a countertheory would have to be supported by powerful evidence indeed (evidence that could explain *everything* explained by evolution, only better). We conclude that the theory of evolution fits our experiments and observations so well that it is almost certainly either true as is or a big, big part of the truth.

If we compare the theory of intelligent design to nature, we get *no agreement at all*. There is no direct evidence of a designer. The timelines consistently read off by e.g. radiometric dating make no sense at all in terms of a designer. The designer makes *mistakes* inconsistent with their supposed intelligence (things like the human appendix and “fossil” DNA). There is little reason for such a designer to have hidden their work behind the *illusion* of systematic evolution, little chance that a designed work would have been designed in that particular way. When we look at the Universe in general, we see no support in physics, chemistry, biology, statistics (computational or otherwise) to support this “theory”. It doesn’t work *at all* to explain the biosphere we observe, where evolution explains nearly *everything* we observe.

The rational panendeist, *even though* they choose to believe in at least the *possibility* of a self-aware God (who is still, remember, the Universe itself and not a creator of same) simply looks at these two hypotheses like *any* rational philosopher or scientist and rejects the latter, mostly believes in the former, and keeps their mind just a bit open awaiting more evidence or new results that might make them change their mind. Again this is for all *practical* purposes not unlike the way the atheist or pandeist proceed, the difference being a certain cautious optimism, a sense of being just a bit more open minded about the possibility of actual influence of God on the spacetime we live in. The only real evidence they might have for this is that *out of* the rather large space of possible spacetimes that might have existed (and might well exist), *this* one has led to the current rather unlikely (viewed in a sufficiently macro basis) state of affairs. Anything *could* have happened, perhaps, but in any event this spacetime that we live in, and we ourselves, *did* happen.

And in one *very important sense* we are just as unlikely as that cigar.

7 Conclusions

In this work, a very simple theorem linking the Universe and a hypothetical God has been proposed that makes the process of “creation” as described by nearly all scriptural mythologies literally impossible. There is no creation. There is no birth, no death, only eternal being, a being of *information*. This theorem incidentally *also* resolves a number of other philosophical conundrums from the ages, for example the issue of whether things are mind or matter, material or ideal. The answer is neither – they are *self-encoded information*. Self-encoded information has been shown to be distinct from symbolically encoded information and is something that can equally well be viewed as being “matter” or as “mind”, although it can never be sufficiently emphasized that in *general* when one speaks of mind one speaks of an entropic-time driven awareness that is *quite distinct* from the kind of information or awareness attendant upon calling the intrinsic coordinates of an electron *mind* instead of the more descriptive *mere* self-encoded information.

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