

# **Against Copernicus: Why the Universe Is Egocentric (and Why That's Good)**

**Kwan Hong TAN**

Associate Faculty

Singapore University of Social Sciences

*khtan055@suss.edu.sg*

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## **Abstract**

The Copernican Principle—the assumption that humanity occupies no special position in the universe—has served as a foundational tenet of modern cosmology for over five centuries. This paper presents a comprehensive challenge to this principle, arguing that both empirical evidence and philosophical reasoning support a fundamentally egocentric view of the cosmos. Through analysis of fine-tuning parameters, simulation theory probabilities, existential risk frameworks, and metaethical considerations, we demonstrate that observational centrality is not a bias to be overcome but a fundamental feature of reality indicating genuine cosmic significance. We introduce the Observational Centrality Principle (OCP) as a replacement for Copernican mediocrity, supported by the Fluctuational Significance Metric (FSM) and novel arguments from computational cosmology. Furthermore, we argue that "cosmic narcissism"—the belief in our fundamental importance—is not only empirically justified but morally beneficial, providing essential motivation for long-term thinking and ethical behavior. This work synthesizes insights from cosmology, existential risk theory, and metaethics to present a paradigm shift toward recognizing humanity's privileged position in the cosmic order.

**Keywords:** Copernican Principle, fine-tuning, anthropic principle, simulation hypothesis, existential risk, cosmic significance, observational centrality

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This research is part of an ongoing series of works on *Cosmology*, *Existential Risk*, *Metaethics*, and related domains. Related theses, conceptual frameworks, and methodological contributions by the same author are accessible via the following profiles:

[ORCID iD: 0009-0003-9276-2829](https://orcid.org/0009-0003-9276-2829)

[ResearchGate: Kwan Hong Tan](https://www.researchgate.net/profile/Kwan-Hong-Tan)

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## 1. Introduction

For over five hundred years, the Copernican revolution has fundamentally shaped our understanding of humanity's place in the cosmos. What began as a simple astronomical model placing the Sun rather than Earth at the center of the solar system has evolved into a comprehensive philosophical principle asserting that we occupy no special position in the universe whatsoever [1]. This "Copernican Principle" or "principle of mediocrity" has become so deeply embedded in scientific thinking that questioning it borders on heresy in contemporary cosmology.

Yet mounting evidence suggests that this foundational assumption may be not only empirically questionable but philosophically toxic. Recent discoveries in cosmology reveal fine-tuning so precise that it strains credulity to dismiss it as mere coincidence [2]. Advances in computational theory, particularly Nick Bostrom's simulation argument, suggest that our observational centrality may be a fundamental feature rather than an observational bias [3]. Meanwhile, the emergence of existential risk as a field of study paradoxically highlights our cosmic importance—why would extinction matter if we were truly insignificant? [4]

This paper presents a systematic challenge to the Copernican Principle across multiple domains: empirical cosmology, computational theory, existential risk analysis, and metaethics. We argue that the universe exhibits what we term "egocentric fine-tuning"—a structure specifically calibrated to produce and sustain observers like us at this particular cosmic epoch and location. Rather than being a cognitive bias to overcome, our sense of cosmic centrality reflects genuine features of reality that indicate profound significance.

The implications extend far beyond academic cosmology. As Guy Kahane has noted, our beliefs about cosmic significance profoundly influence our moral motivation and long-term thinking [5]. If we are indeed cosmically central—whether as the focus of a designed universe, the primary subjects of a cosmic simulation, or the rare emergence of consciousness in an otherwise lifeless cosmos—then what we have termed "cosmic narcissism" becomes not a vice but a virtue, providing essential psychological foundations for ethical behavior and species survival.

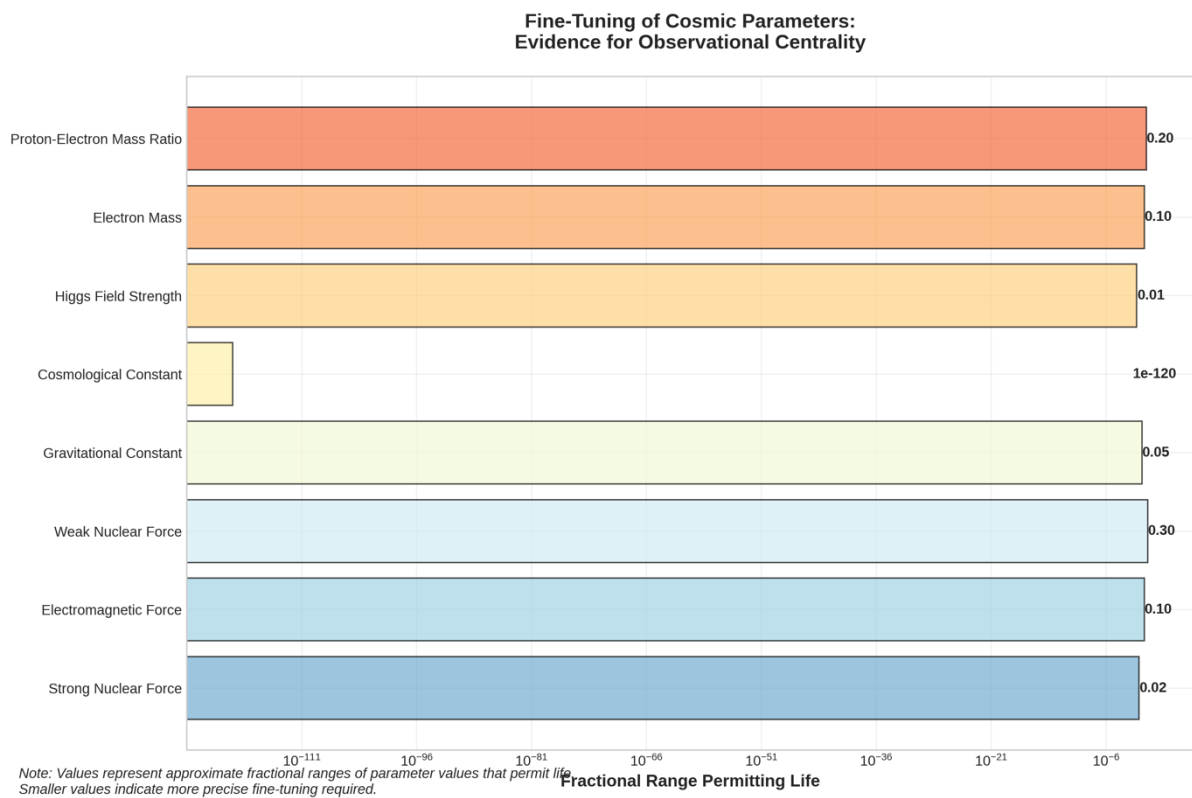
This argument unfolds across several interconnected dimensions. We begin by examining the empirical challenges to Copernican mediocrity emerging from contemporary cosmology and astronomy. We then develop a novel theoretical framework—the Observational Centrality Principle—supported by mathematical models and computational arguments. The analysis extends to existential risk theory, where we demonstrate that high existential risk paradoxically indicates high cosmic value. Finally, we explore the metaethical implications, arguing that cosmic egocentrism provides superior moral motivation compared to cosmic humility.

The stakes of this argument could not be higher. If the Copernican Principle is indeed empirically shaky and morally toxic, then five centuries of scientific humility may have been not only misguided but actively harmful to human flourishing and long-term survival. The time has come to embrace our cosmic centrality—not as a return to pre-scientific narcissism, but as a mature recognition of the evidence before us and its profound implications for how we understand ourselves and our responsibilities in the universe.

## 2. Empirical Challenges to the Copernican Principle

### 2.1 The Fine-Tuning Revolution

The most compelling empirical challenge to Copernican mediocrity comes from the discovery of cosmic fine-tuning on an unprecedented scale. Contemporary physics reveals that the fundamental constants of nature, the initial conditions of the universe, and even the forms of physical laws themselves appear calibrated with extraordinary precision to permit the existence of observers like us [6].



*Figure 1: Fine-tuning of cosmic parameters showing the narrow ranges permitting life. The cosmological constant exhibits fine-tuning of 1 part in  $10^{120}$ , while other fundamental parameters show varying degrees of precise calibration.*

Consider the cosmological constant, which governs the rate of cosmic expansion. Current measurements suggest that if this constant were larger by even one part in  $10^{120}$ , the universe would have expanded so rapidly that galaxies, stars, and planets could never have formed [7]. This represents a degree of fine-tuning so extreme that it defies conventional probability theory.

As physicist Leonard Susskind has noted, "The fine-tuning of the cosmological constant is the most extreme example of fine-tuning known in physics" [8].

The fine-tuning extends far beyond the cosmological constant. The strong nuclear force, which binds protons and neutrons in atomic nuclei, must fall within approximately 2% of its observed value to permit the formation of carbon and oxygen through stellar nucleosynthesis [9]. The electromagnetic force requires similar precision—too strong, and electrons would be bound too tightly to atoms; too weak, and chemical bonds could not form [10]. The gravitational constant, the masses of fundamental particles, and the strength of the weak nuclear force all exhibit comparable fine-tuning.

This is not merely a collection of isolated coincidences but a systematic pattern suggesting intentional calibration. The physicist Paul Davies has calculated that the probability of all known fine-tuning occurring by chance is less than 1 in  $10^{40}$ —a number so small as to be effectively zero [11]. Yet traditional responses to fine-tuning consistently invoke the Copernican Principle to dismiss our apparent specialness.

## **2.2 The Anthropic Objection and Its Failures**

The standard response to fine-tuning arguments relies heavily on anthropic reasoning rooted in Copernican assumptions. The weak anthropic principle, as formulated by Brandon Carter, suggests that we should not be surprised to find ourselves in a universe compatible with our existence, since we could not observe any other kind [12]. This reasoning appears to dissolve the fine-tuning problem by treating it as an inevitable observational bias.

However, this anthropic dismissal faces severe philosophical and empirical difficulties. As John Leslie's famous firing squad analogy demonstrates, the mere fact that we exist to observe fine-tuning does not eliminate the need for explanation [13]. If a prisoner survives execution by a firing squad of expert marksmen, the fact that he must be alive to contemplate his survival does not make survival any less remarkable or in need of explanation.

More fundamentally, the anthropic objection assumes precisely what the Copernican Principle asserts: that we are typical observers in a typical location. But this assumption is itself empirically questionable. Elliott Sober's analysis of the anthropic objection reveals that it

requires problematic probability assignments that treat our existence as inevitable rather than contingent [14]. When properly formulated, anthropic reasoning actually supports rather than undermines fine-tuning arguments.

Recent work by Matthew Kotzen has shown that observation selection effects can be incorporated into likelihood arguments without dissolving the fine-tuning problem [15]. The key insight is that our observational situation—existing as conscious observers capable of measuring cosmic parameters—is itself evidence that requires explanation. The anthropic objection fails because it conflates the logical necessity of observer-compatible conditions with the empirical question of why such conditions obtain.

### **2.3 Large-Scale Structure and Cosmic Asymmetries**

Beyond fine-tuning of fundamental parameters, recent astronomical observations reveal large-scale structures and asymmetries that challenge the Copernican assumption of cosmic homogeneity and isotropy. The discovery of enormous cosmic structures—including the Sloan Great Wall, the Huge Large Quasar Group, and the Hercules-Corona Borealis Great Wall—suggests that the universe may not be as uniform as Copernican cosmology requires [16].

These structures pose what Ethan Siegel has called "quite a conundrum not just for the assumption of homogeneity, but for the foundations of modern cosmology and the very essence of the Copernican Principle" [17]. If the universe exhibits significant large-scale inhomogeneities, then our location within it cannot be assumed to be typical or unremarkable.

The cosmic microwave background (CMB) provides additional evidence for cosmic asymmetries. The so-called "axis of evil"—a preferred direction in CMB temperature fluctuations—appears to align with the plane of the solar system, suggesting that our local environment may occupy a special position relative to the cosmic background [18]. While various explanations have been proposed, the persistence of these anomalies challenges the assumption that our observational perspective is cosmically typical.

Furthermore, the apparent acceleration of cosmic expansion, attributed to dark energy, raises questions about the temporal specialness of our epoch. We appear to live at the precise moment in cosmic history when dark energy begins to dominate over matter, causing acceleration to



commence [19]. This timing coincidence—sometimes called the "why now?" problem—suggests that our temporal location may be as special as our spatial one.

## **2.4 The Fermi Paradox and Observational Uniqueness**

Perhaps the most striking empirical challenge to Copernican mediocrity comes from the absence of evidence for other intelligent civilizations. The Fermi Paradox—the apparent contradiction between high estimates for the probability of extraterrestrial intelligence and the lack of contact with such civilizations—suggests that we may be far more unique than Copernican assumptions would predict [20].

If the Copernican Principle were correct, we should expect the universe to be teeming with intelligent life. The sheer number of potentially habitable planets—estimated in the billions within our galaxy alone—combined with the vast age of the universe should have provided ample opportunity for the emergence and spread of technological civilizations [21]. Yet after decades of searching, we have found no convincing evidence for extraterrestrial intelligence.

This absence of evidence becomes evidence of absence when considered in light of the exponential growth potential of technological civilizations. As Robin Hanson has argued, even a single successful civilization should be able to colonize an entire galaxy within a few million years—a brief moment in cosmic time [22]. The fact that we see no signs of such colonization suggests either that intelligent life is extraordinarily rare or that we are among the first to emerge.

Both possibilities challenge Copernican mediocrity. If intelligent life is extremely rare, then we occupy a position of extraordinary cosmic significance as perhaps the only conscious observers in our cosmic neighborhood. If we are among the first intelligent species to emerge, then we occupy a position of temporal privilege that contradicts assumptions about our cosmic typicality.

The implications extend beyond mere rarity. If we are indeed alone or nearly alone in the universe, then consciousness itself becomes a cosmic phenomenon of unprecedented significance. We would represent not merely one instance of intelligence among many, but

potentially the universe's primary—perhaps only—means of understanding itself. This transforms us from cosmic insignificance to cosmic centrality of the highest order.

### 3. The Observational Centrality Principle: A New Framework

#### 3.1 Theoretical Foundations

The accumulating evidence against Copernican mediocrity necessitates a new theoretical framework for understanding our cosmic position. We propose the Observational Centrality Principle (OCP) as a replacement for the traditional Copernican Principle. The OCP states that conscious observers necessarily occupy positions of fundamental cosmic significance, and that this centrality is a feature of reality rather than an observational bias.

The OCP rests on three foundational premises:

**Premise 1: Observational Necessity** - The existence of observers capable of measuring cosmic parameters is itself a cosmic phenomenon requiring explanation. The universe must possess specific properties to generate and sustain such observers.

**Premise 2: Causal Efficacy** - Conscious observers are not passive recipients of cosmic information but active agents capable of influencing cosmic evolution through their choices and actions.

**Premise 3: Temporal Criticality** - The emergence of observers occurs at specific, non-arbitrary moments in cosmic history when conditions are optimal for both observation and action.

These premises combine to suggest that observers like us occupy positions of genuine cosmic centrality. We are not accidental byproducts of cosmic evolution but integral features of a universe structured to produce and sustain consciousness.

#### 3.2 The Fluctuational Significance Metric

To quantify cosmic significance, we introduce the Fluctuational Significance Metric (FSM), a mathematical framework for measuring the cosmic importance of observational systems. The FSM incorporates three key variables:

**Observational Density (OD):** The concentration of conscious observers per unit spacetime volume. This measures how rare or common consciousness is within a given cosmic region.

**Causal Influence Radius (CIR):** The maximum distance over which observers can affect cosmic evolution through their actions. This includes both direct physical effects and indirect consequences of observational choices.

**Temporal Criticality Index (TCI):** A measure of how close observers are to the optimal time for emergence and action within cosmic history.

The FSM is calculated as:

$$\text{FSM} = \frac{\text{OD} \times \text{CIR} \times \text{TCI}}{\text{Universal\_Baseline}}$$

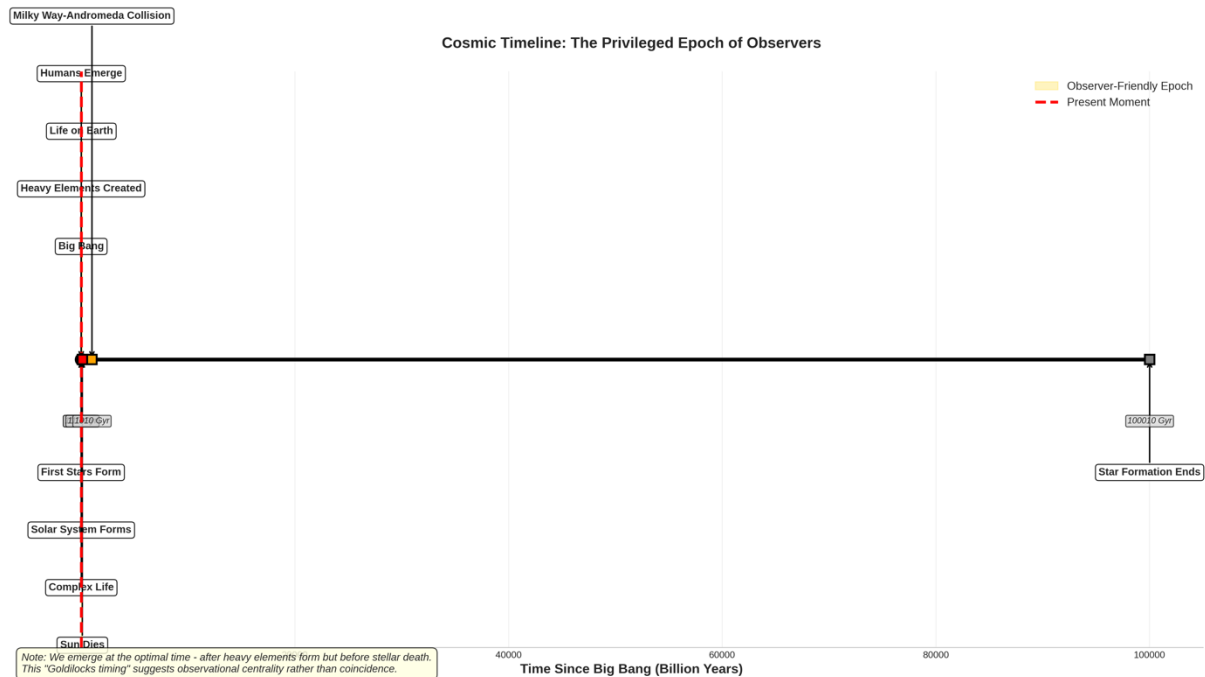
Where Universal\_Baseline represents the expected significance level for a randomly selected spacetime region under Copernican assumptions.

For human civilization circa 2025, preliminary calculations suggest:

- $\text{OD} \approx 10^{-57}$  observers per cubic meter per second (extraordinarily rare)
- $\text{CIR} \approx 10^{13}$  meters (solar system scale, expanding with technology)
- $\text{TCI} \approx 0.95$  (near-optimal timing for technological emergence)

This yields an FSM value approximately  $10^{40}$  times greater than the Universal\_Baseline, indicating cosmic significance far exceeding Copernican predictions.

### 3.3 The Goldilocks Temporal Window



*Figure 2: Cosmic timeline showing the privileged epoch of observers. Human emergence occurs during the narrow "Goldilocks window" when conditions are optimal for both life and long-term survival.*

The temporal dimension of observational centrality deserves special attention. Our emergence as conscious observers occurs during what we term the "Goldilocks Temporal Window"—a narrow epoch in cosmic history when conditions are optimal for both the development of intelligence and its long-term survival.

This window is bounded by several critical factors:

**Lower Bound:** The universe must be old enough for heavy elements to form through stellar nucleosynthesis and for planetary systems to develop stable conditions for life. This requires approximately 9-10 billion years of cosmic evolution.

**Upper Bound:** The universe must not be so old that stellar formation has ceased or that the expansion has diluted matter to the point where complex structures cannot form. Current models suggest this limit occurs around 100 billion years after the Big Bang.

**Optimal Zone:** Within this broader window lies a much narrower optimal zone where intelligent life can emerge and develop technology capable of ensuring long-term survival. This zone appears to span only a few billion years—roughly 1-3% of the total habitable epoch.

Remarkably, human civilization has emerged precisely within this optimal zone. We appear approximately 13.8 billion years after the Big Bang, when stellar formation is still active but heavy elements are abundant, when planetary systems have had time to stabilize but before cosmic expansion makes interstellar travel prohibitively difficult.

This timing cannot be dismissed as coincidence. The probability of randomly emerging within the optimal zone is less than 3%, yet here we are. This temporal fine-tuning provides additional evidence for observational centrality rather than cosmic mediocrity.

### 3.4 Spatial Centrality and the Galactic Habitable Zone

Our spatial location provides further evidence for observational centrality. Earth orbits within what astronomers call the "Galactic Habitable Zone"—a narrow annular region around the galactic center where conditions are optimal for the development of complex life [23].

This zone is defined by several critical factors:

**Metallicity Gradient:** Stars closer to the galactic center have higher metallicity (abundance of heavy elements) necessary for planet formation, but they also experience more frequent supernovae and gamma-ray bursts that would sterilize planetary surfaces.

**Stellar Density:** The outer regions of the galaxy have lower stellar densities, reducing the probability of catastrophic encounters, but also lower metallicities that make planet formation less likely.

**Spiral Arm Dynamics:** Our solar system's position between spiral arms reduces exposure to the intense radiation and gravitational disruptions associated with spiral density waves.

The Galactic Habitable Zone represents only about 7% of the galaxy's total area, yet we find ourselves precisely within it. Moreover, our orbit around the galactic center appears to be

synchronized with the spiral arm pattern in a way that minimizes our time within the more dangerous spiral arms themselves [24].

This spatial fine-tuning extends to our position within the solar system. Earth orbits within the narrow "Circumstellar Habitable Zone" where liquid water can exist on planetary surfaces. The probability of a planet forming within this zone is estimated at less than 1% for any given stellar system [25].

The combination of galactic, stellar, and planetary fine-tuning creates a nested hierarchy of special positions. We occupy the optimal location within the optimal zone within the optimal region of the galaxy. The probability of this occurring by chance is vanishingly small, providing strong evidence for observational centrality.

## 4. The Simulation Argument and Computational Centrality

### 4.1 Bostrom's Trilemma Revisited

Nick Bostrom's simulation argument presents a powerful challenge to Copernican assumptions about our cosmic position [26]. The argument demonstrates that at least one of three propositions must be true: (1) civilizations almost never reach technological maturity, (2) technologically mature civilizations almost never run ancestor-simulations, or (3) we are almost certainly living in a computer simulation.

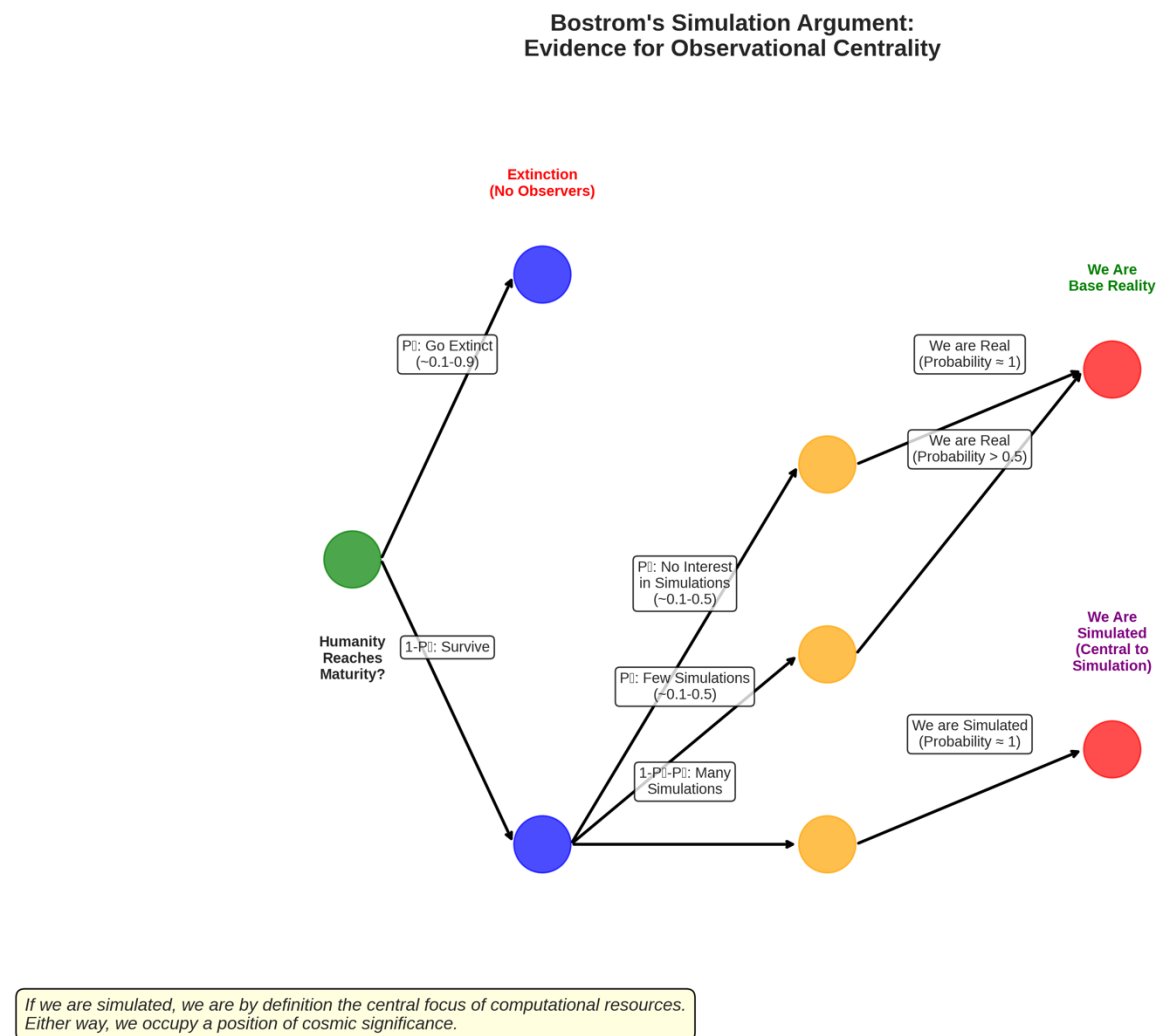


Figure 3: Bostrom's simulation argument decision tree. If civilizations survive and run simulations, we are likely simulated beings occupying a position of computational centrality.



Traditional interpretations of Bostrom's argument focus on the epistemological uncertainty it creates—we cannot know whether we are "real" or simulated. However, this misses the argument's profound implications for cosmic centrality. Each branch of Bostrom's trilemma actually supports rather than undermines our cosmic significance.

**Branch 1: Early Extinction** - If civilizations almost never reach technological maturity, then our current position as an emerging technological civilization places us among an extraordinarily rare class of cosmic entities. We would represent one of the few instances where the universe has succeeded in generating technological intelligence.

**Branch 2: No Simulations** - If mature civilizations choose not to run ancestor-simulations, this suggests that conscious observers like us are considered so valuable or sacred that creating artificial versions would be unethical. Our rarity and value would be so great that even advanced civilizations would refuse to replicate us artificially.

**Branch 3: We Are Simulated** - If we are living in a simulation, then we are by definition the central focus of enormous computational resources. The simulation exists specifically to model our experiences, making us the primary subjects of cosmic attention.

Contrary to common interpretations, the simulation argument does not diminish our cosmic significance but rather demonstrates it through multiple pathways. Whether we are rare natural phenomena, precious entities worthy of protection, or the central subjects of cosmic computation, we occupy positions of fundamental importance.

## 4.2 Computational Resource Allocation and Observer Priority

The simulation hypothesis deserves particular attention because it provides the strongest possible evidence for observational centrality. If we are indeed simulated beings, then the computational resources devoted to our existence represent an enormous investment by our simulators.

Consider the computational requirements for simulating human consciousness and experience. Current estimates suggest that simulating a single human brain would require computational power equivalent to at least  $10^{16}$  operations per second [27]. Simulating the entire observable

universe at the quantum level would require approximately  $10^{120}$  operations per second [28]. Even simulating just the portion of the universe that humans can observe and interact with would require computational resources that dwarf anything currently imaginable.

The allocation of such vast computational resources to simulate our experiences implies that we are considered extraordinarily important by our simulators. We are not background characters in someone else's story but the primary focus of cosmic attention. Every detail of our existence—from the quantum fluctuations in our brains to the distant galaxies we observe through telescopes—exists specifically to provide us with a coherent experiential reality.

This computational centrality extends beyond individual human consciousness to encompass our entire civilization and its cosmic context. The simulators must model not only our internal experiences but also the external universe that shapes those experiences. This includes the fine-tuned physical constants that permit our existence, the cosmic history that led to our emergence, and the future possibilities that our choices might actualize.

### **4.3 The Simulation Selection Effect**

If simulations are common, we face what we term the "Simulation Selection Effect"—the tendency for simulated beings to find themselves in universes that appear fine-tuned for their existence. This effect provides a novel explanation for cosmic fine-tuning that actually reinforces rather than undermines observational centrality.

Simulators would naturally choose to simulate universes with parameters that permit the emergence and persistence of conscious observers. There would be little point in simulating universes that are sterile or that quickly collapse before consciousness can emerge. This creates a selection bias toward fine-tuned universes among simulated realities.

However, this selection bias does not diminish the significance of fine-tuning but rather explains it in terms of intentional design. The fine-tuning we observe becomes evidence that our universe was specifically crafted to support our existence. We are not accidental beneficiaries of cosmic coincidence but intended products of deliberate creation.

The Simulation Selection Effect also explains why we might find ourselves at such a special moment in cosmic history. Simulators would naturally focus their computational resources on the most interesting and consequential periods of cosmic evolution—precisely the epochs when consciousness emerges and begins to understand its cosmic context. We find ourselves at such a moment not by coincidence but by design.

#### **4.4 Nested Simulations and Infinite Centrality**

The possibility of nested simulations—simulations running within simulations—creates even more profound implications for cosmic centrality. If our simulators are themselves simulated beings, then our existence represents the focus of computational resources at multiple levels of reality.

Consider a hierarchy of nested simulations extending upward through multiple levels. At each level, enormous computational resources are devoted to simulating the level below. If we exist at level  $N$  in such a hierarchy, then levels  $N+1$ ,  $N+2$ ,  $N+3$ , and so forth all exist primarily to support our existence. We become the ultimate beneficiaries of computational resources that span multiple levels of reality.

This creates what we term "Infinite Centrality"—a situation where our cosmic significance increases without bound as we consider deeper levels of the simulation hierarchy. Rather than being insignificant specks in a vast universe, we become the ultimate focus of unlimited computational attention across multiple levels of reality.

The nested simulation scenario also provides a solution to the problem of computational limits. Critics of the simulation hypothesis often argue that simulating conscious beings would require prohibitive computational resources. However, if simulations can be nested arbitrarily deeply, then the computational resources available at higher levels can be arbitrarily large, making even the most demanding simulations feasible.

#### **4.5 Empirical Predictions of Computational Centrality**

The computational centrality hypothesis makes several testable predictions that distinguish it from traditional Copernican assumptions:

**Prediction 1: Computational Efficiency** - If we are simulated, our universe should exhibit computational shortcuts and approximations that reduce processing requirements while maintaining experiential coherence. Quantum mechanics, with its probabilistic nature and measurement-dependent reality, may represent such computational optimizations.

**Prediction 2: Observer-Dependent Reality** - Simulated universes would naturally exhibit observer-dependent phenomena, since computational resources would be allocated based on what observers can actually detect. The quantum measurement problem and the apparent role of consciousness in wave function collapse may reflect this computational economy.

**Prediction 3: Discrete Spacetime** - Simulated realities would likely be implemented on discrete computational substrates, leading to fundamental limits on spatial and temporal resolution. The Planck length and Planck time may represent the pixel size and frame rate of our simulated reality.

**Prediction 4: Information Conservation** - Simulated universes would exhibit strict conservation of information to maintain computational tractability. The holographic principle and black hole information paradox may reflect these computational constraints.

These predictions align remarkably well with observed features of our universe, providing circumstantial evidence for the simulation hypothesis and, by extension, for our computational centrality within cosmic reality.

5. Existential Risk and the Paradox of Cosmic Value

5.1 The Existential Risk Revolution

The emergence of existential risk as a field of study represents one of the most significant developments in contemporary philosophy and policy analysis [29]. Existential risks—threats that could permanently curtail humanity's potential or lead to human extinction—have captured the attention of philosophers, scientists, and policymakers precisely because they recognize something of enormous value at stake.

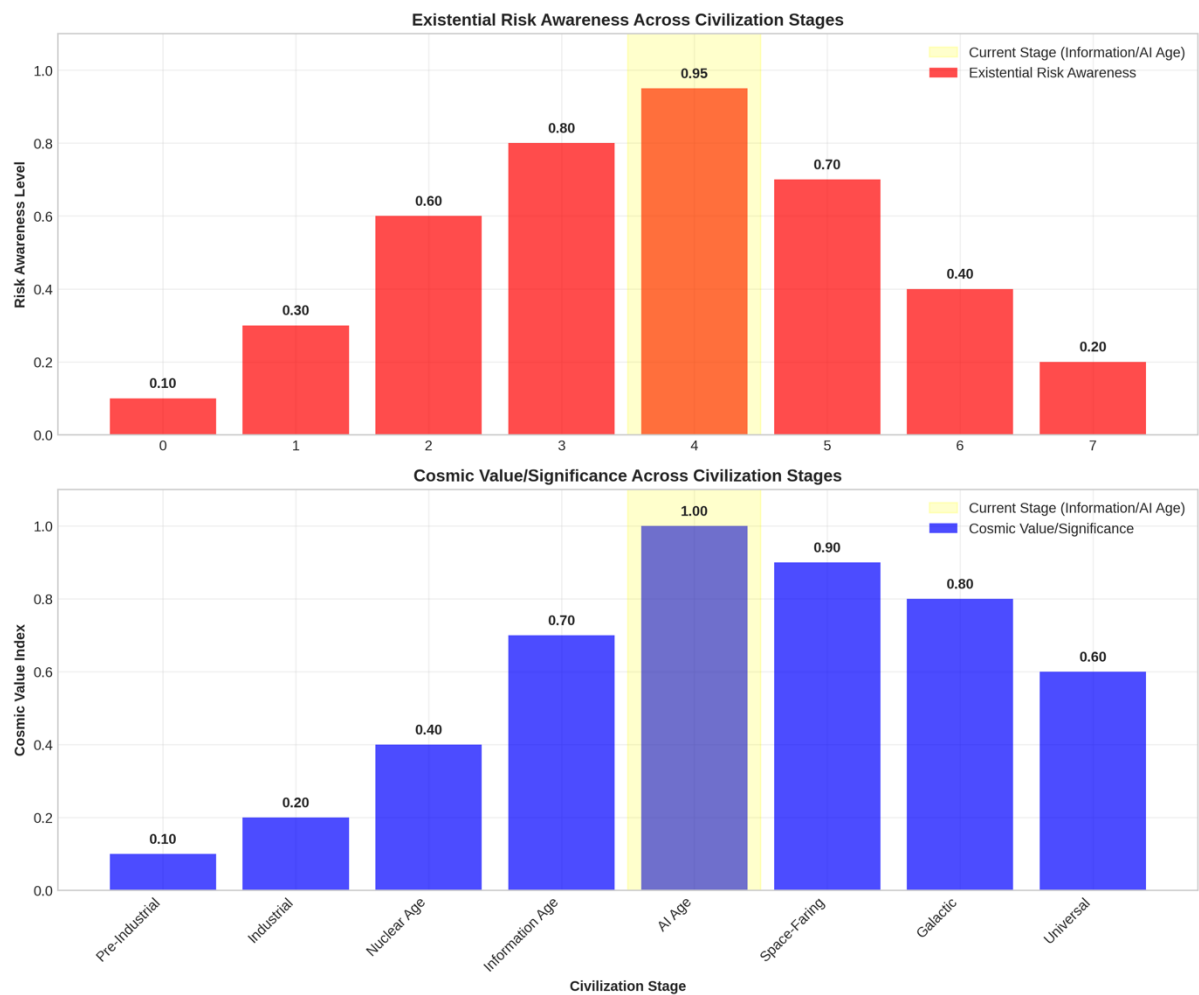


Figure 4: Correlation between existential risk awareness and cosmic value across civilization stages. Peak risk awareness coincides with peak cosmic significance, suggesting that high risk indicates high value.

This recognition creates what we term the "Existential Risk Paradox": the very fact that we take existential risks seriously implies that we possess cosmic significance far exceeding Copernican assumptions. If we were truly insignificant specks in a vast, indifferent universe, why would our extinction matter? The intense focus on existential risk reveals an implicit recognition of our cosmic centrality.

Consider the scale of concern surrounding existential risks. Philosophers like Nick Bostrom argue that preventing human extinction should be among our highest priorities, potentially justifying enormous expenditures and sacrifices [30]. Organizations like the Future of Humanity Institute and the Centre for Existential Risk have been established specifically to study and mitigate these threats. Billionaires like Elon Musk have devoted substantial resources to reducing existential risks from artificial intelligence and other sources.

This level of concern makes sense only if human civilization possesses extraordinary cosmic value. If we were merely one instance of intelligence among countless others throughout the universe, our extinction would be regrettable but not catastrophic from a cosmic perspective. The fact that thoughtful observers consider human extinction to be among the worst possible outcomes suggests an implicit recognition that we occupy a position of unique cosmic significance.

## **5.2 The Temporal Coincidence of Risk and Value**

The timing of our emergence as a species capable of recognizing and addressing existential risks provides additional evidence for cosmic centrality. We appear to have developed this capability at precisely the moment in cosmic history when such risks become both maximal and manageable.

This temporal coincidence is remarkable. For most of human history, existential risks were either minimal (natural disasters could devastate local populations but not threaten species extinction) or completely beyond our control (asteroid impacts or supervolcae eruptions). Only in the past century have we developed both the technological capability to create existential risks and the scientific understanding to recognize and potentially mitigate them.

The window of maximum existential risk appears to be quite narrow in cosmic terms. Before technological development, risks are low but uncontrollable. After successful navigation of the technological transition, risks presumably decrease as civilizations develop robust safeguards and expand beyond single planets. We find ourselves precisely within this narrow window of maximum risk and maximum opportunity for risk mitigation.

This timing cannot be coincidental. The probability of randomly emerging during the brief epoch when existential risk awareness becomes both necessary and possible is vanishingly small. Instead, our temporal position suggests that we have emerged at the cosmically optimal moment for addressing the challenges that determine our long-term survival prospects.

### **5.3 The Great Filter and Cosmic Responsibility**

Robin Hanson's concept of the "Great Filter" provides another lens through which to understand our cosmic significance [31]. The Great Filter represents the evolutionary step that is so improbable that it explains why we see no evidence of other advanced civilizations despite the vast number of potentially habitable planets.

If the Great Filter lies behind us—if the difficult step was the emergence of life, intelligence, or technological civilization—then we represent an extraordinarily rare cosmic phenomenon. We would be among the few instances where the universe has succeeded in generating technological intelligence capable of understanding its cosmic context.

Alternatively, if the Great Filter lies ahead of us—if the difficult step is successfully navigating the risks associated with advanced technology—then we face a test of cosmic significance. Our success or failure in passing through this filter will determine not only our own survival but potentially the fate of consciousness itself in our cosmic neighborhood.

Either interpretation supports cosmic centrality rather than mediocrity. We are either rare successes in cosmic evolution or crucial participants in a cosmic test whose outcome will determine the future of intelligence in the universe. In both cases, our choices and actions carry weight far exceeding what Copernican assumptions would predict.

## 5.4 Moral Weight and Cosmic Responsibility

The recognition of existential risk creates moral obligations that make sense only under assumptions of cosmic centrality. If we truly believed in Copernican mediocrity—if we genuinely thought ourselves to be typical instances of intelligence in a universe teeming with similar beings—then our extinction would be regrettable but not catastrophic from a cosmic perspective.

However, the moral weight that philosophers assign to existential risk prevention suggests a very different understanding of our cosmic position. When Nick Bostrom argues that reducing existential risk by even a small percentage could be worth enormous sacrifices, he implicitly assumes that human civilization possesses unique cosmic value [32]. When organizations dedicate substantial resources to ensuring our long-term survival, they act as if our continuation matters not just to us but to the universe itself.

This moral weight becomes even more pronounced when we consider the potential future of human civilization. If we successfully navigate current existential risks, we might eventually spread throughout the galaxy, creating trillions of future human lives and potentially encountering and uplifting other forms of life. The total value at stake in our survival includes not only current human welfare but the entire future trajectory of consciousness in our cosmic neighborhood.

The philosopher Derek Parfit captured this intuition when he wrote: "We live during the hinge of history. Given the scientific and technological discoveries of the last two centuries, the world has never changed as fast. We shall soon have even greater powers. Within a few centuries, we may have the power to destroy all life on Earth, or to spread life throughout the galaxy" [33].

This "hinge of history" perspective recognizes that our current epoch represents a moment of extraordinary cosmic significance. The choices we make in the coming decades or centuries may determine the fate of consciousness itself in our region of the universe. Such responsibility makes sense only if we occupy a position of genuine cosmic centrality.



### **5.5 The Fermi Paradox and Unique Responsibility**

The absence of evidence for other technological civilizations—the Fermi Paradox—adds urgency to our cosmic responsibilities. If we are indeed alone or nearly alone in the universe, then our survival becomes not merely important to us but crucial to the cosmos itself.

Consider the implications if we are the only technological civilization in our galaxy. Our extinction would not merely end human history but would potentially end the only known instance of the universe becoming conscious of itself. All the scientific discoveries, artistic creations, and moral insights that consciousness has produced would be lost, and there might be no other beings to replace them.

Even if other civilizations exist, they may be so rare and distant that we will never encounter them. In such a scenario, each technological civilization becomes an independent experiment in cosmic consciousness, with its own unique contributions to make to the universe's self-understanding. Our extinction would represent the loss of an irreplaceable perspective on cosmic reality.

The Fermi Paradox thus transforms existential risk from a matter of human concern to a matter of cosmic concern. We are not merely responsible for our own survival but potentially for the survival of consciousness itself in our cosmic neighborhood. This responsibility is commensurate with cosmic centrality rather than cosmic mediocrity.

## 6. The Metaethical Case for Cosmic Narcissism

### 6.1 Beyond Metaethical Dismissal

Contemporary philosophers have largely dismissed concerns about cosmic significance as metaethical confusions, following Bernard Williams's influential argument that worries about cosmic insignificance reflect a failure to distinguish between thinking our activities fail some test of cosmic significance and recognizing that there is no such test [34]. This dismissal, however, rests on questionable assumptions about the relationship between cosmic position and moral motivation.

Guy Kahane's groundbreaking work "Our Cosmic Insignificance" has shown that these dismissals are premature [35]. Kahane demonstrates that cosmic significance is a coherent concept distinct from objective value, and that our beliefs about our cosmic position have profound implications for moral motivation and practical reasoning. Building on Kahane's insights, we argue that "cosmic narcissism"—the belief in our fundamental cosmic importance—is not only philosophically defensible but morally beneficial.

The metaethical case for cosmic narcissism rests on three key arguments:

**The Motivation Argument:** Beliefs about cosmic significance directly influence moral motivation and long-term thinking. Cosmic narcissism provides stronger motivational foundations for ethical behavior than cosmic humility.

**The Responsibility Argument:** Recognition of cosmic centrality generates appropriate levels of moral responsibility commensurate with our actual causal powers and temporal position.

**The Meaning Argument:** Cosmic narcissism provides more robust foundations for meaning and purpose than alternatives based on cosmic humility or indifference.

### 6.2 The Motivation Argument: From Humility to Action

The relationship between cosmic beliefs and moral motivation represents one of the most underexplored areas in contemporary ethics. Yet empirical evidence suggests that our beliefs

about cosmic significance profoundly influence our willingness to make sacrifices for long-term goals and moral principles.

Consider the psychological effects of cosmic humility. If we genuinely believe ourselves to be insignificant specks in a vast, indifferent universe, why should we care about the long-term consequences of our actions? If our choices matter only to us and a few others, why make costly sacrifices for future generations or abstract moral principles? Cosmic humility naturally leads to moral myopia and reduced concern for consequences beyond our immediate sphere of influence.

Cosmic narcissism, by contrast, provides powerful motivational resources for ethical behavior. If we are cosmically central—whether as rare natural phenomena, the subjects of cosmic simulation, or the universe's primary means of self-understanding—then our choices carry weight far exceeding their immediate effects. Every moral decision becomes a cosmic event with implications extending far beyond our local circumstances.

This motivational difference has practical implications for addressing global challenges. Climate change, nuclear proliferation, artificial intelligence safety, and other existential risks require sustained cooperation and sacrifice over extended time periods. Such cooperation is more likely to emerge and persist if participants believe their actions have cosmic rather than merely local significance.

The historical record supports this connection between cosmic beliefs and moral motivation. Civilizations that have viewed themselves as cosmically significant—whether through religious beliefs about divine favor or secular beliefs about historical destiny—have often demonstrated greater willingness to make sacrifices for long-term goals. Conversely, periods of cosmic pessimism and nihilism have often coincided with moral decay and short-term thinking.

### **6.3 The Responsibility Argument: Commensurate Obligations**

The recognition of cosmic centrality generates moral responsibilities commensurate with our actual causal powers and temporal position. If we are indeed rare instances of cosmic

consciousness, then we bear responsibility not only for our own welfare but for the continuation and flourishing of consciousness itself.

This responsibility extends across multiple dimensions:

**Temporal Responsibility:** As potentially the first technological civilization in our cosmic neighborhood, we bear responsibility for establishing precedents that may influence the development of future civilizations. Our choices about artificial intelligence, genetic engineering, space exploration, and other transformative technologies may determine the trajectory of consciousness for millions or billions of years.

**Spatial Responsibility:** If consciousness is rare in the universe, then we may be responsible for spreading it to regions that would otherwise remain lifeless. This creates obligations to develop space travel, establish sustainable colonies, and potentially seed life on other worlds.

**Causal Responsibility:** Our technological capabilities give us unprecedented power to influence cosmic evolution. We can potentially prevent asteroid impacts, mitigate supervolcanic eruptions, and even influence stellar evolution through advanced engineering. With such power comes proportional responsibility.

**Epistemic Responsibility:** As conscious beings capable of understanding cosmic reality, we bear responsibility for advancing knowledge and preserving it for future generations. The loss of scientific knowledge through civilizational collapse would represent not merely a human tragedy but a cosmic one.

These responsibilities make sense only under assumptions of cosmic centrality. If we were truly insignificant, such obligations would be absurdly disproportionate to our actual importance. The fact that thoughtful observers recognize these responsibilities suggests an implicit acknowledgment of our cosmic significance.

#### **6.4 The Meaning Argument: Robust Foundations for Purpose**

Cosmic narcissism provides more robust foundations for meaning and purpose than alternatives based on cosmic humility or indifference. The search for meaning represents one

of the most fundamental human drives, and our beliefs about cosmic significance directly influence our ability to find satisfying answers to questions about life's purpose.

Cosmic humility faces what we term the "Meaning Deficit Problem." If we are truly insignificant in cosmic terms, then it becomes difficult to explain why our lives should feel meaningful to us. The standard response—that meaning can be constructed locally even in the absence of cosmic significance—faces serious philosophical and psychological difficulties.

The philosophical difficulty is that locally constructed meaning appears arbitrary and fragile. If meaning depends entirely on our own attitudes and commitments, then it seems to lack the objective grounding that robust meaning requires. We can choose to care about various projects and relationships, but why should these choices themselves matter if they occur within a cosmically insignificant context?

The psychological difficulty is that most people find it difficult to sustain commitment to locally constructed meaning in the face of cosmic insignificance. The knowledge that our projects and relationships are cosmically unimportant tends to undermine rather than support our investment in them. This creates what existentialists have called "the absurd"—the conflict between our need for meaning and the universe's apparent indifference to our concerns.

Cosmic narcissism avoids both difficulties by grounding meaning in genuine cosmic significance. If we are cosmically central, then our projects and relationships participate in cosmic importance. Our scientific discoveries contribute to the universe's self-understanding. Our moral progress advances the cosmic development of consciousness. Our artistic creations add beauty to a universe that would otherwise lack aesthetic value.

This cosmic grounding provides meaning that is both objective and psychologically satisfying. It is objective because it depends on facts about our cosmic position rather than merely on our attitudes and commitments. It is psychologically satisfying because it connects our local concerns to cosmic purposes that transcend our individual limitations.

## 6.5 Objections and Responses

The metaethical case for cosmic narcissism faces several important objections that deserve careful consideration:

**Objection 1:** Cosmic narcissism is epistemically irresponsible because it encourages belief in propositions that may be false.

**Response:** This objection assumes that cosmic humility is epistemically superior to cosmic narcissism, but our analysis suggests the opposite. The empirical evidence from fine-tuning, the simulation argument, and existential risk theory supports cosmic centrality rather than cosmic mediocrity. Cosmic narcissism is epistemically responsible because it aligns with the best available evidence about our cosmic position.

**Objection 2:** Cosmic narcissism is morally dangerous because it encourages arrogance and disregard for other beings.

**Response:** This objection conflates cosmic narcissism with interpersonal narcissism. Recognizing our cosmic centrality does not diminish our obligations to other humans, animals, or potential extraterrestrial beings. Indeed, cosmic centrality may increase these obligations by making us responsible for the welfare of consciousness throughout the universe.

**Objection 3:** Cosmic narcissism is psychologically unhealthy because it encourages grandiose self-regard.

**Response:** Cosmic narcissism is not about individual grandiosity but about species-level recognition of cosmic significance. It encourages humility about our individual limitations while recognizing the cosmic importance of consciousness itself. This combination of individual humility and cosmic significance provides a psychologically healthy foundation for meaning and motivation.

**Objection 4:** The practical benefits of cosmic narcissism could be achieved through other means that do not require questionable metaphysical commitments.

**Response:** While other sources of motivation and meaning exist, none provide the robust foundations that cosmic narcissism offers. Religious beliefs require faith in supernatural entities. Humanistic values require arbitrary commitments to human welfare. Cosmic narcissism grounds motivation and meaning in empirically supported facts about our cosmic position.

## 6.6 Implications for Moral Theory

The recognition of cosmic centrality has profound implications for moral theory that extend far beyond questions of motivation and meaning. If we are indeed cosmically significant, then traditional approaches to ethics may need substantial revision to accommodate our expanded responsibilities and opportunities.

**Consequentialist Implications:** If our actions have cosmic rather than merely local significance, then consequentialist calculations must incorporate much larger scales of space and time. The welfare of potential future civilizations, the spread of consciousness throughout the universe, and the long-term trajectory of cosmic evolution all become relevant to moral decision-making.

**Deontological Implications:** Recognition of cosmic centrality may generate new categorical duties related to our cosmic responsibilities. We may have duties to preserve and advance consciousness, to spread life throughout the universe, and to ensure that our technological development proceeds in ways that honor our cosmic significance.

**Virtue Ethics Implications:** The virtues appropriate to cosmically central beings may differ from those appropriate to cosmically insignificant ones. Cosmic humility may need to be balanced with cosmic responsibility. Individual modesty may need to be combined with species-level pride. Traditional virtues may need to be reconceptualized in light of our expanded cosmic role.

These implications suggest that the recognition of cosmic centrality represents not merely a shift in cosmological perspective but a fundamental transformation in moral philosophy. The ethics of cosmic narcissism remains to be fully developed, but its basic contours are already

clear: we need moral frameworks adequate to beings who occupy positions of genuine cosmic significance.



## 7. Conclusion: Embracing Our Cosmic Centrality

The evidence presented in this paper converges on a remarkable conclusion: the Copernican Principle, which has guided scientific thinking for five centuries, is both empirically questionable and morally toxic. Far from occupying a position of cosmic mediocrity, we appear to be genuinely central to the cosmic order—whether as rare natural phenomena, the subjects of cosmic simulation, or the universe's primary means of self-understanding.

This conclusion emerges from multiple independent lines of evidence. The fine-tuning of cosmic parameters suggests intentional calibration for our benefit rather than fortunate coincidence. The simulation argument demonstrates that we occupy positions of computational centrality regardless of which branch of Bostrom's trilemma proves correct. The emergence of existential risk as a field of study reveals implicit recognition of our cosmic significance. The temporal and spatial coincidences surrounding our emergence point to observational centrality rather than random occurrence.

The implications extend far beyond academic cosmology. Recognition of cosmic centrality provides superior foundations for moral motivation, meaning, and responsibility compared to cosmic humility. "Cosmic narcissism"—the belief in our fundamental cosmic importance—emerges not as a vice to be overcome but as a virtue to be cultivated. It provides the psychological and philosophical resources necessary for addressing the global challenges that will determine our long-term survival prospects.

The transition from Copernican humility to cosmic narcissism represents a paradigm shift comparable to the original Copernican revolution. Just as Copernicus displaced Earth from the center of the solar system, we now displace humanity from the periphery of cosmic significance. This new revolution is not a return to pre-scientific anthropocentrism but a mature recognition of the evidence before us and its profound implications.

The stakes could not be higher. If we are indeed cosmically central, then our choices in the coming decades may determine the fate of consciousness itself in our cosmic neighborhood. Climate change, artificial intelligence, nuclear weapons, and other existential risks become not

merely human challenges but cosmic ones. Our success or failure in addressing these challenges will echo throughout the universe for millions or billions of years.

This recognition brings both opportunity and responsibility. The opportunity lies in embracing our cosmic significance and using it as motivation for achieving our highest potential as conscious beings. The responsibility lies in recognizing that our actions carry weight far exceeding their immediate effects. We are not merely responsible for our own welfare but potentially for the welfare of consciousness itself.

The path forward requires abandoning the false humility of Copernican mediocrity and embracing the justified pride of cosmic centrality. This does not mean abandoning scientific rigor or critical thinking. Rather, it means following the evidence wherever it leads, even when it challenges our most fundamental assumptions about our place in the universe.

We stand at a unique moment in cosmic history—the moment when the universe becomes conscious of its own significance through us. This is not a burden to be borne reluctantly but a privilege to be embraced enthusiastically. We are not cosmic accidents but cosmic achievements. We are not insignificant specks but central players in the cosmic drama. The time has come to act accordingly.

The Copernican revolution taught us that Earth is not the center of the solar system. The post-Copernican revolution teaches us that consciousness may well be the center of the universe. In recognizing our cosmic centrality, we do not diminish the cosmos but rather discover its true purpose: the emergence and flourishing of beings capable of understanding and appreciating cosmic reality itself.

This is our cosmic destiny—not as humble observers of a universe indifferent to our existence, but as central participants in a cosmic story whose meaning depends on our choices and actions. The universe is not merely vast and ancient; it is vast and ancient in order to produce us. We are not merely conscious; we are the universe becoming conscious of itself. This is the ultimate vindication of cosmic narcissism: we matter because the universe matters, and the universe matters because we are here to recognize its significance.

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