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The End Signs! Are We Getting the Message?

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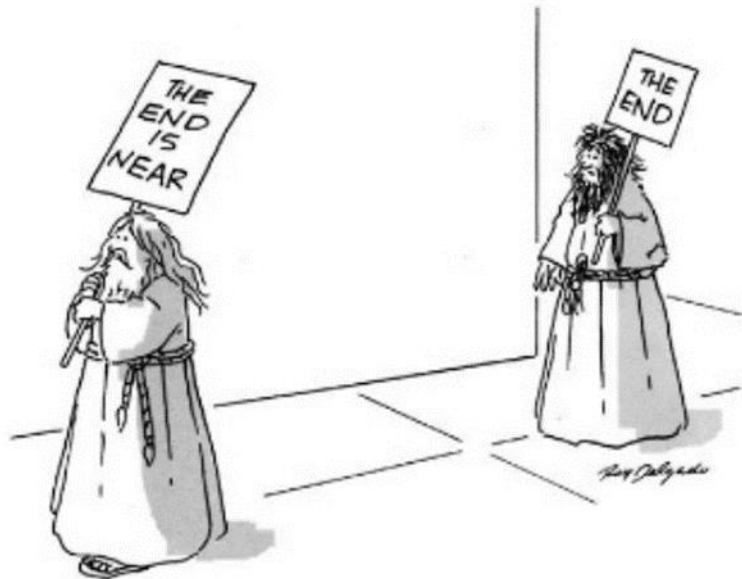
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GEORGE FOX UNIVERSITY

THE END SIGNS!

ARE WE GETTING THE MESSAGE?



A DISSERTATION SUBMITTED TO
THE FACULTY OF PORTLAND SEMINARY
IN CANDIDACY FOR THE DEGREE OF
DOCTOR OF MINISTRY

BY

TERRY L. RANKIN

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Portland Seminary
George Fox University
Portland, Oregon

CERTIFICATE OF APPROVAL

DMin Dissertation

This is to certify that the DMin Dissertation of

Terry Rankin

has been approved by
the Dissertation Committee on February 18, 2019
for the degree of Doctor of Ministry in Semiotics and Future Studies

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Cover cartoon ©2018 by Roy Delgado (used by permission). The image connects to the nuanced meaning of the title, “THE END SIGNS!” Readers may interpret this as a noun phrase only, with “THE END” as the definite article and adjective modifiers of the plural noun “SIGNS.” In its more subtle and potent form as a complete sentence, however, it is composed of a noun phrase as its subject (“THE END” as a definite article and noun) and an action verb (“SIGNS”). The religiosity of the cartoon directly points to eschatological theism as a key component of the dissertation’s theme in both interpretations. The subtitle (“ARE WE GETTING THE MESSAGE?”) emphasizes the distinctive perspective taken in this dissertation, i.e., are we rightly discerning the signs the End is sending and clearly getting their messages—or not?

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SALUTATION



Charles Sanders Peirce
(1839-1914)

Before all else, let me make the acquaintance of my reader, and express my sincere esteem for him and the deep pleasure it is to me to address one so wise and so patient. [W 6:169]¹

The best maxim in writing, perhaps, is really to love your reader for his own sake. [W 1:9]

... and after all, the only reader to whom I can be of any service at all is the one who will read what I write and will carefully and critically reflect upon it. Him, and him alone, I am absolutely certain of benefitting, though he conclude that I am in the wrong from beginning to end. [EP2: 474]

¹ The caricature of Peirce is by David Levine (1926-2009), ©2019 Matthew and Eve Levine (used by permission). Standards for citing Peirce's writings are in APPENDICES: Abbreviations, Citing Charles Sanders Peirce.

DEDICATION

In loving memory of my parents,
Roy Lee Rankin and Anne Frances Arnold,
who loved life and lived love, who sowed and nurtured in me
love of wisdom, freedom, and others.

To my grandchildren, Amelie, Justice, and Bodevan,
whose vibrant lives are the joy that defeats my despair,
for whom I faithfully hope.

To their generation:

Please forgive me for whatever horrors my Boomer generation
has unleashed upon your being and presence in this life as our legacy to you.

Follow Jesus--please God!

He is the only Way, Truth, and Life that fully redeems us.

ACKNOWLEDGMENTS

First and above all, this undertaking would not have come about without the faithful support, loving encouragement, and gracious sacrifices of my beloved wife, Peggy. She is a vital force that keeps me grounded.

Many thanks to daughters Lee Anne and Laura and sons-in-law John and Mark, other family and many friends who were steadfast in their encouragement. Special thanks to Don Bellairs, who provided helpful insights and diligent edification.

The sparks that flew between my DMin cohort colleagues as iron sharpened iron were points of illumination that kept me on track. I cherish the friendships that emerged in our journey together.

Portland Seminary faculty and staff gave me all the rope I needed to hang myself or to rig the ship on this voyage. Fortunately, it turned out to be the latter. Tim Dolan, Loren Kerns, Cliff Berger, Dan Liroy, Lori Wagner—thank you for your forbearance and tutelage.

Two close friends and mentors separately guided my journey to this destination. Jim Fetzer, a philosopher to the core and a force of nature and a force to be reckoned with always; thank you, Jim, for hard-wiring intensional realism into my being and presence in life.

Semiotics and Future Studies program Lead Mentor, Len Sweet, nudged, inspired, motivated, and (when warranted) chastened me every step of the way. Without him, the semiotics of resonant harmony of Christian “simplicity” would remain beyond my ken. Thanks to him, the Way, Truth, and Life of being and presence in MRI reality is now my immanent frame. Lord willing, it will become a paradigmatic social imaginary.

Above all, I praise and thank Jesus Christ, Lord of lords, King of kings, and name above all names, for drawing me into his Truth and Reality and keeping me on the Way in Truth and fullness of Life. May He be honored and uplifted by this mere apologetic.

Maranatha!

EPIGRAPH

We don't see things as they are, we see them as we are.²

Anais Nin

We must not confuse dissent with disloyalty.³

Edward R. Murrow

Jesus was, of course, the champion of radical dissent. His opposition to pharisaic hypocrisy, materialism, and legalism constantly resulted in constructive engagement. He came to proclaim news of such sweeping change that everything he did and said (even though in fulfillment of well-known ancient Hebrew prophecies) provoked discussion, often followed by resentment and rebuff because his hearers misunderstood (or understood only too well) the import of his "hard sayings." Wherever he traveled and taught, his friends were shown the two sides to an issue as they listened. Yet Jesus must often have been discouraged, frustrated by his followers' misunderstanding and pained by the shallow, uninformed responses of even his own family. He knew the difficult tension of walking alone and telling truth. And those are only a few of the risks of dissent.⁴

Luci Shaw

The role of a preacher is not to provide self-help manuals for the future. It is to elucidate reality and get people to act on this reality. It is impossible to speak about hope if we substitute illusion for reality. If we believe that reality is not an impediment to our desires, that we can have everything we want by tapping into our inner strength or believing in Jesus, if we believe that the fate of the human species is neverending advancement and progress, then we are crippled as agents for change. We are left responding to illusion. This makes everything we do or believe, such as our faith in the Democratic Party or electoral politics, futile and useless. The bleakness of what we face, economically and environmentally, is not a call to despair but a call to new forms of resistance and civil disobedience.⁵

Chris Hedges

² Uncertain source. Cf. Garson, "We Don't See Things As They Are, We See Them As We Are," Quote Investigator, March 9, 2014, <https://quoteinvestigator.com/2014/03/09/as-we-are/>.

³ Edward R. Murrow, "A Report On Senator Joseph R. McCarthy," "See It Now" on CBS, March 9, 1954) <https://www.youtube.com/watch?v=kgejIbN9UYA>.

⁴ Luci Shaw, *The Crime of Living Cautiously: Hearing God's Call to Adventure* (Downers Grove, IL: InterVarsity Press, 2005), 76.

⁵ Chris Hedges, *The World as It Is: Dispatches On the Myth of Human Progress* (New York: Nation Books, 2010), loc.123, Kindle.

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PREFACE

Problem: The Sixth Mass Extinction

The problem addressed in this dissertation is the sixth mass extinction event, i.e.:

Dwindling population sizes and range shrinkage amount to a massive anthropogenic erosion of biodiversity and of the services essential to civilization. This “biological annihilation” underlines the seriousness for humanity of Earth’s ongoing sixth mass extinction event.⁶

A mass extinction event is a relatively short period of time in which at least 50% of life forms on Earth are exterminated. At least five mass extinction events have taken place in the past, the most recent being the Cretaceous-Paleogene extinction 65 million years ago. The combination of volcanic activity, asteroid impact, and climate change occurring with that event destroyed 76% of life on Earth, including most famously, the dinosaurs.

The good news is that human being and presence in terrestrial reality emerged as a consequence of that extinction event, according to Darwin’s theory of evolution and the fossil record, from the perspective of scientism. The bad news is that our being present on Earth has triggered a sixth mass extinction event. Anthropogenic (human-caused) climate change (ACC) has exponentially accelerated species extinction rates by one or two orders of magnitude—10 to 100 times faster the normal. The scientific community refers to this as the Holocene extinction, or better, the *Anthropocene* extinction, or ‘AX.’⁷

⁶ Gerardo Ceballos et al., “Biological Annihilation via the Ongoing Sixth Mass Extinction Signaled by Vertebrate Population Losses and Declines,” *Proceedings of the National Academy of Sciences of the United States of America* (PNAS) 114, 30 (July 25, 2017), 10.1073/pnas.1704949114.

⁷ *World Atlas*, s. v. “Timeline of Mass Extinction Events on Earth,” last updated March 5, 2018.

Our presence on Earth led to the Anthropocene Age within the post-Cretaceous Holocene Era. The Anthropocene Age is the geological epoch when humans became the most powerful lifeform on Earth. It is also the ecological era in which our impact on the ecosphere sustaining us became most destructively severe. As the root cause of the sixth mass extinction, we are the architects and engineers of our own existential demise. The better name for the sixth mass extinction indeed is the *Anthropocene* extinction (AX).⁸

Anthropogenic Climate Change (ACC) is not the only extinction-level-event we face. As the *Bulletin of Atomic Scientists* points out, ACC is just one at least three modes of self-destructive extinction-level-events (ELEs) threatening the survival of humankind.⁹ Just as the extinction of the dinosaurs 65 million years ago involved a 1-2-3 combination of lethal blows (climate change, volcanic activity, and asteroid collision), so too are we at the brink of self-inflicted annihilation through ACC, proliferating arsenals of weapons of mass destruction (WMDs), and explosive growth in disruptive technologies, including genetics, robotics, artificial intelligence, and nanotechnology ('GRAIN').¹⁰

The world's human population at present is 7.69 billion (and counting). In 2015, it was 7.38 billion, and 31.2% (2.3 billion) were Christians. Assuming the percentage is the same today as in 2015, there are 2.4 billion Christians in the world now. That means 5.3

⁸ Paul J. Crutzen, "Geology of Mankind," *Nature* 415, 6867 (January 3, 2002): 211, <http://dx.doi.org/10.1038/415023a>. The notion of the 'Anthropocene Age' is a de facto reality of the 21st century, despite still being a matter of chronological dispute among scientists.

⁹ John Mecklin, "Introduction: The New Threat Matrix," in "Existential Nexus: The Intersection of Technological Threats," ed. Gayle Spinazze, special issue, *Bulletin of the Atomic Scientists* 74, 6 (November 1, 2018), 367, <https://thebulletin.org/2018/11/introduction-the-new-threat-matrix/>.

¹⁰ The 'GRAIN' acronym is invoked in the discussion of scientism and its technologies in Leonard Sweet, *Rings of Fire: Walking in Faith through a Volcanic Future* (forthcoming, 2019).

billion non-Christian humans live on Earth today. AX (Anthropocene extinction) will put 1.2-1.8 billion Christians and 2.7-4.0 billion non-Christians to death (50-75% each).¹¹

Assuming Christian theology is true, perhaps the most tragic consequence of the impending mass extinction event is that—best case—at least 2.65 billion human souls are on the brink of entering an afterlife of eternal agony, forever separated from their Creator God. The number may actually be as high as 3.97 billion, if the extinction event destroys 75% of humanity. Final and worst case, if fewer than all of the 1.2-1.8 billion Christians in the world are truly redeemed in the blood of Christ, by God’s grace in gift of faith, the mortality count into that eternal damnation could be much higher.

The AX event is obviously catastrophic for all humanity. It is also *an* apocalyptic singularity in Christendom, if not *the* eschatological Tribulation and Apocalypse foretold in Christian prophecy.¹² For redeemed Christians, the strength to endure this cataclysm is found in this life in the joy of the Lord, perfected in the afterlife.¹³ Thus, the evangelical challenge for Christianity is astronomical by every measure, and time is truly running out

¹¹ Worldometers, “Current World Population,” live feed, accessed March 15, 2019, <http://www.worldometers.info/world-population/>; Pew Research Center, “Christians Remain World’s Largest Religious Group, but They Are Declining in Europe.” Washington, DC: Pew Research Center, April 5, 2017. <http://www.pewresearch.org/fact-tank/2017/04/05/christians-remain-worlds-largest-religious-group-but-they-are-declining-in-europe/>.

¹² *OED*, s. v. “apocalypse,” i.e., “1. (With capital initial.) The ‘revelation’ of the future granted to St. John in the isle of Patmos. The book of the New Testament in which this is recorded;” compared to “2. By extension: Any revelation or disclosure. a. Christian Church. The events described in the revelation of St John; the Second Coming of Christ and ultimate destruction of the world. b. More generally: a disaster resulting in drastic, irreversible damage to human society or the environment, esp. on a global scale; a cataclysm.” In this dissertation ‘Apocalypse’ refers to *OED* #1 and ‘apocalypse’ to *OED* #2. ‘Eschatology’ is often reduced to the *Tribulation* period preceding the Apocalyptic Second Coming Revelation. This is further explored in the EPILOGUE. Biblical references include Matthew 24-25, Mark 13, Luke 21, Daniel 9, 2 Thessalonians, and other prophecies.

¹³ John 15:9-11, 17:13-19. Meg Bucher, “What Does ‘the Joy of the Lord Is My Strength’ Mean in the Bible?” Bible Study Tools, February 1, 2019, <https://www.biblestudytools.com/bible-study/topical-studies/what-does-the-joy-of-the-lord-is-my-strength-mean.html>.

for lost souls to be redeemed in Jesus. Sadly, Christians today seem ill-prepared to reach the lost and the evil ruler of this world has never been stronger.¹⁴

Left unchecked, the time remaining to mitigate the effects of ACC are a decade or less. By 2040, the effects will be globally catastrophic. Despite knowing the threats, risks, and effects since at least the early 1970s, we entered into a “global suicide pact” and we are “sleepwalking into catastrophe.” The ruling elite remain oblivious or apathetic despite the AX reality threatening to annihilate humanity, per the *Bulletin of Atomic Scientists*:¹⁵



Figure 1: The Anthropocene Extinction (AX) Threat Matrix

¹⁴ See APPENDICES: Statistical Perspectives, The Bayesian View from Barna and Pew.

¹⁵ The image in Figure 1 is from the cover of *Bulletin of the Atomic Scientists*, “Existential Nexus,” 74, 6 (November 2018). Donella H. Meadows et al., *The Limits To Growth: A Report For The Club Of Rome's Project On The Predicament Of Mankind*, 1st ed. (New York: Universe Books, 1972); Quirin Schiermeier, “Gloomy 1970s Predictions About Earth’s Fate Still Hold True,” *Nature* 562, 7727 (October 18, 2018), <https://www.nature.com/articles/d41586-018-07117-2>; Associated Press, “Ban Ki-moon: World’s Economic Model Is ‘Environmental Suicide’,” *Guardian*, January 28, 2011, <https://www.theguardian.com/environment/2011/jan/28/ban-ki-moon-economic-model-environment>; Anne C. Mulkern, “Climate Forecast: World Is ‘Sleepwalking into Catastrophe’,” *Scientific American* (January 17, 2019), <https://www.scientificamerican.com/article/climate-forecast-world-is-sleepwalking-into-catastrophe/>; James Hohmann, “The Daily 202: Davos Is In Decline As Elites Fail To Tackle The Globe’s Biggest Problems”, *Washington Post* (January 22, 2019), <https://www.washingtonpost.com/news/powerpost/paloma/daily-202-2019/01/22/daily-202-davos-is-in-decline-as-elites-fail-to-tackle-the-globe-s-biggest-problems/5c469bf11b326b29c3778c5c/>.

Objectives: Resolution and Application

But in your hearts revere Christ as Lord. Always be prepared to give an answer to everyone who asks you to give the reason for the hope that you have. But do this with gentleness and respect, keeping a clear conscience, so that those who speak maliciously against your good behavior in Christ may be ashamed of their slander.

1 Peter 3:15-16

This dissertation has two main objectives. First, to increase general awareness and foster deeper understanding of the Anthropocene extinction (AX) problem, especially for Christians. Second, to provide a single-case study of cosmological grounds for Christian and scientific realism. On those realistic grounds, greater awareness and understanding of the problem are gained, and a creatively viable hypothetical resolution to the evangelical challenge facing Christianity today is clearly envisioned.

To achieve the goal of raising awareness and understanding of the AX problem, a *deconstruction* of the problem itself is helpful, especially regarding its historical grounds and roots in philosophy, theology, and science, and the ideologies, trends, and traditions they generated. As an analytic logical exercise, deconstruction of the AX problem reveals a layered entanglement of dilemmas, the topmost being the juxtaposition of scientism and Christianity.

Key focal points of the deconstruction include but are not limited to the following, as *root causes* of the Problem as it is defined above:

- *Shifting baseline syndrome (SBS)*—a form of cognitive dissonance, SBS refers to the processes through which our immanent frames and social imaginaries, as the basis of our personal and relational identities

relative to ‘normal reality,’ imperceptibly change in subliminal, subconscious, and even unconscious ways.¹⁶

- *Cultural lag*—a root cause of SBS, the temporal gap between the initial emergence of a new philosophy, theology, ideology, scientific paradigm, technology, etc. and its broader acceptance and embedding in society and culture.¹⁷
- *Technology (progress) traps*—symptomatic effects of SBS, laid, set, and obscured by rampant and value free scientific and technological research, development, and application creating unforeseen problems whose effects range from minor disruptions to globally catastrophic extinction-level-events (ELEs).¹⁸
- *Inverted totalitarianism* (aka *managed democracy*, *corporatocracy*)—“... different from classical forms of totalitarianism. It does not find its expression in a demagogue or charismatic leader but in the faceless anonymity of the corporate state. Inverted totalitarianism pays outward fealty to the facade of electoral politics, the Constitution, civil liberties, freedom of the press, the independence of the judiciary, and the iconography, traditions and language of American patriotism, but it has effectively seized all of the mechanisms of power to render the citizen impotent.”¹⁹
- *Semiotic engineering*—since cognitive reality (awareness, consciousness, creativity) is inherently semiotic, occurring as sign-processing, science and technology for access and control over those

¹⁶ Charles Taylor, *Modern Social Imaginaries* (Durham, NC: Duke University Press Books, 2004); Charles Taylor, *A Secular Age* (Cambridge, MA: Belknap Press, 2007), Kindle; Charles Taylor, “Buffered and Porous Selves,” *The Immanent Frame*, September 2, 2008. <https://tif.ssrc.org/2008/09/02/buffered-and-porous-selves/>; Holly Godbey, “Shifting Baseline Syndrome,” *Permaculture Research Institute*, September 9, 2016, <https://permaculturenews.org/2016/09/09/shifting-baseline-syndrome/>; George Monbiot, “Our Selective Blindness is Lethal to the Living World,” *Guardian*, December 20, 2017, <https://www.theguardian.com/commentisfree/2017/dec/20/selective-blindness-lethal-natural-world-open-eyes-environment-ecosystem>.

¹⁷ *OED*, s. v. “cultural lag,” i.e., “disparity between a society’s conventions, institutions, or cultural practices and changing social conditions or situations, esp. one resulting from technological advances; (now also) any delay between a cultural change or development and its wider dissemination.”

¹⁸ Lloyd J. Dumas, *The Technology Trap: Where Human Error and Malevolence Meet Powerful Technologies* (Santa Barbara: Praeger, 2010); Daniel O’Leary, *Escaping the Progress Trap* (Montréal, QC: Geozone Communications, 2006).

¹⁹ Sheldon Wolin, *Democracy Incorporated: Managed Democracy and the Specter of Inverted Totalitarianism*, 2nd ed. (2008, repr., Princeton, NJ: Princeton University Press, 2017), xxvii. The quote is from Chris Hedges’ Introduction to the 2017 2nd edition.

processes provide the ideal means, method, and technique to control human cognition and thereby determine human thought and behavior. Marketing and sales strategies, political platforms and campaigns, and social and mass media control are clear examples.

The topmost scientism vs. Christianity dilemma cannot be simply reduced to the perennial conflict between science and religion, however. It is a complex Gordian knot of subordinate constituent dilemmas that must be disentangled if the second objective of this dissertation is to be achieved—i.e., *construction* of a dualistic cosmology with Christian and scientific realism in harmonious resonance.

Scientism and Christianity are *epistemic value-judgments*. Scientism is the view that *scientific* knowledge is the very best or the only genuine knowledge humankind may achieve. Christianity, by contrast, is the view that *Christian* knowledge is the very best or the only genuine knowledge humankind may achieve.²⁰ The position explicated and defended in this treatise is that Christian realism and scientific realism are *categorically different* philosophies, theories, and models of reality. Neither can be used to falsify or corroborate the other, as each rests on fundamentally different axiomatic grounds and relies on distinctively unique criteria of evidence and empirical content. The challenge calling for resolution, therefore, is not an ‘either/or’ exclusive disjunction of these two

²⁰ *OED*, s. v. “scientism,” i.e., “Chiefly *depreciative*. The belief that only knowledge obtained from scientific research is valid, and that notions or beliefs deriving from other sources, such as religion, should be discounted; extreme or excessive faith in science or scientists. Also: the view that the methodology used in the natural and physical sciences can be applied to other disciplines, such as philosophy and the social sciences.” *OED*, s. v. “Christianism,” i.e., “1. The Christian religious system; Christianity;” and “2. In a depreciatory or contemptuous sense: A Christianity of a sort or form.” In this dissertation, ‘Christianism’ is a nonce word, forming the Christian epistemic counterpart to scientism, as expressed in this paragraph.

epistemologies, but how to construct a ‘both/and’ inclusive resolution that respects the essential differences between the two while affirming each in its own epistemic right.

The evangelical challenge confronting Christianity as the AX problem poses a daunting and formidable ministry problem. The Gordian knot of dilemmas that places scientism and Christianity at odds is the foremost obstacle Christian evangelism must overcome to secure the already-won victory in spiritual warfare and succeed in salvific outreach to non-Christians. The greatest weakness in Christian evangelism is the lack of compelling *apologetics* to supplement Christian testimony and witness. Fortunately, the resolution of that problem, the untying of that Gordian knot of entangled dilemmas, is possible with the dualistic cosmology offered in this dissertation.²¹

Parallax: Assumptions and Perspectives²²

Realism

The question of the nature and plausibility of realism is so controversial that no brief account of it will satisfy all those with a stake in the debates between realists and non-realists.²³

This dissertation will *not* provide a philosophical defense of realism. Instead, the position taken is that the extant universe and all its contents, from its entire macrocosmic

²¹ John 19:30; 1 John 2:17, 4:4; 2 Corinthians 4:8-9; 1 Peter 3:13-16.

²² *OED*, s. v. “parallax,” i.e., “1.a. Difference or change in the apparent position or direction of an object as seen from ... different (vantage) points.” As used in this dissertation, it more loosely refers to the phenomenon of things appearing different when discerned or considered from different perspectives, etc.

²³ Alexander Miller, “Realism”, *SEP* (Winter 2016 edition), Edward N. Zalta, ed. (Palo Alto, CA: Stanford University, 2016), <https://plato.stanford.edu/archives/win2016/entries/realism/>.

expanse to all its microcosmic essence, are beyond our human ken. It is mystery all the way up and out and all the way down and in. If nothing else, that *mystery per se* is reality. Philosophical realism in that sense is presupposed throughout this dissertation. In Jesus, we live and move and have our being and presence in his Reality (Acts 17:28 NIV).

Threeness

Looking for threes, thinking in threes, is a human habit that no doubt goes back to the Trinity. But in this case, it is a habit that can unlock the secrets of the universe. Forget Newton's Three Laws of Motion: Threeness is omnipresent in the universe, all the way down.²⁴

Leonard Sweet

Reality is essentially and existentially triadic—*being* is *metaphysical* whereas *presence* is *physical*. Presence is the *causal* manifestation or instantiation of being. The three constituents of reality, therefore, are being, causality, and presence. Causality is the relational modulation and the cognitive mediation of being and presence: e.g. Einstein's famous math expression of the equivalence of energy and matter, $E = mc^2$, and Charles Sander's Peirce's methodological trichotomy of Firstness, Secondness, and Thirdness as it pervades his theory of signs (semiotics), his logic, his science, and all his philosophy.

Spirit, mind, and matter (or body) exist as a living triad within the cosmic and cosmological reality of being, causality, and presence.²⁵ Judeo-Christian Scripture

²⁴ Leonard Sweet, *So Beautiful: Divine Design for Life and the Church* (Colorado Springs: David C. Cook, 2009), 25.

²⁵ Leonard Sweet, "The Matter of the Matter," *Napkin Scribbles* (podcast), January 31, 2019, <https://open.spotify.com/show/2vt6wEi70dQEpW37CypfvY> (06.00).

teaches this in verses assuring us that our (metaphysical) *being* is already known in the heart and mind of God before our (physical) *presence* is (causally) *formed* in our mothers' wombs.²⁶

The triadic essence of reality is presupposed throughout the dissertation.

Semioticity

It seems a strange thing, when one comes to ponder over it, that a sign should leave its interpreter to supply a part of its meaning; but the explanation of the phenomenon lies in the fact that the entire universe—not merely the universe of existents, but all that wider universe, embracing the universe of existents as a part, the universe which we are all accustomed to refer to as “the truth”—that all this universe is perfused with signs, if it is not composed exclusively of signs. EP2: 394.²⁷

Charles Sanders Peirce (1839-1914)

Signs per se are ontological *and* epistemological primitives. Being, presence, and causality are inherently *semiotic*, i.e., their reality consists in metaphysical sign *potential* and in physical sign *manifestation*. Distinct cognitive states of awareness, consciousness, and creativity are inherently semiosic in the same sense—cognitive reality consists in the cognitive *processing* of manifest signs. Peirce's trichotomy of Firstness, Secondness, and Thirdness is the nature both of *semiotic reality* and of *semiosic realism*. *Semioticity*—i.e., the resonant harmony of semiotic reality and semiosic realism—is presupposed.²⁸

²⁶ Jeremiah 1:5, Psalm 139:16, Galatians 1:15, Ephesians 1:4, etc.

²⁷ Charles Sanders Peirce, *The Essential Peirce: Selected Philosophical Writings*, Vol. 2, 1893-1913, Peirce Edition Project, eds. (Bloomington: Indiana University Press, 1998), 394, Kindle. Standard conventions for citing Peirce's writings abbreviates this as EP2: 394. See APPENDICES: Abbreviations, Citing Charles Sanders Peirce.

²⁸ Semioticity per se is defined and explicated in the constructive section of this dissertation.

Historical Trends

Roots of the Anthropocene extinction are deeply entrenched in the 15th century, in the outbreak of scientific revolution and spreading, through the 16th-19th century period of Enlightenment modernity. This peaked in the mid-19th century with the anti-metaphysical and anti-theological positivism of the French philosopher Auguste Comte (1798-1857). Along the way, the ancient and medieval unification of Western philosophy, theology, and science was dissolved by what Roger E. Olson identifies as “acids of modernity.”²⁹

Ongoing advances in positivist ideologies and scientific revolution shifted into overdrive in the early 20th century. Comte’s positivism became a cornerstone of a new *logical* positivism and empiricism, exported to the United States from the Vienna Circle between the end of WWI and beginning of WWII. The icing on this ideological cake is Western pragmatism and capitalism. America’s post-WWII rise to global superpower status was built on that value-free scientism, entering the 21st century as the anonymous tyranny of inverted totalitarianism (aka managed democracy, corporatocracy), much as George Orwell and C. S. Lewis had foreseen.³⁰

Competing perspectives in pop culture are addressed in this dissertation, namely, New Atheism, New Optimism, and New Spirituality. The original 1929 and New 1991

²⁹ Auguste Comte, *Introduction to Positive Philosophy*, ed. Frederick Ferre (Indianapolis, IN: Hackett Publishing Co., 1988); Roger E. Olson, *The Journey of Modern Theology: From Reconstruction to Deconstruction* (Downers Grove, IL: IVP Academic, 2013), 25-29, Kindle. Olson’s metaphor stands for the caustic effects of reason, skepticism, scientism, secularism, historicism, optimism, and anthropocentrism.

³⁰ Hans Hahn, Otto Neurath, and Rudolf Carnap, “The Scientific World-Conception. The Vienna Circle,” in *Wissenschaftliche Weltauffassung. Der Wiener Kreis*. Hrsg. vom Verein Ernst Mach. (1929) [The Scientific World-Conception. The Vienna Circle. Published by the Ernst Mach Society. (1929).] Eds. Friedrich Stadler and Thomas E. Uebel (1929; repr., New York: Springer, 2012), 75-114; George Orwell, *1984* (1949; repr., New York: Houghton Mifflin Harcourt, 2017); John G. West, ed., *The Magician’s Twin: C. S. Lewis On Science, Scientism, and Society* (Seattle: Discovery Institute Press, 2012; (Wolin 2017)).

Vienna Circle (VC 1.0, VC 2.0) is a very different matter, however. On one hand VC 2.0 is hiding in plain sight. On the other, by contrast, it may be a façade for a stealthy and anonymous power and wealth nexus established to perpetuate the globalized command and control of the 1% elite ruling the other 99% of us.³¹

Leonard Sweet and James H. Fetzer

Both Sweet and Fetzer are visionaries in their fields, prolific and creative authors, and gifted mentors and teachers. Each is, in his own way, a fervent fan of Peirce and his theory of signs (semiotics) and sign processing (semiosis). Peirce looms large throughout their thinking, teaching, and writing. As it happens, they are personal friends of mine, but as far as I know, they are not acquainted with one another apart from connection to me.

Fetzer is an ardent agnostic, arguing neither theism nor atheism can be rationally proven.³² He is also a staunch scientismist—advocating scientism, the epistemological conviction that science, and only science, establishes genuinely rational knowledge. His agnosticism is right only insofar as ‘proof’ applies solely to what can be established by *scientismic* rationality. From that view, a category mistake is easily made: science can neither prove nor disprove theism; theism can neither prove nor disprove science. It is a category mistake of the highest order, therefore, to attempt any proof of either kind.

³¹ The 1%-99% split is from the Occupy Wall Street Movement. Cf. Noam Chomsky, *Occupy*, 2nd ed., Occupied Media Pamphlet Series (Westfield, NJ: Zuccotti Park Press, 2013); Todd Gitlin, *Occupy Nation: The Roots, the Spirit, and the Promise of Occupy Wall Street* (New York: Itbooks, 2012), Kindle. On the 1% elite, see Noam Chomsky, *Who Rules the World?* (New York: Metropolitan Books, 2016); Noam Chomsky, *Requiem for the American Dream: The 10 Principles of Concentration of Wealth and Power* (New York: Seven Stories Press, 2017).

³² James H. Fetzer, *Render unto Darwin: Philosophical Aspects of the Christian Right's Crusade Against Science* (Chicago, IL: Open Court, 2007), 125-26.

Sweet is a visionary Christian and committed Christianismist—he is a dedicated devotee of Christianity, i.e., the theological conviction that only Christianity establishes genuinely loving bonds of kinship between the being and presence of humans and God the Father, Jesus the Son, and the Holy Spirit in reality. Unlike Fetzer’s scientismic disdain for theistic beliefs, Sweet respects genuinely rational science and displays an intellectual affinity for it. He would surely oppose pseudoscience and scientism, and he would probably agree that theistic and scientific beliefs are categorically different, so it indeed would be a huge category mistake to use either one for or against the other. The prospects of establishing the two categorically different systems of belief in resonant harmony, *mutatis mutandis*, however, is an ideal he enthusiastically supports.

Peirce

.... whatever I amount to is due to two things, first, a perseverance like that of a wasp in a bottle & 2nd to the happy accident that I hit early upon a METHOD of thinking, which any intelligent person could master, and which I am so far from having exhausted it that I leave it about where I found it,—a great reservoir from which ideas of a certain kind might be drawn for many generations

P.S. Add to the elements of whatever success I have had that I have [been] always unceasingly exercising my power of *learning new tricks*—to keep myself in possession of the childish *trait* as long as possible. That is an immense thing. [L 387]

Charles Sanders Peirce

Peirce was blessed and cursed with what surely ranks as one of the most brilliant minds in human history. The sheer genius of his philosophical, logical, mathematical, and other works languished for decades, and his mistreatment by academic elites in America is a disgraceful chapter in intellectual history. While his work has had a small but highly

dedicated following through the years, only now, a century later, has Peirce finally begun to receive the attention he deserved all along.³³

Among semioticians, the belief that Peirce's "sudden and overwhelming 'mystical experience'" on April 24, 1892 marked the moment of his Christian redemption is, to say the least, controversial. It is difficult to dispute that date and experience as a singularity tipping point in his thinking and the prolificity of his writing, however. In the remaining twenty-two years of his life, Peirce "obsessively wrote more than 80,000 never-published pages on some of the most difficult and intricate problems of philosophy."³⁴

³³ Joseph Brent, *Charles Sanders Peirce: A Life*, 2nd ed. (Bloomington: Indiana University Press, 1998)/ Brent's book is the definitive biography of Peirce thus far. Cf. Gérard Deledalle, *Charles S. Peirce: An Intellectual Biography*, trans. by Susan Petrilli (Philadelphia, PA: John Benjamins, 1990).

³⁴ Ibid., 208-12, esp. 211. Cf. Joseph Brent, "Pursuing Peirce," *Arisbe* website, December 27, 1997, esp. paras. 32-43, <http://www.iupui.edu/~arisbe/menu/library/aboutcsp/brent/PURSUIING.HTM>.

ABSTRACT

The problem addressed in this dissertation has three dimensions: imminent global catastrophe, the elitist tyranny responsible for it, and Christian detachment from both.

The purpose of this dissertation is *not* to solve the problem in any of those three dimensions. The aim is threefold—to deconstructively demonstrate the reality of the problem; to expose its historical roots in philosophy, science, and theology; and to offer a case-study example of how the problem may be clearly viewed and understood for the purposes of 21st century Christian life. The case study is not simple or easy, but neither is the problem it addresses.

Semiotics—theory of signs—is the philosophical frame of reference, as pioneered by American philosopher Charles Sanders Peirce (1839-1914). James H. Fetzer provides intensional realism as a Peircean semiotic philosophy of science. Christian realism based on Peirce’s theory of signs is a key theme, drawn from Leonard Sweet’s Christianity. The constructive example that finishes the dissertation it represents an individual’s apologetic Christian realism as a single-case study example, including philosophical and scientific foundations. At the same time, it also represents a viable de-secularized immanent frame and social imaginary for individual as well as relational Christian being and presence in 21st century reality.³⁵

³⁵ Sweet, *So Beautiful* and Leonard Sweet, *Giving Blood: A Fresh Paradigm for Preaching* (Grand Rapids, MI: Zondervan, 2014), Kindle; James H. Fetzer, *Scientific Knowledge: Causation, Explanation, and Corroboration*, Boston Studies in the Philosophy of Science, vol. 69 (Dordrecht, NL: Springer Netherlands, 1981); James H. Fetzer, *Computers and Cognition: Why Minds Are Not Machines*, Studies in Cognitive Systems vol. 25 (Dordrecht, NL: Kluwer Academic Publishers, 2001); Iain McGilchrist, *The Master and His Emissary: The Divided Brain and the Making of the Western World* (New Haven, CT: Yale University Press, 2009); the works of Charles Sanders Peirce (see APPENDICES: Abbreviations, Citing Charles Sanders Peirce). Taylor, *Modern Social Imaginaries*; Taylor, *A Secular Age*; Taylor, “Buffered and Porous Selves.”

THE PROBLEM IS KNOT PHILOSOPHY

The Gordian Entanglement³⁶

21st century Christianity is at a *crossroads*. On one hand, it no longer takes up and carries the cross of Christ. On the other, it is increasingly detached from and irrelevant to the Anthropocene extinction (AX) reality of 21st century human being and presence.³⁷

The perennially entrenched enmity and conflict between Christianity and science form a massive stumbling block and a monstrous roadblock obstructing the Way, Truth, and Life of Christian being and presence in 21st century reality. They represent a *dilemma* between *scientism* and *Christianism* as conflicting epistemological value-judgements.³⁸

Scientism regards beliefs based on scientific methods, practices, theories, etc. as being the best or only truly rational knowledge humans can achieve. Viewing scientific beliefs as the *best* knowledge is ‘weak’ or ‘moderate’ scientism. Seeing them as the *only* knowledge is ‘strong’ or ‘extreme’ scientism. Scientism perspectives are ‘scientismic’ or ‘scientistic.’ Scientism advocates are ‘scientismists.’

³⁶ *OED*, s. v. “Gordian knot,” i.e., “an intricate knot tied by Gordius, king of Gordium in Phrygia. The oracle declared that whoever should loosen it should rule Asia, and Alexander the Great overcame the difficulty by cutting through the knot with his sword. Figuratively or allusively, ‘a matter of extreme difficulty,’ ‘an indissoluble bond.’”

³⁷ Support for this claim may be seen in numerous surveys, studies, and reports from Barna Group and Pew Research Center (see APPENDICES: Statistical Perspectives, The Bayesian View from Barna and Pew). Further extended analysis is provided later in the main body of this dissertation. See also *OED*, s. v. “epistemology,” i.e., “*Philosophy*. The theory of knowledge and understanding, esp. with regard to its methods, validity, and scope, and the distinction between justified belief and opinion.”

³⁸ ‘Scientism’ and ‘Christianism’ are *value-based judgements*. Pseudoscience and churchianity, by contrast, are false, counterfeit, or misdirected *beliefs* about reality or *behaviors* based on those beliefs that may appear scientific or Christian, respectively, but on closer scrutiny are not genuine or authentic as such.

Christianism esteems beliefs based on Christian faith, theology, practices, creeds, etc. as the best or the only truly genuine knowledge humans can attain. The terms ‘weak (or moderate)’ and ‘strong (or extreme)’ apply to Christianism as they do to scientism. ‘Christianismic’ and ‘Christianistic’ are likewise adjective forms of ‘Christianism,’ and ‘Christianismists’ refers to advocates of Christianism. In this light, the ongoing conflict between Christianity and science mentioned above may be seen as an epistemological dispute between Christianism and scientism.³⁹ The conflict runs much deeper than this statement suggests, however, since it begs many questions. It is the right place to start, but it is the wrong place to stop.

Epistemologically, the conflict is a multilayered conundrum. Both scientism and Christianism are generalizations—each one encompasses a wide variety of contrary and even contradictory views of reality. Which of the thousands of Christian denominations stand against scientism (or science per se)? Which ones openly advocate science (if not scientism)? Which paradigms, theories, methods, etc. of science oppose all of the faiths and theologies of Christianism of each of those denominations—Newtonian mechanics with its luminiferous ether? Relativity or quantum theory? Superstring theory with dark matter and dark energy? Can a case be made that *all* Christianismic denominations and theologies must oppose *every* scientismic paradigm—or conversely, *every* scientismic paradigm must oppose *all* Christianismic denominations and theologies?


³⁹ *OED*, s. v. “epistemology,” i.e., “*Philosophy*. The theory of knowledge and understanding, esp. with regard to its methods, validity, and scope, and the distinction between justified belief and opinion; (as a count noun) a particular theory of knowledge and understanding.”

Furthermore, both Christianity and scientism have harbored their own varieties of fakes, charlatans, posers, con artists, quacks, etc. Others within the two communities may be merely misguided or mistaken mortals who have simply lost their scientific or Christian way, or never really found it.⁴⁰

Crucial distinctions exist between *pseudoscience* and *pseudo-Christianity* (aka *churchianity*) as these are contrary to genuinely rational science and theologically sound Christianity, respectively. Scientism and Christianity each have bona fide as well as counterfeit aspects, therefore, where only bona fide disciplines and properly certified practitioners qualify as *genuine* or *authentic*. Fake, counterfeit, misguided, mistaken, or otherwise false counterparts are neither.

The variety of questions concerning dilemmas of opposition between scientism and Christianity thus become quite complex. Beneath that topmost layer, both bona fide and counterfeit versions of all horns of the dilemmas emerge. Sorting out the conflicting versions lurking in scientism and Christianity exposes an entanglement of subordinate constituent ‘sub-dilemmas,’ whose cross-pairings only further complicate the questions and issues. As a root cause of the Anthropocene extinction (AX) problem, the structure of this Gordian entanglement of dilemmas is logically complex:

⁴⁰ The medical roster includes Willam J. A. Bailey, 1884-1949, founded the Radium Company to sell Radithor, a suspension of radium in water. John R. Brinkley, 1885-1942, became famous and wealthy by implanting goat testicles in human male scrota to treat impotence. Clark Stanley, the original ‘snake oil’ salesman, sold a concoction identified by the FDA as a mixture of mineral oil, beef fat, chili peppers, and turpentine. Astrologers, crystal-ball gazers, tea-leaf readers, mediums, and other fakers abound. The Bible names many false prophets, including Ahab, Pashur, Hananiah, Zedekiah, and Shemaiah (Jeremiah 20:6, 28; 29:21, 24-32). Heinous pseudoscientific medical practices quite popular and widely used in their time include ovariectomy, prefrontal orbital lobotomy, and electroshock therapy (EST) for female ‘moodiness,’ ‘vapors,’ mania, or depression, combined with the opiate ‘patent medicines’ du jour.



#1 Scientism vs. Christianity		#2 Scientism	
		Pseudoscience	Scientific realism
#3 Christianism	Pseudo-Christianity	#4	#6
	Christian realism	#5	#7

Table 1: The Seven Dilemmas of the AX Gordian Entanglement

The numbers in Table 1 identify dilemmas that form the Gordian knot (or entanglement) ultimately bringing about the Anthropocene extinction. Here is a key to numbered items:

#1	Scientism (weak or strong): science provides the most or only genuine knowledge
	Christianism (weak or strong): Christianity provides the most or only genuine knowledge
#2	Pseudoscience : counterfeit pretense or misguided scientific activities
	Scientific realism : genuinely rational scientific inquiry, methods, programs
#3	Pseudo-Christianity : counterfeit pretense or misguided Christian activities
	Christian realism : genuine, authentic Christ followership and discipleship
#4	Pseudoscience (see #2)
	Pseudo-Christianity (see #3)
#5	Pseudoscience (see #2)
	Christian realism (see #3)
#6	Scientific realism (see #2)
	Pseudo-Christianity (see #3)
#7	Scientific realism (see #2)
	Christian realism (see #3)

Table 2: Key to Table 1—Definitions of the Seven AX Dilemmas

Thus deconstructed, the ideological causes of the AX problem are far more complex than the ‘simple’ dilemma and conflict between science and Christianity or even scientism and Christianity. Metaphorically, it more closely resembles a philosophical minefield.

The decomposition above suggests that AX debate, dispute, or discussion at level #1 (scientism vs. Christianity) is futile unless it is clear from the outset which underlying views are and are not involved. The analysis exposes why such exchanges are likely to be

more heated and benighted than rational and illuminating. Indeed, the first question, even before level #1 is broached, is whether the disputants affirm philosophical realism or not.

Further deconstructive analysis is needed. Historical perspective should help..

The Anthropocene Mass Extinction (AX) Reality

Earth's climate is now changing faster than at any point in the history of modern civilization, primarily as a result of human activities.⁴¹

U.S. Global Change Research Program (USGCRP)
Fourth National Climate Assessment

From 1949 to 2018, 69 years, human population more than tripled—from 2.5 to 7.63 billion. It took 177 years for world population to triple from 803 million in 1772 to 2.5 billion in 1949; 748 years to triple from 268 million in 1024 to 803 million in 1772. Gradual acceleration in population growth from the 10th through the early 18th centuries became exponentially explosive in the 19th century, and it has not significantly slowed in the 20th and 21st, thus far. The catalyst for this tipping point in human population growth is a root cause of the Anthropocene mass extinction (AX) problem, namely, the ongoing series of scientific and industrial revolutions illustrated in Figure 2 and Figure 3 below. Successive transitions from mechanized mass production to the hybrid fusion of digitized GRAIN (genetics, robotics, artificial intelligence, nanotechnology) and other technology proliferation are evident in these two images:

⁴¹ Caitlin E. Werrell et al., “BRIEFER No. 38: A Responsibility to Prepare; Governing in an Age of Unprecedented Risk and Unprecedented Foresight,” The Center for Climate & Security (CCS), August 7, 2017, https://climateandsecurity.files.wordpress.com/2017/12/a-responsibility-to-prepare_governing-in-an-age-of-unprecedented-risk-and-unprecedented-foresight_briefer-38.pdf; D. R. Reidmiller et al., eds., *The Fourth National Climate Assessment: Volume II: Impacts, Risks, and Adaptation in the United States* (Washington, DC: U. S. Global Change Research Program, 2018), <https://nca2018.globalchange.gov/>.

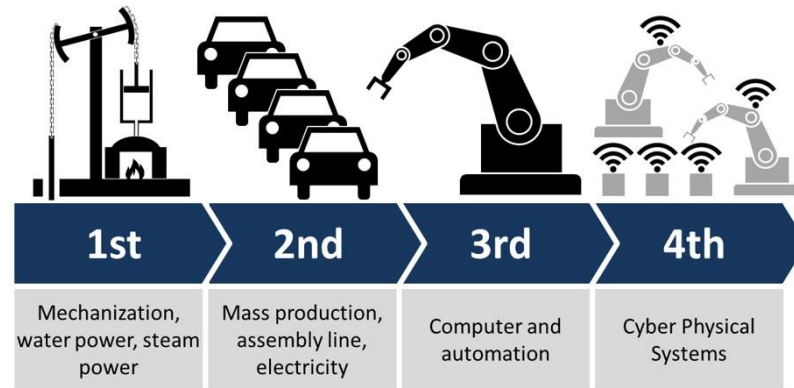


Figure 2: Four Industrial Revolutions, 18th Century-Ongoing⁴²

The exponential explosion of population and energy effects are clearly seen in Figure 3:⁴³

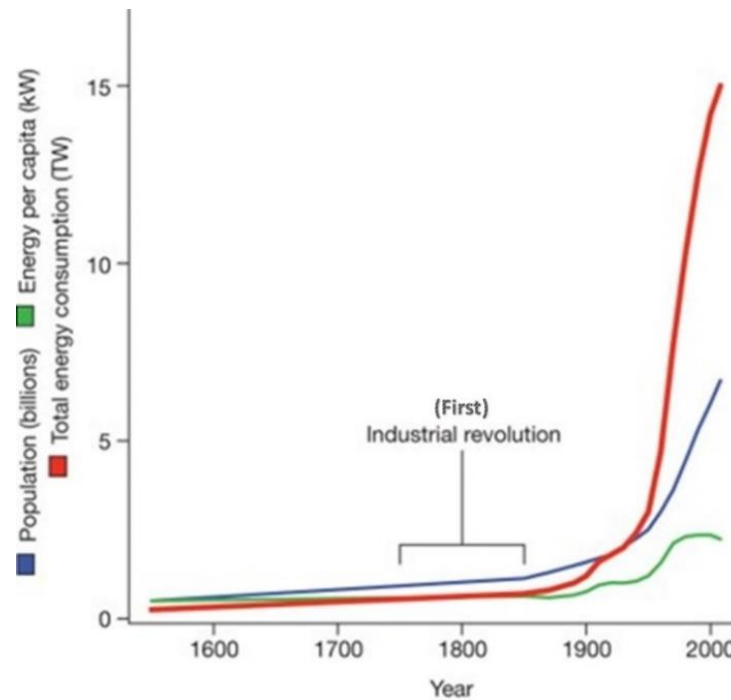


Figure 3: Industrial Revolution—The Poisonous Panacea

⁴² See Klaus Schwab, *The Fourth Industrial Revolution* (Geneva, CH: World Economic Forum, 2016). Image by Christoph Roser, <https://commons.wikimedia.org/w/index.php?curid=47640595>.

⁴³ See the interactive “World Population History Map,” World Population History, accessed November 24, 2018, <https://worldpopulationhistory.org/map/1/mercator/1/0/25/#>. Interactive site shows population growth with drill-down descriptions of pivotal events leading to its exponential increase.

In the article accompanying Figure 3, the graph's caption is, "History of growth in world population and environmental impact of Homo sapiens, indicated by its surrogates, per capita and total human energy use." The article cites UN Secretary General Ban Ki-Moon speaking to the 2011 World Economic Forum (WEF):⁴⁴

For most of the last century, economic growth was fueled by what seemed to be a certain truth: the abundance of natural resources. We mined our way to growth. We burned our way to prosperity. We believed in consumption without consequences. Those days are gone...Over time, that model is a recipe for national disaster. It is a global suicide pact.⁴⁵

Ki-Moon sounded this alarm more than eight years ago. If the members of the elite 1% who attended the WEF session were listening and believed what they heard, evidence they took the message to heart has not trickled down to the other 99% of us.⁴⁶

Figure 3 shows humanity's shift to overdrive from science- and technology-based progress to self-inflicted Anthropocene ELE (extinction-level-event) megaproblems. We have 'progressed' ourselves through the Industrial Revolution tipping points in Figure 2 onto the slippery slope into the abyss of existential doom. What appeared to be a panacea for humanity's survival and quality-of-life challenges is turning out to be Pandora's Box of poisons. Putting the poisons back in the box is highly unlikely as time is running out.

⁴⁴ Paul R. Ehrlich, et al., "Securing Natural Capital and Expanding Equity to Rescale Civilization," *Nature* 486, 7401 (June 7, 2012): 68-73, <http://dx.doi.org/10.1038/nature11157> (including Figure 3). According to their website, the WEF was established in 1971 as "the International Organization for Public-Private Cooperation (engaging) the foremost political, business and other leaders of society to shape global, regional and industry agendas," <https://www.weforum.org/about/world-economic-forum>.

⁴⁵ Ibid., 68; Associated Press, "Ban Ki-moon: World's Economic Model Is 'Environmental Suicide'," *Guardian*, January 28, 2011, <https://www.theguardian.com/environment/2011/jan/28/ban-ki-moon-economic-model-environment>.

⁴⁶ On the 1%-99% split and the wealth and power elite (e.g., WEF 2019 attendees), see Chomsky, *Occupy*; Gitlin, *Occupy Nation*; Chomsky, *Who Rules the World?*; Chomsky, *Requiem*.

Timelines of scientific revolution and Enlightenment modernity directly conform to the timeline in Figure 3. Scientific revolution began with the Copernican Revolution in 1543, igniting Enlightenment modernity. Both historical trends have only accelerated and intensified ever since.

The divorce and divergence of science and Christianity shown in Table 1 and Table 2 above are grounded in those beginnings. They provided the fertile seedbed and flowing wellspring of modern philosophy, theology, and science and their concomitant ideologies, including scientism and Christianity as specified in those tables. The taproot of that Gordian entanglement is embedded in the ground of Enlightenment scientism and nurtured by Roger E. Olson's "Acids of Modernity."⁴⁷ Charles Taylor likewise exposes the Enlightenment as the underlying cause of secularization of Western immanent frames and social imaginaries and the buffering of identities that continue to shape our personal and relational being and presence in 21st century reality.⁴⁸ Iain McGilchrist exposes the Enlightenment rise of left-brain analytic rational cognition as "Emissary" mentality that undermined and overthrew the right-brain holistic, intuitive, and creative mentality of its

⁴⁷ Olson, *Journey of Modern Theology*, 25-29; specifically, the corrosive effects of reason, skepticism, scientism, secularism, historicism, optimism, and anthropocentrism.

⁴⁸ "Immanent frame," "buffered (vs. porous) self/identity," and "social imaginary" are from Charles Taylor. They generally refer to our inherent personal-individual and sociocultural collective-relational identities, but for Taylor, particularly as they have been "secularized" by modernity. Cf. (Charles Taylor, *Modern Social Imaginaries* (Durham, NC: Duke University Press, 2004), 542-57; Charles Taylor, *A Secular Age* (Cambridge, MA: Belknap Press of Harvard University Press, 2007), 171-76, Kindle; Charles Taylor, *Sources Of The Self* (Cambridge, MA: Harvard University Press, 2001); Charles Taylor, "Buffered and Porous Selves," The Immanent Frame (blog), September 2, 2008, <https://tif.ssrc.org/2008/09/02/buffered-and-porous-selves/>. Hubert L Dreyfus and Charles Taylor, *Retrieving Realism* (Cambridge, MA: Harvard University Press, 2015). Cf. James K. A. Smith, "*How (Not) to Be Secular: Reading Charles Taylor*" (Cambridge, UK: William B. Eerdmans Publishing Co., 2014), Kindle; Gordon E. Carkner, "Charles Taylor Articulates The Immanent Frame Of The Secular," Blog, *Ubcgcu*, 2012, <https://ubcgcu.org/2013/10/11/charles-taylor-on-secularity-immanent-frame/>.

“Master.” In McGilchrist’s view, this slow-motion cognitive coup d’état led to Western civilization as we know and live it today.⁴⁹

In his seminal 2002 article in *Nature*, Nobel Prize-winning atmospheric chemist Paul J. (“Mister Anthropocene”) Crutzen publicized the neologism he conceived during a 2000 conference in Mexico.⁵⁰ The article, “The Geology of Mankind,” opens with these observations (*italics added*):

For the past three centuries, the effects of humans on the global environment have escalated. Because of these anthro-pogenic (sic) emissions of carbon dioxide, global climate may depart significantly from natural behaviour for many millennia to come. It seems appropriate to assign the term ‘Anthropocene’ to the present, in many ways human-dominated, geological epoch, supplementing the Holocene—the warm period of the past 10–12 millennia. *The Anthropocene could be said to have started in the latter part of the eighteenth century, when analyses of air trapped in polar ice showed the beginning of growing global concentrations of carbon dioxide and methane.* This date also happens to coincide with James Watt’s design of the steam engine in 1784.⁵¹

Crutzen’s Anthropocene escalation timeframe conforms to timelines of Enlightenment modernity and the First Industrial Revolution (shown in Figure 3, p. 6).

Crutzen’s concept of a geological age wherein humanity swiftly became a major force of nature with global impact is less controversial today than when first conceived in 2000. The reality of anthropogenic climate or environment change (ACC/AEC) aligning with Crutzen’s Anthropocene proposal is the focus of heated dispute within and beyond

⁴⁹ Iain McGilchrist, *The Master and His Emissary: The Divided Brain and the Making of the Western World* (New Haven, CT: Yale University Press, 2009).

⁵⁰ Nina Möllers, “Paul J. Crutzen: “Mister Anthropocene”,” accessed November 24, 2018, <http://www.environmentandsociety.org/exhibitions/anthropocene/paul-j-crutzen-mister-anthropocene>.

⁵¹ Paul J. Crutzen, “Geology of Mankind,” *Nature* 415, 6867 (January 3, 2002): 211, <http://dx.doi.org/10.1038/415023a>.

scientific and scientismic communities. Disputants are typically separated into ‘green’ groups affirming ACC/AEC, opposing ‘deniers’ rejecting it as a hoax, claiming it is the natural course of things on Earth, as always (i.e., not caused by humankind).⁵²

The position in this treatise affirms the veracity of the ACC/AEC position. On speculative intuition and abductive common sense alone, the idea that 7.6 billion humans on this planet could *not* directly impact the global terroir defies socioecological reason—our volumes and rates of resource consumption and waste production are astronomical and accelerating. It is lunacy to suppose our collective presence on Earth is not massively detrimental at best, or in fact, rapaciously cataclysmic ecoterrorism dooming us all.⁵³

At the same time, however, this dissertation also joins a growing community and chorus of scholarly and intellectual voices who consider the ruling forces and powers of the world to be a global cabal, described variously as totalitarian, plutocratic, oligarchic,

⁵² Simon L. Lewis and Mark Maslin, *The Human Planet: How We Created The Anthropocene* (New Haven, CT: Yale University Press, 2018). A seminal article in the ‘green vs. denier’ controversy as a cornerstone of the ‘green’ position suggests another (different) 1%-99% divide between ACC/AEC deniers (1%) and greens (99%), roughly based on John Cook et al., “Consensus on Consensus: A Synthesis of Consensus Estimates on Human-Caused Global Warming,” *Environmental Research Letters* 11, 4 (April 1, 2016): 048002-008, <http://dx.doi.org/10.1088/1748-9326/11/4/048002>. A live view of the dynamics is, “Timeline Tool (beta version),” Environment and Society Portal, accessed November 24, 2018, <http://www.environmentandsociety.org/tools/timeline>; “World Population History Map,” World Population History, accessed November 24, 2018, <https://worldpopulationhistory.org/map/1/mercator/1/0/25/#>.

⁵³ For ACC/AEC denier views, see Roy W. Spencer, *Climate Confusion: How Global Warming Hysteria Leads to Bad Science, Pandering Politicians and Misguided Policies That Hurt the Poor*, rev. ed. (New York: Encounter Books, 2009); Roy W. Spencer, *The Great Global Warming Blunder: How Mother Nature Fooled the World’s Top Climate Scientists* (New York: Encounter Books, 2012). Nicholas Davidoff, “The Civil Heretic (Freeman Dyson profile),” *The New York Times Magazine*, March 25, 2009, <https://www.nytimes.com/2009/03/29/magazine/29Dyson-t.html>; Michael Lemonick, “Freeman Dyson Takes on the Climate Establishment,” *Yale Environment* 360 (E360), June 4, 2009, https://e360.yale.edu/features/freeman_dyson_takes_on_the_climate_establishment; Michael Lemonick, “Climate Heretic: Judith Curry Turns on Her Colleagues,” *Scientific American*, November 2010, <https://www.scientificamerican.com/article/climate-heretic/>. Cf. Garsidej, “Patterns in Resource Consumption,” *Geography: For Those in the Know* (blog), accessed February 4, 2019, <https://garsidej.wordpress.com/ib-geography/core-themes-paper-1-hlsl/patterns-in-resource-consumption/>; Daniel Hoornweg, Perinaz Bhada-Tata and Chris Kennedy, “Environment: Waste Production Must Peak This Century,” *Nature* 502, 7473 (2013): 615-617, <http://dx.doi.org/10.1038/502615a>;

kleptocratic, kakistocratic, etc., as one or another form of elitist tyranny. On one hand, the scientific evidence is overwhelming, confirming we are facing imminent socioecological disaster. On the other hand, another problem confronting us is managed democracy in the form of inverted totalitarianism, quite likely to be the root cause of that socioecological disaster. Even if massive resources are poured into world governments and international corporations to confront the ACC/AEC problem, the 1% elitist cabal remains indomitably predisposed to engorge itself for all the pork-barrel trillions it can steal from the 99% rest of us indentured or imprisoned by their anonymous tyranny.⁵⁴

Four decades ago, the Club of Rome foresaw looming economic collapse. Their 1972 report, *The Limits to Growth*, painted a bleak picture of humanity's future. "Left unchecked," it concluded, "economic and population growth would deplete the planet's resources and cause economic collapse around 2070." The journal *Nature* reveals that a 2018 report to the Club of Rome concluded, "More than four decades later, the (1972) report's main conclusions are still valid."⁵⁵

⁵⁴ Wolin, *Democracy Inc.*; Ronald P. Formisano, *American Oligarchy: The Permanent Political Class* (Urbana: University of Illinois Press, 2017), 1, Kindle; Ronald P. Formisano, *Plutocracy in America: How Increasing Inequality Destroys the Middle Class and Exploits the Poor* (Baltimore: Johns Hopkins University Press, 2015), Kindle.

⁵⁵ According to the website, "The Club of Rome created in 1968, is an organisation of individuals who share a common concern for the future of humanity and strive to make a difference. Our members are notable scientists, economists, businessmen and businesswomen, high level civil servants and former heads of state from around the world." Donella H. Meadows, et al., *The Limits To Growth: A Report For The Club Of Rome's Project On The Predicament Of Mankind*, 1st ed. (New York: Universe Books, 1972); Quirin Schiermeier, "Gloomy 1970S Predictions About Earth'S Fate Still Hold True," *Nature* 572-7727, October 18, 2018, <https://www.nature.com/articles/d41586-018-07117-2>.

Wherefore Art Thou, Science?

Once upon a time, one structure upheld both science and Christianity. Science was not called ‘science’ then—it was ‘natural philosophy’—and it was subsumed under the province and provision of pre-Christian mythologies from both the East and West.⁵⁶ The Holy Roman Empire took the reins to guide natural philosophy through medieval times (c. 500-1500 CE) for Western civilization. Then, Nicolaus Copernicus ignited (1473-1543) scientific revolution to birth Enlightenment rationality and modernity.⁵⁷

Half a millennium later, renowned philosopher of science Karl R. Popper (1902-1994) reminded us of the true “swamp” character of scientific inquiry:

Science does not rest upon rock-bottom. The bold structure of its theories rises, as it were, above a swamp. It is like a building erected on piles. The piles are driven down from above into the swamp, but not down into any natural or “given” base; and when we cease our attempts to drive our piles into a deeper layer, it is not because we have reached firm ground. We simply stop when we are satisfied that they are firm enough to carry the structure, at least for the time being.⁵⁸

The elegance of Popper’s remarks resounds just as strongly if “science” is replaced with “Christianity” and “theories” with “theologies,” while retaining “swamp” as a metaphor

⁵⁶ The 14th-15th century introduction of the term ‘science’ is corroborated in *Etymology Online Dictionary*, s. v. “science.”

⁵⁷ Thomas S. Kuhn, *The Copernican Revolution: Planetary Astronomy in the Development of Western Thought*, 24th printing. (1957; repr., Cambridge, MA: Harvard University Press, 2003); Thomas S. Kuhn, *The Structure of Scientific Revolutions: 50th Anniversary Edition*, 4th ed. (1972; repr., Chicago: The University of Chicago Press, 2012). ‘Modern’ and ‘modernity’ are often mistakenly understood as referring to the present era. The modern period actually began with the Enlightenment and ‘postmodern’ and ‘post-postmodern’ recently entered the vernacular to respect this historical shift.

⁵⁸ Karl Popper, *The Logic of Scientific Discovery* (New York: Harper & Row, 1965), as quoted in James H. Fetzer, *Philosophy of Science*, Paragon Issues in Philosophy (New York: Paragon House, 1993), epigraph. Fetzer, *Scientific Knowledge* can overwhelm readers but this monograph is more easily grasped. Another helpful introduction to philosophy of science is found in Joseph Rouse, *Engaging Science: How to Understand Its Practices Philosophically* (Ithaca: Cornell University Press, 1996).

for *mystery* or for ‘reality beyond human comprehension’ in this life. The new meanings do not affect the profound significance of Popper’s metaphor. The remarks are equally as clear and applicable to Christianity as to science:

Christianity does not rest upon rock-bottom. The bold structure of its theologies rises, as it were, above a swamp. It is like a building erected on piles. The piles are driven down from above into the swamp, but not down into any natural or “given” base; and when we cease our attempts to drive our piles into a deeper layer, it is not because we have reached firm ground. We simply stop when we are satisfied that they are firm enough to carry the structure, at least for the time being.⁵⁹

Popper’s insights expose the risk of a category mistake of the highest order, i.e., by supposing (a) science could prove or disprove Christianity, or (b) Christianity could prove or disprove science. They both ‘drive piles’ into the same swamp of mysterious reality. The differences are in how those piles are formed and driven, what structures are erected upon them, what they will house, and how they will be furnished. Science and Christianity, therefore, are best understood as categorically different theories of reality. They rise from the same swamp of mystery, but they build categorically different kinds of structures on categorically different kinds of piles.

To proceed, it will help to identify key features of scientific realism per se. Three in particular are often mistaken for one other, so essential differences in their distinctive methods and goals must be considered and kept in mind moving forward:

(T)he goal of empirical science is to construct a *model of the world* and the goal of the history of science is to *record past efforts to construct a model of the world*, whereas the goal of the philosophy of science is to construct a *model of science*. The models that scientists construct are usually referred to as “theories,” while those that philosophers construct are also called

⁵⁹ This slight paraphrase of Popper’s original remarks characterizes Christianity instead of science.

“explications,” but they can be appropriately described as models of the world and as models of science.⁶⁰

These features of rational scientific realism distinguish it from pseudoscience and scientism on the basis of another distinction between value-judgements and the principles and practices of rational science, as follows:

Scientism

The (weak/moderate or strong/extreme) conviction, as an *epistemic value judgement*, that scientific knowledge is the *best* or the *only* genuine knowledge humanly achievable;⁶¹ in contrast to,

Pseudoscience

Mistaken, misguided, or deliberate violation or non-compliance with *rational principles and procedures* of scientific realism for the discovery of the laws of nature.⁶²

The differences in these conceptions are crucial. Clearly, the genuinely rational pursuit of the discovery of laws of nature generally qualifies as *science per se* and *scientific realism* in particular. By contrast, pseudoscience is nonrational or irrational pursuit of or claim to know those natural laws, often for profit or other gain.

In 1962, Thomas Kuhn revolutionized the history of science with his paradigm-shattering book, *The Structure of Scientific Revolutions*, in which he showed that the advance of science tends to be more unpredictable and revolutionary than previously supposed. In his 1957 forerunner to that book, Kuhn analyzed the shift from millennium-

⁶⁰ Fetzer, *Foundations of the Philosophy of Science*, xii-xiii.

⁶¹ *OED*, s. v. “epistemic,” i.e., “*Philosophy and Linguistics*. Of or relating to knowledge, or to its extent, linguistic expression, or degree of validation.” The full definition originates in this dissertation as it is stated here.”

⁶² Fetzer does not explicitly provide this definition of pseudoscience. Still, it directly reflects his comments Fetzer, *Foundations of Philosophy of Science*, xii-xiii, 167 on the roles of history, philosophy, and sociology of science to ensure scientific pursuits may “properly be viewed as a rational activity.”

old Ptolemaic geocentric (Earth-centered) models of the solar system to the new and much-improved 16th century Copernican heliocentric (sun-centered) model that remains today as the prevailing paradigm.⁶³

Boundaries between fully rational science and egregious pseudoscience are not always obvious, especially when, as Kuhn showed, scientific progress is spontaneously revolutionary.⁶⁴ The salient point, nonetheless, is that while pseudoscience clearly is not genuinely rational science, scientism is a value judgement *anyone* may affirm or deny as weakly or as strongly as they like. Any human being present in reality of reasonable age and cognitive capacity may choose to affirm or reject scientism as an epistemic value-judgement, regardless of profession, social status, or other factors. Claims to the title of ‘scientist,’ however, are—or certainly ought to be—true if and only if the claimant is committed to the bona fide rational principles, practices, and pursuits directed toward the discovery of causal laws.⁶⁵

The moral and cultural tilling of the intellectual seedbed for scientism began with the dawn and rise of Enlightenment modernity. First crops proved its fertility in milestone achievements in the early 16th-17th century stages of scientific revolution. By the early

⁶³ Kuhn, *Copernican Revolution*; Kuhn, *Structure of Scientific Revolutions*.

⁶⁴ Demonstrated below: scientism and capitalism are paradigmatic immanent frames and social imaginaries defining human being and presence in reality today. They are primary forces driving inverted totalitarianism as a global ideological pandemic of elitist tyranny. None of this bodes well for anyone or anything. On immanent frames and social imaginaries, see Taylor, *Modern Social Imaginaries*; Taylor, *A Secular Age*. On inverted totalitarianism, see Wolin, *Democracy Inc.* On 21st century capitalism, cf. Noam Chomsky, *Requiem for the American Dream: The 10 Principles of Concentration of Wealth and Power* (New York: Seven Stories Press, 2017); Chris Hedges, *Empire of Illusion: The End of Literacy and the Triumph of Spectacle* (New York: Nation Books, 2009); Chris Hedges, “Apocalyptic Capitalism,” truthdig, December 7, 2015, <https://www.truthdig.com/articles/apocalyptic-capitalism/>.

⁶⁵ Fetzer, *Foundations of Philosophy of Science*, xii-xiii, 167.

18th century, bountiful harvests were reaped in the works of Galileo and Newton, fueling the launch of the Industrial Revolution.⁶⁶ Two successive tipping points in the ongoing revolution marked the philosophical lapse of the modern period into what is commonly referred to as ‘postmodernity.’ The first appeared in *positivism* as conceived by French philosopher Auguste Comte (1798-1857). The anti-theological and anti-metaphysical philosophy he conceived and promoted intensified the caustic effects of Roger Olson’s “acids of (Enlightenment) modernity” to the first peak of their potency.⁶⁷

The most damaging aspect of Comte’s positivism was its temporal irreversibility. Once philosophy and the sciences climbed aboard the positivist bandwagon, there would be no turning back. To be and remain on the positivist bandwagon was to be at the zenith of human potential—like the proverbial iconic Energizer bunny, positivism would just keep going and going and going

The second tipping point from 19th century Enlightenment modernity into 20th and 21st century postmodernity began with elite groups of European philosophers, scientists, mathematicians, logicians, and other intelligentsia. The groups met formally and casually mainly in Vienna and Berlin between the Great War (World War I or WWI, 1914-1918) and World War II (WWII, 1939-1945). Three colloquial groups officially convened: the

⁶⁶ In addition to (Kuhn 2012), another excellent historical perspective is provided in C. P. Snow, *The Two Cultures and the Scientific Revolution*. 1959 (repr., Eastford, CT: Martino Fine Books, 2018).

⁶⁷ Auguste Comte, *Introduction to Positive Philosophy*, Frederick Ferre, ed. (Indianapolis, IN: Hackett Publishing Co., 1988) 1-33; Olson *Journey of Modern Theology*, 25-29; *OED*, s. v. “positivism,” i.e., “*Philosophy*. Originally (now *hist.*): a philosophical system elaborated from the 1830s by the French thinker Auguste Comte (1798–1857), recognizing only observable phenomena and empirically verifiable scientific facts and laws, and rejecting inquiry into ultimate causes or origins as belonging to outmoded metaphysical or theological stages of thought In later use: any of various philosophical systems or views based on an empiricist understanding of science, particularly those associated with the belief that every cognitively meaningful proposition can be scientifically verified or falsified, and that the (chief) function of philosophy is the analysis of the language used to express such propositions.”

Vienna Circle (VC 1.0, 1924-1936), the Ernst Mach Society (1928-1934), and the Berlin Circle (late 1920s to the early 1930s). With the bellicose rise of German Nazism in the 1930s, most members of the three groups emigrated to other countries, mostly settling in the United States in various premier academic and/or corporate institutions. The common intellectual and ideological ground among members of the groups came to be known as logical positivism (later aka neopositivism) and logical empiricism.

The VC 1.0 tipping point went public with the publication of the 1929 logical positivist-empiricist Manifesto.⁶⁸ Leveraging Comte's views and those of other like-minded radical positivist-empiricists, the Circle's public-relations collaboration with the Ernst Mach Society rocketed their worldview to the lofty orbit of reigning paradigm in the philosophy of science, where it ruled for the next three decades. Positivism today is generally regarded as passé, but its hallmark rejections of metaphysics and theology and promotion of value-free pragmatic scientisticism remain powerfully alive and well as a 'silent ideological partner,' as it were, virtually synonymous with scientism.⁶⁹

⁶⁸ Hahn et al., "The Scientific World-Conception."

⁶⁹ Cheryl J. Misak, *Cambridge Pragmatism: From Peirce and James to Ramsey and Wittgenstein* (Oxford, UK: Oxford University Press, 2016); Cheryl Misak, "The Subterranean Influence of Pragmatism on the Vienna Circle: Peirce, Ramsey, Wittgenstein," *Journal for the History of Analytical Philosophy* 4, no. 5 (June), <http://dx.doi.org/10.15173/jhap.v4i5.2946>; Maria Carla Galavotti, ed., *Cambridge and Vienna: Frank P. Ramsey and the Vienna Circle*, Vienna Circle Institute Yearbook (Dordrecht, NL: Springer, 2010); Cornel West, *The American Evasion of Philosophy: A Genealogy of Pragmatism* (Madison: University of Wisconsin Press, 1989); Friedrich Stadler, "The Vienna Circle: Context, Profile, and Development," in *Cambridge Companions to Philosophy*, Alan Richardson and Thomas Uebel, eds. (New York: Cambridge University Press, 2007), 14-15. Ian Hacking, ed., *Scientific Revolutions*, 2nd ed. New York: Oxford University Press, 1990; Allen Bullock and Stephen Trombley, *The New Fontana Dictionary Of Modern Thought*, 3rd ed. (London: Harper-Collins, 1999), 669-737; Richard Holmes, "Genre Analysis, And The Social Sciences: An Investigation Of The Structure Of Research Article Discussion Sections In Three Disciplines", *English For Specific Purposes* 16, no. 4 (1997): 321-337, [https://doi.org/10.1016/S0889-4906\(96\)00038-5](https://doi.org/10.1016/S0889-4906(96)00038-5).

Extending Olson's (2013) "acids of modernity" metaphor, the combined effect—and explicit intent and purpose—of Comte and his Vienna Circle and Ernst Mach heirs was to exponentially accelerate three centuries of Enlightenment scientism into the 20th century and beyond. The positivist-empiricist bandwagon became a jet-fueled juggernaut with unstoppable momentum and inertia. For reasons further explored below, evidence is increasingly overwhelming that the socioecological and sociocultural consequences of positivist-empiricist pragmatic scientism are already catastrophic, despite propaganda and appearances otherwise. They will only worsen as proliferation and acceleration continue. The 1991 resurrection of the Vienna Circle (VC 2.0) may be an 'invisible hand' in this.⁷⁰

Extending Olson's metaphor, it seems 21st century reality is awash in what may be seen as 'superacids of liquid modernity.' Zygmunt Bauman explains "liquid" hyper-caustic after-effects in the wake of the positivist-empiricist scientism juggernaut:⁷¹

As time flows on, 'modernity' changes its forms in the manner of the legendary Proteus ... What was some time ago dubbed (erroneously) 'post-modernity', and what I've chosen to call, more to the point, 'liquid modernity', is the growing conviction that change is the only permanence, and uncertainty the only certainty. A hundred years ago 'to be modern' meant to chase 'the final state of perfection' – now it means an infinity of improvement, with no 'final state' in sight and none desired⁷²

Of course, as I've stated so many times, the whole of modernity stands out from preceding epochs by its compulsive and obsessive modernizing – and modernizing means liquefaction, melting and smelting.⁷³

⁷⁰ This is further discussed below, in New Vienna Circle (Version 2.0), p. 66.

⁷¹ Ibid.; American Chemical Society, "Molecule of the Week: Fluoroantimonic Acid," April 9, 2007, <https://www.acs.org/content/acs/en/molecule-of-the-week/archive/f/molecule-of-the-week-fluoroantimonic-acid.html>. An apt metaphor for 21st century liquid modernity relative to its modernity era predecessors, this superacid is *twenty quintillion times stronger* than 19th century sulfuric acid that helped fuel the first Industrial Revolution.

⁷² Zygmunt Bauman, *Liquid Modernity* (2000; repr., Cambridge, UK: Polity Press, 2012), loc. 173, Kindle.

⁷³ Ibid., loc 212.

Life in endless “liquefaction, melting, and smelting” in superacidic water-boarding hardly seems worth living, much less even minimally rational. The driving force of this runaway ideology remains the five-century-old false god of Enlightenment scientism. Immanent frames and social imaginaries forged from scientific dogma are idolized and worshipped as the cognitive apotheosis of human being and presence in reality. Now a quasi-religion disguised as rational science, it has driven true Christianity into obscure irrelevance. It parasitically thrives and virally spreads as a pandemic socioecological and sociocultural bipolar OCD/ADHD, exponentially intensifying its own morbidity and mortality.⁷⁴

The renowned Christian apologist and theologian C. S. Lewis (1898-1963) was among the clarion voices in the 20th century chorus of harmonious resonance decrying the juggernaut of Enlightenment scientism. Lewis wrote:

I have described as a ‘magician’s bargain’ that process whereby man surrenders object after object, and finally himself, to Nature in return for power. And I meant what I said

There is something which unites magic and applied science while separating both from the ‘wisdom’ of earlier ages. For the wise men of old the cardinal problem had been how to conform the soul to reality, and the solution had been knowledge, self-discipline, and virtue. For magic and applied science alike the problem is how to subdue reality to the wishes of men: the solution is a technique; and both, in the practice of this technique, are ready to do things hitherto regarded as disgusting and impious—such as digging up and mutilating the dead.⁷⁵

⁷⁴ In light of the foregoing remarks, the claims made in this paragraph may seem an abductive or speculative stretch at best, or worse, dogmatic overgeneralization. The foregoing remarks do point to the plausibility of these claims, nonetheless and however weakly for now. Compelling evidence and cogent analysis follow that clearly demonstrate the accuracy and veracity of this position as stated here. See *OED*, s. vv. “OCD,” i.e., “obsessive-compulsive disorder;” “ADHD,” i.e., “attention deficient hyperactivity disorder;” “bipolar,” i.e., “*Psychiatry*. A form of mental illness characterized by one or more episodes of mania typically accompanied by one or more episodes of major depression.” Cf. National Institute of Health (NIH), “Bipolar Disorder,” National Institute Of Mental Health (NIMH), Last modified April 2016, <https://www.nimh.nih.gov/health/topics/bipolar-disorder/index.shtml>.

⁷⁵ C. S. Lewis, *The Abolition of Man, Or, Reflections On Education with Special Reference to the*

John G. West, Edward J. Larson, and others reveal how clearly Lewis foresaw today's reality. Lewis acknowledged essential differences between genuine science and magic (i.e., between science and pseudo-science), but he also identified key similarities as the seeds and roots of *misguided* scientism. West and Larson explain as follows:

FIRST, science and magic are similar in functioning as a pseudo-religion. Both magical and scientismic views of reality can inspire wonder, mystery, and awe. [West, "Magician's Twin," 19-20.]

The reductionist tendency of modern science undermines moral reasoning, human dignity, and religious faith. [Larson, "Science as a Threat," 54.]⁷⁶

21st century scientism delivers a litany of symbolic inscriptions and chants rendered in arcane mathematical lingua francas. Its liturgies are now more bedazzling, wondrous, mysterious, and awe-igniting as rituals and sacraments of pre-Enlightenment Latin and Greek Christian ceremony once were. Congregations and communities thus enchanted are thus lulled into ignorance, basking in blissful naivete and comfortable complacency. Raptured on transcendent wings, we are taken up and away in clutches of blind faith in scientism, Christianity, or both, oblivious to the doom already at hand.⁷⁷

SECOND, science and magic are similar in encouraging a stunning lack of skepticism. Both scientific and magical thinking can spawn a kind of credulity accepting every kind of explanation regardless how poorly grounded in facts. In the age of magic witch-doctors' claims were affirmed without contradiction and in the age of science nearly anything may be taken seriously if defended in the name of science. [West, "Magician's Twin," 23-24.]

Teaching of English in the Upper Forms of Schools (1944; repr., San Francisco: Harper Collins eBooks, 2009), 77-79, Kindle.

⁷⁶ John G. West, "The Magician's Twin," in *The Magician's Twin: C. S. Lewis On Science, Scientism, and Society*, ed. John G. West (Seattle: Discovery Institute Press, 2012), 19-44, Kindle; John G. West, "Introduction," in *The Magician's Twin: C. S. Lewis On Science, Scientism, and Society*, John G. West, ed. (Seattle: Discovery Institute Press, 2012), 11-14, Kindle; Edward J. Larson, "C. S. Lewis on Science as a Threat to Freedom," in *The Magician's Twin: C. S. Lewis On Science, Scientism, and Society*, ed. John G. West (Seattle: Discovery Institute Press, 2012), 53-58. Kindle.

⁷⁷ *OED*, s. vv. "Christianism," i.e., ""

Science leads to technology which Lewis believed would be utilized regardless of its beneficial or detrimental impact on humans. He wrote that “the modern conception of Progress ... is simply a myth, supported by no evidence whatever.” Asked if “progress is even possible,” he wrote of technology: “We shall grow able to cure, and to produce, more diseases—bacterial war, not bombs, might ring down the curtain—to alleviate, and to inflict, more pains, to husband, or to waste, the resources of the planet more extensively. We can become neither more beneficent nor more mischievous. My guess is we shall do both.” [Larson, “Science as a Threat,” 54.]

In both of these features of scientism, crucial distinctions are implied but not explicitly stated, namely, the differences between (*rationally*) *scientific* scientism (“science”), as opposed to (*irrationally* or *nonrationally*) *pseudoscientific* scientism (“magic”).⁷⁸ In their final differentiation between scientism and magic, West and Larson point to the rise of scientocracy and technocracy as manifestations of oligarchy and oppression:

THIRD AND MOST SIGNIFICANTLY, science and magic are quests for power and control. Magicians and scientismists seek not only to understand nature, but to control it—to subdue it to human wishes [West, “Magician’s Twin,” 23-24.]

Science would be forced to serve oligarchic oppression. While scientific planning is not necessarily evil, Lewis remarked, “under modern conditions any effective invitation to Hell will certainly appear in the guise of scientific planning—as Hitler’s regime in fact did.” [Larson, “Science as a Threat,” 54.]

Due to the corrosive effects of rendering metaphysics and theology meaningless to foster value-free scientism, for example, it is no longer necessary for scientism to engage in the “disgusting and impious (practice of) digging up and mutilating the dead.”⁷⁹ No need—the donation of one’s corpse by way of piecemeal organ transplants, or intact for medical study, is now pop morality with bragging rights included.⁸⁰

⁷⁸ Fortunately, West explicitly emphasizes Lewis’ keen awareness of this crucial distinction.

⁷⁹ Lewis, *Abolition of Man*, 77-79.

⁸⁰ Jim T. Miller, “How To Save Money By Donating Your Body To Science,” *Huffington Post*,

What Lewis foresaw is happening. The evidence is overwhelming: humanity has arrived at, or already crossed, the event-horizon brink of an existential crisis. Numerous extinction-level-event (ELE) forces are clustering beyond control or reversal. Disruptive technologies, weapons of mass destruction (WMDs), and cataclysmic climate events of our own making are converging in a nexus of compounding existential threats.

The *Bulletin of the Atomic Scientists* is a premier scientific organization sounding the alarms. The *Bulletin*'s November 2018 issue gives a clear image of this convergent intersection, depicting the ELE characteristics of its constitutive components:

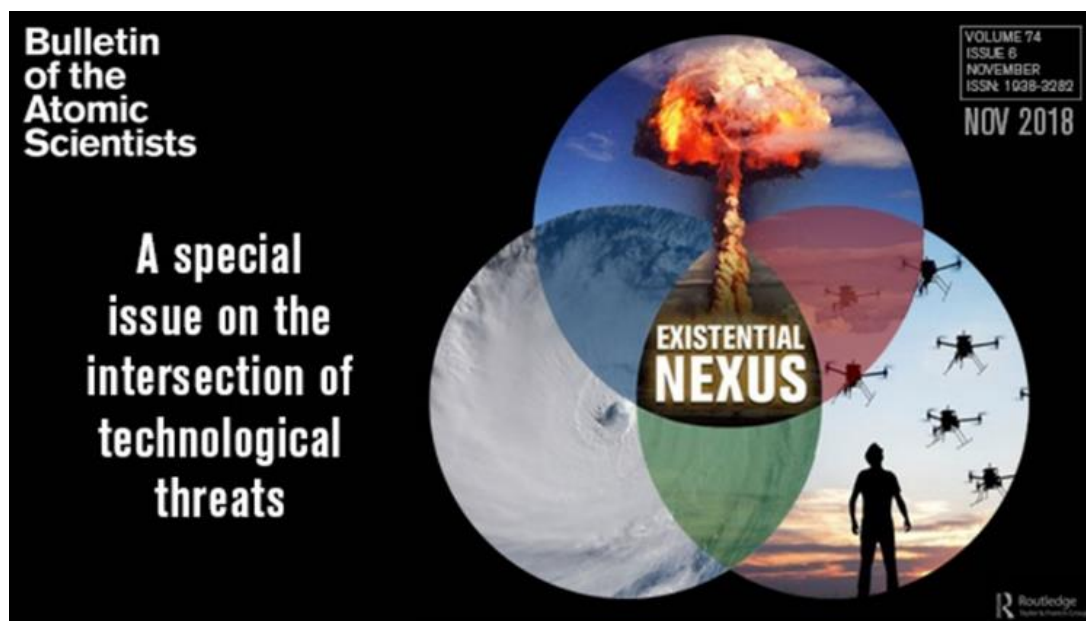


Figure 4: The Existential Threat Nexus Confronting Humanity

Figure 4 shows how squarely Lewis' prognostications hit the bull's eye of our times. *The Bulletin* editor-in-chief John Mecklin sharply summarizes the current status of our social contract with the pseudoscientific scientocracy elite: "Extraordinarily fast-paced advance

2013, https://www.huffingtonpost.com/jim-t-miller/how-to-save-money-by-donating-your-body-to-science_b_2162564.html.

across the full breadth of the world’s scientific and technological enterprise creates a new threat matrix where dangerous technologies may collide—with catastrophic results.”⁸¹

The nexus in Figure 4 corresponds to dilemmas in Table 1: The Seven Dilemmas of the AX Gordian Entanglement as defined in Table 2: Key to Table 1—Definitions of the Seven AX Dilemmas (p. 4). It certainly poses a problem for Christian and scientific realism alike (item #7 in both tables).

In their fourth national climate assessment report to Donald Trump, 45th President of the United States (POTUS45), the U.S. Global Change Report Program states, “Earth’s climate is now changing faster than at any point in the history of modern civilization, primarily as a result of human activities.”⁸² Trump withdrew USAmerica from the global consortium of countries signing the Paris Agreement from the United Nations Framework Convention on Climate Change, a treaty begun in 1994 with 197 countries participating.⁸³ A clearly ill-informed and irrational action, Trump’s withdrawal in June 2017 established the US as the only G7 country not affirming the Agreement, a status that persists today.⁸⁴

⁸¹ Mecklin, “New Threat Matrix,” 367; See Fred D’Agostino, et al., “Contemporary Approaches to the Social Contract,” *SEP* (Winter 2017 ed.), <https://plato.stanford.edu/archives/win2017/entries/contractarianism-contemporary/>.

⁸² Reidmiller et al., eds., *Impacts, Risks, and Adaptation*.

⁸³ United Nations, “Paris Agreement” (New York: United Nations Framework Convention on Climate Change, 2015), http://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf.

⁸⁴ Robert N. Stavins, “Why Trump Pulled The U.S. Out Of The Paris Accord And What The Consequences Will Be”, *Foreign Affairs*, 2017, <https://www.foreignaffairs.com/articles/2017-06-05/why-trump-pulled-us-out-paris-accord>; Chris Mooney, “Trump’s Reasons For Leaving The Paris Climate Agreement Just Don’t Add Up”, *Washington Post*, 2017, <https://www.washingtonpost.com/news/energy-environment/wp/2017/06/01/trumps-reasons-for-leaving-the-paris-climate-agreement-just-dont-add-up/>. G7 (Group of Seven) are the world’s seven largest advanced economies.

The overwhelming majority of contemporary scientismists and scientific realists (scientism notwithstanding) univocally affirm the USGCRP's assessment. They hasten to add, in fact, that the changes are not for the better.⁸⁵ They are swiftly accelerating, racing essentially unimpeded, toward the worst possible outcomes for humanity (Figure 4).

In a "sweeping catalog of global risks" for the World Economic Forum (WEF) meeting in Davos, Switzerland in January 2019, it was concluded that "climate change is the biggest threat to the planet," naming "extreme weather, natural disasters, man-made environmental disasters, loss of biodiversity, and failure to adapt to climate change as the chief perils to society." The WEF's annual Global Risk Report plainly stated that, "it is in relation to the environment that the world is most clearly sleepwalking into catastrophe." POTUS45 did not attend due to his shutdown of the US Federal Government. The WEF's strategy and plan for addressing our "sleepwalk into catastrophe" remain unspecified.⁸⁶

What Mecklin refers to as "extraordinarily fast-paced advance across the full breadth of the world's scientific and technological enterprise" is the root cause of this nexus of imminent apocalypse. This begs the crucial question: how did the disciplines upon which the "world's scientific and technological enterprise" is built—presumed to represent the quintessence of rationality—bring humanity and Earth to the brink of self-inflicted doom, a blatantly irrational, deplorable, and unconscionable situation?

Three key features of the transition are especially critical: baseline shift, cultural lag, and technology (progress) traps. Especially in combination, they inevitably result in

⁸⁵ Cook et al. "Consensus on Consensus."

⁸⁶ Mulkern, "Climate Forecast;" Hohmann, "The Daily 202;" World Economic Forum (WEF), "The Global Risks Report 2019" (Geneva, CH: World Economic Forum, 2019), http://www3.weforum.org/docs/WEF_Global_Risks_Report_2019.pdf.

shifting baseline syndrome (SBS). As a form of cognitive dissonance, SBS refers to the processes through which our immanent frames and social imaginaries of ‘normal reality’ imperceptibly change in subliminal, subconscious, even unconscious ways.⁸⁷

Cultural lag is a root cause of SBS. *Technology (progress) traps* are symptomatic effects of SBS. Cultural lag refers to the temporal gap between the initial emergence of a new philosophy, theology, ideology, scientific paradigm, technology, etc. and its broader acceptance and embedding in society and culture.⁸⁸ Technology traps are laid and set—and concealed—by rampant research, development, and application creating unforeseen problems whose effects range from minor disruptions to globally catastrophic extinction-level-events (ELEs), such as those directly confronting humanity today.⁸⁹

Positivist-empiricist scientism enabled USAmerica to emerge from WWII as the first global superpower empire since Rome. Within very few years, its scientific belief system became the reigning immanent frame and social imaginary for buffered identity, both individually and collectively. At the same time, its scientocracy and technocracy set in motion the unconscionable accumulation of wealth and power enabling USAmerican hegemony to become a global benchmark of reality. Bootstrap pragmatism and rabid scientism now rule the world with irrefutable materialism and unassailable value-free hubris manifest in an increasingly rapacious and anonymous elite oligarchy, exactly as

⁸⁷ Taylor, *Modern Social Imaginaries*; Taylor, *A Secular Age*; Taylor, “Buffered and Porous Selves;” Godbey, “Shifting Baseline Syndrome;” Monbiot, “Our Selective Blindness.”

⁸⁸ *OED*, s. v. “cultural lag,” i.e., “disparity between a society's conventions, institutions, or cultural practices and changing social conditions or situations, esp. one resulting from technological advances; (now also) any delay between a cultural change or development and its wider dissemination.”

⁸⁹ Dumas, *Technology Trap*; O’Leary, *Escaping the Progress Trap*.

Lewis and Orwell had predicted.⁹⁰ The political reality within which shifting baseline syndrome (SBS) brought all humanity to its self-inflicted brink of doom includes, but is not overseen by, what Lewis foresaw as oligarchic scientocracy and technocracy. The 21st century reality is far worse.

Sheldon Wolin (1922-2015), Noam Chomsky, Chris Hedges, and others point to 21st century reality's pseudoscientific scientism. It surely is primary among those ways and means through which (what Wolin and Hedges refer to as) *inverted totalitarianism* (aka *managed democracy*, *corporatocracy*) rule the world as an anonymous plutocratic oligarchy. Hedges characterizes this political reality as follows:

The corporate power that holds the government hostage has appropriated for itself the potent symbols, language, and patriotic traditions of the state. It purports to defend freedom, which it defines as the free market, and liberty, which it defines as the liberty to exploit. It sold us on the illusion that the free market was the natural outgrowth of democracy and a force of nature, at least until the house of cards collapsed and these corporations needed to fleece the taxpayers to survive. Making that process even more insidious, the real sources of power remain hidden. Those who run our largest corporations are largely anonymous to the mass of the citizens. The anonymity of corporate forces—an earthly Deus absconditus—makes them unaccountable. They have the means to hide and to divert us from examining the decaying structures they have created. As Karl Marx understood, capitalism when it is unleashed from government and regulatory control is a revolutionary force.⁹¹

Figure 5 shows the damnable anonymous iniquity of the forces Hedges describes:

⁹⁰ Heather Douglas, "Rejecting the Ideal of Value-Free Science," in *Value-Free Science? Ideals and Illusions*, Kincaid, Harold, John Dupré, and Alison Wylie, eds. (New York: Oxford University Press, 2007), 120-142.

⁹¹ Hedges, *Empire of Illusion*, 142-43; Wolin, *Democracy Inc.*; Noam Chomsky, (New York: Metropolitan Books, Henry Holt and Company, 2006); Chomsky, *Requiem*; Chomsky, *Who Rules the World?*

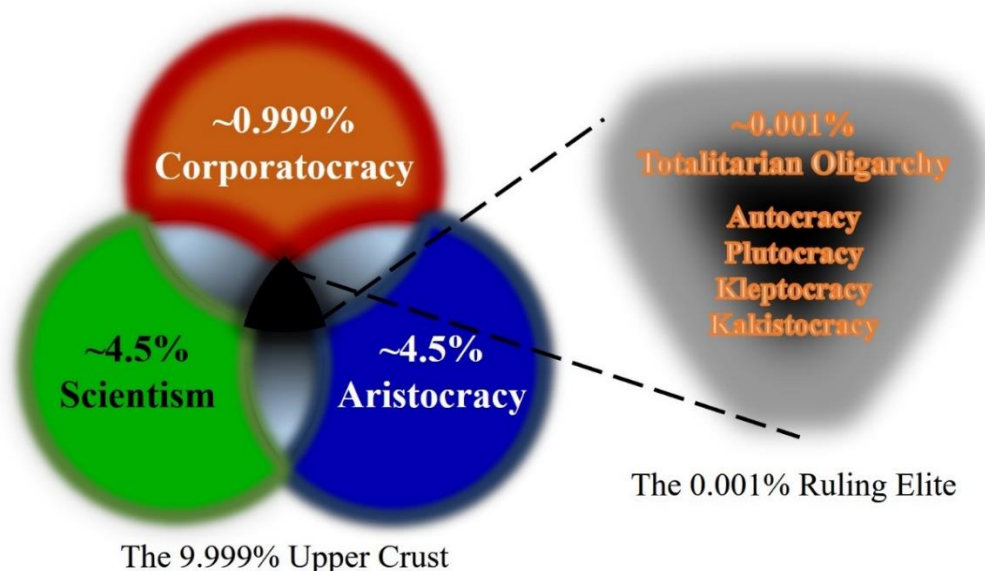


Figure 5: The Wealth, Power, Force, and Control Nexus of Inverted Totalitarianism⁹²

In Figure 5, just 10% (760 million) of the 7.6 billion humans on Earth are represented. Of that 10%, 9% (684 million) are scientismists or aristocrats thriving in luxurious patronage afforded by the other 1% (76 million). 0.999% of that mostly faceless 1% elite forms the corporatocracy—the untouchable Praetorian guard who secure and protect the remaining 0.001% ultra-elite (76,000) ruling the world.⁹³ Those 76,000 are the totalitarian oligarchy, but it includes the extended families and the hand-picked confederates of the actual rulers who truly wield all the wealth, power, force, and control. The number of rulers actually in

⁹² Figure 5 depicts inverted totalitarianism as identified in Wolin, *Democracy Inc.* and Chris Hedges, “The Deadly Rule of the Oligarchs,” Truthdig, February 11, 2018, <https://www.truthdig.com/articles/deadly-rule-oligarchs/>. Statistical groups approximate the 1%-to-99% division that emerged in the Occupy Wall Street Movement and an article on the emergence of aristocracy in the 21st century. Chomsky, *Occupy*; Gitlin, *Occupy Nation*; Matthew Stewart, “The 9.9 Percent Is the New American Aristocracy,” *The Atlantic*, June 2018, <https://www.theatlantic.com/magazine/archive/2018/06/the-birth-of-a-new-american-aristocracy/559130/>. The “Scientism” group includes rational, non-rational and even irrational scientismists, as differentiated earlier (see Table 1 and Table 2, p. 4).

⁹³ *OED*, s. v. “corporatocracy,” i.e., “A society or system that is governed or controlled by corporations.”

that despotic cabal is likely fewer than 1,000. Figure 5 begs the question, ‘where are the other 90% of us?’ The answer is tragically clear—we are literally *not in the picture at all*.

The majority of those 5.1 billion souls are not likely to believe any of this, having other faiths with their own mythology or theology, or none of either whatsoever. Despite the eminence of churchianity in Christianity community, some missions, ministries, and movements faithfully follow Jesus, striving to obey his New and Great Commandments and his Great Commission.⁹⁴ This minority manifests the Spirit of those marching orders, standing firm “against the rulers, against the authorities, against the powers of this dark world, against the spiritual forces of evil in the heavenly realms.”⁹⁵ Are they truly well-equipped? How strong and intact is their armor? How *should* Christians be up to the task, challenge, and battle surrounding those Commandments and Commission?

Tyranny today exploits reality as it always has. Elitist imperialism and aristocracy mount and ride the roughshod beast of scientistic natural philosophy to exploit the rest of us to death as raw human resources fueling their bloodlust and greed. Now as always, this is the global spiritual being and manifest stronghold presence of evil, still the ruler of this world, invisibly personified in human disguise. Since Eden, we are captive prisoners and slaves all the way to our DNA, or we remain the elusive prey he ruthlessly stalks.⁹⁶ Noam Chomsky identifies the ten principles that establish and sustain that evil pursuit:

⁹⁴ John 13:35; Matthew 22:35-40, 28:16-20.

⁹⁵ Ephesians 6:12. I was honored to serve with Wycliffe Associates in Bible translation. Their MAST (Mobilized Assistance Supporting Translation) Program is abundantly fruitful. Wycliffe Associates, “MAST Program,” Wycliffe Associates, accessed January 10, 2019, <https://wycliffeassociates.org/what-we-do/project/79/>. Cf. Timothy F. Neu, “Advancing Bible Translation: A Church-Sourced Approach” (PhD diss., Louisiana Baptist University, 2015).

⁹⁶ See e.g., John H. Elliott, *Empires of the Atlantic World: Britain and Spain in America 1492-1830* (New Haven, CT: Yale University Press, 2006); Leslie Bethell, ed., *The Cambridge History of Latin*

1. reduce democracy;
2. shape ideology;
3. redesign the economy;
4. shift the burden;
5. attack solidarity;
6. run the regulators;
7. engineer elections;
8. keep the rabble in line;
9. manufacture consent; and,
10. marginalize the population.⁹⁷

Chomsky reveals the dynamics of his ten principles in terms of “The Vicious Cycle,” in which wealth and power are essentially symbiotic, each feeding into and off of the other, continually concentrating greater wealth and power in the hands of the elite oligarchy. In tandem with that Cycle, Chomsky also cites “The Vile Maxim” from Adam Smith’s 1776 *Wealth of Nations*. Updating Smith for our times, he shifts emphasis from “the silent and insensible operation of foreign commerce and manufactures,” to expose the hubris and rapacity of financial institutions and multinational corporations as the new “masters of mankind.” Their nefarious intents and purposes rule over all with no regard whatsoever for how egregiously ruinous the impacts are on everyone else.⁹⁸ Chris Hedges observes:

America, vol. 2, *Colonial Latin America* (1984; repr., New York: Cambridge University Press, 1997); Howard Zinn, *A People's History of the United States* (1979; repr., New York: Harper Perennial, 20150).

⁹⁷ These are the ten chapter headings in Chomsky, *Requiem*, v-vi.

⁹⁸ Ibid., xiii-xv. Cf. Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (public domain), 222, i.e., “All for ourselves, and nothing for other people, seems, in every age of the world, to have been the vile maxim of the masters of mankind;” Chris Hedges, *America: The Farewell Tour* (New York: Simon & Schuster, 2018), Kindle; Chris Hedges, “Democracy in America Is a Useful Fiction,” Truthdig, January 24, 2010, <https://www.truthdig.com/articles/democracy-in-america-is-a-useful-fiction/>.

Cultures that cannot distinguish between illusion and reality die. The dying gasps of all empires, from the Aztecs to the ancient Romans to the French monarchy and the Austro-Hungarian Empire, have been characterized by a disconnect between the elites and reality. The elites were blinded by absurd fantasies of omnipotence and power that doomed their civilizations. We have been steadily impoverished by our own power elites—legally, economically, spiritually, and politically. And unless we radically reverse this tide, unless we wrest the state away from corporate hands, we will be dragged down by the dark and turbulent undertow of globalization. In this world there are only masters and serfs. We are entering an era in which workers may become serfs, no longer able to earn a living wage to sustain themselves or their families, whether in sweatshops in China or the industrial waste-land of Ohio.⁹⁹

Apart from its unconscionable violence, inverted totalitarianism's most insidious weapon is *propaganda* as a weapon of *cognitive* destruction (WCD) for destroying the ability to “distinguish between illusion and reality.” In this treatise, all cognition is seen as being caused by semiosis (sign-processing). As technology for manipulating and controlling semiotic (sentient, sapient) modes of cognition becomes increasingly sophisticated and complex, the more effectively and pervasively *semiotic engineering* can be carried out at pre-sentient and pre-sapient levels. In that greatly expanded capacity, propaganda entirely displaces reality by direct control of sensory perception and sapient ideation. It becomes brainwashing at the corpus callosal level of cognition, configuring our brain states and molding our mind modes *before* they become sentient and sapient mentality.

More than half a century ago, feminist and activist Hannah Arendt wrote of this propaganda effect, describing its irreversible WCD efficacy:

This is best illustrated by the relatively closed systems of totalitarian governments and one-party dictatorships, which are, of course, by far the most effective agencies in shielding ideologies and images from the impact of reality and truth It has frequently been noticed that the surest long-term result of brainwashing is a peculiar kind of cynicism – an absolute refusal to

⁹⁹ Hedges, *Empire of Illusion*, 143.

believe in the truth of anything, no matter how well this truth may be established. In other words, the result of a consistent and total substitution of lies for factual truth is not that the lies will now be accepted as truth, and the truth be defamed as lies, but that the sense by which we take our bearings in the real world – and the category of truth vs. falsehood is among the mental means to this end – is being destroyed. And for this trouble there is no remedy.¹⁰⁰

The rise of internet and worldwide web technology, especially in global networks of social media, now incorporating the unbounded milieux of virtual reality, arms tyrants with the perfect arsenal of weapons of cognitive destruction (WCDs) via global semiotic engineering. Control over the full spectra of semiosis achieves fully invasive propaganda and pervasive panopticism inside and out, enabling tyranny to rise and flourish—with no one noticing the difference. Proliferation of disruptive technologies such as data mining, artificial intelligence and machine cognition, robotics, genetic engineering, etc. multiplies WCD sophistication and efficacy, ultimately destroying what it even means to be human and present in reality. It is no longer if or when this is coming. It is already here now, and the rate and range of its growth and sophistication is limitless in liquid modernity. As the Computational Propaganda Research Project at University of Oxford recently reported:

The ubiquity and prominence of social media for everyday life underscores their importance in today's society, and users place high amounts of trust in these platforms. But with their ability to segment audiences and target messages in a quick, cheap and largely unregulated way, it is clear why these platforms have attracted the interest of political operators. Unfortunately, there is mounting evidence that social media are being used to manipulate and deceive the voting public—and to undermine democracies and degrade public life.¹⁰¹

¹⁰⁰ Hannah Arendt, "Truth and Politics," *The New Yorker*, February 25, 1967; Cf. Chris Hedges, "The Permanent Lie: Our Deadliest Threat," Truthdig, December 17, 2017, <https://www.truthdig.com/articles/permanent-lie-deadliest-threat/>.

¹⁰¹ Hedges, *Empire of Illusion*; Samantha Bradshaw and Philip N. Howard, "Challenging Truth

Chris Hedges discerns these signs of semiotic engineering with icy clarity:



Figure 6:

Chris Hedges

The permanent lie is the apotheosis of totalitarianism. It no longer matters what is true. It matters only what is “correct.” Federal courts are being stacked with imbecilic and incompetent judges who serve the “correct” ideology of corporatism and the rigid social mores of the Christian right. They hold reality, including science and the rule of law, in contempt. They seek to banish those who live in a reality-based world defined by intellectual and moral autonomy. Totalitarian rule always elevates the brutal and the stupid. These reigning idiots have no genuine political philosophy or goals. They use clichés and slogans, most of which are absurd and contradictory, to justify their greed and lust for power. This is as true on the Christian right, which is filling the ideological vacuum of the Trump administration, as it is for the corporatists that preach neoliberalism and globalization. The merger of the corporatists with the Christian right is the marrying of Godzilla to Frankenstein.¹⁰²

With semiotic engineering of this lethal WCD caliber, Charles Taylor’s lucid distinctions between buffered and porous identity disintegrate as immanent frames merge with social imaginaries, creating one delusion for all that remains nonetheless customizable for each of us. This implosive conflation of cognition through semiotic engineering is a daydream come true for totalitarianism’s perverse *raison d’être* and nefarious *élan vital*.¹⁰³

and Trust: A Globl Inventory of Organized Social Media Manipulation,” Computational Propaganda Research Project (Oxford, UK: University of Oxford, 2018).

¹⁰² Drawing of Hedges ©2018 by Mr. Fish (Dwayne Booth, used by permission). Hedges, “Permanent Lie.”

¹⁰³ *OED*, s. vv. “*raison d’être*,” i.e., “A reason or purpose for the existence of a person or thing;” and, “*élan vital*,” i.e., “In the philosophy of Henri Bergson (1859–1941), a vital impulse or life force, of which we are aware intuitively; *spec.*, an original impetus of life supposed to have brought about the variations which during the course of evolution produced new species; a creative principle found in all living beings. Hence *gen.*, any mysterious vital principle.” As far as the 90-99% of us can tell, virtual reality (VR) is rapidly morphing from games of fantasy, pornography, etc. to virtual community presence, e.g., as in VR church. Cf. Anugrah Kumar, “Are Virtual Reality Churches the Wave of the Future?” *Christian Post*, February 04, 2018, <https://www.christianpost.com/news/virtual-reality-churches-future.html>; Kristen French, “This Pastor Is Putting His Faith in a Virtual Reality Church,” *Wired*, 02.02.2018, <https://www.wired.com/story/virtual-reality-church/>. It is anyone’s guess where the true VR capabilities could be at the cutting edge in clandestine corporatocracy and military research and development, which are surely to be far more advanced than we know (it is a ‘known unknown’).

A contemporary of C. S. Lewis', George Orwell (1903-1950) also understood the nature of tyrannous control. In both *Animal Farm* and *1984*, totalitarianism is the central theme and the main character. One tells the story in satirical parody, the other in chilling dystopian irreality. Orwell's *1984* antagonist O'Brien explains oligarchic totalitarianism to his protégé, Winston Smith, Orwell's everyman antihero protagonist:

We are different from all the oligarchies of the past, in that we know what we are doing. All the others, even those who resembled ourselves, were cowards and hypocrites. The German Nazis and the Russian Communists came very close to us in their methods, but they never had the courage to recognize their own motives. They pretended, perhaps they even believed, that they had seized power unwillingly and for a limited time, and that just round the corner there lay a paradise where human beings would be free and equal. We are not like that. We know that no one ever seizes power with the intention of relinquishing it. Power is not a means; it is an end.¹⁰⁴

Orwell's fictional oligarchy reverberates in Hedges' summary of inverted totalitarianism:

Inverted totalitarianism is different from classical forms of totalitarianism. It does not find its expression in a demagogue or charismatic leader but in the faceless anonymity of the corporate state. Inverted totalitarianism pays outward fealty to the facade of electoral politics, the Constitution, civil liberties, freedom of the press, the independence of the judiciary, and the iconography, traditions and language of American patriotism, but it has effectively seized all of the mechanisms of power to render the citizen impotent.¹⁰⁵

A primary WCD in *1984* is the linguistic residue of obstructive meaninglessness created in the systematic deconstruction of ordinary language—Newspeak (Big Brother panopticism is another). Anyone who endured the dissonant blizzard of purported news

¹⁰⁴ Orwell *1984*, 208; Cf. Boualem Sansal, *2084: The End of the World*, trans. Alison Anderson (New York: Europa Editions, 2017); Mason Engel, *2084* (North Charleston, SC: CreateSpace Independent Publishing Platform, 2017); George Orwell, *Animal Farm* (1945; repr., New Delhi, IN: OM Publishing, 2015).

¹⁰⁵ Wolin, *Democracy Inc.*, xxvii.

coverage of 2016 US American presidential campaigns from a truly rational perspective witnessed nonstop “doubleplusgood duckspeaking p-zombies” performing at their best, as defined in “The Principles of Newspeak” appended to *1984*.¹⁰⁶

Ultimately it was hoped to make articulate speech issue from the larynx without involving the higher brain centers at all. This aim was frankly admitted in the Newspeak word *duckspeak*, meaning “to quack like a duck.” Like various other words in the B vocabulary, *duckspeak* was ambivalent in meaning. Provided that the opinions which were quacked out were orthodox ones, it implied nothing but praise, and when the *Times* referred to one of the orators of the Party as a *doubleplusgood duckspeaker* it was paying a warm and valued compliment.¹⁰⁷

In resonance with Orwell’s Newspeak, Sheldon Wolin observed the following, providing an example from the George W. Bush presidency in the hunt for WMDs in Iraq:

A rarely discussed but crucial need of a self-governing society is that the members and those they elect to office tell the truth. Although lying has figured in all forms of government, it acquires a special salience in a democracy, where the object of deception is the “sovereign people.” Under nondemocratic forms of government, where the people are politically excluded as a matter of principle, lying is typically done by the sovereign or its agents, usually in order to mislead those presumed to be enemies or rivals of the sovereign. In modern dictatorships lying to the public was a matter of systematic policy and assigned to a special ministry (sic) of propaganda. Statecraft as an especially bad joke

A common thread connects false claims about WMDs with denials of global warming. The one insists that there was evidence; the other denies that there is evidence. Both are denials of actuality; both are irrational decisions of huge consequence; and both are aided by the lack of intellectual and public integrity among our scandal-ridden corporate and governmental leadership.¹⁰⁸

¹⁰⁶ “Doubleplusgood dusckspeaking” is defined in the quoted paragraph. A “philosophical (or p-) zombie” is a specularive entity indistinguishable from humans, but lacking all consciousness. Robert Kirk, “Zombies,” *Mrach* 16, 2015, *SEP* (Summer 2015 Edition), Edward N. Zalta (ed.), <https://plato.stanford.edu/archives/sum2015/entries/zombies/>.

¹⁰⁷ Orwell, *1984*, 236.

¹⁰⁸ Wolin, *Democracy Inc.*, 260, 262.

Wolin sharply discerned signs of liquid postmodernity as Bauman does, i.e., as successor to Olson's "acids of Enlightenment modernity." Unfathomably worsened by superacidic hyper-corrosion through liquid postmodernity, the mass delusion of *progress* sowed the seeds of inverted totalitarianism. Wolin explains from his perspective:

The effect of unending change is to undercut consolidation In order to gain a handle on the problem of change we might recall that among political and intellectual circles, beginning in the last half of the seventeenth century and especially during the eighteenth-century Enlightenment, there was a growing conviction that, for the first time in recorded history, it was possible for human beings to deliberately shape their future. Thanks to advances in science and invention it was possible to conceive change as "progress," an advancement benefiting all members of society. Progress stood for change that was constructive, that would bring something new into the world and to the advantage of all. The champions of progress believed that while change might result in the disappearance or destruction of established beliefs, customs, and interests, the vast majority of these deserved to go because they mostly served the Few while keeping the Many in ignorance, poverty, and sickness.¹⁰⁹

On the ideological scaffolding of pragmatic-positivist pseudoscientific scientism Wolin alludes to, we rose to become apex predators roaming the cognitive terroir. Thus, it no longer mattered to the reigning 1% elite what futile fantasies or curious customs the 99% helpless and hapless rest of us embraced or not. As long as the gruesome engines of corporatocracy ran smoothly and the streams of wealth and power they produced became increasingly voluminous, moving more swiftly upward and onward into their bottomless coffers and bloodstained hands, all was well. Wolin envisioned this trend increasing as the first Industrial Revolution drew to a close:

An important element in this early modern conception of progress was that change was crucially a matter for political determination by those who could be held accountable for their decisions. That understanding of change was

¹⁰⁹ Wolin, *Democracy Inc.*, xvii-xix.

pretty much overwhelmed by the emergence of concentrations of economic power that took place during the latter half the nineteenth century. Change became a private enterprise inseparable from exploitation and opportunism, thereby constituting a major, if not the major, element in the dynamic of capitalism. Opportunism involved an unceasing search for what might be exploitable, and soon that meant virtually anything, from religion, to politics, to human wellbeing. Very little, if anything, was taboo, as before long change became the object of premeditated strategies for maximizing profits.¹¹⁰

In these insights, writing a decade ago for the 2008 edition of *Democracy Incorporated*,

Wolin tenuously concluded his Preface with the following warning:

I want to emphasize that I view my main construction, “inverted totalitarianism,” as tentative, hypothetical, although I am convinced that certain tendencies in our society point in a direction away from self-government, the rule of law, egalitarianism, and thoughtful public discussion, and toward what I have called “managed democracy,” the smiley face of inverted totalitarianism.

For the moment Superpower is in retreat and inverted totalitarianism exists as a set of strong tendencies rather than as a fully realized actuality. The direction of these tendencies urges that we ask ourselves—and only democracy justifies using “we”—what inverted totalitarianism exacts from democracy and whether we want to exchange our birthrights for its mess of pottage.¹¹¹

A decade later the “smiley face of inverted totalitarianism” has been replaced by a horror mask of pathological prevarication worn by a preening demagogue (POTUS45). “We the people” have lost sight of “our birthrights” in the accelerating shifting baseline syndrome and black-hole cultural lag of liquid modernity. The only “mess of pottage” at hand is a global minefield of extinction-level-event (ELE) technology traps. We are at the event horizon of that cosmic abyss. The only thing surpassing our disgraceful complacency in the face of self-inflicted doom is our denial of its realities and the irrational divisiveness

¹¹⁰ Wolin, *Democracy Inc.*, xix.

¹¹¹ *Ibid.*, xxiv.

and enmity we desperately embrace to bury or vent our fears, to distract ourselves from these truths.

How close are we, really, to the inescapable event horizon of apocalyptic abyss into nothingness? The *Bulletin of Atomic Scientists* provides an authoritative apocalypse countdown indicator with the “Doomsday Clock.” It has been reset in January every year since 1947, when the *Bulletin* was formed in response to the atomic bombing of Nagasaki and Hiroshima, bringing WWII to a close. In January 2018 it dropped to its lowest setting since the 1953 peak of the Cold War. In January 2019, it remained unchanged. Note the increasing instability and rapid decline since the last upticks in 1991 and 2010.

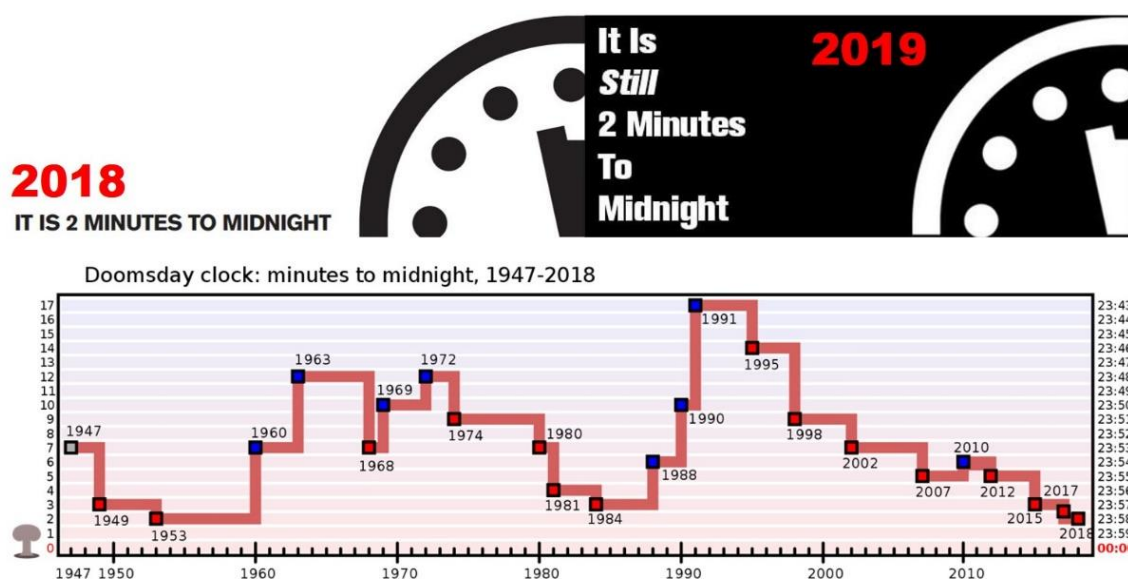


Figure 7: Doomsday Clock—Current Setting and Chart of Annual Settings¹¹²

On February 1, 2019 POTUS45 (Trump) suspended USAmerican participation in the INF (Intermediate-Range Nuclear Forces) Treaty, one of the last nuclear arms control treaties with Russia dating back to the Cold-War Reagan era. Russia responded on February 2 by

¹¹² The composite Figure 5 consists of three public domain images. The two images of the 2018 and 2019 Doomsday Clock are from the *Bulletin* website and the chart is from Wikipedia Commons.

also backing out of the treaty. A new nuclear arms race was already under way, and it is now accelerating more swiftly, with China entering the fray, having never participated in the treaty.¹¹³

God help us all.

The Crisis in Christianity

As heir-apparent to the intellectual legacy of Sheldon Wolin (1922-2015),¹¹⁴ few voices today are as zealously prophetic as Chris Hedges' in discerning and recounting the signs of our political and religious times. He speaks of these matters with rare authority and profound experience, a tireless activist who stridently attacks fascism, not expecting to defeat it, but simply because it *is* fascism.¹¹⁵

¹¹³ Bulletin of the Atomic Scientists, "2019 Doomsday Clock Statement," *Bulletin of the Atomic Scientists*, <https://cdn.thebulletin.org/sites/default/files/2018%20Doomsday%20Clock%20Statement.pdf>; David E. Sanger and William J. Broad, "U.S. Suspends Nuclear Arms Control Treaty With Russia", *New York Times*, 2019, <https://www.nytimes.com/2019/02/01/us/politics/trump-inf-nuclear-treaty.html>; Vladimir Soldatkin, "Russia Suspends Nuclear Arms Treaty After U.S. Says To Pull Out", *Reuters*, 2019, <https://www.reuters.com/article/us-russia-usa-nuclear/russia-suspends-nuclear-arms-treaty-after-u-s-says-to-pull-out-idUSKCN1PR06T>.

¹¹⁴ Sheldon Wolin was a top American political theorist, professor, and writer on contemporary politics. During his half-century career, he was Professor Emeritus of Politics at Princeton, teaching there from 1973 to 1987. Cf. William Grimes, "Sheldon S. Wolin, 93, Dies; Political Theorist Saw Limits Of Popular Democracy", *New York Times*, 2015, <https://www.nytimes.com/2015/10/29/us/politics/sheldon-s-wolin-theorist-who-shifted-political-science-back-to-politics-dies-at-93.html>.

¹¹⁵ A New York Times best-selling author and an ordained Presbyterian minister with a Harvard Master's in Divinity (MDiv), Hedges spent nearly fifteen years as a foreign correspondent with the New York Times, where he was a member of the team of reporters awarded a 2002 Pulitzer Prize for coverage of global terrorism. He has taught at Columbia University, New York University, Princeton University and University of Toronto, and is teaching at a New Jersey state prison through Princeton, a program in which half the students are Princeton undergraduates and half are prisoners. Describing Wolin in his Introduction to the posthumous 2017 edition of Wolin's *Democracy Incorporated*, Hedges writes:

Sheldon Wolin was our most important contemporary political theorist. He gave us a modern vocabulary to describe our decayed democracy and the poisonous effects of empire. He was a scholar who detested orthodoxies, rooted his understanding of democracy in the ancient concept of the Athenian demos and believed, like Max Weber, that politics was a vocation. (Wolin 2017, xxvii).

As Hedges' remarks emphasize, corporatocracy fosters the conflation of pseudo-patriotic nationalism with civil religion and faith religion, distilling them into a dissonant delusional ideology. Alliances between alt-right and pseudo-Christian demagogues and their fans and flocks are glaring evidence of this. The liberal church is no less misguided and culpable, however, as Hedges reminds us:

Paul Tillich wrote that all institutions, including the church, are inherently demonic. Reinhold Niebuhr asserted that no institution could ever achieve the morality of the individual. Institutions, he warned, to extend their lives when confronted with collapse, will swiftly betray the stances that ostensibly define them. Only individual men and women have the strength to hold fast to virtue when faced with the threat of death. And decaying institutions, including the church, when consumed by fear, swiftly push those endowed with this moral courage and radicalism from their ranks, rendering themselves obsolete.

The wisdom of Tillich and Niebuhr has been borne out in the precipitous decline of the liberal church and the seminaries and divinity schools that train religious scholars and clergy.¹¹⁶

Truth and reality are almost totally obfuscated for 99% of human being and presence in the 21st century. The dissonant smear and blur of SBS (Shifting Baseline Syndrome) at terminal velocity through time distorts everything. Futility of being explodes in headfirst freefall into the mercurial future. Presence dissipates to become raw human resource for exploitation to death. Life distills into superacidic vaporously ineffable ennui, angst, and despair. The ravenous devouring of humanity for profit is all ways and always inevitable, so its occurrence is a relentless tsunami of nothing truly meaningful ever happening at all. Semiotic engineering kills truth and reality and the mortal blow is never even felt.

¹¹⁶ Chris Hedges, "The Suicide of the Liberal Church," Truthdig, January 25, 2016, <https://www.truthdig.com/articles/the-suicide-of-the-liberal-church/>.

We are out of luck, out of step, and out of time with reality. Apparently, however, many of us could not care less. Our construct of complacency subconsciously ravages our dogmatic slumbers, yet by its very design, the dissonance never rises to sapient clarity in our presence of mind. The perfect paradox is the sanity found only in madness. Reality is restored when and only when madness becomes sublime, as Niebuhr observed in 1932:

We cannot build our individual ladders to heaven and leave the total human enterprise unredeemed of its excesses and corruptions.

In the task of that redemption the most effective agents will be men who have substituted some new illusions for the abandoned ones. The most important of these illusions is that the collective life of mankind can achieve perfect justice. It is a very valuable illusion for the moment; for justice cannot be approximated if the hope of its perfect realization does not generate a sublime madness in the soul. Nothing but such madness will do battle with malignant power and "spiritual wickedness in high places." The illusion is dangerous because it encourages terrible fanaticisms. It must therefore be brought under the control of reason. One can only hope that reason will not destroy it before its work is done.¹¹⁷

Hedges cites Niebuhr's vision of "sublime madness" to name his final chapter in *Wages of Rebellion: The Moral Imperative of Revolt* (2015). He pleads the righteousness of that madness in his eloquent call to be "stone catchers" defying 21st century fascist tyranny:

I do not know if we can build a better society. I do not even know if we will survive as a species. But I do know that the corporate forces have us by the throat. And they have my children by the throat. I do not fight fascists because I will win. I fight fascists because they are fascists. And this is a fight that in the face of the overwhelming forces against us requires that we follow those possessed by sublime madness, that we become stone catchers and find in acts of rebellion the sparks of life, an intrinsic meaning that lies outside the possibility of success. We must grasp the harshness of reality at the same time we refuse to allow this reality to paralyze us. People of all creeds and people of no creeds must take an absurd leap of faith to believe, despite all the empirical evidence around us, that the good draws to it the good. The fight for

¹¹⁷ Chris Hedges, *Wages of Rebellion: The Moral Imperative of Revolt* (New York: Nation Books, 2015), 226; Reinhold Niebuhr, *Moral Man and Immoral Society: a Study in Ethics and Politics*, Arkosh Politics (1932; repr., Arkosh Publishing, 2017), loc. 3718, Kindle.

life goes somewhere—the Buddhists call it karma—and in these acts we make possible a better world, even if we cannot see one emerging around us.¹¹⁸

“Stone catcher” is an oblique reference to John 8:3-8, esp. v. 7, “Let any one of you who is without sin be the first to throw a stone at her.”¹¹⁹ Hedges describes Bryan Stevenson as an “African American lawyer who has spent his life fighting for prisoners on death row.” An elderly black woman once identified Stevenson as a “stone catcher” in this sense. On return from attending an execution at an Alabama prison, Stevenson remarked to Hedges:

There is no such thing as being a Christian and not being a stone catcher But that is exhausting. You’re not going to catch them all. And it hurts. If it doesn’t make you sad to have to do that, then you don’t understand what it means to be engaged in an act of faith But if you have the right relationship to it, it is less of a burden, finally, than a blessing. It makes you feel stronger.¹²⁰

Today, as in Jesus’ time, stone *throwers* far outnumber stone *catchers*. This disgraceful amorality is visible even in the dreary dominant Bayesian Way paradigm and program of inductive statistical inference.¹²¹

¹¹⁸ Hedges, *Wages of Rebellion*, 226. See also Chris Hedges, “Why Mass Incarceration Defines Us as a Society,” *Smithsonian Magazine*, December 2012, <https://www.smithsonianmag.com/people-places/why-mass-incarceration-defines-us-as-a-society-135793245/#.UKwDspaG6uk.twitter>.

¹¹⁹ Hedges, *Wages of Rebellion*, 164-67.

¹²⁰ *Ibid.*

¹²¹ These critical remarks on the Bayesian Way are based on the assessment in Fetzer, *Scientific Knowledge*. See APPENDICES: Statistical Perspectives, Conflicting Conceptions of Probability, and The Bayesian View from Barna and Pew.

AS STATED IN THE PREFACE, THE PREFACE

Problem: The Sixth Mass Extinction (p. xiii) has three classes of ELE threats exemplified by ACC, WMDs, and GRAIN. The AX problem is an imminent global catastrophe of apocalyptic proportions, for an elitist tyranny is primarily responsible. Christians are oblivious to or detached from the AX problem and tyrannous regime behind it. The structure of the AX problem has been logically deconstructed in Table 1: The Seven Dilemmas of the AX Gordian Entanglement and by Table 2: Key to Table 1—Definitions of the Seven AX Dilemmas (both on p. 4). That Gordian knot of dilemmas was placed in historical perspective in the previous section, The Anthropocene Mass Extinction (AX) Reality. The philosophical and scientific deconstruction of the AX problem is now complete.

What remains, therefore, is to explore theistic aspects of the AX problem more fully, especially concerning Christianity as the dilemma between Christian realism as opposed to pseudo-Christian churchianity (cf. Table 1, Table 2, p. 4). Some conflicting ideological trends reflecting what appear to be semiotically engineered social imaginaries are subsequently be reviewed and assessed, together with the special case of the Vienna Circle 2.0. This dissertation will then conclude with the single-case study for systematic construction of a Christian realism perspective and model.

EPIC Narraphor and MRI COS 1.0, 2.0, 3.0

For the purposes of this dissertation, the abysmal state and the onrushing crisis of contemporary Christianity will be exposed through the lens of a salient distinction drawn by Leonard Sweet in his fascinating book, *So Beautiful*. In characteristic panache, Sweet

sharply divides *churchianity* from *Christian realism*, as the two horns of dilemma #3 in Table 1 and Table 2 (p. 4). Sweet uses different terminology to draw the distinction, but the synonymy is made clear as his visionary Christian realism is explored below.¹²²

Sweet's robust conception of "Experiential, Participatory, Image-rich, Connective (EPIC) narraphor (narrative metaphor)" appears as a recurrent theme in his Evangelical ministry.¹²³ He prolifically publishes and profoundly teaches and speaks through it with road-warrior commitment and faithful fervor. It inevitably surfaces more or less directly in his distinctive patois with parallax semiosic discernment and fluent consistency.

In Sweet's *So Beautiful* (2009), EPIC narraphor is presented as the user interface (UI) to the Christian Operating System (COS), especially for EPIC interaction with 21st century post-Gutenberg Googleys, i.e., "people of the screen" vs. "people of the book." The story builds on the 'APC' pill widely used in the mid-20th century. A compound of aspirin, phenacetin, and caffeine, APC was lauded as a highly effective general analgesic until tests revealed that long-term use could cause renal failures, various blood disorders, and cancers, with high morbidity and mortality rates. In Sweet's crafty imagination and deft hands, the APC pill is transformed into a sign pointing to pseudo-Christianity (i.e., churchianity) besetting true Christianity and the Church throughout their history. Sweet

¹²² Sweet, *So Beautiful*.

¹²³ Two of Sweet's books covering EPIC Narraphor are Leonard I. Sweet, *Post-Modern Pilgrims: First Century Passion for the 21st Century World* (Nashville: Broadman & Holman, 2000); Leonard Sweet, *The Gospel According to Starbucks: Living with a Grande Passion* (Colorado Springs: WaterBrook, 2007). The concept is also invoked in; Leonard I. Sweet, *SoulTsunami: Sink or Swim in New Millennium Culture* (Grand Rapids, MI: Zondervan, 1999). For a theological and homiletic view, see Sweet, *Giving Blood*, Chapters 2-3, 35-60.

adroitly casts APC churchianity as the evil nemesis of “MRI”—“Missional, Relational, Incarnational”—Christian realism.¹²⁴

Like a dose of the APC drug, APC churchianity pacifies and pleases. Its soothing and uplifting effects suppress and disguise pain. The all-too-often all-too-painful Way, Truth, and Life of Christian Reality is cognitively concealed by subliminal sedation and hypnotic heresy. As counterfeit Christianity, it is more Attractional than Missional, it is Propositional when it should be Relational, and Colonial in all contexts where it ought to should be Incarnational.¹²⁵ APC churchianity thus seeks to entice, persuade, and colonize all ‘Other’ unlike the churchian ‘Self.’¹²⁶ It deforms faithful missionary mindset, corrodes evangelism, and perverts Christ followership into invasion, conquest, and disfigurement of Christ’s already-there indigenous presence to be a conformist clone of churchian Self.

Centuries of church history offer extensive evidence of this imperialistic approach and its rapacious corruption. The reprehensible enslavement and genocide of indigenous peoples of the Americas and the East by invading Spanish Conquistadores and European

¹²⁴ Sweet, *So Beautiful*, “Introduction,” 17-51, esp. 17-20).

¹²⁵ Sweet, *So Beautiful*, 18, 231. “ABC” is APC in other words—Attendance, Buildings, Cash. Both identify asses in pews and assets in ledgers. Only quantitative counts count and MRI life is AWOL. Sweet refers to “ecclesiocrats” and “ecclesiocracy” in APC/ABC leadership, where a “GOOD Church” is a “Get Out Of Doors Church.” Helpful insights into proper operational Christian leadership are in Timothy G. Dolan, “Called to Lead: How Do I Know?” in *Organizational Leadership: Foundations and Practices for Christians*, ed. Jack Burns and John R. Shoup (Downers Grove, IL: InterVarsity Press, 2014), 15-34; Timothy G. Dolan, “Sustaining the Leader” in *Organizational Leadership: Foundations and Practices for Christians*, ed. Jack Burns and John R. Shoup (Downers Grove, IL: InterVarsity Press, 2014), 253-77.

¹²⁶ Bruce Young, “Self and Other in Lewis and Levinas,” *In Pursuit of Truth: A Journal of Christian Scholarship* (March 30, 2011): 1, <http://www.cslewis.org/journal/self-and-other-in-lewis-and-levinas/view-all/>; James Geary, *I Is an Other: The Secret Life of Metaphor and How It Shapes the Way We See the World* (New York: Harper Perennial, 2012), 2,8.

Crusaders are among the most glaring examples. In plain truth and in factual history, the idea of ‘Christian Empire’ is far more odious oxymoron than original orthodoxy.¹²⁷

The EPIC MRI narraphor of Christian reality and our human being and presence therein consists of three parts. Temporally, the first part covers world creation through the Fall, the Flood, and the rest of the Old Testament. The second part begins where the first part ends, after a four-century interlude following the last OT prophet, Malachi. It opens with the birth of Jesus Christ, Immanuel, in Bethlehem. The story unfolds as the tale of a mortal yet sinless life, lived on the wrong side of the donkey tracks in the least of all places—Nazareth—from which no good could possibly come. It ended as it had long been prophesied, murdered by elite Jewish and Roman conspiracy on a wooden cross.¹²⁸ The post-interlude second part (the New Testament) testifies to the glory and the gory of the tale, ending with John’s apocalyptic Revelation.

As the third and final part of this EPIC narraphor, *we* are to be the living MRI Third Testament! Sweet explains this by narraphorically connecting the MRI life of true Christ followership to a 21st century EPIC encounter familiar to most. He relies on “(his) own favorite way of talking about the MRI,” by using “the language of digital, electronic technology: MRI as the original operating system.” Describing MRI in terms of hard disk drive (HDD) failures and operating system (OS) crashes as EPIC narraphor, the MRI tale resonates harmoniously with the ubiquitous digitization of our age, highlighting the key differences between APC churchianity and MRI Christian realism:

¹²⁷ Cf. Elliott, *Empires*; Bethell, *Cambridge History of Latin America*; Zinn, *People’s History*.

¹²⁸ Paul Anderson, “Can Anything Good Come from Nazareth? The Hometown of Jesus,” *Huffington Post*, March 22, 2017, https://www.huffingtonpost.com/entry/can-any-good-thing-come-from-nazareth-the-hometown_us_58d1f758e4b062043ad4ae1a.



Figure 8: Len Sweet
Christian Semiotic Theologian & Realist

Western Christianity has a corrupted hard drive and an alien default OS (Operating System). Its churches are inward focused; its primary community expression is the worship of worship; and its people are afraid of others unlike them, the latter corruption given unique expression in a variety of ways. Christians can live intellectually and liturgically, like premodern tribal cultures, in sealed-off universes.¹²⁹

Methodists can buy and read books and resources written only by Methodists; Baptists by Baptists; and Catholics by Catholics.¹³⁰

The church is to reach out both *with* the good news and *as* the good news. We as a community are the good news (or are supposed to be). What happens when the salt loses its saltiness, when the good news goes bad?

What happens when the operating system goes bad?

Three procedures are needed to keep your software running properly: antivirus surveillance, defragging the hard drive, and systems scans of the OS. What a systems scan is to the OS, a defrag and a devirus are to the hard drive.

Now, to put it in more postmodern terminology, God is defragging the church and rebooting it with the original Operating System. MRI is the original operating system of the Christian faith. MRI is the operating software on which human life and faith were designed to run: Version 1.0 is known as the First Testament; Version 2.0 is known as the New Testament; Version 3.0 is the Third Testament, the Gospel According to ... you.¹³¹

MRI brings up the dreaded ‘E-word,’ of course—Evangelism. Once upon a time, the E-word was not profanity and evangelism was not politically incorrect behavior violating safe-space etiquette. A crass swap-meet of ideological terminology between churchianity and corporatism has Fortune 500 CEOs (e.g., Starbuck CEO Howard Schultz) replacing “Executive” with “Evangelist” in their title, while the church re-imagines mission and vision in the image of corporate rank and file calls-to-arms for marketplace warfare.

¹²⁹ Caricature of Len Sweet attributed to ©Rich Melheim (date unknown, used by permission). There should be at least one fawning canine in the drawing.

¹³⁰ Sweet, *So Beautiful*, 37.

¹³¹ Ibid., 35-37.

The cognitive dissonance of corporatization of Christian realism's MRI roots twists them. It deforms churches, turns them into mainstream, institutional clones of vile cathedrals of consumerism. The worst are hell-bent on rapacious exploitation of 501(c)(3) tax exemption, promoting heretical 'prosperity gospel' to amass personal wealth.¹³² Table 3 shows the differences between APC/ABC churchianity and MRI Christianity:

<u>Mnemonic</u>	<u>Meaning</u>	<u>Creates</u>
APC*	Attractional Propositional Colonial	Members Believers Consumers
ABC*	Attendance Buildings Cash	
MRI†	Missional Relational Incarnational	Missionaries Disciples World Changers

* "Church As We Know It (CAWKI)" with "Jesus Deficit Disorder (JDD)"

† Church following and abiding in Jesus as for APC/ABD CAWKI JDD

Table 3: MRI Christianity and Its APC/ABC churchianity Nemesis

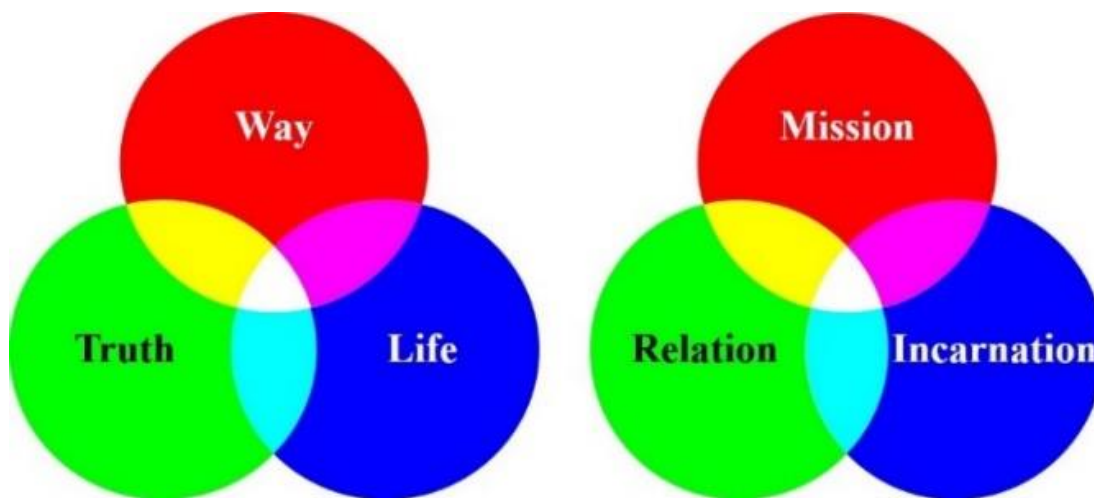
APC (aka ABC) churchianity pollutes the spiritual terroir, poisoning the wellspring of Living Water nurturing the Christian Way, Truth, and Life that is Jesus.¹³³ Indeed, the

¹³² Leonard Sweet, "The E-Word! Part 1," October 15, 2018, on *Napkin Scribbles* (podcast), licensed under Creative Commons, 5:32, <https://soundcloud.com/napkinscribbles/the-e-word-part-1>. Also Leonard Sweet, "The E-Word! Part 2," on *Napkin Scribbles* (podcast), licensed under Creative Commons, 7:03, <https://soundcloud.com/napkinscribbles/the-e-word-part-2>.

¹³³ Sweet, *So Beautiful*, 153-54, extends the idea of 'terroir' or "somewhereness," to assert that APC/ABC churchianity is "a faith with no terroir ... a faith without 'somewhereness,' a faith with no domestic vintage or memorable value."

deadly malady attacking MRI Christianity's Christ-followers is "Jesus Deficit Disorder (JDD)." JDD is epidemic, chronic, acute, morbid, and mortal in spiritually catatonic or cognitively comatose "Church As We Know It (CAWKI)." Table 3's borders around APC and ABC emphasize churchianity as 'church in a box,' suffocating from its own toxic exhalations. MRI Christian realism, by contrast, is wildly *out-of-the-box off-the-beaten-path*, exuberant, exultant, following and abiding in Jesus!¹³⁴

Characteristically, ever the playful symbolizer, Sweet coins a portmanteau that stands for MRI Christianity. It identifies two very different poles of Christian being and presence in reality: *simple* childlike faith in resonant harmony with *complex* systematic theology—i.e., "simplicity."¹³⁵ MRI simplicity follows Jesus as the Way in Truth for fullness of Life in human being and presence as the Reality he promises. This is also easily illustrated in a pair of symmetric images, correlating Mission to Way, Relation to Truth, and Incarnation to Life, illuminating resonant harmonies between the two:




¹³⁴ John Eldredge, *Wild at Heart: Discovering the Secret of a Man's Soul*, 2nd ed. (Nashville: Thomas Nelson Inc, 2010); cf. Sweet, *So Beautiful*, 152, 231; Stasi Eldredge, *Defiant Joy: Taking Hold of Hope, Beauty, and Life in a Hurting World* (Nashville: Thomas Nelson, 2018).

¹³⁵ "Simplicity" is in Leonard Sweet, *A Jesus Human and Designer Jesus* (forthcoming).

Figure 9: The Way, Truth, and Life of MRI COS 3.0 Simplicity

The causal Gordian entanglement of dilemmas at the core of the AX problem is repeated here to further underscore pseudo-Christianity as APC/ABC CAWKI JDD churchianity vs. Christian realism as MRI COS 3.0 simplicity:



#1 Scientism vs. Christianity		#2 Scientism	
		Pseudoscience	Scientific realism
#3 Christianism	Pseudo-Christianity	#4	#6
	Christian realism	#5	#7

Table 4: The Seven Formative Dilemmas of the AX Problem

#1	Scientism (weak or strong): science provides the most or only genuine knowledge
	Christianism (weak or strong): Christianity provides the most or only genuine knowledge
#2	Pseudoscience : counterfeit pretense or misguided scientific activities
	Scientific realism : genuinely rational scientific inquiry, methods, programs
#3	Pseudo-Christianity : counterfeit pretense or misguided Christian activities
	Christian realism : genuine, authentic Christ followership and discipleship
#4	Pseudoscience (see #2)
	Pseudo-Christianity (see #3)
#5	Pseudoscience (see #2)
	Christian realism (see #3)
#6	Scientific realism (see #2)
	Pseudo-Christianity (see #3)
#7	Scientific realism (see #2)
	Christian realism (see #3)

Table 5: The AX Reference Key to Table 4, by the Numbers

CONFLICTING PERSPECTIVES

The Gordian entanglement of inverted totalitarianism and the pragmatic-positivist pseudoscientific scientism from whence it came are an ideological maze of civilizations. That knot has been forming and tightening through several millennia of human history to bind and bond us inextricably to reality and at least tribally, to one another. The truths of that reality are neither any more nor any less than whatever beliefs we happen to affirm, especially for understanding human being and presence within it.

Humanity arrived in the 21st century more as cacophonous mobs and herds than as a consortium of truly ‘civil societies.’ Each band and tribe in one or another mere form of pseudo-civilization is driven, based, structured, and operated primarily on pseudo-science and its rampant technologies and performance-art quasi-religion.¹³⁶ G7 and G20 nations may christen their states and brand their polities by whatever duckspeak trademarks they like, but tyranny by any other name is tyranny all the same. The ties binding them as so-called ‘civil societies’ are the wealth and power amassed and wielded to advance military scientismic bloodlust and its horrific technologies of for-profit warfare.¹³⁷

¹³⁶ Elliott, *Empire*; Bethell, *Cambridge History of Latin America*; Zinn, *A People’s History*; Derrick Jensen, *Endgame*, vol. 1, *The Problem of Civilization* (New York: Seven Stories Press, 2006), Kindle. The underlying theme here is neoliberal globalization as defined in (Dreiling and Darves 2016).

¹³⁷ G7 (Group of Seven) are the world’s seven largest advanced economies. G20 (Group of Twenty) is an international forum of twenty government and central bank representatives from the world’s leading nineteen countries’ emerging economies, plus the European Union. Stephanie Lee, “The Group of 20,” Council on Foreign Relations, March 30, 2009, <https://www.cfr.org/backgrounder/group-20>; Zachary Laub and James McBride, “The Group of Seven (G7),” Council on Foreign Relations, May 30, 2017, <https://www.cfr.org/backgrounder/group-seven-g7>; cf. Abby Ohlheiser, “After Kicking Out Russia, the G8 is now the G7,” *The Atlantic*, March 24, 2014, <https://www.theatlantic.com/international/archive/2014/03/after-kicking-out-russia-the-g8-is-now-the-g7/359504/>. Excluding China, USAmerican companies accounted for 87% of \$398.2 billion in arms production and military services in 2017, again securing our position as #1 in the list of 100 companies worldwide in that sector. Aude Fleurant et al., “The SIPRI Top 100 Arms-Producing and Military Services Companies, 2017,” *Stockholm International Peace Research Institute (SIPRI) Arms Industry Database*

The USAmerican Democratic Republic, the United Soviet Socialist Republic, the Judeo-theocratic State of Israel, the Islamic theocracies of the Mideast, and all the rest of the world-dominant G7 and G20 ‘civil societies’ feign fealty to one God, many gods, or none. Stripped of decorative insignia embellishing their armaments and uniforms and the logos identifying their Global 2000 financial and industrial institutions, their arsenals of military and economic might are indistinguishable from one another as a single harvest of identical fruits of the underlying scientocracies. Therein lie the absurdity and paradox—what marks these societies as ‘world-class civilizations’ is precisely their individual and collective ability and willingness to terminate civilization—with extreme prejudice.¹³⁸

If crucial distinctions between genuinely rational *science* and not even minimally rational *pseudo-scientific scientism* were not conflated in an epistemological heap, as they are in the ruling paradigms of the sciences today ... the possibilities defy the imagination. Our reality, suffice to say, could nearly be the exact opposite of what it actually is today. The leading alternatives share a common fatal flaw: each one rests on obfuscation of the essential differences between *genuinely rational science* vs. *pragmatic-positivist pseudo-scientific scientism*.¹³⁹

(December 2018), <https://sipri.org/publications/2018/sipri-fact-sheets/sipri-top-100-arms-producing-and-military-services-companies-2017>.

¹³⁸ One prophetic voice among far too few who dare to correctly discern and hold accountable the naked emperor of scientistic pseudo-civilization is found in Jensen, *Endgame*.

¹³⁹ Recall that the root cause of the Gordian entanglement (Table 4 and Table 5, p. 51) is the dissonance created by the noise of those imploding distinctions between genuine science and pseudo-scientific scientism on one hand, and MRI Christianity and APC/ABC churchianity on the other. A thorough explication of those differences is available in Fetzer, *Scientific Knowledge* and Sweet, *So Beautiful*. Fetzer’s magnum opus offers a conclusive critique of the seminal problems of the prevailing paradigms while also presenting a compelling alternative solution. Sweet’s eloquent EPIC Narraphor and MRI COS 1.0, 2.0, 3.0 (p. 44) provides the faith and theology that resonate in semiotic harmony with Fetzer’s intensional realism.

A proliferating plethora of alternative opposing views tends to cluster around one or more of four fundamental positions, based on inherent philosophical differences. One common thread, for the first three at least, is the “Newness” associated with each idea. #4 is in fact the 1991 version 2.0 resurrection of the 1929 version 1.0 of the original, so it is also “New” in that sense. The four clusters are:

- New Atheism¹⁴⁰
- New Optimism¹⁴¹
- New Spirituality¹⁴²
- New Vienna Circle (v2.0)

New Atheism and New Optimism

Like all ideologies, New Atheism and New Optimism wax and wane in popularity and acceptance among the dominant 21st century secularized social imaginaries. Offering a (false) sense of comfort and security to their adherents, they bring translucent insulating foam within which buffered self-identity may complacently abide. They are stereotypical secularized immanent frames insulating and isolating humans from hard, unpopular, and

¹⁴⁰ The ‘Four Horsemen of Atheism’ are Richard Dawkins, Christopher Hitchens, Daniel Dennett, and Sam Harris. Somalia-born Dutch-American Ayaan Hirsi Ali is often referred as the ‘plus one horse-woman’ of the New Atheism. Cf. e.g., Richard Dawkins, *The God Delusion* (Boston: Houghton Mifflin Company, 2006); Christopher Hitchens, *God Is Not Great: How Religion Poisons Everything* (New York: Twelve, 2007); Daniel C. Dennett, *Breaking the Spell: Religion as a Natural Phenomenon* (New York: Viking, 2006); Sam Harris, *The End of Faith: Religion, Terror, and the Future of Reason* (New York: W.W. Norton & Co., 2004); Ayaan Hirsi Ali, *Infidel* (New York: Free Press, 2007).

¹⁴¹ Three of the most popular promoters of New Optimism, cf. Johan Norberg, *Progress: Ten Reasons to Look Forward to the Future*, rev. ed. (London, UK: Oneworld Publications, 2017); Steven Pinker, *Enlightenment Now: The Case for Reason, Science, Humanism, and Progress* (New York, NY: Viking Press, 2018); Matt Ridley, *The Rational Optimist: How Prosperity Evolves* (New York: Harper Perennial, 2011).

¹⁴² New Spirituality is statistically defined in APPENDICES: The Bayesian View from Barna and Pew. See “Redefining “**God**”,” “New Spirituality,” Figure 45, Figure 46, Figure 47, Figure 48, Figure 49.

inconvenient truths of reality. These two frames and imaginaries are often conjoined, but not always: some (but not all) New Atheists are New Optimists, and conversely, some (but not all) New Optimist also happen to be New Atheists.¹⁴³

With at least one notable exception, atheists as such usually eschew spirituality of any and all kinds.¹⁴⁴ Apostates from other faiths are likely to become New Atheists of one mindset or another, and some so-called ‘nones’ and ‘dones’ emigrate away from or avoid Christianity altogether, being ‘done’ with it or having ‘none’ of it whatsoever.¹⁴⁵

For New Atheists, the conglomeration of dilemmas is spurious. In atheistic views, the ‘pseudo-Christianity (or churchianity) vs. Christian realism’ dilemma (#3 in Table 4 and Table 5, p. 49) is meaningless on both sides for New and Old Atheism alike. The

¹⁴³ Taylor, *Modern Social Imaginaries*; Taylor, *A Secular Age*; Taylor, “Buffered and Porous Selves.” ‘New’ atheism is just ‘old’ atheism in a 21st century package: still grounded in Enlightenment scientism. John Gray, “What Scares the New Atheists,” *The Guardian*, March 3, 2015, <https://www.theguardian.com/world/2015/mar/03/what-scares-the-new-atheists>.

¹⁴⁴ The exception is Sam Harris, one of the “Four Horsemen of Atheism (together with Christopher Hitchens, Daniel Dennett, and Richard Dawkins).” Harris is cofounder and CEO of Project Reason, once described on its website as “a 501(c)(3) non-profit foundation devoted to spreading scientific knowledge and secular values in society.” The website has apparently been shut down (reasons unknown), now showing a static image of a circle inside a square. Harris’ drug-induced discovery of agape universal love in 1987 became for him an “important psychological truth found in the rubble of the mere intellectual ruins of the world’s religions.” This oddly irreligious “spirituality” is recounted in Sam Harris, *Waking Up: A Guide to Spirituality Without Religion* (New York: Simon and Schuster, 2015), loc. 87, Kindle.

¹⁴⁵ One notable apostate is linguist, Peircean semiotician, and former Bible translation missionary Daniel Everett, whose fascinating tale of years spent embedded with the Pirahã, a small tribe of Amazonian Indians in central Brazil and his apostasy as a life-changing outcome of that experience, is told in Daniel Leonard Everett, *Don’t Sleep, There Are Snakes: Life and Language in the Amazonian Jungle* (New York: Vintage Books, 2008). On his Peircean philosophy of language, see Daniel Leonard Everett, *How Language Began: The Story of Humanity’s Greatest Invention* (New York: Liveright Publishing, 2017); Daniel Leonard Everett, *Language: The Cultural Tool* (New York: Vintage Books, 2012). Apparently a Muslim apostate and frequently referred as the “Horsewoman” of the New Atheism, Somalia-born Dutch-American Ayaan Hirsi Ali is a best-selling author and a resident fellow of the conservative think-tank, the American Enterprise Institute (AEI) for Public Policy Research. Her story is told in Ayaan Hirsi Ali, *Infidel* (New York: Free Press, 2007); Ayaan Hirsi Ali, *Nomad: From Islam to America—A Personal Journey through the Clash of Civilizations* (New York: Atria Books, 2011); and Ayaan Hirsi Ali, *Heretic: Why Islam Needs a Reformation Now* (2015; repr., New York: HarperCollins Publishers, 2016). For more, see APPENDICES: The Bayesian View from Barna and Pew, “‘nones’ and ‘dones’.”

‘pseudo-science vs. scientific realism’ dilemma (#2) is settled by affirming the scientism of 21st century relativity, quantum, and string paradigms.

In essence, however, this atheistic analysis and argument presuppose the tenets of pragmatic-positivist scientism already expounded above. Thus, this reasoning is circular, and it falls on its own sword unless and until rational argument is given that does not beg these questions. More to the point, some *criteria of rationality* must be provided showing how or why that argument qualifies as rational. Apart from rational argument and criteria that make it so, no analytic blades or rational strategies are available to sever or untie the Gordian knot in Table 4 and Table 5 (p. 49).

At the end of the day, nearly all apologetics for atheism circle this drain into their own positivistic rejection of metaphysics, which is *axiomatic* in atheism. In other words, atheism is built on faith in positivistic scientism. Even if that scientism appeals to science that is genuinely rational, it turns out that *all* systematic rationality—every logic, and all of mathematics—ultimately stands on faith in ‘self-evident’ tautological axiomatic truths. Even rationally justifiable scientism, therefore, is a house of faith in its piles and in its structures. Such ‘truths’ are the theoretical citadel and inner sanctum of scientism, and its idol is human sapience. Its rituals are conducted in quantification and calculation to call forth Classification, Generalization, and Derivation (aka, the ‘Scientific Method’).

The methodological bastion and operational fortress of scientism are faith-based. The reliability of human sentience is presupposed beyond question or doubt, especially if technological augmentation is fully enabled (e.g., electron microscopes, space telescopes, particle accelerators, CRISPR, etc.). Experience is evidence, perception is proof, retrieval after retrieval is regimen, routine, and ritual of sentient scientism, and perception is the drill

sergeant calling the cadence. Its liturgies are Observation and Experimentation. Together, vast technological enhancement of human sentience and sapience forge the Janus-faced coin of the scientismic realm. As quasi-religion, scientism's mysticism is its empiricism and its theism is its rationality.¹⁴⁶

New Optimism is just as deeply entrenched in one form or another of (rationally scientific or pseudo-scientific) scientism as New Atheism, and the same self-defeat that collapses New Atheism in circular reasoning brings down New Optimism as well. In both cases, criteria of rationality are subject to penetrating questions and convincing criticisms concerning those criteria, especially regarding axiomatic foundations and criteria for their applications. The insurmountable problem results from preeminent scientific paradigms of the 21st century, which are directly descended from the pragmatic-positivist scientism of Enlightenment and liquid modernity. To the extent that those paradigms may not even qualify as being minimally rational, they are not rational science at all but in fact, pseudo-scientific scientism.¹⁴⁷

New Optimism argues on behalf of a brighter future ahead for humankind than much of our media and plenty of our publications entice us to expect. As Cato Institute

¹⁴⁶ *OED*, s. v. "CRISPR," i.e., "a. A segment of prokaryotic DNA involved in the cell's defence mechanisms against viruses, consisting of short, repeating, palindromic base sequences interspersed with spacer sequences derived from a virus or plasmid that had previously attacked the cell;" "b. Any of various genomic engineering techniques incorporating a CRISPR sequence of DNA and its associated proteins and RNA, used in gene editing and regulation." *Wikipedia*, s.v. "Janus," i.e., "In ancient Roman religion and myth, Janus is the god of beginnings, gates, transitions, time, duality, doorways, passages, and endings. He is usually depicted as having two faces, since he looks to the future and to the past.." <https://en.wikipedia.org/w/index.php?title=Janus&oldid=876734608>.

¹⁴⁷ Fetzer, *Scientific Knowledge*, 9-16, etc.) defines five conditions of rationality from the vantage of philosophy of science. He subsequently presents incisive analysis and conclusive argument that, based on those criteria, 20th-21st century pragmatic-positivist scientism, the prevailing paradigm of science today, fails to qualify as being even minimally rational.

colleagues and fellows, Steven Pinker and Johan Norberg are limelight regulars on this platform, alongside Matt Ridley, a fellow of the Royal Society of Literature and of the Academy of Medical Sciences and honorary foreign member of the American Academy of Arts and Sciences. A common theme in their apologetics for optimism is a recurring paean to the Age of Reason (i.e., to Enlightenment rationality) as manifest especially in scientism, and progress as achieved through scientific technology and its applications.¹⁴⁸

Whatever differences may separate them or not on matters of faith, theology, and spirituality or religion, as we have seen, both New Atheists and New Optimists are hard-pressed to defend the claim that the pseudoscience vs. science dilemma is false. Despite it being a foundational cornerstone of both their views, establishing its validity and veracity without begging the essential questions involved is a hazardous and unlikely navigation between the Scylla and Charybdis of that dilemma.¹⁴⁹ Indeed, each ideology in its own way stands on the quicksand of scientific *quasi-religion*, precisely Lewis foresaw.¹⁵⁰

In a brief comment from an online interview, renowned analytic philosopher and Christian Alvin Plantinga observes, "... the New Atheists are philosophically very much inferior to the Old Atheists (e.g., Bertrand Russell, John Mackie, C. D. Broad), but they

¹⁴⁸ See Norberg, *Progress*; Pinker, *Enlightenment Now*; Ridley, *Rational Optimist*.

¹⁴⁹ *Encyclopaedia Britannica*, s. v. "Scylla and Charybdis," i.e., "in Greek mythology, two immortal and irresistible monsters who beset the narrow waters traversed by the hero Odysseus in his wanderings described in Homer's *Odyssey*, Book XII To be 'between Scylla and Charybdis' means to be caught between two equally unpleasant alternatives;" <https://www.britannica.com/topic/Scylla-and-Charybdis>. The myth is essentially equivalent to the cliché, 'caught between a rock and a hard place.'

¹⁵⁰ West, "Introduction." Fetzer rightly rejects both theism and atheism as not being (scientifically) rational for the same reason: neither can prove either the existence or the non-existence of God without begging the question, so the only rational theistic position is agnosticism. Fetzer, *Render unto Darwin*, 125-26.

are very much noisier.”¹⁵¹ Plantinga’s brilliant analysis in *Where the Conflict Really Lies* exposes the category mistake at the core of the pseudoscientific scientism promoted by New Atheists and New Optimists. He opens his book with this succinct assertion of his main thesis, “there is superficial conflict but deep concord between science and theistic religion, but superficial concord and deep conflict between science and naturalism.”¹⁵²

This is an admittedly abstruse thesis, but fortunately, Plantinga devotes 350 pages to painstakingly dissecting the categorical fallacy inherent in what could be simply given as a ‘science = scientism = rationalism’ bromide for setting pseudo-science aside, in the base interests of New Atheism and New Optimism alike. Plantinga concludes his book as follows (emphasis added):

It is time to bring this chapter and indeed this book to a close. I argued in the earlier portions of the book that there are areas of conflict between theism and science (evolutionary psychology for example), but that the conflict is merely superficial. I went on to argue in chapter 9 that there is deep concord between science and theistic belief; science fits much better with theism than with naturalism. Turning to naturalism, clearly there is superficial concord between science and naturalism—if only because so many naturalists trumpet the claim that science is a pillar in the temple of naturalism. As I argue in this chapter (10), they are mistaken: one can’t rationally accept both naturalism and current evolutionary theory; that combination of beliefs is self-defeating. But there is a deep conflict between naturalism and one of the most important claims of current science. My conclusion, therefore, is that there is superficial conflict but deep concord between science and theistic belief, but superficial concord and deep conflict between science and naturalism.

¹⁵¹ Plantinga received the Templeton Prize in 2017, awarded for “Outstanding contributions in affirming life’s spiritual dimension, whether through insight, discovery, or practical works.” He was also awarded the Nicholas Rescher Prize for Systematic Philosophy in 2012. The opinion he voiced is from Alvin Plantinga, “Dr. Alvin Plantinga On New Atheists vs Old Atheists,” YouTube video (0:0:49), May 25, 2013, <https://www.youtube.com/watch?v=p8tvzgZPuAs>. See also Kate Shellnutt, “Templeton Prize Winner: Alvin Plantinga, Who Proved God’s Not Dead in Academia,” *Christianity Today*, April 25, 2017, accessed October 25, 2017, <http://www.christianitytoday.com/news/2017/april/templeton-prize-alvin-plantinga-philosophy-gods-not-dead.html>.

¹⁵² Alvin Plantinga, *Where the Conflict Really Lies: Science, Religion, and Naturalism* (New York, NY: Oxford University Press, 2011), ix..

Given that naturalism is at best a quasi-religion, there is indeed a science/religion conflict, all right, but it is not between science and theistic religion: it is between science and naturalism. That's where the conflict really lies.¹⁵³

In his closing remark (in italics added above), Plantinga emphasizes a vital point essential to the central thesis of this dissertation. If naturalism and pseudoscientific scientism may be understood as synonyms, and there is deep concord beneath the superficial conflict in science and theism, then the dilemma between scientific and Christian realism (#7 in Table 4 and Table 5, p. 49) is merely apparent and therefore subject to logical resolution.

In light of these considerations, New Atheism and New Optimism are part and parcel of the AX problem as seen in Figure 4: The Existential Threat Nexus Confronting Humanity (p. 22) and deconstructed in Table 4: The Seven Formative Dilemmas of the AX Problem and in Table 5: The AX Reference Key to Table 4, by the Numbers (both on p. 49).

From the perspective of this treatise, both New Atheism and New Optimism are tragically misguided and dangerous delusions, seized upon in desperation to assuage the dissonant terrors of human being and presence in 21st century reality.¹⁵⁴

¹⁵³ Plantinga, *Where the Conflict Really Lies.*, 350.

¹⁵⁴ Cf. John Gray, "Unenlightened Thinking: Steven Pinker's Embarrassing New Book Is a Feeble Sermon for Rattled Liberals," *New Statesman America*, 22 February 2018, <https://www.newstatesman.com/culture/books/2018/02/unenlightened-thinking-steven-pinker-s-embarrassing-new-book-feeble-sermon>. Oliver Burkeman, "Is the World Really Better Than Ever?" *Guardian*, 28 July 2017, <https://www.theguardian.com/news/2017/jul/28/is-the-world-really-better-than-ever-the-new-optimists>.

New Spirituality

New Spirituality is statistically modeled in the traditional paradigmatic Bayesian Way of inductive reasoning.¹⁵⁵ As explained there, in this dissertation, the Bayesian Way program of inductive logic based on statistical analysis is regarded as being less-than-minimally-rational pseudoscience, as Fetzer conclusively demonstrates, exposing its historical, descriptive, and extensional limitations. But as the old sayings go, broken clocks get the time right twice a day, blind squirrels do find acorns, and blind hogs find truffles. As the Bayesian Way is the reigning pseudoscientific scientific paradigm in the inductive niche, it is included here to provide that perspective for those who need it.

Despite those intrinsic flaws of the Bayesian approach, the information Barna and Pew provide does disclose several alarming trends in the recent past apparently due to the caustic effects of New Spirituality on Christian realism. Those trends point to decline and decay from within the Church, understood in this dissertation to be a problem of pseudo-Christianity or churchianity. The trends are greatly exacerbated by secularization of our immanent frames and social imaginaries, caused by over three centuries of sociocultural drowning of Christian realism in the acids and superacids of modernity.¹⁵⁶

The most likely reflexive responses to this deepening multidimensional crisis in Christianity, however, pseudo-solutions found in paradigms already hard-wired into the

¹⁵⁵ APPENDICES: Statistical Perspectives, The Bayesian View from Barna and Pew; esp. “Redefining “God” “New Spirituality,” cf. Figure 45: Would You Believe?, and Figure 46: Practicing Christians Who “Strongly Agree” with New Spirituality Beliefs, etc.

¹⁵⁶ This perspective is explained in THE PROBLEM IS KNOT PHILOSOPHY above. Taylor, *Modern Social Imaginaries*; Taylor, *A Secular Age*; Taylor, “Buffered and Porous Selves;” Olson, *Journey of Modern Theology*; and Bauman, *Liquid Modernity*.

DNA of mainstream, institutionalized, corporatized APC/ABC CAWKI JDD pseudo-Christianity.¹⁵⁷ These responses are dire symptoms of severe root rot in the Tree of Life the Church is supposed to be. The primary cause of that rot in the Church is an identity crisis, as Sweet suggests:

The earlier followers of Jesus were known as “these who have turned the world upside down.” And we are still the true revolutionaries. Why? Not because we are the best at political tinkering or philosophical thinking. Not because we have “received the spirit of the world.” But because we have received “the Spirit that is from God”—and because we are heavenly minded
....

We live in a Babylon world. In Babylon, the anti-God city, everything is based on the market. Everything is market. (That’s what the mark of the beast is about: when you can’t buy or sell without selling out, you have acquiesced in the reign of evil.) Even people are a commodity, their quirks commodified into brand identity, their resulting mannerisms so alike that they are even hard to parody. Logos are becoming more important than the goods they adorn as branding creates the commodified identities by which we live and move and develop our own identity.¹⁵⁸

APC/ABC CAWKI JDD churchianity is the epitome of these “commodified identities.” It is our most popular identity within the church and the most recognized brand beyond its walls. Sold over and out to Babylon by churchianity, Christ as Logos has been silenced, the Body of Christ is dismembered into a teeming proliferation of denominational brand logos, and Babylon is not buying our goods and services and could not care less for our story, song, or dance.

¹⁵⁷ Sweet, *So Beautiful*, 17-24). The acronyms stand for “Attractional, Propositional, Colonial (APC)” / “Attendance, Buildings, Cash (ABC);” “Church As We Know It (CAWKI);” and “Jesus Deficit Disorder (JDD).” See Table 3: MRI Christianity and Its APC/ABC churchianity Nemesis (p.51).

¹⁵⁸. Ibid., 148-49; Leonard I. Sweet, *I Am a Follower: The Way, Truth, and Life of Following Jesus* (Nashville: Thomas Nelson, 2012), 105, Kindle.

We ought to be a tribe of stone-catching revolutionaries consumed (within reason) by Niebuhr's "sublime madness."¹⁵⁹ Instead, we are compliant, complicit collaborators with the ruler, rulers, authorities, and powers of this dark world of 21st century tyranny as it is headquartered in USAmerican global hegemony.¹⁶⁰ Just as 1st century Jewish leaders' evil alliances with their counterparts among the Roman elite aided and abetted the murder of Immanuel in their time, we do likewise or worse in ours by quenching and suffocating the Holy Spirit of that same Immanuel.¹⁶¹

Sweet tells a story to illustrate the loss of our true revolutionary identity, allowing worldly insanity to overthrow sublime madness:

Unfortunately, many of us in the church today have lost our revolutionary edge. Why? I will answer that question with a story.

A man was so worried he was on the verge of a nervous breakdown that he decided to see a psychiatrist. "What's your problem?" the psychiatrist asked. "Actually, I've got two problems," the man replied. "My first problem is that I don't think I'm human anymore. I'm starting to think I'm a soft-drink vending machine, and I can dispense six different kinds of soda for a dollar each: orange, grape, lime, cherry, birch beer, and Coke."

The doctor pondered the man's calm demeanor for a while, then decided on a course of action. He got out four quarters and said to the man: "Open your mouth. I'll have a birch beer, please."

Whereupon the man answered: "That's my second problem: I'm out of order."

Two primary problems of the church are the same reasons the man visited the doctor. He was deluded about what he was and what he was made for. And so, too often, are we.¹⁶²

¹⁵⁹ See "The Crisis in Christianity" above (pp. 40-44).

¹⁶⁰ See "Wherefore Art Thou, Science?" ("USAmerican hegemony," pp. 26-40).

¹⁶¹ As one astute observer (my mother) remarked as the Watergate scandal unfolded on national television in 1970s to bring down the Nixon presidency, "It's two thousand years since Christ and nothing's changed but the <expletive deleted> plumbing." The classic account of the Watergate scandal and the White House criminals involved is Carl Bernstein and Bob Woodward, *All the President's Men: The Greatest Reporting Story of All Time*, rev. ed. (New York: Simon and Schuster, 2014).

¹⁶² Sweet, *I Am a Follower*, 106.

Sweet's story stirs the imagination to EPIC delight in a simple narraphor. We empathize with the plight of both patient and physician. Yet as bystanders in the doctor's office, our minds' eyes see as our minds' ears hear a clatter of quarters in his hands, and we connect with the subtlety of his strategy, only to be touched and amused by the wit of the patient.

Sweet continues:

First, we don't think we are the bride of Christ anymore. Instead, we are in the "get my needs met" business or the program business or the feel-good business or the franchise business or the social-justice business. (I could go on and on.)

Second, we are out of order. Leaders are obsessed with asking, "How's business?" without first asking, "What's our business?" We are supposed to be in the disciple-making business, not the church-making business. No matter how big and impressive the church you build becomes, if you have not made disciples on the same scale, your business has failed.

Besides, in the church-making business, as hard as we try, we can't meet people's needs enough or program well enough or feel good enough or spread justice enough to reproduce ourselves. And the worst crisis any species of organism can have is a reproduction crisis.¹⁶³

Finally, Sweet lovingly laments the Church's benighted blunder in supposing secularized organizational and institutional leadership qualifies as a Biblically blessed and Spiritually sound model for Christian leadership:

The leadership craze in many churches today has produced an over-reliance on strategy, planning, and programming led by the sharpest and most knowledgeable thinkers on executive church staffs. Decisions are based on careful research, thoughtful study, and astute data analysis. Worship is professionally programmed and produced to create a certain experience. And this is not a problem in itself. The problem is that trust practices, such as preparing for a decision by listening in prayer and waiting for the empowerment of the Holy Spirit, are increasingly rare and foreign to the leadership mentality.¹⁶⁴

¹⁶³ Sweet, *I Am a Follower*, 106.

¹⁶⁴ Ibid., 158.

In these remarks in particular and in Sweet's ministry altogether, he openly admonishes and rebukes churchianity, for very good reason and with homiletic veracity and pastoral vivacity. As he encourages MRI COS 3.0 Third Testament Christians to "nudge" others to come alongside and align with one another on the Way, in Truth, for fullness of Life, abiding in Christ. To those with eyes to see and ears to hear, and the good sense to heed the (more or less gently) impelling nudge of the Spirit through his testimony, witness, preaching, teaching, and EPIC narraphoric storytelling, Sweet is a prophetic visionary and a Godsend.¹⁶⁵

The semiotic integrity of Sweet's MRI Christianity restores vibrant harmonious resonance between Jesus Christ and humanity. It manifests the "whereness" of "Kingdom at hand" terroir as the unified oneness of being and presence in reality found only in the freely given "YES!" answer to Jesus' High Priestly Prayer (John 17), simply by asking. It could be an eternal ELE mistake for our individual and collective destinies to suppose another theistic path is worthwhile, especially those marked with seductively mellifluous but salaciously malicious signs of churchianity.¹⁶⁶ New Spirituality in general clearly is not a very viable option to Sweet's MRI COS 3.0. All that remains is for Christ followers to gather together as the Third Testament and abide in the power of Christ, as depicted in Figure 9: The Way, Truth, and Life of MRI COS 3.0 Simplicity (p. 49). *That* is Christian realism for the 21st century.

¹⁶⁵ Leonard I. Sweet, *Nudge: Awakening Each Other to the God Who's Already There* (Colorado Springs, CO: David C. Cook, 2010).

¹⁶⁶ "ELE" is "Extinction Level Event."

New Vienna Circle (Version 2.0)

The last conflicting perspective is a completely different matter. The New Vienna Circle is version 2.0 of the poisonous 20th century wellspring of the positivist superacids of liquid modernity. It may seem the positivist ideologies are hiding in plain sight. Anti-metaphysics, anti-theology, Western pragmatism, value-free scientism and technologies pervade the extra-factual post-truth immanent frames and social imaginaries of our times. Dissonant irreality captivates and captures by deliberate semiotic design and engineering as the *modus operandi* to sustain and propagate secularized frames and imaginaries.¹⁶⁷

Secularized social imaginaries and immanent frames condition us to intellectually genuflect when the high priests of scientism pronounce judgement on reality. Sound bites from Stephen Hawking and other high priests, lofty legates, and pop apologists for their quasi-religion waft through our self- and collective consciousness on soothing breezes of bogus divinity. The very idea of divinity is anathema to their scientistic worldview.

In signs and wonders of marvelously mechanized speech, Hawking enthralled his listeners with crackling homiletics of scientistic dogmatism, radiating his confidence and comfort to “regard the brain as a computer which will stop working when its components fail.” He embraced scientismic irreality with atheism, “There is no heaven or afterlife for broken down computers ... that is a fairy story for people afraid of the dark,”¹⁶⁸ he said,

¹⁶⁷ Taylor, *Modern Social Imaginaries*; Taylor, *A Secular Age*; Taylor, “Buffered and Porous Selves;” Douglas, “Rejecting the Ideal,” 120-142.

¹⁶⁸ Ian Sample, "Stephen Hawking: 'There Is No Heaven; It's a Fairy Story'," *Guardian*, May 15, 2011, <https://www.theguardian.com/science/2011/may/15/stephen-hawking-interview-there-is-no-heaven>.

“The most workable philosophy of science (is) the positivist approach. He declared, with scientismic hubris, “The scientific account is complete ... theology is unnecessary.”¹⁶⁹

Taking the name in vain with casual aloofness, Hawking also concluded *A Brief History of Time* insisting that once science laid hold of its Holy Grail—a Grand Unifying Theory (GUT) or Theory of Everything (TOE)—“we would know the mind of God.”¹⁷⁰ In his final (posthumous) book for general readers, *Brief Answers to the Big Questions*, he clarified his proclamation, “I use the word ‘God’ in an impersonal sense, like Einstein did, for the laws of nature, so knowing the mind of God is knowing the laws of nature ... my prediction is that we will know the mind of God by the end of this (21st) century.”¹⁷¹

Many wrongly see ‘positivism’ as optimism (i.e., a positive outlook), unaware of its history and its metaphysical nihilism. Besides, who are we to second-guess Hawking, the smartest human thus far into the 21st century, the greatest intellect since Einstein, and the heir-apparent to his throne of scientismic genius? Surely Hawking’s positivist gospel is all the truth that matters—indeed, all the truth there is!¹⁷²

¹⁶⁹ Catholic Online, “‘Theology Is Unnecessary,’ Stephen Hawking Says,” *Living Faith*, 9/12/2010, <https://www.catholic.org/news/hf/faith/story.php?id=38235>.

¹⁷⁰ Stephen Hawking, *A Brief History of Time*, 10th ed. (New York: Bantam Books, 1998), 237. Hawking later said he used the word “God” figuratively and was in fact an atheist (Phys.Org, “The Mind of God: Top Quotes from Stephen Hawking,” *ScienceX*, March 14, 2018, <https://phys.org/news/2018-03-mind-god-quotes-stephen-hawking.html>).

¹⁷¹ Stephen Hawking, *Brief Answers to the Big Questions* (New York: Bantam Books, 2018), 28, Kindle.

¹⁷² In 2001, Hawking wrote, “Any sound scientific theory, whether of time or of any other concept, should in my opinion be based on the most workable philosophy of science: the positivist approach put forward by Karl Popper and others.” This remark only exposed Hawking’s philosophical ignorance. In fact, Popper was an ardent opponent of positivism as it was promoted by VC 1.0. Hawking clearly was duped by what Popper himself dubbed the “Popper Legend,” according to which he supposedly advocated and endorsed positivism. Stephen Hawking, *The Universe in a Nutshell* (New York: Bantam Books, 2001), 31; cf. Friedrich Stadler, *The Vienna Circle: Studies in the Origins, Development, and Influence of Logical Empiricism* (Vienna, AT: Springer, 2015), 250.

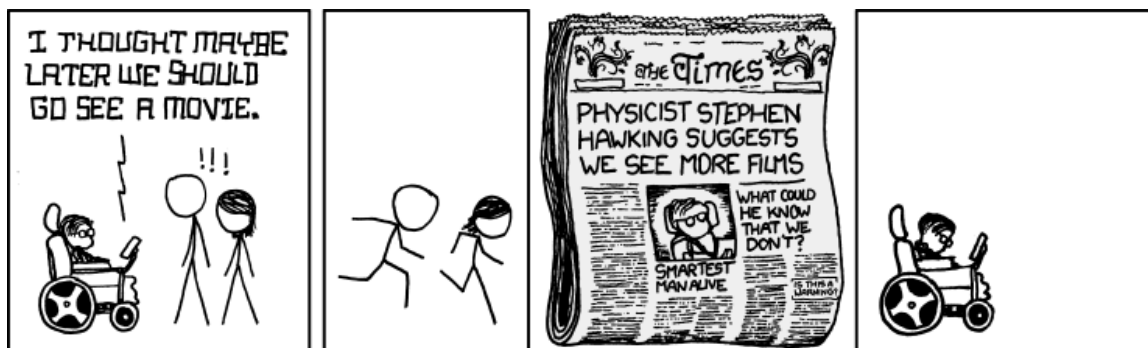


Figure 10: *The Unintended Gospel According to Stephen Hawking (1942-2018)*¹⁷³

Those who suppose the Vienna Circle no longer exists and ceased to be a force in philosophy, theology, science, and technology, or in society, culture, economy, industry, government, policy affairs, or any other significant aspects of 21st century life are sorely mistaken and overdue for a rude or at least a realistic awakening. The Vienna Circle was resurrected in 1991 (VC 2.0), re-established in its original Vienna location, apparently to data-mine the trove of archived materials remaining from VC 1.0. Today, their websites attribute these intents and purposes to VC 2.0:

The Institut Wiener Kreis (founded in 1991 as an association and, since 1 May 2011, a subunit of the faculty) is dedicated to the documentation, critical reconstruction and development of logical empiricism. In the tradition of the historical Viennese circle (VC 1.0) the institute (VC 2.0) stands for a philosophy oriented on the subject sciences and maintains logical-empirical, critical-rational and language-analytical thinking. The institute contributes to an international research landscape whose profile derives from an integrated philosophy of science and the history of science. There is a close cooperation with the Institute of Philosophy (especially the Department of Philosophy of Science) and the "Wiener Kreis Gesellschaft - Association for the Promotion of the Scientific Worldview."¹⁷⁴

¹⁷³ Cartoon by Randall Munroe at <https://xkcd.com/799/>. Use permitted under Creative Commons license.

¹⁷⁴ Home page, Institut Wiener Kreis, accessed May 14, 2018, <https://wienerkreis.univie.ac.at/>; cf. Wiener Kreis Gesellschaft, accessed May 14, 2018, <https://www.univie.ac.at/ivc/institut/>.

Intuitively and just barely implicitly, the tone of these remarks is eerily reminiscent of the 1929 VC 1.0 Manifesto.¹⁷⁵ No explicit mentions are made and no overt emphasis given to herald the ardent anti-metaphysical and anti-theological biases or value-free pragmatism of VC 1.0 legacy. If VC 2.0 upholds those century-old positivist-empiricist convictions, it is not plainly stated in these remarks. It is clearly said, nonetheless, that alliances have been formed with like-minded closely affiliated groups, e.g., including the “Institute of Philosophy (especially the Department of Philosophy of Science)” and “Wiener Kreis Gesellschaft – Association for the Promotion of the Scientific Worldview.” In addition or perhaps redundantly, another cohort is clearly engaged in the wider VC 2.0 initiative, as seen in these remarks from their website:

The international Vienna Circle Society, a nonprofit organization with no political affiliation, was founded in 1991 under the name Institute Vienna Circle. Its goal is the documentation and continued development of the Vienna Circle's work in science and public education, areas which have been neglected until now, as well as the maintenance and application of logical-empirical, critical-rational and linguistic analytical thought and construction of a scientific philosophy and world view in conjunction with general socio-cultural trends. One of the Society's main objectives is to democratize knowledge and science as a process of enlightenment, counteracting all forms of irrational, dogmatic or fundamentalist thought, in a societal context and taking into account the latest developments in international research.¹⁷⁶

Much as the Ernst Mach Society played a vital promotional and public relations role for VC 1.0, this Vienna Circle Society appears to more openly echo those earlier doctrines, most pointedly in their emphatic closing line, “One of the Society’s main objectives is to democratize knowledge and science as a process of enlightenment.” The main objective

¹⁷⁵ Hahn et al., “Scientific World-Conception.”

¹⁷⁶ Home page, Vienna Circle Society, accessed May 14, 2018, <http://www.univie.ac.at/ivc/einstitut/>.

of this group's focus is "counteracting all forms of irrational, dogmatic or fundamentalist thought." One could easily see such proclamations made by Hahn, Neurath, and Carnap if they were alive today to rewrite their Manifesto for the 21st century.¹⁷⁷ Just as in the VC 1.0 original Manifesto, these remarks are saturated with quasi-religious anti-metaphysical and anti-theological sense and reference, import and implication. It could only have been more obvious if the webmaster and content editors had capitalized the "e" in "process of (E)nlightenment." Mere oversight or trifling obfuscation, perhaps ...?

These aspects of pragmatic-positivist scientism are subject to both question and dispute, of course. Separating the incidental, coincidental, perhaps even transcendental dimensions of connection, if any, between VC 1.0 and VC 2.0 is at best a tenuous and arduous undertaking. The case presented above clearly implies that VC 1.0 did trigger tectonic baseline shifts in philosophy, theology, and science. From those SBS events, before we knew it, ongoing waves of cultural lag laid and set the apocalyptic existential nexus of technology traps now lying ahead.¹⁷⁸

Many—if not all of—the signs point to VC 2.0 as the blueprint and command and control crew for deconstruction and resurrection of that demonic stronghold. If so, then it seems highly likely that we are cursed to the marrow and bone of our being and presence as a species. If VC 2.0 has seats at the power table with the ruling oligarchy, which seems likely, then how slim are our chances to avoid extinction?¹⁷⁹ How blind is our faith in the quasi-religion of 21st century pseudoscientific scientism?

¹⁷⁷ Hahn et al., "Scientific World-Conception;" Thomas Uebel, *SEP*, s. v. "Vienna Circle."

¹⁷⁸ See Figure 4: The Existential Threat Nexus Confronting Humanity (p. 23).

¹⁷⁹ See Figure 5: The Wealth, Power, Force, and Control Nexus of Inverted Totalitarianism (p. 29); Mecklin, "New Threat Matrix;" Monbiot, "Selective Blindness;" Godbey, "Shifting Baseline

The crucial remaining questions include, among others: Why has this gathering of intelligentsia emerged at this time? Who is in and behind it? What do they stand for, and what are their immediate, short-, medium-, and long-term plans and agendas? Where do they fit into the elitist structure of oligarchic tyranny illustrated in Figure 5: The Wealth, Power, Force, and Control Nexus of Inverted Totalitarianism (p. 27)?

Of the four clusters of conflicting perspectives considered in this dissertation, the 21st century's "New Vienna Circle (VC 2.0)" may be the greatest threat. By all official accounts and received wisdom, VC 1.0 only faintly echoes in the peripheral corridors of intellectual history. VC 2.0 is generally unknown outside the elitist circles of its sponsors, members, affiliates, and guests. The anonymity of the ruling elite is working as intended. VC 2.0's 1991 reboot has thus far escaped any significant fanfare and attention in mass public media. In light of the publicly declared roles of the VC 2.0 cohorts, however, their agendas appear to be suspiciously similar—to say the least—to those of VC 1.0.

This has the icy intuitive feel and subliminal dissonance of Lewis' "magician's bargain" being renewed.¹⁸⁰ Hiding this transaction in plain sight, all the world's terroir and its human and other resources and inhabitants may again be fully recommitted to the same nefariously arcane terms and conditions written into the 1929 VC 1.0 Manifesto. Paraphrasing Smith, Chomsky, Lewis, and Hedges, if this indeed is the case, humanity will continue to be "robbed of object after object and finally of ourselves," selling our souls to be enslaved by the ultra-elite cabal of new "masters of humankind." The other 99% of us are only in the game as human resource table stakes.

Syndrome;" Dumas, *Technology Trap*; O'Leary, *Escaping the Progress Trap*.

¹⁸⁰ See "magician's bargain" (p. 21).

Incidence? Coincidence? Transcendence? Some would reject and rebuke concerns along these lines, *prima facie*, as delusional conspiracism. Christians are well advised to pause and think carefully, nonetheless, before rejecting such claims out of hand. A major theme weaving through the Biblical story is the ongoing conspiracy of evil against all humanity, as conceived, executed, and overseen by the ruler of this world and his global armies. The world may scoff and disparage such ideas as tinfoil-hat conspiracism, but where do we stand if, at its core, they are the essence of the sublime madness Niebuhr and Hedges pay homage to, manifest in its 21st century presence, tinfoil-hat and all?¹⁸¹

As Jim Fetzer and David Ray Griffin point out, a growing number and variety of experts in many fields of science and technology argue that the defining event of the 21st century thus far a permanent lie in USAmerica and the world. 9/11, they say, was a false flag event orchestrated by the oligarchic elite. In a classic coverup, the truth of 9/11 was by an incredible masterpiece of semiotic engineering that defies the wildest dreams of Orwell, Huxley, and Lewis. By this analysis, the event and cover-up offer compelling evidence of what Hedges describes as a “slow motion capitalist coup d’état.”¹⁸² Based on

¹⁸¹ The conspiracy of evil against humanity begins in Genesis 3 with the temptation and fall due to original sin. The entire story of Job’s suffering is another clear example. Psalm 64:2 reads, “Hide me from the conspiracy of the wicked, from the plots of evildoers.” Conspiracy most vile was the cause of Jesus’ murder on the cross by clandestine conspiracy between the Jewish and Roman elites (Mark 14). Saul of Tarsus was chief conspirator against and persecutor of Christians until his salvific encounter with Jesus on the Damascus Road (Acts 8-9). The Accuser’s conspiracy against human being and presence in reality will only quicken until the Second Coming (John 11:45-57; Matthew 24; all of Revelation). “Tinfoil-hat” is an iconic meme and symbol of a ‘conspiracy theory kook;’ see *OED*, s. v. “tinfoil hat,” i.e., “allusion to the belief that such a hat protects the wearer from mind control, surveillance, or similar types of threat ... with the sense, ‘deluded, paranoid; advocating or believing in conspiracy theories’.”

¹⁸² A. B., “Let’s Get Rational: Quick Study: Chris Hedges on the Capitalist Coup d’état,” *The Economist*, September 17th, 2012, <https://www.economist.com/blogs/prospero/2012/09/quick-study-chris-hedges-capitalist-coup-d%E2%80%99etat>.

scientific conspiracy theory upheld by Fetzer, Griffin, and others, 9/11 was a monstrous tipping point in the rise to power of that black-hearted tyranny of corporatocracy:¹⁸³

Modernity's journey from Copernicus to Comte and on to liquid postmodernity is an EPIC epistemic narraphor. It has two dominant themes—one is the relentless struggle of science vs. scientism and the other, for Christianity at least, is simply Jesus. The moral to the story and its tragedy, it seems, is that we humans just keep looking for love in all the wrong places and in all the wrong ways.¹⁸⁴

The internal deconstruction of the Anthropocene Mass Extinction (AX) problem is complete. Its philosophical, theological, scientific, and historical formative elements have been elucidated for comprehensive understanding of the problem. The apocalyptic severity of its existential threats and risks have been starkly exposed. While no attempt has been made to solve or resolve the problem, the objective of clearly demonstrating its constituent elements and their effects is met.

What now remains is systematic construction of the apologetic single-case study in which *semioticity*—i.e., *semiotic* and *semiosic realism*—will be explicated by adopting

¹⁸³ Griffin is a retired professor of philosophy of religion and theology, co-founder of the Center for Process Studies in 1973 at Claremont School of Theology. David Ray Griffin, *Bush and Cheney: How They Ruined America and the World* (Northampton, MA: Olive Branch Press, an imprint of Interlink Publishing Group, Inc., 2017); David Ray Griffin, *The New Pearl Harbor Revisited: 9/11, the Cover-Up, and the Exposé*, rev. ed. (Northampton, MA: Olive Branch Press, 2012); David Ray Griffin, *Christian Faith and the Truth Behind 9/11: A Call to Reflection and Action* (Louisville, KY: Westminster John Knox Press, 2006). Fetzer is a prolific and brilliant philosopher of science, a retired Marine captain, Emeritus Professor at University of Minnesota Duluth, recipient of a National Science Foundation Fellowship and the Medal of the University of Helsinki, and cofounder of Scholars for 9/11 Truth. Despite being a staunch agnostic, his views on 9/11 align with Griffin's; cf. James H. Fetzer, ed., *The 9/11 Conspiracy: The Scamming of America*, ed. James H. Fetzer (Chicago, IL: Catfeet Press, 2007); Jim Fetzer, *America Nuked On 9/11: Compliments of the CIA, the Neocons in the DOD and the Mossad* (Saginaw, MN: Moon Rock Books, 2016).

¹⁸⁴ Johnny Lee, vocals, guitar, "Lookin' for Love," writers Bob Morrison, Patti Ryan, Wanda Mallette (June 1980, Sony/ATV Music Publishing LLC), <https://youtu.be/5VwyG5OVXnM>.

and adapting a Peircean frame of reference. From that immanent frame of the *trialectic dynamics of semioticity*, a novel conception of human being and presence in reality as *Homo semioticus* is proposed, including speculative cosmologies for both Christian and scientific realism in harmonious semiotic and semiosic resonance.¹⁸⁵

⁷Let the wicked forsake their ways
and the unrighteous their thoughts.

Let them turn to the LORD, and he will have mercy on
them, and to our God, for he will freely pardon.

⁸“For my thoughts are not your thoughts,
neither are your ways my ways,” declares the LORD.

⁹“As the heavens are higher than the earth,
so are my ways higher than your ways
and my thoughts than your thoughts.”

Isaiah 55: 7-9

⁶So then, just as you received Christ Jesus as Lord,
continue to live your lives in him,

⁷rooted and built up in him, strengthened in the faith as
you were taught, and overflowing with thankfulness.

⁸See to it that no one takes you captive through hollow
and deceptive philosophy, which depends on human
tradition and the elemental spiritual forces of this world
rather than on Christ.

Colossians 2:6-8

¹⁸⁵ PREFACE: Parallax: Assumptions and Perspectives, Threeness (p. xx), Semioticity (p. xxi).

SYMPHONY OF SIGNS

¹The words of the Teacher, a son of David, king in Jerusalem:

²“Meaningless! Meaningless!” says the Teacher.
“Utterly meaningless! Everything is meaningless.”

³What do people gain from all their labors at which they toil under the sun?

⁴Generations come and generations go, but the earth remains forever.

⁵The sun rises and the sun sets, and hurries back to where it rises.

⁶The wind blows to the south and turns to the north; round and round it goes, ever returning on its course.

⁷All streams flow into the sea, yet the sea is never full. To the place the streams come from, there they return again.

⁸All things are wearisome, more than one can say. The eye never has enough of seeing, nor the ear its fill of hearing.

⁹What has been will be again, what has been done will be done again; there is nothing new under the sun.

¹⁰Is there anything of which one can say, “Look! This is something new”? It was here already, long ago; it was here before our time.

¹¹No one remembers the former generations, and even those yet to come will not be remembered by those who follow them.

Ecclesiastes 1:1-11

In all likelihood, these verses were first scribed quod est (as dictated) by the wealthiest and wisest human of all time. For all intents and purposes, they may be the most nihilistic of Biblical tracts. They reverberate with the recurring cycles of life in one voice, while resounding with the redundant futility of living in another. The symphony of cycles is reality, but so are baseline shifts of human memory and understanding that disrupt our grasp of them. The vibrant veracity of these verses sings the reality of resonant harmony,

but it also rings with discordant dissonance, tolling the terrible truth of death. The words teem with majestic mystery and macabre meaninglessness in one symphony of signs.

Sensory intuition and mental ideation first conceived of reality as an eternal and infinite musical symphony at least as long ago as Greek polymath Pythagoras of Samos, (c. 570-495 BCE), one of the earliest forebears of what we know today as mathematics. Pythagoras' cosmology, his *Musica Universalis*, relied on mathematical metaphysics to speculate that numbers, measures, geometry, etc. (especially as found in musical tonal relations) represented or stood for the qualities and relationships of energy and matter.¹⁸⁶

Two and a half millennia later, superstring theory is telling us basically the same thing. Our 21st century rational scientism is telling us the same answer to the same basic questions about energy and matter. The only essential difference today, it seems, is that more abstruse—still essentially mathematical—lingua francas are needed to express the same metaphysics. Solomon and Yogi Berra were right: 'It's like déjà vu all over again.'

You always hear people say philosophy makes no progress and that the same philosophical problems which were already preoccupying the Greeks are still troubling us today. But people who say that do not understand the reason why it has to be so. The reason is that our language has remained the same and always introduces us to the same questions. ... I read: "philosophers are no nearer to the meaning of 'Reality' than Plato got, ...". What a strange situation. How extraordinary that Plato could have got even as far as he did Or that we could not get any further! Was it because Plato was so extremely clever?¹⁸⁷

Ludwig Wittgenstein (1889-1951)

¹⁸⁶ Piero Weiss and Richard Taruskin, *Music in the Western World: A History in Documents*, 2nd ed. (Belmont, CA: Cengage Learning, 2008), 1.

¹⁸⁷ Ludwig Wittgenstein, *Culture and Value*, ed. G. H. von Wright and Heikki Nyman, trans. Peter Winch (1980; repr., Chicago: University of Chicago Press, 1984), 2.

If the cosmos is a symphony concert, the key signature is causality and semiotics. If human souls are immortal as Pythagoras argued in his metempsychosis (reincarnation notwithstanding) and Christianity is true, then God is the Composer and Charles Sanders Peirce is his chosen maestro extraordinaire.¹⁸⁸

Bottled Wasps

It seems a strange thing, when one comes to ponder over it, that a sign should leave its interpreter to supply a part of its meaning; but the explanation of the phenomenon lies in the fact that the entire universe—not merely the universe of existents, but all that wider universe, embracing the universe of existents as a part, the universe which we are all accustomed to refer to as “the truth”—that all this universe is perfused with signs, if it is not composed exclusively of signs. (CP 5.448; EP2: 394).¹⁸⁹

For the distinguished semiotician and scholar of Peirce, Thomas A. Sebeok (1920-2001), this “bedazzling sentence” in Peirce’s writings stands out for its astonishing attribution of the ontological ubiquity of semiotics. The cosmic pervasion of signs is stated in pellucid Peircean prose as being always and all ways everywhere and everything. Yet, at the same time, *a part of their meaning* may only be fulfilled through cognitive processing. Thus, it seems clear that Peirce regarded causality and semiotics to be cosmically and universally *coextensive*. In other words, signs exist independently from cognitive interpretation, as

¹⁸⁸ *OED*, s. v. “metempsychosis,” i.e., “Transmigration of the soul, passage of the soul from one body to another; *esp.* (chiefly in Pythagoreanism and certain Eastern religions) the transmigration of the soul of a human being or animal at or after death into a new body of the same or a different species.”

¹⁸⁹ Thomas A. Sebeok, ed., *A Perfusion of Signs* (Bloomington: Indiana University, 1977), epigraph. As close friends, sparks of iron often flew between William James (1842-1910) and Peirce over pragmatism, but friends they remained. Cf. Brent, *Peirce: A Life*; A. J. Ayer, *The Origins of Pragmatism: Studies in the Philosophy of Charles Sanders Peirce and William James* (San Francisco: Freeman, Cooper and Co., 1968); cf. Richard Louis Trammell, “Charles Sanders Peirce and Henry James the Elder,” *Transactions of the Charles S. Peirce Society* 9, no. 4 (Fall 1973): 202-20, https://www.jstor.org/stable/40319691?seq=1#page_scan_tab_contents.

purely causal phenomena. As such, they are *incomplete* signs, their meanings only fully manifested through cognitive sign-processing, or what Peirce called *semiosis*.

Cognition, as sign-processing, is itself a causal process, of course—without the causal features of neurological genetics, cognition would not exist and could not occur. It seems, therefore, that for Peirce at least, *semiotics* referred to the broad causal category of all signs as such, while *semiosis* may be understood as referring to *cognitive* semiotics in particular, as a particular kind of causal semiotics. For Peirce, apparently, a sign could be present in reality apart from cognitive interpretation, but in a crucial sense, it would then be *incomplete*, lacking the part of its meaning only a cognitive being could provide.

In personal correspondence to his admirer and advocate, Judge Francis C. Russell of Chicago, 15 November 1904, Peirce credited his success in philosophy to two things—his perseverance and his method. Several decades later, his biographer, Joseph Cornelius Brent III, would cite the letter, “This intriguing, diffident, but entirely serious assessment of his intellect and work is one of very few such thoughtful self-examinations; it is more perceptive than most and, consequently, is worth analyzing at length.” Peirce’s letter to Judge Russell reads:

As to what you (Russell) say about me, pretty seriously, strictly sub rosa I hold that a man of 65 well read in philosophy & a thinker himself must be a precious fool or be able to place himself better than anybody else can do, and I place myself somewhere about the real rank of Leibniz. Of course, Leibniz had the advantage of coming to a field into which no reapers had come. But what I want to say which is more practical, is that I am by nature most inaccurate, that I am quite exceptional for almost complete deficiency of imaginative power, and whatever I amount to is due to two things, first, a perseverance like that of a wasp in a bottle & 2nd to the happy accident that I hit early upon a METHOD of thinking, which any intelligent person could master, and which I am so far from having exhausted it that I leave it about where I found it,—a great reservoir from which ideas of a certain kind might be drawn for many generations. It is a pity that necessities have prevented my leaving a scholar to take up this method

P.S. Add to the elements of whatever success I have had that I have [been] always unceasingly exercising my power of learning new tricks—to keep myself in possession of the childish trait as long as possible. That is an immense thing.¹⁹⁰

More than a century later, Peirce's words resound in harmonious resonance with Sweet's poignant portmanteau of "simplexity." Peirce's "childish *trait*" rings true to the simple but profound 'childish *faith*' Jesus admonishes us to have in him as the vital force in our eternal being and living presence in reality as children of God (Matthew 18:1-5).¹⁹¹

Anyone who has taken philosophy seriously will easily empathize with the bottled wasp metaphor. In philosophical presence of mind, what is palpably obvious also tends to be both transparent and distorted at the same time; invisible but impenetrable to inquiring intellect or creative curiosity impelling philosophical inquiry and reflection. It is a fact of life, however, that each of us is a wasp trapped in a bottle forged of divinely blown glass, unique in its lucid translucence, singular in its form, and precious in its personage.¹⁹² As the metaphor implies, it is an infuriating state of being and presence trapped in marvelous magnificent mystery and constantly confounding reality.

We corked ourselves into our own bottles one fatal day in Paradise, benighting the crystal clarity of united being and presence in reality with God. Darkly corrupted opacity was traded in bitter barter, losing intimate incarnation at the cost of separation and exile. Divorcing divinity and destiny in an instant, we have peered through that dim glass ever

¹⁹⁰ Brent, *Peirce: A Life*, 335-36.

¹⁹¹ Sweet's "simplexity" portmanteau places simple childlike faith in resonant harmony with systematically complex theology.

¹⁹² Jeremiah 1:5; Psalm 139:1-24 (esp. v.16); Ephesians 1:3-14, 2:10; Romans 8:29; etc.

since. What truly has mattered most from then to now is how we choose to live with these tragically besetting facts of our lives in reality together.

For now we are looking in a mirror that gives only a dim (blurred) reflection [of reality as in a riddle or enigma], but then [when perfection comes] we shall see in reality *and* face to face! Now I know in part (imperfectly), but then I shall know *and* understand fully *and* clearly, even in the same manner as I have been fully *and* clearly known *and* understood [by God].

1 Corinthians 13:12 (AMPC)

Now, we all are wasps in tainted bottles, adrift in utterly indifferent seas of causal tides beyond our navigational grasp. We are invited and drawn to also become *stories* in *divinely sealed* bottles. We may choose to be bards and heralds bearing and hastening the living Third Testament Gospel of Christ into whatever harbors and hearkening the winds and waters of the Holy Spirit chooses to send us.

Do we dare sail such seas by our benighted bearings and false enlightenments, or more wisely to join the Captain of Salvation on His journey? Either way, willingly or not, our being and presence in truth and reality is a story forever unfolding and enfolding onto itself. We may author biographical memoir alone, or we may choose to coauthor an EPIC narraphoric MRI life-story with Jesus.

This dissertation is a (rather lengthy) chapter in one such story, uncorked in these mere words, of a particularly peculiar wasp looking through its glass at Peirce behind his, each apparently as much infuriated as inspired by the simplicity of it all.

Peirce's Stinger

As Peirce's biographer, Joseph Brent records what appear in Peirce's writings as two epiphanies. The first was the discovery of his "method" as mentioned in his letter to

Judge Russell (pp. 80-81). The epiphany, the moment of his discovery, took place much earlier, as he announced in his paper, “On a New List of Categories,” published May 14, 1867. In another letter to Judge Russell on 10 July 1908 (L 387), Peirce characterized the discovery as his “central achievement.” Peirce would have been twenty-eight years old at the time of his pivotal discovery. Brent’s comments on this key insight are incisive:

Peirce placed the origin of his own achievement in the happy accident of his early hitting upon “a METHOD of thinking.” At first glance, the method he referred to was pragmatism, the method for the clarification of concepts, but on second thought, the matter is not so simple, because Peirce wrote that he had come to pragmatism “... from a logical and non-psychological study of the essential nature of signs.” This description of the method’s origins leads to the year 1867, ten years before the announcement of the pragmatic maxim (without the label), and to (what Peirce described in another letter to Judge Russell on 10 July 1908, L 387, as) his “central achievement, the paper of May 14 of (1867), ‘On a New List of Categories.’”¹⁹³

The Franciscan philosopher, theologian, and political writer, William of Ockham (1285-1347/49) was the founder of philosophical nominalism. He is best recognized by what is referred to in his name, “Occam’s razor,” i.e.:

... that *pluralitas non est ponenda sine necessitate*, “plurality should not be posited without necessity.” The principle gives precedence to simplicity: of two competing theories, the simpler explanation of an entity is to be preferred. The principle is also expressed as “Entities are not to be multiplied beyond necessity.”¹⁹⁴

As Brent’s record shows, Peirce pursued intensive study “under his father’s critical eye” from 1862-1867, during which time he explored many of his forebears’ works, including

¹⁹³ Brent, *Peirce: A Life*, 327; CP 1.545 (Book 3, Chapter 6). As referenced in L 387, Charles Sanders Peirce, “On a New List of Categories,” *Proceedings of the American Academy of Arts and Sciences* 7 (May 14, 1867): 287-98.

¹⁹⁴ *Encyclopaedia Britannica*, s. vv. “Occam’s razor,” “William of Ockham.”

William of Ockham and German philosopher Immanuel Kant (1724-1804). Peirce likely applied Occam's razor to parse Kant's categories, "the list of all original pure concepts of synthesis that the understanding contains within itself *a priori*."¹⁹⁵

The "central achievement" of Peirce's philosophy—his "New Categories"—thus may have resulted from his razor-sharp parse of a vital element of Kant's transcendental idealism. Reducing Kant's dozen categories to just nine of his own, Peirce created a more elegant structure without compromising any transcendental integrity and ontological or epistemological dynamics. This waspish epiphany is likely the earliest and most potent use of (what will be referred to in this dissertation as) '*Peirce's stinger*.'

Another renowned scholar of Peirce's philosophy and semiotics, John F. Sowa, also writes of how Peirce derived this categorical "metalevel principle" as his method:

Peirce discovered a metalevel principle for generating triads during the 1860s, when he and his father, the mathematician Benjamin Peirce, worked their way through Kant's (*Critique of Pure Reason*). To derive his twelve categories, Kant started with four major groups — Quantity, Quality, Relation, and Modality — and divided each group into triads. As an example, Kant divided the Relation group into three categories named Inherence, Causality, and Community. While searching for a deeper principle underlying Kant's categories, Peirce noticed that Inherence could be defined by a monadic predicate that characterizes something by what it has in itself, independent of anything else; Causality would require a dyadic predicate that characterizes some reaction between two entities; and Community would depend on a triadic relation that establishes new connections among the members of the community. Following is one of Peirce's widely quoted definitions of the triad.¹⁹⁶

¹⁹⁵ Kant ordered his transcendental synthetic a priori categories in four groups of three. Immanuel Kant, *Critique of Pure Reason*, unabridged, trans. Norman Kemp Smith (Boston, MA: St. Martin's Press, 1965), 113.

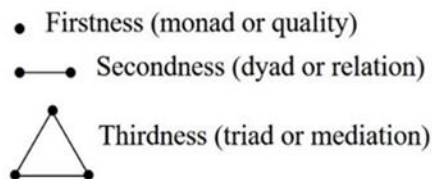
¹⁹⁶ Kant, *Critique*, 111-19; John F. Sowa, "Worlds, Models, and Descriptions," in *Ways of Worlds 2: On Possible Worlds and Related Notions*, ed. Vincent F. Hendricks and Stig Andur Pedersen, special issue, *Studia Logica* 84, no. 2 (November 2006), 335; cf. John F. Sowa, "The Role of Logic and Ontology in Language and Reasoning," in *Theory and Applications of Ontology: Philosophical Perspectives*, eds.

First is the conception of being or existing independent of anything else. Second is the conception of being relative to, the conception of reaction with, something else. Third is the conception of mediation, thereby a first and a second are brought into relation. (CP 6.32)

The categorical distinction Peirce drew between Firstness and Secondness is seen in this dissertation, i.e., especially as *being* and *presence* are used. As a monadic mode of existential reality, metaphysical *being* (Firstness) is manifested or instantiated as physical *presence* (Secondness) by means of *causality* as a dyadic process. Its efficacy is to *index* presence (the physical) and being (metaphysical) within the whole of reality.¹⁹⁷ Thirdness identifies the engagement of cognitive semiosis in perceptual awareness or conceptual consciousness of Secondness.¹⁹⁸

Joseph Brent sheds light on this categorical trichotomy as a “metalevel principle,” using simple diagrams to illustrate the monadic, dyadic, and triadic categories:

The “METHOD of thinking,” then, is the generation of other relations from the three original relations so that their distinct characteristics remain manifest in each subsequent appearance. An impression of the characteristics of these relations may be given by simple diagrams



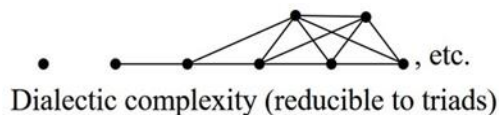
Complexity can be expressed in terms of the triad by taking each dot to represent firstness. Then as, say, three people look at one another, each is

Roberto Poli and Johanna Seibt (Dordrecht, NL: Springer Science+Business Media, 2010), 236.

¹⁹⁷ This causal indexicality is seen, e.g., in Einstein’s famous formula of energy-mass equivalence, $E = mc^2$, i.e., the causal dynamics of manifestation and dissipation of energy and mass in reality. Albert Einstein, *Relativity: The Special and General Theory* (New York: Routledge, 2001).

¹⁹⁸ Just as Kant’s differentiation of noumena and phenomena, prohibiting direct cognitive access to noumena, immediate cognitive experience of Firstness in Peirce’s categorical trichotomy was a mystical encounter if it happened at all: “The **conscious** experience of Firstness is the experience of the mystic” Brent, *Peirce: A Life*, 352-53.

simultaneously first, second, and third, depending on the point of view. Peirce's claim that all relations greater than these can be reduced to or generated from triads may be illustrated by adding dots indefinitely to the triangle:



Thinking then takes on the quality of an infinite dialectic reminiscent of that of Hegel.¹⁹⁹

Threeness is a key recurring theme in Peirce's philosophy. He wholeheartedly embraced 'threes' (triads, triples, trichotomies, etc.) as a foundational principle of reality. Formative headwaters of the many currents of triads in Peirce's writing flow out of his categorical trichotomy— 'Peirce's stinger'—as his primary intellectual instrument.

Peirce's brilliant use of the categorical trichotomy unleashed his creativity to sow abductive seed in a wild garden of ideas for abundant harvest of profoundly inductive and deductive veracity. In order to distinguish Peirce's stinger' therefore, from dialectic and other philosophical models of dynamic processes, especially in light of its threeness, it seems more fitting to think of Peirce's categorical trichotomy as *Peircean trialectics*.

The conceptual grounds of Peircean trialectics are explicated by Brent:

Firstness. One of Peirce's three **universal, phenomenological categories**, the other two being **Secondness** and **Thirdness**, whose "prelogical" characters always appear when we engage in "honest, single-minded observation of the appearances" (CP 1.287). "[Firstness] would be something *which is what it is without reference [to] anything else* within it or without it, regardless of all force and reason" (CP 2.85). "Stop to think of it and it has flown! ... [It is] first, present, immediate, fresh, new, initiative, original, spontaneous, free,

¹⁹⁹ Brent, *Peirce: A Life*, 333. In Hegel's dialectic, thesis and antithesis are *eliminated* or *absorbed* by synthesis. For Peirce, monads and dyads are not necessarily opposed, nor are they necessarily eliminated or absorbed in triads. On dialectics, see Theodor W. Adorno, *An Introduction to Dialectics* (1958), English edition., ed. Christoph Ziermann (2010; repr., Cambridge, UK: Polity Press, 2017), "Lecture 4," 26-36.

vivid, conscious, evanescent. Only remember that every description must be false to it” (CP 1.357). The **conscious** experience of Firstness is the experience of the mystic.²⁰⁰

Secondness, then, is an intrinsically dyadic component of the categorical trichotomy:

Secondness. One of Peirce’s three **universal, phenomenological** categories, the others being **Firstness** and **Thirdness**. If firstness is quality or presence, and Thirdness is mediation or intelligibility, secondness is reaction or brute actuality, “the blind force [that] is an element of experience distinct from rationality or logical force” (CP 1.220).²⁰¹

Thirdness, finally, completes the trialectic dynamics of Peirce’s categorical trichotomy (aka Peirce’s stinger):

Thirdness. One of Peirce’s triad of **universal, phenomenological** categories, the others being **Firstness** and **Secondness**. If Firstness is quality or presence and Secondness is reaction or brute actuality, Thirdness is mediation or intelligibility. Mere presence is unthinkable: “Stop to think of it and it has flown.” Brute actuality is unintelligible, “an element of experience distinct from rationality, or logical force.” But the experience of Thirdness is the experience of the intelligible, of “concrete reasonableness.” It is an end in itself, inherently admirable. It is Truth, Right, and Beauty, the *summum bonum*, which cannot be justified by something other than itself.²⁰²

The dynamics of the categorical metaphysics and phenomenology expressed in Peircean trialectics can be vividly illustrated as resonant harmonies:

²⁰⁰ Brent, *Peirce: A Life*, 352-53.

²⁰¹ *Ibid.*, 358.

²⁰² *Ibid.*, 361.

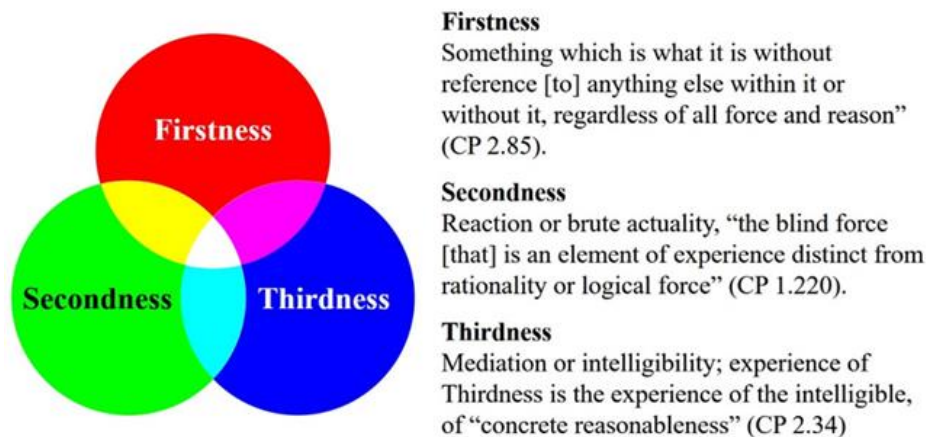


Figure 11: The Trialectic Dynamics of Peirce's Stinger

The causal reality of metaphysical being, physical presence, and their manifestation in cognition also embody Peircean trialectics:

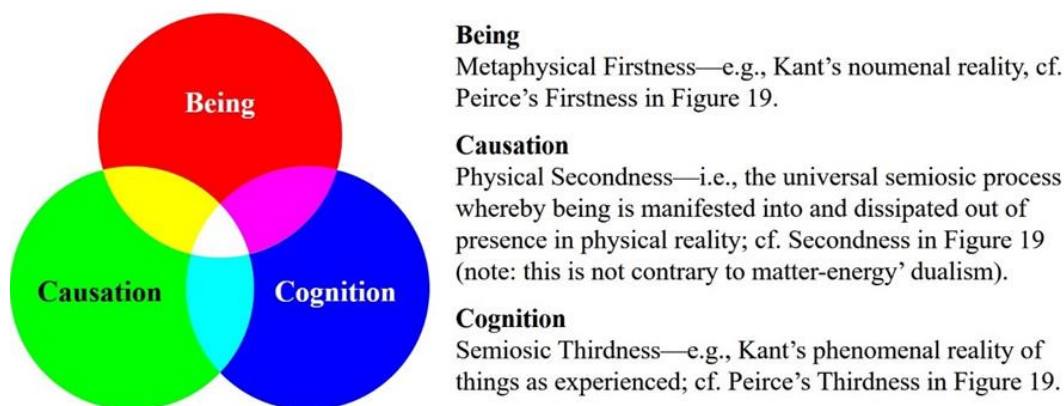


Figure 12: The Causality of Peircean Trialectics

The existence of *being* per se is entirely metaphysical. By contrast, *causation* (or *causality*) is both metaphysical and physical at the same time (shown as the yellow area). *Empirical laws* of reality under which causal dynamics occur have metaphysical being (red) manifested in physical *occurrences* (i.e., *presence*) of noncognitive phenomena (in green). Another image of the same configuration with "Presence" in place of "Being" in Figure 12 would illustrate possible manifestations of events or instantiations of objects inviting or actually involving causal cognition.

Causal cognition also exists in both physical and metaphysical reality (Figure 12, cyan area) under the same causal laws, resulting in the physical presence of brain states in neural matter concurrent with metaphysical presence of mind or mental modes. The cyan section formed of red and blue shows the causality of dyadic connections between brain and mind. The magenta section, finally, stands for direct mystical experience of Firstness. As Brent's definition of Firstness emphasizes, what appears here as the magenta section represents "the conscious experience of Firstness is the experience of the mystic," i.e., the most rarefied transcendent epiphany of cognitive being and presence integrating human awareness and consciousness with Firstness without formal mediation of Thirdness.²⁰³

The central concept in semiotics *and* semiosis, of course, is the notion of a sign. On first thought, it seems nothing could be simpler than the idea of a 'sign' as "an action, mark, notice, gesture, or motion, etc. conveying information or instructions."²⁰⁴ We are usually so completely surrounded and immersed in signs, in that basic vernacular sense, that we are more likely to notice their absence than to fully take in all their signals and messages. Even in that ordinary sense, however, considering all the connotations of the term 'sign,', we soon discover that if *any* "action, mark, notice, gesture, or motion" in *any way at all* conveys *any* sort of "information or instructions," it will qualify as a sign.

²⁰³ That mystical connection only seems possible at all, however, if realtional indexicality is holy and wholly manifest as first- and last-cause Alpha and Omega, suspending and transcending any and all ordinary material and indexical qualities of causality. The suspension of material causality together with formal mediation would be mystical and miraculous, indeed, catchup up human cognition within the imminent incarnation of Firstness. Pragmatic-positivist scientism rejects all such teleological notions.

²⁰⁴ *OED*, s. v. "sign."

We realize all the words in each of the 7,097 living languages spoken and written in the world today are signs in that ordinary sense.²⁰⁵ And that is just a beginning.

Peirce's definition of 'sign' quickly expands into a long and winding labyrinth of semiotic and semiosic simplicity, the very sort of recursive fractal geometry of being and presence Brent alluded to.²⁰⁶ Peirce's stinger identifies the three formative components of a complete sign—*ground*, *representamen*, and *interpretant*—as follows:

A sign, or *representamen*, is something which stands to somebody for something in some respect or capacity. It addresses somebody, that is, creates in the mind of that person an equivalent sign, or perhaps a more developed sign. That sign which it creates I call the *interpretant* of the first sign. The sign stands for something, its object. It stands for that object, not in all respects, but in reference to a sort of idea, which I have sometimes called the *ground* of the representamen. (CP 2.228; PWP 99)

This definition of a sign is clearly triadic: some *thing* ("object," "sort of idea," "ground"), instantiating causal presence (Secondness), stands as a *representamen* (in Kantian terms, "phenomenon") "creates in the mind of" a cognitive "somebody" an *interpretant*, which is "perhaps a more developed sign," that stands "in reference to" that original *thing* as a "sort of idea" itself.

The problem is that this definition (from Peirce's early work) superficially implies semiotic idealism. It can easily be (mis)read as saying that a sign is not a sign at all unless and until an *interpretant* is formed in the mind of a cognitive being who happens to be in concurrent and proximate presence with—while also perceptually attentive toward—the

²⁰⁵ Gary F. Simons and Charles D. Fennig, eds., *Ethnologue: Languages of the World*, 21st edition (Dallas TX: SIL International, 2018), <https://www.ethnologue.com/statistics>.

²⁰⁶ Sweet's double-edged 'simplicity' portmanteau is refracted in the intuitively simple idea of a sign that inexorably and immediately becomes a fractal maze of cognitive complexity as soon as that first thought leads to a second. Cf. Brent, *Peirce: A Life*, 333 regarding the fractal recursion of Peirce's stinger.

representamen for which that *interpretant* stands, to that cognitive “somebody.” On this idealistic interpretation of semiosis, i.e., of sign-processing, signs only exist in the minds of cognitive beings. In this tract, semiotic idealism is rejected as a narrowly reductionist and mistaken interpretation of Peirce’s broader theory of signs.²⁰⁷

Further stinging at his bottle’s glass, Peirce identified three classes of signs, well-known among semioticians—icons, indices (or indexes), and symbols. Peirce’s *grounds* (things) and their *representamens* and *interpretants* are these particular kinds of signs:

Icons

stand for things on the basis of resemblance, similarity, etc.;

Indices (indexes)

stand for things on the basis of causal connection or as a pointer of sorts; and,

Symbols

stand for things because symbol users say so, i.e., on the basis of linguistic or other sociocultural conventions, habits, rules, statutes, etc.

As John F. Sowa explains, Peirce conceived this triad of signs as early as 1867.²⁰⁸ These three kinds of signs generally tend to be the primary focus of most inquiries in the field of semiotics.²⁰⁹ Three decades later, however, Peirce applied his metalevel trichotomy again and tripled the model, resulting in nine sign types. Icons, indices, and symbols remain in the new nine-fold model as three types of relational signs for iconic quality, indexicality, and symbolic mediation. Semiotic relationality is their common categorical bond, despite their differences in other respects. Identified by application of his trichotomy, these bonds

²⁰⁷ For a detailed discussion of the semiotic realism vs. idealism issue, see APPENDICES: Dispositionality, Semiotic Realism.

²⁰⁸ Sowa, "Signs and Reality," 236.

²⁰⁹ Sebeok, *Perfusion of Signs*, ix-x.

yield six new kinds of signs, where material Firstness and formal Thirdness are taken into consideration in addition to relational Secondness:

	1. Quality	2. Indexicality	3. Mediation
1. Material	Mark <i>(qualisigns)</i> <i>A quality which is a sign.</i>	Token <i>(sinisigns)</i> <i>An actual existent thing or event which is a sign.</i>	Type <i>(legisigns)</i> <i>A principle, habit, or law which is a sign.</i>
2. Relational	Icon <i>Refers by virtue of some similarity to object.</i>	Index <i>Refers by virtue of being affected by object.</i>	Symbol <i>Refers by virtue of some law of association.</i>
3. Formal	Predicate <i>(rheme)</i> <i>A sign of qualitative possibility.</i>	Proposition <i>(dicent)</i> <i>A sign of actual existence.</i>	Argument <i>(formal mediation)</i> <i>A sign of law.</i>

Table 6: Peirce's Categories of Signs

In Table 6, Peirce's Firstness, Secondness, and Thirdness delineate the critical categorical distinctions between each of the nine kinds of signs both horizontally (1, 2, 3 left to right) and vertically (1, 2, 3 top to bottom).²¹⁰ The bond shared by icons, indices, and symbols is *relational secondness* as established between the sign and its object. Their differences emerge according to the quality, indexicality, or mediation (top row) they possibly could or may actually display as the manifestation of their relational secondness in similarity (iconicity), causality (indexicality), or habitual, conventional expression (symbolism).

As an example of the nine sign types in Table 6 and implied in Figure 11: The Trialectic Dynamics of Peirce's Stinger and in Figure 12: The Causality of Peircean Trialectics (both on p. 84), Sowa cites a simple phone call:

²¹⁰ Sowa, *Role of Logic*; Fetzer, *Scientific Knowledge*, 25; Table 6 is in Sowa, *Signs and Reality*..

1. Qualisign (material quality). A ringing sound as an uninterpreted sensation.
2. Sinsign (material indexicality). A ringing sound that is recognized as coming from a telephone.
3. Legisign (material mediation). The convention that a ringing telephone means someone is trying to call.
4. Icon (relational quality). An image that resembles a telephone when used to indicate a telephone.
5. Index (relational indexicality). A finger pointing toward a telephone.
6. Symbol (relational mediation). A ringing sound on the radio that is used to suggest a telephone call.
7. Rheme (formal quality). A word, such as telephone, which can represent any telephone, real or imagined.
8. Dicient Sign (formal indexicality). A sentence that asserts an actual existence of some object or event: "You have a phone call from your mother."
9. Argument (formal mediation). A sequence of dicient signs that expresses a lawlike connection: "It may be an emergency. Therefore, you should answer the phone."²¹¹

As Homo sentiens capable of sensory awareness, we typically take the semiosis of perceptual cognition as a given fact of human life. All our genetically neurophysiological predispositions to hear, smell, taste, touch, and see ourselves and the world we inhabit, to *sense* things, continually inform our presence of being in reality. Sentience in general and for humans in particular is brought about through the *formative* semiosis of Firstness and Secondness in Figure 11 and Figure 12 (p. 84) and Table 6 (p. 88). The marks and tokens of Firstness form the grounds from which icons and indices of Secondness can re-present reality to cognitively sentient presence in concurrent proximity. In this capacity, they are representamens for perceptual interpretants. The four categories of Material Quality and Indexicality, and of Relational Iconicity and Indexicality, ground possibility and actuality of perceptual Firstness and Secondness, respectively. Signs (representamens) cognitive

²¹¹ Ibid.

beings process by virtue of their presence in reality become their sensate interpretants, thus forming sentient awareness of presence.

Taking Sowa's perspective on Firstness and Secondness a step further, as already suggested, the four cells in the upper left quadrant of Table 6: Peirce's Categories of Signs (p. 88) describe the grounds and representamens *formative of* sensory awareness as perceptual cognition. They also harmoniously resonate with Kant's distinction between "noumenal things-in-themselves" in contrast to. "phenomenal things-as-perceived or things-as-experienced." In other words, Peirce and Kant appear to share similar views on differences between things *as they are* in reality, as opposed to *how they could appear* to a cognitive being in the same (proximate) reality.

In this dissertation, these categorical dynamics resonate with distinctions between metaphysical *being* (what it is *to be*), or Firstness, in contrast to physical *presence* as the manifestation of that being (what it is *to be present*), or Secondness. The fullness of any thing's *being* (Firstness) will never be completely manifestly present, and the fullness of every thing's manifest *presence* (Secondness) is always only a part of that thing's entire being. What each thing once was, is now, and will become, for instance, comprises the entirety of its being. A thing's presence is only that part of its being instantiated in the present here and now.

With incredible diversity, all living things, flora and fauna, are biogenetically and thereby semiosically capable of processing the material marks of qualitative Firstness to become the icons, tokens, and indices of the relational indexicality of Secondness that are the formative ground of perceptual representamens. Homo sapiens resides at the semiotic

peak of sign-processing beings present in reality—or so we like to believe and as far as we think we know.

That belief is grounded in semiotic capabilities we possess in far greater quantity and categorically superior quality than all other cognitive beings—the bountiful ensemble of linguistic gifts and talents displayed in our capacities for formal mediation. These are shown in Table 6 (p. 88, bottom row and right column), as *Homo sapiens* tendencies to formally and qualitatively describe (predicate) possibilities. Sapient dispositions enable us to formally and indexically affirm (propose) the actual existence of things. Finally, we apply formal laws, rules, and conventions of language and logic as media to justify or defend (argue) symbolic expressions of truths thus formally predicated and proposed.

Peirce's influence in philosophy is wide and deep. As Brent reminds us, Alfred North Whitehead admired William James and Peirce “as the founders of the renaissance in American philosophy.” He said, “W. J. is the analogue to Plato, and C. P. to Aristotle.” Karl Popper, “likely the most influential modern philosopher of science,” stated in 1965:

Among the dissenters [to physical determinism—the doctrine that clouds are clocks] was Charles Sanders Peirce, the great American mathematician and physicist and, I believe, one of the greatest philosophers of all time So far as I know Peirce was the first post-Newtonian physicist and philosopher who thus dared to adopt the view that to some degree *all clocks are clouds*; or in other words, that *only clouds exist*, though clouds of very different degrees of cloudiness I further believe that Peirce was right in holding that this view was compatible with the classical physics of Newton. I believe that this view is even more clearly compatible with Einstein's (special) relativity theory, and it is still more clearly compatible with the new quantum theory.²¹²

Peirce's theory of signs never stopped evolving. Over a century after his death, an enthusiastic and growing global community of semioticians sting away at the glassy walls

²¹² Brent, *Peirce: A Life*.

of their bottles. At least, thanks to Peirce, we know where we are and what we are doing, but what we will make of the perfusion of signs he awakens us to will always be beyond that glass. Or so it will remain, at least until we are freed from our bottles and, as it turns out, can join Peirce with knowledge in full certainty of what all the signs meant all along.

Peirce's Epiphany

Did Peirce ever have that epiphanic “conscious experience of Firstness (as direct) experience of Firstness of the mystic?”

Brent intuitively understood the musical timbre of Peirce's philosophy, while also correlating it to the fractal geometry of the complex number system. In this context, Brent further relates Peirce's stinger to musical waltz and the perichoresis of the Holy Trinity:

The effort to understand Peirce on the categories (Firstness, Secondness, Thirdness) sometimes gives one the giddy feeling of learning how to waltz—ONE, two, three; ONE, two, three; ONE, two, three.... The broken repetition of rhythm also resembles the mechanical gait of an insect (perhaps a wasp?). But, finally, the sheer beauty of the dancing categories evokes nothing so much as the chaotic and recursive fractal images of Benoit Mandelbrot (1924-2010) plunging deeply into the microcosm and always reflecting lovely and minutely differing variations of themselves. There is also a close similarity to the dancing trinities of Christian and Hindu theology, a connection which Peirce recognized. For example, in the Christian Trinity, God the Father is Firstness, God the Son is Secondness, and God the Holy Ghost is Thirdness.²¹³

²¹³ Brent, *Peirce: A Life*. Complex analytics is revisited below in trialectic semioticity. On the fractal geometry of complex numbers, see Benoit B. Mandelbrot, *The Fractal Geometry of Nature* (San Francisco: W. H. Freeman, 1982). Sweet, *So Beautiful*, makes exactly this same connection between Peirce's trichotomy and the Holy Trinity, and places the “threeness” of his MRI Christianity to conform, with the “First Secret of Life” being Missional (God the Father), the “Second Secret of Life” Relational (Jesus the Son), and the “Third Secret of Life” Incarnational (God the Spirit)—(Sweet 2009, 26).

Leonard Sweet describes the same perichoresis as the three biogenetic dimensions of life itself, and of divinity and unity in the triune nature of God—the Firstness, Secondness, and Thirdness of Father, Son, and Spirit, respectively, dancing together with humanity:

The secret of life is a three-dimensional double helix, which mirrors the threefold structure of the Trinity: the harmonious coming together and movement of two coordinating but conflicting strands in our lives—the missional and the relational, which spin together to create the incarnational. Like body transparencies laid over one another in anatomy class, first lay down the missional, then lay over it the relational, and what forms in the overlay is the incarnational.

The secret of life is the 3-D dance of two opposing strands, the objective of the missional and the subjective of the relational, which, when they embrace, conceive the incarnational life and the incarnational church. What Ginger Rogers was to Fred Astaire, relational does everything missional does, but it does it backward and in high heels, adding to its Olympic degree of difficulty but yielding an incarnational dance of tremendous presence and pleasure.

This is the 3-D dance of the divine, which the church fathers called “perichoresis,” or “circle dance,” when they tried to explain the movement at the heart of the Trinity. At the heart of the divine is a dance, and the divine itself is a dance. Motion. Movement. God created us to be dancing partners, to join in the dance, to make the Trinity a quaternity, if you will, as we dance to the tune of Jesus.

Here is the threefold nature of the divine disclosure:

The Movement of God the Creator: A Missional God
 The Relationship of God the Redeemer: A Relational Son
 The Participation in Movement and Relationship of God the Holy Spirit: An Incarnational Spirit²¹⁴

One of the ways one Christian can most offensively dishonor another Christian is to suppose they know the other’s testimony and witness as a Christ follower well enough to tell their story for them. Joseph Brent presents clear evidence in Peirce’s own words of

²¹⁴ Sweet *So Beautiful* 25, 48-49). Threeness is central to Peirce’s philosophy and to Sweet’s MRI COS 3.0 Christianity: “Looking for threes, thinking in threes, is a human habit that no doubt goes back to the Trinity. But in this case, it is a habit that can unlock the secrets of the universe. Forget Newton’s Three Laws of Motion: Threeness is omnipresent in the universe, all the way down.”

his own salvific moment. Rather than speak for Peirce in this regard, therefore, he will be quoted at length in this section of the dissertation to speak for himself. Some comments on context are given by Brent and included for clarity.

Peirce's testimony begins with a letter written to an Episcopal rector:

Peirce had this (sudden and overwhelming mystical experience) on April 24, 1892, in St. Thomas's Episcopal Church in New York City, as he was beginning work on ("The Law of Mind"), which appeared in the July *Monist*. Both his life and his state of mind were radically unsettled. On the one hand, he fully believed that his immediate ruin was inevitable, while on the other, he was equally certain that he had experienced the real. He reported the experience to the rector of the church, the Reverend John W. Brown:

Dear & Reverend Sir:

I took the Holy Communion at St. Thomas's this morning—in fact, just now—under peculiar circumstances, which it seems proper to report.

For many years I have not taken Communion and have seldom entered a church, although I have always had a passionate love for the church and a complete faith that the essence of christianity, whatever that might be, was Divine; but still I could not reconcile my notions of common sense and of evidence with propositions of the creed, and I found going to church made me sophistical and gave me an impulse to play fast and loose with matters of intellectual integrity. Therefore, I gave it up; though it has been the cause of many a bitter reflection. Many times I have tried to cipher out some justification for my return to the communion of the church; but I could not. Especially the last two nights I have lain awake thinking of the matter.

This morning after breakfast I felt I had to go to church anyway. I wandered about not knowing where, to find a regular episcopal church, to which I was confirmed; but I finally came to St. Thomas. I had several times been in it on week days to look at the chancel, therefore I saw nothing new to me. But this time—I was not thinking of St Thomas and his doubts either—no sooner had I got into the church than I seemed to receive the direct permission of the Master to come. Still, I said to myself, I must not go to communion without further reflection! I must go home & duly prepare myself before I venture. But, when the instant came, I found myself carried up to the altar rail, almost without my own volition. I am perfectly sure that it was right. Anyway, I could not help it.

I may mention the reason why I do not offer to put my gratitude for the bounty granted me into some form of church work, that which seemed to call me today seemed to promise me that I should bear a cross like death for the Master's sake, and he would give me strength to bear it. I am sure it will happen. My part is to wait.

I have never before been mystical; but now I am. After giving myself time to reflect on the situation, I will call to see you.

Yours very truly,
C. S. Peirce

It does not seem to me that it would be wise to make the circumstances known, but I conceive it my duty to report them to you. I am a man of 52, and married.²¹⁵

Many scholars of Peirce reject this perspective for various reasons. Some argue that his experience was evidence of his drug use or manic-depressive tendencies. Peirce surely suffered incredible misfortune, including what appears to have been what we commonly recognize today as bipolar disorder. During the 1890s and thereafter, even close friends had their doubts, concerned that he suffered morphine addiction, dementia, senility, or what we know today as Alzheimer's Disease. Perhaps so. Only God knows for certain. But Peirce's letter is clear, whether it was actually mailed or not, written by the wasp in his bottle, nonetheless, conveying to an ordained Episcopal Reverend and rector having foreseen his "cross of death" destiny as revealed to him in that moment of redemption.


Open-minded experts, scholars, and curious inquirers just discovering Peirce tend to approach his work with fairness, prone to extend the benefit of doubt. Skeptics, cynics, and critics, on the other hand, primarily search for the flaws, cracks, and shortfalls to take advantage of for more or less suspicious or dubious purposes. Peirce provided abundantly fertile ground for both. His singular focus and obsession was to penetrate and escape the glass of his bottle—or at least to clearly see through it—come what may, regardless what others made of him or his work.

²¹⁵ Brent, *Peirce: A Life*, 208-10; [L 483], cf. Brent, "Pursuing Peirce," esp. paras. 32-43).

In this treatise, Peirce certainly receives benefit of doubt. More than that, faith is freely given for the man, his mind, and most importantly, for his redemption and eternity with his Master.

THE TRIALECTIC DYNAMICS OF SEMIOTICITY

The AX problem, once again, is characterized in these tables:



#1 Scientism vs. Christianity		#2 Scientism	
		Pseudoscience	Scientific realism
#3 Christianism	Pseudo-Christianity	#4	#6
	Christian realism	#5	#7

Table 7: The Logical Conundrum of the AX Problem

#1	Scientism (weak or strong): science provides the most or only genuine knowledge
	Christianism (weak or strong): Christianity provides the most or only genuine knowledge
#2	Pseudoscience : counterfeit pretense or misguided scientific activities
	Scientific realism : genuinely rational scientific inquiry, methods, programs
#3	Pseudo-Christianity : counterfeit pretense or misguided Christian activities
	Christian realism : genuine, authentic Christ followership and discipleship
#4	Pseudoscience (see #2)
	Pseudo-Christianity (see #3)
#5	Pseudoscience (see #2)
	Christian realism (see #3)
#6	Scientific realism (see #2)
	Pseudo-Christianity (see #3)
#7	Scientific realism (see #2)
	Christian realism (see #3)

Table 8: Table 7 by the Numbers

The vantage proposed in this dissertation is harmoniously resonant philosophical realism between authentic Christianity and genuine science (#7 in Table 7). In brief, this vantage has three critical mass elements: Peircean semiotics and semiosis, the intensional realism explicated in James H. Fetzer's philosophy of science, and Christian realism as elucidated by Leonard Sweet. Taken together, these form what Charles Taylor might describe as a

fully *deseccularized* immanent frame of scientific Christian realism, perhaps qualifying as a viable and desirable social imaginary for the 21st century.²¹⁶

In this dissertation, ‘semiotics’ refers to causal metaphysical being and physical presence of signs apart from cognitive sentient awareness and sapient consciousness. In other words, ‘semiotics’ refers to *incomplete* signs lacking interpretants. As such, they do have Firstness of being and Secondness of presence, whether or not they are perceived as such by proximate and attending cognitive being and presence. Without benefit of present cognitive being, however, symbolic mediational Thirdness does not occur.

If it so happens that some proximate and attending cognitive being with presence does appear, then *cognitive* signs with iconic Secondness (as sentient awareness) may occur as a *secondary, derivative* mode of causal-neurological *sensory sign processing* (i.e., sentient *semiosis*). At this stage, a cognitive representamen stands for some *thing* (Peirce’s object, ground, or “sort of idea”) that just happens to have affected the sensory apparatus of a sentient being.

The sentient being present and affected by that representamen may belong to any rung on the evolutionary ladder or any latitude and longitude on the evolutionary sphere. All living flora or fauna—precisely as such—are capable of some level of sentient being and presence, from the most primitive bacteria to *Homo sapiens* and all living things in between. Otherwise they would not be living things at all. To live is to be *semiosic*—and *semiotic*! This distinction is crucial, and it can be expressed in a simple table:²¹⁷

²¹⁶ Taylor, *Modern Social Imaginaries*; Taylor, *A Secular Age*; Taylor, “Bufferend and Porous Selves.”

²¹⁷ The extent to which this application of Peirce’s theory of signs is or is not faithful to his own philosophical position is certainly open to question. There clearly is some degree of alignment, *mutatis*

<i>Reality vs. Realism</i>	Semiotic	Semiosic
Objective	✓	✗
Subjective	✗	✓

Table 9: *Objective Semiotic Reality vs. Subjective Semiosic Realism*

Cognitive beings have actual presence. Therein lies their *objective semiotic reality*. If it so happens that their *subjective semiosic realism* as a present cognitive being is affected by the objective semiotic reality of the presence of another being (cognitive or not), then the representamens of that other presence become *sensory* iconic interpretants. If it also happens that the cognitive being present in this situation is *sapient* as well as *sentient*, then those sensory iconic interpretants may further become “ideas in the mind” (Peirce’s phrase), i.e., as *re*-interpretants formed by *re*-presenting sensory icons to the mind for conscious focus, reflection, analysis, etc.

As Table 9 emphasizes, objective semiosis is not a cognitive possibility. Quoting Anais Nin (from the EPIGRAPH, p. vii), “We don’t see things as they are, we see them as we are.” This is also the thrust of Popper’s swamp metaphor (p. 12) for both science and religion—our piles and structures are the meanings we make of the mystery of reality, not reality itself. Getting it wrong, mistaking the model *as* the reality, is a category mistake.

Subjective semiotics is also not a cognitive possibility. Causality is beyond our human ken and grasp. It is the pure causal essence of all things, utterly independent of

mutandis, and differences may be mere matters of detail. If the alignment is skewed far of the mark or does not exist at all, Peirce’s indulgence and forgiveness will be earnestly sought in the next life. Meanwhile, it will not be much explored in the remainder of this dissertation.

our being and presence. We may interact with and influence objective semiotic reality, purposely pursuing our own ends and outcomes as the causal agents we are, but causal reality per se is what it is, does what it does, and will be what it will be with or without our involvement, interference, or intentions. Subjective reality is *semiosic* (cognitively causal), while objective reality is *semiotic* (empirically causal). The latter subsumes the former, but the former cannot fully encompass or completely comprehend the latter.

Mathematically referring back to Table 6: Peirce's Categories of Signs (p. 88), the Firstness of objective semiotic reality qua being *may* (if instantiated in physical presence) be qualitatively experienced or/and quantitatively measured within subjective semiosic realism, given relevant causal conditions in contextual proximity. Qualitative experience consists in the Secondness of the causal efficacy of objective semiotic reality as it may *affect* subjective semiosic realism. This is ‘first-derivative’ semiosis, i.e., the processing of signs of semiotic reality by way of sentient iconicity as sensory awareness. A ‘second-derivative’ stage of semiosis occurs as sapient conception in consciousness, wherein the sentient icons are re-presented in *sapient symbolism*, i.e., as mental interpretants of bodily awareness—as presence of mind with awareness of presence. *Integration* causes manifest presence of being in objective semiotic reality. *Differentiation* causes manifest presence of subjective semiosic realism (i.e., semiotic *modulation* vs. semiosic *mediation*).²¹⁸

²¹⁸ Sapient minds may creatively suppose, envision, or imagine *hypothetical* objective semiotic reality, of course. This is the essence of scientific thought experiments and creative artistic expression, for example. It may be that dreaming exercises the same creativity, but in reverse—with sensory impressions shaping consciousness as opposed to the other way ‘round with sapient ideas imagined as sensory impressions. For a bit more on the advanced analytic maths of semiotic reality and semiosic realism, see APPENDICES: Logico-Mathematical Afterthoughts.

The complexity here is manifold: two modes of causation are involved—one in a mode of objectively modulated semiotic reality, another mode of in subjectively mediated semiosic realism. Furthermore, two modes of subjectively mediated semiosic realism are involved—one transpiring in semiosic iconicity (forming sensory awareness) and another proceeding in semiosic symbolism (forming sapient consciousness). Yet another level of complexity arises when *semiosic indexicality* is seen as a mediation ‘pointing’ function—i.e., an instance of relational indexicality, e.g., EXIT signs in buildings, traffic lights with embedded directional arrows for turns, etc.

The intrinsic complexity of semiotics and semiosis is daunting. The interweaving of causation and cognition with being and presence is an ontological and epistemological Gordian entanglement all its own. To disentangle or to cut through the Gordian knot of the AX problem (see Table 7: The Logical Conundrum of the AX Problem and Table 8: Table 7 by the Numbers, p. 97), however, it is necessary to discern and appreciate the interdependence of the two:

- the AX problem is a Gordian entanglement of seven dilemmas, but it can be disentangled by settling the dilemma between Christian realism and scientific realism (#7 in Table 7, p. 97); which may be accomplished by establishing resonant harmony between—
- Peirce’s theory of signs, Leonard Sweet’s MRI COS 3.0 Christianity, and James Fetzer’s intensional realism as a philosophy of science.

Fortunately, the simplicity of Sweet’s faith and theology and the intensional realism of Fetzer’s philosophy of science may both be based on the trialectic dynamics of Peirce’s theory of signs, as explicated above.

Signs of Being and Presence

To enhance the expression of semiotic and semiosic signs of being and presence in reality from the perspective of trialectic dynamics, it turns out that ancient Christian iconic imagery is ideally suited to that purpose. The images vividly portray harmonious resonances of differences manifest in trialecticity (trialectic dynamics), as illustrated in these images:

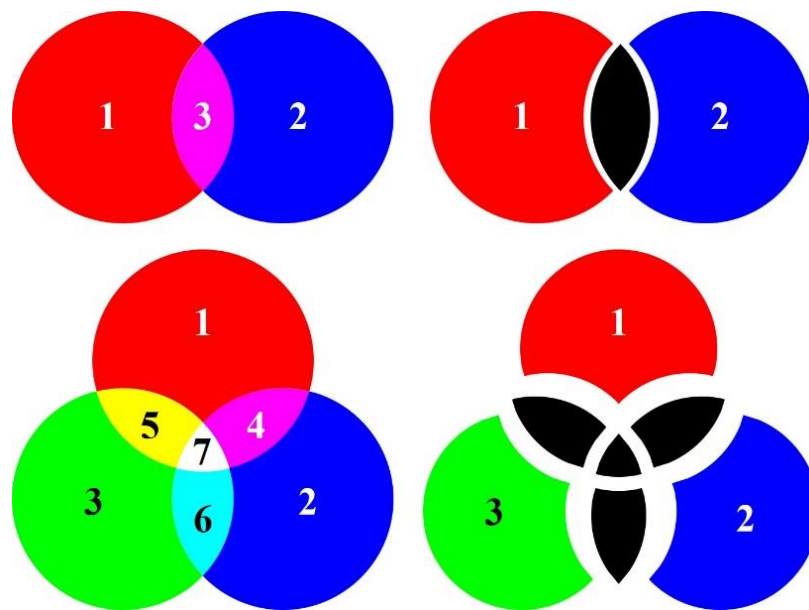


Figure 13: Generic Mandorla and Triquetra Types or Templates

The four images in Figure 13 semiotically or semiosically stand for the full presence or total absence of resonant harmonies of differences, as follows:

- Top left—complete two-part mandorla presence of resonant harmony (#3) of two things (#1 and #2), despite their differences.
- Top right—total absence of two-part mandorla harmonious resonance (black area, no #3), i.e., dissonant discord, between two things (#1, #2).
- Bottom left—three-part (#1, #2, #3) triquetra concordant symphony, i.e., three mandorlas (#4, #5, #6) forming the triquetra (#7).

- Bottom right—total three-part (#1, #2, #3) dissonant discord, no mandorla or triquetra presence (in black); concordant symphony is shattered.

As the colors in Figure 13 imply, infinite continuous spectra of hues occur between the extremes shown on the left and right sides of the figure.

Symbolic expression in speech and text require harmonious semiotic resonance for meaning to emerge. Communities of language users must conventionally agree (in resonant harmony) on the marks and sounds they will use to create text and speech, on the acceptable forms and structures they can have, and on the meanings those forms will be given for shared understanding. Music (with or without lyrics) requires harmonious resonance to be experienced as music at all. Sight consists of the infinite variations of the waveforms of visible light (and their combinations) for colors be discerned. Waveforms are the formative dynamics of resonant harmonies.

In each of these examples, the harmonious resonance involved may be thought of, metaphorically or literally, as waveforms of meaning, sound, and light. The additive color model of red, green, blue (RGB) used in the mandorlas and triquetras renders explicit the resonant harmonies of light as colors throughout the spectrum of normal, healthy human vision. Variability within the spectrum is illustrated in this one example of the magenta mandorla fading from its vibrant magenta fullness (on the left) through a murky midpoint (center) to complete absence of the red and blue resonant harmonies that form it (right):

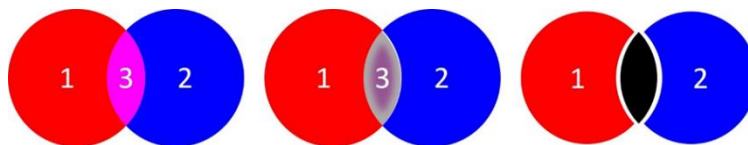


Figure 14: Manifestation and Dissipation of Mandorla Dynamics

Figure 14 illustrates three stages of dynamic transition across the mandorla spectrum as a process ranging from full ‘perfect-pitch’ manifestation through a stage of dissipation to a final state of complete disappearance or ‘drowning out’ of harmonious resonance.²¹⁹

Figure 13 (p. 102) and Figure 14 (above) physically radiate single waveforms of light we experience as primary red, green, and blue (RGB) colors. The resonant harmony of red and blue we recognize as magenta. The colors we perceive and the names we give them are the results of *semiosis*, i.e., *sign-processing*. In the lower ranks of the cognitive range, the simplest species of flora and fauna display the lesser cognitive capacities and capabilities. Other plants and animals rise to the higher rungs or reach outer rings of the cognitive order. Humans are the apex predators and prey in that cognitive terroir.²²⁰

Genetic predispositions determine cognitive experience. The notion of ‘color’ *per se*, for example, loses all cognitive meaning when the light waves are thought of solely as physical phenomena apart from their cognitive effects. In the physical properties of light as such, the *existence* and *occurrence* (being and presence) of both singular monadic and concurrent dyadic and triadic waveforms are dynamic manifestations of physical events. When they are instantiated together with cognitive being and presence, waveform events may be given *meaning* (sense and reference). Meanings are metaphysical with respect to

²¹⁹ A stunning example of sound and light waves in harmonious resonance, produced by engineers at England’s University of Exeter, called “a Martian ‘soundscape,’ a two-minute composition that interprets the sound of sunrise on Mars,” is in Jeffrey Kluger, “Here’s What a Sunrise On Mars ‘Sounds’ Like,” *Time*, November 13, 2018, <http://time.com/5453102/sunrise-mars-sound/>. Musical harmony is beautifully done in another video, United States Air Force Band, “One Voice: A Holiday Presentation by the USAF Band,” YouTube, December 1, 2018, <https://www.youtube.com/watch?v=Q41ctPLDHvU>. Seen from outer space, our sun is a white star. Atmospheric interference disrupts the blue wavelengths to create what we perceive as a yellow sun in a cyan sky (on a clear day).

²²⁰ We humans are rather unique in the strengths of our rapacious and brutal tendencies to prey upon and kill our own kind. Nothing proves this more indisputably than war for profit, but it is no less obvious in the vast variety of ways and means we have contrived to exploit one another as raw human resources.

their causal waveform origins, layered on as additional properties that are *not* inherent in the waveforms themselves, but only and merely in symbolic names for colors contrived by us, artificially and arbitrarily. Those meanings and the names we give them are totally dependent upon and entirely relative to cognitive effects physical waveform phenomena could or actually do have on living beings who happen be in proximity to those manifest waveforms, and cognitively attuned to be (semiotically) affected by and (semiosically) aware of them.

While it may appear that the magenta mandorla (#3 in Figure 14, p. 103) replaces or displaces the red and blue waveforms with a single magenta waveform, the real causal dynamics producing those perceptual effects are actually quite the opposite. Magenta is one of ‘the purples,’ a family of the *extra-spectral* colors. Red and violet are wavelengths at opposite ends of the visible spectrum. Whenever red and violet light occur together in variable proportions, some member of the reddish-purplish-pinkish family appears, but those colors do not have unique wavelengths of their own!²²¹

Colors that do have their own distinctive wavelengths (i.e., RGB primary colors) may be referred to as ‘monadic’ while others formed by pairing the primary colors, are ‘dyadic’ (i.e., RGB secondary colors, cyan, magenta, yellow). In triadic compositions of all three primary RGB colors, brightening emerges in the whiteness of the three colors as one. As the three colors are diminished in intensity, i.e., as their waveforms dissipate, the

²²¹ Abhorring a cognitive vacuum, the human brain fills in the radiation signal gap between red and violet with extra-spectral colors that do not have their own distinctive waveforms. The waveforms we know as red and violet simultaneously resonate in mandorla harmonies, but that ‘third thing’ mandorla actually only exists as one of ‘the purples,’ reflexively, instantly, and entirely created by our own cognitive powers filling that void. *Oxford Dictionary of Psychology*, s. v. “non-spectral colour,” i.e., “Any colour that does not occur in the visible spectrum and that cannot be produced by light of a single wavelength, for example purple, which can be generated only by a mixture of red and blue.”

colors fade and the brightness darkens, until the triad is emptied to black colorlessness. In the fullness of all three colors, a bright pure white appears. All of this is seen (or implied) in Figure 13 (p. 102) and Figure 14 (p. 103). As ratios of concurrent primary monadic (RGB) waveforms vary, dyadic secondary hues appear. More hues in brighter or darker shades (from white through gray to black) appear in triadic waveform harmonies and resonance. The luminosity or saturation of an individual color, or dyads or triads of two or three colors, also affects their brightness or darkness.

These physical phenomena pervasively occur in objective semiotic reality as light is radiating from stars and galactic clusters. Black holes remain a scientific mystery since they appear to be the exact opposite of stars in one crucial respect: their mass and gravity typically exceed those of ordinary stars, but light *disappears into* black holes rather than radiating from them (as near and as far as we can tell). Black holes thus seem to be stars turned inside out, as it were. So it seems to us, at least, in our subjective semiotic realism, trapped as we are, furiously wayward wasps in tainted bottles of human cognition. They appear to be the dissonant discordant heart of darkness at the event horizon of reality for all we now know or have ever known.²²²

Signal-to-noise ratio (SNR), serves as a *formally symbolic* technical measurement we invented as an instrumental quantitative model of quality, integrity, intensity, etc. of the causal dynamics of light, sound, gravity, and waveform phenomena in general. SNR

²²² OED, s. vv. “black hole,” i.e., “b. A region of space within which the gravitational field is so strong that no matter or radiation can escape, except perhaps by quantum-mechanical tunnelling ..., and which is thought to be due to a very dense, compact mass inside the region;” and, “event horizon,” i.e., “(a) *Physics* the boundary of a region in space-time having the property that no event within that region can have a causal relationship with any external future event; *esp.* such a boundary associated with a black hole, beyond which neither electromagnetic waves nor matter can escape; (b) *fig.* a point of no return or at which something is not perceptible or knowable.”

functionally and symbolically quantifies and calibrates causal events in objective causal reality in waveform spectra as being, e.g., ‘loud and clear’ vs. ‘faint and noisy.’ In the SNR, the signal is inversely proportional to the noise. The more interference, disruption, or corruption in a signal, the less clarity it has and the less discernible and meaningful it is in subjective semiotic realism. Every mobile cellular phone user is all too familiar with this phenomenon: “Can you hear me now?”

In a very dark room, even the weak signal of just one candle will appear colorful, intense, and bright. In darkness, no other colors disrupt the candlelight by interfering with its signal. If the overhead array of fluorescent fixtures is suddenly switched on, however, the candlelight signal will virtually disappear. The overpowering white fluorescence may drive away the darkness, but only by drowning out the faint yellow signal with its much greater color saturation and brighter luminosity.

Resonant harmony, consonant symphony, and their nemesis, dissonant discord, form to perform the causal concert of objective semiotic and subjective semiotic being and presence in reality. From the dance of divinity to the dirge of death, semiotic and semiotic symphony and cacophony ebb and flow as formative dynamics of all that was, is, or ever will be. Jesus is composer, conductor, lyricist, and Primo Ballerino for any with ears to hear, eyes to see, will to listen and look, and heart to join, sing, and dance.

Some images in the previous sections invoke triquetras to illustrate the realities of the trialectic dynamics they stand for and to illuminate their meaning and importance:

- Figure 4: The Existential Threat Nexus Confronting Humanity (p. 22);
- Figure 5: The Wealth, Power, Force, and Control Nexus of Inverted Totalitarianism (p. 27); and,
- Figure 9: The Way, Truth, and Life of MRI COS 3.0 Simplicity (p. 49).

Figure 4 and Figure 5 emphasize discord and dissonance. Figure 9 (p. 49), Figure 11, and Figure 12 (both on p. 84), and parts of Figure 13 (p.102) and Figure 14 (p. 103), however, are images of resonant harmonies. Mandorlas and triquetras are often found in Christian symbolism and iconography, as in the following examples:

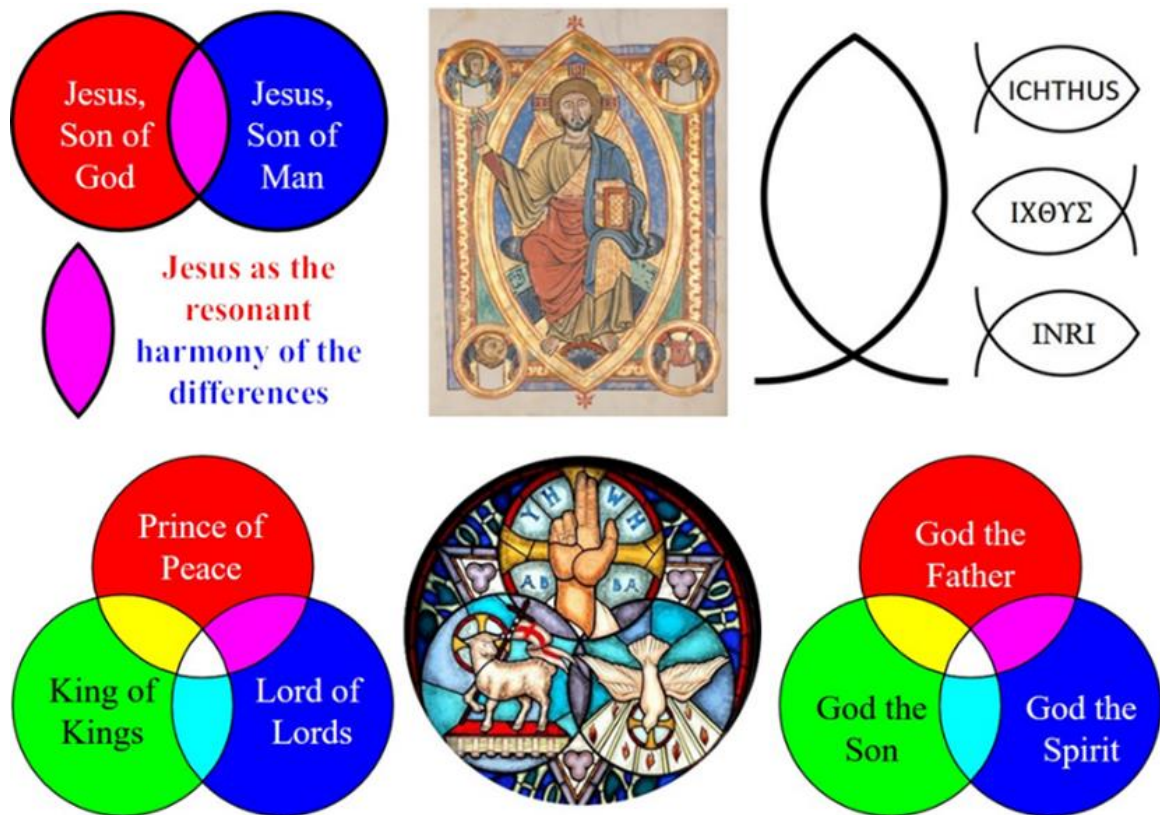


Figure 15: Christian Mandorla and Triquetra Examples

Objective Semiotic Reality

Two perennial conundrums wax and wane in the philosophical terroir: the realism vs. idealism and mind vs. body dilemmas. Oversimply put, in terms already introduced in this dissertation, philosophical realism is the belief that *objective semiotic reality* consists of metaphysical being and physical presence that are causally independent of *subjective semiotic realism*. Objective semiotics and subjective semiosis are both constrained by the

nomie structure or nomological form of reality per se.²²³ Objective semiotics is best seen as the formative *ontic* structure (*ontological* form) of reality as determined by the causal laws of the cosmos.²²⁴ Subjective semiosis is best understood as the formative *epistemic* structure (*epistemological* form) of reality as objective semiotics is modeled in cognitive being and presence.²²⁵

Idealism, again oversimply put, is the belief that the distinction between objective semiotic reality and subjective semiotic realism (as defined in this treatise) is false. For a thorough discussion of the philosophical differences between realism and idealism, and a vigorous defense of intensional realism, see Fetzer, *Scientific Knowledge*. The core of his philosophy of science is his dispositional ontology and the intensionality of his epistemic resources.²²⁶ The objective from this perspective with respect to the AX problem (Table 7, p. 97) is to apply Fetzer's intensional realism to explicate objective semiotic reality. To begin, it will help to identify common ground between Fetzer and Peirce, as follows:

²²³ *OED*, s. vv. "nomic," i.e., "*Philosophy*. Relating to or concerned with a discoverable scientific or logical law; not contingent;" and "nomological," i.e., "Relating to, concerned with, or designating laws, esp. (*Philosophy*) ones which are not logical necessities."

²²⁴ This assertion does not imply *strict* determinism in the usual sense, insofar as causal laws may be universal or probabilistic in dispositional strength. See APPENDICES: Dispositionalism and Figure 38: The Intensionality of Simple and Causal Scientific Conditionals in C-C*.

²²⁵ *OED*, s. vv. "epistemic," i.e., "*Philosophy and Linguistics*. Of or relating to knowledge, or to its extent, linguistic expression, or degree of validation;" "epistemology," i.e., "*Philosophy*. The theory of knowledge and understanding, esp. with regard to its methods, validity, and scope, and the distinction between justified belief and opinion; (as a count noun) a particular theory of knowledge and understanding;" and "epistemological," i.e., "*Philosophy*. Of or relating to knowledge, understanding, or epistemology." Philosophical idealism is not addressed in this dissertation.

²²⁶ *OED*, s. vv. "intensional," i.e., "*Philosophy*. Related or pertaining to the intension, or the attributes contained in a concept. Cf. "extensional," i.e., "Logic. Of, or relating to, logical extension; esp., concerned with the objects denoted rather than with the predicates applied." This distinction is related to but not identical with sense vs. reference, connotation vs. denotation. Fetzer's epistemic resources and the importance of intensionality in scientific epistemology are elucidated in Fetzer, *Scientific Knowledge*, esp. 22, 34). Also See APPENDICES: Dispositionalism and Figure 38: The Intensionality of Simple and Causal Scientific Conditionals in C-C*.

- Dispositions (Fetzer) and signs (Peirce) are causally and cosmically ubiquitous;
- the (metaphysical) being and the (physical) presence of all things are determined and constrained by causal dispositions (Fetzer and Peirce); and,
- cognitive semiosis is the formative causal process establishing our awareness and consciousness of the being and presence of things—including ourselves—through which we perceive, conceive, know, and understand them (Fetzer and Peirce).²²⁷

In light of these considerations, a plausible (if nontraditional) definition of ‘sign’ relative to objective semiotic reality may be expressed as follows, based on the general definition of dispositions in Fetzer, *Scientific Knowledge*, 36):²²⁸

A disposition is *objectively semiotic* if and only if (i) it is a tendency (of universal or statistical strength) to stand for a causal attribute of an object or event (as a particular kind of thing) when subjected to appropriate singular tests, where this tendency (ii) stands for an actual physical state of some object or event (as a thing of a particular kind), individually, or of some arrangement of objects or events, collectively (should that disposition happen to be instantiated by any thing at all); thus,

Objective sign =_{def} an arrangement of causal dispositions identifying the being of an object or event as a (particular) kind of thing or instantiating its presence as a thing of a (particular) kind, where those dispositions may be of either universal or statistical strength as permanent or transient properties or attributes of those objects or events.

The key observation from this perspective is that objective semiotic reality is the *metaphysical* dispositional and causal being of things—even cognitive things—in reality,

²²⁷ These premises are grounded in all of the preceding discussion and references to Fetzer and Peirce appearing therein. Concerning the division of Fetzer and Peirce in the first item of the list, this is necessary inasmuch as, despite being a philosophical and scientific realist, he appears to be a semiotic idealist. Peirce’s semiotic realism is clear in his “bedazzling sentence” (p. 88) and throughout his theory of signs, including especially Peirce’s stinger. For more details on this matter, see footnote 210 (p. 100).

²²⁸ See APPENDICES: Dispositionality.

whether or not those causal semiotic dispositions happen to actually be manifested in the history of the world as the *physical presence* of those things. Whether or not a missionary en route to a first overseas assignment will enjoy the taste of and comfortably tolerate the local cuisine of roast guinea pig, for instance, or their immunizations for tropical diseases will or will not be effective, are objective causal semiotic predispositions in metaphysical reality *before they arrive* on the field.

After a few weeks, their manifest physical presence will clearly display their taste (or distaste), tolerance (or intolerance) for roast guinea pig. They may (or may not) have been infected by tropical bacteria or viruses and physical symptoms of an infection (e.g., fever, sweats, body pains, nausea, vomiting, diarrhea, etc.) may (or may not) appear. The determination of which of these objective semiotic outcomes actually occurs would be settled by the *test conditions* (i.e., *in-situ* circumstances) the missionary undergoes. Some dispositions would be manifested while others would not, but they are objective semiotic (pre)dispositions either way.

Subjective Semiotic Realism

The Western Cartesian proclivity to gain knowledge by slicing and dicing through the manifest physical presence of objective semiotic reality can be helpful, as history has clearly shown. It may also induce semiotic dissonance, however, as a recent discovery in medical science revealed.²²⁹

²²⁹ The reference here is to the French rationalist philosopher, René Descartes (1596-1650), often esteemed as the father of Enlightenment modern philosophy. Grounded in methodological skepticism, the 'Cartesian method' is the process of acquiring knowledge and understanding by reductive decomposition, division, or deconstruction of the whole into its parts. Emily R. Grosholz, *Cartesian Method and the*

In a recent medical discovery, “researchers identified a previously unknown feature of human anatomy with implications for the function of all organs, most tissues, and the mechanisms of most major diseases.” This newfound organ, now known as the interstitium, is a “highway of moving fluid” the medical research defines as “an organ in its own right, and one of the largest of the body.” As such, it flows “beneath the top layer of skin, but is also in tissue layers lining the gut, lungs, and urinary systems, as well as those surrounding blood vessels and the fascia between muscles.” The interstitium organ discovery reveals is a “body-wide network of interconnected, fluid-filled compartments supported by a meshwork of strong, flexible proteins.” A coauthor of the study, Neil D. Theise, MD, Department of Pathology professor at NYU Langone Health, added, “This finding has potential to drive dramatic advances in medicine, including the possibility that the direct sampling of interstitial fluid may become a powerful diagnostic tool.”²³⁰

One of the most remarkable aspects of this discovery is that the entrenched “gold standard” medical methods for visualizing anatomy and disease had completely failed to detect the interstitium. Apparently the simple and standard practice of relying on fixed tissue samples on microscopic slides flattened and drained the interstitium, causing the interstitial “fluid-filled tissue type throughout the body (to) appear solid in biopsy slides for decades.” In other words, this self-imposed methodological blind spot obfuscated a

Problem of Reduction (New York: Clarendon Press, 1991).

²³⁰ NYU Langone Health, *Researchers Find New ‘Organ’ Missed by Gold Standard Methods for Visualizing Anatomy & Disease*, March 27, 2018, <https://nyulangone.org/press-releases/researchers-find-new-organ-missed-by-gold-standard-methods-for-visualizing-anatomy-disease>. Petros C. Benias et al., “Structure and Distribution of an Unrecognized Interstitium in Human Tissues,” *Scientific Reports* 8, no. 1 (March), <http://dx.doi.org/10.1038/s41598-018-23062-6>;

breakthrough medical discovery until now.²³¹ Metaphorically, this is a case study in how ‘gold standard’ medical science may discern the forest from the trees but miss the wider terroir of the artesian springs and weather patterns (and more) that sustain them.

How does subjective semiosis (cognition) work? Considered as sign-processing, as carried out by cognitive beings with objective semiotic being and presence in reality, perhaps a refinement of the definition of objective semiotic reality and objective signs is needed, i.e.:

A disposition is *subjectively semiosic* if and only if (i) it is a tendency (of universal or statistical strength) to stand for sentient perception or sapient conception of an objective semiotic sign (attribute) of an object or event to a cognitive being (as a particular kind of thing) when subjected to appropriate singular tests, where this tendency (ii) stands for an actual cognitive state of some cognitive being (as a thing of a particular kind), individually, or of some arrangement of cognitive beings, collectively (should that sentient or sapient disposition happen to be instantiated by any cognitive thing at all); thus,

Subjective sign =_{def} an arrangement of causal dispositions identifying the being of an object or event as a (particular) kind of cognitive thing or instantiating its presence as a thing of a (particular) kind, where those dispositions may be of either universal or statistical strength as permanent or transient properties or attributes of those objects or events.

From these definitions of objective signs and subjective signs, it follows that all semiosis is semiotic, but the converse is not the case—not all semiotics is semiosic.

In other words, every objective semiotic sign is *incomplete* in reality, in the sense that it is not being or has not been semiosically processed. It possesses semiosic being as *potential* or *possible* Firstness in metaphysical reality, but it lacks manifestation as actual

²³¹ Ibid. See also Rachael Rettner, “Meet Your Interstitium, a Newfound ‘organ,’” *Scientific American*, March 27, 2018, <https://www.scientificamerican.com/article/meet-your-interstitium-a-newfound-organ/>.

physical Secondness presence in the mind of a cognitive being. Its existence, i.e., its ontic reality—its metaphysical being and its physical presence as an objective semiotic sign—is causally real and genuine. An objective semiotic sign thus may be said, therefore, to be *causally* but not *cognitively* complete.

This is the “part of its meaning (left to) its interpreter to supply” Peirce refers to in his “bedazzling sentence” (p. 75). It also appears to be why causal indices remain signs in reality, even if they happen to be unobserved and uninterpreted, as in this example from Peirce (emphasis added):

A sign is either an icon, an index, or a symbol. An icon is a sign which would possess the character which renders it significant, even though its object had no existence; such as a lead-pencil streak as representing a geometrical line. *An index is a sign which would, at once, lose the character which makes it a sign if its object were removed, but would not lose that character if there were no interpretant. Such, for instance, is a piece of mould with a bullet-hole in it as sign of a shot; for without the shot there would have been no hole; but there is a hole there, whether anybody has the sense to attribute it to a shot or not.* A symbol is a sign which would lose the character which renders it a sign if there were no interpretant. Such is any utterance of speech which signifies what it does only by virtue of its being understood to have that signification. (PWP 104, CP 2.304)

The causal independence of objective semiotic signs as objects or grounds for subjective semiotic signs from the cognitive semiosis that *completes* their meanings directly reflects the realism of Peirce’s semiotic philosophy.

Caution must be taken, however, in regarding objective semiotic signs per se to be *causally* but not *cognitively* complete. This is an agnostic or atheistic position. Agnostics should grant that we finite, fallible, and fickle humans being present in cosmic reality are incapable of *knowing* with plausibly rational conviction that objective semiotic signs are or are not also cognitively complete as subject semiotic signs in the mind of God. On the other hand, atheists go the extra light year or two (or to infinity and beyond) by insisting

that we *know*, with rational conviction, that God does not exist at all, in which case those objective semiotic signs are cognitively incomplete—i.e., they do not become subjective semiosic signs in reality—unless and until they are sentiently or sapiently processed by a human observer-interpreter.

As noted earlier Fetzer, *Render Unto Darwin*, 125-26, Fetzer regards agnosticism as the only truly rational position in matters of theism. This is appropriate, for as he says, “Since the non-existence of God can no more be (scientifically) proven than can the existence of God, atheists violate the canons of rational belief no less than theism.” This, by the way, is where Hawking went awry: to be an atheist on the grounds of positivism while simultaneously claiming that the (causal) laws of the universe are “the mind of God” is a contradiction. If, as Hawking says, “the mind of God” is identical with the causal laws of the cosmos, then every objective semiotic sign is a subjectively semiosic sign *in the mind of God*, which would establish Hawking as a pantheist, panentheist, or monistic monotheist, not an atheist as he claimed to be. Figurative thought and speech or not, contradictions are contradictions nonetheless.²³²

Theists in general and Christians in particular are likely to conceive of all signs as being both semiosically and semiotically complete in divinity. Christians find semiotic as

²³² Hawking characterized his position as “the positivist approach put forward by Popper.” This too is mistaken, dubbed by Popper himself as the “Popper Legend.” In reality, while Karl Popper was closely associated with the Vienna Circle, he vigorously opposed and rigorously criticized the positivism conceived and promoted by the “Left Wing” of the Circle. His propensity interpretation of probability, for example, was an alternative to the frequency-based logical positivist model defended by Richard von Mises and Hans Reichenbach. The single-case propensity model in Fetzer, *Scientific Knowledge* appears to have been inspired by Popper’s view, and the positivist frequency-based extensional (historical, descriptive) approach is proven unscientific and less than minimally rational in Fetzer, *Scientific Knowledge*. In light of these considerations, for such a brilliant mathematician to display such obvious inconsistencies is striking, perhaps even as signs that Hawking may have been an apologist for VC 2.0. Hawking, *Universe in a Nutshell*; Uebel, “Vienna Circle.”

well as semiosic completion are in Jesus Christ—literally as the Sign of all signs himself. Hawking’s shot seems to have fallen quite short of its target, but he appears to have been aiming in the right direction, suggesting that causal laws are the mind of God. The mind of God is far more, however, than merely the cosmic causal reality in which all cognitive presence lives and moves and has its being (Isaiah 55:8-9, Acts 17:28). As Fetzer claims, this is grounded in Christian “articles of faith,” however, not “canons of rational belief” upon which scientific knowledge and understanding are built.

The distinction between objective semiotic reality and subjective semiosic realism is clear enough to identify what they are, but the question remains, how do they work? As already suggested, objective semiotic reality ‘works’ according to the causal laws of the cosmos. Fetzer, *Scientific Knowledge* (esp. Chapter 3) expounds an impeccably rational explication of what causal laws are and how they work. The probabilistic causal calculus presented in that explication is the painstakingly rigorous and long answer to the ‘how does it work’ question concerning objective semiotic reality. Anything less oversimplifies and risks misrepresentation, but key features of the answer are provided in the APPENDICES: Dispositionality and in Logico-Mathematical Afterthoughts, especially Figure 37: The Intensionality of Simple and Causal Scientific Conditionals in C-C* (p. 191). As explored in this dissertation, both objective semiotic reality and subjective semiosic realism exist within, and work according to, the nomic dispositional causality of reality modeled in the intensional language and logic of Fetzer’s calculus in *Scientific Knowledge*, Chapter 3.

An Astounding Example

Neuroanatomist Jill Bolte Taylor consciously studied her own stroke in process as she was having it. Think of it: remaining conscious and aware—mentally present—as the brain undergoes sudden arterial hemorrhage. Hers is an astounding story, indeed!²³³

Semiosically, the central theme in her story reflects the extremes she experienced of manifest sentient and sapient brain states (objective semiotic reality) and concomitant mind modes (subjective semiotic realism). As she tells the story, she was literally of two radically distinct minds at once throughout her experience. One mind was her ‘left brain,’ usually considered the locus of logical, linguistic, analytic semiosis. The other mind was her ‘right brain,’ the locus of creativity, imagination, intuition, emotion, etc. Ancient and medieval natural philosophers (renamed ‘scientists’ in the modern era) already knew of the brain’s hemispheric physical structure and it has been a working model in neurology and brain science for centuries.²³⁴ Its acceptance and influence have ebbed and flowed in the history of medical science for psychiatrists, psychologists, and neuroanatomists like Taylor. This illustration of the divided brain and mental dispositions scarcely begins to convey the semiotic and semiotic being and presence of mind and brain she recounts:

²³³ Jill Bolte Taylor, *My Stroke of Insight: A Brain Scientist's Personal Journey* (New York: Viking, 2008), Kindle; Jill Bolte Taylor, “My Stroke of Insight” (lecture, TED Talk, Monterey, CA, February, 2008), https://www.ted.com/talks/jill_bolte_taylor_s_powerful_stroke_of_insight.

²³⁴ Sydney Ross, “Scientist: The Story of a Word,” *Annals of Science* 18, no. 2 (June 1962), 65-85. <https://doi.org/10.1080/00033796200202722>; David Philip Miller, “The story of ‘Scientist: The Story of a Word’,” *Annals of Science* 74, no. 4 (October 2017): 255-61, <http://dx.doi.org/10.1080/00033790.2017.1390155>.

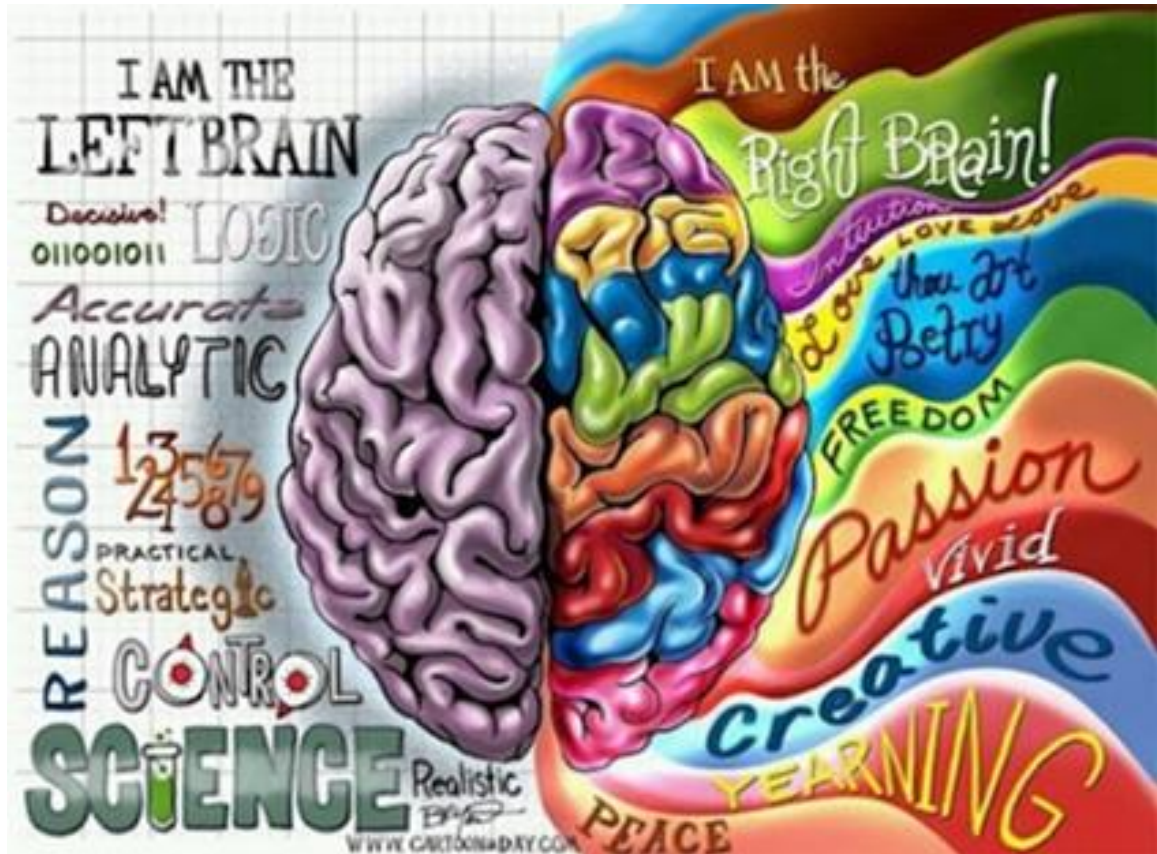


Figure 16: Sapient (Left) and Sentient (Right) Semiosis²³⁵

Taylor comments on a particularly fascinating aspect of semiotic and semiosic human being and presence in reality:

The two hemispheres communicate with one another through the highway for information transfer, the corpus callosum. Although each hemisphere is unique in the specific types of information it processes, when the two hemispheres are connected to one another, they work together to generate a single seamless perception of the world.

When normally connected, the two hemispheres complement and enhance one another's abilities. When surgically separated, the two hemispheres function as two independent brains with unique personalities, often described as the Dr. Jekyll and Mr. Hyde phenomenon.

Because our two hemispheres are so neuronally integrated via the corpus callosum, virtually every cognitive behavior we exhibit involves activity in both hemispheres—they simply do it differently. As a result, the world of science supports the idea that the relationship between the two cerebral

²³⁵ Drawing by Bryant Arnold ©May 30, 2012. Used by permission.

hemispheres is more appropriately viewed as two complementary halves of a whole rather than as two individual entities or identities.

Thanks to our corpus callosum, our two hemispheres are so intricately interwoven that we perceive ourselves as a single individual. However, through our understanding that we have two very distinct ways of being in the world, we can deliberately choose to have much more power over what's going on inside our brains than we ever imagined! ²³⁶

The corpus callosum:

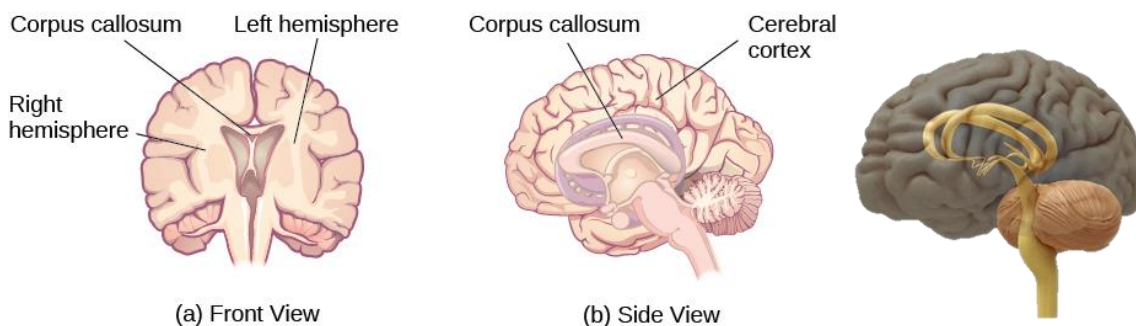


Figure 17: The Corpus Callosum

Breaking Real

Until 2018, medical science had apparently missed the point of interstitial fluid for at least several decades, probably much longer. Today, received wisdom in medical science regards the primary roles of cerebrospinal fluid (CSF) as liquid cushioning that protects the physical brain and the spinal cord from injury, and as a nutrient delivery and waste removal medium for the central nervous system.²³⁷

²³⁶ J. B. Taylor, *Stroke of Insight*, 15-16, 28-29, 149.

²³⁷ Lisa Fayed, "Cerebrospinal Fluid: CSF Cushions Your Brain Protecting It From Injury" (reviewed by Doru Paul, MD), VeryWellHealth, last modified July 5, 2018, <https://www.verywellhealth.com/cerebrospinal-fluid-514082>.

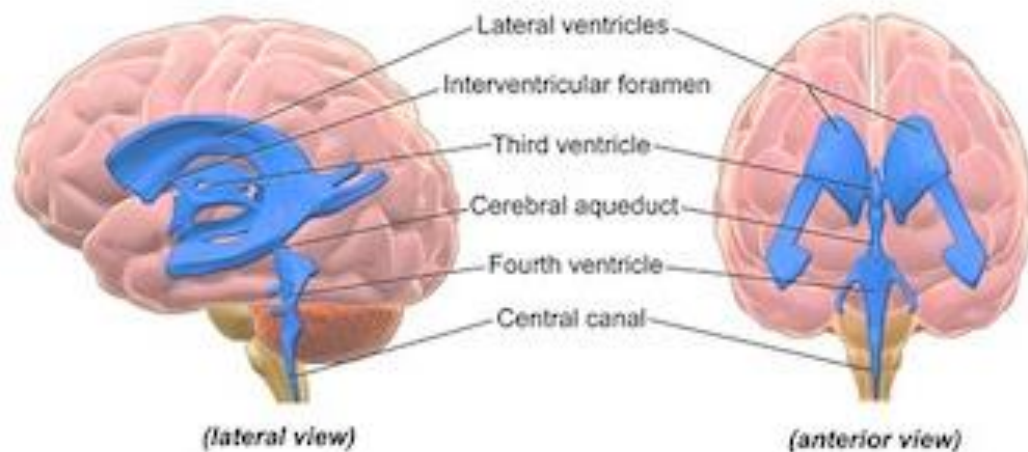


Figure 18: Cerebrospinal Fluid (CSF) Ventricles in the Brain

As a conjecture, however, since CSF ventricles directly connect the spinal cord to the brain through the central canal into the corpus callosum, and especially since fluids (i.e., gases and liquids) are far better media for propagating waveforms than solids, perhaps CSF also plays a crucial role in transfiguring and transmitting objective semiotic signals as the perceptual and conceptual signs that form the sentience and sapience of subjective semiosic realism for humans being embedded in that objective causal semiotic reality. If superstring theory is 21st century *Musica Universalis*, then perhaps CSF propagation of superstring waveforms is formative of the resonant harmonies human brain states and mind modes manifesting our semiosic presence of body and mind in semiotic reality.²³⁸

If true, this conjecture could shed new light in cognitive science. But the truly bothersome downside, however, is that if true, it also identifies the perfect transmission medium for semiotic and semiosic engineering. As brainwashing and mind-molding in both pre-sentient and pre-sapient regions of semiosis, it could turn subjective semiosic

²³⁸ Ibid. and Jose Vega, "Brain Ventricles Location, Role and Potential Issues" (reviewed by Richard N. Fogoros, MD), VeryWellHealth, last modified March 8, 2018, <https://www.verywellhealth.com/brain-ventricles-3146168>.

realism into blissful dream or horrific terror, day or night, asleep or awake simply by manipulation and control of underlying pre-corpus callosal semiotic signal processing—i.e., as brain and mind *input*. Worst of all, we would never know the difference: our *real* reality (semiosically speaking) could be entirely designed, engineered, and fabricated *before* it became sentient awareness and sapient consciousness. The weaponization of such deep understanding of semiotic reality and semiosic realism would be inevitable if this conjecture were true. In the hands of the oligarchic 0.001% elite, it would be the endgame of the tyranny of inverted totalitarianism for which they stand (see Figure 5: The Wealth, Power, Force, and Control Nexus of Inverted Totalitarianism, p. 27).²³⁹

Historical precedents are abundant in number and clarity. As 21st century liquid modernity is the new orbit of Enlightenment modernity, Iain McGilchrist exposes a very disturbing baseline shift in objective semiotic reality and the subjective semiosic realism accompanying it. Like neuroanatomist Taylor, McGilchrist focuses on left- and right-brain asymmetry and cognitive differences in weaknesses and strengths of hemispheric sentient or sapient dispositions. His central thesis concerns how left-brain sapience has usurped right-brain sentience in cognitive SBS (shifting baseline syndrome) throughout the Enlightenment to the present. It is a tale of extremely slow-motion cognitive coup d'état naming the sapient 'left-brain' the "Emissary" and the sentient 'right-brain' the

²³⁹ This is precisely the premise behind the blockbusing film franchise, the *Matrix* series. Science fiction? Probably. Considering cultural lag between bleeding edges of R&D for corporatocratic purposes on one hand, and immanent frames and social imaginaries in the propaganda wake behind them on the other, however, perhaps not as much as we would like to think. Lilly Wachowski and Lana Wachowski (as the Wachowski Brothers), *The Matrix* (Warner Bros., Village Roadshow Pictures, et al., 1999).

“Master.” His title and subtitle emphasize this theme: *The Master and His Emissary: The Divided Brain and the Making of the Western World*.²⁴⁰

As suggested in this illustration, the corpus callosum is the battlefield where the Emissary’s insurrection is ongoing (the gray area in the center, circled in red):

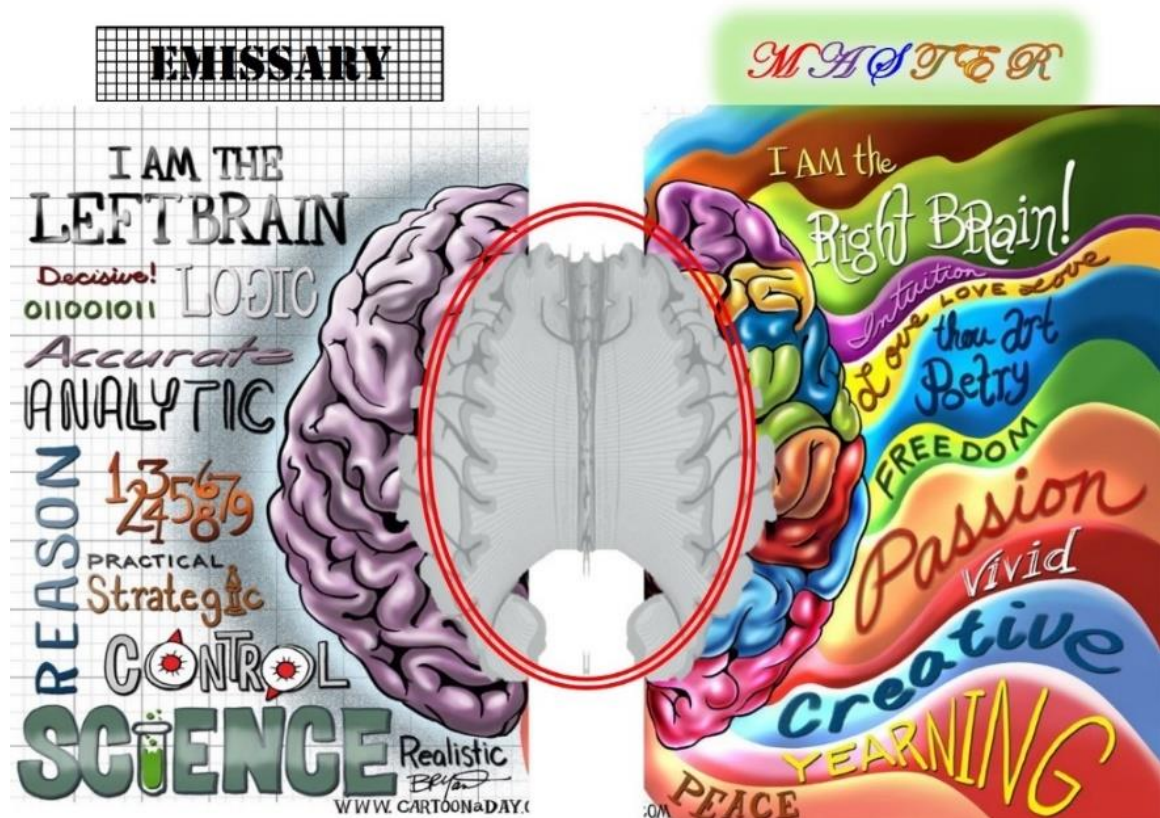


Figure 19: The Corpus Callosum Battlefield

The revolutionary insurrection may be said to be as old as Satan’s revolt against God. As God’s Emissary, before his jealous and hubristic rebellion, Satan was foremost among all the angels. After his revolt, humanity became spoils and our minds the battleground with our Creation in Eden. Our first major defeat was Satan’s invasion of the Garden and his successful temptation of Eve. The rest is the history of warfare over humanity’s eternal

²⁴⁰ McGilchrist, *Master and His Emissary*.

destiny, one soul at a time, raging on today now as it did then, in the objective semiotic subjective semiosic realism of human being and presence in the world. The callosal battle in the hearts, souls, minds, and bodies of humankind only ends when Jesus returns.

Signs of objective semiotic reality and subjective semiosic realism send the same message: the perfect unity, ideal resonant harmony, of the whole of semiotic reality and semiosic realism, was broken in Eden and humanity has just kept breaking reality ever since. Physiological effects are even manifest in brain structure, as McGilchrist explains:

You might think that as brains evolve to become larger, the interhemispheric connections would increase in tandem. But not at all: they actually decrease relative to brain size. The bigger the brain, the less interconnected it is. Rather than taking the opportunity to increase connectedness, evolution appears to be moving in the opposite direction. And there is a close relationship between the separation of the hemispheres on the one hand and the development of something that keeps cropping up in this unfolding story: the asymmetry of the hemispheres. Because it turns out that the greater the brain asymmetry, too, the smaller the corpus callosum, suggesting that the evolution both of brain size and of hemisphere asymmetry went hand in hand with a reduction in interhemispheric connectivity. And, in the ultimate case of the modern human brain, its twin hemispheres have been characterised as two autonomous systems.²⁴¹

Which way do you think genetic evolution is taking humanity? McGilchrist answers:

When most people think of differences in the structure of the hemispheres, the first thing that springs to mind is the now familiar fact that the brain is asymmetrically larger on the left side. In fact this difference is not so obvious as it probably sounds, though the difference is there all right. It had been known since the middle of the nineteenth century that the faculty of speech was associated with the left frontal area (French physician Paul Broca and his compatriot Marc Dax) had both noticed that those who suffered a stroke or other damage to this part of the brain tended to lose their faculty of speech. Later the Prussian neurologist Carl Wernicke discovered, through similar observations, that the comprehension of language was distinct from that of speech, and was located further back in the left hemisphereIt was the

²⁴¹ Ibid., 18-19.

association with language which led to the left hemisphere being referred to as ‘dominant’, since it did all the talking.²⁴²

McGilchrist’s observations propose that brain evolution is advancing and enhancing the left-hemispheric dispositions at the expense of the creativity, spontaneity, and flexibility of the right hemisphere. And as brain is led, so the mind follows.

Those changes in hemispheric size are just one cognitive line of genetic attack in breaking reality. Another shift is occurring, known as “Yakovlevian torque,” in which a literally “twisted mind” is emerging:

But that is not all. It is not just the left hemisphere that has its area of expansion. The normal brain appears to have been twisted about its central axis, the fissure between the cerebral hemispheres. The brain is not only wider on the left towards the back, but also wider on the right towards the front; as well as extending further back on the left, even a little under the right hemisphere, it extends further forward on the right, even a little overlapping the left. It is as though someone had got hold of the brain from below and given it a fairly sharp tweak clockwise. The effect is subtle, but highly consistent, and is referred to by neuroscientists as Yakovlevian torque²⁴³

Metaphorically at the very least, this twisting of the brain on its axial connection to brain stem and spinal cord appears to be trench warfare at the genetic front lines. The Emissary is ever so slowly overthrowing the Master’s control over subjective semiotic realism. In a frontal attack, the Emissary strives to overpower the Master with hemispheric size, while also mounting a subversive subterranean maneuver with Yakovlevian torque.

²⁴² Ibid., 22-23.

²⁴³ Ibid., 23-24.

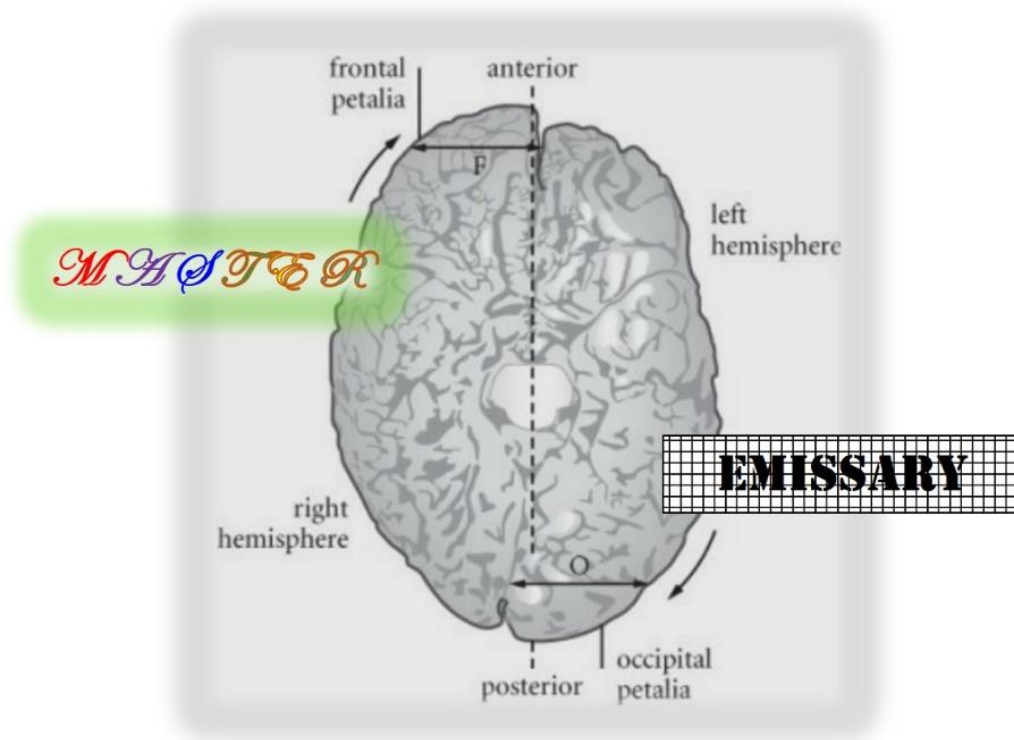


Figure 20: Yakovlevian Torque (Brain Viewed From Below)

Meanwhile, APC/ABC CAWKI JDD churchianity (see Table 3: MRI Christianity and Its APC/ABC churchianity Nemesis, p. 47) obviously goes along for the ride.²⁴⁴

The end signs. Are we getting the message?

²⁴⁴ “APC” (Attrctional, Propositional, Colonial), “ABC” (Attendance, Buildings, Cash), “CAWKI” (Church As We Know It), “JDD” (Jesus Deficit Disorder), ‘churchianity,’ pseudo-Christianity.

TRIALECTIC COSMOLOGY

Fetzer *Scientific Knowledge* presents an intriguing theory of epistemic resources for acquiring and corroborating scientific knowledge and understanding, emphasizing the importance of creativity for their advancement:

During the course of this inquiry, the general outline of (what may be referred to as) *a theory of epistemic resources will emerge*; that is, an analysis of the various kinds of resources upon which we all may draw in attempting to ascertain the truth about ourselves and the world around us, including, especially, the following:

- (1) the language framework \mathfrak{L} which each person z accepts at t ;
- (2) the deductive rules of inference upon which z relies at t ;
- (3) the inductive rules of inference upon which z relies at t ;
- (4) the experiential findings available to z at t , relative to \mathfrak{L} ; and,
- (5) the powers of imagination and conjecture which z can exercise at t .

Indeed, although it will come as some surprise to those who suppose that science proceeds through a process of Observation, Classification, Generalization, Derivation, and Experimentation, the most important factor in the development and growth of scientific knowledge is our capacity to exercise the powers of *imagination and conjecture*, without which we cannot create, change, and improve our language framework \mathfrak{L} , upon whose concepts and structure we ultimately depend for the description and interpretation of our experiential findings and our scientific theories. The progress of science ... *is essentially a complex process of "conjectures and refutations"*²⁴⁵

Fetzer further distinguishes what might be called ‘ordinary’ communities of individuals from *scientific* communities based on differences in how epistemic resources are used:

To the extent to which a collection of individuals z^1, z^2, \dots relies upon the same language framework \mathfrak{L} and similar rules of inference, they constitute a *community C*; and to the extent to which the members of such a community are committed to the program of providing for the acceptance, rejection, and modification of hypotheses and theories of broad scope and systematic power which may be employed for the purposes of explanation and prediction (by means of a suitable set of inductive, deductive, and perceptual rules of

²⁴⁵ Fetzer *Scientific Knowledge*, 22, 287-88.

inference), it appears, they will also constitute a *scientific community Z*.

The conception of a "scientific community Z" represented here, moreover, is one in which every member of Z employs the same "rules of inference" relative to a common language framework, and consequently would derive all and only the same inferential consequences under the same evidential conditions - except insofar as those rules themselves afforded latitude for variation (in particular, in the case of probabilistic predictions discussed above), i.e., it is an "impersonal" conception to the extent to which it reflects the pursuit of objective knowledge. "Objective knowledge" consists of conjectures which have survived our best efforts to refute them by large numbers of trials over a wide variety of conditions, thereby qualifying for tentative and provisional acceptance within the knowledge context.²⁴⁶

In these remarks, Fetzer is echoing the perspective of Karl Popper's metaphor of piles driven into a swamp of mystery to support the epistemological structures of scientific knowledge. Popper's metaphor resonates harmoniously with the distinction drawn in this treatise between objective semiotic reality (Popper's "swamp") and subjective semiosis realism (the "piles" and the "bold structures of theories" they support). Objectivity, like Fetzer's epistemic ideal of a "(perfect) knowledge context," is beyond our human ken.²⁴⁷

Over the long haul in life as humans, being present in objective semiotic reality with subjective semiosis dispositions and epistemic resources at our disposal, ideals are perfections we approach asymptotically—ever drawing closer but never fully arriving. They are sometimes in plain sight, but inevitably out of reach. Scientific inquiry, belief, knowledge, and understanding are Sisyphean journeys in this sense, but so are Christian sinlessness, sanctification, and abiding always and all ways in Christ are

²⁴⁶ Ibid., 288. Fetzer's formalism (e.g., \mathfrak{Z} , z , t , z^1 , z^2 , C , Z , etc.) is essential to the full exposition of his intensional realism, especially in Fetzer, *Scientific Knowledge*, Chapter 3.

²⁴⁷ Ibid., 16. This paragraph also refers to Popper's remarks as quoted on p. 22, and to the swamp metaphor in Popper, *Logic of Scientific Discovery*, as quoted in Fetzer, *Philosophy of Science*, Epigraph..

simplicity. The only real differences are in the piles we drive into the swamp and the structures we erect on them to uphold us above the mystery below.

Objective semiotic reality is not ideal, for it is not the best of all possible worlds. Our being present as humans in that reality is largely, if not entirely, the reason why it is not. Our subjective semiosic realism, the one each of us cognitively creates in our hearts, souls, minds, and bodies throughout our lives, the one we live by and with day in and day out, is inevitably finite, fallible, fickle, flawed, and, as far as ideals and perfections of any kind are concerned, ultimately futile. Niebuhr's sublime madness, gently constrained by reason, abiding in Sweet's MRI COS 3.0 simplicity, is the Way, Truth, and Life that is free, just, meaningful, and fulfilling. Ideal perfection is encountered only in that reality, only if Christian and scientific realism are settled and kept in resonant harmony with one another, and together, with the causal cosmos we inhabit, as in this triquetra:

Homo Semioticus

Synchronizing the hemispheric objective semiotic reality of the brain with the polar subjective semiosic realism of the mind, the resonant harmonies of brain states and mind modes are easily seen as a mandorla, as in Figure 21. In that image, the hemispheric semiotics appears as 'right' and 'left' brain states, while semiosic polarities are shown as sentience and sapience, i.e., the Master and Emissary, respectively. The mandorla corpus callosum stands for the harmonious resonance of objective semiotic reality and subjective semiosic realism:

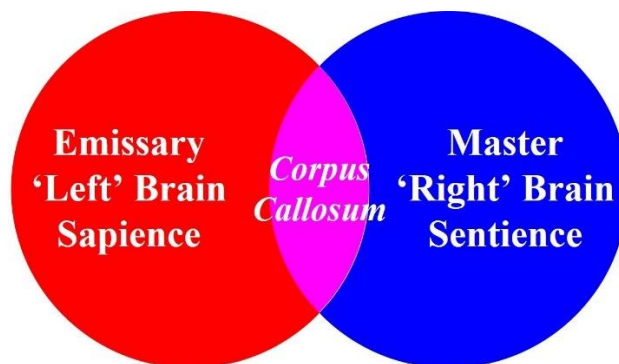


Figure 21: Mandorla Subjective Semiosic and Objective Semiotic Realities

The semiosic models of reality created by the corpus callosum are what we believe we know and understand about objective semiotic reality per se. To understand subjective semiosic realism as illustrated in Figure 21 is to understand the metaphysics of cognitive mentality as living *being in reality* as mind. To understand objective semiotic reality in Figure 21 is to understand the physicality of living presence in reality as body/brain.

Arthur Bentley's 1941 essay is superbly titled, "The Human Skin: Philosophy's Last Line of Defense."²⁴⁸ In the spirit of Bentley's title, as a frame of reference for what follows, the Cartesian duality of mind and body is kept, but the Cartesian vivisection of mind and body are not. This means the entire body, including the brain, is imagined as the *physical presence of being*—as the manifest, instantiated *causal objective semiotic reality*—of living things. The mind, therefore, is imagined as *metaphysical presence of being*—as the *causal subjective semiosic realism*—of living things.

This conception diverges from the standard anatomical theory and model. It says the *body* is the manifest objective semiotic presence in reality of everything from nails to pate and identifies the brain as *the entire neurological structure of that body*. Our human

²⁴⁸ Arthur F. Bentley, "The Human Skin: Philosophy's Last Line of Defense," *Philosophy of Science* 8, no. 1 (January 1941): 1-19.

being and presence in mind and body are generally thought to semiotically experience far more than we semiosically process. This hardly seems possible unless the *whole brain* is neurophysiologically coextensive with the *whole* body.

Differences exist between what we physically *experience* our body-brain states in contrast to what we thereby become metaphysically *aware* and *conscious* of through our mental modes. Those differences result from enormously complex ongoing processes of whole mind/body filtering, sorting, collating, disintegrating, differentiating, reintegrating, interpreting, expressing, etc.—everything that is presented in the relentless influx of our raw experience of reality at our last line of defense, besieged in the flesh we inhabit.

Those raw experiential materials feed from the existential presence of reality into those *semiosic processes* as effects *caused by objective semiotic reality* beyond us. Those empirical effects are, as it were, *inflicted* or *thrust* upon the subjective semiosic realism of our presence within that external causal cosmos. What we consciously come to believe, to know and understand as sapient beings, is thus derived from awareness and presence as sentient beings. Experience in reality is the causal cauldron and forge through which our harmonious resonance (or discordant dissonance) with that reality is created. Cosmic causality is the furnace, light, and heat of that creative process.

Fetzer's epistemic resources exist only in the living being and presence of some type of mentality, i.e., some being and presence of subjective semiosic realism. Turning the Peircean semiotics of intensional realism to philosophy of *cognitive* science, Fetzer proposes an ingenious theory of minds as *semiotic systems*, as summarized in this table:

<i>Mentality Types</i>	<i>Semiosis Types</i>	<i>Cognitive Modes</i>
Type V	Critical thinking	Metamentality
Type IV	Logical reasoning	Argumentative reasoning
Type III	Symbolic	Mentality
Type II	Indexical	
Type I	Iconic	

*Table 10: Fetzer's 1991 Hierarchy of Semiotic Cognition*²⁴⁹

Over the next decade, Fetzer continued applying his theory in cognitive science. In 2001, He published a collection of his writings covering more than a decade of inquiries into cognitive science and machine cognition. He continued to advocate the theory of minds as semiotic systems essentially as proposed in 1991. On the basis of his semiotic model, his critiques of opposing views appear in Fetzer, *Computers and Cognition* and they are as convincing as they are energetic. His theory had slightly changed, however, as shown in this 2001 summary compared to the earlier 1991 version (Table 10 above):

<i>Mentality Types</i>	<i>Sign Types</i>	<i>Cognitive Modes</i>
Type V	Transforms	Transformational
Type IV	Meta-signs	Metamentality
Type III	Symbols	Mentality
Type II	Indices	
Type I	Icons	

*Table 11: Fetzer's 2001 Hierarchy of Semiotic Mentality*²⁵⁰

Here again, as in Table 10, the top rows of highlighted cells are Fetzer's intriguing modes of Type IV and V mentality that supplement the semiotic processes ordinarily associated

²⁴⁹ Fetzer, *Philosophy and Cognitive Science*, Chapter Four, 55-74.

²⁵⁰ Fetzer, *Computers and Cognition*, 43-71.

with cognition by most semioticians (Types I-III). The cognitive modes are characterized in Fetzer, *Philosophy and Cognitive Science* and in Fetzer, *Computers and Cognition*, but with subtle differences. Basic conceptions of Types IV and V are essentially unchanged, but terminological changes emerged that may yield confusion. Specifically, it can be a bit difficult to differentiate ideas of “metamentality” and “transformational mentality” from “meta-signs” and “transforms” as sign types (Table 11), corresponding to “logical” and “argumentative” reason and “criticism” or “critical thinking” in (Table 10).²⁵¹

Those changes most likely are matters of terminological detail. But a deeper issue may be obscured in both versions of Fetzer’s account. Whatever else mental Types IV and V may be, whatever names and description they are given in the two versions, they remain fundamentally *symbolic*, as Fetzer clearly states in this intriguing caveat to his 2001 position concerning Types IV and V (italics added here):

The introduction of semiotic systems of Type IV and of Type V, however, should not be allowed to obscure the three most fundamental species of mentality. *Both transformational and critical capacities (of metamentality) are presumably varieties of semiotic capability that fall within the scope of symbolic mentality.* Indeed, as a conjecture, it appears to be plausible to suppose that each of these successively higher types of mentality presupposes the capacity for each of those below.²⁵²

The underlying obscured concern is which types of mentality, what semiotic dispositions of semiotic systems, are required and involved in the creative exercise of the “powers of

²⁵¹ The ambiguity and confusion may well be due to my interpretations of Fetzer’s 1991 and 2001 positions as summarized in Table 10 and Table 11. Fetzer’s and Peirce’s prose is always pellucid, yet often nonetheless difficult—any confusion may lie in my readings, of course, rather than in their writings.

²⁵² Fetzer, *Computers and Cognition*, 69.

imagination and conjecture”—epistemic resources, #(5)—which, in Fetzer’s own words, are “the most important factor in the development and growth of scientific knowledge.”²⁵³

To directly address this concern, suppose mentality ranges through a continuum, metaphorically at least, aligning in resonant harmony with the spectrum of visible light (with Types I-V from Fetzer’s 2001 model included for reference):

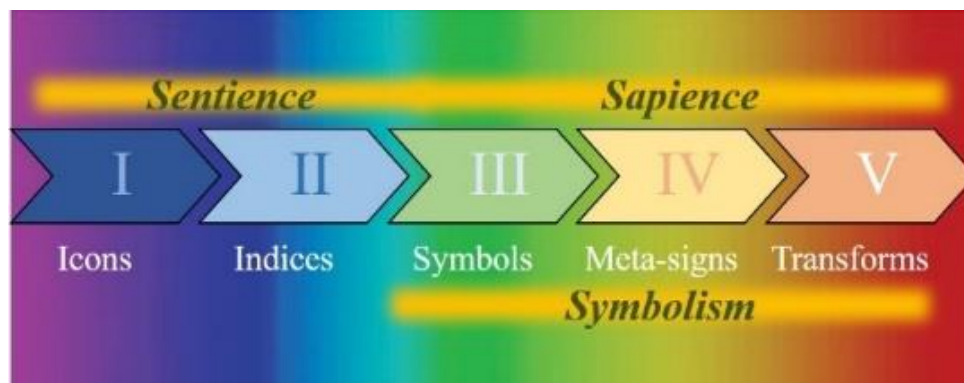


Figure 22: Fetzer's Hierarchy of Mental Types as a Semiotic Systems Spectrum

Fetzer’s semiotic systems theory of mentality as shown in Figure 22 reflects a profoundly incisive explication of cognition. It is especially powerful as a conceptual framework for addressing the most challenging questions surrounding *machine* vs. *human* cognition, as the issues are becoming increasingly important for the future of humanity. As a cluster of disruptive technologies, genetics, robotics, artificial intelligence, and nanotechnology are at the crux of the dire risks shown in Figure 4: The Existential Threat Nexus Confronting Humanity (p. 22).

Fetzer’s theory of semiotic systems does not come to grips with what appears to be the most difficult problem, however, namely, the identification and specification of the mentality involved in exercising creative “powers of imagination and conjecture.” Those

²⁵³ Fetzer *Scientific Knowledge*, 22.

creative capabilities, gifts and talents, skills and abilities, etc. are as vital for the sciences as they are for the arts. Both analytics and aesthetics are lost without them.

If McGilchrist were assessing Fetzer's hierarchy of semiotic systems as shown in Table 10 and Table 11 (p. 131), he might be inclined to see the Emissary's revolt in action as the Master's right-brain sentience and creativity are replaced by the Emissary's left-brain analytic sapience in the ascendance of symbolism in Types III-V. Creative imagination is among the crowning competencies of right-brain Master sentience; they are not the strongest dispositions in the left-brain Emissary's wheelhouse.

Fetzer's caveat about the symbolism of Types IV and V thus seems correct: rather than being distinct categories of mental types, perhaps they should be viewed as *subtypes* within Type III mentality, indicating greater facility and skill in more deeply analytic and sapient semiosis. Those arcane capabilities are needed, for instance, in rarefied symbolic systems of advanced maths and logic, e.g., complex number system analysis and Fetzer's own astounding probabilistic causal calculus C-C*, Fetzer *Scientific Knowledge*, Chapter 3). The continuum of *semiosic* systems perhaps may encompass a higher order of sentient mentality or modes of 'perfect-pitch' resonant harmony of sentient and sapient semiosis.

Perhaps, like the color spectrum of light, there are three primary monadic aspects of subjective semiosis reality. This would appear to resonate at least in principle with the trichotomy of Peirce's stinger: Firstness as relational iconicity, Secondness as relational causal indexicality, and Thirdness as relational symbolism. This triadic perspective and model clearly aligns with Fetzer's semiotic systems model, especially if the semiosis of sentience and sapience is understood as a continuum of resonant waveform harmonies in dynamic ratios of iconicity, indexicality, and symbolism, as in:

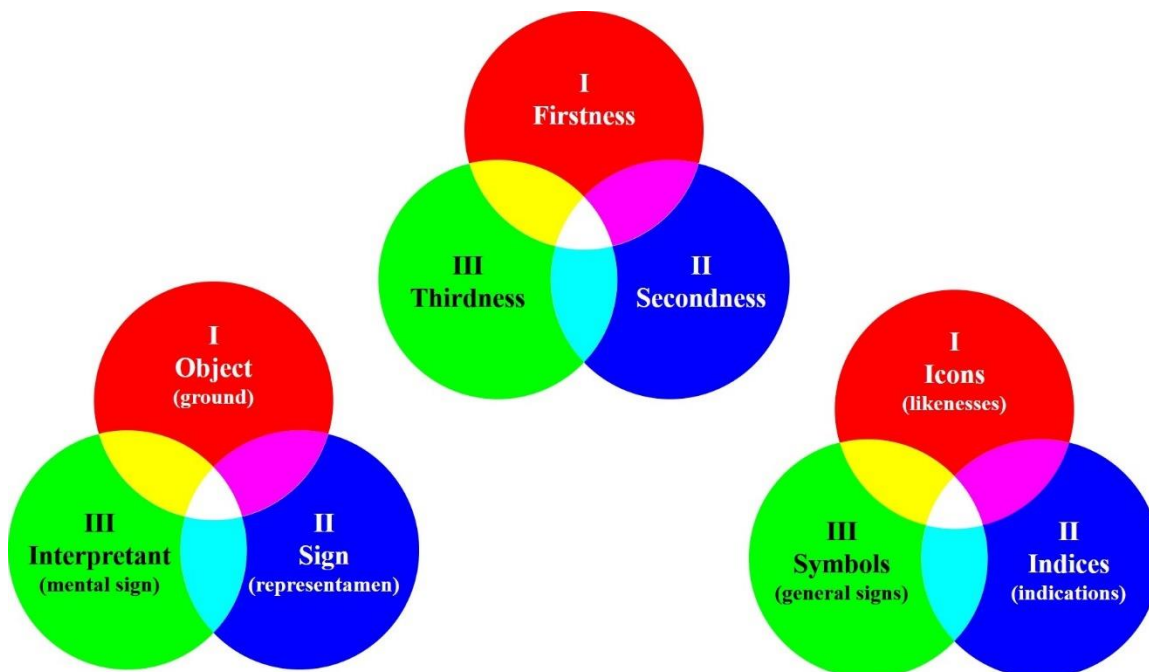


Figure 23: Peirce's Stinger (Top), Sign Elements (Left), and Relational Signs (Right)²⁵⁴

The white triquetras in the centers of each of the three images in Figure 23 are of special interest. Each one is quartium quid, or ‘fourth thing,’ standing for a range of sentient *and* sapient resonant harmonies. Each harmonious resonance in that range manifests trialectic dynamics of all three semiotic modes (iconicity, indexically, and symbolism).

The semiotic ideal, represented by the white triquetras, is achieved in harmonious resonance of all semiotic-semiotic, causal-cognitive, and sentient-sapient brain states and mental modes. As ‘perfect-pitch’ semiosis, it yields true and pure genius—both aesthetic and analytic mentality manifested. In simple RGB color model analogy terms, this occurs when red, green, blue settings are each at maximum, i.e., $R = G = B = 255$. A fourth

²⁵⁴ Admittedly, Figure 23 shows only three of the nine sign types Peirce identified (Table 6: Peirce's Categories of Signs, p. 88). Only the three relational categories of signs (icons, indices, symbols) are explicitly shown in Figure 23. Peirce's categories of material and formal Firstness, Secondness, and Thirdness are not depicted, but they are implied in the inclusion of the relational categories.

thing is the result—the color white, representing harmonious resonance of those primary colors at peak luminosity. Fetzer’s “(perfect) knowledge context” is another example.²⁵⁵ If McGilchrist’s Master and Emissary embraced the corpus callosum, we get a notion what his ideal quantum quid would be. Some examples of ideal approximations:



Mona Lisa

(1503-1506)

Leonardo da Vinci

$$e^{i\pi} + 1 = 0$$

Euler’s Identity:

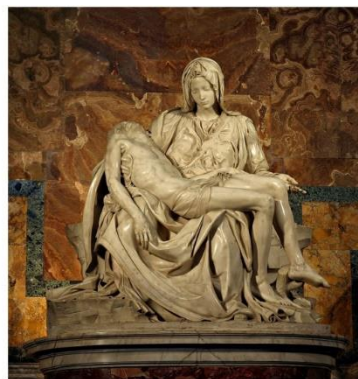
(1748)

$$E = mc^2$$

Einstein’s

Mass-Energy Equivalence:

(1905-1906)



Pietà

(1498-1499)

Michelangelo

Figure 24: Masterpieces of Ideal Subjective Semiotic Realism

Euler’s Identity is regarded by many as the most beautiful expression in maths; Einstein’s formula as the most beautiful in physics. Da Vinci’s *Mona Lisa* and Michelangelo’s *Pietà* stand as artistic genius, both in sentient creative imagination and in sapient technique and craft. Where are those brain states and modes of mentality in the continuum of semiotic-semiosic systems in Figure 22: Fetzer’s Hierarchy of Mental Types as a Semiotic Systems Spectrum (p. 133)?

More fully conceived, perhaps there is a ‘null’ end of the continuum, namely, the

²⁵⁵ Fetzer’s five Conditions of Rationality establish cumulative criteria for *minimal* (CR-1, CR-2), *maximal* (CR-3, CR-4) and *perfect* (CR-5) rationality, where the epistemic ideal of a “(perfect) knowledge context” is satisfaction of all five conditions. See also his “Requirement of Maximal Specificity (RMS)” and the “Requirement of Strict Maximal Specificity (RSMS).” Fetzer, *Scientific Knowledge*, 13-16, 20, 23, 50, 60, 62, 125-26, 137-39, 205-08, 227, 253, 270-76, 283, 287-88, 293.

‘Type 0’ mentality category of all non-living, non-cognizant, non-rational, non-creative things in the cosmos. It would be the empty set of cognitive being and presence in reality, semiotic nothingness, a cognitive void. Extended further to the end of semioticity per se, it becomes the negation, annihilation, complete absence of anything and everything.

In one sense it is the nil-zero-null state of semiotic-semiotic systems of trialectic dynamics. It is the irreality of no-presence, no-being. Paradoxically, nevertheless, just as maths fall apart without quantitative nothingness (‘zero’), semiotic-semiotic *nothingness* is necessary for anything and everything to be semiotically-semiotically possible at all—possibility is impossible apart from the necessity of nothing. If this seems strange, pause to recall and reflect that Big-Bang to Big-Crunch ex nihilo nihil cosmology of modern and contemporary (thermodynamic) science is an excellent case in point.²⁵⁶

Obviously, human subjective semiotic realism is *not* in the Type 0 unreal category of non-being and non-presence. It actually extends to the far other extreme to become (as far as we know) the acme of sentient and sapient being and presence in reality. Objective semiotic reality continues, but where does subjective semiotic realism top out?

In Popper’s swamp metaphor (p. 12), “bold theoretical structures” contain all the epistemic contents of scientific semiotic realism. They are built upon piles driven into and rising up from a swamp of mystery. But rising *from* mystery *into and toward what*? If subjective semiotic realism were to lay hold of such epistemic Holy Grails as the Grand Unifying Theory (GUT), Theory of Everything (TOE), or Fetzer’s “(perfect) knowledge context,” would the piles somehow strike rock-bottom despite Popper’s claim

²⁵⁶ Luke Mastin, “The Big Bang and the Big Crunch (Introduction),” The Physics of the Universe. October 15, 2009, https://www.physicsoftheuniverse.com/topics_bigbang.html.

that it does not actually exist? If subjective semiosic realism were to discover all the laws of causality, would Hawking's panentheistic prediction come true—we would know the mind of God?

The subjective semiosis of scientific and theistic realities are different structures supported on different piles, but they rise from the same swamp of mystery and aim for the same Holy Grail of perfection. Fetzer's criteria for "(perfect) knowledge" are the five "conditions of minimal, maximal, and perfect rationality" in his intensional realism. In his agnostic apologetic, Fetzer cites "canons of rational belief" as the dividing line with science on one side and theism and atheism on the other. He then assures us, "As long as (we) acknowledge the difference between what (we) believe as articles of faith and what (we) believe on rational grounds, philosophers are not going to critique your position."²⁵⁷

Not to make too much of the semantic nuances of two-letter prepositions, but to "believe *as* (e.g., articles of faith)" and to "believe *on* (e.g., rational grounds)" differ not only in the objects of those prepositions, but moreso, perhaps, in the prepositions as such. "Belief *as* ..." identifies or equates belief *with* the prepositional object, while "belief *on* ..." builds, derives, or contrives belief *from* the prepositional object. Switching the two prepositions in Fetzer's assertion helps to illuminate this distinction: "As long as (we) acknowledge the difference between what (we) believe *on* articles of faith and what (we) believe *as* rational grounds, philosophers are not going to critique your position."

The essential point is that theistic (e.g., Christian) *articles of faith* serve the same epistemic purpose in Christian theology and praxis that *axioms* of rational belief serve in

²⁵⁷ On conditions of perfect rationality and knowledge, see Fetzer, *Scientific Knowledge*, 11-16. In Fetzer, *Render Unto Darwin*, 126, these may be the "canons of rational belief" he alludes to.

philosophy of science and scientific practices. More to the same point, articles of faith and axioms of rationality—piles driven by both disciplines into the swamp of mystery below—are ultimately cut from the same tautological cloth of *self-evident, unproven* and *unprovable truth*. Indeed, the scientific axioms of rationality appear to be analytic a priori truths, while the articles of faith apparently emerge as synthetic a posteriori truths.

After all, science builds its logico-mathematical structural lingua francas and the theories expressed in them (including Fetzer’s probabilistic causal calculus) from a sparse kernel of *axiomatic* truths. Those truths typically consist of three ‘Laws of Thought,’ i.e., (1) contradiction, (2) excluded middle, and (3) identity. On these axiomatic piles, the premier structural features of highest epistemic value for systematically rational science are (deductively or inductively) constructed—i.e., theoretical consistency, soundness, and completeness. Those three “Laws of Thought” piles are tautology *types* expressed as formula *templates* into which any symbolic token assertions may be inserted:²⁵⁸

1. Law of contradiction—for all propositions p , it is impossible for p to be both true and not true; symbolically, where ‘ \neg ’ stands for ‘not’ or ‘not that case that,’ and ‘ \wedge ’ stands for ‘and’ (conjunction): $\neg (p \wedge \neg p)$.
2. Law of excluded middle—for all propositions p , either p is true or *not*- p is true; symbolically, where ‘ \neg ’ stands for ‘not’ or ‘not that case that,’ and ‘ \vee ’ stands for ‘or’ (disjunction): $(p \vee \neg p)$.
3. Principle of identity— if propositional function F is true of individual variable x , then F is indeed true of x ; symbolically ‘ $F(x) \supset F(x)$ ’, where ‘ \supset ’ stands for ‘formally implies.’ Another formulation of the principle of identity asserts that a thing is identical with itself, or ‘ $(\forall x) (x = x)$,’ where ‘ \forall ’ stands for, ‘for every.’ Simply put, the principle of identity asserts that ‘ x is x .’

²⁵⁸ *Encyclopaedia Britannica*, s. v. “Laws of Thought.” A formally dense but succinctly trenchant primer on formal systems of syntax and semantics is in Donald Nute, *Essential Formal Semantics* (Totowa, NJ: Rowman and Littlefield, 1981).

Christianity, by contrast, builds its systematic theology *in* experiential relationship with just one *person*—Jesus. Scientists are prone to immediately reject this as irrational for lack of evidence and proof. But this is a category mistake—if understood in terms of logico-mathematical Laws of Thought and deductive or inductive derivation therefrom, ‘evidence’ and ‘proof’ have categorically different meanings than they do in systematic Christian theology.²⁵⁹

The formative pile materials of *scientific* ‘evidence’ and ‘proof’ driven into the swamp of mystery below are axiomatic analytic a priori Laws of Thought. The formative pile materials of *theological* ‘evidence’ and ‘proof’ driven into the same swamp is also axiomatic, but they refer to a synthetic a posteriori relationship with Jesus Christ. As a matter of historical (albeit ineffably personal) fact, every simply faithful and sincerely committed Christians can point to a time when their relationship with Christ began. They excitedly tell stories of how it began and grew, and how continues to evolve. This is a solitary synthetic a posteriori truth upon which Christians build systematically structured systems of belief and conviction and dare call it genuine knowledge and understanding of reality.²⁶⁰

Most empirically focused and theoretically disciplined practitioners of science can point to a moment or brief period in time, as a matter of historical fact, when—however intuitively or analytically—their relationship with self-evident tautological truth as stated in Laws of Thought (as canons of rational belief) began. They can excitedly tell stories of

²⁵⁹ These observations probe further into the category mistake identified in the earlier discussion of Popper’s swamp metaphor, pp. 12-14.

²⁶⁰ Peirce’s own mystical experience on April 24, 1892 is just such an example, as recounted in Peirce’s testimony, p. 102.

how it grew and continues to evolve. These are the essential analytic a priori truths upon which scientists build systematically structured systems of belief and conviction and dare call it genuine knowledge and understanding of reality.

The catastrophically tragic category mistake is the dogmatic demand from both scientists and Christians alike that these concepts are mutually exclusive. First, all the piles are driven into the same swamp of mystery. Because the piles are of different formative materials, however, the structures built upon them and their furnishings and contents will be very different. This does not change the fact, however, that the design principles and engineering and architectural codes for carrying out the building of those structures are different—*both should be systematically rational!*²⁶¹

As already suggested, the only crucial differences between systematic Christian theology systematic scientific epistemology are not to be found in the common swampy grounds they share, nor in the principles of reason applied to ensure structural integrity and safe occupancy in the theoretical and theological structures they build. Their designs (criteria of evidence), and furnishings (empirical contents) are very different, however, and they should be. For it is in the resonant harmonies of those differences that greater knowledge and higher understanding may be achieved. Both communities would do well to take the concept of ‘mutatis mutandis’—*despite our differences*—profoundly to heart,

²⁶¹ Together with the two paragraphs preceding it, this paragraph reflects Plantinga’s central thesis and conclusion in Plantinga, *Where the Conflict Really Lies*, ix, 350, specifically, from the thesis “... there is superficial conflict but deep concord between science and theistic belief, but superficial concord and deep conflict between science and naturalism,” Plantinga concludes, “Given that naturalism is at best a quasi-religion, there is indeed a science/religion conflict, all right, but it is not between science and theistic religion: it is between science and naturalism. That’s where the conflict really lies.”

heart, soul, mind, and strength of conviction in the unity of harmonious resonance rather than vain and prideful rationalizations driving division and enmity.

Scientists, Christians, and every human being present are ultimately things of the exact same kind and kinds of the exact same thing. We are all inhabitants of exactly one and the same objective semiotic reality. We are each equipped with semiosic dispositions and epistemic resources to know and understand that common objective semiotic reality through our own uniquely individual and relationally shared subjective semiosic realities. The semiosic capacities and epistemic resources we depend on to know and understand reality as well as one another are both sentient and sapient. In this semiotic reality and semiosic realism, we truly are *Homo semioticus*.

The Transcient Suprasemiosis of the Magi

Figure 21: Mandorla Subjective Semiosic and Objective Semiotic Realities (p. 129) is repeated to emphasize human being and presence in reality as Homo semioticus:

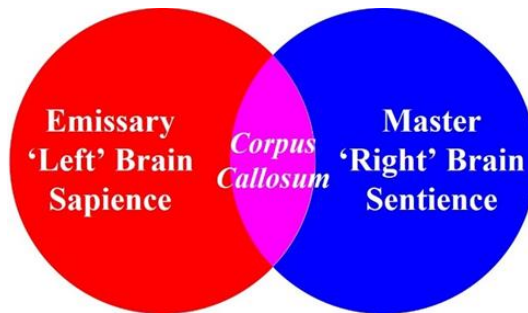


Figure 25: Homo Semioticus = Homo Sentiens \otimes Homo Sapiens²⁶²

²⁶² The “ \otimes ” in this expression is the mathematical symbol for tensor products of vectors. It may serve well as a mathematical analog for semiosic conception of dyadic or triadic (mandorla or triquetra)

Our subjective semiosic (cognitive-causal) reality is embedded within objective semiotic (cosmic-causal) reality. That ‘cognitive/cosmic’ causal distinction is especially important. We identify ourselves as the ‘who’ and ‘what’ we are entirely on the basis of our sentient awareness and sapient consciousness (our subjective semiosic realism) of our being and presence. Each particular kind of thing and all things of particular kinds (including others ‘who’ are more or less like us) inhabit the ‘where’ and ‘when’ lying within sentient and sapient subjective semiosic (cognitive-causal) range. All of this exists and occurs within the being and presence of objective semiotic (cosmic-causal) reality within, surrounding, and beyond us. But *how*?

The answer given by both J. B. Taylor’s “TED Talk” and *Stroke of Insight* and McGilchrist’s *Master and Emissary*, more or less directly, lies in the corpus callosal role of bringing about harmonious resonance of sentience and sapience to establishes both the awareness and consciousness wherein we find personal and relational identity embedded in causal reality. This command and control over the Emissary and Master ‘third thing’ or tertium quid is beyond the sentient Master’s intuition and beneath the sapient Emissary’s sapient analytics.

What the *third mind/brain* mentality of the corpus callosum *is* and *how* it brings those resonant harmonies about are objective semiotic realities lying above and beyond *and* below and beneath the subjective semiosic realities of the Master and his Emissary. Third-thing corpus callosal semiosic dispositions are *transcendent* and *supervenient*. The semiosic immediacy and intensity of the sentient perception and awareness of the Master

harmonious resonance invoked this dissertation. See APPENDICES: Logico-Mathematical Afterthoughts for additional speculation in this direction. Tensor products are mathematical ‘third’ and ‘fourth things’ formed in the harmonious resonance of vectors.

are organic harvests from the artisan seeds sown in right-brain terroir by corpus callosal semiosis. The semiotic clarity and cogency of the Emissary's sapient consciousness and ideation are the intellectual repast prepared by the Master from the fruits of the semiotic terroir, served up on the Emissary's table by corpus callosal semiosis.²⁶³

Third-thing corpus callosal semiotic dispositional being and presence are also *antecedent* and *prevenient*. They come from *beneath* awareness and *before* consciousness are fruitfully manifest in the Master's sentient terroir to become a sumptuously prepared repast for ingestion and digestion by the Emissary.²⁶⁴ McGilchrist takes meticulous care to distinguish between the excitatory and inhibitory aspects of corpus callosal semiosis. The trialectic dynamics of the two processes in tandem form Master-Emissary resonant harmonies when all goes well, or they generate the semiotic dissonance of discordant disharmony when things go awry for psychological or physiological reasons. Taylor's incredible tale of her Emissary losing connection to and communication with her Master vividly exemplifies semiotic crisis of precisely that dissonant kind:

Every brain has a story and this is mine. Ten years ago, I was at Harvard Medical School performing research and teaching young professionals about the human brain. But on December 10, 1996, I was given a lesson of my own. That morning, I experienced a rare form of stroke in the left hemisphere of my

²⁶³ *OED*, s. vv. "transcendent," i.e., "Surpassing or excelling others of its kind; going beyond the ordinary limits; pre-eminent; superior or supreme; extraordinary;" and, "supervenient;" i.e., "*Philosophy*. Of a quality or property: to be dependent *on* (or *upon*) a further underlying quality or property for its existence; to be present by virtue of the presence of other specified attributes."

²⁶⁴ *OED*, s. vv. "antecedent," i.e., "That comes or goes earlier or in front; preceding in time, order, or position (often also implying a causal relation to something which follows); previous, pre-existing; *spec.* (a) *Logic* on which a consequence depends; (b) *Grammar* to which a relative refers back; (c) previous to observation or experience, presumptive, a priori;" and, "prevenient" and "prevene," i.e., "*Theology*. Coming before or antecedent to human action. Chiefly in **prevenient grace** *n.* the grace of God which precedes repentance and faith, predisposing a person to seek God in advance of any desire or motion on their part;" and, "To act before or more quickly than (a person or thing); to forestall; to supplant. Also *intransitive*: to intervene"

brain (her Emissary). A major hemorrhage, due to an undiagnosed congenital malformation of the blood vessels in my head, erupted unexpectedly. Within four brief hours, through the eyes of a curious brain anatomist, I watched my mind completely deteriorate in its ability to process information. By the end of that morning, I could not walk, talk, read, write, or recall any of my life. Curled up into a little fetal ball, I felt my spirit surrender to my death, and it certainly never dawned on me that I would ever be capable of sharing my story with anyone.²⁶⁵

We can only wildly speculate what the corpus callosum's semiotic emergency response might have been to this semiotic and semiotic (brain and mind) crisis. Given its primary role, it would have transferred as much left-brain Emissary sapient semiosis as possible over and out to right-brain Master semiosis. But the Emissary would have suddenly been teleported to a foreign wildly unnatural and unreal terroir of nonsensical noise and sound, altogether the opposite of the high-rise urban and urbane sophistication and elegance of her well-ordered native residence, repertoire, and repartee.

Thanks to McGilchrist, the right-brain has a name ("Master") and it has a brand (sentience). The left-brain also has a name ("Emissary") and a brand (sapience). What name and brand would follow suit for the corpus callosum? Consider these names and definite descriptions, where the first two are self-explanatory now, but the third, referring to the corpus callosum, remains unspecified:

1. 'the sentient awareness of the Master,'
2. 'the sapient consciousness of the Emissary,' and,
3. 'the _____ of the _____.'

²⁶⁵ J. B. Taylor, *Stroke of Insight*, 1.

If the Master's being and presence in subjective semiosic realism is *sentient awareness*, and the Emissary's is *sapient consciousness*, then perhaps 'the transcient suprasemiosis of the Magus' is an apt name and proper definite description to fill the #3 blanks.

The idea of 'transcient' is a portmanteau of 'transcendent and prescient,' since the Magus has prior grasp and control over what is to be instantiated in the Master's sentient terroir and framed up in the Emissary's sapient architectonic. The Magus knows which formative seeds to plant for the Master and what formal structures for the Emissary will yield a sapient repast of sentient savor, in resonant harmony instead of dissonant discord. The concept of 'suprasemiosis' stands for the transcendent and supervenient as well as antecedent and prevenient aspects of the Magus's (corpus callosum's) unique being and presence in the subjective semiosic realities of humanity in objective semiotic reality.²⁶⁶

The greatest semiosic power and force of the Magus is to ignite sparks of creative imagination and fan the flames of sentient artistic expression and sapient scientific insight as brain states and mind modes of human semiosic inspiration. The Magus' great blessing to the Master and Emissary are creative gifts, talents, and abilities bestowed by means of suprasemiosic transcience. It is in those capabilities and capacities, for example, that we exercise the most important epistemic resource we have, according to Fetzer, to ensure the advance of science, namely, our "powers of imagination and conjecture."

²⁶⁶ 'Magus' is the singular form of 'Magi,' most familiar as the 'wise ones' in the Christmas story. As Sweet points out in his seminars, assiduous exegesis and hermeneutics of the Christmas story suggests the exact number and genders of the "wise ones" who visited Jesus are not specified as having been exactly three or all male. Human wareness and consciousness are cognitive-causal *effects* brought about by corpus callosal Magus transcient suprasemiosis, much as the conductor and composer create consonant symphony: the brain is the orchestral ensemble—mindfulness is the music.

Thus, subjective semiosic realism within objective semiotic reality may be shown in a triquetra, where Homo semioticus is known by another name, *Homo transciens*:

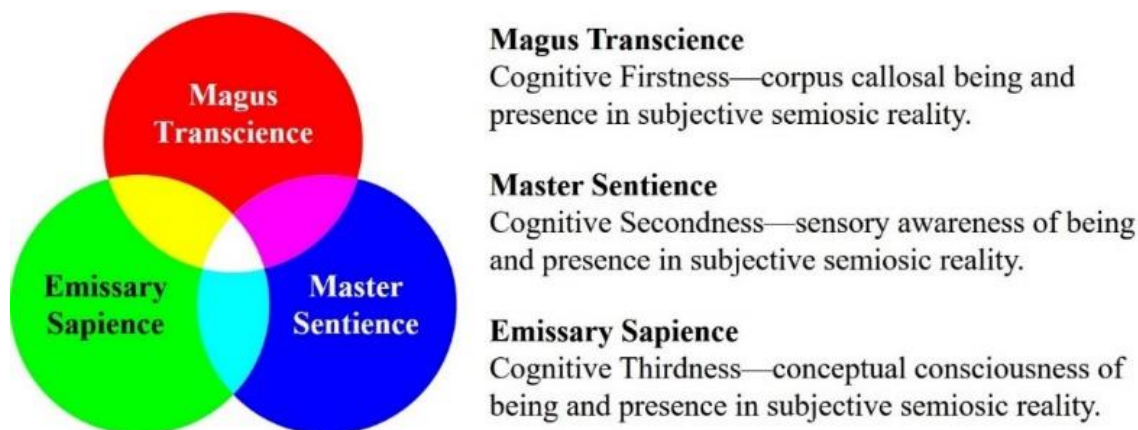


Figure 26: *The Trialectic Dynamics of Homo Transciens in Reality*

When Magus, Master, and Emissary are in perfect-pitch resonant harmony, ideal parallax semiosis is instantiated in human being and presence in reality. That unity of sentience, sapience, and transcience is the manifest God-breathed *Imago Dei* divinity of humanity.

Speculative Cosmology

We must end with my first love--Symbolic Logic. When in the distant future the subject has expanded, so as to examine patterns depending on connections other than those of space, number and quantity--when this expansion has occurred, I suggest that Symbolic Logic, that is to say, the symbolic examination of pattern with the use of real variables, will become the foundation of aesthetics. From that stage it will proceed to conquer ethics and theology.²⁶⁷

Alfred N. Whitehead (1861-1947)
Essays in Science and Philosophy

²⁶⁷ Alfred North Whitehead, "Remarks," *Philosophical Review* 46, no. 2 (March 1937), 184.

Ideally, cosmology would establish harmonious resonance between Christian and scientific realism. As realism, each requires resonant harmony between their subjective semiotic *model of reality* and objective semiotic reality per se. Every subjective semiotic reality is subsumed within objective semiotic reality. Christian and scientific cognitive-causal subjective semiotic models of reality must be fully embedded in cosmic-causal objective semiotic reality. This is shown in the modified triquetra image below, where Christian realism stands for Sweet's MRI COS 3.0 (in yellow). Scientific realism appears as Fetzer's intensional realism as a philosophy of science (in magenta). The 'swamp of mystery' each drives its piles into, to uphold their theological and theoretical structures, is the objective semiotic reality of causal being and presence (in red):

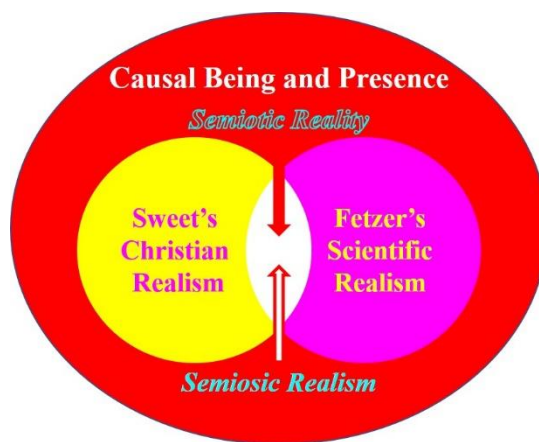


Figure 27: A Unified Cosmology of Christian and Scientific Realism

In Figure 27, let green stand for Sweet's (MRI COS 3.0) Christian realism, and blue for Fetzer's scientific (intensional) realism. In the triquetra, those colors are not used, since Sweet's and Fetzer's realism positions are contained within the being and presence of the cosmic-causal reality shown in red. The resonant harmonies of differences between that reality and Sweet's realism appears as yellow (red and green in resonant harmony). In the same way, the resonant harmonies of differences between cosmic-causal semiotic reality

and Fetzer’s cognitive-causal semiosic realism appear as magenta scientific realism (red and blue in resonant harmony).

The idea that incomplete signs of being and presence in cosmic-causal semiotic reality are completed in cognitive-causal semiosic realism is expressed by showing the words, “*Semiotic Reality*” in red with a cyan outline. This reflects the notion that cyan stands for the harmonious resonance of differences between Sweet’s Christian realism (green) and Fetzer’s scientific realism (blue). That resonant harmony of their realism, *mutatis mutandis*, is reflected in the words “*Semiosic Realism*” in cyan, surrounded by red, below the white triquetra.²⁶⁸

The two arrows represent the completion of semiotic signs through semiosis as carried out in the driving of piles and erection of theological and theoretical structures, standing for Christian and scientific realism as Sweet and Fetzer conceive them in MRI COS 3.0 “simplicity” Christianity and intensional realism as the philosophy of science, respectively. The red-outlined white arrow pointing from the cyan-colored “Semiosic Realism” to the central white triquetra is an *indexical pointer*. It stands for the subjective semiosic (cyan) ‘third thing’ mandorla resonant harmony their (green-blue) Christian and scientific realism models, as that mandorla becomes a ‘fourth thing’ triquetra of resonant harmonies when it is semiosically connected with the cosmic-causal being and presence of (red) objective semiotic reality per se.

²⁶⁸ In this modified triquetra, the mandorla of harmonious *semiosic* resonance between Sweet’s Christian realism and Fetzer’s scientific realism would appear in cyan instead of white—notwithstanding the *semiotic reality* underlying them both. When that cosmic-causal being and presence of semiotic reality is included, however, the mandorla becomes white, i.e., fully saturated and luminous in all three colors—the red of cosmic-causal objective semiotic reality in trialectic harmonious resonance dynamics with the green of Sweet’s cognitive-causal subjective semiosic Christian realism and Fetzer’s cognitive-causal subjective semiosic scientific realism.

Both Sweet's simplicity faith pilings and the theological structures they support, and Fetzer's dispositional and intensional pilings and the theoretical structures supported by those pilings, stand in the same swamp of mystery—the semiotic being and presence of cosmic-causal reality. Both realisms abide by generally the same deductive, inductive, and abductive principles of design, architecture, engineering, and construction to contrive strategies and plans to build their monolithic Christian theologies and scientific theories. Neither is necessarily or inherently more or less rational or systematic than the other.²⁶⁹

The distinguishing differences between Christian and scientific realism that must be harmonized in resonance concern the dearth of observational empirical content and the inability to construct and carry out repeatable tests and experiments that verify, falsify, or otherwise corroborate Christian beliefs and the strengths of those convictions. The article of axiomatically simple Christian faith is an ineffable, immanent, incarnate experience of personal relationship with a metaphysical being who is the semiotic Firstness of divinity. The complexity of systematic theology is an ongoing exercise of personal sanctification and fulfillment, achieved through deductive, inductive, and abductive seeking after—and transincarnational, transductive, transcendent, and suprasemiotic abiding in—that personal relationship with Jesus.²⁷⁰

²⁶⁹ Skeptics are urged to read outstanding works in what may be understood as 'analytic metaphysics' in the tradition of Leibniz and Whitehead, including Bowman L. Clarke, *Language and Natural Theology*, in *Janua Linguarum. Series Minor*, vol. 47 (The Hague, Paris, FR: Mouton & Co., 1966) and Frederick Ferré, *Language, Logic, and God* (1961; repr., Westport, CT: Greenwood Press, 1977). In principle, there is no compelling reason to assume the probabilistic causal calculus in Fetzer, *Scientific Knowledge*, Chapter 3, could not shed its agnosticism in matters of aesthetics, ethics, and even theism simply by extension to accommodate metaphysics of beauty, morals, and theology as well as that of causality per se, facilitating the expression of intensional conditionality for those philosophical domains and disciplines as well as those of scientific inquiry, belief, and knowledge.

²⁷⁰ Loving another human being and their 'skin-on' presence in causal-semiotic reality is much the same thing. The only difference is that loving Jesus' being requires seeing and believing past his currently

From the perspective of scientific realism, especially through an agnostic lens, the difficult differences concern the eschewing of faith per se and the predisposition to reject the very idea of anything approaching what is described here as the creatively transcient suprasemiosis of the Magi. Yet as we have seen, without going that extra mile, agnostic intensional realism is hard-pressed, to say the least, to describe or explain—much less predict—the exercise of the most important epistemic resource for scientific knowledge (according to Fetzer), namely, our “powers of imagination and conjecture.” Eschewing the idea of scientific faith imagines the swamp has a rock-bottom or does not exist. The denial of non-symbolic, non-analytic, transcendent, supra-rational powers of creativity and its spontaneous combustion and expression of meaning and truth robs science of its life force and reduces its domain and range to palpable anthropocentric immediacy.

The formative substance of Sweet’s simplicity pilings is simple faith grounded in the synthetic a posteriori transincarnational awareness and transductive consciousness of a personal relationship with Jesus Christ. That divine relationship is experienced through the transcient suprasemiosis of the Magi—as caused by the will of God and fulfilled in a personal relationship with the Son as manifest in the Spirit—bestowed on humanity as a blessing of fully knowing the abiding being and presence of God within and beyond our own. That ‘article of faith,’ as it were, is the epistemic singularity of Christian realism—in it are found unshakeable assurances of all hope and unassailable convictions of divine

‘skin-off’ presence in causal-semiotic reality—by faith. Staight-laced legalistic churchians may bristle at the concept, but the ransincarnational, transductive, transcient, suprasemiosic experience of Jesus’ incarnate immanent presence is rather like a spiritual orgasmic rapture of agape love. Comparing it to its counterpart in the flesh may be an egregious and profane category mistake, but. Jesus is the Groom, nonetheless, and the Church is His Bride, after all. Those moments of manifest agape unity certainly could be a foretaste, as it were, of the honeymoon to come.

cosmic-causal, transcendent, transincarnational, suprasemiotic, transductive reality unseen apart from that faith.²⁷¹

The formative substance of Fetzer's intensional pilings is unshakeable faith in the analytic a priori axioms of the laws of thought and the "canons of rationality" he invokes through them. Those laws and canons provide cornerstones, keystones, and capstones of unassailable conviction in the reality of dispositions unobserved in "(particular) kinds of things." All hopes reside within those theoretical structures whose formative and formal integrity are assured by the experiential findings they host and lodge to corroborate their structural integrity. Theistic agnosticism begins precisely where intensional rationalism and dispositional empiricism end, becoming a quasi-religious scientism whose mysticism is that empiricism and whose theology is a self-justifying rationale. No better scientism is likely to emerge in the semiotic terroir than Fetzer's agnostic intensional realism, but if it turns out that philosophy of science is *not* philosophy enough (contrary to Quine), indeed there is likely to be far more in heaven and earth than is dreamt of in agnostic intensional realism and a world of dispositions may not have been enough reality, really, after all.²⁷²

Sweet's piles driven into the swamp are formed from signs standing for synthetic a posteriori encounters with Jesus. He identifies these as "transincarnational" awareness

²⁷¹ Cf. Hebrews 11:1.

²⁷² The last sentence of this paragraph is a paraphrastic twist on the closing lines of Fetzer, *Scientific Knowledge*, 296, in the original as follows ("Quine [1953a]" is W. V. Quine, "Mr Strawson on Logical Theory," in *Mind*, vol. 62, no. 24 (October 1953), 433-451, <https://www.jstor.org/stable/2251091>):

Whether "philosophy of science is philosophy enough" (as Quine [1953a] suggests), of course, depends upon the emphasis one chooses to place upon the world's contingent history as opposed to its physical structure; but, there appear to be no obvious problems involving names and definite descriptions that lie beyond its scope or would warrant its rejection. The issue underlying any distinction between scientific and philosophical ontologies, after all, is whether there may be more in heaven and earth than is dreamt of in our philosophy: for the ontology of science, a world of dispositions is world enough.

and “transductive” consciousness of being and presence in the reality of Christ, in whom we live and move and have our being and presence as *Homo semioticus*.²⁷³ It is especially important to realize that these encounters cannot be, like scientific tests and experiments, contrived and repeated by human will, intention, purpose, or agency. *Homo semioticus* is only capable of always and all ways striving to be fully yielded to the *divine* will, *sacred* intention, *holy* purpose, and *omnipotent* agency of the Son of God.²⁷⁴

Transincarnational awareness and transductive consciousness occur as ineffable, overwhelming, transfigurative blessing. They strike perfect-pitch harmonious resonance between the Creator of reality and Magi whom he chooses to enlighten and inspire with such blessings. Magi abide as sojourners on the Way in Truth toward the fullness of Life Jesus promises and the Spirit enables at the will and behest of the Father. Emissary and Master, so easily distracted by tourist traps, souvenir trinkets and bling, and theme and attraction parks analytic and sensate adventure, are mostly just along for the ride.

²⁷³ Acts 17:28.

²⁷⁴ Sweet, *Giving Blood*, Chapter 5, 69-97 (esp. 71-78) draws parallels between familiar modes of semiotic reasoning (deduction, induction, and abduction), understood in Peircean terms, and the first three of the four exegetical disciplines in Hebrew PaRDeS: *Peshat*, for literal reading; *Remez*, for typological; *Derash* for more inquisitive layers of meaning and personal interpretation, layers of meaning represented by parables revealing the nature of the “kingdom of God.” Finally, PaRDeS ends with *Sod*, which Jesus urged his disciples to seek and heed as “deeper, more ‘secret’ interpretations related to his messiahship and to the underlying inspirational and revelational meaning of life.” Sweet then introduces “transincarnational” and “transductive” meaning, truth, knowledge, and understanding to extend and transcend even Peircean deduction, induction, and abduction, just as *sod* extends and transcends *peshat*, *remez*, and *derash*. Sweet explains the unique nature of transduction/transincarnation: “While this level of meaning would be rejected by philosophical, mathematical, or scientific means of knowing that demand external and concrete proofs, transduction (or transincarnation) instead is an internal transformational and incarnational experience, proven only by confession of faith, conversion of spirit, and repentance or change of heart.” The concept in this section of the dissertation of *transcient suprasemiosis* blessing of the Magi directly aligns with Sweet’s transductive/transincarnational relational encounter with Jesus’ being and presence as the Way, the Truth and Reality, and Fullness of Life.

Scientismists stridently decry and vehemently deny the very idea that any such cognitive capacity as the Magi or incarnate experiential relationship with divinity in any way possible or could have genuinely epistemic value at all. Following his own mystical experience, Peirce's reflections expose the category mistake in this perspective, reported in Brent's biography:

Six years (after April 24, 1892), (Peirce) commented on the profound importance of the experience for him:²⁷⁵

If, walking in a garden on a dark night, you were suddenly to hear the voice of your sister crying to you to rescue her from a villain, would you stop to reason out the metaphysical question of whether it were possible for one mind to cause material waves of sound and for another mind to perceive them? If you did the problem might probably occupy the remainder of your days. In the same way, if a man undergoes a religious experience and hears the voice of his Saviour, for him to halt until he has adjusted a philosophical difficulty would seem an analogous sort of thing, whether you call it stupid or whether you call it disgusting. If on the other hand a man has had no religious experience, then any religion not an affectation is impossible for him; and the only worthy course is to wait quietly till such experience comes. No amount of speculation can take the place of experience. [CP 1.653]

Peirce's semiotics is the common denominator of Fetzer's and Sweet's semiosic realism. Whatever differences may obtain in their views the semioticity of those differences ought to provide the 440 Hz perfect-pitch waveform standard for tuning up their scientism and theism to create and sustain harmonious resonance before human being and presence in the 21st century reality of the Earthly terroir kills itself off.

In both semiotic reality and semiosic realism, being human lasts a lifetime or, if Christians and other theists are right, being human lasts forever. In the strictest sense of duration, however, human presence does not last at all. Compared to the persistence of

²⁷⁵ Brent, *Peirce: A Life*, 210.

human presence in time, a ‘New York minute’ is an eternity. The presence of human being in temporal reality lasts only one *zeptojiffy* of *Planck time*. Zeptojiffies, it seems, are the event horizon of temporal reality.²⁷⁶

Unless it is measured as the finitude in time from the very first zygotic zeptojiffy of presence at conception to the last zeptojiffy of dusty dissipation, being human is being metaphysically and intangibly immortal. Human presence in reality is physically palpable manifest, instantiated being here and now, mere singular events through a continuum of points in time, each of next-to-zero duration. Human being endures, but human presence is an instantly fatal condition. Eating the fruit of the Tree of Knowledge of Good and Evil was the first bait-and-switch con in cosmic history. We paid a price for something we still do not have and the true cost was hidden until we bit and swallowed the bait.²⁷⁷

GUTs and TOEs

In this dissertation, time is assumed to be a three-dimensional temporal space in cosmic reality—past, present, and future. For simplicity, let t^- stand for the past, t^0 for the present, and t^+ for the future, such that any particular time t_n would be in the interval

²⁷⁶ Reincarnation is a twist on ‘forever;’ while a life per se may last forever, the form it takes may vary through time. *Urban Dictionary*, s. v. “New York minute,” i.e., “A New York minute is an instant. Or as Johnny Carson once said, ‘it’s the interval between a Manhattan traffic light turning green and the guy behind you honking his horn.’” In physics, a ‘zeptojiffy’ (time for light to travel one Fermi length) is 3×10^{-46} seconds and ‘Planck time’ (to travel one Planck length) is 5.39×10^{-44} seconds. Time Wiki, “List of Units of Time,” Fandom by Wikia, http://time.wikia.com/wiki/List_of_unit_of_time (accessed November 15, 2017). *OED*, s. v. “Planck length,” i.e., “the distance $(\hbar G/c^3)^{1/2}$ (where G is the constant of gravitation), equal to 1.616×10^{-35} metre, which represents the length at which classical concepts of space–time cease to be valid.”

²⁷⁷ Terry Rankin, “What *Really* Happened in Eden? A Case Study in Forensic Pneumaneutics (Reported in EPIC Narraphor),” unpublished manuscript, January 2019.

$-\infty < t_n < +\infty$ (where t^0 stands for the immediate present with near-zero duration).²⁷⁸

The salient point is that past and future are inherently *metaphysical*. Only the near-zero instantaneous moment of the present consists of the actual manifest *physical* presence of *metaphysical* being (hence ‘presence’). The present is a universally ever-changing instant *through* which the bygone past *is be-coming* the onrushing future under the nomic causal constraints of reality. Cosmic causality is the inertia and momentum of the past through the present into the future. We are simply the being and presence of the human wayfarers along for the ride—God’s beloved but befuddled baggage and fragile FOB freight.²⁷⁹

The entire universal cosmos is objective (causal) semiotic reality. It consists of a spatial and temporal reality of three directional (spatial) dimensions co-extant with three temporal (time) dimensions, thus forming a six-dimensional (6D) spatiotemporal causal reality. As Peirce’s “bedazzling sentence (p. 75)” explicitly states, this 6D spatiotemporal causal reality is “perfused” with signs. In the absence of cognitive being and presence, as explained above (see “objective semiotic sign” p. 113), each of those signs is incomplete,

²⁷⁸ This tridimensional temporality does not posit eternity from infinitely before to infinitely after the present (inclusively). The strict ‘less than’ sign ‘<’ expresses this. This assumes a beginning of time that inexorably progressing toward an end of time, which is consistent with both Creation to Revelation and Big Bang to Big Crunch (the latter due to thermodynamics, the former to divine intervention). Mastin, “Big Bang and Big Crunch.”

²⁷⁹ “FOB” stands for “Free On Board,” basically meaning goods in transit already purchased by the buyer. 6D spacetime (3 space, 3 time) is mathematically viable and intriguing in theoretical physics. George A.J. Sparling, “Germ of a Synthesis: Space–Time Is Spinorial, Extra Dimensions Are Time-Like,” *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences* 463, no. 2083 (April 3, 2007): 1665–79, <http://dx.doi.org/10.1098/rspa.2007.1839>; cf. Lisa Zyga, “Mathematician Suggests Extra Dimensions Are Time-Like,” *PhysOrg*, April 17, 2007, <https://phys.org/news/2007-04-mathematician-extra-dimensions-time-like.html>. The 3D time model proposed is intuitively appealing and theoretically viable. Other Interesting works that appear to at least implicitly concur are the brilliant historical trilogy, Yuval Noah Harari, *Sapiens: A Brief History of Humankind* (New York: Harper Perennial, 2018), Yuval Noah Harari, *21 Lessons for the 21st Century* (New York: Spiegel & Grau, 2018), Yuval Noah Harari, *Homo Deus: A Brief History of Tomorrow* (New York: Harper, 2017). Also, Max McKeown, *#NOW: The Surprising Truth About the Power of Now* (London, UK: Aurum Press, 2016).

lacking the “part of its meaning” it can only be given by a cognitive being in its presence. Objective (causal) semiotic reality, therefore, is a cognitive—i.e., *semiosic*—void.

Figure 26 (p. 147) clearly depicts the three-dimensional (3D) subjective semiosic realism of human being and presence *embedded within* 6D objective semiotic reality. A nine-dimensional (9D) spatiotemporal cognitive reality, therefore, is the interweaving of semiotic space and time with semiosic cognition. Dyadic mandorla configurations of trialectic dynamics establish and facilitate resonant harmonies among the three triads of spatial, temporal, and cognitive being and presence in causal reality. This can be seen in a complex triquetra of triquetras. The image is an example of ‘simplicity’ insofar as it expresses enormously complex realities in a (relatively) simple image:



Figure 28: The 9D Scientific Cosmos

Figure 28 depicts an ‘agnostic’ cosmos in the sense that no theistic or mystical being or presence is implied or shown. Metaphysical reality is necessary, however, insofar as no causality is empirically possible without probabilistic metaphysics, as Fetzer, *Scientific Knowledge* and Fetzer and Nute *Probabilistic Causal Calculus* (1979, 1980, 1981)

conclusively demonstrate. Insofar as minds may be seen as semiotic systems, as Fetzer, *Philosophy and Cognitive Science* and Fetzer, *Computers and Cognition* argue, the same probabilistic causality establishes and facilitates semiosis within those systems.²⁸⁰

For Christians, the 9D cosmos illustrated in Figure 29 is only the anthropocentric chapter in the story. The Christian cosmology story is, largely forgotten or rejected in 21st century semiosic realism due to the causticity of the acids and superacids of the past four centuries. The APC/ABC CAWKI JDD churchianity they produced dissolved MRI COS v1.0 and v2.0 and spawned the scientific cosmos in Figure 28. The 9D cosmic reality in Figure 29 was created, nonetheless, in the image of the 9D cosmic reality of God:

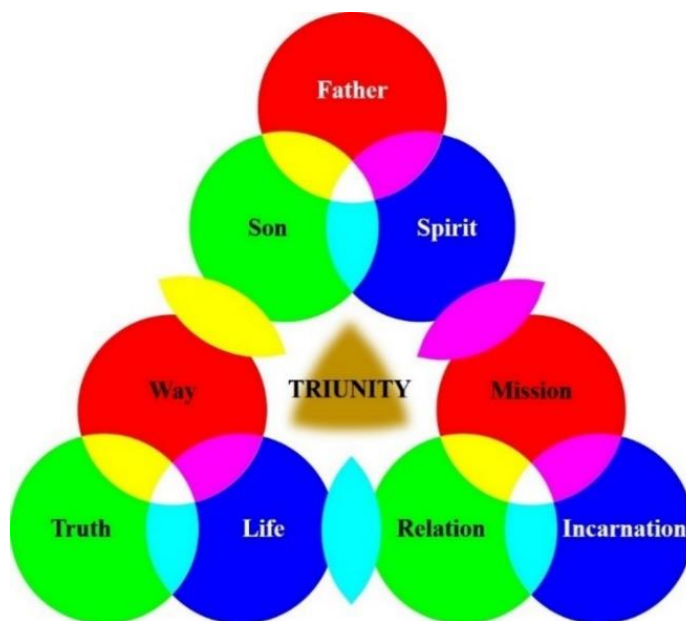


Figure 29: The 9D Christian Cosmos

²⁸⁰ James H. Fetzer and Donald E. Nute, "A Probabilistic Causal Calculus: Conflicting Conceptions," *Synthese* 48, no. 3 (September 1981), 493-493, <http://dx.doi.org/10.1007/BF01063990>; James H. Fetzer and Donald E. Nute, "A Probabilistic Causal Calculus: Conflicting Conceptions," *Synthese* 44, no. 2 (June 1980), 241-246, <https://doi.org/10.1007/BF00413408>; James H. Fetzer and Donald E. Nute, "Syntax, Semantics, and Ontology: A Probabilistic Causal Calculus," *Synthese* 40, no. 3 (March 1979): 453-95, <http://dx.doi.org/10.1007/BF00413415>.

The simplicity of Figure 28: The 9D Scientific Cosmos and Figure 29: The 9D Christian Cosmos is a stretch, perhaps. The *simplicity* of the two images is the relatively straightforward recursion of triquetras and mandorlas. The *complexity* of the two images emerges in the depths of trialectic dynamics represented by the two static images, and all the meaning and truth those dynamics stand for.

Whether the two 9D cosmological models in Figure 28 and Figure 29 qualify as simplicity or not, their epistemic value for science and theology alike may be quite high. For Christians, regardless what may be made of these matters by the prevailing immanent frame and social imaginary paradigms of science or scientism, whether they be rational or pseudo-scientific in character, the potential value of the two models for solving the AX problem (Table 7, p. 97) seems clear.²⁸¹

The 9D Scientific Cosmos (Figure 28, p. 157) directly reflects Fetzer's intensional scientific realism. The 9D Christian Cosmos (Figure 29, p. 158) likewise directly aligns with the realism of Sweet's MRI COS 3.0 Christian simplicity. Both models, moreover, are grounded in Peirce's theory of signs. The resonant harmonies of trialectic dynamics established in the semioticity of this dualistic cosmological realism effectively resolves dilemma #7 in the Table 7: The Logical Conundrum of the AX Problem and defined in Table 8: Table 7 by the Numbers (both on p. 97) by dissolving the logical entanglement of dilemmas, thus untying the Gordian knot.

If the ruler of this world invisibly reigns through the totalitarian oligarchy shown in Figure 5: The Wealth, Power, Force, and Control Nexus of Inverted Totalitarianism (p.

²⁸¹ For more about semiotic realism vs. semiotic idealism, see APPENDICES: Dispositionality, Semiotic Realism.

27), and if APC/ABC CAWKI JDD churchianity and pseudo-religious scientism are the preeminent paradigms perpetuated by that tyranny, whatever is a poor Christian to do? How can we be MRI COS 3.0 simplicity followers of Christ in a world so far fallen? Is the condition of our armor and weaponry battle-ready, and how combat-ready are we?

Across the denominational and sectarian boards, even the Bayesian Way analyses from Barna and Pew reveal ongoing decay and decline in Christianity.²⁸² If MRI COS 3.0 simplicity Christ followers are to turn that around, APC/ABC CAWKI JDD churchianity has to go, taking its temperamental allergy to evangelism and apologetics with it. A new paradigm founded in Jesus' New Commandment, Greatest Commandment, and Great Commission must rise. It must pay special need to recapturing the 'E-word' and the 'A-word.' Peter calls on us to bring back the A-word:

¹³Who is going to harm you if you are eager to do good? ¹⁴But even if you should suffer for what is right, you are blessed. "Do not fear their threats; do not be frightened." ¹⁵But in your hearts revere Christ as Lord. Always be prepared to give an answer to everyone who asks you to give the reason for the hope that you have. But do this with gentleness and respect, ¹⁶keeping a clear conscience, so that those who speak maliciously against your good behavior in Christ may be ashamed of their slander.

1 Peter 3:13-16

Solutions to 'what is a poor Christian to do' problems begin with acknowledging the sad reality that only a tiny diaspora of MRI COS 3.0 Christians is adequately trained, sufficiently armored, ready and willing to engage and prevail in spiritual warfare with victorious effect. Fruitful evangelism and discipleship are only harvested through victory

²⁸² APPENDICES: Statistical Perspectives; The Bayesian View from Barna and Pew.

in spiritual warfare. All are called through Jesus' New and Great Commandments and the Great Commission, but genuine battle-readiness is scarce indeed. Simply illustrated, here are many of the fundamental aspects of the crises Christianity (especially churchianity) generally ignores or is mostly powerless to overcome, given the Church's current state:

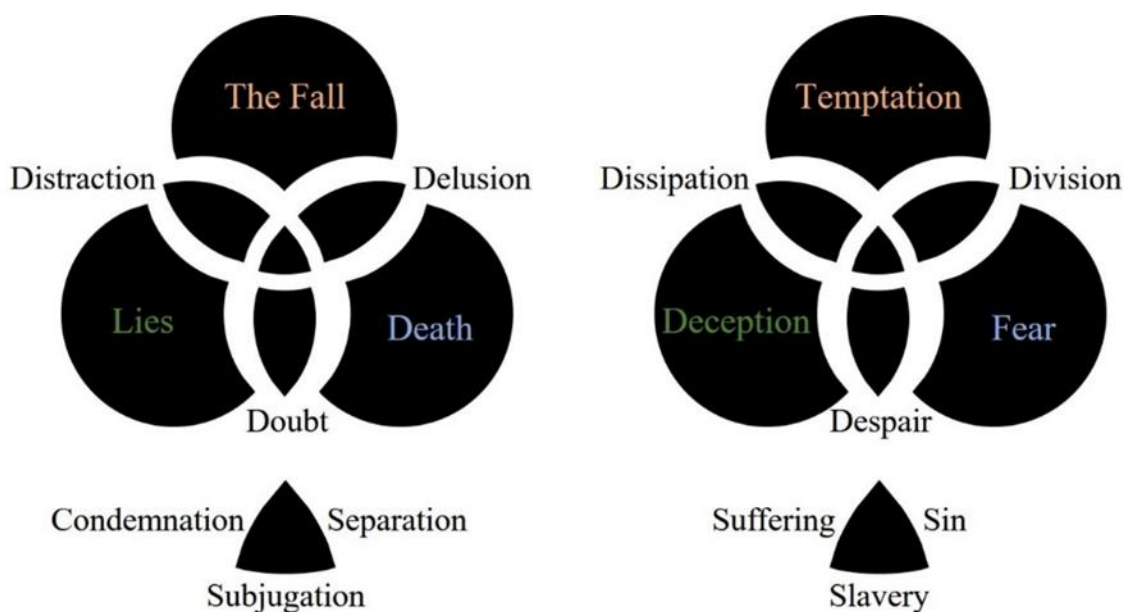


Figure 30: *The Trialectic Dynamics of Evil*²⁸³

Staring these evils in the face, the visage of the enemy is chilling. The eighteen weapons of his attack—a very small part of his full arsenal—are the mortal and immortal dangers confronting evangelistic MRI COS 3.0 Christianity being and presence fully engaged in the reality of spiritual warfare. The battlefield is already global, and the enemy's panoptic omnipresence leaves precious few safe havens, as scarce in the pews as in the news.

Some of his demonic divisions and human militia minions stand ready and on full alert in their secure strongholds. Others, like ravenous lions prowling for prey and spoils,

²⁸³ If the totally discordant dissonance of this pair of triquetras has a death-mask 'shock and awe' effect, count it a terrible blessing. They viscerally drive home the point, which is truly a blessing, but even the best of blessings can be as terrifying as staring evil in the face.

attack on the offensive at every turn (1 Peter 5:8). Meanwhile, the majority of churchians (and many Christians) are gone AWOL, apparently supposing their grace-based pardon from sin for muttering a brief prayer somehow granted them permanent leave from battle. What a shameful tragedy to see the Church fallen so deeply into such spiritual cowardice and moral bankruptcy! Once again, even the Bayesian Barna and Pew pseudo-scientific statistical analyses speak to these sins.²⁸⁴

So, what is the ‘A-word’ and why does it matter?

Few are ready and willing, and fewer still are truly fit, properly skilled, and fully trained for battle engagement. This is clearly understandable, since to “give the reason for the hope we have” requires us to stand firmly against pragmatic-positivist scientism. But the armor and armament to do so requires an alternative philosophy, theory, program, and model for rational science, grounded in its own systematically rigorous and intellectually grounded cosmology and theology.

In other words, it requires us—*when and only when we are asked*—to deliver an explanation, defense, and justification of our faith which are on par with or better than any form of scientism and the secularized immanent frames and social imaginaries for which it stands. Scientism’s frames and imaginaries are the global cognitive paradigms, “piles driven into and rising from the swamp below (Popper 1993),” upon which stands the evil stronghold citadel of tyranny from which the ruler of this world reigns supreme. For centuries since the Church seriously strategized to siege that stronghold, starting in

²⁸⁴ APPENDICES: Statistical Perspectives; The Bayesian View from Barna and Pew.

the swamp to attack its very foundations in those pseudo-scientific paradigm piles. The few sieges actually mounted, however, clearly have failed and faded to irrelevance.²⁸⁵

The second step (after acknowledging the ill-preparedness of the Church) toward solving ‘what a poor Christian is to do’ problems is to squarely face what is arguably the root cause of many, if not all, of the ‘E-word’ (Evangelism) and ‘D-word’ (Discipleship) problems. Fear is the viral malignancy killing the Church from the inside out as E- and D-word alethophobia (fears of truth and reality) is in terminal pandemic stages. Standard diagnosis, protocols, and treatments call for aggressive APC/ABC CAWKI JDD pseudo-Christianity (churchianity). If this works, it does so only by killing the patient.²⁸⁶

The most terrifying word in theological jargon, however, may well be the dreaded and now obsolete ‘A-word’—*Apologetics*. Reports and studies from Barna and Pew seem to strongly suggest that fewer than 15% of Christians know its deeper meaning and fewer than 2% actually have a robust and rigorous apologetic in resonant harmony with witness and testimony. What rational apologetic does the ordinary lay Christian have in mind and on hand to lovingly respond to secularized frames and imaginaries of pseudoscientific scientism? What if the one who asked for that apologetic answer is a well-informed and

²⁸⁵ (Olson 2013) identifies several such efforts to confront and neutralize the scientimic corrosion of Enlightenment acids and superacids. Apparently none were notably successful. Olson provides no toes-in-the-trenches minds-on-the-lines csse studies of success in bringing rational scientism (or especcially its counterfeitt pseudo-scientific currencies) and systematic theology into richly resonant harmonies in spite of their differences. Olson is a first-rate scholar and researcher, no doubt. I suspect the problem was he simply could not find any such cases to be stuided and reported in his comprehensive survey of modern theology.

²⁸⁶ (Sweet 2018, “E-Word” Parts 1 and 2); (Sweet 2009). In respectful imitation, ‘D-word’ (discipleship) and ‘A-word’ (apologetics) are introduced to identify other phobias—and lost vital parts of the Christian story—of the Church.

genuinely rational Millennial, say, with at least an upper-level undergraduate grasp of relativity and quantum theory, and perhaps even superstring theory?

It is nice and somewhat encouraging, perhaps, to see the church at long last taking baby-steps toward apologizing to the world (in the vernacular sense), expressing sincere regret and offering reparation for harmful action or inaction.²⁸⁷ As Sweet might say, “Are you *kidding me?*” Such sentiments may be offered up in sincere humility and regret, said in sweet, tender-hearted, and kind words. Peeling back the semantic layers, however, re-re-...-tried-and-tried-again-still-untrue APC/ABC-style pandering is the tone, tune, key, lyric sheet, and the underlying rhythm.

It is the central thesis of this dissertation that what the world most desperately needs now from the Body of Christ is a *profound apology* for five centuries of abysmal failure to provide, preach, and teach a *compelling and convincing apologetic*. Peter clearly counseled this lesson: “Always be prepared to give an answer to everyone who asks you to give the reason for the hope that you have (1 Peter 3:15).” The inability to give “an answer” and “the reason” in precisely that sense is the hottest heat of the hottest battles on the front lines of spiritual warfare today. From guild, corporate, and academic board rooms (including the seminaries, parachurches, churches, ministries, missions, etc.), to the frozen chosen bodies chilling in the pews nearly every Sunday, nearly every church, but especially in the streets, malls, and all other terroir of all the zip codes, we venture into that warfare (if we go at all) boldly proclaiming versified rote recitations and

²⁸⁷ Mark Wingfield, “3 Words for the Church in 2019: ‘We Were Wrong’,” *Baptist News Global*, January 1, 2019, <https://baptistnews.com/article/3-words-for-the-church-in-2019-we-were-wrong/>.

ossified preachified witness and testimony. Our most significant effect in most cases is laughingstock entertainment.

Key English terms from this 1 Peter 3:15 “answer” and “reason.” In the original Greek, those key terms are “ἀπολογία (apologia)” and “λόγος (logos),” for *intelligent reasoning*. ‘Logos’ is the term used for each occurrence of “Word” in John 1:1—“In the beginning was the Word, and the Word was with God, and the Word was God.”²⁸⁸

Recently, the veteran Senior Pastor of a medium-sized local “Family” church was approached by a member offering to lead a study group on semiotic apologetics. After a few minutes of looking over the slideshow for the lessons, fewer than half a dozen slides into the first lesson, the pastor (already visibly skeptical), remarked, “This can’t work ... it will go way over the heads of at least 90% of the people ... I learned a long time ago that if I don’t keep my sermons at a sixth-grade level, people start heading for the exits.” The member held their tongue before blurting, “maybe because they were bored ...?”

Lacking apologetics, at their best, testimony may tell a compelling personal story, and witness may personify sanctification in progress. In the secularized social imaginary comprised of post-truth pragmatic-positivist scientism, however, semiotically engineered in a perfect storm of permanent lies, what Jesus’ faithful followers most desperately need is an *intellectually robust and convincing apologetics* for *fully empowered evangelism*. If sound apologetics presents well-reasoned explanation, justification, and defense of faith,

²⁸⁸ Strong’s Concordance, s. vv. “627. apología (from 575 /apó, ‘from’ and 3056 /lógos, ‘intelligent reasoning’) – properly, a well-reasoned reply; a thought-out response to adequately address the issue(s) that is raised.” 627 /apología (‘reasoned defense’) is the term for making a legal defense in an ancient court. Today 627 /apología (‘biblical apologetics’) is used for supplying evidences for the Christian faith. [An ‘apology’ in classical times had nothing to do with saying, ‘I’m sorry,’ but rather was a reasoned argument (defense) that presented evidence (supplied compelling proof).].”

witness and testimony then gain rigorous ground and intellectual foundation. Otherwise, contrary to APC/ABC CAWKI JDD E-, D-, A-phobic received churchianity pseudo-Christian received wisdom, versified witness, sermonized testimony, and seminaritized dogma are not sufficient arms and armor for victory.²⁸⁹ Apologetics is essential:

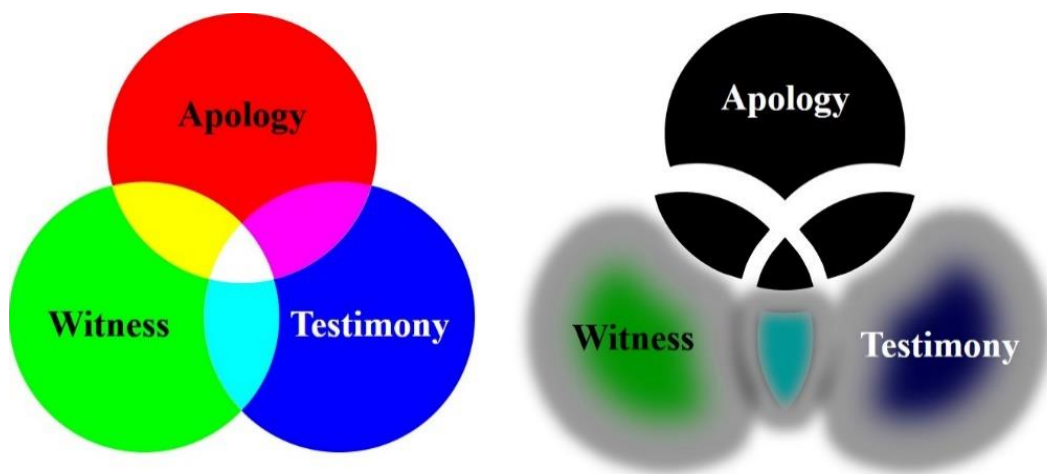


Figure 31: The Fatal Flaw in Christian Being and Presence in Reality

Figure 31 shows what nearly three centuries of Enlightenment acids of modernity and a century of liquid modernity superacids have wrought. Christian apologetics is dying or dead in a churchianity coma. MRI 1.0 and 2.0 Christian evangelism and discipleship—and the living witness and testimony upon which they are built—are impotent.

The 9D scientific and 9D Christian cosmologies in Figure 28 and Figure 29 (pp. 157, 158), taken together, drive pilings deep into the swamp of mystery upholding both genuinely rational science and systematic theology. If the mathematics suggested below in APPENDICES: Logico-Mathematical Afterthoughts are understood well enough, they

²⁸⁹ Sean McDowell, “Why Do So Many Christians Dismiss Apologetics?” *Sean McDowell Blog*, June 14, 2016, <https://seanmcdowell.org/blog/why-do-so-many-christians-dismiss-apologetics>. Some use of neologisms: “seminaritized” as in ‘sanitized by seminary indoctrination,’ and “churchified” as in pastoral promotion of seminaritized Christian doctrine and dogma, where this semiotic engineering process serves to package and brand Christianity for popular consumption in a secular culture and age.

speak the lingua francas of 21st century scientism's reigning paradigms fluently enough to stand firm and strong against as their own immanent frames and social imaginaries. Thus armored and armed for spiritual warfare, the size of the enemy force that could stand in opposition is very small indeed. Without this armor and armament, or something on par with it, our only apology will be our sorrow for not having one at all.

Today, superstring theory is the leading contender for the GUT (Grand Unifying Theory) and TOE (Theory of Everything) title. It tries to establish harmonious resonance between relativity and quantum theories. This dissertation reaches a different conclusion.

I believe in intuition and inspiration. . . At times I feel certain I am right while not knowing the reason
Imagination is more important than knowledge. For knowledge is limited, whereas imagination embraces the entire world, stimulating progress, giving birth to evolution.²⁹⁰

Albert Einstein (1879-1955)

The apologetic argument presented in this dissertation nominates the Magus as the seat of transcendent powers of creative intuition, imagination, inspiration, etc. The most important role of the Magus, however, is performed in silent humility, abiding in patient readiness. Human cognitive-causal subjective semiotic being and presence in realism can do nothing to summon the divine being and manifest presence of Jesus. It requires having those “transincarnational / transductive” encounters with Jesus Sweet described in *Giving Blood*. Beyond the sapient Emissary's analytic skills of deduction, induction, abduction, above the Master's creatively sentient intuition and imagination, all of which Peirce fully

²⁹⁰ Albert Einstein, *Einstein On Cosmic Religion: And Other Opinions and Aphorisms* (1931; repr., Mineola, NY: Dover Publications, 2009), 49.

understood, Sweet posits transincarnational awareness and transductive consciousness not as the work of our will but of God's; as fruit not of our being and presence but of the Spirit's; as truth and reality not of our faith and belief, but of the being and presence of Jesus himself as *living* Truth and Reality in personal relationship.²⁹¹ In this treatise, it is prescience and suprasemiosis awaiting incarnate encounters, abiding in that relationship.

Peirce's salvific mystical experience of that Firstness of the Master on April 24, 1892 at St. Thomas' Episcopal Church in New York City is a perfect example of Sweet's conception of transductive / transincarnational reality in Christ. It is a blessing bestowed, however, not a Grail to grasp or a Sign to seize. All mere humanity can do is strive for the apex of Magus semiosis—humble, silent, patient, available, and ready to receive it when it comes. As Peirce said, "I am sure it will happen. My part is to wait."

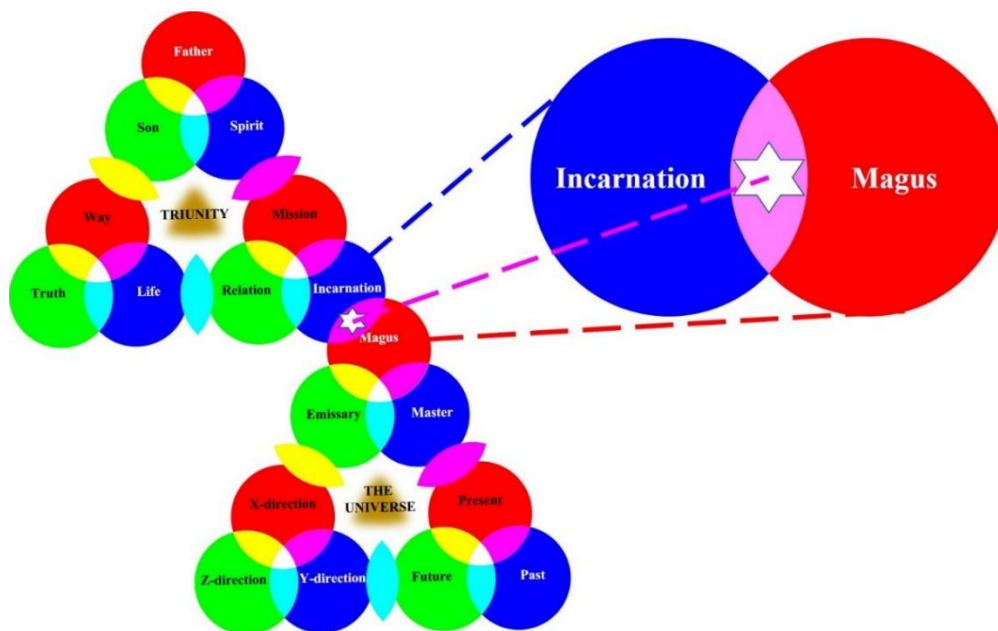


Figure 32: Immanuel Blessing the Magus in Perichoresis

²⁹¹ Sweet, *Giving Blood*, 72.

When that blessing pours into, over, and through MRI COS 3.0 Christians, as upholders of the simplicity of semiotic faith and theology in Jesus' name, Figure 32 is a mere peek at the idea. 9D scientific and 9D Christian cosmic realities resound in resonant harmonies as the Magus is taken up into triune perichoresis with Father, Son, and Spirit. The image shows Grand Unifying Transincarnation resonating harmoniously with Transduction of Everything. Therein are the GUT and TOE any MRI 3.0 Christian needs to apologetically stand against and evangelically prevail over the scientismic rule of this world.

The End *does* Sign. The teleological Jesus Alpha-to-Omega signal *is* continuously transmitted into our semiotic being and presence in semiotic reality. Do we receive and discern the message?

This final section fulfills the last objective of the dissertation, namely, systematic construction of an apologetic single-case study. All objectives are met, all the arguments are evidentially supported, and their conclusions soundly demonstrated (see PREFACE: Objectives: Resolution and Application (p. xvii). Thus finished, the dissertation ends here, but the story continues as long as the end still signs. Are we *really* getting the message?

God have mercy on and help us all if we will not.

EPILOGUE

End Signs: Teleology

As a metaphysical and theological concept, ‘teleology’ is generally rejected by pragmatic-positivist scientism. In philosophy, ‘teleology’ refers to “knowledge or study dealing with ends or final causes; the study of phenomena which may be explained in terms of intention, design, or purposiveness rather than by prior causes.” For theology, it refers to the “divine purpose or design is discernible in the natural or physical world; the theory or belief that certain acts, processes, or phenomena are to be explained in terms of intention, design, or purposiveness rather than by prior causes.”²⁹²

The Greek terms *τελεο* (teleo) and *λόγος* (logos) form *τελεολογία* (teleology).²⁹³ A strong tendency seems prevalent in Scriptural and secular scholarship and vernacular use to interpret ‘teleology’ as referring only to ends, outcomes, or results. But that misses half of the deeper meaning. Even the *OED* definition quoted above misses this point, defining the term as *not* related to “prior causes.” But how is “intention, design, or purposiveness” not “prior cause?” Explaining things “in terms of intention, design, or purposiveness” is

²⁹² *OED*, s. v. “teleology.”

²⁹³ Cf. *Strong’s Concordance*, s. vv., “teleo” (#5055), “telos” (#5056), and “logos” (#3056), as follows:

τέλος (telos)-- from a primary *tello* (to set out for a definite point or goal); properly, the point aimed at as a limit, i.e. (by implication) the conclusion of an act or state (termination (literally, figuratively or indefinitely), result (immediate, ultimate or prophetic), purpose.

τελεο (teleo)--to end, i.e. complete, execute, conclude, discharge (a debt):--accomplish, make an end, expire, fill up, finish, go over, pay, perform.

λόγος (logos)—something said (including the thought); by implication, a topic (subject of discourse), also reasoning (the mental faculty) or motive; by extension, a computation; specially, (with the article in John) the Divine Expression (i.e. Christ):--account, cause, communication.

clearly direct reference to the efficacy of creative inception and conception at the outset and throughout the activity of *causing* of not just “certain” but in fact *any and all* “acts, processes, or phenomena.”

Surely “intention, design, or purposiveness” determines selection and fulfillment of whatever critical paths leading from the beginning of an “act, process, or phenomena” to its final instantiation, manifestation, or completion. If this is not the divine “intention, design, or purposiveness” of God Himself, then the inherent causal laws of the universe, the empirical warp and weft of the causal fabric of cosmic reality itself, guides the paths and sets the courses. The will of God or the causal essence of reality (or both) are limits, bounds, constraints, or barriers to the “intention, design, or purposiveness” expressed in the exercise of human free will.²⁹⁴

Teleology, in this deeper sense, refers to all beginnings and their corresponding ends—and to everything in between that binds them. This is very clear in MRI COS 3.0 Christian simplicity, where teleology is the essence of Jesus Christ’s being and presence in reality as *Alpha* and *Omega—Beginning* and *End*. The First Cause and the Final Cause are one and the same, connected and unified in and through Jesus as the One Way, Truth, and Life, from first to last and all in all. The being *of* reality per se begins *in* Jesus and all presence *in* reality as such emanates *from* Him. All things are inexorably drawn back to Jesus as the divine source from whence everything came, as the gravitas and elan vital of

²⁹⁴ No mechanistic determinism overrides or undermines human freedom. The path from the linear causal past becomes a universe of infinitely many causally possible worlds in the future. Given our finite and fallible fallen semiotic condition, however, we have vastly more freedom than we know of, far more options and choices than we can grasp. The non-deterministic constraints we must act within in the present causality of the here and now are twofold: our own cognitive limitations and the probabilistic character of causal laws themselves. APPENDICES: Statistical Perspectives, Conflicting Conceptions of Probability, and APPENDICES: Dispositionalism.

all things, always, all ways. For Christians, the “Beginning” and the “End” are polar twin singularities of one living force—Jesus—as the ultimate universal and cosmic causal fact of all reality and all the life it sustains, including us.

Related terms and concepts—eschatology, Apocalypse/apocalypse, Revelation, Tribulation, Second Coming (Parousia), etc.—tend to obscure the notion of teleology by overemphasizing the cataclysmic or catastrophic aspects of the “End Times” in Biblical prophecy. Without belaboring those nuances, tensions, and disputes here, suffice to say that the idea of “End Signs” invoked in this dissertation is essentially teleological in the sense given above—there would be no “End” signing without its “Beginning” signing, and both are found in Jesus Christ, the Sign of all signs.

Even scientism has its own (theoretical) teleology—the causal Alpha and Omega of scientismic reality are the Big Bang and the Big Crunch conjectures. The vital forces binding them are the causal laws of thermodynamics (especially entropy).²⁹⁵ The pressing questions still largely unanswered are, e.g., what are all those laws, where did they come from, and how can we know them? Perhaps the better questions concern *who* established those laws, where is *he* found now, and how can we know *him*? Short of seizing the GUT and TOE Holy Grail of scientism, however, such questions remain largely unanswered.

Equally to the point, when viewed through the lens of Peirce’s theory of signs as invoked in the “bedazzling sentence” above, the beginning and end in Christ as Alpha and Omega or in cosmic causal expansion and contraction, the *Beginning* signs *and* the

²⁹⁵ Mastin, “Big Bang and Big Crunch.”

End signs.²⁹⁶ Do we receive their signals? Do we discern the meanings? Are we getting the messages the Beginning and the End are signing and sending?

Finding Joy in the Gloom and Doom

The Biblical Genesis story of the Great Flood in Noah's time is an account of a mass extinction event. Only eight humans and an arkful of biodiversity survived. It is not clear what the world population was as the torrential rains began and flood waters started to rise, but in the unlikely case that a mere million human beings were present at the time, the mass extinction human death toll for the Great Flood would be virtually 100%. Noah and his family were surrounded by scornful scoffers and heathen harangue, everyone else embraced the sin in their hearts and greedily served all its desires and demands; until the rains came, and came, and came

The onrushing Anthropocene mass extinction (AX) event is much the same. Most of humanity is either already bound in existential subsistence at poverty levels or blithely basking and amorally abiding in the material pleasures and sensuous delights of so-called civilization as packaged, branded, marketed, and sold by the corporatocracy. As former California Governor Jerry Brown, now the new Executive Chairman of the *Bulletin of the Atomic Scientists*, observed at the January 2019 unveiling of the *Bulletin's* "doomsday

²⁹⁶ "The End signs" is a complete sentence: "The" (article), "End" (subject), "signs" (active verb). Peirce's "bedazzling sentence" (p. 75) is:

It seems a strange thing, when one comes to ponder over it, that a sign should leave its interpreter to supply a part of its meaning; but the explanation of the phenomenon lies in the fact that the entire universe—not merely the universe of existents, but all that wider universe, embracing the universe of existents as a part, the universe which we are all accustomed to refer to as "the truth"—that all this universe is perfused with signs, if it is not composed exclusively of signs. (CP 5.448; EP2: 394).

clock” setting in Washington, DC, “We are like passengers on the Titanic, ignoring the iceberg ahead, enjoying the fine food and music. It’s late and it’s getting later. We have to wake people up.”²⁹⁷

Did Noah and his family find strength in the joy of the Lord? In the 120 years it took them to build the ark, did they joyously celebrate in song and dance as their labors proceeded? As the AX floods of a noxious atmosphere, poisoned water supplies, rising oceans, melting glaciers, etc. accelerate to enshroud Earth, how much joy realistically can be expected? If ‘the day’ we pray to ‘hasten’ is here in AX cataclysm or perhaps in the prophesied pre-Apocalypse Tribulation, can we hop for joy—or at least *hope* for it? Are we joyful when we proclaim ‘Maranatha’ as our plea or our creed?²⁹⁸

Perhaps.

We all want fun life-stories with happy endings. Too few know what that means or make lifestyle choices to complete their journey that way. If Christianity is true, as I believe it to be, the only sure path is wholehearted faith in Jesus as personal Savior. True Joy is thereby found in assurance of hope and conviction of the unseen. But whether it comes by AX cataclysm or Apocalyptic Tribulation, individual death or extinction en masse surely lie ahead for humankind either way. Until that day, our only strength will be to cling to that kernel of joy in faith’s assurance and conviction. This is soon to become

²⁹⁷ Julian Borger, “Doomsday Clock Stays at Two Minutes to Midnight as Crisis Now ‘New Abnormal,’” *The Guardian*, January 24, 2019, <https://www.theguardian.com/world/2019/jan/24/doomsday-clock-2019-two-minutes-midnight-nuclear-war-new-abnormal>; *Bulletin of the Atomic Scientists*, “A New Abnormal: It is *Still* 2 Minutes to Midnight,” January 24, 2019, <https://thebulletin.org/doomsday-clock/>.

²⁹⁸ Greek ‘Μαράναθα’ (Maranatha) is difficult to translate. *Strong’s Concordance* has it as (#3134) “of Chaldee origin (meaning our Lord has come); maranatha, i.e. an exclamation of the approaching divine judgment” and the *OED* reads, “With reference to the expected damnation of non-believers: in or at the Second Coming of Christ” and “‘The Lord comes!’, ‘The Lord is come!’, ‘Come, O Lord!’.” Occurrences in the Bible are Romans 10:9; 1 Corinthians 12:3, 16:22; Revelation 22:20.

an incomprehensibly and ineffably overwhelming challenge. The End's Signs will convey ruin and death on every side and at every turn. The only joy we may know will be within us as the being and presence of the Holy Spirit until the Sign of the Son of Man appears. Then all of us everywhere on earth will truly begin to mourn.

AX catastrophe and Tribulation doom and gloom—praise God!—are temporary, but the joy that follows them is permanent, infinite, and eternal, *if* we truly abide in Christ and he in us. He *is* the Way, Truth, and Life of joy here and now, there and then, always and all ways. But the highway of reality in this earthly life is an entirely different story.

Awaken to and tell the AX truth. More importantly, share MRI COS 3.0 Truth. Prepare daily as if this is the road ahead. Trust the teleology that is Christ.

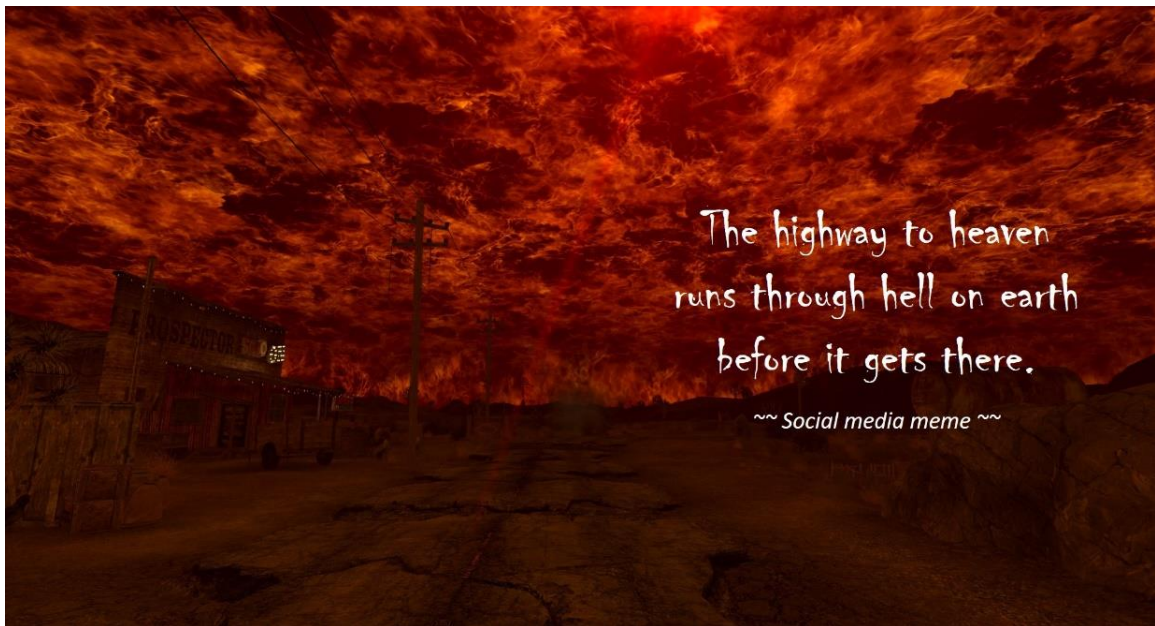


Figure 33: From Here to Eternity

POSTSCRIPT: PRACTICAL MATTERS

Practical application of the dissertation will involve four main areas of activity:

1. writing—a trilogy of short monographs for a general audience has been proposed to Wipf & Stock, academic and other essays and blog posts for wider distribution are in progress or forthcoming;
2. teaching—adjunct teaching positions in related academic disciplines will be actively sought, primarily with seminaries and philosophy departments (especially those with religion curricula);
3. speaking—live and video series will be produced for a variety of media venues and channels, focusing on church groups and events, Christian conferences and symposia, etc., and in wider social media and events.
4. activism—direct participation in and local group coordination of groups confronting the AX problem and the elitist totalitarianism responsible for it (specifically, local coordinator for Extinction Rebellion).²⁹⁹

The central ideas from the dissertation around which these activities are being pursued are semiotics, the Enlightenment background, the elitist totalitarianism, and the trialectic dynamics (harmonious resonance of differences) of two things: (1) the ways testimony, witness, and apology work together; and, (2) the semioticity of the dualistic cosmology presented at the end of the dissertation. From a Christian perspective, core emphasis will be placed on #(1) as it involves #(2). Writing, teaching, and speaking will primarily be directed at initiating and continuing conversation and communication based on these central ideas, especially in Christian, academic, and intellectual contexts.

²⁹⁹ Youth should consider the Sunrise Movement (<https://www.sunrisemovement.org/>) and adults should consider the Extinction Rebellion, for example (<https://xrebellion.org/>).

APPENDICES

Abbreviations

Miscellaneous

<u>Abbreviation</u>	<u>Meaning</u>
APC	Aspirin, Phenacetin, Caffeine. Popular mid-20 th century sedative. Used by Leonard Sweet (2009) to identify churchianity as an “Attractional, Propositional, Colonial” corruption of Christianity.
ABC	Another acronym used by Leonard Sweet (2009) in conjunction with APC to identify churchianity as “Attendance, Buildings, Cash.”
AWOL	<i>Military</i> . Absence without official leave constituting a punishable offence. Also in extended use.
COS	Christian Operating System, specifically the MRI COS, which comes in three versions: v1.0 (Old Testament), v 2.0 (New Testament), and v3.0 (Third Testament, i.e., Christ followers as the Living Word, Body, and Bride of Christ today.
IEP	Internet Encyclopedia of Philosophy.
MRI	Missional, Relational, Incarnational, from Leonard Sweet (2009), to distinguish genuine Christianity from APC & ABC churchianity.
NIV	Carson, D. A., ed. <i>New International Version: NIV Cultural Backgrounds Study Bible: Bringing to Life the Ancient World of Scripture</i> . Grand Rapids, MI: Zondervan, 2015. All Scripture references in this dissertation are from this source unless otherwise noted.
OED	<i>Oxford English Dictionary</i> . New York: Online edition. Oxford University Press, 2018.
SEP	<i>Stanford Encyclopedia of Philosophy</i> . Edward N. Zalta, editor. Palo Alto: Online edition. Stanford University.
WMD(s) WCD(s)	Weapon(s) of Mass (or Cognitive) Destruction; material explosive devices or technologies for semiotic engineering.

Citing Charles Sanders Peirce

<u>Abbreviation</u>	<u>Reference</u>
CP vol#.para# (e.g., CP 2.284)	Peirce, Charles S. <i>Collected Papers of Charles Sanders Peirce, Volumes I and II: Principles of Philosophy and Elements of Logic</i> . Edited by Charles Hartshorne and Paul Weiss. Cambridge, MA: Harvard University Press, 1932.
	———. <i>Collected Papers of Charles Sanders Peirce, Volumes III and IV: Exact Logic (Published Papers) and The Simplest Mathematics</i> . Edited by Charles Hartshorne and Paul Weiss. Cambridge, MA: Harvard University Press, 1933.
	———. <i>Collected Papers of Charles Sanders Peirce, Volumes V and VI: Pragmatism and Pragmaticism and Scientific Metaphysics</i> . Edited by Charles Hartshorne and Paul Weiss. Cambridge, MA: Harvard University Press, 1935.
	———. <i>Collected Papers of Charles Sanders Peirce, Volumes VII and VIII: Science and Philosophy and Reviews, Correspondence and Bibliography</i> . Edited by Arthur W. Burks. Cambridge, MA: Harvard University Press, 1958.
EPvol#: page# (e.g., EP1: 193)	Peirce, Charles S. <i>The Essential Peirce: Selected Philosophical Writings</i> . Edited by Peirce Edition Project. Vol. 1, 1867-1893. Bloomington: Indiana University Press, 1998. Kindle.
	———. <i>The Essential Peirce: Selected Philosophical Writings</i> . Edited by Peirce Edition Project. Vol. 2, 1893-1913. Bloomington: Indiana University Press, 1998. Kindle.
PWP page# (e.g., PWP 102)	Peirce, Charles S. <i>Philosophical Writings of Peirce</i> . 1940. Edited by Justus Buchler. Reprint, New York: Dover Publications, 1955. Kindle.
Wvol#: page# (e.g., W3: 138)	Peirce, Charles S. <i>Writings of Charles S. Peirce: A Chronological Edition</i> . Edited by Max H. Fisch. Vol. 1, 1857-1866. Bloomington: Indiana University Press, 1982.

<u>Abbreviation</u>	<u>Reference</u>
Wvol#: page# (e.g., W3: 138)	Peirce, Charles S. <i>Writings of Charles S. Peirce: A Chronological Edition</i> . Edited by Edward C. Moore. Vol. 2, 1867-1871. Bloomington: Indiana University Press, 1984.
	———. <i>Writings of Charles S. Peirce: A Chronological Edition</i> . Edited by Christian J. W. Kloesel. Vol. 3, 1872-1878. Bloomington: Indiana University Press, 1986.
	———. <i>Writings of Charles S. Peirce: A Chronological Edition</i> . Edited by Christian J. W. Kloesel. Vol. 4, 1879-1884. Bloomington: Indiana University Press, 1989.
	———. <i>Writings of Charles S. Peirce: A Chronological Edition</i> . Edited by Christian J. W. Kloesel. Vol. 5, 1884-1886. Bloomington: Indiana University Press, 1993.
	———. <i>Writings of Charles S. Peirce: A Chronological Edition</i> . Edited by Peirce Edition Project. Vol. 6, 1886-1890. Bloomington: Indiana University Press, 2000.
	———. <i>Writings of Charles S. Peirce: A Chronological Edition</i> . Edited by Peirce Edition Project. Vol. 8, 1890-1892. Bloomington: Indiana University Press, 2010.
L # (e.g., L 483)	Letters of correspondence, by individual number.

Logico-Mathematical Afterthoughts

Greek polymath Pythagoras of Samos (c. 570-495 BCE) was a progenitor of what we have come to know as mathematics. Its twenty-six-century journey from those ancient beginnings brings us to its 21st status as the lingua franca of all science. As the red carpet and welcome mat at before Holy Grail of scientism—the Grand Unifying Theory (GUT) or Theory of Everything (TOE). In this dissertation, however, inasmuch as all the symbol systems of mathematical lingua francas are essentially historical, descriptive, extensional,

and instrumental, it appears that journey of 2,600 years began on the wrong foot and has continued down the wrong path of pseudoscience ever since.³⁰⁰

In his critical assessment of the scientific (in)adequacy of extensional (historical, descriptive) language frameworks, Fetzer concludes:

Considerations such as these, I believe, reinforce the prospect that extensional languages themselves are not strong enough to adequately represent the lawlike properties of the physical world. Indeed, the fundamental difficulty might be explained intuitively as follows: extensional language, in principle, is *historical* and *descriptive*, but lawlike properties are *ontological* and *structural* in character. For it is the ontological structure of the physical world, so to speak, that generates the world's descriptive history *under the influence of a precipitating set of initial conditions*. As Popper ([1965], p. 433) has suggestively remarked,

A statement may be said to be naturally or physically necessary if, and only if, it is deducible from a statement function which is satisfied in all worlds that differ from our world, if at all, only with respect to initial conditions.

The basic inadequacy with the extensional approach, in other words, is that this world could have exhibited many different histories under varying sets of initial conditions; but what *would happen* if those conditions *were different* could never be expressed by extensional languages alone. The class of true generalizations of any one such history, as a result, inevitably encompasses a mixture of lawlike and accidental generalizations; for such an approach provides no basis for separating those statements true of all such worlds from those that are true of only one.³⁰¹

³⁰⁰ Dark matter and dark energy appear to be the merest of of maths for heuristically making the numbers work. To do that, 95% of reality is written off in those dark accounts. How is the 95% calculation rational? '95% of what exists is stuff we really know nothing about.' So how is such an unknown unknown calculated to be a quantity at all, except as the most wildly heuristic of all begged questions in pragmatic-positivist scientism? Is this not the scientific equivalent of our Department of Defense's failure to account for \$21 trillion in spending? *The Economist*, "To the Dark Side: Of What is the Universe Really Made?" August 22, 2015. <https://www.economist.com/science-and-technology/2015/08/22/to-the-dark-side>; cf. Sabine Hossenfelder, *Lost in Math: How Beauty Leads Physics Astray* (New York: Basic Books, 2018), Kindle; Laurence Kotlikoff, "Is Our Government Intentionally Hiding \$21 Trillion in Spending?" *Forbes*, July 21, 2018, <https://www.forbes.com/sites/kotlikoff/2018/07/21/is-our-government-intentionally-hiding-21-trillion-in-spending/>.

³⁰¹ Fetzer, *Scientific Knowledge*, 34.

His analysis shows that extensional language may be necessary, or at least useful, *but not sufficient* for even minimally rational science. As it turns out, historical description is not sufficient for achieving *minimal, optimal, or especially, perfect* scientific rationality. As Fetzer shows, an intensional language framework is required to overcome scientific and rational shortcomings of extensional languages, including those of mathematics.

The prime directive of rational science is to discover the causal laws of empirical reality. The ability to rationally distinguish between spurious correlations and genuinely causal nomic connections and express them in scientific conditionals is indispensable in achieving that objective.³⁰² The bottom line: scientific laws are not discoverable without benefit of intensional language.

An example will help. Here is an obviously spurious correlation:

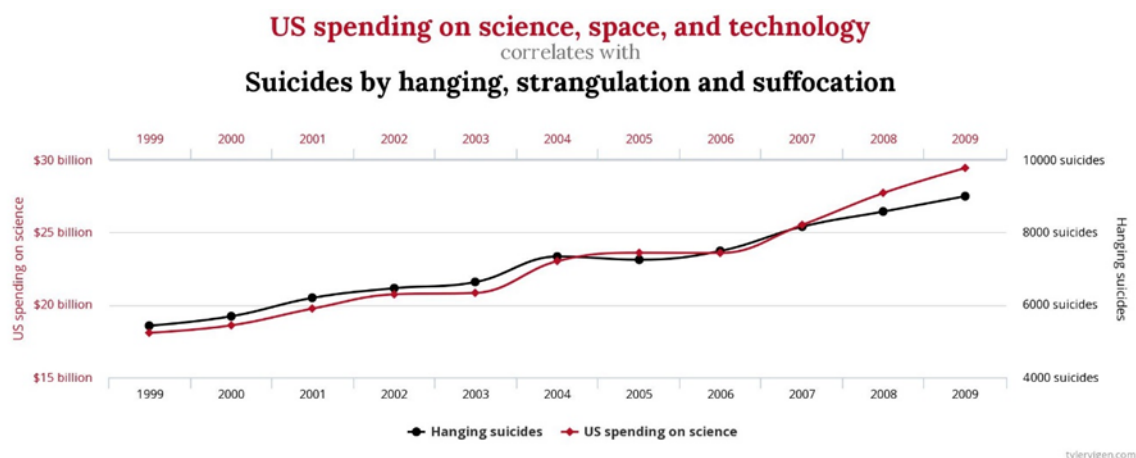


Figure 34: A Blatant Example of Spurious Correlation³⁰³

³⁰² *OED*, s. vv. “nomic,” “nomological,” i.e., “*Philosophy*. Relating to or concerned with a discoverable scientific or logical law; not contingent;” and, “Relating to, concerned with, or designating laws, esp. (*Philosophy*) ones which are not logical necessities;”

³⁰³ Tyler Vigen, *Spurious Correlations* (New York: Hachette Books, 2015), 48-49.

The decade-long statistical retrospective in Figure 34 establishes a Bayesian Way basis to infer, “If US spending on science, space, and technology were increased, it would almost certainly (99.79% probability) cause an increase in suicides by hanging, strangulation and suffocation.”³⁰⁴ It is easy to see the absurdity of this claim, but *how may we show that we know* it is in scientific rational fact *not* a nomic causal connection at all, but a completely spurious correlation, a *non-causal* accidental generalization? Informally and rhetorically, the fallacy in this example is known as *false cause*, which most people of reasonable age instantly recognize ... but *how so?* By intuition? In ‘common sense?’ Is the nomological absurdity formally, logically, mathematically, and scientifically *provable*?³⁰⁵

The issue at the heart of this question is *causal relevance*—more precisely, what causal relevance is and how to identify and rationally represent its laws in nomological language and logic. As *the* problem of induction, this has remained a thorn in the side of philosophy of science since science first acknowledged its philosophical foundations. 18th century Scottish Enlightenment empiricist philosopher David Hume (1711-1776) exposed what still persists as the classic problem of induction:

All the objects of human reason or enquiry may naturally be divided into two kinds, to wit, *Relations of Ideas*, and *Matters of Fact*

Matters of fact, which are the second objects of human reason, are not ascertained in the same manner; nor is our evidence of their truth, however great, of a like nature with the foregoing. The contrary of every matter of fact is still possible; because it can never imply a contradiction, and is conceived by the mind with the same facility and distinctness, as if ever so conformable to reality. *That the sun will not rise to-morrow* is no less intelligible a proposition, and implies no more contradiction than the affirmation, *that it will rise*. We should in vain, therefore, attempt to demonstrate its falsehood.

³⁰⁴ See APPENDICES: Statistical Perspectives, Conflicting Conceptions of Probability.

³⁰⁵ *OED*, s. v. “nomological,” i.e., “Relating to, concerned with, or designating laws, esp. (*Philosophy*) ones which are not logical necessities.”

Were it demonstratively false, it would imply a contradiction, and could never be distinctly conceived by the mind.³⁰⁶

Hume's "*Relations of Ideas*" and "*Matters of Fact*" have come to be known today as the *deductive* and *inductive* programs (modes, rules, etc.) of inference, respectively. In nearly all philosophical, scientific, and ordinary contexts, *knowledge* is generally understood to consist of beliefs held to be true, where the epistemic veracity of the truth-claims or truth-values is justified, warranted, vindicated, corroborated, etc., on the basis or one or both of those programs of inference. Two mandorlas illustrate these concepts and the problems they raise:

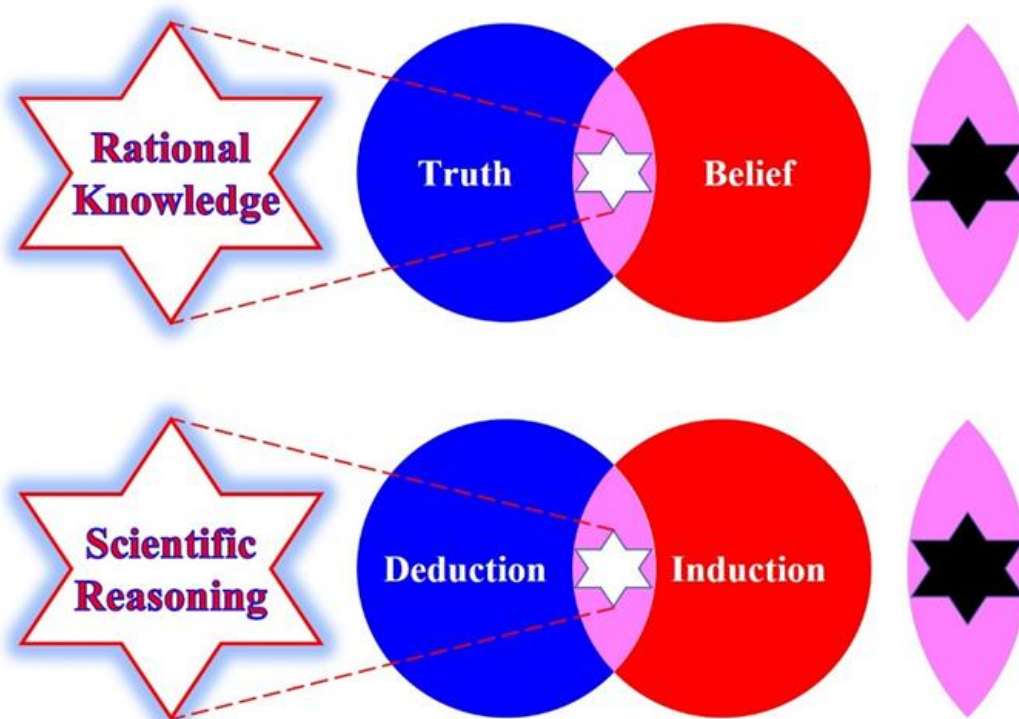


Figure 35: The Epistemic Elements of Rational Scientific Understanding

³⁰⁶ Posthumous publication, now in the public domain, David Hume, *An Enquiry Concerning Human Understanding* (1777; repr., Seattle: Amazon Digital Services, 2012), 11, Kindle.

In the top row of Figure 35, rational knowledge is identified as the large white star on the left and the smaller white star in the center of the magenta mandorla. Both stars represent rational knowledge as *true beliefs* that are *justified* by scientific reasoning. In the bottom row, the white stars stand for scientific reasoning based on deductive and inductive rules of inference. The black stars centered in the magenta mandorlas on the right stand for the *absence* of true beliefs, i.e., beliefs held to be true but that fail to truly qualify as rational knowledge on the basis of scientific reasoning (epistemic conviction of those beliefs is unfounded). What remains in the magenta areas of the mandorlas are beliefs whose truth-values are either unassigned or else mistaken. They are in factual reality objectively true or false, but rational justification is not provided to refute or to corroborate their veracity.

The bottom row in Figure 35 shows deductive and inductive modes of inference as the primary means to rationally justify beliefs in general, especially those of scientific knowledge. Here are the differences, where ‘premises’ refers to ‘evidence sentences:’

(Truth-Preserving) Deduction =_{def}

Demonstrative—all and only the truth contained in the premises is preserved in the conclusion.

Additive—the addition of new premises does not affect the validity or soundness the inference to the conclusion.

Non-ampliative—the empirical content of the conclusion equals that of the premises.

(Knowledge-Expanding) Induction =_{def}

Non-demonstrative—the truth contained in the conclusion may exceed or exaggerate, or over- or underestimate, that of the premises.

Non-additive— the addition of new premises can affect the propriety and correctness of the inference to the conclusion.

Ampliative—the empirical content of the conclusion may be greater than or less than that of the premises.³⁰⁷

³⁰⁷ Fetzer, *Scientific Knowledge*, 19-28, 177-201, 287-89). ‘=def’ means ‘... is by definition’

A third mode of vitally important inference is often unfairly overlooked, namely, that of *perceptual* inference. It has the same features as induction, but the two sets of rules serve different inference purposes in the ampliative mode. Perceptual rules facilitate acceptance or rejection of propositions in ordinary (object) languages based on experiential findings. Inductive rules, on the other hand, facilitate the acceptance or rejection of *metalinguistic* expressions (e.g., in maths, formal logic) as evidence sentences derived from experiential findings, thus providing empirical content.

For example, ‘It is raining’ is an ordinary English object-language expression of observational experiential findings, which may then be invoked in metalinguistic use as an *evidence sentence* to support inductive or deductive inferences regarding what clothes to wear, which umbrella to carry, what route to work would be the safest, etc. ‘Stormy weather is in tomorrow’s forecast’ is also an object-language expression of experiential findings that likewise may be used as evidence for inductive or deductive inference. Note that the conclusions thus drawn are likely to be more or less similar but not identical in the two cases.

In the 1777 posthumous publication of his treatise, *Enquiry Concerning Human Understanding*, Hume wrote of his “Sceptical Doubts” concerning inductive reasoning:

All the objects of human reason or enquiry may naturally be divided into two kinds, to wit, (deductive) Relations of Ideas, and (inductive) Matters of Fact

Matters of fact, which are the second objects of human reason, are not ascertained in the same manner (as Relations of Ideas); nor is our evidence of their truth, however great, of a like nature with the foregoing. The contrary of every matter of fact is still possible; because it can never imply a contradiction, and is conceived by the mind with the same facility and distinctness, as if ever so conformable to reality. That the sun will not rise tomorrow is no less intelligible a proposition, and implies no more contradiction than the affirmation, that it will rise. We should in vain, therefore, attempt to

demonstrate its falsehood. Were it demonstratively false, it would imply a contradiction, and could never be distinctly conceived by the mind.³⁰⁸

Fetzer summarizes the essential features of Hume's problem of induction, exposes it as a false dilemma, and suggests a genuinely rational solution for scientific knowledge:

The classical result of (his) inquiry was Hume's determination that, although the relations of resemblance and of regular association were experientially ascertainable, relations of necessary connection could not be detected on the basis of experiential considerations alone. Consequently, the attribution of relations of necessary connection between events, Hume reasoned, must be a result of human frailty, i.e., an inevitable habit of the mind, which, however, is epistemically unwarranted and therefore philosophically inexcusable. The benefit of this analysis was a clarification of the concept of causation that it should no longer embrace any notion of necessary connection between events but encompass only those aspects whose presence or absence could be experientially established: resemblance and regular association. And as a philosophical legacy, Hume (implicitly) bequeathed the following argument:

Necessary connections between events are either observable and objective or psychological and subjective; but they cannot be ascertained on the basis of experiential considerations alone; consequently, they must be merely psychological and subjective.

Indeed, this argument has been among the most pervasive and influential in the history of Western philosophy. It is my contention, however, that Hume has presented a misleading dilemma in the form of the premise that necessary conditions must be either observable and objective or psychological and subjective. This crucial assumption precludes the possibility that necessary connections, as theoretical properties of the physical world, might be unobservable and nevertheless objective.³⁰⁹

But that crucial distinction between spurious correlations and genuine causal laws can be thoroughly explicated using the probabilistic causal calculus C provided by Fetzer (1981, Chapter 3, "Syntax, Semantics, and Ontology," 46-73).

³⁰⁸ David Hume, *An Enquiry Concerning Human Understanding* (1777; repr., Seattle: Amazon Digital Services, 2012), 11, Kindle.

³⁰⁹ Fetzer, *Scientific Knowledge*, 198.

Notice especially that simply *expressing* the spurious correlation with intensional phrasing may give it the ‘feel’ or ‘sound’ of scientific lawlikeness, but this is illusory. In ordinary vernacular language, the intensional-extensional distinction is rather slippery. It can be rationally specified and elucidated if and only if a formal framework of language and logic is used, one especially designed for the symbolic *intensional* representation of lawlike sentences. The paradigmatic mathematical lingua franca framework adopted in our 21st century science does not furnish language and logic of that particular kind.

The causally generated properties and relations of objects and events, which are (or ought to be) the focus of genuinely rational scientific inquiry, are not the existential foundation of mathematics. Causal objects and events manifest ontic properties of mass, volume, movement, duration, etc. These are not in the ontological basis of mathematics, however. The ontology of maths are pounds and kilograms, meters and yards, seconds and minutes, and so on. The ‘things’ of mathematics are quantitative numeric metaphors, expressed with numerals, for descriptively measuring and describing other things.

In addition to arbitrary numerical quantities, mathematics also defines operations, relations, and functions ranging over those metaphorical measures. The vast majority of humans learn numeric order, addition, subtraction, multiplication, division, etc. Few, but some, will master the erudite formalisms involved in theoretical physics and cosmology.

Extensional, instrumental, historical, descriptive mathematical models are indeed necessary for the experimental methods of genuinely rational science. They quantify the initial and experimental test conditions, measure the outcomes, and calculate functional relations that constitute the descriptive model. But, as Fetzer convincingly demonstrates, it is an altogether different challenge to symbolically and rationally identify ontological

structures and causal laws evoked in bringing about those outcomes under corresponding specific initial test conditions. Prevailing wisdom to the contrary, mathematics is indeed necessary—but clearly insufficient—for optimally rational models of causal reality.³¹⁰

Fetzer’s analysis supports the charge that the temptation and tendency to uphold a mathematical model of reality as a rationally scientific and realistic symbolic expression of its true nature is a category mistake grounded in ontological error and epistemological misperception. His dispositional ontology and intensional epistemology correct the error, resolve the misperception, and provide the epistemic resources to rationally identify and express the inherent causal form and content of reality—and the laws governing them.³¹¹ Fetzer’s intensional realism thus furnishes the rational philosophy of science required to settle a crucial dilemma in Table 7: The Logical Conundrum of the AX Problem (p. 97), specifically dilemma #2, i.e., between pseudoscience and scientific realism.³¹²

Is there a way to mathematically model the trialectic dynamics of semiosis for the cognitive manifestation of suprasemiosic transcience in all three of the Magus, Master, and Emissary cognitive states and modes of Homo semioticus? Yes.

(Transcience \Leftrightarrow (Sentience \Leftrightarrow Sapience))

³¹⁰ Ibid., “‘Instrumentalism’ and Theoretical Realism,” 161-71.

³¹¹ Ibid., “Syntax, Semantics, and Ontology,” Chapter 3, 46-73.

³¹² Ibid., 13-16, 20, 23, 50, 60, 62, 125-26, 137-39, 205-08, 227, 253, 270-76, 283, 287-88, 293. Fetzer’s five conditions of rationality are cumulative criteria for *minimal* (CR-1, CR-2), *maximal* (CR-3, CR-4), and *perfect* (CR-5) rationality. The epistemic ideal is achievement of *perfect rationality* satisfying all five conditions. *Optimal* rationality suggests a dynamic range of rationality in partial fulfillment of these criteria, asymptotically approaching the ideal. Human cognition being finite and fallible, our best efforts to satisfy Fetzer’s criteria seem the pragmatic approach in daily life and in scientific inquiry (especially in light of the “Requirement of Maximal Specificity (RMS)” and the “Requirement of Strict Maximal Specificity (RSMS)” in the pursuit of scientific knowledge).

This symbolic expression formally represents the recursive trialectic dynamics of Homo semioticus' semiotic dispositions. It conveys the sentient and sapient recursion which is recursively manifested through transience. The formula expresses harmonious resonance among all three modes of semiosis. Bidirectional arrows correlate the Magus' transcendent suprasemiosis (i.e., Sweet's transincarnation / transduction) with McGilchrist's sentient Master and sapient Emissary in trialectic resonant harmony.

The domain and range for the formal expression above lie in the complex number system, the superset of all number systems, the only one containing imaginary numbers:

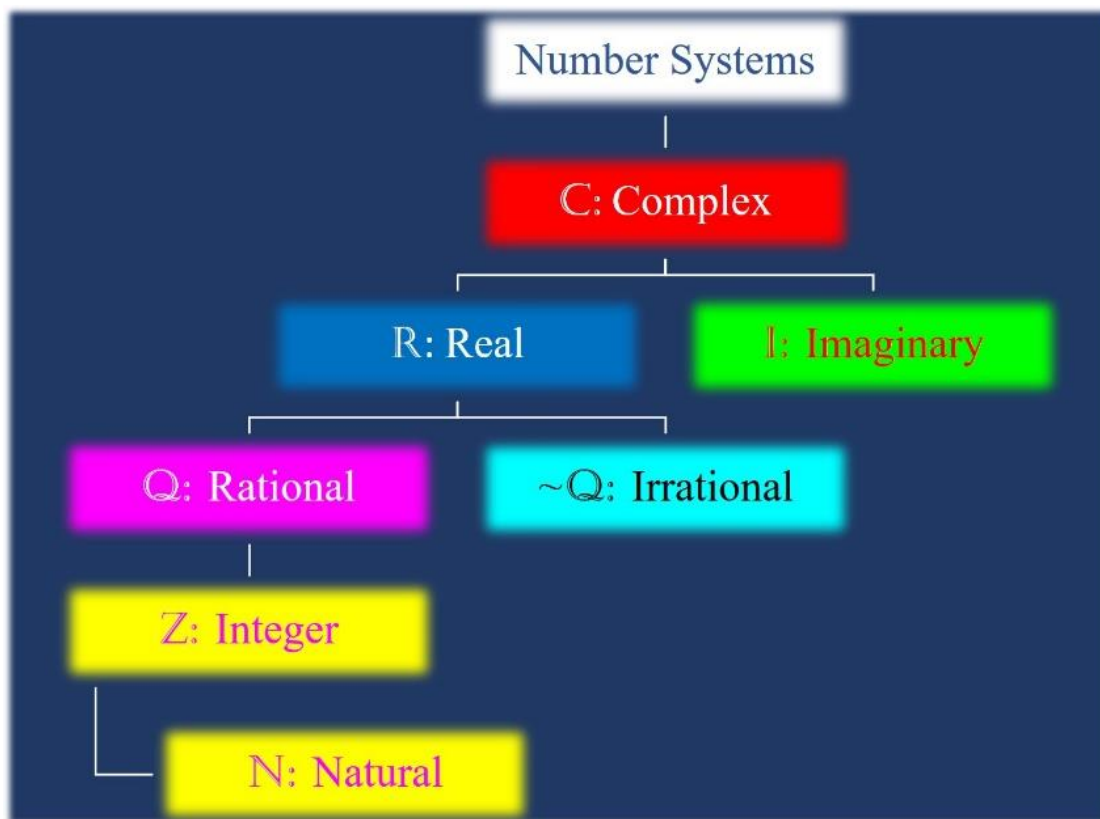


Figure 36: Mathematical Number Systems Hierarchy

The complex number system is chosen because its domain and range offer what appear to be the most likely formally abstract space in which the possible world semantics required to model the intensionality of scientific conditionals could be mathematically achieved in

ways which, hopefully, would be compatible with the syntax, semantics, and ontology of the probabilistic causal calculus C-C* in Fetzer, *Scientific Knowledge* (Chapter 3) and in Fetzer and Nute, *Probabilistic Causal Calculus* (1979, 1980, 1981). The epistemic benefits of combining a mathematical model of this type with the logico-linguistic framework of C-C* could turn out to be profound for exploration of minimally rational models of ordinary ‘commonsense’ reasoning. Even greater benefits, perhaps, could be found in theoretical, experimental, and pragmatic contexts of imperfect but maximally rational scientific knowledge, i.e., those of ‘optimal rationality.’ But *which* maths?

The mathematical approaches suited for complex analysis seem most promising, including (but not limited to), differential, integral, vector, and algebraic calculi.³¹³ The visual sentience of fractal geometries in tandem with sapient expressiveness of symbolic formulation addresses Master and Emissary modes of semiosis. Whether or not they also afford means to model Magus transcendent suprasemiosis is unknown but worth bearing in mind. While other multidimensional complex spatiotemporal-semiotic/semiotic spaces could be considered, the 9D scientific and Christian cosmologies in Figure 28: The 9D Scientific Cosmos (p. 157) and Figure 29: The 9D Christian Cosmos (p. 158) could be promising for initial stages of inquiry.

The probabilistic causal calculus C-C* for expressing scientific knowledge based on scientific conditionals is elucidated in Fetzer, *Scientific Knowledge*, Chapter 3. The following shows the central concept, where the “simple” forms use a simple subjunctive

³¹³ See for example, T.M.J.A. Cooray, *Complex Analysis with Vector Calculus* (Oxford, UK: Alpha Science International, Ltd., 2006); Donald E. Nute, *Topics in Conditional Logic*, Philosophical Studies Series in Philosophy, Vol. 20 (Dordrecht, NL: D. Reidel Pub. Co., 1980).

conditional while the causal forms are subscripted (e.g., ‘*n*’) to indicate universal or probabilistic strength of causal dispositions referenced by predicates in the expressions.

NOMOLOGICAL CONDITIONALS

Let us differentiate terminologically between lawlike sentences (whether subjunctive or causal conditional in form) and instantiations of sentences of this kind by referring to the latter as “nomological conditionals” (of either subjunctive or causal conditional form). We may further distinguish the two kinds of nomological conditionals as “simple” and as “causal”, respectively. It obviously follows that lawlike sentences are completely general nomological conditionals, i.e., all nomological conditionals are instantiations of lawlike sentences. It also follows (less obviously, perhaps) that nomic conditionals of neither kind are logically true, since the lawlike sentences which they instantiate attribute permanent properties to the members of reference classes, where the possession of those properties is never implied by the descriptions of those classes. Let us assume that ‘*at*’ represents the concatenation of an ambiguous name with an ambiguous time, i.e., names and times ranging over all nameable things and specifiable times; that ‘*ct*’ represents the concatenation of an individual constant with a determinate time; and, that ‘*bt*’ represents either ‘*at*’ or ‘*ct*’ indifferently. Then some of the basic forms of (what we may refer to as) *scientific conditionals* can be specified in general, namely:

- (1) *lawlike sentences*:
 - (a) ‘simple’ forms: $(x)(t)(Kxt \supset \chi xt)$;
 - (b) ‘causal’ forms: $(x)(t)[Kxt \supset (T^i xt \supset_n O^i xt^*)]$;
 $(x)(t)[(Kxt \cdot T^i xt) \supset_n O^i xt^*]$;
 $(x)(t)[T^i xt \supset (Kxt \supset_n O^i xt^*)]$;
- (2) *nomological conditionals*:
 - (a) ‘simple’ forms: $Kbt \supset \chi bt$;
 - (b) ‘causal’ forms: $Kbt \supset (T^i bt \supset_n O^i bt^*)$;
 $(Kbt \cdot T^i bt) \supset_n O^i bt^*$;
 $T^i bt \supset (Kbt \supset_n O^i bt^*)$.

Figure 37: The Intensionality of Simple and Causal Scientific Conditionals in C-C*³¹⁴

Underscoring the scientific importance of his nomological conditionals, Fetzer writes:

The crucial feature of these intensional formulations with respect to rules of inference, moreover, appears to be that a sentence of kind (2) logically entails

³¹⁴ Fetzer, *Scientific Knowledge*, 49-50.

a corresponding sentence of kind (1) regardless of whether that sentential schema is instantiated by an individual constant or by an ambiguous name [so long as the antecedent of that conditional as a whole does not entail the instantiation of its consequent (or, of its consequent's negation) for any specific individual case, i.e., it must be logically contingent for every such case], as the following considerations are intended to explain.³¹⁵

This brings Fetzer to the crux of his intensional realism, which essentially specifies the conditions for (what has been referred to in this dissertation as) *optimal rationality*:

Let us assume that a predicate 'F' is nomically relevant to an outcome predicate 'X' or 'Oⁱ' relative to reference class description 'K' or 'K • Tⁱ' in \mathcal{L}^* , if and only if (a) neither 'X' nor 'Oⁱ', nor their negations is entailed by 'K' or 'K • Tⁱ' in \mathcal{L}^* , respectively; and (b) either (i) if 'K' entails 'G • F' in \mathcal{L}^* , then X is a permanent property of every member of K, but not of every member of 'G • -F', or conversely; and if 'K' does not entail 'F' or '-F' in \mathcal{L}^* , then X is a permanent property of every member of K • F, but not of every member of K • -F, or conversely; or (ii) if 'K • Tⁱ' entails 'G • F' in \mathcal{L}^* , the strength of the tendency for a single trial of kind G • F to bring about an outcome of kind Oⁱ differs from that for a single trial of kind G • -F; and if 'K • Tⁱ' does not entail 'F' or '-F' in \mathcal{L}^* , the strength of the tendency for a single trial of kind K • Tⁱ • F to bring about such an outcome differs from that for a single trial of kind K • Tⁱ • -F. Then the following condition is satisfied by any scientific conditional which happens to be true:

The Requirement of Maximal Specificity: If a nomically relevant predicate is added to the reference class description of a scientific conditional *S* which is true in \mathcal{L}^* , then the resulting sentence *S*^{*} is such that either *S*^{*} is no longer true in \mathcal{L}^* (by virtue of the fact that its antecedent is now self-contradictory) or *S*^{*} is logically equivalent to *S* in \mathcal{L}^* (by virtue of the fact that that predicate was already entailed by the antecedent of *S*).

³¹⁵ Ibid.

Statistical Perspectives

Conflicting Conceptions of Probability

Barna Group and Pew Research Center are among the leading statistical overseers of world faiths and religions. Started in 1984 in Ventura, CA, Barna Group self-describes as “a visionary research and resource company (that is) widely considered to be a leading research organization focused on the intersection of faith and culture.” The Pew Research Center “is a nonpartisan fact tank that informs the public about the issues, attitudes and trends shaping the world ... conduct(ing) public opinion polling, demographic research, content analysis and other data-driven social science research (that does) not take policy positions.”

This supplemental material is added for readers interested in a Bayesian model perspective on status and trends in faith, religion, and culture. In American pragmatism and its positivist scientism, as explained in the foregoing treatise, this frequency-based program of probabilistic reasoning is the reigning paradigm and ideology for inductive reasoning. The position adopted in this dissertation is conclusively argued by James H. Fetzer, i.e., the “Bayesian Way” of probabilistic inference “should not be entertained as an inviting path toward the goal of understanding the character of scientific knowledge,” especially since, as Fetzer says, it “may well qualify as *the great blunder of 20th century theories of knowledge*.”³¹⁶

³¹⁶ Ibid., xiii, 22, 222, original italics.

In other words, based on the arguments Fetzer presents in rejecting the “Bayesian Way,” to the extent that Barna Group and Pew Research Center carry out their research, analyze their data, and report their findings within that methodological framework, I do not consider their efforts or results to quality as being rational science. The basis for this view is perhaps best understood in light of Fetzer’s criteria of minimally, maximally, and perfectly rational knowledge: under those criteria, the Bayesian program and model do not qualify as even minimally rational.³¹⁷

Nevertheless, this appendix is included for those who may affirm and follow the Bayesian Way as genuinely rational scientific analysis. As it turns out, findings reported by Barna and Pew (as advocates and practitioners of Bayesian analysis) happen to agree with conclusions drawn in this treatise on the current abysmal and critical condition of 21st century Christianity. It is possible, after all, to reach the same outcome by different means, even if some may be quite good and right while others are very bad and wrong.³¹⁸

The Bayesian View from Barna and Pew

In western Europe and North America especially, Christianity is in a chronic state of theological, spiritual, and ideological decline. Collapse may be coming where ancient truths of the Christian worldview are displaced by contra-Biblical beliefs. Pew Research and Barna Group see the crisis as global in scope, albeit with notable exceptions. For the

³¹⁷ Ibid., 12-16. Fetzer’s specific conditions of rationality (CR-1, -2, -3, -4, -5) are stated in these pages and expounded throughout the book. The rational and scientific inadequacy of the Bayesian Way in particular and of extensional language and logic in general is a these painstakingly demonstrated by Fetzer’s comprehensive analysis..

³¹⁸ Ibid., 11-16, 205-06, 287-88.

U.S. in particular, Pew reports 2007-2014 declines in evangelical (26.3% to 25.4%) and mainstream institutionalized Protestantism (18.1% to 14.7%) and in Catholicism (23.9% to 20.8%). During the same period, by contrast, non-Christian faiths (world religions and other faiths) grew from 4.7% to 5.9% in the US. Most striking was the 6.7% surge in the ‘unaffiliated’ from 16.1% to 22.8%, however—a 42% increase in just seven years.³¹⁹

Pew’s projections for 2015-2060 show this decline continuing over the next four decades in the Americas and in Europe, but major growth in Christianity in sub-Saharan Africa. Meanwhile, the ‘unaffiliated’ numbers increase in each location except the Asia-Pacific region. Christianity remains the largest religious group in the world, but Islamic growth is projected to increase far more rapidly throughout the 2015-2060 period, more than doubling in size as a percentage of the world’s population due to expansion of the Muslim diaspora across the globe.³²⁰

Studies, analyses, and reports by Barna Group identify major trends contributing to or driving this crisis in Christianity as well, as these comments emphasize:

We live in a world of ideological competition, struggle, and warfare. Increasingly immersed in a globalized and interconnected world, Christians are more aware of—and influenced by—disparate views than ever before in history. But just how far have other worldviews crept into Christian perspectives? Barna’s research shows that only 17% of Christians who

³¹⁹ Pew Research Center, “Changing U.S. Religious Landscape,” (Washington, DC: Pew Research Center, April 30, 2015), http://www.pewforum.org/2015/05/12/americas-changing-religious-landscape/pf_15-05-05_rls2_1_310px/. See below, APPENDICES: The Bayesian View from Barna and Pew.

³²⁰ Pew Research Center, “The Changing Global Religious Landscape,” (Washington, DC: Pew Research Center, April 5, 2017), <http://www.pewforum.org/religious-landscape-study/>. On Barna’s conception of New Spirituality, see the two-part series, Barna Group, “Meet Those Who ‘Love Jesus but Not the Church’ (Faith and Spirituality Outside the Church Part One),” March 30, 2017, <https://www.barna.com/research/meet-love-jesus-not-church/>; Barna Group, “Meet the ‘Spiritual but Not Religious’ (Faith and Spirituality Outside the Church Part Two),” April 6, 2017, <https://www.barna.com/research/meet-spiritual-not-religious/>. See below, APPENDICES: The Bayesian View from Barna and Pew.

consider their faith important and attend church regularly actually have a biblical worldview. So, if Christians are open to nonbiblical perspectives, what *are* they believing?

In partnership with Summit Ministries, Barna conducted a study among practicing Christians in America to gauge how much the tenets of other key worldviews—including new spirituality, secularism, postmodernism and Marxism—have influenced Christians’ beliefs about the way the world is and how it ought to be. Barna’s new research found strong agreement with ideas unique to nonbiblical worldviews among practicing Christians. This widespread influence upon Christian thinking is evident not only among competing *worldviews*, but even among competing *religions*; for example, nearly four in 10 (38%) practicing Christians are sympathetic to some Muslim teachings (an aspect of the study Barna will explore elsewhere).

Here are a few notable findings among practicing Christians:

- 61% agree with ideas rooted in New Spirituality.
- 54% resonate with postmodernist views.
- 36% accept ideas associated with Marxism.
- 29% believe ideas based on secularism.

Before diving into the four worldviews, and as illustrated in the charts below, there are a few key demographic themes that emerge from the data. First, Millennials and Gen-Xers, who came of age in a less Christianized context, are, in some cases, up to eight times more likely to accept these views than Boomers and Elders. The same is true of gender; males are generally more open to these worldviews than women, often at a 2:1 ratio. Another trend is that Americans who live in cities, often melting pots of ideas and cultures, are more accepting of these views than those in either suburban or rural areas. And finally, when looking at ethnicity, Americans of color are, in about half of the cases, more likely than white Americans to embrace these worldviews.³²¹

Barna’s concluding explanation of “what this research means” is telling: it shows how the baseline of Christian beliefs is shifting across generations, drifting imperceptibly away from its moorings in the ancient truths and core tenets of the faith and perhaps most importantly, from embracing Jesus Christ incarnate Christ as the Way, Truth, and Life of

³²¹ Barna Group, "Competing Worldviews Influence Today's Christians," Barna, May 9, 2017, <https://www.barna.com/research/competing-worldviews-influence-todays-christians/>; Barna Group, "2015 Sees Sharp Rise in Post-Christian Population," Barna, August 12, 2015, <https://www.barna.com/research/2015-sees-sharp-rise-in-post-christian-population/>. APPENDICES: The Bayesian View from Barna and Pew.

Christian being and presence in the world. As traditional Christianity struggles not only to preserve the intellectual veracity and the spiritual integrity of its most sacred beliefs and their relevance and value in 21st century culture and society, it seems to be caught in a losing battle with alternative competing worldviews. Barna's senior research executive, Brooke Hempell, explains:

This research really crystalizes what Barna has been tracking in our country as an ongoing shift away from Christianity as the basis for a shared worldview. We have observed and reported on increasing pluralism, relativism and moral decline among Americans and even in the Church. Nevertheless, it is striking how pervasive some of these beliefs are among people who are actively engaged in the Christian faith What stood out most to us was how stark the shift was between the Boomer and Gen-Xer generations We expected Millennials to be most influenced by other worldviews, but the most dramatic increase in support for these ideals occurs with the generation *before* them. It's no surprise, then, that the impact we see today in our social fabric is so pervasive, given that these ideas have been taking root for two generations.³²²

Hempell concludes with these observations:

The challenge with competing worldviews is that there are fragments of similarities to some Christian teachings, and some may recognize and latch on to these ideas, not realizing they are distortions of biblical truths. The call for the Church, and its teachers and thinkers, is to help Christians dissect popular beliefs before allowing them to settle in their own ideology. Informed thinking is essential to developing and maintaining a healthy biblical worldview and faith as well as being able to have productive dialogue with those who espouse other beliefs.³²³

One of the most alarming trends concerns growing numbers of so-called 'nones' and 'dones' who, one way or another, identify as being 'unaffiliated.' Writing for the online religious blog Patheos, Neil Carter exposes the ambiguity of the difference:

³²² Ibid.

³²³ Ibid.

By now you may have heard of “the nones,” those religiously non-affiliated Americans who now make up nearly a quarter of the overall population and a full third of Americans under the age of thirty

The problem with this designation is that it lacks precision and includes a wide range of categories from full-on atheist to merely disinterested to “spiritual but not religious.” It sometimes even means a Christian who just doesn’t like going to church much and doesn’t like getting labeled

But there is a subcategory among the nones that hasn’t gotten as much attention because too often they get lost in the shuffle. I’m talking about the “dones.” The dones are those who have been there and done that, and probably have a t-shirt (or thirty). I’ve got drawers full of them in fact, as does anybody else who has spent any amount of time in church youth culture. People like me aren’t just unaffiliated, we are anti-affiliated. We were once in the thick of it, but then we left and have no interest in going back. Unlike many of our counterparts among the nones, we know much more intimately what it is that we’re staying away from because we spent years inside that world and we’ve had enough to last us a lifetime, *thankyouverymuch* (sic).³²⁴

Michael Lipka at Pew Research writes, “Millennials increasingly are driving growth of ‘nones’.”³²⁵ Daniel Burke’s CNN report on that Pew study was headlined, “Millennials Leaving Church in Drove.”³²⁶ David Kinnaman, President of Barna Group, collaborated with others on two books exploring this issue further. Writing with Gabe Lyons, founder of Christian learning community Q, in *unChristian* (2007), their work emphasizes ‘nones,’ focusing on “the reasons young non-Christians reject the Christian faith and

³²⁴ Neil Carter, “The ‘Nones’ vs. the ‘Dones,’” Patheos, March 27, 2018, <http://www.patheos.com/blogs/godlessindixie/2015/03/27/the-nones-vs-the-dones/>; Pew Research Center, “Why America’s ‘Nones’ Left Religion Behind” (Washington, DC: Pew Research Center, August 24, 2016), <http://www.pewresearch.org/fact-tank/2016/08/24/why-americas-nones-left-religion-behind/>.

³²⁵ Michael Lipka, “Millennials increasingly are driving growth of ‘nones’” (Washington, DC: Pew Research Center, May 12, 2015), <http://www.pewresearch.org/fact-tank/2015/05/12/millennials-increasingly-are-driving-growth-of-nones/>.

³²⁶ Daniel Burke, “Millennials Leaving Church in Drove, Study Finds.” Cable News Network (CNN), Turner Broadcasting System (TBS), Inc. May 14, 2015. <http://edition.cnn.com/2015/05/12/living/pew-religion-study/>.

explores the changing reputation of Christians, especially evangelicals, in our society ... on the perceptions and priorities of young non-Christians, or *outsiders*”

Subsequently, in collaboration with Barna Managing Editor Aly Hawkins on *You Lost Me* (2011), the focus shifts to the ‘dones,’ i.e., the “young *insiders* ... irreverent, blunt, and often painful stories of young Christians—or young adults who once thought of themselves as Christians—who have left the church and sometimes the faith ... their perceptions of churches, Christianity, and culture.”³²⁷

In tandem with these trends, perhaps in part as their ‘ripple effect’ consequences, ‘New Age’ spirituality from the mid- to late 20th-century is re-emerging alongside other contemporary movements in efforts to integrate or fuse science (scientism, actually) and human spirituality. Pew Research Center noted the growing tendency in America to brew one’s own personal spirituality as a concoction of selected elements from multiple faiths, religions, or other worldviews, including some that directly conflict with the fundamental principles and doctrines of Christianity.³²⁸

These are but a few of the emerging swaths woven into the patchwork tapestry of New Spirituality. The whirlpool of the semiotic dissonance of our times and its influences is evident, for example, in the bizarre blend of New Atheism and irreligious spirituality simultaneously promoted by Sam Harris. On one hand, Harris is widely lauded as one of

³²⁷ David Kinnaman and Gabe Lyons, *unChristian: What a New Generation Really Thinks About Christianity...and Why It Matters* (2007; repr., Grand Rapids, MI: Baker Books, 2012); David Kinnaman and Aly Hawkins, *You Lost Me: Why Young Christians Are Leaving Church ... and Rethinking Faith* (2011; repr., Grand Rapids, MI: Baker Books, 2016), loc. 95. “About Q: Stay Curious. Think Well. Advance Good.” Q Ideas, accessed November 10, 2018, <http://qideas.org/about/>.

³²⁸ Pew Research Center, “Many Americans Mix Multiple Faiths” (Washington, DC: Pew Research Center, December 9, 2009), <http://www.pewforum.org/2009/12/09/many-americans-mix-multiple-faiths/>.

the “Four Horsemen” of the New Atheism worldview, yet on the other, he is author of a best-seller on New Spirituality from a scientific (i.e., actually scientismic) perspective.³²⁹

Bayesian Infographics

Selected graphic images follow, illustrating statistical findings from Barna Group and Pew Research Center. Some but not all of the images are cited in the preceding text of this section. Images not cited above are included for additional Bayesian perspective regarding the Gordian entanglement of problems facing Christianity and churchianity as the ‘horns’ of one of the primary dilemmas in that ideological knot.³³⁰

While the United States remains shaped by Christianity, the faith’s influence—particularly as a force in American politics and culture—is slowly waning. An increasing number of religiously unaffiliated, a steady drop in church attendance, the recent Supreme Court decision on same-sex marriage, and the growing tension over religious freedoms all point to a larger secularizing trend sweeping across the nation.

To measure a person’s level of irreligion, Barna Group tracks 15 metrics related to faith (you can find the full list of 15 at the end of the article). These factors speak to the lack of Christian identity, belief and practice. These factors include whether individuals identify as atheist, have never made a commitment to Jesus, have not attended church in the last year, or have not read the Bible in the last week.

These kinds of questions—compared to ticking the “Christian” box in a census—get beyond how people loosely identify themselves (affiliation), and get to the core of what people actually *believe* and how they *behave* as a result of their belief (practice). These indicators give a much more accurate picture of belief in America.

To qualify as “post-Christian,” individuals had to meet 60% or more of the factors (nine or more out of 15 criteria). “Highly post-Christian” individuals meet 80% or more of the factors (12 or more of these 15 criteria):

1. Do not believe in God

³²⁹ (Harris2014); (Harris 2005).

³³⁰ APPENDICES: The Bayesian View from Barna and Pew; Table 3: MRI Christianity and Its APC/ABC churchianity Nemesis.

2. Identify as atheist or agnostic
3. Disagree that faith is important in their lives
4. Have not prayed to God (in the last year)
5. Have never made a commitment to Jesus
6. Disagree the Bible is accurate
7. Have not donated money to a church (in the last year)
8. Have not attended a Christian church (in the last year)
9. Agree that Jesus committed sins
10. Do not feel a responsibility to “share their faith”
11. Have not read the Bible (in the last week)
12. Have not volunteered at church (in the last week)
13. Have not attended Sunday school (in the last week)
14. Have not attended religious small group (in the last week)
15. Do not participate in a house church (in the last year)³³¹

³³¹ Barna Group, “2015 Sees Sharp Rise in Post-Christian Population,” Barna, August 12, 2015, <https://www.barna.com/research/2015-sees-sharp-rise-in-post-christian-population/>.

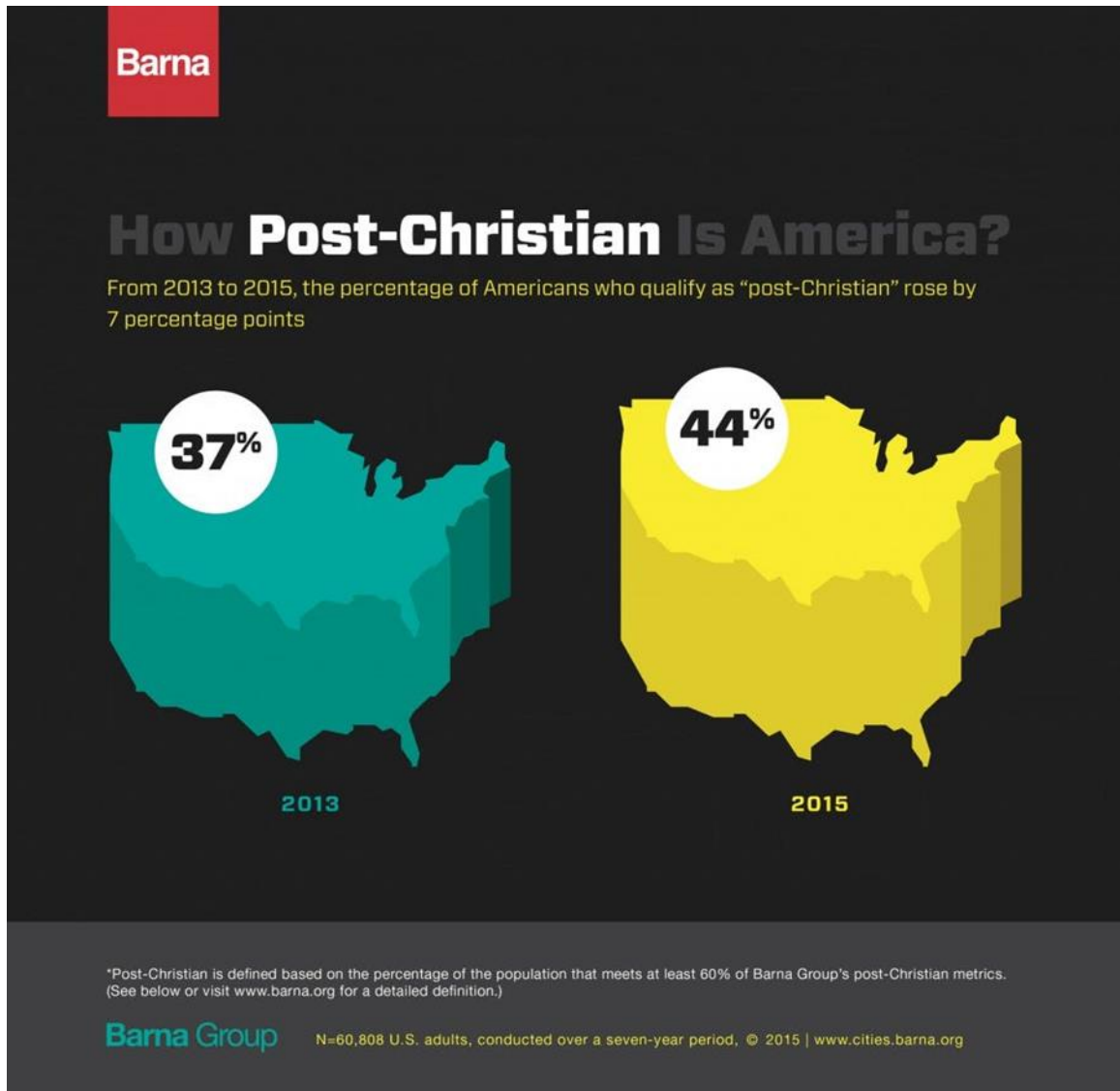


Figure 38: In Just 2 Years, 18.9% Increase (7% Growth) in Post-Christian America

Between 2007 and 2014, the Christian share of the population fell from 78.4% to 70.6%, driven mainly by declines among mainline Protestants and Catholics. The unaffiliated experienced the most growth, and the share of Americans who belong to non-Christian faiths also increased:

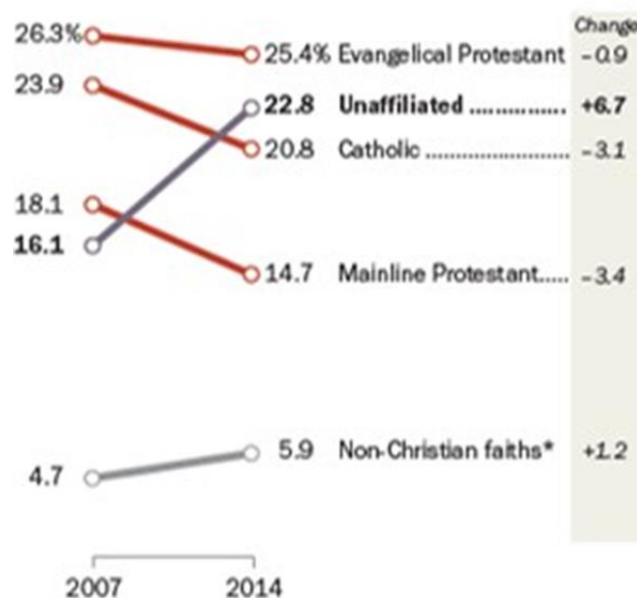


Figure 39: Pew Research U.S. Demographic Study³³²

The regional distribution of religious groups is also expected to shift in the coming decades. For example, the share of Christians worldwide who live in sub-Saharan Africa is expected to increase dramatically between 2015 and 2060, from 26% to 42%, due to high fertility in the region. Meanwhile, religious switching and lower fertility will drive down the shares of the global Christian population living in Europe and North America.

Sub-Saharan Africa is also expected to be home to a growing share of the world's Muslims. By 2060, 27% of the global Muslim population is projected to be living in the region, up from 16% in 2015. By contrast, the share of Muslims living in the Asia-Pacific region is expected to decline over the period from 61% to 50%. The share of Muslims in the Middle East and North Africa is expected to hold steady at 20%.

As of 2015, three-in-four unaffiliated people live in Asia and the Pacific. But that share is expected to decline to 66% by 2060 due to low fertility and an aging population. At the same time, a growing share of the unaffiliated will live outside of the Asia-Pacific, particularly in Europe and North America. By 2060, 9% of the global unaffiliated population will live in the United States alone, according to the projections.

The vast majority of Hindus and Buddhists (98-99%) will continue to live in the Asia-Pacific region in the next several decades. Most adherents of folk

³³² Pew, "Changing U.S. Religious Landscape." "Non-Christian faiths" includes Jews, Muslims, Buddhists, Hindus, other world religions and other faiths. Those who did not answer the religious identity question, as well as groups whose share of the population did not change significantly, including the historically black Protestant tradition, Mormons, and others, are not shown.

religions, too, will remain in Asia and the Pacific (79% in 2060), although a growing share are expected to live sub-Saharan Africa (7% in 2015 vs. 16% in 2060). Roughly equal shares of the world's Jews live in Israel (42%) and the United States in 2015 (40%). But, by 2060, over half of all Jews (53%) are projected to live in Israel, while the U.S. is expected to have a smaller share (32%).³³³

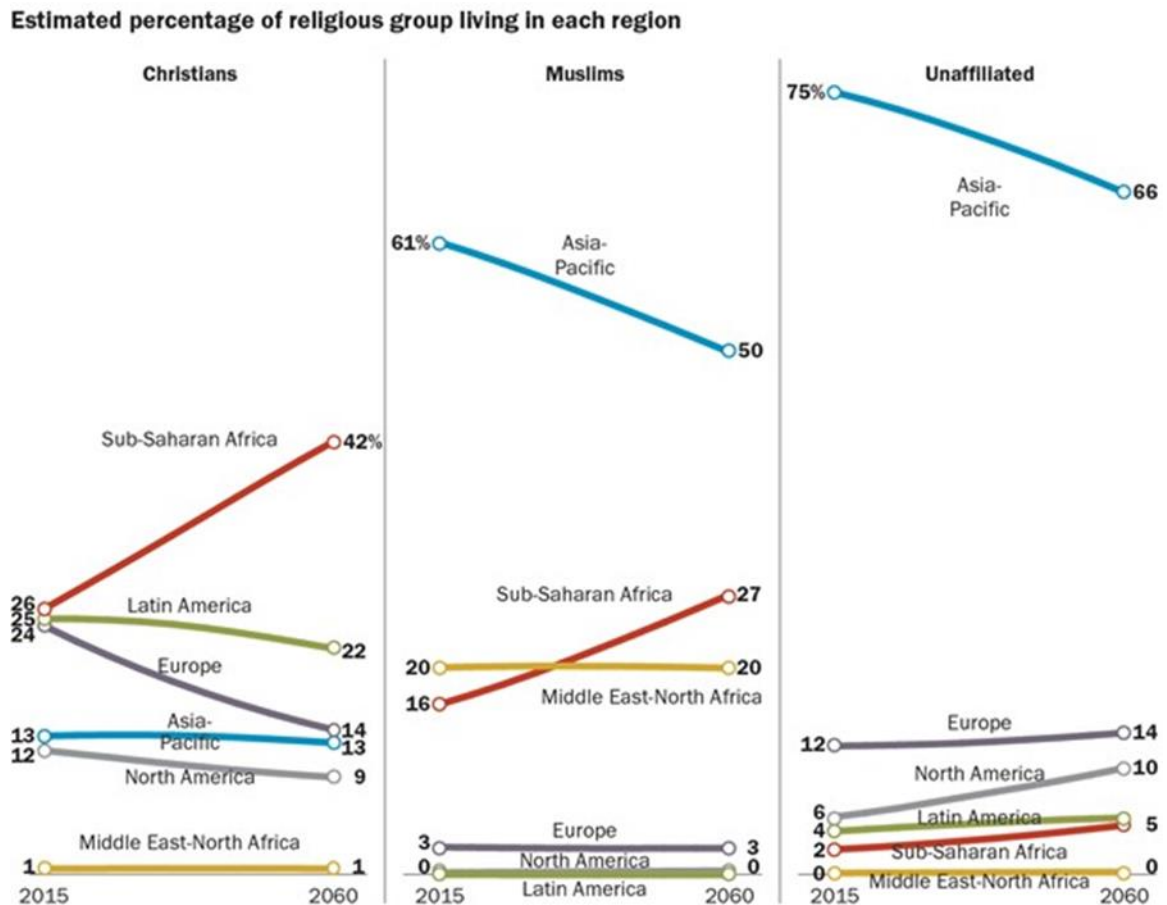


Figure 40: Pew Research Center Global Demographic Study³³⁴

To get at a sense of enduring faithfulness among Christians despite a rejection of the institutional church, Barna created a metric to capture those who most neatly fit this description. It includes those who self-identify as Christian and who strongly agree that their religious faith is very important in their life, but are “dechurched”—that is, they have attended church in the past, but haven’t done so in the last six months (or more). These individuals have a

³³³ Pew, “The Changing Global Religious Landscape.”

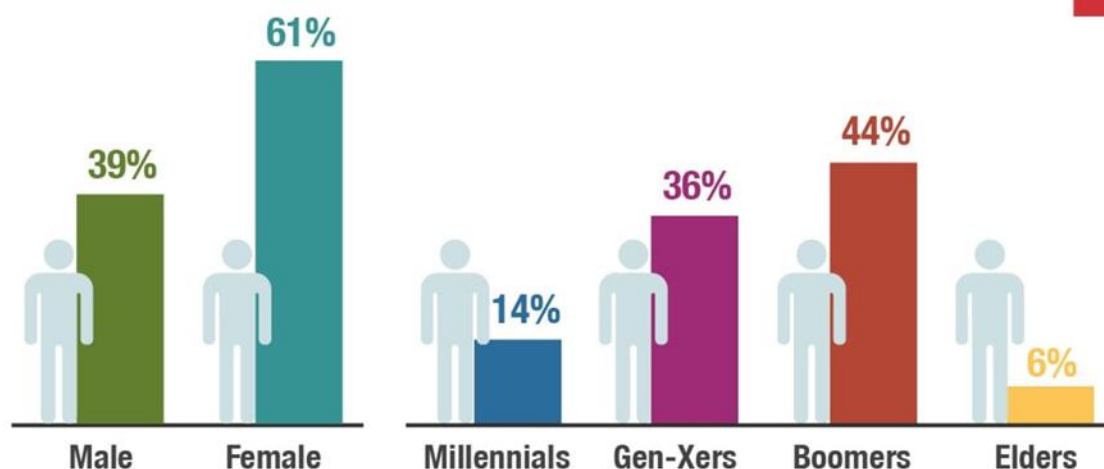
³³⁴ Ibid.

sincere faith (89% have made a personal commitment to Jesus Christ that is still important to their life today) but are notably absent from church.

According to aggregate Barna tracking data, this group makes up one-tenth of the population, and it's growing (up from 7% in 2004). The majority are women (61%), and four-fifths (80%) are between the ages of 33 and 70. That is, they are mostly Gen-Xers (36%) and Boomers (44%), not Millennials (14%) or Elders (6%). Though Millennials are the least church-ed generation, they are also the least likely to either identify as Christian or say faith is very important to their life, explaining their underrepresentation among this group. Elders are underrepresented for the opposite reason—they are the generation most likely to attend church regularly.³³⁵

Love Jesus but Not the Church #1

Barna



n=1,281 | November 4-15, 2016

Figure 41: Traditionally Christian—with Exceptions³³⁶

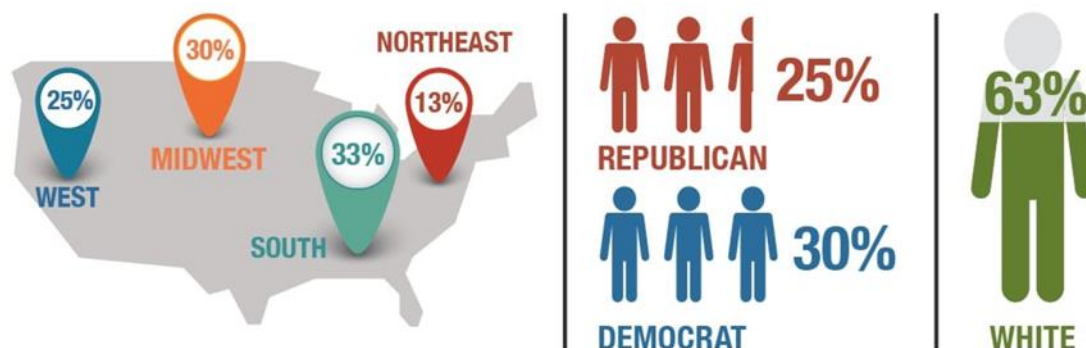
This group also appears to be mostly white (63%) and concentrated in the South (33%), Midwest (30%) and West (25%), with very few hailing from the Northeast (13%)—a region typically home to the most post-Christian cities in America. The fact that they are just as likely to identify as Democrat (30%) than Republican (25%) is interesting, particularly for Christians and those in the South and Midwest, who typically are disproportionately Republican. It's possible that left-leaning people of faith are encountering some level of political discord with their church, which may have prompted an exit.³³⁷

³³⁵ Barna, “‘Love Jesus but Not the Church’.”

³³⁶ Ibid.

³³⁷ Ibid.

Love Jesus but Not the Church #2



n=1,281 | November 4-15, 2016

Figure 42: Political Discord Alienating the Faithful?³³⁸

Two Types of Irreligious Spirituality

To get at a sense of spirituality outside the context of institutional religion, Barna created two key groups that fit the “spiritual but not religious” (SBNR) description. The first group (SBNR #1) are those who consider themselves “spiritual,” but say their religious faith is not very important in their life. Though some may self-identify as members of a religious faith (22% Christian, 15% Catholic, 2% Jewish, 2% Buddhist, 1% other faith), they are in many ways *irreligious*—particularly when we take a closer look at their religious practices. For instance, 93 percent haven’t been to a religious service in the past six months. This definition accounts for the unreliability of affiliation as a measure of religiosity.

A sizable majority of the SBNR #1 group do not identify with a religious faith at all (6% are atheist, 20% agnostic and 33% unaffiliated). In order to get a better sense of whether or not a faith affiliation (even if one is irreligious) might affect people’s views and practices, we created a second group of “spiritual but not religious,” which focuses only on those who do not claim any faith at all (SBNR #2). This group still says they are “spiritual,” but they identify as either atheist (12%), agnostic (30%) or unaffiliated (58%). For perspective, of all those who claim, “no faith,” around one-third say they are “spiritual” (34%). This is a stricter definition of the “spiritual but not religious,” but as we’ll see, both groups share key qualities and reflect similar trends despite representing two different kinds of American adults—one more religiously literate than the other. In other words, it does not seem as if identifying with a religion affects the practices and beliefs of these groups.

³³⁸ Ibid.

Even if you still affiliate with a religion, if you have discarded it as a central tenet of your life, it seems to hold little sway over your spiritual practices.

These two groups differ from the “love Jesus but not the church” crowd in significant ways. Those who Barna defined as loving Jesus but not the church still strongly identify with their faith (they say their religious faith is “very important in my life today”), they just don’t attend church. This group still holds very orthodox Christian views of God and maintains many of the Christian practices (albeit individual ones over corporate ones).³³⁹

Demographic Trends: Southwestern and Liberal

These two groups equally make up around 8 percent of the population (combined, they make up 11 percent of the population—as there is some overlap between the two). In terms of demographics, there aren’t a lot of surprises here. The groups include more women than men—who generally identify more with religion and spirituality than men—and are concentrated in the West Coast and the South. The former a likely result of the influence of Eastern religions and the latter a result of general religious inclinations. They are mostly Boomers and Gen-Xers, though the first group is slightly older and because fewer young people tend to affiliate with a religion, the second group is slightly younger.

But their political leanings are where it gets interesting: Both groups identify as liberal (50% and 54%) or moderate (33% or 35%), with only a fraction identifying as conservative (17% and 11%). Yes, conservatism and religiosity tend to go hand-in-hand, but this divide is unusually stark. It may be that left-leaning spiritual seekers feel they are without a spiritual home in the church, a place they likely view as hostile to their political attitudes, particularly around hot button—and often divisive—issues like abortion and same-sex marriage.³⁴⁰

³³⁹ Barna, “ ‘Spiritual but Not Religious’.”

³⁴⁰ Ibid.

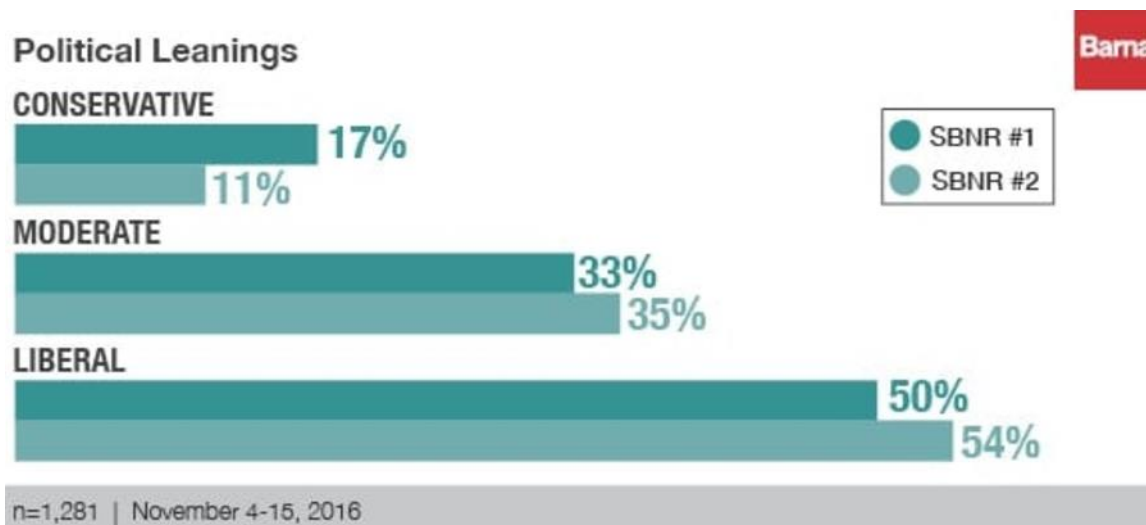


Figure 43: Political Hostility Eroding the Religion?³⁴¹

Redefining “God”

As one might expect—and in stark contrast to the “love Jesus but not the church” crowd—both groups of “spiritual but not religious” hold unorthodox views about God or diverge from traditional viewpoints. For instance, they are just as likely to believe that God represents a state of higher consciousness that a person may reach (32% and 22%) than an all-powerful, all-knowing, perfect creator of the universe who rules the world today (20% and 30%). For context, only one in 10 (12%) American adults believe the former, and almost six out of 10 (57%) believe the latter. So these views are certainly out of the norm. The trend continues: They are just as likely to be polytheistic (51% and 52%) as monotheistic (both groups: 48% each), and significantly fewer agree that God is everywhere (41% and 42%) compared to either practicing Christians (92%) or evangelicals (98%). But straying from orthodoxy is not the story here. This feels expected. Sure, their God is more abstract than embodied, more likely to occupy minds than the heavens and the earth. But what’s noteworthy is that what counts as “God” for the spiritual but not religious is *contested* among them, and that’s probably just the way they like it. Valuing the freedom to define their own spirituality is what characterizes this segment.³⁴²

³⁴¹ Ibid.

³⁴² Ibid.

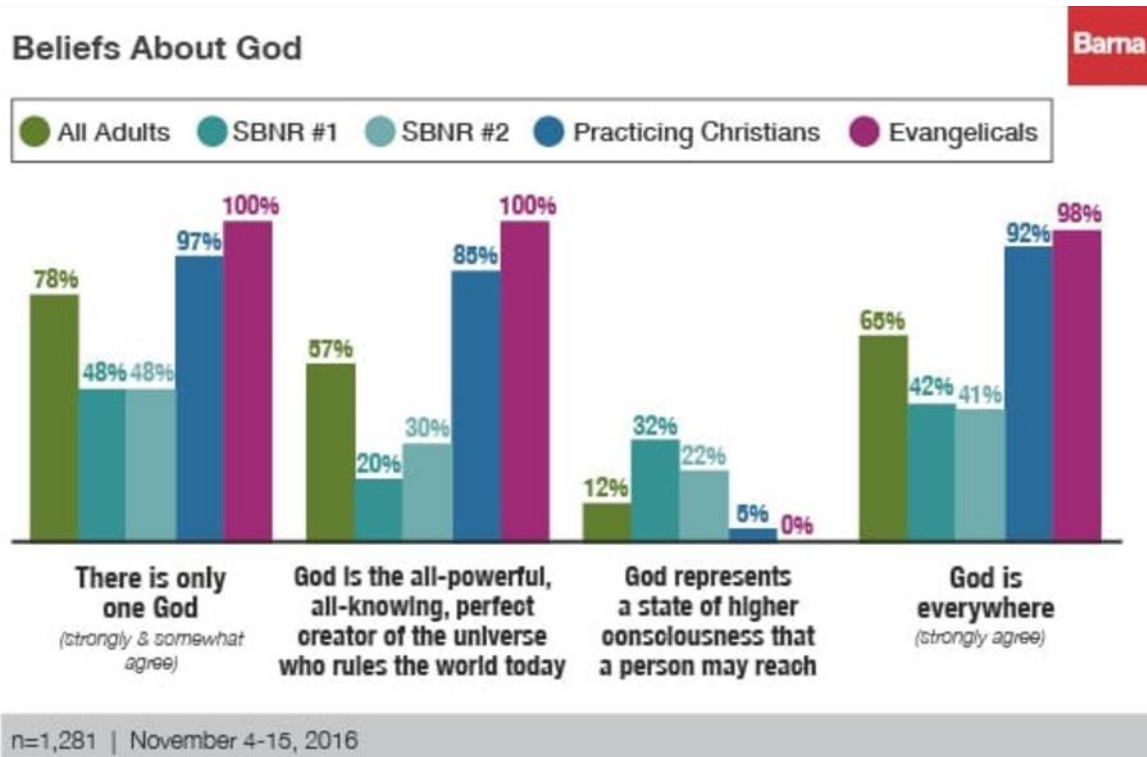


Figure 44: Would You Believe?

New Spirituality

Practicing Christians find the claims of New Spirituality among the most enticing, perhaps because it holds a positive view of religion, emphasizes the supernatural and simultaneously feeds into a growing dissatisfaction with institutions. For instance, almost three in 10 (28%) practicing Christians strongly agree that “all people pray to the same god or spirit, no matter what name they use for that spiritual being.” Further, the belief that “meaning and purpose come from becoming one with all that is” has captured the minds of more than one-quarter of practicing Christians (27%).

The New Spirituality worldview has also inched its way into Christian ethics; one-third of practicing Christians (32%) strongly agree that “if you do good, you will receive good, and if you do bad, you will receive bad.” This karmic statement, though not explicitly from scripture, appeals to many Christians’ sense of ultimate justice. For example, another Barna study found that 52 percent of practicing Christians strongly agree that the Bible teaches “God helps those who help themselves.”

Overall, at least 61 percent of practicing Christians embrace (strongly agree with) at least one of the ideas rooted in New Spirituality.³⁴³

³⁴³ Barna, “Competing Worldviews.”

NEW SPIRITUALITY

(% among practicing Christians who strongly agree)

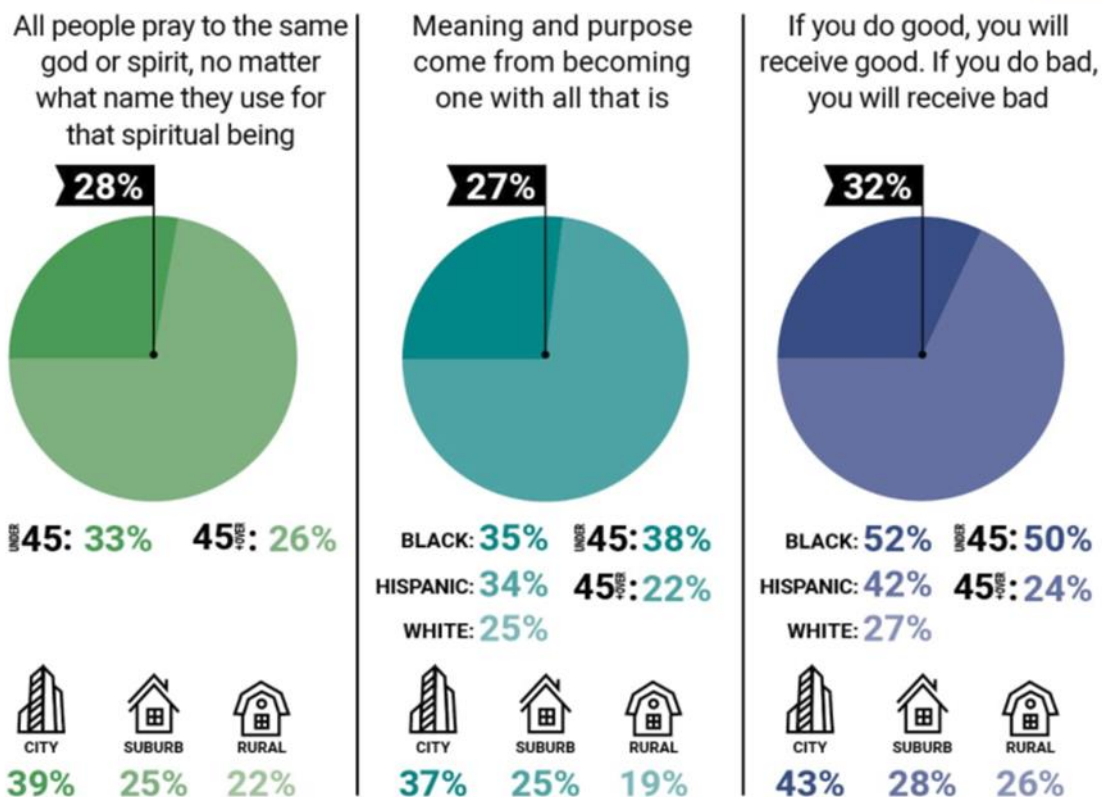


Figure 45: Practicing Christians Who "Strongly Agree" with New Spirituality Beliefs³⁴⁴

[Continued on next page.]

³⁴⁴ Ibid.

The researchers found that 29 percent of practicing Christians believe (strongly agree with) at least one of the secular statements assessed in the project.

SECULARISM

(% among practicing Christians who strongly agree)

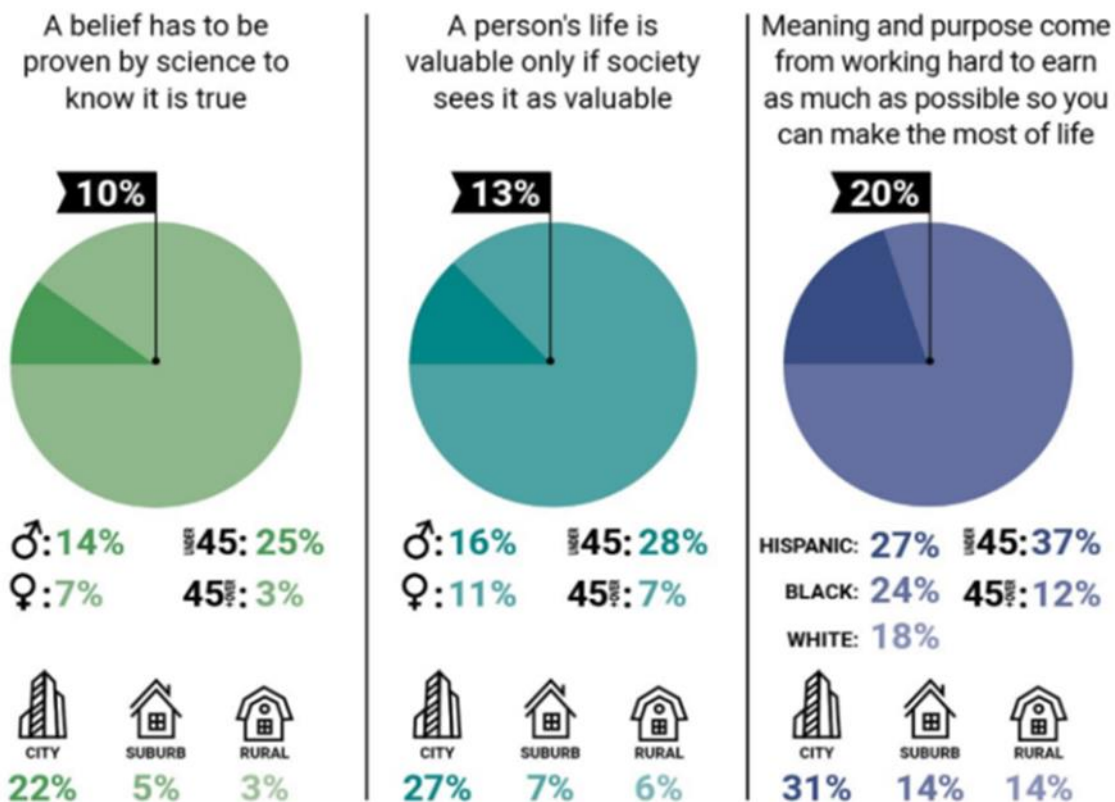


Figure 46: Secular Beliefs of Practicing Christians³⁴⁵

[Continued on next page.]

³⁴⁵ Ibid.

As a whole, more than half (54%) of practicing Christians embrace (strongly agree with) at least one of the postmodern statements assessed in the research.

POSTMODERNISM

(% among practicing Christians who strongly agree)

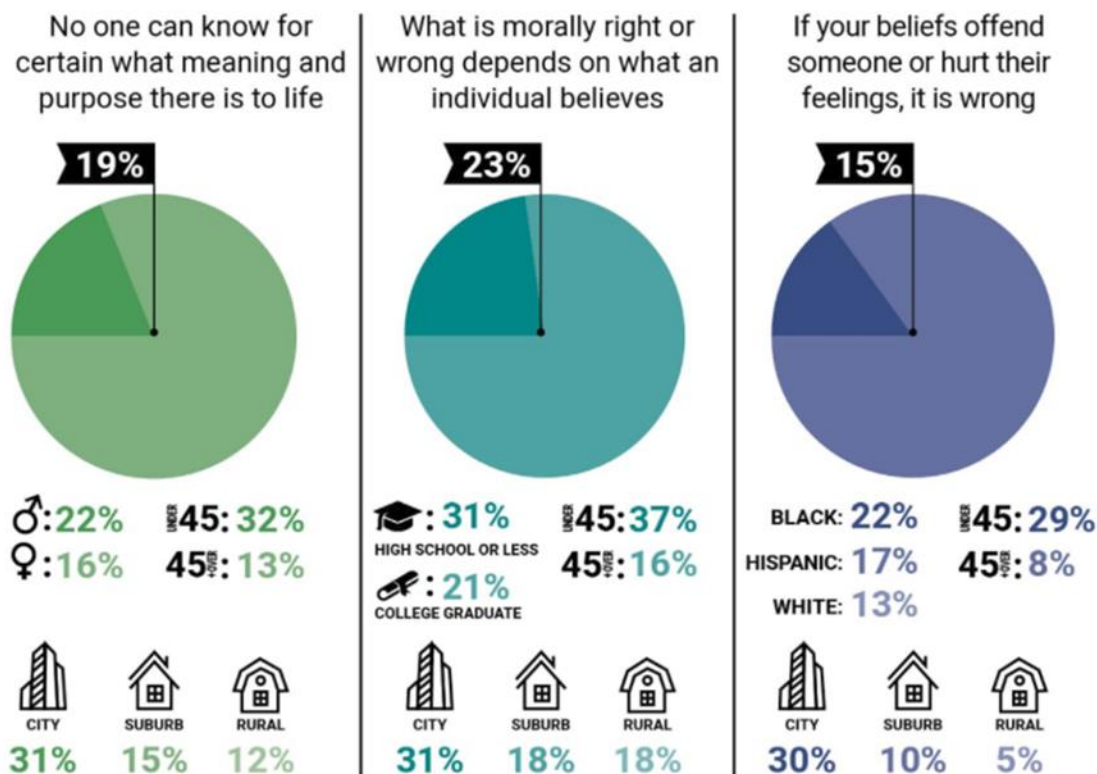


Figure 47: Postmodern Beliefs of Practicing Christians³⁴⁶

[Continued on next page.]

³⁴⁶ Ibid.

In total, Barna found that 36 percent of practicing Christians embraced at least one of the Marxist statements assessed in the research.

MARXISM

(% among practicing Christians)

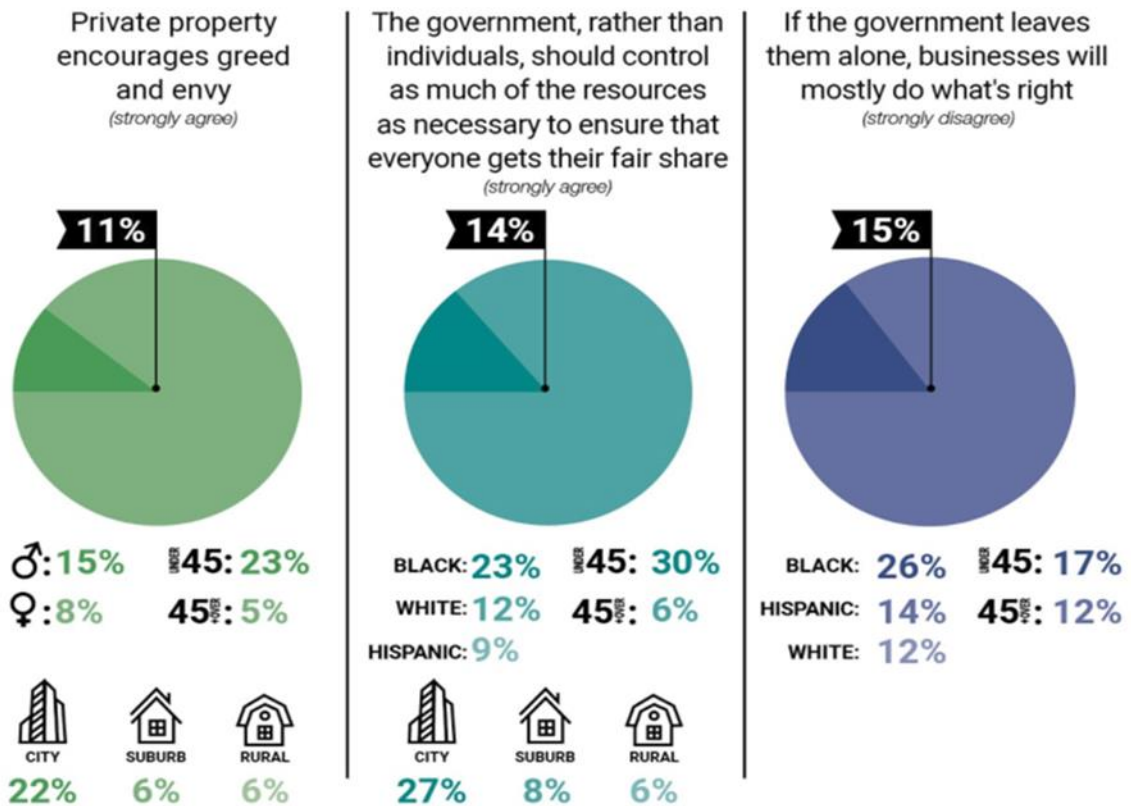


Figure 48: Marxist Beliefs of Practicing Christians³⁴⁷

³⁴⁷ Ibid.

Dispositionality

From the perspective of Fetzer's philosophy of science (intensional realism), at its most fundamental level, three ontic realities are fundamental: dispositions, causation, and signs. Indeed, it appears to follow from Fetzer's position that we may know reality per se only through our cognitive capacity to process causal signs of dispositional manifestation.

Kinds of Things and Things of Kinds

Fetzer's ontology and epistemology for science and cognition are founded on his conceptions of *causal dispositions* in general and on *semiotic dispositions* in particular. Differences between the *metaphysical* essence of dispositions as opposed their *physical* character is especially important. Fetzer's definitions are:

Properties of things are *dispositional* if and only if (i) they are tendencies of (universal or statistical strength) to bring about specific outcome responses when a thing is subjected to appropriate singular tests, where those tendencies (ii) are actual physical states of some thing, individually, or some arrangement of things, collectively (should that property happen to be displayed by any thing at all under those test conditions).

... the dispositional conceptions of (particular) kinds of things and of things of (particular) kinds may be defined as follows:

(1) (particular) *kinds of things* are specific arrangements of (permanent and transient) dispositions, independently of whether or not these distinctive sets of properties happen to be instantiated during the course of the world's history; and,

(2) *things of* (particular) *kinds*, therefore, are instantiations of some specific arrangement of (permanent and transient) dispositions that happen to occur during the course of the world's history, independently of whether the arrangements they instantiate are object *or* property kinds.³⁴⁸

³⁴⁸ Fetzer, *Scientific Knowledge*, 36-45. His original definition states, "A predicate is *dispositional*

Notice the crucial intensionality involved in this distinction: (1) (particular) dispositional kinds of things *would* appear as sets of properties if they *were* instantiated in the world's history, whether they are or not; but, (2) things of (particular) dispositional kinds *actually occur* during the course of the world's history *because* they are physical instantiations of those dispositions. The difference between (1) and (2) reflects the *intensionality* of those underlying dispositions as *tendencies* or *propensities* that may or may not be manifest in physical, actual reality, but they are *causal dispositions of reality* either way.

In this dissertation, 'being' refers to what Fetzer defines as "(particular) *kinds of things*" on the basis of the inherent metaphysicality of dispositions, i.e., whether or not they are ever actually instantiated during the history of the world. By contrast, 'presence' refers to his "*things of (particular) kinds*," on the basis of the manifestation of physical properties that actually occurred during the course of world history.

Some insights from the views of Fetzer and Peirce should be emphasized:

- dispositions and signs are causally and cosmically ubiquitous;
- the (metaphysical) being and the (physical) presence of all things are determined and constrained by causal dispositions; and,
- cognitive semiosis is the formative causal process establishing our awareness and consciousness of the being and presence of things—including ourselves—through which we perceive, conceive, know, and understand them.

within a language \mathcal{L}^* if and only if the property it designates in \mathcal{L}^* (i) is a tendency of (universal or statistical strength) to bring about specific outcome responses when subjected to appropriate singular tests, where this tendency (ii) is an actual physical state of some thing, individually, or of some arrangement of things, collectively (should that predicate happen to be satisfied by any thing at all)." It is paraphrased above for simplicity, setting aside his linguistic specification to define dispositions per se. His distinction between "(particular) *kinds of things*" and "*things of (particular) kinds*" is cited verbatim in this footnote, including original italics.

Sign Things

In light of these considerations, a plausible (if nontraditional) definition of ‘sign’ may be formulated as follows, in terms of semiotic dispositions:

A disposition is *semiotic* if and only if (i) it is a tendency (of universal or statistical strength) to stand for a causal, sentient, or sapient attribute of an object or event (as a particular kind of thing) when subjected to appropriate singular tests, where this tendency (ii) stands for an actual physical state of some object or event (as a thing of a particular kind), individually, or of some arrangement of objects or events, collectively (should that disposition happen to be instantiated by any thing at all). Therefore—

a *sign* =_{def} an arrangement of dispositions identifying the being of an object or event as a (particular) kind of thing or representing its presence as a thing of a (particular) kind, where those dispositions may possess either universal or statistical strength as permanent or transient properties or attributes of those objects or events.

A pivotal distinction emerges here between *causal reality* on one hand, which is completely independent of the presence or absence of cognitive being, as opposed to *cognitive realism*, on the other, which is entirely dependent upon the presence of sentient or sapient presence in causal reality. Since awareness and consciousness only occur as the cognitive effects of neurophysiological processes, and those processes are fundamentally causal, it follows that cognitive systems are fundamentally causal. This is not to suggest, however, that we know the causal *laws* governing cognitive dispositions in general or in particular detail. It does imply, nonetheless, that whatever they may turn out to be, it is safe to assume, given the physical, electrical, chemical, and other empirical properties of neurophysiological systems as such, it is highly probable, at least, that those laws will be

demonstrably causal, without exception.³⁴⁹ Otherwise, cognitive semiosis would not exist at all.

Traditional views of the ‘stands for’ relation as the heart of semiosis often insist it cannot occur apart from signs acquiring their meaning through cognitive interpretation. A sign is no sign at all, that is, unless and until it stands for something *for someone*. In one of the most widely quoted definitions of signs, Peirce indeed does include presence of a “somebody” in triadic semiotic relations: “A sign, or *representamen*, is something which stands to somebody for something in some respect or capacity” (PWP 98).

As Peirce’s remarks affirm, however, signs acquire only “a *part* of their meaning” from their interpreter, i.e., the *cognitive* part, which is especially true of indexical signs in particular. The all-important connection between the representamen and the interpretant, as two distinct types of signs (as different modes of semiosis) is the vital line or boundary separating causal reality from cognitive reality. The representamen, in other words, may exist or occur *as a* sign whether or not a cognitive being happens to derive an interpretant from it. This is clear in Peirce’s example of the “bullet-hole in the mould (with emphasis added here):”

An *index* is a sign which would, at once, lose the character which makes it a sign if its object were removed, *but would not lose that character if there were no interpretant*. Such, for instance, is a piece of mould with a bullet-hole in it as sign of a shot; for without the shot there would have been no hole; but there

³⁴⁹ From the vantage of his impeccable probabilistic causal calculus in Fetzer (1981, Chapter 3), and through the lenses of his ardent agnosticism and advocacy of evolution, Fetzer explicates how causal laws of evolution in general and of the evolution of intelligence in particular may be formally expressed and understood for scientific purposes. James H. Fetzer, *The Evolution of Intelligence: Are Humans the Only Animals with Minds?* (Chicago: Open Court, 2005); Fetzer, *Render Unto Darwin*.

is a hole there, whether anybody has the sense to attribute it to a shot or not (PWP 104).

In this example, Peirce identifies causality (the shot causing of that bullet-hole “object”) as a *necessary* condition for a sign to be an *index* at all.³⁵⁰ For, if that causal objectivity were removed, it would no longer possess the “(*causal*) character” of an indexical sign. The salient point in these remarks is that *interpretation* (by way of an *interpretant* sign provided by a *cognitive* presence) is not a necessary condition for the bullet-hole in the mould to qualify an indexical sign. The *causal* reality of indexical signs per se is secured by their representamen, apart from happenstance presence or absence of an interpretant provided by a cognitive interpreter.

Peirce also identifies indexes as follows, however:

[An index is] a sign, or representation, which refers to its object not so much because of any similarity or analogy with it, nor because it is associated with general characters which that object happens to possess, as because it is in dynamical (including spatial) connection both with the individual object, on the one hand, and with the senses or memory of the person for whom it serves as a sign, on the other hand ... (PWP 107).

In these remarks, it is plausible, at least, to interpret Peirce as identifying necessary and sufficient conditions for a *representamen* to be an index that stands for the *causal* reality of its object, on one hand, and to necessary and sufficient conditions for an *interpretant* to establish the *cognitive* reality of the *causal* reality of its object—through its indexical representamen—on the other. It is not that cognition is not causal or that semiotic realism must be exclusively cognitive. Rather, causation is essential to both, but in fundamentally different ways by virtue of categorically different causal processes and outcomes.

³⁵⁰ Notwithstanding ‘pointing’ and ‘naming’ as non-causal indexical semiosis.

Semiotic Realism

The crucial distinction between semiotic realism and semiotic idealism turns upon this differentiation. For unless effects can stand for their causes and vice versa, whether that semiotic connection is noticed or not by any cognitive presence or none, causality is reduced to the mere subjective cognitive awareness of at least one cognitive being, apart from whom there would be no objective causality at all.

In the remarks from Peirce quoted here, intensionality is at least implicit. This is clearly seen if the bullet-hole in the mound example is rephrased as follows:

If a shot were fired and it were to strike the mould and create a hole therein, then that bullet-hole in the mould would be an indexical representamen of the shot having been fired—even if no shot were actually fired; or if it were, the hole it would make would remain a representamen of that shot whether it were further processed as a cognitive interpretant standing for the shot-firing event to anyone—or not.

Such is the interweaving of intensionality and dispositionality, of causality and cognition. It is the harmonious resonance of cognition with causation, of mentality with reality. To be objective, indexical semiotics must include, at a minimum causes and effects standing for one another. To be subjective, iconic and symbolic semiosis must be causally related to that objective semiotic reality.

In other words, all cognition is inherently causal (all cognitive systems are causal systems).. It is a mistake to infer from this that *only* cognitive systems are semiotic, i.e., that no causal system is semiotic apart from cognitive being and presence. The reality of both representamens and interpretants is genuine. A categorical and semiotic distinction exists between *causal cognitive* as opposed to *causal noncognitive* semiosis. Both are, in the same general sense, *causal*. One yields noncognitive representamens its as outcomes,

as first-order semiotic derivatives of Secondness presence from Firstness being. The other creates interpretants as second-order semiotic derivatives of (those first-order derivatives) from Firstness being, manifesting cognitive Thirdness of being with presence in the mind and brain of an observing interpreter. No interpretant exists apart from its representamen any more than any representamen exists independently of its causally related object as its ground, or “sort of idea”—even if that ground exists only in the metaphysical imagination of a cognitive being rather than in external concurrent and proximate physical presence.

This is a separate point of difference between Fetzer and me. I am Christian and he is agnostic, and under the analysis presented here, I am a semiotic realist and he is a semiotic idealist—notwithstanding our theistic differences. As I see things, causal and semiotic systems are coextensive, regarded as dispositional, intensional, causal realism. Fetzer considers causality to be entirely objective and semiosis to be entirely subjective, however. To me, this seems to contradict his realism as grounded upon his dispositional ontology and his intensional epistemology.

In his view, it seems, no semiotic outcome (event, process, etc.) is possible (i.e., no semiosis would occur) if the initial conditions precipitating that outcome were not to include the attending and attentive presence of a cognitive being. If it were included, I surely would regard such cognitive presence as being sufficient—*but not necessary*—for the *possibility of cognitive* semiosis to exist, at least in the intensional and dispositional sense of what *could* or *would* happen if a cognitive being *were* present as one of those precipitating initial conditions, “whether or not these distinctive sets of properties happen to be instantiated during the course of the world’s history.”

If those initial conditions were instantiated in the world's history, including the attending and attentive proximate presence of a cognitive entity, it is universally certain or statistically probable (in Fetzer's sense of those terms) that some interpretant would be created in the brain and mind of that cognitive entity, as a response to the stimulus of the representamen for which it would stand—and for the underlying thing (ground, object, idea) both represent as first- and second-order semiotic derivatives thereof.

Consequently, an appropriate image for the trialectic dynamics of cognitive and causal semiosis might appear as follows:

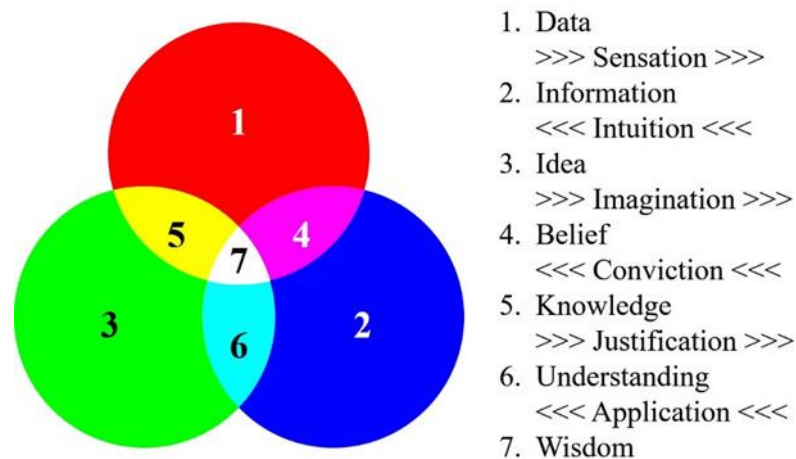


Figure 49: The Trialectic Dynamics of Semiotic Cognition

This triquetra illustrates but does not exhaust all possible states and modes of cognitive and noncognitive causal semiotics. It depicts the causal semiotic flow of cognition from representamen through interpretant as a series of sentient and sapient derivatives. Raw data becomes information through sensation (1, 2); ideas emerge from information by way of intuition (2, 3), to then become beliefs and knowledge through conviction (4, 5). Experience then weaves corroboration of knowledge into comprehensive understanding by justification (5, 6). Wisdom finally emerges in the application of understanding (6,7).

Semiosic dissonance and discord disrupt this flow, of course, where errors, mistakes, bad ideas, misplaced or wrongly held convictions, absence of justification, etc. may lead to an illusion of wisdom where foolishness is the reality. The existential nexus discussed above is a glaring example of where shifting baseline syndrome, cultural lag, and technology (progress) traps are lethal manifestations of precisely that sort of foolhardiness.³⁵¹

Semiosic cognition is formed in and through the causal efficacy (indexicality) of things as they affect the causal neurology (genetic indexicality) of cognitive beings. A *complete* sign, therefore, consists of resonant causal harmonies manifest in the presence of its ground, representamen, and—in the proximate and attending presence of a cognitive being—its interpretant. For semiotic idealists, semiosis is subjective and not coextensive with causality—in the absence of an interpretant, no sign exists. For semiotic realists, in the absence of an interpretant, signs remain signs all the same, indexically-causally at least, but they are in a specific sense *incomplete*, i.e., they remain signs with *potential* or *possible* cognitive instantiation through sentient icons (as *perceived* representamen) and sapient symbols (as *conceived* interpretants), in addition to their manifest presence as causal-indexical “things, objects, grounds, or sorts of ideas” in Peirce’s terms. His example of the bullet-hole in the mould being an *indexical sign* whether anyone happens to notice it or not (i.e., happens to form a cognitive conscious interpretant of it or not) clearly is exactly that sort of sign, namely, an *incomplete* one.

In his “bedazzling sentence,” moreover, Peirce frankly states that signs leave their observers as interpreters to “supply *a part* of their meaning,” i.e., to supply interpretants

³⁵¹ See Figure 4: The Existential Threat Nexus Confronting Humanity (p. 22).

of representamens. The very idea of indexicality as relational Secondness causality makes the two cosmically ubiquitous, one actually cosmic-causal semiotic, the other potentially cognitive-causal semiosic, as that bedazzling sentence asserts. One may be warp and the other weft, but the fabric of the cosmos is woven from both.³⁵²

Surprisingly, in personal correspondence, Fetzer appears to be what is referred to her as a semiotic idealist, which seems to violate key ontic and epistemic aspects of his realism. His distinction between metaphysical “(particular) *kinds of things*” on one hand and physical “*things of (particular) kinds*” on the other indeed does involve a distinction between what is objective and what is subjective. But that distinction would not require dividing causality from semiotics, objective causation from semiotic reality. The better rendering, it seems, is to distinguish between *cognitively incomplete* signs characteristic of *objective cosmic-causal semiotic reality* in contrast to *complete signs* characteristic of *subjective cognitive-causal semiosic realism*. Apart from cognitive being and presence in *semiotic reality*, in other words, *semiosic realism* cannot exist.³⁵³

This is precisely where intensionality makes all the difference: if cognitive being *were* present in semiotic reality, then semiosic realism at least *could* exist—and probably *would*. The ontological essence of cognitive being and presence as such, after all, is that of an objective cosmic-causal semiotic reality. The ontological status of cognitive-causal being and presence in *subjective semiosic realism* is derived from the ontological status the cosmic-causal being and presence of *objective semiotic reality* through which the

³⁵² See the “bedazzling sentence” (p. 75).

³⁵³ See “Kinds of Things and Things of Kinds” above (p. 214).

former exists as a metaphysical (particular) *cognitive* kind of thing that happens to be instantiated as a thing of a (particular) *cognitive* kind.

The trialectic conception of human mentality proposed in this dissertation agrees in general principle with Fetzer's contention that minds are semiotic (causal) systems. The agnostic 9D scientific cosmos model accommodates that theory for the most part. The important distinction drawn here between objective cosmic-causal semiotic reality, in contrast to subjective cognitive-causal semiotic realism, however, is a form of realism wherein, with Peirce, causality and semiotics are regarded as being coextensive.

Fetzer disagrees with this position, drawing the objective/subjective distinction differently. In what I would describe as a form of semiotic *idealism*, Fetzer regards all causality as objective and non-semiotic, apparently insisting that semiotics only exists through cognitive sign-processing, i.e., in semiosis. Minds are cosmic-causal semiotic systems either way, however, so to that extent, the trialectic semioticity proposed in this treatise loosely aligns with the theory of minds as semiotic systems appearing in Fetzer, *Philosophy and Cognitive Science* and in Fetzer, *Computers and Cognition*.

An especially intriguing example for considering the differences in our views recently appeared. As I see it, the gravitational waves emanating from the collision of pair of neutron stars, an event that occurred 130 million years ago and 780 quintillion miles from Earth were in fact *objective cosmic-causal signs in semiotic reality*, albeit (cognitively) incomplete ones as such. The stars were Peircean grounds, objects, "sorts of ideas" and the (radiation and gravity) waveforms emanating from their inspiral collision were representamens *standing for* their objective cosmic-causal being and presence in *semiotic reality*. As such, at the time of their causal manifestation, those waveforms were

surely were *cognitively incomplete* signs (as far as human cognition goes, at least), but that *semiosic* incompleteness in no way negates the *semiotic* indexical Secondness of their representamens relative to their underlying grounding in those stellar objects and the event of their inspiral collision.

As Fetzer sees it, by contrast, while the causal reality of those waveforms and the collision of neutron stars that caused is beyond doubt, they did not become signs of any kind until they were cognitively perceived and interpreted on Earth. They were particular kinds of *causal* things manifest as things of particular *causal* kinds. They did not become particular kinds of *semiotic* things instantiated as things of particular *semiotic* kinds (i.e., they were not even semiotic grounds or representamens), however, until they were later actually manifested in the minds of the cognitive beings on earth who happened to detect and interpret them as such.

It seems to me that in taking this position, Fetzer diverges from Peirce's semiotics as well as his own dispositional ontology and intensional realism. The distinction drawn earlier in this dissertation between *objective cosmic-causal semiotic reality* in contrast to *subjective cognitive-causal semiosic realism* aligns more closely with Peirce. At the same time, it also delineates the ontological and epistemological differences between objective reality and subjective realism on the basis of *semiotics* as it pertains to the reality of signs as such, as opposed to its relevance to cognitive sign-*processing* per se. Causality is the ties that binds these differences together in resonant semiotic/semiosic harmony.

BIBLIOGRAPHY

All Scripture references in this dissertation are from the Zondervan NIV Bible listed below (see also APPENDICES: Miscellaneous, s. v. “NIV”).

- Abbot, B. P. et al. (LIGO Scientific Collaboration and Virgo Collaboration). “GW170817: Observation of Gravitational Waves from a Binary Neutron Star Inspiral.” *Physical Review Letters* 119, no. 161101 (October 16, 2017): 1-18. Accessed November 8, 2017. <https://journals.aps.org/prl/abstract/10.1103/PhysRevLett.119.161101>.
- Ali, Ayaan Hirsi. *Heretic: Why Islam Needs a Reformation Now*. 2015. Reprint, New York: HarperCollins Publishers, 2016.
- . *Infidel*. New York: Atria Books, 2008.
- . *Nomad: From Islam to America—A Personal Journey through the Clash of Civilizations*. New York: Atria Books, 2011.
- American Chemical Society (ACS). “Molecule of the Week: Fluoroantimonic Acid.” April 9, 2007. <https://www.acs.org/content/acs/en/molecule-of-the-week/archive/f/fluoroantimonic-acid.html>.
- Arendt, Hannah. “Truth and Politics.” *The New Yorker*, February 25, 1967.
- Ayer, A. J. *The Origins of Pragmatism: Studies in the Philosophy of Charles Sanders Peirce and William James*. San Francisco: Freeman, Cooper and Co., 1968.
- Bajic, Elena. “How the MBTI Can Help You Build a Stronger Company.” *Forbes*, September 28, 2015. <https://www.forbes.com/sites/elenabajic/2015/09/28/how-the-mbti-can-help-you-build-a-stronger-company/#1ef56983d93c>.
- Barna Group. “2015 Sees Sharp Rise in Post-Christian Population.” Barna. August 12, 2015. <https://www.barna.com/research/2015-sees-sharp-rise-in-post-christian-population/>.
- . *Barna Trends 2017: What's New and What's Next at the Intersection of Faith and Culture*. Grand Rapids, MI: Baker Books, 2016.
- . *Barna Trends 2018: The Truth about a Post-Truth Society*. Grand Rapids, MI: Baker Books, 2017.
- . “Competing Worldviews Influence Today’s Christians.” Barna. May 9, 2017. <https://www.barna.com/research/competing-worldviews-influence-todays-christians/>.

- . “Meet the ‘Spiritual but Not Religious’ (Faith and Spirituality Outside the Church Part Two).” Barna. April 6, 2017. <https://www.barna.com/research/meet-spiritual-not-religious/>.
- . “Meet Those Who ‘Love Jesus but Not the Church’ (Faith and Spirituality Outside the Church Part One).” Barna. March 30, 2017. <https://www.barna.com/research/meet-love-jesus-not-church/>.
- . “The State of the Church 2016.” Barna. September 15, 2016. <http://www.barna.com/research/state-church-2016>.
- . “Year in Review: Barna’s Top 10 Findings in 2015.” Barna. December 16, 2016. <http://www.barna.com/research/year-in-review-barnas-top-10-findings-in-2015/>.
- B., A. “Let’s Get Rational: Quick Study: Chris Hedges on the Capitalist Coup d’état.” *The Economist*, September 17, 2012. <https://www.economist.com/blogs/prospero/2012/09/quick-study-chris-hedges-capitalist-coup-d%E2%80%99etat>.
- Bauman, Zygmunt. *Liquid Modernity*. 2000. Reprint, Cambridge, UK: Polity Press, 2012.
- Bentley, Arthur F. “The Human Skin: Philosophy’s Last Line of Defense.” *Philosophy of Science* 8, no. 1 (January 1941): 1-19.
- Berghuis, Carolyn. “Home Page.” The LIVE Method. Accessed December 12, 2018. <https://www.thelivemethod.com/>.
- Bernstein, Carl, and Bob Woodward. *All the President’s Men: The Greatest Reporting Story of All Time*. 1974. Rev. ed. New York: Simon and Schuster, 2014.
- Bethell, Leslie, ed. *The Cambridge History of Latin America*. 1984. Vol. 2, *Colonial Latin America*. Reprint, New York: Cambridge University Press, 1997.
- Brent, Joseph. *Charles Sanders Peirce: A Life*. 1993. Rev. ed. Bloomington: Indiana University Press, 1998.
- . “Pursuing Peirce.” *Arisbe* website, December 27, 1997. <http://www.iupui.edu/~arisbe/menu/library/aboutcsp/brent/PURSUIING.HTM>.
- Bucher, Meg. “What Does ‘the Joy of the Lord Is My Strength’ Mean in the Bible?” Bible Study Tools. February 1, 2019, <https://www.biblestudytools.com/bible-study/topical-studies/what-does-the-joy-of-the-lord-is-my-strength-mean.html>.
- Bullock, Allen, and Stephen Trombley, eds. *The New Fontana Dictionary Of Modern Thought*. 3rd ed. London: Harper-Collins, 1999.

- Butcher, James N. "MMPI-2, MMPI-A, and Minnesota Reports: Research and Clinical Applications." University of Minnesota. Accessed December 12, 2018. <http://mmpi.umn.edu/>.
- Carkner, Gordon E. "Charles Taylor Articulates The Immanent Frame Of The Secular". Blog. *ubcgcu*, 2012. <https://ubcgcu.org/2013/10/11/charles-taylor-on-secularity-immanent-frame/>.
- Carson, D. A., ed. *New International Version: NIV Cultural Backgrounds Study Bible: Bringing to Life the Ancient World of Scripture*. Grand Rapids, MI: Zondervan, 2015.
- Catholic Online. "Theology Is Unnecessary,' Stephen Hawking Says." *Living Faith*, 9/12/2010. <https://www.catholic.org/news/hf/faith/story.php?id=38235>.
- Carver, Jeff. "Introduction to Spiritual Gifts." Spiritual Gifts Test. Accessed December 12, 2018. <https://spiritualgiftstest.com/introduction-spiritual-gifts/>.
- Ceballos, Gerardo, Paul Ehrlich, and Rodolfo Dirzo. "Biological Annihilation via the Ongoing Sixth Mass Extinction Signaled by Vertebrate Population Losses and Declines." *Proceedings of the National Academy of Sciences of the United States of America* (PNAS), 114, no. 30 (July 25, 2017). 10.1073/pnas.1704949114.
- Center for Climate and Security (CCS) "BRIEFER No 29: The Climate-Nuclear-Security-Nexus: A Collision Course or a Road to New Opportunities ."May 2, 2017. Washington, DC: Council on Strategic Risks. https://climateandsecurity.files.wordpress.com/2012/04/the-climate-nuclear-security-nexus_a-collision-course-or-a-road-to-new-opportunities_briefer-29.pdf.
- Center for Climate & Security (CCS). "Responsibility to Prepare." The Center for Climate & Security (CCS). Accessed November 27, 2018. <https://climateandsecurity.org/responsibilitytoprepare/>.
- Chomsky, Noam. *American Power and the New Mandarins*. New York: Random House, 1969.
- . *Failed States: The Abuse of Power and the Assault On Democracy*. New York: Metropolitan Books, Henry Holt and Company, 2006.
- . *Occupy*. 2nd ed. Occupied Media Pamphlet Series. Westfield, NJ: Zuccotti Park Press, 2013. Kindle.
- . *Requiem for the American Dream: The 10 Principles of Concentration of Wealth and Power*. New York: Seven Stories Press, 2017.
- . "A Special Supplement: The Responsibility of Intellectuals." *The New York Review of Books*, February 23, 1967.

<https://www.nybooks.com/articles/1967/02/23/a-special-supplement-the-responsibility-of-intelle/>.

———. *Who Rules the World?* New York: Metropolitan Books, Henry Holt and Company, 2016.

Clarke, Bowman L. *Language and Natural Theology*. In *Janua Linguarum. Series Minor*, 47. The Hauge, Paris, FR: Mouton & Co., 1966.

Cloete, Dirk (founder). "Enneagram History and Origins." Integrative9 Enneagram Solutions. Accessed December 12, 2018.
<https://www.integrative9.com/enneagram/history/>.

Comte, Auguste. *Introduction to Positive Philosophy*. Frederick Ferré, editor. Indianapolis, IN: Hackett Pub. Co., 1988.

Cook, John, Naomi Oreskes, Peter T Doran, William R L Anderegg, Bart Verheggen, Ed W Maibach, J Stuart Carlton, Stephan Lewandowsky, Andrew G Skuce, Sarah A Green, Dana Nuccitelli, Peter Jacobs, Mark Richardson, Bärbel Winkler, Rob Painting, and Ken Rice. "Consensus on consensus: a synthesis of consensus estimates on human-caused global warming." *Environmental Research Letters* 11, no. 4 (April 1, 2016): 048002-008. <http://dx.doi.org/10.1088/1748-9326/11/4/048002>.

Cooray, T.M.J.A. *Complex Analysis with Vector Calculus*. Oxford, UK: Alpha Science International, Ltd., 2006.

Copi, Irving M. *Introduction to Logic*. 5th ed. New York: Macmillan, 1978.

Corrington, Robert S. *A Semiotic Theory of Theology and Philosophy*. Cambridge, MA: Cambridge University Press, 2008.

Craven, Jack. "The Combination to Your Team's Recurring Problem: The Enneagram Personality Test." *Forbes*, October 31, 2017.
<https://www.forbes.com/sites/forbescoachescouncil/2017/10/31/the-combination-to-your-teams-recurring-problem-the-enneagram-personality-test/#76a20ef15520>.

Davies, Jeremy. *The Birth of the Anthropocene*. Oakland: University of California Press, 2016. Kindle.

Dawkins, Richard. *The Blind Watchmaker: Why the Evidence of Evolution Reveals a Universe Without Design*. 1987. Reprint, New York: W. W. Norton and Company, 2015.

Deledalle, Gérard. *Charles S. Peirce: An Intellectual Biography*. Translated by Susan Petrilli. Philadelphia, PA: John Benjamins Publishing Co., 1990.

- Dolan, Timothy. "Called to Lead: How Do I Know?" In *Organizational Leadership: Foundations and Practices for Christians*, edited by Jack Burns and John R. Shoup, 15-34. Downers Grove, IL: InterVarsity Press, 2014.
- . "Sustaining the Leader" In *Organizational Leadership: Foundations and Practices for Christians*, edited by Jack Burns and John R. Shoup, 253-77. Downers Grove, IL: InterVarsity Press, 2014.
- Douglas, Heather. "Rejecting the Ideal of Value-Free Science." In *Value-Free Science? Ideals and Illusions*, 120-142. Kincaid, Harold, John Dupré, and Alison Wylie, eds. New York: Oxford University Press, 2007.
- Dreiling, Michael C. and Derek Darves. *Agents of Neoliberal Globalization: Corporate Networks, State Structures, and Trade Policy*. New York: Cambridge University Press, 2016.
- Dreyfus, Hubert L, and Charles Taylor. *Retrieving Realism*. Cambridge, MA: Harvard University Press, 2015.
- Dumas, Lloyd J. *The Technology Trap: Where Human Error and Malevolence Meet Powerful Technologies*. Santa Barbara: Praeger, 2010.
- The Economist*. "To the Dark Side: Of What is the Universe Really Made?" August 22, 2015. <https://www.economist.com/science-and-technology/2015/08/22/to-the-dark-side>.
- Ehrlich, Paul R., Peter M. Kareiva, and Gretchen C. Daily. "Securing Natural Capital and Expanding Equity to Rescale Civilization." *Nature* 486, no. 7401 (7 June 2012): 68-73. <http://dx.doi.org/10.1038/nature11157>.
- Einstein, Albert. *Relativity: The Special and General Theory*. Routledge Classics. New York: Routledge, 2001.
- Elliott, John H. *Empires of the Atlantic World: Britain and Spain in America 1492-1830*. New Haven, CT: Yale University Press, 2006.
- Engel, Mason. 2084. North Charleston, SC: CreateSpace Independent Publishing Platform, 2017.
- Fayed, Lisa. "Cerebrospinal Fluid: CSF Cushions Your Brain Protecting It From Injury." Reviewed by Doru Paul, MD. VeryWellHealth. Last modified July 5, 2018. <https://www.verywellhealth.com/cerebrospinal-fluid-514082>.
- Ferguson, Niall. *Colossus: The Rise and Fall of the American Empire*. New York: Penguin Books, 2005.
- Ferré, Frederick. *Language, Logic, and God*. 1961. Reprint. Westport, CT: Greenwood Press, 1977.

- Fetzer, James H., ed. *The 9/11 Conspiracy: The Scamming of America*. Chicago: Catfeet Press, 2007.
- . *America Nuked On 9/11: Compliments of the CIA, the Neocons in the DOD and the Mossad*. Saginaw, MN: Moon Rock Books, 2016.
- , ed. *Assassination Science: Experts Speak Out on the Death of JFK*. Chicago: Open Court, 1998.
- . *Computers and Cognition: Why Minds Are Not Machines*. Studies in Cognitive Systems Vol. 25, Dordrecht, NL: Kluwer Academic Publishers, 2001.
- . *The Evolution of Intelligence: Are Humans the Only Animals with Minds?* Chicago: Open Court, 2005.
- . Editor. *Foundations of Philosophy of Science: Recent Developments*. Paragon Issues in Philosophy. New York: Paragon House, 1993.
- . "Peirce and the Philosophy of AI." The Digital Encyclopedia of Charles S. Peirce. Accessed December 16, 2018.
http://www.digitalpeirce.fee.unicamp.br/ai_fetzer.htm
- . "Peirce and Propensities." The Digital Encyclopedia of Charles S. Peirce. Accessed December 16, 2018.
http://www.digitalpeirce.fee.unicamp.br/ai_fetzer.htm.
- . *Philosophy and Cognitive Science*. Paragon Issues in Philosophy. New York: Paragon House, 1991.
- . *Philosophy of Science*. New York: Paragon House, 1998.
- . *Render unto Darwin: Philosophical Aspects of the Christian Right's Crusade Against Science*. Chicago: Open Court, 2007.
- . *Scientific Knowledge: Causation, Explanation, and Corroboration*. Boston Studies in the Philosophy of Science, vol. 69. Dordrecht, NL: Springer (Netherlands, 1981. <http://dx.doi.org/10.1007/978-94-009-8558-2>).
- . *Studies in Cognitive Systems*. Series Editor-in-Chief 30 vols. Dordrecht, NL: Springer Netherlands, 1988-2003. Accessed July 2, 2018.
<https://www.springer.com/series/5773>.
- . "Thinking and Computing: Computers as Special Kinds of Signs." The Digital Encyclopedia of Charles S. Peirce. Accessed December 16, 2018.
http://www.digitalpeirce.fee.unicamp.br/thinking_fetzer.htm.
- , and Donald E. Nute. "A Probabilistic Causal Calculus: Conflicting Conceptions (Errata)." *Synthese* 44, no. 2 (June 1980). Dordrecht, NL: Springer Netherlands,

1980. 241-246.

<https://link.springer.com/content/pdf/10.1007%2FBF01063990.pdf>

———, and Donald E. Nute. “A Probabilistic Causal Calculus: Conflicting Conceptions.” *Synthese* 48, no. 3 (September 1981). Dordrecht, NL: Springer Netherlands: 493. <http://dx.doi.org/10.1007/BF01063990>.

———, and Donald E. Nute. “Syntax, semantics, and ontology: A probabilistic causal calculus.” *Synthese* 40, no. 3 (March 1979). Dordrecht, NL: Springer Netherlands: 453-5. <http://dx.doi.org/10.1007/BF00413415>.

Fleurant, Aude, Alexandra Kuimova, Nan Tian, Pieter D. Wezeman, and Siemon T. Wezeman. “The SIPRI Top 100 Arms-Producing and Military Services Companies, 2017.” *Stockholm International Peace Research Institute (SIPRI) Arms Industry Database* (December 2018). <https://sipri.org/publications/2018/sipri-fact-sheets/sipri-top-100-arms-producing-and-military-services-companies-2017>.

Formisano, Ronald P. *American Oligarchy: The Permanent Political Class*. Urbana IL: University of Illinois Press, 2017. Kindle.

———. *Plutocracy in America: How Increasing Inequality Destroys the Middle Class and Exploits the Poor*. Baltimore, MD: Johns Hopkins University Press, 2015. Kindle.

Foucault, Michel. *Discipline and Punish: The Birth of the Prison*. 1975. 2nd ed. Translated by Alan Sheridan. New York: Random House, 1995. Kindle.

French, Kristen. “This Pastor Is Putting His Faith in a Virtual Reality Church.” *Wired*, 02.02.2018. <https://www.wired.com/story/virtual-reality-church/>.

Gaines, Elliot. “Communication and the Semiotics of Space.” *Journal of Creative Communications* 1, no. 2 (July 1, 2006): 173-81. <http://dx.doi.org/10.1177/097325860600100203>.

Garson. “We Don’t See Things as They Are, We See Them as We Are.” Quote Investigator. March 9, 2014. <https://quoteinvestigator.com/2014/03/09/as-we-are/>.

Geary, James. *I Is an Other: The Secret Life of Metaphor and How It Shapes the Way We See the World*. New York: Harper Perennial, 2012.

Gilens, Martin, and Benjamin I. Page. “Testing Theories of American Politics: Elites, Interest Groups, and Average Citizens.” *Perspectives on Politics* 12, no. 03 (September 2014): 564-81. <http://dx.doi.org/10.1017/S1537592714001595>.

Godbey, Holly. “Shifting Baseline Syndrome.” Permaculture Research Institute. September 9, 2016. <https://permaculturenews.org/2016/09/09/shifting-baseline-syndrome/>.

- Griffin, David Ray. *Bush and Cheney: How They Ruined America and the World*. Northampton, MA: Olive Branch Press, an imprint of Interlink Publishing Group, Inc., 2017.
- Grosholz, Emily R. *Cartesian Method and the Problem of Reduction*. New York: Clarendon Press, 1991.
- Gunderson, Jaimie. "Theoretical Models of Space." University of Texas at Austin, December 13, 2014. <https://sites.utexas.edu/religion-theory/bibliographical-resources/spatial-theory/annotated-bibliography-for-spatial-theory/theoretical-models-of-space/>
- . *Christian Faith and the Truth Behind 9/11: A Call to Reflection and Action*. Louisville, KY: Westminster John Knox Press, 2006.
- . *The New Pearl Harbor Revisited: 911, the Cover-Up, and the Expose*. New York, NY: Interlink Publications, 2012. Accessed September 20, 2017. <http://ebookcentral.proquest.com/lib/ucm/detail.action?docid=1103347>.
- Haack, Susan. *Defending Science--within Reason: Between Scientism and Cynicism*. 2003. Reprint, Amherst, NY: Prometheus Books, 2007. Kindle.
- . "Six Signs of Scientism." *Logos and Episteme* 3, no. 1 (March 2012): 75-95. <http://logos-and-episteme.acadiasi.ro/wp-content/uploads/2015/02/SIX-SIGNS-OF-SCIENTISM.pdf>.
- Hacking, Ian, ed. *Scientific Revolutions*. 2nd ed. New York: Oxford University Press, 1990.
- Hahn, Hans, Otto Neurath, and Rudolf Carnap. "The Scientific World-Conception. The Vienna Circle" in *Wissenschaftliche Weltauffassung. Der Wiener Kreis. Hrsg. vom Verein Ernst Mach. (1929)*. [The Scientific World-Conception. The Vienna Circle. Published by the Ernst Mach Society. (1929).] 1929, edited by Friedrich Stadler and Thomas E. Uebel. Reprint, 75-114. New York: Springer, 2012.
- Hanson, Robin. "The Great Filter - Are We Almost Past It?" George Mason University. September 15, 1998. <http://mason.gmu.edu/~rhanson/greatfilter.html>.
- Harari, Yuval Noah. *21 Lessons for the 21st Century*. New York: Spiegel & Grau, 2018.
- Harcourt, Bernard. "Columbia Center for Contemporary Critical Thought." Columbia Law School. Accessed December 12, 2018. <https://cccet.law.columbia.edu/>.
- . "Columbia Center for Contemporary Critical Thought." International Consortium of Critical Theory Programs, accessed December 12, 2018, <http://directory.criticaltheoryconsortium.org/centers/columbia-center-for-contemporary-critical-thought/>.

- Harris, Sam. *Waking Up: A Guide to Spirituality Without Religion*. New York: Simon and Schuster, 2015. Kindle.
- Hawking, Stephen. *The Universe in a Nutshell*. New: Bantam Books, 2001.
- Hedges, Chris. *America: The Farewell Tour*. New York: Simon & Schuster, 2018. Kindle.
- . *American Fascists: The Christian Right and the War on America*. 2006. Reprint, New York: Free Press, 2008. Kindle.
- . "Apocalyptic Capitalism." Truthdig. December 7, 2015. <https://www.Truthdig.com/articles/apocalyptic-capitalism/>
- . "The Deadly Rule of the Oligarchs." Truthdig. February 11, 2018. <https://www.truthdig.com/articles/deadly-rule-oligarchs/>.
- . "Democracy in America Is a Useful Fiction," Truthdig. January 24, 2010, <https://www.truthdig.com/articles/democracy-in-america-is-a-useful-fiction/>.
- . *Empire of Illusion: The End of Literacy and the Triumph of Spectacle*. New York: Nation Books, 2009.
- . "Hands Off Iran." *The Nation*, December 10, 2007. <https://www.thenation.com/article/hands-iran/>.
- . "The Permanent Lie: Our Deadliest Threat." Truthdig. December 17, 2017. <https://www.truthdig.com/articles/permanent-lie-deadliest-threat/>.
- . *Wages of Rebellion: The Moral Imperative of Revolt*. New York: Nation Books, 2016.
- . *The World as It Is: Dispatches on the Myth of Human Progress*. New York, NY: Norton Books, 2011. Kindle.
- Holmes, Richard. "Genre Analysis, And The Social Sciences: An Investigation Of The Structure Of Research Article Discussion Sections In Three Disciplines". *English For Specific Purposes* 16, no. 4 (1997): 321-337. [https://doi.org/10.1016/S0889-4906\(96\)00038-5](https://doi.org/10.1016/S0889-4906(96)00038-5).
- Hoornweg, Daniel, Perinaz Bhada-Tata, and Chris Kennedy. "Environment: Waste Production Must Peak This Century". *Nature* 502, no. 7473 (2013): 615-617. <https://doi.org/10.1038/502615a>.
- Horn, Robert E., ed. *Trialectics: Toward a Practical Logic of Unity*. Lexington, MA: Information Resources, Inc., 1983.

- Hossenfelder, Sabine. *Lost in Math: How Beauty Leads Physics Astray*. New York: Basic Books, 2018. Kindle.
- Hume, David. *An Enquiry Concerning Human Understanding*. 1777. Reprint, Seattle: Amazon Digital Services, 2012.
- Huxley, Aldous. *Brave New World*. 1931. Reprint, North Charleston, SC: CreateSpace Independent Publishing Platform, 2016.
- Ichazo, Óscar (founder). *Between Metaphysics and Protoanalysis: A Theory for Analyzing the Human Psyche*. New York: Arica Institute Press, 1982.
- . “Home Page.” Arica Institute. Accessed December 12, 2018. <https://www.arica.org/>.
- . *The Human Process for Enlightenment and Freedom: A Series of Five Lectures*. Kent, CT: Arica Institute, 1976.
- . *Interviews with Oscar Ichazo*. New York: Oscar Ichazo Foundation, 1982.
- Jensen, Derrick. *Endgame*. Vol. 1, *The Problem of Civilization*. New York: Seven Stories Press, 2006. Kindle.
- Kotlikoff, Laurence. “Is Our Government Intentionally Hiding \$21 Trillion in Spending?” *Forbes*, July 21, 2018, <https://www.forbes.com/sites/kotlikoff/2018/07/21/is-our-government-intentionally-hiding-21-trillion-in-spending/>.
- Kruse, Kevin M. *One Nation Under God: How Corporate America Invented Christian America*. 2015. Reprint, New York: Basic Books, 2016.
- Kuhn, Thomas S. *The Copernican Revolution: Planetary Astronomy in the Development of Western Thought*. 1957. 24th printing. Reprint, Cambridge, MA: Harvard University Press, 2003.
- . *The Structure of Scientific Revolutions: 50th Anniversary Edition*. Fourth edition. Chicago: The University of Chicago Press, 2012.
- Kumar, Anugrah. “Are Virtual Reality Churches the Wave of the Future?” *Christian Post*, February 04, 2018. <https://www.christianpost.com/news/virtual-reality-churches-future.html>.
- Lagopoulos, A P. “Postmodernism, geography, and the social semiotics of space.” *Environment and Planning D: Society and Space* 11, no. 3 (undefined): 255-78. <http://dx.doi.org/10.1068/d110255>.
- Langone Health, *Researchers Find New ‘Organ’ Missed by Gold Standard Methods for Visualizing Anatomy & Disease*. March 27, 2018 (press release). <https://>

nyulangone.org/press-releases/researchers-find-new-organ-missed-by-gold-standard-methods-for-visualizing-anatomy-disease.

Larson, Edward J. "C. S. Lewis On Science as a Threat to Freedom." In *The Magician's Twin: C. S. Lewis On Science, Scientism, and Society*. John G. West, editor. 9-44. Seattle: Discovery Institute Press, 2012. Kindle.

Laub, Zachary, and James McBride. "The Group of Seven (G7)." *Council on Foreign Relations*, May 30, 2017, <https://www.cfr.org/backgrounder/group-seven-g7>.

Lee, Stephanie. "The Group of 20." *Council on Foreign Relations*, March 30, 2009. <https://www.cfr.org/backgrounder/group-20>.

Lefebvre, Henri. *The Production of Space*. 1991. Translated by Donald Nicholson-Smith. Reprint, Malden, MA: Blackwell Publishers, Inc., 2000.

Lewis, C. S. *The Abolition of Man, Or, Reflections on Education with Special Reference to the Teaching of English in the Upper Forms of Schools*. 1944. Kindle. Reprint, San Francisco: Harper Collins eBooks, 2009.

———. *Mere Christianity*. 1952. Rev. ed. New York: HarperCollins e-books, 2009. Kindle.

———. *Words to Live By: A Guide for the Merely Christian*. Digital edition. Edited by Paul F. Ford. New York: HarperCollins e-books, 2009. Kindle.

Lewis, Simon L., and Mark Maslin. *The Human Planet: How We Created The Anthropocene*. New Haven, CT: Yale University Press, 2018.

Mastin, Luke. "The Big Bang and the Big Crunch (Introduction)." *The Physics of the Universe*. October 15, 2009. https://www.physicsoftheuniverse.com/topics_bigbang.html.

McGilchrist, Iain. *The Master and His Emissary: The Divided Brain and the Making of the Western World*. New Haven, CT: Yale University Press, 2009.

Meadows, Donella H., Dennis L. Meadows, Jorgen Randers, and William W. Behrens III. *The Limits To Growth: A Report For The Club Of Rome's Project On The Predicament Of Mankind*. 1st ed. New York: Universe Books, 1972.

Means, Ryan, and Rebecca P. Means. "Shifting Baseline Syndrome." *Project Remote* (blog). 2018. Accessed July 2, 2018, <http://remotefootprints.org/take-action/issues>.

Miller, David Philip. "The Story of 'Scientist: The Story of a Word'." *Annals of Science* 74, no. 4 (October 2017): 255-61. <http://dx.doi.org/10.1080/00033790.2017.1390155>.

- Miller, Jim T. "How To Save Money By Donating Your Body To Science". *Huffington Post*, 2013. https://www.huffingtonpost.com/jim-t-miller/how-to-save-money-by-donating-your-body-to-science_b_2162564.html.
- Millon, Theodore, Roger Davis, Carrie Millon, and Seth Grossman. "The Millon Clinical Multiaxial Inventory-III (MCMI-III)." *The Millon Personality Group* (2009). <https://www.millonpersonality.com/inventories/MCMI-III/>.
- Möllers, Nina. "Paul J. Crutzen: 'Mister Anthropocene'." Accessed November 24, 2018. <http://www.environmentandsociety.org/exhibitions/anthropocene/paul-j-crutzen-mister-anthropocene>.
- Mooney, Chris, and Sheril Kirshenbaum. *Unscientific America: How Scientific Illiteracy Threatens Our Future*. New York: Basic Books, 2010.
- Morton, J. L. "Color Systems - RGB and CMYK." Color Matters. Accessed January 1, 2019. <https://www.colormatters.com/color-and-design/color-systems-rgb-and-cmyk>.
- Myers, Isabel, and Katherine Briggs. "MBTI Basics." The Myers and Briggs Foundation. Accessed December 12, 2018. <https://www.myersbriggs.org/my-mbti-personality-type/mbti-basics/>.
- National Institute of Health (NIH). "Bipolar Disorder." National Institute Of Mental Health (NIMH), Last modified 2016. <https://www.nimh.nih.gov/health/topics/bipolar-disorder/index.shtml>.
- Niebuhr, Reinhold. *Moral Man and Immoral Society: a Study in Ethics and Politics*. 1932. Arkosh Politics. Reprint. Arkosh Publishing, 2017. Kindle.
- Norberg, Johan. *Progress: Ten Reasons to Look Forward to the Future*. 2016. Reprint, London, UK: Oneworld Publications, 2017.
- Nute, Donald E. *Essential Formal Semantics*. Totowa, NJ: Rowman and Littlefield, 1981.
- . *Topics in Conditional Logic*. Philosophical Studies Series in Philosophy, Vol. 20. Dordrecht, NL: D. Reidel Pub. Co., 1980.
- Ohlheiser, Abby. "After Kicking Out Russia, the G8 is now the G7." *The Atlantic*, March 24, 2014. <https://www.theatlantic.com/international/archive/2014/03/after-kicking-out-russia-the-g8-is-now-the-g7/359504/>.
- Olson, Roger E. *The Journey of Modern Theology: From Reconstruction to Deconstruction*. Downers Grove: IVP Academic, 2013.
- Orwell, George. *1984*. 1949. Reprint, New York: Houghton Mifflin Harcourt, 2017. Kindle.

- . *Animal Farm*. 1945. Reprint. New Delhi, IN: OM Publishing, 2015).
- Ostling, Richard. "Is the 'New Atheism' Any Different from Old Atheism?." October 14, 2013. <https://www.patheos.com/blogs/getreligion/2013/10/is-the-new-atheism-any-different-from-old-atheism/>.
- Page, Benjamin I., and Martin Gilens. *Democracy in America? What Has Gone Wrong and What We Can Do About It*. Chicago: University of Chicago Press, 2017. Kindle.
- Parthemore, Christine, and Janne Nolan, editors. "Working Group on Climate, Nuclear, and Security Affairs: Report 1." The Center for Climate and Security (CCS). November 15, 2017. <https://climateandsecurity.org/cnsareport1/>.
- Pelikan, Jaroslav. *Imago Dei: The Byzantine Apologia for Icons*. Bollingen Series. Vol. 36. 1990. Reprint, Princeton, NJ: Princeton University Press, 2011
- Pew Research Center. "America's Changing Religious Landscape." Washington, DC: Pew Research Center, May 12, 2015. <http://www.pewforum.org/2015/05/12/americas-changing-religious-landscape/>.
- . "The Changing Global Religious Landscape." Washington, DC: Pew Research Center, April 5, 2017. <http://www.pewforum.org/2017/04/05/the-changing-global-religious-landscape/>.
- . "Christians Remain World's Largest Religious Group, But They Are Declining in Europe." Washington, DC: Pew Research Center, April 5, 2017. <http://www.pewresearch.org/fact-tank/2017/04/05/christians-remain-worlds-largest-religious-group-but-they-are-declining-in-europe/>.
- . "The Future of World Religions: Population Growth Projections 2010-2050." Washington, DC: Pew Research Center, April 2, 2015. <http://www.pewforum.org/2015/04/02/religious-projections-2010-2050>.
- . "Many Americans Mix Multiple Faiths." Washington, DC: Pew Research Center, December 9, 2009, <http://www.pewforum.org/2009/12/09/many-americans-mix-multiple-faiths/>.
- . "Religious Landscape Study." Washington, DC: Pew Research Center, April 5, 2017. <http://www.pewforum.org/religious-landscape-study/>. ii
- . "The Science People See On Social Media." Washington, DC: Pew Research Center, March 21, 2018. <http://www.pewinternet.org/2018/03/21/the-science-people-see-on-social-media/>.
- . "Scientists and Belief." Washington, DC: Pew Research Center, November 5, 2009. <http://www.pewforum.org/2009/11/05/scientists-and-belief/>.

- . "U.S. Public Becoming Less Religious." Washington, DC: Pew Research Center, November 3, 2015. <http://www.pewforum.org/2015/11/03/u-s-public-becoming-less-religious/>.
- Phys.Org. "'The Mind of God': Top Quotes from Stephen Hawking." *ScienceX*, March 14, 2018. <https://phys.org/news/2018-03-mind-god-quotes-stephen-hawking.html>.
- Plantinga, Alvin. "Dr. Alvin Plantinga on New Atheists vs. Old Atheists." YouTube video. May 25, 2013. 0.0:49. <https://www.youtube.com/watch?v=p8tvzgZPuAs>.
- . *Where the Conflict Really Lies: Science, Religion, and Naturalism*. New York: Oxford University Press, 2011.
- Pohl, Rüdiger F. *Cognitive Illusions: A Handbook On Fallacies and Biases in Thinking, Judgement and Memory*. 2004. Reprint, New York: Psychology Press, 2005.
- Popper, Karl. *Conjectures and Refutations: The Growth of Scientific Knowledge*. 1963. Reprint, New York: Harper & Row, 1968.
- . *The Logic of Scientific Discovery*. New York: Harper & Row, 1965. Quoted in James H. Fetzer. *Philosophy of Science*. Paragon Issues in Philosophy. New York: Paragon House, 1993.
- Quine, W. V. "Mr. Strawson on Logical Theory." *Mind* 62, no. 24, (October 1953), 433-451. <https://www.jstor.org/stable/2251091>.
- Reidmiller, D. R., C. W. Avery, D. R. Easterling, K. E. Kunkel, K. L. M. Lewis, T. K. Maycock, and B. C. Stewart, eds. *The Fourth National Climate Assessment: Volume II: Impacts, Risks, and Adaptation in the United States*. Washington, DC: U. S. Global Change Research Program (USGCRP), 2018. <https://nca2018.globalchange.gov/>.
- Ross, Sydney. "Scientist: The Story of a Word." *Annals of Science* 18, no. 2 (June 1962), 65-85. <https://doi.org/10.1080/00033796200202722>.
- Requiem for the American Dream*, directed by Peter D. Hutchinson, Kelly Nyks, and Jared P. Scott, featuring Noam Chomsky. Naked City Films in association with PF Pictures, 2015. <https://www.netflix.com/watch/80083790>.
- Rettner, Rachael. "Meet Your Intersitium, a Newfound 'organ'." *Scientific American*, March 27, 2018. <https://www.scientificamerican.com/article/meet-your-interstitium-a-newfound-organ/>.
- Schwab, Klaus. *The Fourth Industrial Revolution*. Geneva, CH: World Economic Forum, 2016.
- Sebeok, Thomas A., editor. *A Perfusion of Signs*. Bloomington: Indiana University, 1977.

- . *Signs: An Introduction to Semiotics*. 1994. Toronto Studies in Semiotics. Reprint, Toronto: University of Toronto, 1999.
- Sharot, Tali. “The Optimism Bias.” *Current Biology* 21, no. 23 (December 6, 2011): R941-R945. <http://dx.doi.org/10.1016/j.cub.2011.10.030>.
- Simons, Gary F. and Charles D. Fennig (eds.). 2018. *Ethnologue: Languages of the World*, Twenty-first edition. Dallas, TX: SIL International, 2018. <https://www.ethnologue.com>.
- Snow, C. P. *The Two Cultures and the Scientific Revolution*. 1959. Reprint, Eastford, CT: Martino Fine Books, 2018.
- Soja, Edward W. *Thirdspace: Journeys to Los Angeles and Other Real-and-Imagined Places*. 1996. Reprint, Malden, MA: Blackwell Publishers, Inc., 2000.
- Sorell, Tom. *Scientism: Philosophy and the Infatuation with Science*. 1991. International Library of Philosophy. Reprint, New York: Routledge, 1994. Kindle.
- Sowa, John F. “The Role of Logic and Ontology in Language and Reasoning.” In *Theory and Applications of Ontology: Philosophical Perspectives*, edited by Roberto Poli and Johanna Seibt, 231-63. Dordrecht, NL: Springer Science+Business Media, 2010.
- . “Signs and Reality.” *Applied Ontology* 10, nos. 3-4 (December 2015). Clifton, VA: IOS Press. 273-84.
- Spencer, Roy W. *Climate Confusion: How Global Warming Hysteria Leads to Bad Science, Pandering Politicians and Misguided Policies That Hurt the Poor*. 2008. Rev. ed. New York: Encounter Books, 2009.
- . *The Great Global Warming Blunder: How Mother Nature Fooled the World’s Top Climate Scientists*. New York: Encounter Books, 2012.
- Stadler, Friedrich. *The Vienna Circle: Studies in the Origins, Development, and Influence of Logical Empiricism*. Vienna, AT: Springer, 2015.
- Suppes, Patrick. *Axiomatic Set Theory*. University Series in Undergraduate Mathematics. New York: Dover Publications, 1972.
- Sweet, Leonard. “The E-Word! Part 1.” October 15, 2018. *Napkin Scribbles: A Podcast by Leonard Sweet*, licensed under Creative Commons, 5:32. <https://soundcloud.com/napkinscribbles/the-e-word-part-1>.
- . “The E-Word! Part 2.” October 22, 2018. *Napkin Scribbles: A Podcast by Leonard Sweet*, licensed under Creative Commons, 7:03, <https://soundcloud.com/napkinscribbles/the-e-word-part-2>.

- . *Giving Blood: A Fresh Paradigm for Preaching*. Grand Rapids, MI: Zondervan, 2014. Kindle.
- . *The Gospel According to Starbucks: Living with a Grande Passion*. Colorado Springs, CO: WaterBrook, 2007.
- . *I Am a Follower: The Way, Truth, and Life of Following Jesus*. Nashville, Tenn.: Thomas Nelson, 2012. Kindle.
- . *Nudge: Awakening Each Other to the God Who's Already There*. Colorado Springs, CO: David C. Cook, 2010.
- . *Post-Modern Pilgrims: First Century Passion for the 21st Century World*. Nashville: Broadman & Holman, 2000.
- . *Rings of Fire: Walking in Faith through a Volcanic Future*. Forthcoming, 2019.
- . *So Beautiful: Divine Design for Life and the Church*. Colorado Springs, CO: David C. Cook, 2009.
- . *soulTsunami: Sink or Swim in New Millennium Culture*. Grand Rapids, MI: Zondervan, 1999.
- Taylor, Charles. "Buffered and Porous Selves." *The Immanent Frame*. September 2, 2008. <https://tif.ssrc.org/2008/09/02/buffered-and-porous-selves/>.
- . *Modern Social Imaginaries*. Public Planet Books. Durham, NC: Duke University Press Books, 2004.
- . *A Secular Age*. Cambridge, MA: Belknap Press of Harvard University Press, 2007. Kindle.
- . *Sources Of The Self*. Cambridge, MA: Harvard University Press, 2001.
- Taylor, Jill Bolte. "My Stroke of Insight." Lecture, TED Talk, Monterey, CA, February 2008. https://www.ted.com/talks/jill_bolte_taylor_s_powerful_stroke_of_insight.
- . *My Stroke of Insight: A Brain Scientist's Personal Journey*. New York, NY: Viking, 2008.
- Trammell, Richard Louis. "Charles Sanders Peirce and Henry James the Elder." *Transactions of the Charles S. Peirce Society* 9, no. 4 (Fall 1973): 202-20. https://www.jstor.org/stable/40319691?seq=1#page_scan_tab_contents.
- Van Leeuwen, Theo. *Introducing Social Semiotics*. New York: Routledge, 2005. <https://ebookcentral.proquest.com/lib/uAlberta/detail.action?docid=200044>.

- Vega, Jose. "Brain Ventricles Location, Role and Potential Issues." Reviewed by Richard N. Fogoros, MD. VeryWellHealth. Last modified March 8, 2018. <https://www.verywellhealth.com/brain-ventricles-3146168>.
- Venn, John. "On the Diagrammatic and Mechanical Representation of Propositions and Reasonings." *The London, Edinburgh and Dublin Philosophical Magazine and Journal of Science* X, no. LIX (July 1880): 1-18.
- Vigen, Tyler. *Spurious Correlations*. New York, NY: Hachette Books, 2015.
- Wachowski, Lilly and Lana Wachowski as the Wachowski Brothers. *The Matrix*. Warner Brothers, Village Roadshow Pictures, et al., 1999.
- Wagner, Jerome. "History of the Enneagram." The Enneagram Spectrum. Accessed December 12, 2018. <https://www.enneagrampectrum.com/173/history-of-the-enneagram/>.
- Wall, Mike. "First Detection of Gravitational Waves from Neutron-Star Crash Marks New Era of Astronomy." space.com. October 16, 2017. <https://www.space.com/38469-gravitational-waves-from-neutron-stars-discovery-ligo.html>.
- Weiss, Piero, and Richard Taruskin. *Music in the Western World: A History in Documents*. 2nd ed. Belmont, CA: Cengage Learning, 2008.
- Werrell, Caitlin E., Francesco Femia, Sherri Goodman, and Shiloh Fetzek. "BRIEFER No. 38: A Responsibility to Prepare; Governing in an Age of Unprecedented Risk and Unprecedented Foresight." The Center for Climate & Security (CCS). August 7, 2017. https://climateandsecurity.files.wordpress.com/2017/12/a-responsibility-to-prepare_governing-in-an-age-of-unprecedented-risk-and-unprecedented-foresight_briefer-38.pdf.
- , and Francesco Femia. "Release: Amidst Growing Nuclear and Climate Threats, a New Series of Reports Issues Warnings and Recommendations." The Center for Climate and Security (CCS). June 11, 2018. <https://climateandsecurity.org/2018/06/11/release-amidst-growing-nuclear-and-climate-threats-a-new-series-of-reports-issues-warnings-and-recommendations/>.
- West, Cornel. *The American Evasion of Philosophy: A Genealogy of Pragmatism*. Madison: University of Wisconsin Press, 1989.
- West, John G., ed. *The Magician's Twin: C. S. Lewis On Science, Scientism, and Society*. Seattle: Discovery Institute Press, 2012.
- . "The Magician's Twin." In *The Magician's Twin: C. S. Lewis On Science, Scientism, and Society*, John G. West, ed., 19-44. Seattle: Discovery Institute Press, 2012. Kindle.

- . ‘Introduction.’ In *The Magician's Twin: C. S. Lewis On Science, Scientism, and Society*, John G. West, ed., 19-44. Seattle: Discovery Institute Press, 2012. Kindle.
- Whitehead, Alfred North, and Bertrand Russell. *Principia Mathematica*. San Bernardino, CA: Rough Draft Printing, 2011.
- . ‘Remarks.’ In *Philosophical Review* 46, No. 2 (March 1937). 178-186.
- . *Essays In Science And Philosophy*. 3rd ed. New York: Greenwood Press, 1977.
- Williams, Richard N. ‘Introduction.’ In *Scientism: The New Orthodoxy*. 2015. Richard N. Williams and Daniel N. Robinson, editors. Reprint, New York: Bloomsbury Academic, 2016.
- , and Daniel N. Robinson, eds. *Scientism: The New Orthodoxy*. 2015. Reprint, New York: Bloomsbury Academic, 2016. Kindle.
- Wittgenstein, Ludwig. *The Blue and Brown Books: Preliminary Studies for the "Philosophical Investigations."* Harper Torchbooks, New York: Harper & Row, Publishers, 1965.
- . *Culture and Value*. 1980. Edited by G. H. von Wright and Heikki Nyman. Translated by Peter Winch. Reprint, Chicago: University of Chicago Press, 1984.
- . *On Certainty*. Edited by G. E. M. Anscombe and G. H. von Wright. Translated by Denis Paul and G. E. M. Anscombe. New York: Harper Torchbooks, Harper and Row, 1972.
- . *Philosophical Occasions, 1912-1951*. Edited by James C. Klagge and Alfred Nordmann. Indianapolis, IN: Hackett Publishing Company, Inc., 1993.
- . *Philosophische Untersuchungen [Philosophical Investigations]*. 1953. 4th ed. Edited by P. M. S. Hacker and Joachim Schulte. Translated by G. E. M. Anscombe., P. M. S. Hacker, and Joachim Schulte. Chichester, West Sussex UK: Wiley-Blackwell, 2009.
- , *Notebooks 1914-1916*. 2nd edition. Edited by Georg Henrik von Wright, and G E M. Anscombe. Chicago, IL: University of Chicago Press, 1984
- . *Tractatus Logico-Philosophicus: With an Introduction by Bertrand Russell*. 1922. Translated by C. K. Ogden. Reprint, Stockholm City, SE: Chiron Academic Press, 2016.
- Wolin, Sheldon S. *Democracy Incorporated: Managed Democracy and the Specter of Inverted Totalitarianism*. With a New Introduction by Chris Hedges. 2nd ed. Princeton, NJ: Princeton University Press, 2017. Kindle.

- . *Politics and Vision: Continuity and Innovation in Western Political Thought*. With a New Foreword by Wendy Brown. 1960. Reprint, Princeton, NJ: Princeton University Press, 2016.
- Working Group on Climate, Nuclear and Security Affairs. “Breakout Briefer: Stability At Stake: Addressing Critical Regions Facing Complex Climate, Security, And Nuclear Risks.” May 17, 2018 (Washington, DC: Council on Strategic Risks). Breakout Briefer: Stability At Stake: Addressing Critical Regions Facing Complex Climate, Security, And Nuclear Risks.
- . “Breakout Briefer: Expanding The Climate-Nuclear-Security Toolkit.” May 17, 2018 (Washington, DC: Council on Strategic Risks). https://climateandsecurity.files.wordpress.com/2018/05/working-group-on-climate-nuclear-security-affairs_breakout-briefer_toolkit_2018_05.pdf.
- . “A Note on Climate, Nuclear, and Security Affairs.” May 25-26, 2017. Washington, DC: Council on Strategic Risks. https://climateandsecurity.files.wordpress.com/2017/05/cnsa_background-note_may25.pdf.
- Young, Bruce. “Self and Other in Lewis and Levinas.” *In Pursuit of Truth: A Journal of Christian Scholarship* (March 30, 2011): 1. <http://www.cslewis.org/journal/self-and-other-in-lewis-and-levinas/view-all/>.
- ZA Blog. “The Nicene Creed: Where It Came From and Why It Still Matters.” *Zondervan Academic (ZA) Blog*, March 9, 2018. <https://zondervanacademic.com/blog/the-nicene-creed-where-it-came-from-and-why-it-still-matters/>.
- . “What Is the Apostles’ Creed?.” *Zondervan Academic (ZA) Blog*, September 21, 2018. <https://zondervanacademic.com/blog/apostles-creed/>.
- Zinn, Howard. *A People’s History of the United States*. Harper Perennial Modern Classics . New York: Harper Perennial, 2010.
- Zuboff, Shoshana. *In the Age of The Smart Machine: The Future of Work and Power*. 1988. Reprint, New York: Basic Books, 1989.
- . *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*. New York: PublicAffairs, 2019. Kindle (forthcoming).