

To Infinity and Beyond: A Full-System Physics

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Soli Deo Gloria

The Parable of the Madman, Revisited

Have you not heard of that prophet who lit a lantern in the bright morning hours, ran to the marketplace, and cried incessantly: "I have found God! I have found God!"

As many of those who did not believe in God were standing together there, he excited considerable laughter. Have you not heard that God is dead? said one. Have you not heard that science explains the universe? said another. Are you an anti-vaxxer? A faith healer? A creationist? Thus they shouted and laughed. The prophet sprang into their midst and pierced them with his glances.

"God is dead?!" he cried. "Hear, O heavens, and give ear, O earth: God lives! But how does God live? How did your best efforts not wipe God away? Have you not conquered the earth? Have you not reached the stars? Have you not discovered the building blocks of life? You abandoned God and bowed down to colourful rags, to men, and to intricate theories, crying out "Save me! You are my god!". You held festivals of atonement in Flanders and Dresden, sacred games in Auschwitz and Nanking. Is this how you, self-proclaimed murderers of all murderers, console yourselves after your supposed deicide? Do you not see that you are now perpetually falling? Backward, sideward, forward, in all directions?"

Is there any up or down left for you? Male or female? Good or evil? Objective reality? Do you not hear anything yet of the noise of the seekers who have remembered God? Do you not smell the flowers that grow each spring? God lives. God will remain alive. That which was the holiest and mightiest of all that the world has yet possessed remains available to us. Remember the former things, those of long ago; for I have found God, and there is no other like Him. There has never been a greater discovery; and whosoever shall be born after us - for the sake of this discovery he shall be part of a higher history than all history hitherto."

Here the prophet fell silent and again regarded his listeners; and they too were silent and stared at him in astonishment. At last he threw his lantern to the ground, and it broke and went out. "I have come too early," he said then; "my time has not come yet. The tremendous realization is still on its way, still travelling - it has not yet reached the hearts of men. Lightning and thunder require time, the light of the stars requires time, perspectives require time even after information is acquired, before they can be understood and appreciated. This insight is still more distant from them than the distant stars - and yet it has been around them since the beginning."

It has been further related that on that same day the prophet entered places of worship and there sang joyous psalms. Led out and quietened, he is said to have retorted each time: "what are these buildings now if they are not the Kingdom of Heaven?"

I. Beyond Normal Science

"There are always discrepancies between theory and data, many of them large. The recognition of something as a significant anomaly that must be explained – more than a discrepancy that must sort itself out in time – is itself a complex historical event, not a simple refutation..."
- T.S. Kuhn¹

In his landmark work on the unification of knowledge, biologist Edward O. Wilson envisioned an eventual fusion of the sciences and humanities into a perfect sphere of universal human understanding². However, despite many landmark advances of the physical sciences over the last two hundred years, as well as significant achievements in developing consilience between fields previously thought to be unrelated, this unified perspective seems to be as far away as ever.

Indeed, despite the proliferation of scientific knowledge throughout the modern world, and even growing interest in all-encompassing "theories of everything" in Western intellectual circles³, every hard-won answer uncovered by researchers in the physical sciences seems to lead to even more confounding problems. One of the strongest contenders for a comprehensive scientific paradigm, string theory, has recently crumbled after decades of scrutiny, leaving theoretical physicists scrambling to find a new foundation for their discipline⁴. Similarly, the unprecedented understanding of the human brain possessed by psychologists and neuroscientists has been of no help whatsoever in addressing the psychological sciences' most foundational problems, particularly the issue of consciousness and whether humans have free will⁵.

As observed by Thomas S. Kuhn in *The Structure of Scientific Revolutions*, an existing scientific paradigm

is capable of persisting for quite a long time in the face of known anomalies, particularly because it is not always clear to scientists which anomalies necessitate the development of radical new theories.

For example, the transition from classical to quantum mechanics spanned almost a century between the discovery of the photoelectric effect in 1839 to Einstein's work on relativity in the early twentieth century, partially because the photoelectric effect was investigated in much the same way as any other scientific curiosity. While there was no way for nineteenth-century physicists to know ahead of time that the photoelectric effect would lead to a profound revolution in the physical sciences, it is arguable that the anomalies now being encountered by scientific researchers are profound and numerous enough to necessitate a new paradigm in the physical sciences.

THE FOUNDATIONS FALL AWAY

Consider, for example, the *singularity problem*, which presents scientists with the unanswerable question of why we have a universe instead of nothing at all, or what happened before the "Big Bang" which seems to have marked the universe's formation. Although some scientists and philosophers attempt to dismiss this problem as "irrelevant" or otherwise unworthy of investigation⁶, the fact remains that one of the theoreticians responsible for modern Big Bang cosmology, Andrei D. Linde, has remarked that the singularity problem is "one of the most puzzling problems" that modern scientists must grapple with⁷.

There are other foundational problems within the current scientific paradigm which also remain pointedly ignored by many researchers. One of these issues is the problem of energy flow in living systems, which researchers have generally concluded defies entropy on a local scale. Put simply, even though one of the overriding tendencies of all physical systems is towards disorder and chaos, living things tend towards specificity and complexity, violating the statistical expectations one would typically have⁸.

Although these entropy-defying tendencies are only found within the living beings themselves, and results in greater entropy in the total system, the reality is that despite mountains of theoretical literature produced by scientists on abiogenesis, the entire scientific paradigm is currently founded on the belief that life on Earth began with chemicals jumping together to form bacteria in a dirty puddle, an event which has never been replicated under perfect laboratory conditions. This is something that physicist Gerald Schroeder has observed, based on work by Yale biophysicist Harold Morowitz⁹, should still not have happened by the statistical likelihood of such chemicals being formed, bonded, and complexified to the point of life¹⁰.

While the singularity problem and the issue of life's relationship to entropy are formidable quandaries in and of themselves, the catalyst for this treatise is, true to Kuhn's observations on scientific progress, a subtle yet significant anomaly recently uncovered in quantum physics and astrophysics. In a recent publication authored by researchers at Princeton and the University of Chicago, it was indicated that the event horizons of black holes and the edge of the universe seem to function as observers which allow the quantum states underlying our material reality to collapse into a stable physical universe¹¹.

Taken together, these three anomalies present the existing scientific paradigm with a significant legitimacy problem. If scientists cannot explain how or why the universe began, if the thermodynamics of abiogenesis are unrealistic, and if the universe requires an "external observer" of some sort in order to exist, it becomes possible and perhaps necessary to expand the domains of inquiry beyond what would be considered science and into religious territory.

THE PROBLEM WITH RELIGION

Although most modern scientists are loathe to consider anything resembling a Biblical worldview as a viable cosmological theory, the fact remains that the physical sciences continue to encounter foundational

problems that are most easily and logically solved by the existence of a Creator. Indeed, as currently imagined, the physical sciences are bending their own Second Law of Thermodynamics to the point of breaking, shattering their own Laws of Conservation, and shying away from evidence of external observation to continue conducting Kuhnian *normal science* and enjoying large research grants.

While the reconciliation of the sciences, humanities, and religious knowledge would be a tremendous achievement by intellectual standards, especially if it entailed the "discovery" of the universe's Creator, one of the major obstacles preventing such a unification are the different kinds of knowledge contained within the sciences and religions. Indeed, as outlined by philosopher Stephen R.C. Hicks, religious knowledge is based on revelation and tradition, which differentiates it from scientific knowledge based on observation, replication, and rational inquiry¹².

The apparent incommensurability of scientific knowledge and religious knowledge, combined with the strict adherence to religious dogma encouraged by the world's major religions, makes it difficult to envision how such an epistemic reconciliation could even be possible. Moreover, given the kaleidoscope of different metaphysical theories held by the world's religions and the untestable nature of many of those theories, conducting scientific investigations into many religious matters is simply not feasible.

While it may seem that the physical sciences are consigned to mere speculation about the nature of things before and beyond our universe, the reality is that a first-principles approach to studying religious matters reveals a wealth of reliable information that addresses the singularity problem and other foundational issues.

II. The Nature of Knowledge

"Truth is the object of Knowledge of whatever kind; and when we inquire what is meant by Truth, I suppose it is right to answer that Truth means facts and their relations, which stand towards each other pretty much as subjects and predicates in logic. All that exists, as contemplated by the human mind, forms one large system or complex fact, and this of course resolves itself into an indefinite number of particular facts, which, as being portions of a whole, have countless relations of every kind, one towards another. Knowledge is the apprehension of these facts..."
- J.H. Newman¹³

Although scientists have taken great pains to distinguish between their knowledge and that of the world's religious traditions, the reality is that science, folklore, and religious tradition are all types of information, and therefore subject to the same laws and selective processes. Consider, for example, that the peer review system now held as the gold standard for knowledge is based on a system of collective revelation, whereby individual scientists investigate the same issue and compare their results. As honest scientists will acknowledge, this system is by no means perfect, given that the psychological sciences in particular are rife with pseudoscientific claims and systemic corruption despite their use of the peer review methodology¹⁴.

Given these realities, it becomes necessary to ask what differentiates science from different "kinds" of knowledge such as folklore. Much like science, folklore relies on the independent actions of many people combining to create a group consensus about

an issue¹⁵. In many cases, the folk tales that exist in cultures, such as *Little Red Riding Hood*, contain implicit lessons and best practices for conduct, such as the importance of being wary around strangers. Also, whereas scientists might point to their sophisticated equipment and research data to emphasize their rigorous connection to reality, it cannot be denied that much of folklore is generated through personal experience, condensed into story form and then fed into the cultural evolutionary processes that govern meme selection¹⁶. One such example is *The Ugly Duckling*, an autobiographical tale written by Hans Christian Andersen to provide hope and inspiration for people who experienced abuse and rejection in their own childhoods.

While the life lessons learned and distilled into folklore by Andersen are not necessarily "scientific" in the sense that an explicit methodology for experimentation was followed, it cannot be denied that real-world data was being collected throughout the course of his lifetime, and a great deal of "theoretical" work was done in comprehending, processing, and relaying his experiences. Thus, in the same way that science can be said to have selective pressures that encourage a conformity to reality, the pressures that operate on folklore tend to select for efficacy – the biologists ultimately tie these phenomena to deeper selective forces¹⁷.

But what can be said of religious knowledge? Typically, a single gifted individual is alleged to have some kind of revelation or divine encounter, after which they reveal the "truth" to the world¹⁸. All too often, these "truths" are simply not compatible with what is known about the universe, such as the claims of Eastern religions that the universe is cyclical or infinite – this does not reconcile with the Big Bang model, particularly given that the cyclical Big Bounce models are seen as fringe contenders at best¹⁹.

Moreover, most world religions are famous not for their stated values, but for their betrayal of them. For example, it is difficult to believe in the spiritual authority

claimed by Roman Catholic faith leaders in the wake of revelations about systemic sexual abuse of children, the questionable fundraising practices that sparked the Protestant reformation, the incoherent metaphysical and soteriological positions represented by Christianity's trinity and salvation doctrines, and any other number of scandals that have plagued the Church throughout its violent history.

The credibility problems that come with religious knowledge cannot be denied. However, if it was somehow the case that Og met an eight-winged angel in the forest and received some instructions from that angel, then that knowledge is "true" regardless of its credibility, credulity, or replicability. The implication of this uncomfortable fact is that there may be one or more world religions making correct metaphysical claims despite the very best efforts of scientists to demonstrate otherwise.

This leaves scientists with a very unappealing choice of paths forward. Either the mainstream can continue on with their "normal science" and hope that the singularity problem, the hard problem of consciousness, the problem of free will, the external observer problem, and the quandary of life's neg-entropy will be figured out eventually – an ironic kind of *faith in science* – or the sciences can undertake the seemingly-impossible task of investigating religious claims from around the world in the hopes that the right answer can be found more efficiently that way.

Neither of these options are fairly appealing, and both involve a significant amount of tedious and agonizing "normal science" that will generate incremental answers at best. However, a "middle way" is possible. By being elegantly thoughtful about the minimum qualities for what constitutes acceptable religious knowledge, scientists can truncate the list of all possible world religions and cults to a single religion, which, unappreciated by most, actually sits at the very foundation of Western civilization.

QUALITIES OF A FAIR & TRUE RELIGION

One of the criticisms of the Christian deity – and a valid one – is the problem of people who have never had the chance to hear the Gospel. If those people die technically not "believing" in what they should, by Christian logic they are consigned to an eternity of hellfire for circumstances completely out of their control. More generally speaking, one of the principles at play which determines a fair religion is *accessibility*. Can a reasonable person, even the so-called "average person", come to realize a religion is the truth given a fair and reasonable effort? If not, and there is punishment involved for non-belief, the religion can safely be discarded as unreasonable.

This does away with Christianity and Islam, both of which rely generally on the private and barely-documented revelations of its founders – the Apostle Paul and Mohammed, and probably disqualifies many other exclusionary cults in the process.

Another quality one could reasonably expect of a true world religion is complete – although perhaps not immediately obvious – commensurability with scientific knowledge. The case of miracles aside, when one compares the claims of a religion with what is known and reputable in scientific spheres, connections should readily appear, rather than mysteries and contradictions. This disqualifies the major Eastern religions, Hinduism and Buddhism, as they both posit an eternal universe.

Finally, given the credibility problems inherent with private revelatory narratives, it would be highly preferable if the major religious claims could be verified through a form of "peer review" or distributed confirmation. For example, many Christians place their faith in the New Testament's claim that the resurrection of Jesus was witnessed by many people, including a group of five hundred Israelites. The problem with this claim is that although it is compelling, not a single witness among those five hundred can be named, nor can anyone point to their descendants to

at least claim there was some kind of family tradition preserving the knowledge.

Upon a comprehensive review of Christianity, the most popular world religion, it seems that its rise to prominence was catalyzed by several private revelations, which are compelling taken together, but not completely authoritative... particularly in light of all the other scandals plaguing Christianity's doctrines, documents, history, and conduct²⁰. Thus, the search for a viable candidate for metaphysical solutions continues to the last remaining major world religion, and perhaps the most unexpected one.

III. A Nation that Rises Like a Lion

Out of all the contenders for "the one true religion", there is one belief system that stands out from among the rest – not just because of its unique and compelling faith claims, but because of the impressive track record of its followers and their successes. That religion is Orthodox Judaism.

Unlike all other religions, which tend to derive from the insights and revelations of a single person, Judaism began with what is known as a *national revelation*, recorded in the book of Exodus as a meeting between three million Jewish men, women, and children, and the Creator of the universe²¹. Very interestingly, the memory of this event, as well as the body of written and oral law surrounding the implications of Israel's covenant with the Creator of the universe, have been preserved with a system called the *mesorah* which, when examined honestly, works in much the same way as a digital blockchain.

Indeed, the individual Jews, and especially the Orthodox rabbis, constitute the independent "nodes" referenced in Nakamoto's landmark paper²². Their strictly-controlled manner of transmission from generation to generation, and the copious amounts of documentation surrounding the circumstances of transmission represented by the *Talmud*, *Seder Olam*, and other key works in Orthodox Judaism, are a testament to the credibility of this system²³.

Similarities between digital blockchains and the *mesorah* include a "majority rules" protocol as well as the ability for "forks" to maintain plurality – the outcomes of these protocols include the Ashkenazim and Sephardim, each operating on slightly different protocols that both lie entirely with the acceptable traditions set by previous "blocks" in the Orthodox Jewish chain.

Although the intellectual and technological achievement of the Orthodox Jewry is significant on its own, recent evidence and arguments put forth by Rabbi Alexander Hool, corroborated by this author, indicate that the dynastic chronology of Ancient Egypt is deeply erroneous, and when corrected and properly understood, reveals a mountain of evidence for Biblical events as-written^{24,25}. Astoundingly, when these bold claims are put to the test, even the radiocarbon dating literature cannot deny Hool's erudite corrections to this longstanding misconception about the ancient world²⁶. This provides Orthodox Jews with an excellent alibi that directly preceded their national revelation.

However, even if one accepts that some kind of supernatural event occurred in the way that the Jews say it did, it remains to be proven that the "being" responsible for said event was the Creator of the universe. How could one possibly verify the identity of this being beyond a reasonable doubt?

This is where the relationship between Torah and physics can be appreciated. Consider, for example, that whereas Buddhism and Hinduism maintain that the universe is characterized by a never-ending cycle of death and rebirth, Judaism's holy text begins with an account of the universe being created from nothing. Judaism's account of Creation is also the only one out of all the world religions to describe light being "separated" from darkness after its creation, a remarkable correspondence to the temporary "opacity" of the high-energy early universe²⁷.

While the profound disagreements between scientific and religious estimations of the universe's age discourage many from trying to reconcile the two perspectives, over the past several decades, both Dr. Gerald Schroeder and Rabbi Alexander Hool have found ways to reconcile science's "old universe" cosmology with the Orthodox Jewish "young universe" narrative through reasonable applications of Einstein's relativity^{28,29}.

These correspondences, and many others like them littered throughout the Western archives, strongly indicate that Judaism is unique among the world religions based purely on the strength of its faith claims. However, the track record of the Jewish people is also remarkable, in that they have historically been one of the most successful demographics in any society they have been in, despite institutionalized antisemitism in many Western countries. Moreover, Israel has the highest number of Nobel Prizes per capita since the year 2000³⁰, indicating that the Jewish people are, if not the "chosen people", extremely gifted for some reason.

IV. With Firstfruits...

If the Orthodox Jewish cosmology is the "correct" cosmology, and the physical sciences can be reconciled with it, one should expect a kaleidoscope of correspondences to appear when attempting to compare texts like Genesis to the scientific and historical records.

First, let us reconsider the fact that the event horizons represented by the universe's edge and black holes seem to collapse the quantum states within the universe into stable physical matter. The fact that these event horizons are performing the role of an "observer" in similar ways to traditional observers in Schrödinger's thought experiments is astounding, and it is not reasonable to suggest that there may be "something" observing the universe from outside of it. Thus, Judaism's longstanding claim and reason for existence – its contact with a Creator that made the

universe and watches it carefully – seems to be not only reconcilable with astrophysics papers published in the twenty-first century, but provides an elegant solution to the quantum problems now pondered by theoreticians.

The second anomaly, Linde's "singularity problem", remains a confounding issue for physicists and philosophers, some of whom reject the issue as irrelevant, while others admit to "very big gaps" in their understanding of the cosmology³¹. Indeed, the modern tendency to step over fundamental issues to lose oneself in the details is no more evident than in the secular community's stubborn refusal to generally admit that it is remarkable that we even exist. Again, Judaism has claimed for over three thousand years that the universe is not cyclical, but had a beginning and was created – "bara" – from nothing. This solves the singularity problem very simply, although in ways that secular scientists would be hesitant to acknowledge.

A third issue, which secular physicists would dismiss as a philosophical quandary, is the question of how the laws of physics came to be. As Linde observes in his landmark work on the early universe's inflation, the ways in which the universe works are impossibly intricate with almost no margin for error, which presents several interesting questions that are ignored by physicists who would much rather play with well-funded particle colliders.

This third issue, however, is where Judaism begins to offer answers that astrophysics cannot. In the very first line of the Jewish *Tanakh*, a quirk in the Hebrew language, lost for two thousand years by Christians hostile to the Jewish *mesorah*, reveals that an alternate and viable reading to Genesis 1:1 is...

*"With firstfruits, God created the
Heavens and the Earth..."*

The “firstfruits” referenced in this verse, as the Jewish sages explain, is Torah. And Torah, as anyone familiar with Judaism will know, constitutes, among other things, the laws and procedures that Jews must follow during their daily lives, and according to the Jewish *mesorah* was created some time before the beginning of the universe.

Thus, properly understood in the original language, the very first line of the Bible – the West’s central document – indicates that the Torah possessed by the Jews is a document given by the Creator of the universe that prescribes patterns of life sufficiently harmonious enough with the laws of the universe to be sustainable. Thus, the millennia-long track record of survival and success possessed by the Jewish nation becomes more explainable, as do the remarkable properties of the universe that allow it to exist as it does. Moreover, delving into the reasons for the universe’s creation reveals that Creation has a purpose, and that human beings also have a purpose.

This is... inconvenient for scientists, especially secular ones who would rather not have existential limits placed on their studies or behavior.

To paraphrase Rabbi Yosef Mizrachi, a rabbi who specializes in Orthodox Jewish outreach, if someone showed you a cell phone and claimed that it was created by sand randomly coming together, you would take them to a psychiatrist³². However, scientists have been able to contort themselves around the Second Law of Thermodynamics, the Laws of Conservation, and the astoundingly specific properties of the universe, bamboozling the West’s populations along the way. Put simply, it seems time to wake up from the dream and reconnect to reality.

V. Towards Full-System Thinking

While the cosmology of Orthodox Judaism is heavily misunderstood by the West, and the literature on much of it is only accessible to experienced Torah scholars, the relevant aspects of the literature can be summarized by saying that the material universe is

only one part of a *spiritual system* that works in harmony to accomplish certain goals.

Indeed, the current formulation of physics is failing to account for the spiritual worlds detailed by the Jewish sages, and researchers find themselves bumping into subtle contradictions in much the same way as a young physicist might stumble on a thermodynamics problem involving a closed room and an open refrigerator. Indeed, the entire spiritual system is interconnected, and therefore the field of physics must develop some level of awareness of this system – and its external Observer that even the astrophysicists are beginning to discover.

Although this author is veritably exhausted from the mental effort required to attain this understanding, the profound implications of the following principles, when considering outstanding metaphysical arguments in the West, seem to indicate that a “full-system” paradigm is now required in physics to productively continue research.

PRINCIPLE 1: CONSERVATION OF HOLINESS

Consider the Jewish principle that the Creator of the universe is perfect in every way and lacks nothing – perhaps surprisingly, the universe was created for altruistic purposes.

Given the *boundary condition* of perfection in every way, it logically stands to reason that the holiness of the system must remain constant, as the Creator did not become any less perfect for making Creation, nor did the Creator become any more holy – as that would imply a lack, a need, or an imperfection.

Although this sounds relatively trivial, from this simple principle several physical and spiritual laws can be derived, chief among them Newton’s Third Law of Motion. Within Judaism, the question of why powerful evil figures like Balaam, the sorcerous counterpart to Moses, exist in the circumstances that they do become more obvious, as the balance of “good” and “evil” in the system must be maintained to satisfy this principle

of conservation. Spiritual principles of other religions that have discovered these truths, such as the Yin-Yang model, also allude to the *conservation of holiness* that underlies the system of Creation, and the Jewish mystical tradition of Kabbalah teaches that cyclical relationships exist between the material and spiritual realms that influence what happens on either side of the universe's boundary.

Given that most Kabbalistic texts are considered off-limits to non-Jews, it is unlikely that every physicist will have to become a master of Jewish mysticism as part of their undergraduate studies. However, given the scientists' own Laws of Conservation that are broken by their Big Bang cosmology, a theistic explanation for the existence of the universe, as well as the dynamics between good and evil experienced by humankind, and even the proposition of punishment in the afterlife for evil deeds, seems to dovetail nicely with what is currently understood about the nature of action-reaction and conservation.

PRINCIPLE 2: WORK & ASCENSION

Viewing matters from this new perspective also allows for the reconciliation of some interesting themes across spiritual literature and physical reality. Consider, for example, that physical work must be done to resist forces of gravity, and in the same way people of every religious tradition must put in some form of "spiritual work" to reach "higher levels" of existence or understanding. As documented by Lakoff and Johnson in their work on metaphor³³, the up-down dichotomy is pervasive in human language, where "up" is almost universally associated with positive qualities, where "down" is associated with death, degeneracy, decay, and poor moods. It should go without saying that "Heaven", in Jewish cosmology, is "up", and that Gehinnom, or "Hell", is very "down".

Thus, there seems to be a similar principle at play here that underlies the entire system of Creation, and it may be possible that the entire cosmology can be

organized along an up-down dimension if it has not been done so by the Jewish sages already. Moreover, the simple fact that spiritual and physical phenomena can be reconciled along similar fundamental dimensions and forces strongly indicates that this consilience is worth further investigation.

PRINCIPLE 3: WHAT GOES AROUND...

Somewhat paradoxically to scientifically minded thinkers, who understand reality mostly in terms of linear cause-and-effect relationships, the Jewish principle of *measure for measure*, known to Eastern thinkers as *karma*, provides a framework within which one can understand moral causality in ways not possible within secular scientific cosmologies.

Indeed, for atheists who believe they are ultimately the product of a biochemical accident, the finality of death creates a false endpoint in their psyche that is an endless source of what researchers have consistently described as terror³⁴. While the notion that there is no life after death may be a delusion when Orthodox Jewish faith claims are taken as true, it remains a fact of Western civilization that the striving for worldly achievements and lasting impact, a kind of functional immortality³⁵, has been the source of many wars and catastrophes. Moreover, as the protests over the killings of George Floyd and other modern martyrs have shown, the finality of an unjust or unfortunate demise can be enough to raze entire cities to the ground in the absence of a comprehensive view of the Creation system.

However, if the universe is taken to be part of a larger system that includes Gan Eden, a spiritual paradise, and Gehinnom, a spiritual refinery, the principle of action-reaction can be extended to the afterlife, providing moral philosophy with an unexpected foundation – and human societies with inconvenient limits on their conduct. However, there are advantages to the *measure for measure* principle underlying Creation, as discussed in a short documentary entitled *In God We Trust*³⁶. In the film,

Jewish filmmaker Berel Solomon discusses the role of charity in Jewish success, and claims that the more charity one gives, the more unexpected windfalls one can expect in the future.

The problem with this principle, which will frustrate scientists and prevent them from acknowledging its credibility, is the nonlinearity of Creation and the reality that bad things can sometimes happen to good people. Thus, it could be the case that one of the most generous people in a given city could be a member of its homeless population, for reasons involving moral and spiritual calculus far beyond the reach of humanity's most powerful computer systems.

Additionally, it may be the case that charity given in this life accrues to spiritual rewards in the next, instead of being rewarded here. This is why, for example, wicked people are often highly successful, at least in the short term. Even people who "get away with it" in their lifetime, such as the philandering preacher Ravi Zacharias, are almost always revealed by the historical record to be troubled figures.

The thermodynamics of truth and lies, something referenced throughout the Jewish *Tanakh*, is covered in an upcoming work of this author's entitled *Spiritual Science*³⁷.

VI. This Ending is a Beginning

The wildly audacious claims made about physics in this paper certainly require a great deal of independent corroboration. However, to the best of the author's skill, knowledge, and ability, Orthodox Jewish metaphysics seem to be a necessary – and final – solution to many of the most foundational problems in many fields. Additionally, the loss of string theory can be compensated for with knowledge of the true underlying nature of reality – permutations of the Aleph Bet. Indeed, this "simulation" has a point, which makes it a video game, and beneath all the probability fields, it even has source code³⁸.

And it shall be at the end of the days, that the mountain of the Lord's house shall be firmly established at the top of the mountains, and it shall be raised above the hills, and all the nations shall stream to it. And many peoples shall go, and they shall say, "Come, let us go up to the Lord's mount, to the house of the God of Jacob, and let Him teach us of His ways, and we will go in His paths," for out of Zion shall the Torah come forth, and the word of the Lord from Jerusalem.

And [the Messiah] shall judge between the nations and reprove many peoples, and they shall beat their swords into plowshares and their spears into pruning hooks; nation shall not lift the sword against nation, neither shall they learn war anymore.

- Isaiah 2:2-4

Appendix: Thoughts on the Creation Narrative

RESOLVING THE ORDER OF CREATION

One of the issues with the Biblical Creation narrative are that significant points of contention exist between different interpretations of these events. Commentary from Rashi on *Bereishit* 1:2 would indicate that the Earth, complete with waters, was created on the first day – even before light and darkness in *Bereishit* 1:3-4.

However, this position seems to be only one of the prevailing acceptable opinions. For example, *Bereshit Rabbah* 3:8 notes that the angels were created on the second day, indicating that there would have been no stewards for any matter that did exist. Furthermore, *Talmud Baha Kama* 82A has been used by Moshe Emets to point out that the “waters” in *Bereishit* 1:2 could metaphorically refer to the Torah. Ongoing conversations about these issues are further complicated by the scientific evidence that our universe seems to be many billions of years old, which can be understood through Einstein’s theories of relativity as explained by Dr. Gerald Schroeder and Rabbi Alexander Hool.

ONE POTENTIALLY VIABLE EXPLANATION...

In order to fully understand the nuances in these verses, it seems necessary to integrate perspectives and insights from many different commentators. For example, Dr. Schroeder does an excellent job showing how the physics of the early universe, which consisted of an “opaque” soup of almost pure energy and no light, correspond closely to early verses in *Bereishit*. However, Rabbi Hool differs somewhat in his interpretation of how and when to apply Einstein’s relativity. The plurality of the sages’ opinions also offers occasionally-conflicting information.

While all of this is important, it is important to remember that the material universe is only one of several worlds that were created by the *tzimtzum* (contractions) of the Infinite Light. The creation of the universe, therefore, had to be preceded by the creation of things like the Torah, as implied by Rashi’s note on *Bereishit* 1:1. And, given that the Torah is created by the Aleph Bet, this means that the creation of the Aleph Bet had to precede even the creation of the Torah!

Therefore, a comprehensive picture of Creation must include all of these elements, along with the reputable scientific observations of the universe. The following is an attempt at such a reconciliation.

A VERSE-BY-VERSE EXPLORATION

1. In the beginning of God's creation of the heavens and the earth.

- **“In the beginning...”** – As Rashi notes, this can also mean “with firstfruits”. This implies that the Torah – or the laws of the universe – was created before the beginning of the universe. I believe the midrash has the number of generations.
- **“creation...”** – The creation of the universe from nothing fits with Big Bang theory in general.
- **“heavens and the earth...”** – Rabbi Hool notes that this could refer to the upper and lower hemispheres of the universe, which his work indicates expanded at different rates. From this, as well as positions based in TBK.82A it can be taken that these terms here are metaphorical to some degree.
- **“heavens and the earth...”** – Another interpretation, based on *Bereishit Rabbah* 2:2 (“[the earth] said “the upper ones and the lower ones were created in one moment, the upper one are nourished by the radiance of the divine presence, and the lower ones, if they don’t struggle they don’t eat!”)... from this, we could understand ‘heavens’ to mean the spiritual worlds, and ‘earth’ to mean the material world.

2. Now the earth was astonishingly empty, and darkness was on the face of the deep, and the spirit of God was hovering over the face of the water.

- **"astonishingly empty..."** – Rashi teaches that the emptiness described here would be astonishing, that someone is shocked and must wonder about the level of emptiness. From Dr. Gerald Schroeder's work, this would seem to indicate that the earth – the material world – was empty as per the Big Bang physicists claim:
 - "An important feature of this scenario is the assumption that in the very early universe there was a stage of evolution in which the universe was in an unstable vacuum-like state with a large energy density." ("The inflationary universe", Andrei D. Linde – USSR/Stanford)
- **"darkness was on the face of the deep..."** – I am unsure what this is referring to. Rashi's commentary indicates that this refers to the waters that were on the earth, but this doesn't fit with the fact that there were no angels, nor would it agree with Dr. Schroeder's early universe work. It may be referring to the universe in general, which we perceive as being deep and dark.
- **"hovering over the face of the water..."** – If we continue to take "earth" as meaning the material universe and "water" to be the spiritual worlds in some capacity, what we find in this verse could actually be a description of the contractions as they affected the spiritual worlds.

3-4. And God said, "Let there be light," and there was light. And God saw the light that it was good, and God separated between the light and between the darkness.

- **"and there was light..."** – Although most readings of this verse assume that this is referring to light in the material universe, this may not be the case. Indeed, light is not only a "thing" but also a metaphor-concept that could have originated in the spiritual realms at first.
- **"God separated..."** – The fact that this verse is separate from the last, particularly when speaking about the separation between light and darkness, seems significant. If the light cascaded down through the spiritual worlds into the physical, as Kabbalah indicates it should have, then perhaps there is more here.
- **"God separated..."** – Another way to understand this is in terms of the material universe. In the Big Bang scenario, the universe had to cool down to a point where matter could form and light could exist as a "thing" separate from the elements. There is likely more here to learn.

5. And God called the light day, and the darkness He called night, and it was evening and it was morning, one day.

- **"it was evening and it was morning..."** – It is noted in Bereishit Rabbah 3:7 that evening and morning pre-existed as concepts because of God's previous creation and destruction of worlds (that didn't end up accepting the Torah).
- **"it was evening and it was morning..."** – There may also be another nuance here related to one of the fundamental dynamics of Creation, known in the material sense as entropy. The words used here are 'erev' and 'boker', implying a mixed-up-ness and an orderliness, which is the general dynamic that entropy operates on. Furthermore, Dr. Schroeder has noted that the progression from 'erev' to 'boker' could also allude to the early universe crystallizing from a "cosmic soup" into early stars and planets.
- Further support for the position that the Earth did not yet exist comes from the fact that stars, constellations, and other planets did not exist, since they were created to compensate for the shrinking of the moon. At this point, it would seem that the material universe was in a period of 'inflation' roughly as the scientists say, although with allowances for time relativity as per Dr. Schroeder and Rabbi Hool suggest.

6-8. And God said, "Let there be an expanse in the midst of the water, and let it be a separation between water and water." And God made the expanse and it separated between the water that was below the expanse and the water that was above the expanse, and it was so. And God called the expanse Heaven, and it was evening, and it was morning, a second day.

- **"a separation between water and water..."** – Perhaps 'water' is referring first to the spiritual worlds, and then to the material 'heavens'. If understood this way, this verse is describing the differentiation between a proto-universe and the spiritual worlds.

9. And God said, "Let the water that is beneath the heavens gather into one place, and let the dry land appear," and it was so.

- **"the water that is beneath the heavens..."** – This can be understood as explicitly referring to what we understand as material water. Being 'beneath the heavens' implies that it is water in the physical universe, our Earth being one of the only places in the universe where it is collected and flowing in liquid form.
- **"let the dry land appear..."** – Dr. Schroeder would likely hold that by this time, likely during the second day, stars had formed and exploded into raw elemental matter by this point, which could have come together to form the Earth as suggested by this verse.

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