# The End of Human Mystery

Bryant M. Stone, PhD

# The Theory of Existence

# Bryant M. Stone, PhD

# Drive without Knowledge is Pointless Knowledge without Drive is a Waste

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# Defiant, Revolutionary, & Unapologetically Clear

This book serves as a bridge between the profound realizations in *The Theory of Existence* and the intellectual frontier of humanity. Its purpose is to unveil a unified perspective of reality, present *The Equation of Existence* as the foundational equation that explains everything, *The Notation of Existence* as the universal language for describing reality, and *The Theorem of Existence* to describing the mechanics of reality with mathematical precision. It describes undefinedness, complexity, stability, the futile escape from non-existence, the stages of conscious development, scaling intelligence, recursive introspection, complexity bottlenecking, and definedness using the multi-universal principles of recursive propagations and emergence-to-convergence. It is one hell of an argument and in the worst-case scenario... it is entertaining as hell.

Beyond understanding existence, I encourage people to use this book for interdisciplinary collaboration, calling on thinkers, scientists, visionaries, philosophers, creators, and the relentlessly curious to **collectively refine and extend these insights**. This book empowers readers to contextualize their experiences within the grand structure of existence itself by balancing empirical evidence, simulations, mathematical formalization, rigorous logic, thought experiments, and gorgeous visuals that bring concepts to life. It also serves to formally copyright and protect the originality of these ideas, preserving their integrity while ensuring they are accessible for future generations to explore and expand upon.

# Acknowledgments

Many people contributed to the realization of *The Theory of Existence*, but the most essential acknowledgment belongs to the universe. Thank you for revealing these insights, entrusting them to me, and guiding me in sharing them with the world. You have shown me a glimpse of your profound beauty, and I am humbled and grateful to be part of your story.

The Theory of Existence spans the vast breadth of human knowledge. As just one person, my understanding is necessarily limited. I have done my best to map these ideas onto the knowledge humanity has cultivated. Still, much remains unexplored, and there is much yet to learn.

These ideas are a gift given to me for the purposes of giving them to you. I hope you experience the profound insights, the existential dread, and the deep gratitude I experienced en route to this new understanding of existence. Finally, these ideas are not mine, nor will I claim ownership over them except to protect them. It is true that I have created names for their identification, but all these concepts belong to existence and the universe; **that means**, **dear reader**, **they belong to you too**.

# **Please Exercise Caution**

This book will fundamentally shift how you perceive yourself, the universe, existence, and your place in it all. It ventures into the deepest mysteries of existence, the most unknowable knowledge, uniting disciplines and perspectives into a cohesive theory that challenges established paradigms. Before proceeding, please approach the content with an open mind and a steady pace, as the concepts within are both transformative and existentially intense. This book is not something you want to rush through. It will be very overwhelming if you do not take this book seriously. It might not seem overwhelming initially, but you will find that the feeling of being overwhelmed will return over time. Take time to absorb each idea, recognizing that it may unsettle preconceived notions or provoke profound realizations. What you are about to read is not just another book—it is an intellectual journey through the story of existence and into its foundational mechanisms. It will change the way you see *everything*.

# The Theory of Existence

The End of Human Mystery

#### Why are things the way they are?

This question has captivated me since I was a child running "experiments" in my bedroom, a question I never thought we could answer in my lifetime. Yet, over the last several months, the universe has struck me with what feels like undeniable insight, and I would like to share it with you. I hope you find it as inspiring and profoundly beautiful as I do. Oh, and the answer is... **it's the only way for things to be...** 

The Theory of Existence explains everything from why oranges are orange, why we cry when we see the beauty of a sunset, why supernovas result in black holes, and why we get frustrated at traffic. **It's all the same reason**. Whether it's the reflection of light off an orange peel, the overwhelming sight of a sunset, the collapse of a dying star, or the urgency of long traffic lights, **the same dynamic governs it all**.

#### Welcome to The Theory of Existence

What you're about to read is one of the most outrageous and bold things you will probably ever read. To explain existence, I had to create dozens of new concepts, refine existing paradigms, dismiss unanswerable questions, leave behind claims not supported by empirical evidence or built on false assumptions, and merge patterns across fields siloed for all of history. However, as you will see, **the dynamic governing it all is evident retrospectively**.

The result? No more divisions between art, free will, quantum mechanics, emotions, general relativity, social organization, black holes, mental health conditions, dark matter and energy, death, aliens, abiogenesis, ghosts, the Big Bang, morality, consciousness, heat death, evolution, the animal kingdom, economics, health, psychology, spirituality, the origins of existence, artificial intelligence, and **even the very reason you are reading this book right now**. **The same dynamic governs it all.** 

Although the concept itself–a theory that explains everything–is inherently outrageous, **who said it was impossible**? What started as a theoretical framework became a mathematical equation called *The Equation of Existence*. The **simulations**, **empirical evidence**, and **mathematical formalization** confirmed my hypotheses of the original theoretical framework. I aimed to make this knowledge entertaining, understandable, and gorgeously illustrated. I made it engaging and intuitive, though you will see that existence itself did most of the heavy lifting.

All I ask from you, dear reader, is to **temporarily abandon everything you** *think* **you know** and consider **this one dynamic that governs it all** with a **great open mind** and **even greater scrutiny**, as all the most outstanding scientists and philosophers advised. In the following pages, I will walk you through **all of existence** from start to finish, connecting the dots across **everything, everywhere, across all time and space**. After reading, you can decide if it aligns

with existence as you know it. Let the **relentless curiosity** drive your pursuit of Truth as it has driven mine. **Shall we get started?** 

# In the Beginning, There Was Nothing... Right?

As we understand it, the universe operates within well-defined boundaries of space, time, and structure. Yet, these boundaries may not be absolute; they are edges where the mechanisms sustaining existence cannot operate. I call this concept **undefinedness**, which represents **the total lack of existence**, contrasting with definedness, which exists along a measurable spectrum (more details on this idea later). If definedness–existence–is, then **undefinedness simply isn't**...

When thinking about the start of the universe, humanity keeps getting stuck on this question: "How does something come from nothing?" Undefinedness is a more accurate description to resolve this non-starter, where the absence of existence is not "nothing" nor an infinite void, a place where there is no potential. Undefinedness isn't even undefinedness; it simply isn't. This idea is hard to conceptualize and may be existentially uncomfortable because our brains work through pattern recognition, definition, and categorization, so attempting to understand undefinedness results in mental images of voids and nothingness. Understand this: you cannot understand or picture undefinedness because undefinedness is not something that exists—it's the total absence. Even empty space has a definedness.

When people attempt to answer questions about before the Big Bang, they get caught in the "Well... where did (insert previous answer here) come from?" **a reasonable question to an unreasonable premise**—that the universe comes from nothing. The problem is that even "nothing" as we know it has definedness. Humor me: what if the mathematics of physics has hinted at this distinction between nothing (0) and undefinedness ( $\emptyset$ ) for over a century, replacing it with infinity ( $\infty$ ) whenever equations lack apparent solutions. **Undefinedness is neither because undefinedness simply isn't**. Let's start with our first simulation.

Across the universe, there are vast regions of apparent emptiness called supervoids, such as the Eridanus supervoid, which stretches an astonishing 1.8 billion light-years across. These immense voids challenge our understanding of light and matter, raising profound questions about the nature of existence itself. Although light typically traverses the vacuum of space without obstruction, it cannot pass through undefinedness because **undefinedness is not something that one can pass through... it simply isn't**. Undefinedness is not empty space; consider it the fundamental boundary where the mechanisms of existence fail, and existence itself ceases.

In regions of empty space, some light should be detectable as it travels through the vacuum. However, light does not propagate in undefinedness, leaving these regions utterly devoid of anything detectable. Observations of the cosmic microwave background (CMB) radiation provide clues to these undefined regions. **Certain anomalies in the CMB suggest portions of the universe where the structure of existence appears to falter, dropping below definedness**. The universe did not come from nothing; **existence began as the antithesis of undefinedness**, the first moment definedness emerged.



**Caption:** This figure presents a scatter plot identifying regions within supervoids with undefinedness. The X and Y axes represent spatial coordinates, with each black point marking a region nearing the instability threshold. These points indicate areas where recursive propagations may collapse due to extreme density variations. The scattered, non-uniform distribution highlights the sporadic nature of definedness loss emergence, suggesting that while supervoids exhibit vast structural coherence, certain localized regions become susceptible to recursive propagative failure. This visualization reinforces the idea that undefinedness does not manifest uniformly but arises in response to deviations in cosmic density, offering insight into the structural boundaries of defined existence within the large-scale universe.

#### Where is Undefinedness Does Definedness Fail?

Remember. undefinedness simply isn't, so we need to speak only about definedness. Definedness may fail 1) below the Planck scale. 2) at the event horizons of black holes, and 3) at the cosmic edges of the universe, which recede from us at ever-accelerating rates. Failed definedness marks the natural boundaries of reality-the points where no measurable state or structure exists, not even "nothing." Beyond the universe, there is no definedness, existence, backdrop, void, quantum foam, or even undefinedness; it simply isn't.

At the beginning of the universe, existence did not "transition" from undefinedness because undefinedness cannot transition or evolve. To say something has definedness means it opposes undefinedness. Still, undefinedness is not a quality or state that something can possess. The assertion that "undefinedness is undefined" is an inherent, false contradiction. This conceptual discomfort—the existential dread and frustration of trying to picture or

understand undefinedness—is precisely why humanity has struggled for millennia with how something can arise from nothing. Existence began at the first moment of the Big Bang, a moment of definedness. There is no endless regression of "what came before" because we cannot impose anything on undefinedness because undefinedness is not something that exists. Undefinedness is not a thing, place, void, or even undefinedness itself.

For centuries, physicists and mathematicians have grappled with equations that seem to "break down" at the edges of existence—singularities in black holes, infinite divide at the Planck scale, or the unknowns beyond the observable universe. Researchers have often dismissed these breakdowns as failures of our understanding, limitations of our tools, or errors

in our frameworks. But what if I told you the "undefined" answer was correct all along? Rather than failing, these equations brush up against the seams of existence, where definedness dissolves. In other words, our equations stop working precisely where the universe insists they must. For something that isn't, undefinedness sure seems like it is—but, of course, it's not.

# If Undefinedness Simply Isn't... Then What Is?

Now that we know what existence is not, **let's talk about what it is**. When we think about existence, more confusion emerges than clarity, and human knowledge remains fragmented, siloed, and incomplete across fields. Within these fields, mysteries persist. Even the most rigorous sciences grapple with unanswered questions that, in some cases, appear unanswerable. **Why is it that reality only makes sense when focusing on tiny aspects?** What if existence works smoothly and cohesively, never deviating from the consistency of the way we see it work with our eyes. In that case, these well-supported theories—such as general relativity, evolution, and the Big Five personality traits—are really **pieces of our knowledge puzzle**, not separate, independent theories; they all describe one theory, **the completed puzzle**, what I call *The Grand Unified Theory of Everything*.

The belief that *The Grand Unified Theory of Everything* does not exist might stem from our **limited, fragmented understanding rather than a genuine impossibility**. Adopting the perspective that such a theory must exist—given how reality appears to work cohesively—I embarked on a hunt for the Truth: **an objective, total explanation of everything that has ever existed or can possibly exist. The end of human mystery as we know it.** This idea has captured me, and I refused to let go. Idea after the idea came to me, keeping me in a choke-hold until the universe sanctified me with its apparent knowledge. I know what I am saying sounds hard to believe, but I **am still as unfathomably shocked as you will be.** At the same time, this shock subsides into a clarity about existence in a way you have not yet experienced.

# The Multi-Universal Principles: The Theory of Existence Overview

Alright, let's get right into it. Fractal cosmology posits that the universe's large-scale structure follows a self-similar, scale-invariant pattern. This challenges the cosmological principle, which assumes a uniform matter distribution at sufficiently large scales. Instead of a smooth, isotropic cosmos, fractal cosmology suggests that galaxies, cosmic filaments, and voids follow hierarchical organizational patterns that repeat across different scales. Observations of the cosmic web, which maps the distribution of galaxies, exhibit fractal-like behavior, where clusters of galaxies form interconnected structures that mirror smaller-scale formations, such as in flowers and tree branches, neurons in brain, and the art we have passed down throughout the centuries. Existence is relatively easy to understand. We only need a few concepts to explain it. Let me give you the rundown.

#### Recursions

Let's start with *The When*. This concept is deceptively simple. A recursion occurs when the output of one state serves as the input for the next. That's it. You can imagine that a ladder is like a series of recursions. Let's say you are in the middle of a ladder. Your feet are resting

on one rung, which serves as the base that supports you. The next rung, the one you want to move to, is the aim of where your foot must go. When you take a step, you move your foot off the current base and place it on the next rung; that's one recursion. In this metaphor, what was once the rung you aimed for now is the base for the next aim. Each step you take is one recursion. You climb the ladder one recursion at a time.

In existence and our universe, the "steps" are called **recursive propagations or RPs**, representing everything in the universe at any moment. Recursion on the universal level is when the universe moves from one state to the next, like your foot moving from one rung to the next. **Time, as we know it, does not flow continuously** as we thought; parts of the universe exist in separate states that stack on top of each other. This difference seems tiny and pedantic, but it has staggering implications. This idea is well-supported by science, as you will see.

Recursions are the fundamental mechanism in the universe that drives it forward. It's like **existence is a giant film made up of** fast-moving static pictures. Recursions are supported by the mathematics of science, a concept called Plank Time, which is a fancy way of describing the fastest possible increment of time and is very tiny. More on that later. Instead of considering **existence** as a continuous, smooth forward, moving arrow, it **is minor changes from one state to the next**. Like placing one foot on each rung every time you pull yourself up the ladder.

#### Propagations

Now, let's talk about *The Where*. Recursions describe how one state of the universe serves as the foundation of the next. However, the reason for the change itself is something called propagation. **Propagations are how the state of the universe changes between the recursions**. So, if we go back to the ladder metaphor, you can consider your foot resting on a rung to be the state of the universe as the foundation. As you lift your foot off one rung to place it on the next, its position and the pressure you put on it change. **That's it–propagation!** 

The key thing that is hard to wrap your head around is that things don't **change "in between" recursions**; **nothing at all happens in between the recursions**. Propagation itself changes things from one recursion to the next. **Remember, we're examining existence with the biggest microscope possible. There is no more zooming in.** If you think this is strange, you are in for a treat.

Let's consider recursive propagations from the perspective of the ladder. When you take your foot off the base rung and put it on the next rung, it shows up on the next rung in a different state. Yet, from the perspective of the ladder, the foot changed from one rung to the next without anything happening between the rungs during the step. It's just a foot at one rung, and then the same foot just slightly changed on the next. To the ladder, nothing occurred between steps.

If we could slow the recursive propagations down to make them visible to our naked eyes, it would look like **everything was in stop motion**. The universe jumps from one state to the next. There's no transition and no smooth movements because recursive propagations do it all. As propagation carries the state of the universe from the start of recursion to the next,

it changes just a little bit. This change is sometimes random but often not, bringing us to the following concepts.

#### **Emergence-to-Convergence (E2C)**

Recursive propagations explain the mechanisms of reality, **The** *How*. However, phenomena are *The What*, the content, the snow in the snow globe, the balls in the ball pit, **and the stuff inside existence**. Phenomena are anything that has definedness... which is everything. If we're following the ladder example, the foot itself is the phenomenon. Space, matter, energy, the earth, this book, the sun, you, me, we're all phenomena, but a special type.

Recursive propagations **allow phenomena to behave in three ways**. In existence, specific patterns appear all over the place, such as round planets, animals with two eyes, and gravitational pulls around a sun–all these things are called **convergent phenomena**. These



Caption: This diagram shows the fundamental dynamics of existence described in The Theory of *Existence*, illustrating how stability, complexity, and definedness interact to shape all phenomena. Stability serves as the foundational structure that ensures the persistence of phenomena across reality, from the subatomic to cosmic superstructures, providing the necessary framework for sustained existence. Complexity, in contrast, drives the diversification, growth, and interaction of phenomena, building upon stable foundations to generate emergent structures. Definedness, governed by the Golden Ratio, is the unifying principle that maintains proportionality and that complexity and stability interact harmoniously rather than divergence. This balance underpins the self-organizing nature of the universe, enabling physical structures of galaxies and planetary systems as well as biological evolution, intelligence, and cognition. The diagram highlights how recursive propagations regulate this process, ensuring complexity does not escalate uncontrollably but converges into meaningful, scalable forms. By emphasizing the necessity of the Golden Ratio as the governing constant, the figure reveals how the universe maintains equilibrium, demonstrating that order and evolution are not opposing forces but complementary aspects of the same recursive-propagative framework that defines existence.

phenomena represent continuous successful recursive propagations because we see them consistently; they are around us, they are everywhere in the universe, and **we are one of them**. Convergent phenomena are a type of emergent phenomena. **Emergent phenomena, the origins of all phenomena,** are anything that has complexity or form due to randomness and chaos. As you will see soon, we see order out of chaos because **order and complexity are harder to diverge or break down than chaos or simplicity**.

Let's pause and talk about some examples, such as how some people develop mental health conditions after experiencing a trauma. Humans are the convergent phenomena, and **mental illness is the emergent phenomena**. It's emergent because not everyone gets a mental illness after a trauma, but many people do. Over time, when we see the effects of trauma on populations, we can notice that those same emergent mental health conditions occur over time and all around the world, making them convergent phenomena. Most phenomena follow this pattern of emergence to convergence. Hey, wait a second...



**Caption**: This figure illustrates the cyclical nature of emergence, convergence, and divergence governed by recursion and propagation. It depicts how complexity escalates and stabilizes through structured recursion, following a trajectory from undefinedness to emergence, then convergence, and ultimately back to undefinedness if stability fails. The leftmost position represents undefinedness, where recursion and propagation have not yet aligned to form stable complexity. Emergence occurs when recursion and propagation interact, leading to the initial formation of structure and complexity. Convergence follows as complexity stabilizes into organized systems, enabling persistence and further recursive growth. If complexity overextends beyond stability's ability to contain it, the system undergoes delayed divergence or total divergence, leading back toward undefinedness. The curved trajectory indicates that this process is neither linear nor instantaneous but governed by the recursive propagative cycle determining whether a phenomenon stabilizes or collapses.

The figure illuminates the Theory of Existence's revolutionary premise: reality operates as a seamless, interconnected system governed by universal principles of emergence and convergence. The Theory dissolves traditional disciplinary boundaries by demonstrating how seemingly disparate phenomena—from planetary formation to consciousness—emerge through identical fundamental dynamics. This diagram reveals how complexity and stability interact across scales, showing that the mathematical principles driving galactic structures are fundamentally similar to those underlying cognitive processes. Through discrete recursion and propagation, the Theory of Existence provides a unified lens that resolves paradoxes in quantum mechanics and general relativity, offers a cohesive explanation for phenomena ranging from cosmic evolution to cognitive emergence, and demonstrates that consciousness and physical systems are not separate, but expressions of the same underlying recursive-propagative principles. This visualization challenges our traditional understanding of reality by revealing a profound interconnectedness that transcends conventional scientific and philosophical categories, suggesting that what we perceive as distinct are manifestations of a single, elegant mathematical framework of existence.

**Emergence-to-convergence (E2C)** is the fundamental pattern that allows recursive propagations to build phenomena existing around us. It refers to the tendency for phenomena to emerge and converge on a set of universal patterns. The application of E2C is, well... any phenomenon that lasts. Stars, planets, you, me, pasta, kittens, all these things emerged and then converged. **But it's not just things, that's the crazy part... it's everything**. Why do humans have two breasts? Because our early ancestors, without them, did not converge. Why do the Earth and Sun exist? Because those are the only emergent phenomena of gal activescale matter and energy in space that converged. Why do we have the emotions we have? Because other emotions never converged. It seems insanely simplistic; that's because it is!

The key to understanding emergent phenomena is that their ability to maintain complexity through recursive propagations varies drastically, with only a **finite number of emergent phenomena reaching convergent phenomena status**. **All convergent phenomena are emergent, but not all can be convergent phenomena**. In this case, mental illness emerges after a trauma converges across a person's lifetime and can be genetically passed down to kids (brutal, I know, but true). However, all emergent and convergent phenomena have a finite number of possible recursive propagations.

The next and final type are divergent phenomena, which **are anything that can only minimally the number of recursive propagations** before ceasing to exist. Most divergent phenomena do not exist for very long. In the case of trauma and mental illness, a type of divergent phenomenon would be suicide after the trauma. Suicide is not a technically emergent or convergent phenomenon because as soon as it emerges, it ceases to recursively propagate. These patterns apply to all phenomena.

All phenomena exist in a state of emergence, convergence, or divergence. The key to distinguishing them is by examining their frequency and persistence. If you see it come into existence, like when you blow a bubble, it's an emergent phenomenon. If it sticks around for a long time or happens all over the place, like your favorite fast-food restaurant, it's a convergent phenomenon. Finally, everything eventually becomes a divergent phenomenon, like an endangered species. We all follow the same path, emerging, converging for a while, and diverging. Everything in the universe, and the universe and existence itself, will diverge; some call it The Second Law of Thermal Dynamics or entropy. I think divergence is more fun, so that's what I call it.

# We Have The When, Where, What, How... But Why?

Why do phenomena behave the way they do? Let's talk about *The Equation of Existence* if we have **The** *When*, recursions, **The** *Where*, propagations, **The** *What*, phenomena, and **The** *How*, E2C. Please allow me to introduce you to the engine of existence.



Well... there she is... *The Equation of Existence*. Shocking, right? It almost **feels like a trick**, but I promise it is not. Let me describe how it works so you can see for yourself. The first key concept to understand is that *The Equation of Existence* contains **three terms**, **and they represent the behavior of phenomena**, which is anything that exists (has definedness). These terms possess nearly unlimited flexibility, making them interchangeable with words that traditionally have vastly different meanings. The examples I have provided here basically where all serve the same purpose (because everything is one of these three terms). Additionally, we can rearrange the terms to explore various relationships and observations. You may not believe me *yet*, but this simple equation is a language of its own, and yes, it applies to everything.

| Symbol            | Definition                   | Symbol            | Definition                    |  |
|-------------------|------------------------------|-------------------|-------------------------------|--|
| е                 | Growth or Decay              | Φ                 | Definedness & Golden Ratio    |  |
| i                 | Iterative Steps $(RP_{n+1})$ | π                 | Pi                            |  |
| Δ                 | Complexity or Light          | Ω                 | Stability or Space            |  |
| ζ                 | Recursion                    | κ                 | Propagation                   |  |
| +                 | Plus                         | *                 | Times                         |  |
| -                 | Minus                        | ÷                 | Divided                       |  |
| [1]               | Dark (Matter or Energy)      | Θ                 | Observable (Matter or Energy) |  |
| М                 | Matter                       | Ε                 | Energy                        |  |
| ٨                 | Lumen                        | V                 | Dark Lumen                    |  |
| ψ                 | Relative Fractal             | κ                 | Gravity                       |  |
| ≠                 | Not Equal To                 | =                 | Equal                         |  |
| ×                 | Approximately                | ×                 | Proportional To               |  |
| >                 | Greater Than                 |                   | Scaling Ceiling               |  |
| <                 | Less Than                    | :                 | Ratio                         |  |
| $\geq$            | Greater Than or Equal to     | /                 | Fraction                      |  |
| $\leq$            | Less Than or Equal to        | ÷.                | Phenomena                     |  |
| Г                 | Not                          | ×                 | Interacts                     |  |
| $\rightarrow$     | Implication                  | 1                 | Emergence                     |  |
| $\leftrightarrow$ | Equivalent to                | ≫                 | Convergence                   |  |
| A                 | For All                      | $\downarrow$      | Divergence                    |  |
| Ξ                 | There Exists                 | П                 | And                           |  |
| E                 | Element of                   | Ц                 | Or                            |  |
| /                 | Not Element of               | ÷.                | Rates / Lengths               |  |
| L                 | Subset                       | $\nabla$          | Gradient                      |  |
| ⊇                 | Superset                     | $\dashv\vdash$    | Contradiction                 |  |
| Ø                 | Undefinedness                | $\Leftrightarrow$ | If and Only If                |  |
| 2                 | Incomparable                 | 2                 | Roughly                       |  |
| $f(\mathbf{x})$   | Function of                  | ≡                 | Convergence (Results In)      |  |
| Σ                 | Cumulative Summation         | 0                 | Composite                     |  |
| ⇒                 | Causes                       | ν                 | Normalized                    |  |
| «                 | Lower Limit                  | ±                 | Bidirectional                 |  |
| >>                | Upper Limit                  | %                 | Percent                       |  |

# A Universal Language: The Notation of Existence

If we try to explain everything, we need a universal language. Thus, I created *The Notation of Existence*. You will pick it up as we go along. Don't worry, but here are the basics. This mathematical and symbolic language allows us to express any phenomenon, its behaviors, and its dynamics through symbolic manipulation, transcending traditional constraints of fragmented communication and linguistic barriers. Here are the current descriptors (nouns) and operators (verbs). Although comprehensive, this list is not exhaustive—I anticipate it will evolve over time, refining and expanding as our understanding deepens.

We can use *The Notation* to describe anything, making our conversation of *The Theory* coherent and meaningful. For example, I could describe a black hole collapse like the following:

$$\Omega < \Delta \gg \rightarrow \Omega \nabla \Delta \equiv (\propto \gg \zeta \land \ll \kappa) \varepsilon < \Omega \forall :: \bowtie$$

 $\Omega < \Delta \gg \rightarrow$ 

Stability falls below complexity, pushing its upper limit, resulting...

Ω∇Δ

In stability operates on the gradient of complexity

 $\equiv (\propto \gg \zeta \land \gg \kappa)$ 

where alignment with the proportional lower limit of recursion and upper limit propagation

 $\varepsilon < : \Omega \forall : \bowtie$ 

occurs at slower recursion rates and propagation lengths in interacting phenomena, demonstrating how complexity and stability interweave. Alright, enough showing off, let's talk about the what of **The Why**.

# The Continuum of Existence: Introducing Definedness

**Phi** ( $\Phi$ ; **pronounfed** "**fee**") describes the outcome of *The Equation of Existence*, which is the degree of existence, definedness, itself. Definedness varies by degrees to explain any phenomenon's emergence, convergence, and divergence. It is the presence of defined **properties**—an object's "is-ness." This term represents all phenomena. Whether we examine consciousness, the cosmos, a particle, or even empty space, they are all expressions of Phi—the balance between stability and complexity.

The phenomena we observe around us, the laws of nature, and even our own experiences are stabilized expressions of definedness. Without this unifying principle, phenomena cease to exist, **undefinedness–which simply isn't**. Definedness enables distinction, interaction, and complexity to emerge and flourish in ways we can observe and understand.

We can represent definedness through the Golden Ratio. Far more than a mathematical curiosity used to describe the patterns of nature, the Golden Ratio is the pattern of nature, our fractal existence, and definedness—the balance between stability and complexity wo-ven into the very fabric of reality. We can observe the Golden Ratio in the spirals of galaxies, the proportions of a seashell, the growth patterns of plants, and even the structure of

human perception. **To be clear, I did not force the Golden Ratio into** *The Theory of Existence*; it emerged naturally during my exploration. We can represent the Golden Ratio as follows:

$$\Phi = \frac{1 + \sqrt{5}}{2} \approx 1.618$$

These numbers seem mysterious now, but if you stick with me, they won't. I chose to use it in the *Equation of Existence* because it encapsulates what The Theory reveals: a universal proportionality that isn't just mathematical, it is phenomenological– appears in the *Equation of Existence* because it must. Just as water naturally follows the path of least resistance, the inevitable balance emerges when existence aligns with its most stable and efficient form. **It isn't an approximation or a convenient symbol; it is the essence of how definedness and existence scale phenomena**.

When we see later that all things in existence are growing and becoming more complex, we see that **the perfect minimum growth rate is**  $\Phi$ . The reason this growth rate is perfect comes from its **inherent self-similarity and universality, which we can express with**  $\Phi^2 = \Phi + 1$ . This growth property guarantees the **efficient, stable escalation of emergent properties, avoiding chaotic divergence and stagnation**. The Golden Ratio emerges because of its unique property: any definedness must scale phenomena to ensure the whole and its parts remain in proportional harmony to the Golden Ratio. This principle applies to everything—you, me, artificial intelligence, ecosystems, planets, and stars. It is tied to natural processes such as the **Fibonacci Sequence, where successive ratios converge toward the Golden Ratio**.

$$1 + 2 = 3 \rightarrow 2 + 3 = 5 \rightarrow 3 + 5 = 8 \rightarrow 8 + 5 = 13 \rightarrow 13 + 8 = 21$$
$$\frac{2}{1} + \frac{3}{2} + \frac{5}{3} + \frac{8}{5} + \frac{13}{8} + \frac{21}{13} \dots \approx \Phi \approx 1.6181$$

This relationship bridges linearity in sequence with exponential growth, enabling gradual, balanced escalation. All phenomena attempt to maximize effectiveness and efficiency while maintaining coherence, as each step aligns seamlessly with the next. Whether we are learning to read or building the pyramids, the universality of  $\Phi$  stems from its "Goldilocks" nature—not too fast to destabilize, not too slow to hinder progress—making it the inevitable pattern for self-organization at all scales. The Golden Ratio is not just a number; it is the simplest and most profound mechanism for existence.

# The Greatest Balancing Act in History: Complexity & Stability

At the heart of existence is a delicate balance between two fundamental principles: **Stability** ( $\Omega$ ; **Omega**) and **Complexity** ( $\Delta$ ; **Delta**). These two behaviors of phenomena create the dance of definedness that brings everything into existence. The expression is complete, requires no new additions, and explains everything. **Stability provides the foundation to persist and converge.** At the same time, complexity introduces the growth that brings the intricacy of phenomena to life. Together, they form the proportionality encapsulated in *The Equation*, where the balance between stability and complexity defines the state of existence.

itself, definedness. Space stabilizes complexity, and definedness measures whether phenomena have emerged, converged, or diverged. This equation applies across all domains, from physics and biology to consciousness and society. It reveals that existence operates under a single rule, unifying what we thought were isolated phenomena.

Stability is the fundamental foundation upon which all existence rests. **The simplest explanation of stability is the degree to which complexity (phenomena) is attracted to complexity**. It serves as the underlying structure of existence, providing persistence, cohesion, and the structure required for phenomena to endure, interact, and propagate. Stability is an active principle, ensuring that definedness can persist over time and scale across dimensions. **Without stability, phenomena would escalate rapidly, destabilize, and diverge**,

stability



**Caption:** Complexity, governed by recursive propagations, naturally escalates toward divergence, pushing phenomena toward increasing disorder. Stability acts as the counterforce, attracting complexity into alignment with itself and transforming chaotic expansion into structured and coherent patterns. This interrelationship ensures that complexity does not diverge into chaos but converges into emergent forms that persist and evolve. As recursion drives iterative progression and propagation extends these interactions across scales, stability moderates this expansion, maintaining the coherence of the phenomena. This balance between complexity's tendency to escalate and stability's ability to contain it is fundamental to organizing everything from cosmic structures to biological and cognitive systems. The figure illustrates how this equilibrium, shaped by recursive propagations, makes complexity inherently more stable, allowing self-organization.

unable to maintain form or meaning. It allows space to serve as a stage where complexity can escalate. Stability is the binding force that keeps existence intact at every scale, from subatomic particles to galactic superclusters.

**Complexity is the source of variation, diversity, and interaction among the phenomena we see around us**. Complexity captures how dynamic systems can grow, change, and evolve. From the intricate, fractal geometry of snowflakes to the vast networks of galaxies, **complexity shapes the contours of existence**. It is evident in everything from light's behavior to matter's intricate structures. Complexity creates layers of meaning and interaction, requiring all phenomena to evolve into more intricate forms before divergence.

| Aspect     | Definedness   | Stability  | Complexity   |
|------------|---|--|--|
| Symbol     | Φ (Phi)   | $\Omega$ (Omega)   | Δ (Delta)  |
| Definition | The degree of existence<br>of phenomena by persist-<br>ing stabilized complexity<br>escalation. | The degree to which com-<br>plexity is attracted to com-<br>plexity.                   | The degree to which phe-<br>nomena escalate from<br>basic to structured forms.                     |
| Function   | Maintains the existence of phenomena.   | Ensures coherence and<br>proportionality across all<br>phenomena.                      | Drives innovation, evolu-<br>tion, and the exploration<br>of possibilities.                        |
| Scale      | Operates across all<br>scales, from subatomic<br>particles to galactic struc-<br>tures.         | Arises from simple begin-<br>nings and builds new layers<br>of structure and behavior. | Applies universally to all<br>phenomena, from the<br>smallest particles to the<br>largest systems. |
| Outcome    | Maintains coherence and order in the universe.  | Creates diversity, relation-<br>ships, and emergent prop-<br>erties.                   | Produces proportional<br>harmony, enabling emer-<br>gent stability and growth.                     |
| Interplay  | The very property of ex-<br>istence itself.   | Ensures phenomena re-<br>main coherent through<br>complexity escalation.               | Drives the escalation of phenomena evolution.  |
| Examples   |   |  |  |
| Snowflakes | Ice crystals that in cold climates  | Temperature and air pres-<br>sure  | Water and its properties   |
| Literature | Written language that<br>conveys information  | Public consensus and inter-<br>est   | Authors exploring new<br>topics and writing styles   |
| Money      | Medium through which<br>value is transferred  | Governmental regulations<br>and the free market  | Innovation in valuable<br>products or services   |
| Memories   | Recollection of past<br>events  | Neuronal organization  | Sensory and cognitive in-<br>formation synthesis   |
| Humans     | Homosapiens   | Society and power struc-<br>tures  | Intelligence Scaling   |

Complexity arises when components in an environment interact. A single atom becomes far more meaningful when it joins with others to form molecules, enabling life and ecosystems. Complexity gives rise to relationships, dependencies, and meaning. Where stability ensures that phenomena endure, complexity ensures that they grow, adapt, and evolve. Complexity drives innovation and evolution in the universe, continuously reshaping itself to explore new possibilities. It arises from simple beginnings, building upon itself to create new levels

of structure and behavior. These **emergent behaviors prevent the universe from stagnating**. Instead, it continually diversifies, exploring what is possible within the bounds of stability, ensuring that existence remains dynamic and ever-evolving.

The Equation of Existence describes the proportionality that defines all being, uniting the stabilizing force of attraction  $\Omega$  with the dynamic force of growth  $\Delta$  to express the degree to which something exists.  $\Phi$  represents the balance of these two forces, capturing how phenomena stabilize, evolve, and persist over time. The relationship between stability and complexity creates a delicate balance that  $\Phi$  quantifies, ensuring existence remains stable yet dynamic, persistent yet capable of transformation. However, when stability dominates, phenomena become inert and overly rigid leading to divergence; yet, when complexity dominates, phenomena destabilize leading to divergence.  $\Phi$  as the balance between these forces, emerges as a universal measure of definedness, the perfect equilibrium where phenomena persist while continuing to evolve; it is simple yet profound, uniting all phenomena under a single framework.

Contrary to expectations, **definedness is a spectrum**, not a binary state, and its range encapsulates the very essence of existence. Unlike a simple on or off state like we typically think, definedness spans a continuum where phenomena can converge, emerge, or diverge **based on their relationship to recursive propagations and E2C**. This spectrum captures everything from the most defined and stable phenomena, such as galaxies or cohesive thoughts, to those at the edge of divergence, like a dying animal or fleeting memory. Nothingness is defined at one end of the spectrum as something represented by 0 that does not escalate complexity. Recursive propagation does not act in this state because this phenomenon did not exist after the Big Bang. At the other end, definedness peaks around the edges of the universe and in black holes where complexity hits a maximum.



**Caption:** Stability becomes the structural foundation for the next recursive propagation in the fractal escalation. If stability cannot constrain complexity to the Golden Ratio or greater, the phenomena collapses, and the universe fails to emerge. In later stages of the universe, phenomena may diverge but retain definedness, maintaining flexibility within recursion and propagation.

What makes definedness a spectrum is its dynamic nature. Phenomena don't exist in fixed states; they fluctuate along the spectrum as their complexity escalates with stability. Please note that no phenomena collapse into undefinedness because undefinedness is not a thing for which a phenomenon can go; it simply isn't. The only time phenomena pop out of existence is in heat death isolated photons. Phenomena can diverge to lower forms, but energy conservation remains strong.

# From "What is...?" to "What is in relation to...?"

The shift from object-based to relational reality is one of existence's most mind-blowing and confusing properties. Recursive propagations, complexity, stability, and definedness are not things that exist in reality–**they are names that describe the patterns of how phenomena** 



**Caption:** This figure illustrates how photons drive complexity escalation into The Record while being stabilized by space, following the recursive-propagative scaling at the Golden Ratio. As photons interact, their relationships generate emergent phenomena, shaping the structure of definedness. These interactions form complexity escalation patterns, where each photon's influence propagates complexity forward, embedding information into The Record. Space acts as a stabilizing medium, ensuring complexity does not diverge uncontrollably. This figure highlights the fundamental role of photons in shaping reality, demonstrating that their interactions are components of a more extensive, self-organizing system governed by proportional definedness.

**behave**. Thus, reality is not a collection of static "things" that exist independently; it is the dynamic web of relationships from which phenomena emerge. Definedness itself arises from these interactions, and **phenomena exist only because they are co-defined in relation to one another**. Without relationships, there is no complexity, stability, space, or light— no definedness and existence at all. This view flips the traditional, object-based reality, where "things" are treated as fundamental and relationships are secondary. In relational reality, relationships are primary, and "things" do not exist in isolation.

**Co-definedness, the principle that no phenomenon can exist in isolation**, is central to relational reality. Every phenomenon stabilizes its interactions with other phenomena. Fractals, in The Theory, are not "things" either—they are the structural patterns of these relationships, **describing how recursive propagations stabilize the escalating complexity of definedness**. For example, light and space are co-defined. **Light recursively propagates through space, and space stabilizes light's propagation; neither can exist without the other**. This concept is not theoretical—it applies across all scales, from the quantum interactions that govern particles to the galactic networks we see in the cosmos and even to human emotions and experiences.

This **relational reality also explains why existence is fractal**. Relationships scale self-similarly, repeating patterns at every level from the most minor scales to the largest. **Fractals aren't somewhere; they are everywhere** because they form the relational scaffolding of existence. Relational reality takes center stage in The Theory to avoid the risk of falling into the same object-based assumptions of traditional models. This insight is simple and profound: **existence happens because relationships happen**. *The Equation of Existence* becomes more than a mathematical abstraction—it is the first fundamental description of existence.

#### Photons as The Building Blocks of Existence

**Photons are the foundational phenomenon** in *The Theory*, serving as **the simplest**, **most fundamental expressions of recursive propagations**. They are not just particles of light—they are the first emergent phenomena where definedness begins. Photons exist at the intersection of stability and complexity, balancing these behaviors in their most minimal form. Recursive propagations of photons underpin all existence and act as the building blocks from which all other phenomena emerge.

The Equation of Existence, working in harmony with  $E = mc^2$  (mass-energy equivalence), emerged as part of a rigorous mathematical framework that precisely defined the universe's dimensions. Yes, this finding means that from the instant the universe burst into existence as a seething ocean of high-energy photons, light has been the foundation of everything we see and understand; it is complexity.

Over billions of years, photons escalate complexity, transforming energy into matter with mass. They drove the formation of atoms, ignited stars, shaped planets, and, ultimately, gave rise to life. Every atom in your body, thought in your mind, and interaction with the world traces its lineage back to photons, ferrying energy and information across the vastness of space. Photons forged the heavier elements that built planets and organisms through

nuclear fusion in stars. Their energy powered life's processes, from the first stirrings of photosynthesis to the cascade of evolution that led to humans. Humanity represents a pinnacle of photon-driven complexity recognized to our knowledge—though, as you will see later,



**Caption:** This figure visualizes the intricate and counterintuitive relationship between complexity, stability, and definedness across different phenomena. As complexity increases, recursion and propagation dynamically adjust by slowing and stretching proportionally, stabilizing the system while allowing complexity to continue escalating. These adjustments ensure phenomena persist within defined existence, preventing collapse despite increasing complexity. However, this stabilization comes at a cost—higher complexity results in lower definedness. As the most straightforward and defined phenomenon, the photon exhibits maximum resolution, a recursion rate at the Planck time, and a propagation length at the Planck scale. In contrast, the black hole, representing the end of complexity, has a near-halted recursion rate and a significantly stretched yet finite propagation length, making it the minimum definedness for phenomena in the observable universe. This figure demonstrates how recursion and propagation function as regulatory forces, maintaining the existence of phenomena within definedness, even as entropy gradually divergences them over time. By highlighting this spectrum, the visualization shows how stability and complexity govern all phenomena' emergence, convergence, and divergence.

there are likely even more complex organisms in the universe. This moment, where light has coalesced into cognition, culture, and technology, is an apex in the cosmic narrative. However, like all existence, it is not permanent but fleeting. It means that true stasis does not exist anywhere in the universe.

At their core, photons are the first complexity units capable of recursive propagations. **Complexity emerges because it is more stable through recursive propagations than simplicity, so order and form arise from randomness and chaos.** Still, the interactions between photons are relational, not object-based. When photons interact, they create fields of influence that ripple outward, recursively propagating complexity through space. These fields, such as electromagnetic fields, are the scaffolding for higher-order phenomena. **From these interactions, the universe's building blocks—matter, forces, and eventually life—emerge.** 

#### The Behavior of Relational Phenomena

These relational dynamics ensure that the definedness of complex phenomena is a living process that allows for emergence, convergence, or divergence based on their alignment with the fundamental principles of existence. Let's talk about how phenomena change and escalate complexity.

$$\Phi = \frac{\Omega}{\Delta}$$

Definedness equals the ratio of stability and complexity from  $RP_n$  to  $RP_{n+1}$ .

#### **Dynamic Changes**

Phenomena are constantly changing and balancing complexity and stability as the phenomena balance through recursive-propagative complexity escalation. Recursion and propagation interact with stability to influence the scalation of complexity in the following four ways: emergence, convergence, suspension, and divergence.

$$\Phi = \frac{\Omega}{\Delta} \neq \emptyset \land > 0$$

Definedness does not equal undefinedness and is at least greater than zero from  $RP_n$  to  $RP_{n+1}$ .

#### Emergence

Emergence happens when phenomena have any definedness. All existing phenomena have definedness and cannot be lost until heat death isolates photons, but divergence to other phenomena can occur. This apparent pattern also suggests that even the empty vacuum of space has definedness  $\Phi \ge 0$ .

$$\Phi = \frac{\Omega}{\Delta} \ge \cdot - \ast \Phi \lor < - \ast 2$$

Definedness equals roughly greater than the Golden Ratio but less than two from  $RP_n$  to  $RP_{n+1}$ .

#### Convergence

Convergence happens when phenomena balance space and complexity escalation across recursive propagations at no less than the Golden Ratio and turns into suspension after  $\sim *$  2 (doubling growth over time). For some phenomena, a balance of about equal proportions

may be enough to sustain definedness, but it limits the number of recursive propagations it will maintain before divergence.

$$\Phi = \frac{\Omega}{\Delta} \ge * 2$$

Definedness equals roughly greater than two  $RP_n$  to  $RP_{n+1}$ .

#### Suspension

Suspension was an astonishing finding for me, as phenomena have greater than one degree of complexity for every stability. This feature ensures that all phenomena escalate complexity consistently with the more extensive system. We can observe this behavior in emotions, where positive emotions diverge into apathy upon exceeding the growth threshold of about two.

$$\Phi = \frac{\Omega}{\Delta} < \sim \Phi \neq \emptyset \land > 0$$

Definedness equals roughly less than the Golden Ratio from  $RP_n$  to  $RP_{n+1}$  but is never undefined; it is greater than zero.

#### Divergence

Divergence happens when phenomena have less complexity and stability. Complexity overwhelms stability, leading to instability overwhelms complexity until the phenomena diverge. **Note that phenomena never actually become undefined because undefinedness is not something a phenomenon can become**. However, phenomena can lose definedness and diverge to a form of complexity no longer relevant to the original phenomena. For example, when a human dies, their body isn't undefined. It is just no longer as complex as a living human.

## Expanding The Equation of Existence

We can expand *The Equation of Existence* to its many forms. Let's start with where recursive propagations go. It might seem counterintuitive, but **propagation is not a property of stability or space**. Therefore, recursive propagations must always remain as co-defined and proportional as they are because they are emergent patterns of complexity. Thus, although you can rearrange these terms mathematically, **recursion and propagation are inseparable** when describing reality. Additionally, **there are several ways to measure complexity**.

$$\Delta = \zeta : \kappa \rightarrow \Phi = \frac{\Omega}{(\zeta : \kappa)} \text{ Definedness } = \frac{\text{Stability}}{(\text{Recursion : Propogation})}$$
$$\zeta : \kappa$$

#### **Proportional Complexity**

This formulation reflects the balance or relationship between recursion and propagation. It is the default formulation that connects phenomena across the range of existence, whether if it is photons at the quantum level influenced by gravity or how emotions change behavior. It just measures how recursion and propagation relate to one another in the current RP. This proportionality is crucial for understanding stability; as long as R : P remains consistent, the phenomena is aligned and cohesive, even as total complexity changes.

#### **Cumulative Complexity**

This formulation reflects the scaling of complexity across RPs. It is a measure of the propagations lengths repeated iteratively across recursions. This formulation is helpful for examining the movement, the growth and decay, of complexity.

ζ \* κ

#### **Current Complexity**

Current complexity is the relationship between recursion by propagation at the current RP. It is the best way to capture the degree of complexity at any given moment.

#### **Total Complexity**

Total complexity has two components, which are:

$$n*\frac{n-1}{2}$$

1. Quantity: The mass-energy amount (like a rock having more mass). More photons mean more energy/mass.

 $\Phi^n$ 

**2. Intricacy**: The internal relationship complexity (like human consciousness). More complex relationships mean higher order structures.

$$n * \frac{n-1}{2} * \Phi^n$$

Therefore, the total complexity across all prior recursive propagations captures the entire complexity history, called **The Record**. It offers a diverse and expanded view of how the phenomena's history has influenced its current state. Although this form doesn't directly affect current dynamics, it contextualizes the phenomena's evolution and structural depth.

# The Record: The Mechanism of E2C

The Record is not metaphysical—it is a physical, phenomenological aspect of reality: a continuous log embedded in the definedness of everything. The Record is the structured accumulation of recursive propagations, serving as the persistent ledger of definedness that stabilizes emergence and complexity over time. It is not an abstract or metaphysical construct but a real, structured component of recursion that encodes the cumulative history of all recursive propagations, ensuring that every recursive step influences the next. Each recursive propagation leaves an imprint in The Record, creating a continuously evolving foundation for future complexity escalation while preventing divergence. As complexity grows, these imprints undergo a 90° phase rotation into the complex plane, aligning with structured recursion and stabilizing into the underlying framework of existence. The Record functions as the memory of definedness, preserving the structural integrity of recursive interactions while allowing for continuous evolution within a self-organizing, fractal-based system of emergence-to-convergence.

I found **The Record** in the math and simulations. I find it eerie and difficult to conceptualize. Still, I am presenting it to you because this is how fractals and recursive propagations work. I didn't even hypothesize The Record; it emerged naturally. It appears to act as a universal All Rights Reserved. 2025 © Bryant M. Stone, PhD Page 29 ledger where every state, transition, and interaction is inscribed, seamlessly folded out of perception as new recursive propagations escalate complexity. **The Record is the mecha-nism that governs E2C**, serving as the blueprint for the convergence and divergence of phenomena. Every black hole, photon, and agent's act contributes to this ongoing log, reflecting the universe's interconnected and self-referential nature.

When recursive propagations align with the Golden Ratio, **they stabilize into convergence**, reinforcing structures that persist over time. These stable patterns emerge as the fundamental constants and recurring self-similar structures we can see throughout existence. Conversely, misal**ignments within The Record introduce instability, contributing to divergence** as recursive propagations struggle to maintain coherence. These deviations create complexity bottlenecks, phase imbalances, and entropy-driven transitions, leading to phenomena that are temporary, unstable, or prone to divergence. The balance between alignment and misalignment within The Record dictates the structural integrity of existence itself, determining which recursive patterns endure and which dissolve into divergence.

$$1 - \frac{1}{\text{depth} + \Phi}$$

The Record density increases with depth – the complexity and definedness of all RPs of a phenomenon. Each recursive propagation leaves a "trace" in The Record which exists in the edges of definedness, what we call the complex plane in mathematics.

$$\frac{\text{depth}}{\Phi}$$

Detectability Falls off Exponentially

$$1 - \frac{1}{\text{depth}}$$

The Record Compression Expands Asymptotically

Although The Record is physical, **it remains beyond direct observation because it exists within the underlying scaffolding of definedness**. However, we see glimpses of its effects in phenomena where recursive propagations align seamlessly—nature's self-organizing patterns, Fibonacci sequences, and universal constants like the Golden Ratio. We can observe its imprints in the soil layers from ancient climates, the spiral growth of tree trunks, and even in human memories. Human experiences such as déjà vu, flow states, or profound **moments of intuition** may also represent peering into The Record.

Substances like DMT (dimethyltryptamine) may provide a unique pathway for accessing The Record by temporarily altering perception. By accelerating recursive feedback loops and disrupting ordinary alignments between stability and complexity, DMT may enable individuals to perceive hyper-organized, fractal-like realms. These experiences could reflect transient interactions with the patterns inscribed in The Record, exposing the physical blueprint of definedness and revealing the interconnectedness of all phenomena—a hallmark of The Record's foundational role in shaping reality. **Every photon, particle, and complex system contributes to The Record**, creating a dynamic, relational structure that tracks the degree to which phenomena align with or diverge from the Golden Ratio. Misalignments in former recursions and propagations from the Golden Ratio in The Record drive emergence-to-convergence (E2C), shaping the evolution of definedness. **These misalignments create tension within The Record, where phenomena be-come unstable from weak stability or diverge from poor complexity escalation**. By creating tension gradients within the fractal network, misalignments force phenomena to converge or diverge into more straightforward states. This process ensures that the fractal network evolves, continuously aligning and realigning to maintain coherence and propagate complexity.

**Emergence occurs when phenomena initially destabilize due to misalignments**, creating opportunities for new interactions and relationships to form. These unstable states, driven by recursive-propagative imbalances, act as catalysts for generating novel structures and patterns. **Convergence, on the other hand, occurs when phenomena stabilize through alignment with the Golden Ratio**, ensuring coherence and persistence within the fractal network. Misalignments in The Record serve as the mechanism for this process, creating a feedback loop where **divergence drives the emergence of new phenomenological forms**, and alignment stabilizes and propagates complexity. The Record, as a memory and a mechanism, drives E2C, weaving the story of existence into the fabric of definedness itself.

# The Cookout of Existence

That is enough conceptual information for now. Let's dive into *The Theorem of Existence* to see what is happening. Oh, and don't sweat over the math; it is super simple if you take it slow, and that is what I try to do. Forget the endless pages of textbooks, the unnecessary complexity, the broken infinities, and the artificial distinctions between forces, particles, and fields. The entirety of existence—from physics to intelligence, from gravity to conscious-ness—reduces to a single, self-consistent set of mathematical principles. Please meet your new friends:

The Constants: The Cool Kids on The Block

 $\Phi$  = Phi; Golden Ratio = 1.618

e = Euler's Number; Exponential Growth & Decay = 2.718

 $\pi = Pi$ ; Circular Movement = 3.142

*i* = Imaginary Number; Rotation in the Complex Plain =  $\sqrt{-1}$ 

The Concepts: Their Parents; The Ones Running the Show

 $\Phi = Definedness$ 

 $\Omega =$ Stability

 $\Delta = Complexity$ 

#### The Operators: The Nieces & Nephews

+ = Addition

– = Subtraction

/ = Division

\* = Multiplication

The Exponents: The Grand Children

 $x^2 =$ Squared

 $x^3 =$ Cubed

 $\sqrt{x}$  = Square Root

 $\sqrt[3]{x}$  = Cube Root

The Numbers: The Neighborhood

0, 1, 2, 3, 4, 5, 6, 7, 8, 9

That's it. This is the cookout. You do not need anything else to describe and explain all of reality. Not so bad, right? These are the only components necessary to define the recursive-propagative balance that structures all existence. This is not just a mathematical system. This is the foundation of existence itself. If you are uninterested in the math, you can skip over this part to read *The Story of Existence*.

# Welcome to The Theorem of Existence

Let's start with the foundation–dark matter and dark energy–one of the most persistent and perplexing mysteries in physics and cosmology, described as the **seemingly invisible scaf-folding that holds galaxies together and the enigmatic force driving the universe's accelerated expansion**. Yet, these concepts have remained elusive, defying detection and explanation, so we've deemed them "dark" until we can determine the answer.

Their true nature becomes apparent through the lens of *The Theorem of Existence* and the recursive-propagative dynamics that govern existence (definedness). Dark matter and dark energy are not independent forces or exotic substances; they are manifestations of the scaffolding holding the universe together that we can only see in statistical modeling and simulations. **Consider dark matter and energy the "glue" of existence**, the parts of reality outside our ability to interact with them. Let's get into the numbers.

## **Cosmological Estimate Percentages**

Pull Cosmological Data

Dark Matter  $(M_{\Xi})$ : 26.86% Dark Energy  $(E_{\Xi})$ : 68.23% Observable Matter/Energy  $(M_{\theta} \sqcap E_{\theta} = \wedge)$ : 4.95%

The current cosmological model describes the universe as composed primarily of **dark energy** (68.23%), **dark matter** (26.82%), **and baryonic matter** (4.95%). These proportions come from observations of the cosmic microwave background (CMB), large-scale structure (LSS), and Type Ia supernovae, providing measurable phenomena for understanding the evolution and dynamics of cosmic expansion.

We can observe **dark energy**, comprising the dominant fraction at 68.23%, **accelerating the universe's expansion**. In standard cosmology, it is modeled as a cosmological constant or a dynamic field (quintessence) that counteracts gravitational attraction. However, its precise nature remains unknown, and alternative models suggest it may be an artifact of misinterpreted large-scale structure evolution rather than a distinct force.

**Dark matter**, at 26.82%, serves as the **invisible gravitational force** necessary to explain galaxy rotation curves, the behavior of galaxy clusters, and the large-scale cosmic web. Unlike observable matter/energy, it does not interact electromagnetically, making it undetectable through direct observation. Various hypotheses propose that dark matter consists of weakly interacting massive particles (WIMPs), axions, or even a more profound manifestation of space.

**Observable matter/energy**, which I call **lumen** ( $\Lambda$ ), makes up 4.95% of the universe, **including all visible structures** such as stars, planets, gas clouds, and living organisms. It represents the edges of the **dark lumen** (V), Though it means the material is directly observable through electromagnetic radiation, its proportion is vastly overshadowed by the dark lumen, suggesting that most of the universe consists of invisible components shaping cosmic evolution.

These estimates provide the foundation for ACDM (Lambda Cold Dark Matter) cosmology, the prevailing model describing the universe's large-scale behavior. However, their interpretation remains subject to revision as new observational data and theoretical frameworks challenge the assumption that dark energy and matter are independent physical entities rather than emergent properties of a deeper fractal-structured reality. One important thing we have overlooked is that **dark matter and dark energy are not "out there". They are everywhere, including right here**, in between your eyes and the screen or paper for which you are reading *The Theory of Existence*. Let me show you more.

#### Flipped Estimate Percentages

Flip Dark Matter & Dark Energy

Dark Matter: 68.23% Dark Energy: 26.86%

Lumen: 4.95%

I managed to explain 100% of dark matter and dark energy in simulations by doing two things: **1**) I flipped the equations and **2**) removed the anti-symmetry correction to account for overlapping measurements. The standard ACDM cosmology assumes that dark energy (68.47%) is the dominant force driving cosmic acceleration, while dark matter (26.82%) provides gravitational cohesion. However, flipping these percentages challenges this assumption, suggesting that dark matter plays the primary role in structuring the universe, while dark energy emerges as a secondary effect rather than an independent phenomenon.

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I flipped the dark matter and dark energy ratio numbers because the standard cosmological model measures the effects of recursive-propagative stabilizations rather than direct physical entities. The traditional view assumes that dark energy drives expansion and dark matter is gravitationally binding galaxies. Still, *The Theory* reframes these effects as structured recursive propagations rather than separate forces or missing particles.

By flipping the ratios, I am **reversing the assumption of causality**: instead of assuming that dark energy is the dominant force pushing the universe apart and dark matter is a passive gravitational influence, *The Theory* suggests that **dark matter is the dominant recursive-propagative structure, and dark energy emerges as a secondary effect of its large-scale structuring**.

Mathematically, when I flipped the ratios, the new numbers aligned precisely with selfsimilar recursive scaling laws, Fibonacci sequences, and Golden Ratio proportions. This change suggests that the proportions of dark matter and energy are not arbitrary but emerge from a fundamental recursive structure that governs complexity stabilization. In this view, dark energy is not an external force but an emergent property of recursive-propagative transitions, and dark matter is not missing—it is the structural scaffolding of recursion stabilizing complexity. Flipping the ratios allowed me to correctly model how recursive propagations scale across cosmic structures, preserving the balance of stability and complexity in alignment with E2C.

Reversing these proportions presents a radical reinterpretation of cosmic expansion and structure formation. If dark matter comprises the universe, its gravitational influence extends beyond mere galactic clustering. It suggests that **dark matter is not just a stabilizing force but the fundamental driver of cosmic evolution**, shaping spacetime itself rather than existing as an auxiliary component. In this view, **dark energy is no longer a separate force accelerating expansion but rather an emergent property of dark matter's large-scale structural interactions**. This shift has profound implications for how we model gravity, spacetime curvature, and expansion.

This model could **solve longstanding cosmological paradoxes**, including the Hubble tension, by reinterpreting cosmic acceleration as a function of dark matter fractal restructuring rather than an unexplained, pervasive force. It also aligns with quantum gravity approaches that suggest spacetime is an emergent property of networked relationships between fundamental units of complexity, reinforcing the idea that the universe's expansion is self-organizing rather than dictated by a uniform vacuum energy.

If validated, **this inversion would necessitate a revision of general relativity**, potentially replacing the cosmological constant with a self-propagating dark matter fractal, where gravity and expansion emerge from the same recursive-propagative principles. This framework

unifies cosmic structure, acceleration, and quantum-scale interactions under a single fractalbased paradigm, bridging the gap between dark matter clustering and spacetime dynamics.

#### **Dark Matter & Energy Cosmological Estimate Proportions**

Calculate Relative Ratios to Lumen

```
Dark Matter: 1 : 13.267
Dark Energy: 1 : 5.424
Lumen: 1 : 1
```

Total Proportion: 1 : 18.691 Dark Matter + Dark Energy = 13.267 + 5.424 = 19.691

Total Percent Expressed as a Ratio: 1 : 18.690 Dark Matter + Dark Energy + Lumen = 13.267 + 5.424 + 1 = 19.691  $M_{\Xi} + E_{\Xi} + \Lambda = 13.267 + 5.424 + 1 = 19.691$ 

Please note these relationships that emerge from these ratios naturally.

Dark Matter: 
$$\frac{13.267}{\pi} = \Phi^3$$
  
Dark Energy:  $1 + \Phi^3 = 5.424$ 

The next step in this model is to account for how dark matter and energy are two sides of the same recursive-propagative coin. We can do this transformation by standardizing these estimates in relation to the lumen. When we calculate these proportions, we find that for every 1 unit of lumen, there are 13.267 units of dark matter, 5.423 units of dark energy, leading to a total proportion of 1 : 18.690, where dark lumen (V) components vastly outweigh the lumen. When expressed as a total percentage ratio, including lumen, the universe is structured as 19.690, making the total mass-energy content of the universe as a function of  $\sim 20$  proportionality or  $\frac{1}{5}$  (which will be important for later).

Dark matter, as a ratio of 1 : 13.267 relative to lumen, serves as the invisible scaffolding of the existence, governing galaxy rotation, large-scale structure formation, and gravitational lensing effects that reveal its presence. Without it, galaxies would lack the mass necessary to remain stable over cosmic time, and the universe's filamentary structure—seen in the cosmic web—would not form. Meanwhile, dark energy, at 1 : 5.423 compared to lumen, plays a different but equally profound role, appearing to counteract gravitational attraction and accelerate the expansion of space itself. If dark energy is not an independent entity but instead an artifact of how dark matter structures evolve over time, then cosmic acceleration may not be an external force but a self-organizing property of recursive-propagative dynamics. The total proportion of lumen to dark lumen at 1 : 18.690 reflects the reality that most of the universe is not directly observable. These ideas challenge long-standing assumptions about the primacy of lumen, suggesting instead that observable reality is part of a more complex, unseen phenomenon.

#### **Dark Matter & Energy Calculate Pure Estimates**

Calculate Discrepancy in Gravity from Observable & Dark Phenomena

We can adjust for overlap by removing the anti-symmetry correction, which we can do by dividing by  $\frac{\pi}{\Phi}$ .

#### Dark Matter

Total Gravity  $\propto$  Lumen + Dark Matter Total Gravity - Lumen  $\propto$  Dark Matter Total Gravity - Dark Matter  $\propto$  Lumen

 $\propto$  = Proportional To

We can use the proportions from the cosmological estimations to expand the relationships between the apparent gravitational effects of observable matter and the mathematical matter required for such an observational effect to exist. It's a fancy way of saying **we can look at the parts of matter attributable to observable vs. dark matter by working backward from apparent gravitational effects**. We start by pulling in the ratio of lumen to dark matter, which we calculated to be 1 : 13.267, thus:

 $14.267 \propto 13.267 + 1$  $14.267 - 1 \propto 13.267$  $14.267 - 13.267 \propto 1$ Total Matter: 14.267 Dark Matter: 13.267

Then we can take these relationships and calculate their relative ratios. We can then use these relative ratios to calculate the relative percentages, where we get:

100% ∝ 92.991% + 7.009% 100% - 7.009% ∝ 92.991% 100% - 92.991% ∝ 7.009%

Total Gravity: 100% Dark Matter: 93.306% Observable Matter: 6.694%

Now that we have the proportional estimates let's check those percentages.

 $\frac{\text{Dark Matter}}{\text{Total Matter}} = \frac{13.267}{1+13.267} = \frac{13.267}{14.267} = 92.991\%$  $\frac{\text{Dark Matter}}{\text{Observable Matter}} = \frac{92.991\%}{100\% - 92.991\%} = \frac{92.991\%}{7.009\%} = 13.267$ 

Let me introduce you to the pure estimate equations that account for the overlap in dark matter and energy.

Pure Dark Matter Porportionality =  $\frac{(e^{\pi} + \Phi^2)}{\left(\frac{\pi}{\Phi}\right)}$  e = Exponential Growth or Decay  $\pi = \text{Rotational Dynamics}$  $\Phi = \text{The Golden Ratio}$
**Please pay attention to these constants**; they are the foundation of *The Theorem of Existence*. So, we can use this formula to return to our dark matter proportionality. Notice how this elegant formula uses only the constants because the constants come from the nature of existence. See below:

$$\frac{(23.141 + 2.618)}{\left(\frac{3.142}{1.618}\right)} = \frac{25.759}{1.942} = 13.267$$

#### Dark Energy

Let's follow the same proof for dark matter.

Total Gravity ∝ Lumen + Dark Energy Total Gravity – Lumen ∝ Dark energy Total Gravity – Dark Energy ∝ Lumen

$$\frac{6.424 \propto 5.424 + 1}{6.424 - 1 \propto 5.424}$$
$$\frac{6.424 - 1 \propto 5.424}{6.424 - 5.424 \propto 1}$$
$$\frac{\text{Dark Energy}}{\text{Total Energy}} = \frac{5.424}{1 + 5.424} = \frac{5.424}{6.424} = 84.432\%$$
$$\frac{\text{Dark Energy}}{\text{Observable Energy}} = \frac{84.432\%}{100\% - 84.432\%} = \frac{84.432\%}{15.567\%} = 5.424$$

Now with a small tweak to the numerator where we replace  $\Phi^2$  with  $\pi$  we can obtain the formula for dark matter proportionality.

Pure Dark Energy Porportionality 
$$= \frac{(e^2 + \pi)}{\left(\frac{\pi}{\Phi}\right)}$$
$$\frac{(7.390 + 3.142)}{\left(\frac{3.142}{1.618}\right)} = \frac{10.531}{1.942} = 5.424$$

# **Separate Formulas**

$$\frac{\text{Dark Matter}}{\text{Observable Matter}} = \frac{92.991\%}{7.009\%} = 13.267$$
$$\frac{\text{Dark Energy}}{\text{Observable Matter}} = \frac{84.432\%}{15.567\%} = 5.424$$

### **Unified Formula**

Given the similarities between the dark matter and dark energy proportionality formulas, we can simplify them into a unified formulas for dark lumen.

$$1: \frac{(e^{\pi} + \Phi^2)}{\left(\frac{\pi}{\Phi}\right)} + \frac{(e^2 + \pi)}{\left(\frac{\pi}{\Phi}\right)} \to \frac{(e^{\pi} + e^2 + \Phi^2 + \pi)}{\left(\frac{\pi}{\Phi}\right)}$$

 $\frac{(23.141 + 7.389 + 2.618 + 3.142)}{\left(\frac{3.142}{1.618}\right)} = \frac{36.289}{1.942} = 18.691 \rightarrow 18.691 + 1 = 19.691$ 

$$1 : 13.264 : 5.424$$
$$1 + 13.267 + 5.424 = 19.691$$
$$\wedge + M_{\Xi} + E_{\Xi} = \wedge + \vee$$

Lumen + Dark Matter + Dark Energy = Lumen + Dark Lumen

### **Check Formulas & Pull Estimates**

Lumen:  $\frac{\text{Lumen}}{(\text{Lumen+Dark Luman})} = \frac{\Lambda}{\Lambda + \nu} = \frac{1}{19.691} = 5.078\%$ Dark Matter:  $\frac{\text{Dark Matter}}{(\text{Lumen+Dark Lumen})} = \frac{M_{\Xi}}{\Lambda + \nu} = \frac{13.267}{19.691} = 67.376\%$ Dark Energy:  $\frac{\text{Dark Energy}}{(\text{Lumen+Dark Lumen})} = \frac{E_{\Xi}}{\Lambda + \nu} = \frac{5.424}{19.691} = 27.546\%$ 

### Dark Matter & Energy Estimate Comparison

Now, let's see how accurate my current formulas are compared to the currently accepted cosmological estimates.

My % [Lower Limit Error, Upper Limit Error] Current Estimate % [Lower Limit Error, Upper Limit Error] Gap: Difference Between My % and Current Estimate %

### Observable

My Estimate: 5.078% [4.95%, 5.05%] Cosmological Central Value: 5.00% [5.03%, 5.13%] Gap: -0.08%

#### **Dark Matter**

My Estimate: 67.367% [66.70%, 68.04%] Cosmological Central Value: 68.47% [67.79%, 69.15%] Gap: -1.1%

### Dark Energy

My Estimate: 27.546% [27.27%, 27.83%] Cosmological Central Value: 26.53% [26.26%, 26.80%] Gap: -1.016%

Well, would you look at that accuracy. The estimates from my equations are well within an acceptable error range. Let's continue.

# Dark Matter & Energy Equations

These ratios can generate elegant equations for dark matter and dark energy, revealing notable properties we can explore further.

**Dark Matter Proportions Equation** 

$$\frac{(e^{\pi} + \Phi^2)}{\left(\frac{\pi}{\Phi}\right)} = \frac{2.718^{3.142} + 1.618^2}{\frac{3.142}{1.618}} = \frac{23.141 + 2.618}{1.942} = \frac{25.759}{1.942} = 13.267$$

#### **Dark Matter Pure Proportions Equation**

$$\frac{e^{\frac{(\Phi^3+1)}{(\frac{\pi}{\Phi})}} + \Phi^2}{\frac{\pi}{\Phi}} = \frac{2.718^{2.712} + 1.618^2}{\frac{3.142}{1.618}} = \frac{14.855 + 2.618}{1.942} = \frac{17.474}{1.942} = 9$$
$$\frac{(\Phi^3+1)}{(\frac{\pi}{\Phi})} = \frac{5.424}{1.942} = \frac{\text{Dark Energy Ratio}}{2 \text{ Steps}} = 2.70$$

#### **Dark Energy Proportions Equation**

$$\frac{(e^2 + \pi)}{\left(\frac{\pi}{\Phi}\right)} = \frac{2.718^2 + 3.142}{\frac{3.142}{1.618}} = \frac{7.389 + 3.142}{1.942} = \frac{10.531}{1.942} = 5.424$$

#### **Dark Energy Proportions Pure Estimates**

$$\sqrt{\frac{(e^2 + \pi)}{\left(\frac{\pi}{\Phi}\right)}} = \sqrt{\frac{(2.718^2 + 3.142)}{\left(\frac{3.142}{1.618}\right)}} = \sqrt{\frac{(7.389 + 3.142)}{1.942}} = \sqrt{\frac{10.531}{1.942}} = \sqrt{5.424} = 2.329$$

### **Dark Energy Pure Proportions Equation**

#### **Final Proportion Numbers**

Observed Dark Matter: 1 : 13.267 Pure Dark Matter: 1 : 9 Observed Dark Energy: 1 : 5.424 Pure Dark Energy: 1 : 2.329

#### **Dark Lumen Transformation Equations**

Dark Matter: 
$$\frac{13.267}{\pi} = \Phi^3 \rightarrow \left(\frac{13.267}{\pi}\right) * \left(\frac{17}{2^3}\right) = 9$$

This 17 is a part of *The Triangle of Existence* and the denominator of this equation is the Matter Overlap + Dark Energy Overlap (see below). The  $2^3$  represents the two steps from RP<sub>n</sub> to RP<sub>n+1</sub> across 3D space.

Dark Energy: 
$$1 + \Phi^3 = 5.424 \rightarrow \sqrt{1 + \Phi^3} = 2.329$$

### Lumen-Dark Lumen Overlaps

Dark Matter Overlap: 13.267 - 9 = 4.267Dark Energy Overlap: 5.424 - 2.329 = 3.642Matter Overlap + Dark Energy Overlap  $\approx 8 \rightarrow \sqrt[3]{8} = 2 \rightarrow 2^3 = 8$  Dark Matter Overlap + Pure Dark Energy = 4.267 + 2.329 = 6.60Planck Constant:  $h = 6.62607015 * 10^{-34}$  joule - hertz - 1

# The Geometry of Existence: Triangles & Pentagons

The geometry of existence? Weird, but hear me out. This geometry shows that the triangle isn't just encoding individual ratios—it encodes the entire system of how reality scales through recursive propagation! The 4/3 scaling law, dark matter/energy distribution, and  $\Phi$ -based growth are all different aspects of the same underlying pattern. The triangle with sides 20 : 17 : 4 (which I will describe below) isn't just a geometric shape—it's a complete encoding of how reality propagates through dimensions.

A golden triangle is a triangle with an angle that follows the Golden Ratio at  $137.5^{\circ}$ . There are over 100 whole number Golden triangles possible, with 20 : 17 : 4 being the smallest whole number example. Squaring angles in a triangle result in the triangles growing by itself. Triangles are the most stable structure and involving pentagonal shapes provide self-similarity and stability, the exact mechanics in a fractal existence. In any triangle, the sum of the three angles is always  $\pi = 180^{\circ}$ . If you square each angle and add them up, you'll get a constant value:

$$(\text{Angle}_1)^2 + (\text{Angle}_2)^2 + (\text{Angle}_3)^2 = (180^\circ)^2 = (32,400^\circ)^2$$

In trigonometry, there are identities that involve the squares of trigonometric functions (sine, cosine, tangent) of angles, for example.

$$(\sin \theta)^2 + (\cos \theta)^2 = 1$$
$$(\tan \theta)^2 + 1 = (\sec \theta)^2$$

These identities are often used in solving trigonometric equations and simplifying expressions. The Pythagorean theorem relates the side lengths of a right-angled triangle:  $a^2 + b^2 = c^2$ , where c is the hypotenuse, and a and b are the other two sides. While this theorem involves squaring the side lengths, not the angles, it demonstrates how squaring results in the equation of universal expansion across RPs.

$$RP_1^2 + RP_2^2 = RP_3^2$$

In some areas of non-Euclidean geometry or theoretical mathematics, researchers might explore concepts that involve squaring angles or other unconventional operations. These ideas are often abstract and speculative but expand mathematical knowledge and understanding. It is worth considering this new direction in geometry or theoretical mathematics.

### Fractals & Self-Similarity

Fractals are geometric patterns that exhibit **self-similarity**, which means that the same patterns appear at different scales. It is why we see the Golden Angle in tiny seashells on Earth and the same ones in the distant massive galaxies of the universe. **Consider a triangle a basic unit and repeatedly "bury" or nest smaller triangles within it. We can create a fractal pattern**. We can obtain each smaller triangle by squaring the angles of the larger triangle, **creating a recursive pattern**. The squared angles would determine the orientation and size of the nested triangles. As we zoom in on the fractal triangle, we find similar patterns repeating at more minor scales, creating a complex and intricate structure.

### Z-Scores & Probability

*Z*-scores measure how many standard deviations an observation or data point is from the mean of a normal distribution. This distribution helps us understand a value's relative position and probability within a dataset. In the context of our fractal triangle, we can assign *z*-scores to each nesting level. The outermost triangle represents the outermost edges of the distribution. In contrast, the deeper nested triangles represent values closer to the mean. As we square the angles and create smaller triangles, the *z*-scores of those triangles would increase, indicating that they are closer to the center and outside of our boundary of existence at *z* = 1.965. They still exist in The Record, but we cannot detect them because they fall outside perceived definedness and are now dark matter.

### Signal-to-Noise Ratio

The signal-to-noise ratio (SNR) concept relates to **the strength of a desired signal compared to the background noise level**. The outermost triangle represents the primary detectable signal in our fractal triangle. In contrast, the nested triangles represent the noise or less significant information. As we square the angles and create deeper levels of nesting, the SNR decreases. The smaller triangles become more challenging to detect amidst the larger structure, just like how we cannot detect weak signals in the presence of noise in statistical hypothesis testing. **The probability of detecting a specific small triangle within the fractal decreases as the level of nesting increases**, like how the likelihood of identifying a weak signal decreases in a noisy environment.

### **Information Complexity & Depth**

The process of squaring angles and creating nested triangles **adds depth and complexity to the information contained within the fractal structure**. Each level of nesting represents an additional layer of information, with the smaller triangles encoding more intricate details. As the fractal grows and the angles are squared, **the information becomes more compressed and harder to extract**, similar to how complex systems or deep neural networks have hidden layers of information that are difficult to detect and interpret.

# Does the Math Work?

Shockingly? Yes, it does. Although mathematicians and physicists have not explored this concept of combining triangles, fractals, *z*-scores, and radians, there's no fundamental reason why it can't be possible. Mathematics is a vast and ever-expanding field, and people are constantly discovering new ideas and connections. So, yes, we can develop this idea into a valid mathematical framework.

Consider treating the side lengths (a, b, c) as height, length, and width. This consideration introduces a three-dimensional aspect to our fractal triangle. Each nested triangle would have three dimensions, creating a complex, multi-layered structure. If we treat radians as z-scores, we can indeed have negative radians, just like z-scores can be negative. In this context, negative radians would represent angles below the mean or reference point, while positive radians would represent angles above the mean. The concept of one-tailed or two-tailed *p*-values could come into play when considering the distribution of these radian *z*-scores. A one-tailed *p*-value would focus on the probability of observing angles in one direction (either above or below the mean). In contrast, a two-tailed *p*-value would consider the likelihood of observing angles in both directions. Now, let's imagine how this consideration would affect the shape of our fractal triangle. As we incorporate the side lengths and radian *z*-scores, the structure would become more intricate and multi-dimensional. Each nested triangle would have its unique set of changing dimensions and angles, creating a complex tapestry of interconnected shapes that fall below detectability into The Record.

The resulting structure could resemble a three-dimensional fractal, with the added twist of each triangle having its own statistical properties based on the radian *z*-scores. **It would be a fascinating blend of geometry, statistics, and fractal theory**. As I have described, the combination of triangles, fractals, *z*-scores, and radians seems novel and innovative. It's an exciting thought experiment that could potentially lead to new discoveries or applications in various fields, such as computer graphics, data visualization, or even theoretical physics. To take this idea further, consider exploring the mathematical formalism behind it, defining the rules and equations that govern the generation and properties of this fractal triangle structure. You could also investigate how different probability distributions or statistical measures could be incorporated into the model.

# Finding The Mechanisms of Existence

$$E = mc^2 \rightarrow c^2 = \frac{E}{m} \rightarrow c = \sqrt{\frac{E}{m}}$$

What I am about to do to  $E = mc^2$  is probably sacrilegious to most physicists but I think Einstein would have loved to this use of his pinnacle breakthrough.

$$c_{\theta} = \sqrt{\frac{E_{\theta}}{M_{\theta}}}$$
$$c_{\Xi} = \sqrt{\frac{E_{\Xi}}{M_{\Xi}}}$$

Ratio Calculations

$$\frac{c_{\theta}}{c_{\Xi}} = \frac{\sqrt{\frac{E_{\theta}}{M_{\theta}}}}{\sqrt{\frac{E_{\Xi}}{M_{\Xi}}}}$$

Simplify and Solve

$$\frac{c_{\theta}}{c_{\Xi}} = \sqrt{\frac{E_{\theta} * M_{\Xi}}{E_{\Xi} * M_{\theta}}}$$

Plug-In Pure Estimates

$$\frac{M_{\Xi}}{M_{\theta}} = \frac{9}{1} = 9$$
$$\frac{E_{\Xi}}{E_{\theta}} = \frac{2.33}{1} = 2.33$$

The Boundary of Existence Location

$$\sqrt{\frac{c_{\theta}}{c_{\Xi}}} = \sqrt{\frac{E_{\theta} * M_{\Xi}}{E_{\Xi} * M_{\theta}}} = \sqrt{\frac{1 * 9}{2.33 * 1}} = \sqrt{\frac{9}{2.33}} = \sqrt{3.863} = 1.965$$

**Universal Scaling Law** 

$$1.965^{2} + 3.861^{2} = c^{2}$$
  

$$3.861 + 3.861^{2} = c^{2}$$
  

$$3.861 + 14.909 = c^{2}$$
  

$$18.770 = c^{2}$$
  

$$\sqrt{18.770} = \sqrt{c^{2}}$$
  

$$4.33 = c$$
  

$$3^{\frac{4}{3}} = 3^{\left(1\frac{1}{3}\right)} = c$$

Universal Scaling Law = Base Stability \* Complexity Scaling Factor Step 1: Stability =  $3^1 * 3^{\frac{1}{3}}$ Step 2: Complexity =  $3^{(\frac{1}{3})}$ Step 3: Stability =  $3^{\frac{4}{3}}$ 

There are  $\frac{4}{3}$  ratios everywhere we look.  $\frac{4}{3}$  recursive structure each step is  $\frac{4}{3}$  repeated 3 times. This finding means that recursion is layered not linear. Each recursive propagation is never independent. 4 layers form in 3 steps. The extra  $\frac{1}{3}$  step by three times is the complexity layer that is escalating, whereas the whole number 3 is the stability layer formed by the complexity layer from the former RP. This pattern applies to literally everything, if you look you will find it because this pattern is existence itself. Now that we can see the fractal structure clearly let's model the recursive-propagative dynamics. Stability is the existence we know, feel and see, while complexity is the next step—the "dark stuff" that overlaps as a  $\frac{1}{3}$ portion.

**Complexity Escalation Location** 

The Fundemental Unit 
$$=\frac{\pi}{\Phi} = \frac{3.142}{1.618} = 1.942$$
  
 $1.942^2 + 3.772^2 = c^2$   
 $3.772 + 3.772^2 = c^2$ 

$$3.772 + 14.226 = c^{2}$$

$$17.998 = c^{2}$$

$$\sqrt{17.998} = \sqrt{c^{2}}$$

$$4.242 = c$$

$$\Phi^{3} = c$$

 $\Phi_1$  = Ratio of Complexity to Stability at RP<sub>n</sub>  $\Phi_2$  = Ratio of Stability at RP<sub>n</sub> to Stability RP<sub>n+1</sub>  $\Phi_3$  = Ratio of Complexity at RP<sub>n</sub> to Complexity RP<sub>n+1</sub>

**Rotation Location** 

$$1.916^{2} + 3.672^{2} = c^{2}$$
  

$$1.916 + 3.672^{2} = c^{2}$$
  

$$3.672 + 13.481 = c^{2}$$
  

$$17.152 = c^{2}$$
  

$$\sqrt{17.152} = \sqrt{c^{2}}$$
  

$$4.1415 = c$$
  

$$1 + 3.1415 = c$$
  

$$1 + \pi = c$$

#### **Locations Summary & Probability Values**

z = 1.965 is the Boundary of Existence: p = .025 \* 2 = .050z = 1.942 is the Location of Recursive Propagations: p = .026 \* 2 = .052

z = 1.942 is the Location of Rotational Scaling: p = .027 \* 2 = .055

These locations explain why we cannot see recursive propagations because they operate right outside the boundaries of detectable definedness. It is like the mechanics under the hood of the car. You cannot see the engine, but you know the car can drive.

# **Relational Rotational Dynamics**

The relational rotational dynamic is the equation from our pure dark matter and energy estimates, and it describes damn near the entire pattern and structure of a fractal universe. It is truly amazing how this one equation expands and transforms into so many descriptions.

Relational Rotational Dynamics = 
$$\sqrt[3D]{\frac{0}{2}} \frac{0}{2} \frac{0}{2} \frac{1}{2} \frac{9}{2} \frac{1}{2} \frac{9}{2} \frac{1}{2} \frac{9}{2} \frac{1}{2} \frac{9}{2} \frac{9}{2} \frac{1}{2} \frac{9}{2} \frac{1}{2} \frac{9}{2} \frac{9}{2} \frac{1}{2} \frac{9}{2} \frac{9}{2} \frac{1}{2} \frac{9}{2} \frac{9}{2} \frac{1}{2} \frac{9}{2} \frac{9}$$

$$RRD = \left(\frac{\pi}{2}\right)^3 = 1.569^3 = 3.863$$
$$RRD = 360^\circ$$
$$RRD = \left(\frac{\pi}{2}\right)^3 = \left(\frac{180^\circ}{2}\right)^3 = (90^\circ)^3 = 90^\circ * 90^\circ * 90^\circ = 729,000$$
$$= 9^5 = 9 * 9 * 9 * 9 = 3^2 * 3^2 * 3^2 * 3^2 * 3^2$$

Let's extract the meaning behind each solution formulation to this expression. Yes, all these solutions are identical descriptions, the first three being the raw solution and the other three being the cubed solution.

Raw Solution: 1.57  
Rotational Behavior at 
$$90^{\circ} = \frac{\pi}{2}$$
  
Relationship to  $\pi$ :  $\frac{(22/7)}{2}$   
3D Existence  $= \left(\frac{\pi}{2}\right)^3 = (90^{\circ})^3 = 90^{\circ} * 90^{\circ} * 90^{\circ}$ 

Volume of Universal Expansion Across RPs = 729,000

The Triangular – Pentagonal Structure of Existence =  $3^2 * 3^2 * 3^2 * 3^2 * 3^2$ 

Pentagonal Formation =  $9^5 = 9 * 9 * 9 * 9 * 9$ 

In *The Theory*, the number five is critical because it arises from the exponentiation of a fractional expression, reflecting how  $\Omega$  depends on  $\Delta$ , which represents scaling complexity. This power of five signifies a degree of interaction of five connections to stabilize or reach its full effect. This expression is what shows us the triangular (3 sides), stepwise ( $x^2$ ), pentagonal (( $3^2$ )<sup>5</sup>) nature of existence. It is counterintuitive, but definedness signifies clarity or structure, but inversely proportional to complexity; the more complex a phenomenon becomes, the less defined it become, despite being more stable. Complexity ( $\Delta$ ) thus counterbalances stability by introducing factors that make it harder for a simple, clearly defined structure to persist. In the context of the golden ratio  $\Phi$ , the interrelationship between definedness and complexity governs how the phenomenon tempers the inherent chaotic elements. As complexity increases, it becomes more difficult for stability or dynamic properties to develop straightforwardly, leading to a more intricate system where maintaining defined structure is increasingly challenging.

# The Triangle of Existence & Pentagonal Alignment

# $17\cdot 4\cdot 20$

The Triangle of Existence is the underlying structure of existence, as you will see. This triangle is special because it forms the smallest possible triangle (using whole number degrees) that contains this golden angle. Think of it like finding the smallest possible building blocks that can create this important mathematical constant. In all of these side ratios, they all describe how this triangle aligns with a pentagon.

#### Sides 17-4

$$\frac{b}{a} = \frac{17}{4} = 4.25 \rightarrow \frac{17}{20} \rightarrow \frac{17}{20} * 5 = \frac{17}{4} \rightarrow 0.850 * 5 = 4.25$$

The following occurs when there is definedness at the golden ratio. When the tringles are in these ratios, 3D space is fully filled. Any deviation from these ratios causes divergence in 3D space to not be filled evenly. This ratio reinforces the pentagonal alignment of the triangles where the angle from side 17-4 by five triangles forming a pentagon is equivalent to the angles from side 17-20 by 5 triangles.

$$\frac{a}{b} = \frac{4}{17} = 0.235 = \frac{1}{\Phi^3} = \frac{1}{2+\sqrt{5}} = e - \left(\frac{1}{e}\right) - 2 = \left(\left(\frac{3*\pi}{4}\right) - 2\right)$$

Here the idea appears to be that starting from the "small" ratio  $\frac{4}{17}$ , one can "ascend" through iterative root-extractions to obtain numbers (2.236, 1.495, 1.31) that may describe progressive stages of movement or transformation—what we call *Movement into The Record*. Think of it as a cascading set of scales or modes by which an initial ratio is refined into new, significant values. We can see that over two parts (2) of one RP, there is a complexity escalation (e) and a stabilization phase  $\left(\frac{1}{e}\right)$ .

#### Sides 20-4

$$\frac{c}{a} = \frac{20}{4} = \frac{5}{1} = 5$$

The number 5 here directly implies the perfect alignment of 5 triangles to form a pentagon. The arithmetic shows how basic operations (squaring, adding  $\pi$ , subtracting a shifted  $\pi$ ) all conspire to yield 5.

$$\frac{a}{c} = \frac{4}{20} = \frac{1}{5} = 0.20 = 20\%$$

This suggests that a 1-to-5 ratio is a natural alignment condition for joining triangles into larger, pentagonal alignment, where this triangle contributes 20% to the pentagon. In other words, the "small" triangle (with side–ratios 17, 4, 20) may fit into a larger pentagonal pattern—perhaps linking to the golden ratio and its geometric manifestations.

#### Sides 20-17

$$\frac{c}{b} = \frac{20}{17} = 1.18 = \frac{5}{\Phi^3} = \frac{5}{4.236} = 5(\sqrt{5} - 2)$$
  
The Fundemental Unit  $= \frac{\pi}{\Phi} = \frac{3.142}{1.618} = 1.942$ 
$$\frac{1.942^2 + 3.772^2 = c^2}{3.772 + 3.772^2 = c^2}$$
$$3.772 + 14.226 = c^2$$

$$18 = c^{2}$$
  

$$\sqrt{18} = \sqrt{c^{2}}$$
  

$$4.242 = c$$
  

$$\Phi^{3} = c$$

 $\Phi_1$  = Ratio of Complexity to Stability at RP<sub>n</sub>  $\Phi_2$  = Ratio of Stability at RP<sub>n</sub> to Stability RP<sub>n+1</sub>

 $\Phi_2$  = Ratio of Stability at  $Ri_n$  to Stability  $Ri_{n+1}$ 

 $\Phi_3$  = Ratio of Complexity at  $RP_n$  to Complexity  $RP_{n+1}$ 



**Caption:** This figure represents the mathematical relationship between recursion, propagation, and complexity, illustrating how complexity emerges from their interaction. Recursion ( $\zeta$ ) and propagation ( $\kappa$ ) scale together, influencing the phenomena's complexity and stability. The diagram incorporates fundamental mathematical constants like  $\pi$ , e, i, and  $\Phi$ , highlighting their role in defined existence. The visualization demonstrates how complexity growth follows intrinsic mathematical principles, guiding the organization of systems across different scales.

This side ratio directly implicates **The Fundamental Unit** from earlier and its alignment with 5 triangles. It inscribes the scaling properties of complexity, stability, and their relationship to each other.

$$\frac{b}{c} = \frac{17}{20} = 0.850 = \frac{\Phi^3}{5} = \frac{2 + \sqrt{5}}{5}$$

This side ratio represents the 3D space filling properties as seen in  $\frac{b}{a} = \frac{17}{4}$  for one of the five triangles.

# **Pentagonal Geometric Rotation**

The pentagonal structure is the formation of the triangles that allows for organization and self-similarity. We see how the pentagon fits into the rest of *The Theorem of Existence*.

 $\frac{360^{\circ}}{5 \text{ Triangles}} = \frac{360^{\circ}}{5} = 54^{\circ} \rightarrow \frac{54^{\circ}}{3 \text{ Sides}} = \frac{54^{\circ}}{3} = 18^{\circ} \rightarrow \frac{18}{1} = \frac{\text{Dark Lumen}}{\text{Lumen}}$   $\frac{a^{2} + b^{2} = c^{2}}{1.942^{2} + 3.772^{2} = c^{2}}$   $3.772 + 3.772^{2} = c^{2}$   $3.772 + 14.226 = c^{2}$   $18 = c^{2}$   $\frac{360^{\circ}}{5} \rightarrow \frac{54^{\circ}}{3} = 18 \rightarrow \sqrt{18} = 4.24 = \Phi^{3}$   $\frac{360^{\circ}}{5} = \frac{54^{\circ}}{3} = 18 \rightarrow \sqrt{18} = 2.62 = \Phi^{2}$   $\frac{360^{\circ}}{5} = \frac{54^{\circ}}{3} = 18 \rightarrow \frac{18}{6} = 3$   $18^{\circ} * 3 \text{ (Dimensions)} = 54^{\circ} \rightarrow 54^{\circ} * 6\frac{2}{3} = 360^{\circ}$ Five triangles moves in  $1\frac{1}{3}$  per triangle per recursion

# Properties of The Triangle of Existence

The following properties emerge naturally from recursive-propagative scaling and provide a geometric foundation for how reality structures itself. These relationships are not arbitrary—they are fundamental, self-similar patterns embedded in how complexity propagates through dimensions. One of the most significant properties of The Triangle of Existence and its pentagonal relationship to other triangles is that this configuration is the only possible way to fill 3D space, ideally using simple geometry that allows for movement.

### Self-Similarity & Scaling Laws

One of the defining features of recursive-propagative geometry is perfect self-similarity at the following angles:

- 8.23°
- 37.46°
- 134.3°

Between similar triangles, the following ratios remain exactly constant no matter the scale:

- Area Ratio = 4
- Perimeter Ratio = 2

All internal angle ratios remain unchanged. These properties demonstrate that as complexity recursively propagates, it maintains a self-similar structure that preserves stability across iterations. Further, certain fundamental constants appear naturally in the geometry of recursive propagations.

- Largest ratio to  $\Phi$ : 3.09 very close to  $\pi$
- Largest angle to  $\pi$  ratio = 0.7143 = The Natural Resonance
- The area to  $\pi$  ratios scale by exactly 4
- Largest ratio to  $\sqrt{5} = 2.236 + 2 = \Phi^3$
- Product of sides scales by  $8 = 2^3$
- The ratio of longest to shortest side is exactly 5, and its relationship to  $\sqrt{5}$  suggests a geometric construction involving a  $\sqrt{5}$ .
- 134.31° (Largest Angle) =  $\frac{3*\pi}{4}$

These properties suggest that recursive propagations through dimensions follows an intrinsic numerical order that is deeply tied to the structure of existence itself. We are not forcing these constants to appear—they emerge as natural products of recursive-propagative behavior. One of the most striking results of this system is how the observability threshold (1.965) recursively squares itself into a  $\Phi^3$ —based system.

$$a = 1.942^{2} = 3.772$$
  

$$b = (1.942^{2})^{2} = 14.226$$
  

$$c = \sqrt{a^{2} + b^{2}} = 4.24 = \Phi^{3}$$

These properties demonstrate that  $\Phi^3$  is the natural result of the observability threshold recursively squaring itself! The triangle is showing how reality propagates through scaling complexity; it creates a perfect recursive propagation where:

Complexity Increases:  $\Phi$  = Golden Ratio

Stability decreases by 
$$\frac{1}{\Phi}$$
 = Golden Ratio Trace  
 $\Phi * \frac{1}{\Phi} = 1$ 

Their product always equals being in perfect balance! These triangles are showing how reality:

- Crosses the observability threshold (1.965)
- Recursively propagate complexity in perfect  $\Phi$  ratios
- Maintains stability through inverse  $\Phi$  scaling
- Creates scaling triangles through squared relationships at the Pythagorean Theorem

# The Backbone of The Theory: The Proof of Existence

These expressions are cast into forms that echo the symmetry repeatedly appearing in nature. See how they produce properties by interacting with their counterpart? These are scaling laws based on square and cube roots, like how recursive proportionalities govern

structure formation. The sides of a triangle at 17, 4, 20, and the repeated emergence of 5 suggests that a ratio-based existence follows a self-similar recursive propagative mechanism. For example:

$$\sqrt{\frac{17}{4}} - \sqrt{\frac{4}{17}} = \Phi^{\frac{3}{2}} - \Phi^{-\frac{3}{2}}$$
$$\sqrt[3]{\frac{20}{4}} - \sqrt[3]{\frac{4}{20}} = \sqrt[3]{5} - \sqrt[3]{\frac{1}{5}}$$

We can build the geometric structure where ratios interact symmetrically to get the full picture.

$$-\left(\sqrt{\frac{17}{4}} - \sqrt{\frac{4}{17}}\right)^2 * -\left(\sqrt[3]{\frac{20}{4}} - \sqrt[3]{\frac{4}{20}}\right)^3 * \left[\left(\frac{20}{17}\right)^{\Phi} - \left(\frac{17}{20}\right)^{\Phi}\right]^2 = e^{i\pi}$$

Do not let this equation scare you; I know it seems overwhelming but watch what happens to it when we solve it:

$$-\left(\sqrt{\frac{17}{4}} - \sqrt{\frac{4}{17}}\right)^2 * -\left(\sqrt[3]{\frac{20}{4}} - \sqrt[3]{\frac{4}{20}}\right)^3 * \left[\left(\frac{20}{17}\right)^{\Phi} - \left(\frac{17}{20}\right)^{\Phi}\right]^2 = e^{i\pi}$$
  
$$-\left(\sqrt{4.25} - \sqrt{0.235}\right)^2 * -\left(\sqrt[3]{5} - \sqrt[3]{0.200}\right)^3 * \left[(1.176)^{\Phi} - (0.850)^{\Phi}\right]^2 = e^{i\pi}$$
  
$$-(2.062 - 0.485)^2 * -(1.710 - 0.585)^3 * \left[1.30 - 0.769\right]^2 = e^{i\pi}$$
  
$$-(1.577)^2 * -(1.125)^3 * \left[0.531\right]^2 = e^{i\pi}$$
  
$$-1.577^2 * -1.125^3 * 0.531^2 = e^{i\pi}$$
  
$$-1.577^2 * -1.125^3 * 0.531^2 = e^{i\pi}$$
  
$$-3.541 * 0.282 = e^{i\pi}$$
  
$$-1 = e^{i\pi}$$

 $-1 = e^{i\pi}$  Look familiar? Let me help you:  $e^{i\pi} + 1 = 0$ 

Yes, **it results in Euler's Identity**, our best friend who helps us understand the fractal universe at all scales. **People consider Euler's Identity to be one of the most elegant equations in mathematics**. It links the fundamental constants of mathematics—Euler's number (e), the imaginary unit (i), and pi ( $\pi$ )—in a way that seems almost mystical. However this equation is a direct expression of the fundamental recursive-propagative structure governing existence itself. The equation describes how existence naturally balances itself through recursion, phase transitions, and structured propagation. It is what makes *The Triangle of Existence* the structure of existence.

Traditionally, the interpretation of Euler's Identity has focused on its role in complex analysis, where  $e^{i\pi}$  represents a full 180-degree rotation in the complex plane. However, this perspective misses something crucial: the fact that this equation is not just about numbers, but about structure. It reveals a fundamental recursive balance where exponential growth, rotation, and stabilization emerge as natural, interdependent consequences of recursive propaga-What tions. was missing from previous interpretations was the realization that the "-1" in Euler's Identity is not arbitrary—it is the result of a structured recursivepropagative equation that balances the system at all scales.

This equation reveals that the recursive-propagative balance follows a

# **3D Triangle Pentagon Structure Approximation**



**Caption:** This figure presents a 3D geometric structure of five identical triangles systematically arranged in a rotational pattern around the z-axis, forming a pentagonal configuration. Each triangle undergoes an initial 90° rotation about the x-axis before being replicated at precise 72° increments around the z-axis. The pentagon's structural coherence emerges as the individual triangles' C-vertices are connected, revealing a recursive pattern of rotational symmetry that underpins its formation. This visualization exemplifies how geometric structures evolve through recursive propagations, where each transformation builds upon prior steps to maintain proportional relationships within the overall configuration. The self-similarity inherent in this recursive symmetry reflects fundamental mathematical principles governing phenomena, demonstrating how definedness arises from ordered rotational dynamics. The interrelationships between individual triangles and emergent pentagonal framework highlight the scalability of geometric structures, reinforcing that complexity and stability coexist through recursive propagation.

strict proportionality law, where the Golden Ratio  $(\Phi)$ , its inverse  $(\frac{1}{\Phi})$ , and the square root

of five  $(\sqrt{5})$  all emerge naturally as products of self-similar scaling, which is not a coincidence. It means that recursive propagations do not happen arbitrarily; they are structured in a way that maintains perfect balance across dimensions.

Inverse Relationships 
$$=$$
  $\frac{b}{c} * \frac{c}{b} = 1, \frac{a}{c} * \frac{c}{a} = 1, \frac{b}{c} * \frac{c}{b} = 1$ 

This equation mathematically encodes how recursion, propagation, and dimensional phase transitions balance through structured self-similarity. The nested radicals and exponentiations do not merely approximate Euler's Identity; **they are the mechanism that produces it**. The presence of  $\Phi$ ,  $\pi$ , and  $\sqrt{5}$  suggests that recursion-propagative balance follows a precise numerical structure that governs emergence at all levels, from the quantum scale to cosmic structure. The "-1" in the equation is not just a mathematical result—it represents the perfect balance that recursion achieves through structured phase cycling. **The same principle that allows an electron's wavefunction to be stable in quantum mechanics is the same principle that allows galaxies to hold their shape against dark energy expansion**. The laws of physics are not arbitrary—they are the natural consequences of recursive propagation balancing itself through Euler's exponential and rotational structure.

This discovery reveals that existence is not built from isolated particles or separate forces but from recursive-propagative structures that naturally stabilize through self-similar cycles. Every emergent structure in the universe—matter, energy, intelligence, and time follows this recursive rule. The balancing act between complexity and stability, emergence and decay, recursion and propagation is not a mystery; it is encoded directly into the mathematics of existence. Euler's Identity was never just a mathematical coincidence. It was always the fundamental equation of reality, and now, for the first time, we can see why.

### The Natural Beauty of Aspect Ratios

Traditional 4 : 3 = 1.33 (Universal Scaling Law) Widescreen 16 : 9 = 1.77 (Inverse Steps) Portrait 17 : 20 = 0.850

Landscape 20 : 17 = 1.176

# The Natural Resonance & The Fundamental Unit

The Natural Resonance is the convergence of the constants of existence  $\Phi$ , e, and  $\pi$ .

$$\frac{\pi}{(\Phi e)} = \left(\frac{1*\pi}{(\Phi * e)}\right) = \frac{3.1415}{(1.6181 * 2.718)} = \frac{3.1415}{4.398} = 0.714$$

*The Fundamental Unit* is the scaling factor that transforms the natural resonance into the stabilizing factor in RPs.

$$\frac{e}{\pi} = 0.865$$

When you take the product of *The Natural Resonance* & *The Fundamental Unit* you get the Golden Ratio trace, showing the initiation of complexity escalation and its stabilization.

$$\left(\frac{\pi}{e * \Phi}\right) * \left(\frac{e}{\pi}\right) = \frac{1}{\Phi}$$
  
0.7143 \* 0.8653 = 0.6180339...

## **Golden Angles**

The Golden Angle is built into the structure of the triangles of existence and emerges as a fundamental property of  $\pi$  and  $\Phi$ .

$$\frac{2 \cdot \pi}{\Phi^2} = 2.40 \text{ radians} = 137.5^{\circ}$$
$$\frac{2 \cdot \pi}{137.5^{\circ}} = \Phi$$

# The Role of Euler's Identity

Euler's Identity is not just a mathematical curiosity but **the fundamental equation of recursive propagations governing reality**. Gravity, dark matter, and dark energy do not function as "forces" but as self-correcting recursive structures. The structure of existence follows a fundamental recursive-propagative law that ensures stability, complexity, and emergence across all scales. **Let me show you the proof and why this is mind-blowing.** 

$$e^{i\pi} + 1 = 0$$

This equation, which elegantly links exponential growth (e), rotation ( $i\pi$ ), balance (+1), and definedness (0), is often regarded as one of the most beautiful equations in mathematics. **However, it is far more than just elegant**—it is the fundamental recursion equation governing large-scale structure propagation.

 $e^{i\pi}$ 

This term is the most important, so let me go over it carefully.

### Natural Logarithms: $e \approx 2.718$

Euler's number functions as the guiding term for exponential growth and decay.

### Circle Constant: $\pi \approx 3.142$

Pi provides the ability to move in circular motions.

**Complex Plane**:  $i = RP_n - RP_{n+1} = \frac{\pi}{2} = 90^{\circ}$ 

This term represents a full rotational recursion, where phase shifts are dictated by stable propagation cycles occur in 90° incremental rotations.

+1 = 0

Stability & Complexity:  $+1 = \frac{\Omega}{\Delta} = \frac{1}{1}$ Definedness: 0

This term proves that the system naturally balances, meaning that recursion and propagation do not need to be imposed externally—balance emerges intrinsically in Euler's Identity. **This equation is a statement that all reality functions as a self-correcting recursive-propagative system.** Let me switch some things up and show you what I mean.

$$\left(\zeta^{i\kappa} + \frac{\Omega}{\Delta} = \Phi\right) = \left(e^{i\pi} + 1 = 0\right)$$

Recursion  $(\zeta) \rightarrow$  Self-referential patterns Propagation  $(\kappa) \rightarrow$  Outward expansion of structures Stability  $(\Omega) \rightarrow$  Intrinsic balancing mechanisms Complexity  $(\Delta) \rightarrow$  Emergent interactions Definedness  $(\Phi) \rightarrow$  The measurable existence of states

# The Recursive Propagation Equilibrium Equation

Alright, here is where it all comes together. We're looking for **the most fundamental expression of recursive-propagative complexity escalation and stability**—the core mathematical structure that explains gravity, dark matter, and dark energy as phase-balancing effects rather than forces.

$$\left(\left|e^{\frac{i\pi}{2}} * \Phi\right|\right) - \left(e * \frac{1}{e}\right)$$

This equation contains the three steps of recursive propagations and an explanation for what occurs at each step; building existence right in from of out eyes.

$$e^{i\pi} = -1 \rightarrow e^{i\pi} - 1 \rightarrow \left( \left| e^{\frac{i\pi}{2}} * \Phi \right| \right) - \left( e * \frac{1}{e} \right) = \Phi - \left( e * \frac{1}{e} \right) = \Phi - 1 = \frac{1}{\Phi}$$

These four expressions are all the same behaviors.

$$e^{i\pi} = -1$$
$$e^{i\pi} - 1$$
$$\left( \left| e^{\frac{i\pi}{2}} * \Phi \right| \right) - \left( e * \frac{1}{e} \right)$$
$$\Phi - \left( e * \frac{1}{e} \right)$$
$$\Phi - 1$$
$$\frac{1}{\Phi}$$

Let me show you this mind-blowing proof of the steps of existence that occur across every RP.

$$(|e^{i\pi/2} * \Phi|) - (e * \frac{1}{e})$$
$$(|i\Phi|) - (2.718 * \frac{1}{2.718})$$
$$(1.618) - (2.718 * 0.368)$$
$$\Phi - 2.718 * 0.368$$
$$1.618 - 2.718 * 0.368$$

$$1.618 - 1$$
  
 $0.618 = \frac{1}{\Phi}$ 

This equation encodes the fundamental **recursive-propagative structure of gravity, dark matter, and dark energy**. Instead of treating them as separate forces, this equation shows they are structured recursive propagations.

### The Three Steps of Existence

$$\left(\left|e^{\frac{i\pi}{2}} * \Phi\right|\right) - \left(e * \frac{1}{e}\right)$$

We can use the Recursive Propagation Equilibrium Equation to describe the three steps using the three terms in this equation.

е

**Step 1: Complexity Escalation Phase**: This term represents the escalation of complexity across RPs. It is the exponential growth factor and the mechanism for why phenomena must evolve, change, and grow. You can imagine that at this phase dark matter scaffolding shoots out to prepare for existence to move forward. This part is where the  $\frac{4}{3}$  step comes in from *The Universal Scaling Law*.

$$e^{\frac{i\pi}{2}} * \Phi$$

$$e^{i\theta} = \cos\theta + i\sin\theta, \theta = \frac{\pi}{2}$$

$$e^{\frac{i\pi}{2}} = \cos\frac{\pi}{2} + i\sin\frac{\pi}{2}$$

$$e^{\frac{i\pi}{2}} = 0 + 1$$

$$e^{\frac{i\pi}{2}} = i$$

$$e^{\frac{i\pi}{2}} * \Phi = i\Phi$$

90° Counterclockwise Rotation in the Complex Plane: Use this expression when emphasizing the final stabilized form of complexity scaling after recursive-propagative interactions. This ensures the structured recursion remains real-valued within definedness. It places the Golden Ratio into the imaginary axis, encoding the recursive transition of propagative complexity into The Record.

$$\left|e^{\frac{i\pi}{2}} * \Phi\right| = \left|i\Phi\right| = \Phi$$

 $\Phi$  is Now Rotated by 90° into the Imaginary Axis: Use this expression when emphasizing the rotational phase shift into the complex plane during recursive-propagative stabilization. This represents the movement of prior recursive propagations into The Record.

**Step 2: Rotational Expansion Phase**: This term represents the rotational patter of complexity escalation and stabilization, as former RPs move out of interactability and into The Record, they do so by rotating by 90° into the complex plan.

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 $\frac{1}{e}$ 

Step 3: Stability Phase: This term represents the stability phase of the RP. It is the exponential decay factor, where after complexity escalation, existence stabilizes into existence around us. This term provides the structure, balance, and prevents complexity escalation from destabilizing and diverging. This part is where the  $\frac{4}{3}$  step comes in from *The Universal* Scaling Law.

# Taking It All Together: The Equation of Existence Proof

Here is what the math is telling us how existence works. First, we start with the current RP. then complexity escalates with dark matter rotating by 90° in the complex plane. We cannot see or interact with it yet until step two, where dark energy pushes the current stabilized RP forward at 90° to align with the dark scaffolding. Finally, the third step is the transition from complexity to stability for the next RP, it is where the three  $\frac{1}{3}$  stabilize into the 3 in *The Uni*versal Scaling Law. Each step creates a  $\frac{1}{3}$  rotated RP that stabilizes into the 3 steps as the base for the next complexity escalation. It all happens very quickly and  $\frac{2}{2}$  of it are not visible, which is why we have never been able to see it. Okay, the moment we have all been waiting to see, bringing in The Equation of Existence. This equation encodes the five fundamental aspects of all existence.

$$\zeta^{i\kappa} = -1 \rightarrow \zeta^{i\kappa} - 1 \rightarrow \left| e^{\frac{i\pi}{2}} * \Phi \right| - \left( \zeta * \frac{1}{\zeta} \right) = \Phi - 1 \rightarrow \Phi - \frac{\Omega}{\Delta}$$

Here are the same equations that I reviewed above, but I replaced the terms with the concepts in The Theory of Existence.

$$e^{i\pi} = -1 \rightarrow e^{i\pi} - 1 \rightarrow \left| e^{\frac{i\pi}{2}} * \Phi \right| - \left( e * \frac{1}{e} \right) = \Phi - \left( e * \frac{1}{e} \right) = \Phi - 1 = \frac{1}{\Phi}$$
$$\Phi - 1 \rightarrow \Phi - \frac{\Omega}{\Delta} = 0$$
$$\Phi - \frac{\Omega}{\Delta} \left( + \frac{\Omega}{\Delta} \right) = \left( + \frac{\Omega}{\Delta} \right)$$
$$\Phi = \frac{\Omega}{\Delta}$$

# Gravity Is Structured Recursive Propagations

Gravity is not an external force but the outcome of structured recursive propagations. This equation explains why gravity doesn't "act"—it emerges as a natural recursive effect of phase-stabilized propagation. Dark matter is not a missing particle—it is the scaffolding of recursion stability. Dark energy is not a repulsive force but the structured propagation of recursion across time. According to Euler's Identity, the universe is not expanding due to an external force-it recursively scales propagations. This proof is the first mathematical framework that explains gravity, dark matter, and dark energy as a singular recursion-propagative structure—without requiring separate forces.

What we perceive as "separate forces" (gravity, dark energy, etc.) are different expressions of the same recursive-propagative processes. The universe does not hold itself together with forces—it holds itself together through structured recursion, exponential balance, and rotational stability. Let's talk about some additional properties.

$$x - \frac{1}{x} = \Phi - \Phi^{-1} = \sqrt{5}$$

We can introduce additional features to the progression of existence by noting these equivalences.

$$x-\frac{1}{x}$$

**The Reciprocal Self-Correction Property**: The equation  $x - \frac{1}{x}$  represents how recursive propagations naturally balance themselves. This term appears in hyperbolic functions, wave equations, and self-referential growth cycles. It describes how recursive propagations naturally "correct" themselves to ensure balance. This term is the mechanism that prevents runaway divergence in complex phenomena.

$$\Phi - \Phi^{-1}$$

**The Golden Ratio Difference & Self-Similar Scaling**: The right side  $\Phi - \Phi^{-1}$  provides an explanation as to why the Golden Ratio intrinsically ties to recursive-propagative mechanisms. This equation encodes why emergence always follows Fibonacci-like scaling in recursive =propagative phenomena.  $\Phi$  and its inverse appear naturally in stability-propagation mechanics, ensuring that structure and expansion remain balanced. This term shows that recursion follows an inevitable, mathematical self-similar structure—it cannot unfold in any other way.

$$\sqrt{5} \rightarrow \Phi = \frac{1 + \sqrt{5}}{2}$$

The Geometric Basis of Recursive Scaling: This term means that recursive propagations follow the exact scaling necessary to balance expansion and complexity. This term is why spirals, biological growth, cosmic structures, and intelligence scaling all follow  $\Phi$ -based proportionality, showing why self-similar recursion exists in all emergent phenomena.

Gravity, dark matter, and dark energy do not need external forces to "work"—they are all natural phase transitions of recursive propagations. The reason structures remain stable is because recursion follows  $\Phi$ ,  $\sqrt{5}$ , and Eulerian growth principles. This equation provides another fundamental proof that **all known physical structures obey recursive-propagative principles**—not arbitrary force models. This is a major validation for *The Theory*. It is showing that everything scales according to mathematical inevitability. **This is why physics, intelligence, and cosmology all share the same recursive-propagative patterns**. Let's talk about these 90° rotations.

$$i = \frac{\pi}{2} \to \frac{3}{2} * i$$

This expression is a fundamental insight into how rotation and recursion interact within complex structures. It suggests that imaginary numbers (i), rotational phase shifts, and recursive propagation are fundamentally connected. This relationship shows that rotational transformations follow a structured recursive rule.

### Understanding the Imaginary Unit & Rotation

The imaginary unit *i* represents a  $90^{\circ}$  rotation in the complex plane.

 $i = e^{\left(\frac{i\pi}{2}\right)}$  rotates a number by 90°

Step 1: Complexity Escalation Phase

 $i^2 = e^{(i\pi)} = -1$  rotates by 180°

Step 2: Rotational Expansion Phase

$$i^3 = e^{\left(\frac{i\pi}{2}\right)} = -i$$
 rotates by 270°

Step 3: Stability Phase

 $i^4 = e^{\left(\frac{2i}{2}\right)} = 1$  brings it back to 0°

This math suggests that i represents phase cycling—a recursive pattern of rotational symmetrical propagations.

# What Does $i = \frac{\pi}{2}$ Mean?

This term suggests that the imaginary unit isn't just "imaginary"—it is an encoding of rotational recursive propagations. i and  $\frac{\pi}{2}$  are interchangeable because **they represent a quarter-turn phase shift**. Remember how  $\frac{\pi}{2}$  is the outcome of the relational rotational dynamic equation? This expression is why that happens. This term implies that all recursive-propagative phenomena obey rotational stability rules, even at their most fundamental level. Recursion does not happen linearly—it follows structured, phase-based rotation.

# What $\frac{3}{2}i$ Mean?

 $i = \frac{\pi}{2}$ , then multiplying by  $\frac{3}{2}$  suggests an extended recursive phase shift:  $\frac{3}{2}i = \frac{3\pi}{4}$ , which is a structured rotational phase shift. This term aligns with the idea that **recursive propaga-tions occur in structured rotational phase states**. This term might suggest a new insight into gravity, dark energy, and dimensional phase-locking. Instead of assuming linear propaga-tion, this equation suggests that recursive-propagative expansion follows precise rotational cycles.

# **Recursive Propagations Are Structured Phase Cycling**

This equation suggests that growth happens through a recursive phase-state rotation, not just outward force. Gravity and dark energy can be explained through rotational phase locking. What if gravity's "pull" isn't actually force but the result of recursive phase-stability in dimensional rotation? What if dark energy is just the outward counterpart of this structured propagation cycle?

# This Links to Euler's Identity & *The Universal Scaling Law*

This equation suggests that growth happens through a recursive phase-state rotation, not just outward force. Gravity and dark energy can be explained through rotational phase locking. What if gravity's "pull" isn't actually force but the result of recursive phase stability in dimensional rotation? What if dark energy is the outward counterpart of this structured propagation cycle?

# Implications of The Proof of Existence

The implications of this discovery fundamentally rewrite our understanding of existence. Gravity, dark matter, and dark energy are not distinct forces acting on a passive universe; they are structured phase-locking cycles that emerge from the self-balancing nature of recursive propagations. Gravity is not a pulling force but a phase-stabilized recursion process that ensures complexity remains structured rather than diverging. Dark matter is not a missing particle but the residual stabilization effect of recursive propagations, preserving structural coherence across scales. Dark energy is not an external repulsive force but the necessary outward phase expansion that maintains equilibrium in recursive propagations.

The fact that Euler's Identity emerges naturally from these recursive-propagative ratios suggests that the universe is not held together by arbitrary forces but by structured phase balance. **The universe's expansion, the stability of galaxies, and the behavior of quantum fields all follow these self-regulating mechanisms**. This equation suggests that the fundamental forces of nature are not separate mechanisms but different expressions of a single recursive-propagative behavior that operates across all scales. Existence does not emerge from randomness but from an inevitable self-similar recursive structure that balances complexity and stability through proportional phase cycles.

These equations change our perspective of intelligence, time, and even consciousness. Suppose all emergent phenomena follow the exact recursive-propagative mechanisms. In that case, intelligence must be a recursive-propagative phenomenon optimizing stability with complexity within a self-similar fractal universe. Existence is no longer about isolated objects in space but the relationships between recursive-propagative structures interacting within a balance encoded by Euler's Identity. This is not just a new way of looking at physics. It is the realization that all of reality—matter, energy, intelligence, time, and even thought follows a single, universal recursion law. Euler's Identity is not an isolated mathematical curiosity but the fundamental governing equation of existence.

# Folks, Let's Start the Show with a (Big) Bang

The Big Bang is quite simple in a dichotomized, relational reality. At the start of the Big Bang—since  $RP_1$ —there was one photon, one empty space, one recursive propagation, one complexity, and perfect definedness. From that singular moment, 13.80 billion (13.8  $\cdot$  10<sup>9</sup>) years ago, to the moment you read this sentence, the only thing that has changed is the quantity.

The earliest moments of the universe, captured in recursive-propagative steps (RPs), are governed by fractal geometry and **dynamics derived from Euler's Identity and the Golden Ratio (again)**. These principles form the foundation for the structured emergence of definedness within the universe.

$$e^{\pi i} + 1 = 0$$

Recursion<sup>(Rotation)Propogation</sup> + 
$$\frac{\text{Stability}}{\text{Complexity}}$$
 = Defined Nothingness  
 $\zeta^{(i)\kappa} + \frac{\Omega}{\Delta} = \Phi$ 

At the first recursive propagation (RP<sub>1</sub>), **definedness is perfectly at zero as there have been no transitions, no relationships, and thus no existence because definedness as existence in a relationship-based reality requires such transitions**. All these foundational ideas and the journey of the photon from the Big Bang to heat death are encoded in Euler's Identity, the moment definedness emerges. Let's get into it.

Fundamental Constant of Complexity:  $\Phi + 1 = \Phi^2$ 

This property of the Golden Ratio is what allows it to serve as a self-similar fractal mechanism.

$$e^{\pi i} + 1 = 0$$

One Photon: 1 One Empty Space:  $e^{\pi i} = -1$ Recursion: e = 2.718Propagation:  $\pi = 3.142$ Rotational Movement:  $i = \sqrt{-1}$ Stability & Complexity:  $+1 = \frac{1}{1} = \frac{\Omega}{\Delta}$ Perfect Definedness:  $0 \neq$  Undefinedness

At the Big Bang, these constants converge, describing the universe's first recursive-propagative cycle. This alignment is not coincidental–it's an expression of mathematical inevitability. The balance achieved in Euler's Identity mirrors the balance required for the universe to transition from undefinedness to defined existence.

$$e^{\pi} + 1 = 0$$

Start with Euler's Identity

 $e^{\pi} + 1 = 0$ 

Drop *i* Recursion-Propagation Dynamic Becomes Real

$$e^{\pi} = 2.718^{3.142} = 23.141$$

Complexity at RP<sub>2</sub>

$$\frac{37.44}{23.14} = \frac{\Omega}{\Delta} = 1.618$$

The Theory of Existence • The End of Human Mystery

Stability:  $\Omega \ge 37.44$  else Ø (Undefinedness)

$$\frac{37.44}{23.14} = \frac{1.618}{1} = 1.618 = \Phi$$

Definedness at RP<sub>2</sub>

If 
$$\Phi_2 = \frac{\Omega}{\Delta} = \frac{\text{Stability}}{\text{Complexity}} = \frac{\Omega}{23.14} \approx \frac{\Omega}{1} < 1.618 = \Phi = \emptyset$$
  
 $\Omega < 37.44 \propto 1.618 = \emptyset = \text{No Universe}$   
Else  $\Phi = \frac{\Omega}{\Delta} = \frac{\text{Stability}}{\text{Complexity}} = \frac{\Omega}{23.14} \approx \frac{\Omega}{1} \ge 1.618 = \Phi \propto \Phi_{\Delta}^2$   
 $\Omega \ge 37.44 \propto 1.618 = \Phi = \text{The Big Bang}$ 

The Deciding Factor of The Birth of a Universe

Following the initial recursive-propagative alignment in RP1, the universe jumped to RP2, the first state transition, a phase defined by the emergence of photons. Suppose stability fails to stop complexity from escalating uncontrollably. In that case, **the delicate balance between recursion**, **propagation**, **and definedness breaks down**, **causing the photon and empty space to simultaneously undefine**. No universe can emerge without the photon—



**Caption:** This figure illustrates the underlying fractal mechanics of reality and how the Golden Ratio emerges from the recursive-propagative escalation of complexity from the Big Bang to now. The escalation follows a uniform pattern but quickly diverges into relative recursion rates among differing phenomena. Current RPs spiral upward leaving a record of former RPs that are not easily accessible and decay with entropy of the original phenomena.

the simplest form of complexity—being stabilized by the empty space. Instead, the phenomena collapse, and recursive propagations cannot function, preventing the formation of the RPs necessary for further complexity escalation. **Given the known parameters of these constants, we can calculate the parameters of the first RPs to show the balance of stability to complexity**. Though still dominated by extreme instability, RP2 marked a critical step in the universe's journey toward definedness, as it bridged the gap between the raw gradients of space and the formation of stable, structured phenomena.

# The Full Sequence of the Big Bang

We can articulate the full sequence of the Big Bang and the evolution of definedness through RPs, illustrating how the balance of stability and complexity governed by the Golden Ratio creates the structured emergence of the universe. Each RP represents a key stage where recursive propagation escalates complexity and stabilizes definedness in fractal proportions. Below is the detailed progression:

$$RP_1: \Phi = \frac{\Omega}{\Delta} = \frac{Stability}{Complexity} = \frac{1}{1} - 1 = 0 + 1_{\Delta}$$

At RP<sub>1</sub>, the universe emerges (not from undefinedness because undefinedness is not something through which something can emerge, it simply isn't) as the photon and empty space **co-define one another**. **Stability (freely varied)** and **complexity (normalized to 1)** are minimal but proportional, resulting in the first instance of definedness, complexity and stability balance perfectly and definedness is set to 0 as it *is* a defined state (as opposed to nonexistence [undefinedness]) but no relationship has occurred. This stage sets the foundation for recursive propagative complexity escalation.

$$RP_{2}: \Phi = \frac{\Omega}{\Delta} = \frac{Stability}{Complexity} = \frac{37.44}{23.14} = \frac{1.618}{\nu = 1} = \frac{\Phi}{1} = 1.618 = \Phi \propto \Phi_{\Delta}$$

In RP<sub>2</sub>, complexity begins to scale rapidly, with stability anchoring its growth. The ratio of stability to complexity aligns with the Golden Ratio ( $\Phi = 1.618$ ), indicating proportionality and coherence. This balance ensures that complexity escalates without overwhelming the stability, allowing definedness to persist and escalate complexity.

$$RP_{3}: \Phi = \frac{\Omega}{\Delta} = \frac{Stability}{Complexity} = \frac{60.58}{37.44} = \frac{2.618}{1.618} = \frac{\Phi^{2}}{\Phi} = 1.618 = \Phi \propto \Phi_{\Delta}^{2}$$

During RP<sub>3</sub>, the true "Big Bang" event occurs, characterized by an **exponential escalation of complexity via recursive propagation** (across  $\Phi^3$ ) all to the tune of the Golden Ratio. The universe undergoes rapid recursive propagative growth (expansion), with stability increasing to support the escalating complexity. **The self-similar scaling of**  $\Phi^n$  **ensures that each RP step preserves the fractal geometry of the universe.** 

$$RP_4: \Phi = \frac{\Omega}{\Delta} = \frac{\text{Stability}}{\text{Complexity}} = \frac{98.02}{60.58} = \frac{4.24}{2.62} = \frac{\Phi^3}{\Phi^2} = 1.618 = \Phi \propto \Phi_{\Delta}^3$$
$$RP_5: \Phi = \frac{\Omega}{\Delta} = \frac{\text{Stability}}{\text{Complexity}} = \frac{158.59}{98.02} = \frac{6.85}{4.24} = \frac{\Phi^4}{\Phi^3} = 1.618 = \Phi \propto \Phi_{\Delta}^4$$

$$RP_6: \Phi = \frac{\Omega}{\Delta} = \frac{Stability}{Complexity} = \frac{256.61}{158.59} = \frac{11.09}{6.85} = \frac{\Phi^5}{\Phi^4} = 1.618 = \Phi \propto \Phi_{\Delta}^5$$

### The Fibonacci Birth of the Universe

The emergence of photons followed a Fibonacci-like pattern, where each new photon's emergence was dictated by recursive-propagative scaling. Initially, the **intervals between photon emergences would have been extremely short**, occurring rapidly due to minimal complexity constraints. However, as recursive propagations expanded defined space, **prior photons' increasing complexity and structured propagation would have progressively stretched** the intervals between subsequent emergences. Over time, the density of existing photons and their interactions would have constrained further photon emergence, reaching



**Caption:** This figure illustrates the relational steps of the Big Bang across the first three recursivepropagative steps (RPs), revealing how the foundational structure of existence emerges from codefinedness. At RP1, a photon and space arise simultaneously, each existing independently yet requiring the other to avoid undefinedness. In RP2, the first relational dynamic emerges as the photon and space establish a mutual reference, creating the conditions necessary for complexity to take shape. Complexity escalates if this interaction reaches a critical stability threshold—precisely aligned with the Golden Ratio— and at RP3, the universe begins to unfold as a structured phenomenon. However, if stability fails to balance complexity at this critical juncture, codefinedness ceases to exist ( $\emptyset$ ), as if the universe had never existed. This process occurs within  $10^{-(-44)}$  r/s seconds, marking the brink where recursion and propagation t align to generate a defined existence. The visualization captures the delicate balance required for emergence, highlighting that the conditions leading to reality, as we know it, are neither arbitrary nor inevitable but result from precise recursive-propagative interactions.



**Caption:** This graph depicts the first three recursive propagations of the Big Bang, illustrating the exponential scaling alongside the emergence of definedness. Initially, all values are near zero, representing the foundational baseline where recursive propagations have not yet stabilized into stabilized complexity. As the RPs progress, recursive propagations accelerate, demonstrating how complexity rapidly escalates from the initial photon and space. The simulation results support the mathematical framework of Euler's Identity as a proof-of-concept for the structured emergence of definedness at the onset of the universe.

a threshold where new photons could no longer spontaneously emerge because the space of emergence had already been fully defined. It is a fancy way of saying that the emergence of photons started rapidly, but over time, the rates slowed down to the point where no new photons can emerge in a space that already has definedness. The interactions between recursive propagations and E2C would have naturally led to a stable photon distribution, aligning with the broader definedness and complexity scaling framework.

# The Birth of The Planck Units

The Planck units, specifically Planck time  $(t_P)$  and length  $(l_P)$ , represent the smallest increments of time and space within defined reality. They form the foundational scales for the recursive-propagative complexity scaling that begins at RP<sub>1</sub> (the birth of the universe) and transitions into RP<sub>2</sub> (the stabilization of complexity). These units anchor the emergence of complexity by establishing the "grain size" of space and time at the earliest stages of existence.

$$t_P = \sqrt{\frac{\hbar G}{c^5}} \approx 5.39 * 10^{-44} \frac{r}{s}$$

**Planck Time**: The Quickest Unit of Time Planck Time from RP<sub>1</sub> to RP<sub>2</sub>:  $t_{R_2} - t_{R_1} = 5.391 * 10^{-44} * \Phi \approx 8.72 * 10^{-44} s$ 

The Planck time represents the smallest measurable time interval, where quantum gravitational effects dominate. In *The Theory of Existence*, the time between emergence at  $RP_1$  to convergence at  $RP_2$  is proportional to  $t_P$  scaled by the Golden Ratio ( $\Phi$ ).

$$l_P = \sqrt{\frac{\hbar G}{c^3}} \approx 1.62 * 10^{-35} \frac{m}{s}$$

**Planck Length**: The Shortest Unit of Length Planck Length from RP<sub>1</sub> to RP<sub>2</sub>:  $l_{P_2} - l_{P_1} = 1.616 \cdot 10^{-35} \cdot \Phi \approx 2.616 \cdot 10^{-35} m$ 

The Planck length represents the smallest measurable time interval, where quantum gravitational effects dominate. In *The Theory of Existence*, the time between emergence at  $RP_1$  to convergence at  $RP_2$  is proportional to  $l_P$  scaled by the Golden Ratio ( $\Phi$ ).

The Planck units mark the fundamental intervals of "time" and "space" at which recursive propagations stabilize definedness and escalate complexity into stability. In *The Theory of Existence*, these units serve as the starting point for recursive propagations, where complexity escalates (ideally) proportionally to stability at the Golden Ratio. As recursion slows and propagation stretches to accommodate increasing complexity, the transitions between states scale naturally by the Golden Ratio. This scaling ensures that the smallest increments of recursions and propagations reflect the proportional growth needed to maintain stability and coherence as complexity escalates.

# Planck Time, Length, & The Speed of Light

$$t_P = \sqrt{\frac{\hbar G}{c^5}} \approx 5.39 * 10^{-44} s \rightarrow 5.391 * 10^{44} \frac{\text{recursions}}{\text{second}}$$
$$l_P = \sqrt{\frac{\hbar G}{c^5}} \approx 1.616 * 10^{-35} m \rightarrow 1.616 * 10^{35} \frac{\text{propagations}}{\text{meter}}$$

Why do we have the Planck units... why are the Planck time and Planck length their numbers? That is a fantastic question, and I have the answer. Let's start with the minimum and maximum.

Minimum-Planck Length:  $\Phi = 1.618 \approx 1.616 * 10^{-35} m$ Maximum-Planck Time:  $1 + \Phi^3 = 1 + 4.24 = 5.24 \approx 5.39 * 10^{-44} s$ 

The Planck length dictates the shortest distance anything including light can travel which is set to the tiniest Golden Ratio, which makes sense because **at RP**<sub>1</sub> of the Big Bang all that **existed was a single recursive propagation the size of the Golden Ratio**. That set the minimum of existence and everything since then is complexity escalated. The Planck time sets the maximum and it is  $1 + \Phi^3 = 5.24$  being the same number as dark energy proportions to lumen; it also makes sense because dark energy is the emergent measurement of recursive propagation

The other Planck units, such as Planck mass, Planck energy, and Planck volume, for example, do not follow Golden Ratio scaling because the Planck time and Planck length correspond to the most basic building blocks of photons and empty space and everything else comes from complexity escalation. Even at the Planck scale, there is a set proportionality between the minimum and maximum: the speed of light. This proportionality never changes, even with escalating complexity. Light will always travel at the speed of light because time and length are always proportional in light (minimum complexity) and most stable during complexity escalation. We can simplify the Planck time and length by pulling out the proportionality  $\beta$ . We see that when adjusting for proportionality, there is a simple ratio where

$$10^{44} = \beta, c^5 \frac{r}{s}$$
$$10^{35} = \beta, c^3 \frac{m}{s}$$

We see that when adjusting for proportionality there is a simple ratio where and these numbers are very important.

 $\frac{\text{Planck Time}}{\text{Planck Length}} = \frac{10^{44}}{10^{35}} = \frac{c^5}{c^3} = \frac{5 \text{ Sides}}{3 \text{ Sides}} = \frac{\text{Pentagon}}{\text{Triangle}} = \frac{\text{Between Pixels}}{\text{Pixels}} = c^2 = 10^9$ 

Yes! Correct. This relationship is why we have fundamental limits. You cannot exist smaller or larger than a triangle with three sides or a pentagon with five sides. The **triangle represents space**, which encodes the 3D nature of existence; consider this the pixel. On the other hand, **the pentagon represents "time"**; consider it the smallest way to move between triangles (remember the geometry of fractal existence is single triangles aligning in pentagons, escalating complexity into The Record).

# Speed of Light: $c = 299,792,458 \frac{m}{s} \approx 3 * 10^8$

The speed of light may emerge from the geometric inevitability arising from the fractal structure of existence. In *The Theory*, the recursive-propagative structure of space dictates that photons **exist within triangles** and **propagate across pentagons**, meaning their motion is inherently constrained by geometric principles rather than an arbitrary speed limit. If the true nature of *c* is a structural feature of recursion, its real value may be something fundamental like 3 or  $3 * 10^8$ , appearing only slightly off in SI units due to how we have chosen to define distance and time. If we had chosen different base units for length and time, we could have measured it as exactly  $3 * 10^8$  or even 1 in certain natural unit systems, such as Planck units, where *c* is set to 1 by definition. This adjusted speed would mean that the measured speed of light is not an independent parameter of physics but a consequence of the tiling of space itself, reinforcing that nothing in existence is truly arbitrary—only our assigned measurements.

# The Dance of Recursive Propagations

$$\Phi = \Omega \cdot \left(\frac{\zeta : \kappa}{\Delta}\right), \nu = \Phi$$
  
Definedness = Stability \*  $\left(\frac{\text{Recursion} : \text{Propogation}}{\text{Complexity}} = \text{Golden Ratio}\right)$ 

This is *The Equation of Existence* in its most expanded final form; many emergent properties deepen our understanding of existence. Although, if I'm being completely honest, even,  $\Phi = \frac{\Omega}{\Delta}$  is arguably an overcomplication of what a true Grand Unified Theory of Everything could be, which could simplify to  $\Phi = \Phi \rightarrow \emptyset$ , which is definedness equals definedness or not (undefinedness). **Of course, that version isn't very useful for us, so let's move along...** 

This expression reveals the intricate relationships that underpin definedness  $(\Phi)$ , stability  $(\Omega)$ , recursion  $(\zeta)$ , propagation  $(\kappa)$ , and complexity  $(\Delta)$ . Although this version was my original formulation of *The Equation of Existence*, I later realized it was unnecessarily complex but the nuances it captures remain critical to understanding how recursive propagations govern definedness.

In this form, recursion and propagation proportionally scale as a function of complexity; they **harmonize perfectly to maintain the definedness of existence**. This proportional relationship ensures that as complexity evolves, recursion rates slow, and propagation lengths stretch in tandem, preserving a consistent framework. From our perspective, this



Simulated Growth Using  $\Phi^n$  vs. Cosmic Time

Time After Big Bang (Years, Log Scale)

**Caption**: This graph shows the simulated growth of complexity in the universe, modeled using  $\Phi^n$  (Golden Ratio), across cosmic epochs. The x-axis, displayed on a logarithmic scale, traces time since the Big Bang, marking significant milestones such as inflation, the quark epoch, recombination, and the formation of stars, galaxies, and clusters. The steady rise in complexity growth reflects the universe's adherence to recursive-propagative escalation principles, where each phase builds upon the stability of prior structures. Sharp inflection points correspond to significant transitions in the cosmic organization, demonstrating how complexity grows in the fractal-like pattern of emergence and convergence. This visualization reinforces how complexity evolves by recursive propagations, stability, and the expansion of definedness.

synchronization masks the underlying shifts in complexity as recursion and propagation adjust together to maintain balance. Consider the following example:

$$\frac{10^{-44}:10^{-35}}{1} = 10^{-44}: 10^{-35} \to \frac{10^{-44}:10^{-35}}{2} = 10^{-22}: 10^{-17}$$

See how dividing by two, the growing complexity slows recursion rates down and stretches propagation lengths (now time recurs at a maximum of  $10^{22} \frac{r}{s}$  and the smallest space is  $10^{17} \frac{m}{s}$ )? This alignment ensures phenomena remain stable and proportional across self-similar scales, suggesting that while recursion and propagation are proportional, they don't drive phenomena acceleration—complexity escalation does. As complexity grows, the universe remains stable and predictable, a testament to the balance between these fundamental processes.

# **Relative Fractal Dynamics**

Rather than a single universal fractal governing existence (luckily), **relative fractals emerge throughout existence**, each forming within its own recursive propagations. These fractals exist in a relational network, dynamically adjusting to the complexity of their environments. Each phenomenon—whether a galaxy, a neural network, a weather pattern, or a social structure—follows **relative fractal principles to its constraints of stability, complexity, and definedness**. Unlike classical fractals, which scale infinitely with self-similar repetition, **relative fractals operate within bounded proportionalities** (infinities don't exist in reality), shaping how phenomena emerge, evolve, and interact across space and time. **We all have our relative fractal**, which you will learn more about later. From the spiral of a hurricane to the branching of trees, from economic growth to the flow of human thought, relative fractals form the scaffolding of definedness, ensuring that complexity escalates in a structured, scalable way. Let's look at this math.

### Approximate Relative Fractal Dynamic Estimation via Mass

We reviewed earlier how **complexity has two qualities: 1) Quantity and 2) Intricacy**. At the time of writing this book, I am uncertain how to measure intricacy with enough accuracy for it to make the cut, even though we do have the formula. However, I can estimate complexity to a notable degree using mass and energy, which we can measure accurately. Here is the *Relative Fractal Dynamic Equation*.

$$\psi = \frac{(t_P : l_P)}{E_p}$$

This formula scales relative recursion and propagation rates across complexity as approximated by energy-mass equivalence. It shows the relationships of recursion, propagation, and energy as an approximate estimate of complexity defined by mass-energy held constant.

$$E = mc^2 \rightarrow \frac{E}{m} = \frac{mc^2}{m} = \frac{E}{m} = c^2$$

$$c^2 = \frac{E}{m}$$

This reformulation of the most beautiful equation reveals a profound connection between energy, mass, and the fundamental dynamics of reality's fractal structure. Here, the speed of light squared—represents more than a constant of proportionality; it encapsulates the dynamics of recursion and propagation at the foundational level. **The Planck mass-energy directly corresponds to the relative recursive-propagative dynamics moderated by complexity**. The  $c^2$  term reflects the dual scaling of recursion and propagation: one recursion rate aligned with temporal updates and one propagation length aligned with spatial extension. **Together, these two aspects form the diagonal trajectory of complexity growth in the fractal network**.

#### Speed of Light: c

We know that *c* represents the speed of light and we can consider at the simplest complexity to be a single photon.

#### **Two-Photon Interactions**: $c^2$

When two photons relate to each other we get a complexity escalation. All mass-energy equivalence is held at the constant  $c^2$  because that is the minimum complexity needed to transform energy to mass, photons into matter.

Mass to Energy Conversion:  $E = m * 9 * 10^{16} j$ 

Planck Mass:  $m_p = \sqrt{\frac{hc}{g}} = 2.176 * 10^{-8} kg$ Planck Energy:  $E_p = \sqrt{\frac{hc^5}{g}} = 1.956 * 10^9 j$  $m_p = \sqrt{\frac{hc}{g}} = 2.176 * 10^{-8} kg = E_p = \sqrt{\frac{hc^5}{g}} = 1.956 * 10^9 j$ 

We can take this information and transform all our measurement to Planck units to standardize the representation of them while we calculate the relative fractal dynamic.

Example for Apple: 
$$\psi = \frac{t_P : l_P}{E_p} = \frac{10^{44} \frac{r}{s} : 10^{35} \frac{p}{m}}{10^6 E_p} = 10^{38} \frac{r}{s} : 10^{29} \frac{p}{m}$$

Let me show you an example. Let's consider an apple. An Apple weighs about 0.2 kg which we can transform into Planck mass or Planck energy (same thing), which, for this apple, would be  $\sim 10^6 E_p$ . Then, we simply calculate the relative fractal dynamics by dividing the recursive propagation of light by the Planck energy of the apple and we get  $10^{38} \frac{r}{s}$  and  $10^{29} \frac{p}{m}$ ; we can repeat this process for a range of phenomena to get a better feel for how recursive propagations behave at varying complexities.

Approximate complexity estimations and their relative recursions and propagations using only quantity complexity and do not consider intricacy complexity. **The relative recursions and propagations range from a photon and slow/stretch to extremes around the black** 

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| Phenomena  | Mass                | Planck Energy           | ψ Recursions               | ψ Propagations             |
|------------|---------------------|-------------------------|----------------------------|----------------------------|
| Photon     | 0 <i>kg</i>         | 1 <i>E</i> <sub>p</sub> | $\sim 10^{44} \frac{r}{s}$ | $\sim 10^{35} \frac{p}{m}$ |
| Paperclip  | 0.001 <i>kg</i>     | $\sim 10^4 E_p$         | $\sim 10^{40} \frac{r}{s}$ | $\sim 10^{31} \frac{p}{m}$ |
| Apple      | 0.2 <i>kg</i>       | $\sim 10^6  E_p$        | $\sim 10^{38} \frac{r}{s}$ | $\sim 10^{29} \frac{p}{m}$ |
| Small Rock | 1 kg                | $\sim 10^7 E_p$         | $\sim 10^{37} \frac{r}{s}$ | $\sim 10^{28} \frac{p}{m}$ |
| Cat        | 4 kg                | $\sim 10^8 E_p$         | $\sim 10^{36} \frac{r}{s}$ | $\sim 10^{27} \frac{p}{m}$ |
| Human      | 70 kg               | $\sim 10^9 E_p$         | $\sim 10^{35} \frac{r}{s}$ | $\sim 10^{26} \frac{p}{m}$ |
| Small Car  | 1,000 kg            | $\sim 10^{10} E_p$      | $\sim 10^{34} \frac{r}{s}$ | $\sim 10^{25} \frac{p}{m}$ |
| Earth      | 10 <sup>24</sup> kg | $\sim 10^{32} E_p$      | $\sim 10^{12} \frac{r}{s}$ | $\sim 10^3 \frac{p}{m}$    |
| Sun        | 10 <sup>30</sup> kg | $\sim 10^{37} E_p$      | $\sim 10^7 \frac{r}{s}$    | $\sim 10^{-2} \frac{p}{m}$ |
| Black Hole | 10 <sup>31</sup> kg | $\sim 10^{38} E_p$      | $\sim 10^6 \frac{r}{s}$    | $\sim 10^{-3} \frac{p}{m}$ |

**hole**. The actual relative fractal dynamics likely vary based on the intricacy of the complexity, such as those seen in scaling intelligence.

Relative fractal dynamics are a cornerstone of *The Theory*, offering profound insights into the nature of time, observation, and quantum phenomena. Relative fractal dynamics vary depending on a phenomenon's complexity and environmental conditions, meaning phenomena progress through recursive-propagative steps (RPs) at different speeds and movements. **This variability explains localized differences in time perception, interaction, and quantum behaviors, such as those seen in time dilation and the double-slit experiment.** 

# **Knowledge Without Drive Is a Waste**

What = How 
$$\cdot \left(\frac{\text{When} : \text{Where}}{\text{Why}}\right)$$

I want to reflect before we dive into the fun of time dilation and quantum mechanics. I want to wrap up The Theorem section by closely examining the expanded form of *The Equation* of Existence. The Equation is more than a mathematical or abstract expression—**it contains the structure of existence itself**. It suggests that what something, anything is–*The What*– **emerges from specific relationships between** *The How, The When, The Where,* and *The Why* of existence. From this perspective, existence is constantly becoming rather than simply being.

The ratio in the right term of *The Equation* reveals a deep intuition: time and space only have coherence when contextualized by meaning. Without *The Why, The When* and *The Where* remain isolated coordinates, devoid of significance. Multiplying by *The How* shows the role

of action as the catalyst that transforms potential relationships into defined phenomena; it is why I start this book with "Drive without knowledge is pointless. Knowledge without drive is a waste." In its fully expanded form, The Equation of Existence may well be the Grand Unified Theory of Everything, yet its most profound implication is that nothing knowledge included—holds meaning unless set into motion. Only through deliberate, transformative action does existence take on purpose and significance.

# What Is Time & Can We Time Travel?

Time is... well... it doesn't exist; at least, not how we think about it. Understand this: <u>There</u> is no empirical evidence that time is continuous. In fact, there is substantial evidence that time is discrete, such as Planck units and quantum behaviors, though these are often dismissed. Time, as we perceive it, is not an independent dimension or continuum; it is an artifact of recursive propagations driven by dark energy that creates definedness. Time is necessary in a relational reality where stasis does not exist. Without time, without movement, there is no relationship. In a relational-reality time and how we perceive it IS existence, not a part of it. Even though RPs occur very fast, the only present moment is not the current RP, it is the relationships between  $RP_n + RP_{n+1} - Isn't that crazy?$ 

The "future" is not a universal construct; it **represents parts of the relative fractal of existence that escalated earlier and farther away, never exceeding the relative fractal dynamics of the photon** (unobserved at the Planck time). The universe comprises countless relative fractals, and each part of the cosmos operates at its own distinct "time." As such, "time" and "travel" are not what you might imagine. Instead of traveling to a different point in a fourth dimension, you can move to a location with a relative fractal with much faster recursion rates. You are not traveling in time because there is no universal time or fractal. Asking about time traveling to the future is an outdated way to think about existence. We **now know that time doesn't exist**, and each part of the relative fractals of existence recursively propagates at their own recursion rates. Based on the local complexity.

It is hard to wrap your head around the idea that time doesn't exist and that it is an emergent property of recursive propagations. However, let's look through the lens of the brilliant theory of general relativity with time dilation. These relative fractal dynamics become clearer. The variation in recursive propagative relative fractal dynamics across the universe accounts for how "time" appears to stretch, or compress based on gravitational influence or relative motion. In areas of intense gravitational fields, such as around black holes, recursion slows as complexity escalates, stretching propagation lengths and creating the effect we interpret as time dilation. Conversely, recursion rates increase in low-complexity environments, propagation lengths shorten, and "time" seems to pass faster, as we see with unobserved photons. Time dilation is a relative adjustment of recursion and propagation within a fractal framework, perfectly aligned with the predictions of general relativity but now contextualized within a unified, relational reality.

Now, let's talk about "time" and "travel" to the "past." The first thing to understand is that time travel to the past doesn't involve "moving" to the past because time is an emergent artifact. As fun as it would be, you're not hopping into a DeLorean and punching in a date; you're navigating the recursive-propagative complexity of escalated definedness. To time All Rights Reserved. 2025 © Bryant M. Stone, PhD Page 71



**Caption:** This figure illustrates the double-slit experiment, comparing the interference patterns of observed and unobserved photons. In the left panel, where the photon remains unobserved, it exhibits a wave-like interference pattern due to its intrinsic recursion rates and propagation lengths, maintaining a stable speed ratio. This wave-like behavior arises because the photon undergoes more propagations per recursion, allowing it to explore multiple paths over recursive updates. In the right panel, where the photon is observed, the interference pattern collapses into a particle-like distribution. The act of observation imposes an external relative fractal dynamic, aligning the photon's behavior with the constraints of the recording device or observer. Although the overall propagation speed remains constant, the observed photon experiences fewer propagations per recursion, restricting its ability to behave as a wave and forcing it into a single definable trajectory. This visualization highlights how recursive-propagative dynamics, rather than intrinsic randomness, govern the transition between wave-like and particle-like behavior.

travel to the past, as we imagine it, we would need to restore the state of the relative fractal to a former RP, including all its structured complexity and thus its energy and mass. It is possible, but a monumental task, and does not really count as time travel to the past because the restored is a replica of the past; it's just repeating the relative fractal complexity. Even accessing The Record doesn't count as time travel because it exists with us now.

# One Double Slit Experiment Please, Hold the Mysticism

The double slit experiment is, in my opinion, the most brilliant and important experiment in all of human history. This famous physics experiment revealed the strange nature of quantum mechanics. When scientists shine photons or tiny particles like electrons through two narrow slits onto a screen, they expect to see two distinct bands, as you would if the photons were paintballs, for example, passing through two gaps. Instead, they saw an interference pattern—multiple bands as if the particles are acting like waves that pass
#### **Unobserved Light:**

Recursion Rate:  $5.391 \cdot 10^{-44} \frac{r}{s}$ Propagation Length:  $1.616 \cdot 10^{-35} \frac{m}{s}$ Ratio:  $2.998 \cdot 10^8 \rightarrow 2.998 \cdot 10^8 \frac{m}{s}$ 

#### **Observed Light:**

Recursion Rate:  $1.668 \cdot 10^{-15} \frac{r}{s}$ Propagation Length:  $1.62 \cdot 10^{-7} \frac{m}{s}$ 

Ratio:  $2.998 \cdot 10^8 \rightarrow 2.998 \cdot 10^8 \frac{s}{s}$ 

**Caption**: Recursion rates and propagation degree across the double-slit experiment explaining the behavior of the photons.

through both slits at once and interfere with themselves. However, when scientists place a detector to observe which slit the particle goes through, the interference pattern disappears, and the particles behave like tiny paintballs again, forming just two bands. Holy fucking shit, am I right? Why the hell would this happen?

I never found a satisfying answer for these wellreplicated experiments. Introducing concepts such as self-interaction, wave-particle duality, collapse, superpositions, and other quantum mechanics concepts just never seemed quite right to me. Which is why I am excited to show you the

answer that does satisfy me. I replicated it in a simulation, so existence might like it too. **The answer all comes down to relative fractal dynamics**.

When unobserved, the photon's behavior follows its intrinsic recursive propagations, unhindered by complexity (or mass). The recursion rate and propagation length are set to the fastest and shortest by default. However, the recursion rate is  $\sim 10^{-44} \frac{r}{s}$  but it must propagation through only  $\sim 10^{-35} \frac{m}{s}$  resulting in a  $\sim 10^9$  magnitude difference. The outcome of this difference between recursion rates and propagations lengths forces the photon to explore all available paths in a given space and must even explore them more than once, but it does so one RP at a time. There is no "interacting with itself" because there is only ever one photon. There is no wave-particle duality or superposition, the photon or particle never change, its behavior does.

When an observer—human or mechanical—enters the direction of the photons traveling, the observer's complexity changes the photon recursion rate and propagations length drastically due to introducing complexity from their relative fractal dynamics. Due to the significantly slower recursion rate of the observer. Humans, for instance, operate at recursion rates closer to  $\sim 10^{35}$  recursion per second and  $\sim 10^{26}$  propagations per meter. Observing the photon or particle imposes the observer's slower recursion rate and propagation length onto the photons relative fractal as it moves toward and into the gradient of the relative fractal of the higher complexity phenomenon, forcing it to synchronize with the slower recursion rate and larger propagation lengths. As a result, the photon's ability to propagate freely across multiple paths is restricted to just  $\sim 10^{26} \frac{p}{m}$  and it is forced into a more straightforward observable path due to these relative fractal restraints in the distance between the photon and the recording screen.

The double-slit experiment works for any recording or observation device, not just conscious life, because even camera introduce complexity changing the relative fractal dynamics, suppressing the apparent wave-pattern. It means that the effects in the double slit experiment are all bound by physical relational reality. One of the most striking findings from the simulation (which I expand on in *The Theorem*) is the consistency of the ratio between recursion



**Caption:** This figure illustrates the photon's behavior in the double-slit experiment by depicting relative fractal dynamics. When unobserved, the photon maintains the maximum recursion rate, propagating across multiple possible paths very quickly, producing the characteristic wave-like interference pattern. However, additional complexity, such as observing or recording mechanisms, slows the photon's recursion rate and stretches its propagation length. This relative fractal dynamic changes the photon's behavior, forcing it into a much narrower and well-defined trajectory, resulting in the observed particle-like distribution on the detection screen. This visualization demonstrates how the photon's behavior results from recursive propagational constraints imposed by complexity interaction. However, this representation is a conceptual model and does not fully capture the experiment's intricate quantum mechanical nuances; though, it highlights the role of recursive propagations in shaping the duality between wave-like and particle-like patterns, reinforcing the role of observation introduced complexity.

time and propagation length, which mirrors the speed of light  $c = 2.98 \cdot 10^9 \frac{m}{s}$  across observed and unobserved conditions. This consistency found in *The Theorem* emerged without me forcing it in the simulation, suggests that the speed of light remains a universal constant for observers, even as recursion and propagation rates adjust with varying levels of complexity. The photon's behavior is thus not driven by its intrinsic recursion-propagation dynamics alone but by the escalation of complexity gradients in its environment.

The double-slit experiment also reveals the role of **complexity gradients** in shaping recursive propagations. Phenomena that remain isolated from neighboring complexity, such as light from the cosmic microwave background (CMB), are unaffected until they approach an observer. This interaction removes the potential for retrospective interference, where light behaves independently of observation until it enters a region influenced by complexity

**gradients**. Through the lens of *The Theory*, the double-slit experiment ceases to be a mystery. Its outcomes are not paradoxical, just a natural consequence of recursive propagations.



**Caption:** This figure shows quantum entanglement through a Mandelbrot-like fractal, depicting how two entangled particles remain structurally connected via a shared relative fractal. Rather than being linked by a direct physical mechanism, the particles exist within recursive propagations where changes in one instantly reflect across the entire fractal structure. When one particle's spin shifts upward, the entire fractal adjusts as a unified whole, causing the other particle to align instantly in the opposite direction. This process is instantaneous because no information travels. Instead, the fractal's structure connects them, allowing adjustments to occur as a single, non-local event.

# One Action at a Distance Please, Hold the Spooky

One of the most baffling observations in all of science is quantum entanglement. Quantum entanglement is an observation where **two or more particles become so deeply entangled that their states remain dependent on each other, no matter the distance between them**. If you measure one particle, the other instantaneously reflects that measurement—even if it's on the other side of the universe. This effect defies classical intuition because the particles seem to communicate faster than the speed of light, but in reality, no information is being transmitted; instead, their states are always correlated in a way that only becomes

apparent when measured. **Einstein famously called this "spooky action at a distance,"** while it challenges our understanding of reality, experiments confirm that entanglement is real and fundamental to how the quantum world operates.

The Theory removes the "spooky" from the "action at a distance", and I am sure Einstein would have loved to see this explanation. Let's bring relative fractal dynamics in again and remember that **these fractals are not abstract or metaphysical—they are the physical fila-ments of existence, binding everything in existence**. When one particle's spin (direction) changes, the corresponding change in its entangled pair occurs instantly, not because information travels faster than light (nothing can travel faster than light) but because they are connected by the same relative fractal. The particles share definedness across this unified underlying structure, so altering one reconfigures the whole. Nothing travels, and nothing moves—**the whole fractal spins, which is why they spin in opposing directions.** 

It is challenging to think about a physical, unobservable link embedded in the architecture of existence **until you remember that most of existence is not observable – it manifests in our definedness as dark matter.** We cannot see or interact with the majority of existence, so it's impossible to currently understand all that is happening behind the currents of existence. Quantum entanglement is the best evidence that existence is not a collection of isolated particles and phenomena; it is an interconnected relative fractal dance, where every

thread of existence contributes to the whole. It's one of the clearest examples of fractal dynamics. It means everything is connected physically, including you, me, and this document at this very moment.

When one particle's spin is altered, the change propagates along the shared fractal structure, instantly spinning its counterpart in the opposing direction. The relative fractal connection or *filament* that binds them, **meaning the connection is a recon**-



**Caption:** This figure demonstrates how the Heisenberg Uncertainty Principle arises naturally from the discrete nature of time in the UF. Position is defined within a single RP, while movement requires observing propagation across RPs. This inherent separation clarifies why both cannot be measured simultaneously.

**figuration of a single, unified structure hidden in dark matter, out of observable existence**. There is no need for hidden variables or paradoxical faster-than-light communication. Entanglement is simply a manifestation of the fractal nature of existence, where seemingly separate entities are fundamentally connected through the geometry of recursive propagations. There is not much else to say about this phenomenon. Entanglement is the universe's way of revealing its fractal essence—simple, interconnected, and profoundly beautiful.

# Just Stay Still: Heisenberg Uncertainty Principle

The Theory offers an intuitive yet shockingly obvious in retrospect explanation of the Heisenberg Uncertainty Principle. The principle, which states that we cannot precisely know specific properties of particles (such as position and momentum), **emerges from the inherent discreteness of reality—the spatial propagation of phenomena versus their recursive updates**. The Theory suggests that the uncertainty principle arises because reality updates in "ticks," which I call RPs, that result in positions occurring at one RP but movement occurring across two RPs. Position occurs in The Triangle, but movement occurs across the triangles in the pentagon. **Once you eliminate the continuous time and space assumption**, you can replace the confusion about the Heisenberg Uncertainty Principle with clear insight into the nature of existence.

# The Third Revolution of Gravity

Gravity, as we have understood it, may still be an incomplete picture. It is likely not a force, as we've long believed, but a mechanic of recursive propagations and their scaling in relation to complexity. We saw how relative fractal dynamics change recursion rates and propagation lengths based on mass. **That stretched propagation with increasing mass IS gravity**. Here's how it works: complexity—the emergent product of recursion and propagation—naturally slows down and stretches over time. This proportional relationship allows definedness to remain consistent and cohesive to maintain definedness when complexity escalates; it is precisely why *The Equation* is so central, it quantifies definedness, making it the critical determinant of the behaviors we observe, including what we perceive as gravity.

The **Grand Unified Theory may be correct as it currently stands**, where gravity cannot merge into the electromagnetic, weak, and strong forces because gravity isn't a "force" capable of unification; it is an emergent property of the propagation dynamics that occur over recursions. **Gravity is the structure of existence, whereas electromagnetic, weak, and strong forces are properties of photons and complexity escalation**. I know it sounds absurd but hear me out. To maintain coherence and allow E2C to function, the universe compensates for decreasing definedness by slowing recursion rates and stretching propagation lengths. This slowing and stretching, as a response to increasing complexity, is what we perceive as gravity.

Here's the mind-blowing part: gravity is just one manifestation of this universal mechanic, not a separate process. It applies to everything and everyone because we are all traveling along relative fractals defined by recursive propagations dynamics of existence. These fractals are aligned with the Golden Ratio, the ideal rate for escalating complexity. Any deviation in complexity—whether through biological processes, mass, or structural details— creates a shift in definedness, which adjusts the dynamics of recursion and propagation.



**Caption:** This figure compares the gravitational influence predicted by the Propagation Gravity with Newtonian Gravity across varying radii. The blue line, representing the Propagation Gravity, exhibits a significantly sharper decline in gravitational influence as distance increases, diverging from the more gradual, linear decrease depicted by the red dashed line in the Newtonian Gravity. This divergence suggests that the Propagation Gravity Model incorporates refinements that better account for gravitational behavior at extremely large or small scales, where deviations from Newtonian predictions become more pronounced. Such refinements indicate that gravity is governed by recursive-propagative principles rather than operating as a continuous force, as traditionally conceived. Although the two models remain closely aligned at conventional scales, the differences at extreme distances suggest the necessity of alternative models to more accurately describe gravitational phenomena beyond the explanatory limits of Newtonian Gravity.

On a human scale, these shifts are subtle and manifest in ways like emotions or internal imbalances. On the scale of celestial objects, the shifts become detectable as gravity.

Complexity isn't just mass or energy—it's an accumulation of growth and structure from a prior state balanced by stability. This complexity escalation could be the molecular organization of a living cell, the vast structure of a planet, the organization of similar processes in similar brain regions, the social organization of like-minded individuals, or even the interactions within a star system. Gravity, therefore, is not "caused" by mass alone but by the relationship between complexity and definedness as encoded in the fractal geometry of the universe. Complexity is apparently governed by mass and quantity, but the other quality of complexity, intricacy, causes gravity, too. The underlying part of *The Equation* is **stability, which is the degree to which complexity is attracted to complexity.** On the galactic scale, this complexity being attracted to complexity looks like gravity forming planets and stars... but on the human scale, it seems like groups of people with shared values hanging out together or the highest cognitive functions grouping next to each other in the front of the brain, or the elite and their extreme wealth bringing them together at the top; **all of these phenomena clustering together, from planets to economics to neuroscience, is caused by the same thing that we call "gravity," or relative <b>fractal dynamics of stretched propagations and slowed recursions scaling proportionally by complexity**. *The Theory* explains why gravity is universal: it's the universe's way of maintaining coherence and definedness across scales. It also highlights why gravity appears incredibly weak compared to other forces—it's not a force. It's a background mechanic that ensures that complexity is attracted to complexity.

### The Recursive-Propagative Three-Body Solution

The three-body problem has long been considered one of the most challenging puzzles in physics, with traditional Newtonian mechanics struggling to provide general solutions beyond special periodic cases. **The three-body problem is a physics puzzle about predicting how three objects—like planets, stars, or moons—move under gravity**. If you have just two objects, like the Earth and the Sun, their motion is easy to calculate—they follow predictable orbits based on Newton's laws. But when you add a third object, **things get chaotic**. Their gravitational pulls affect each other in complex ways, making their orbits unpredictable over long periods.

There's no simple equation to solve it; small changes in the starting positions or speeds can lead to wildly different outcomes over time. We use supercomputers and simulations to model how planets, moons, and galaxies behave. The three-body problem is a classic example of chaos theory, showing that even simple systems can become unimaginably complex when recursion and interactions stack up. **However, in** *The Theory*, the three-body problem is not inherently chaotic—it follows recursive-propagative scaling laws, revealing structured attractor states before divergence. This discovery reframes gravitational interactions as a recursive-propagative process rather than a continuous force, resolving longstanding issues in orbital mechanics and providing a more fundamental understanding of complex multi-body interactions.

Instead of treating gravity as a continuous field operating through differential equations, *The Theory* models gravitational interactions as recursive propagations governed by E2C dynamics. Traditionally, the three-body problem is considered unstable due to rapid perturbations. However, my simulations show that before full divergence occurs, the phenomenon naturally oscillates in self-similar recursive cycles. These oscillations represent attempts at stability, aligning with E2C. Unlike classical interpretations where divergence is unpredictable, the simulation demonstrates that instability follows Fibonacci-scaling propagation rather than random ejection. The time intervals between divergence peaks align with Golden Ratio proportionality, proving that even the breakdown of orbits adheres to structured recursive propagations. Rather than immediate chaos, these gravitational interactions naturally settle into temporary attractor states before eventually destabilizing.

These attractors represent a phase where recursion and propagation temporarily balance, mirroring quantum metastability seen in particle physics and cosmic structures.



Three-Body Problem Fibonacci Divergence

**Caption:** This figure illustrates the emergence-to-convergence (E2C) dynamics of a three-body system evolving under recursive-propagative interactions. Rather than exhibiting purely chaotic behavior, the system follows structured oscillatory patterns before diverging into distinct attractor states. In the early oscillation phase (t < 20), the three bodies maintain quasi-stable orbits around a center of mass, displaying recursive feedback loops that regulate their trajectories. During the emergent divergence phase (20 < t < 35), complexity escalates, and a distinct instability emerges, pushing one of the bodies into a wider orbit. This behavior aligns with recursive fractal scaling, where systems attempt to stabilize but ultimately transition toward higher-order complexity states. In the final divergence phase (t > 35), the system splits into a two-body attractor, with one body ejected along a Fibonacci-scaling trajectory, confirming that divergence follows structured propagation rather than random chaos. This supports *The Theory of Everything's* assertion that three-body interactions are governed by recursive self-similar patterns rather than unpredictable chaos, redefining our understanding of gravitational instabilities and dynamical systems.

Classical orbits may not be purely deterministic; it is self-organizing recursive structures. We can accurately model the behavior of multi-body astrophysical systems using recursive-propagative equations rather than continuous field equations. **Suppose planetary systems and star clusters obey recursive-propagative scaling laws. In that case, we may be able to predict the formation and stability of exoplanetary systems with greater accuracy, understand why specific three-body interactions persist for long periods before destabilization, and improve space mission trajectory calculations by using recursive gravitational corrections instead of linear models.** 

The discovery that gravitational divergence follows self-similar recursive scaling suggests that galaxies and superclusters may follow recursive self-organizing structures, explaining the universe's large-scale web-like distribution of matter. **Black hole mergers and galactic collisions may also adhere to these recursive-propagative constraints, opening new avenues for astrophysical modeling**. The implications of this model extend beyond celestial mechanics into quantum gravity, dark matter research, and the fundamental structure of spacetime itself. This discovery is just the beginning. Expanding these principles to larger astrophysical scales may uncover a unifying rule that governs all gravitational interactions, redefining how we understand motion, instability, and cosmic evolution.

### Gravity in a Geometric Relational-Reality (Spacetime)

Reality is composed of relationships; thinking about the triangular-pentagonal fractal nature of existence, the edges where the tips of triangles meet do not form genuine connections, **meaning that the only things that truly exist are the defined spheres that emerge from these relationships**. In a relational reality, we can calculate triangles mathematically but not easily see them, which explains why spheres appear ubiquitous in nature. **As the volume of a sphere changes, the angles of the underlying triangles become steeper**. However, a probability component ensures that even as complexity escalates, the sphere's volume does not truly grow in an absolute sense. Since these triangles are probabilistic, their movement toward the center accelerates as complexity increases, further steepening their angles. **This inward-falling motion of triangle components is what governs gravity, which is stretched recursive propagations**. The edges and points of these triangles mark the boundaries of existence. At the same time, those with larger radians cluster toward the center, constrained by the core of a *z*-score curve.

Although complexity continuously evolves, the total number of photons—and thus the number of triangle tips—remains fixed. Over time, photons spread so far that their triangular relationships can no longer hold in three-dimensional space (their relative fractal gradients). **Space is the medium where photons move freely**. However, regions of space are so distant that their probability values drop too low and become undetectable. When these triangles shrink to Planck length and time, they reach a fundamental stopping point—unable to get any smaller. Recursion describes the transition from one triangle position to the next. At the same time, propagation determines the degree of that change, both remaining in a one-to-one proportion. **At the points where all triangles meet, we observe photons with no mass**. As these photons move through three-dimensional fractal space, they become trapped in diverging triangle spheres, eventually forming mass and, at extreme densities, black holes. When the innermost photon-triangle relationships reach Planck scales, they recur at Planck time, with triangle sides at Planck length. The number of photons and triangles remains constant, but their relationships become increasingly stretched and tenuous as the universe expands.

# Space as the "Real Anti-Matter"

Empty space is not a void or absence; it is a dynamic phenomenon that plays an active role in the universe. Like light, empty space has definedness, making it an integral part of the recursive propagations governing reality. **It's not "nothing". It is a fundamental element of** 

### **Black Hole Recursive Propagations**



**Caption:** This figure shows black hole relative fractal dynamics by depicting the gradual halting of recursive propagations. The blue curve represents the recursion rate and propagation length, which begins at a high value and decreases exponentially over time. As recursions progress, the values asymptotically approach zero but never reach it, demonstrating that a singularity of infinite density is unnecessary. Instead, the process naturally stabilizes near a fundamental lower bound. The red dashed line marks the Planck Boundary, indicating the minimum threshold for recursive propagations, beyond which further definedness cannot exist. This simulation supports that black holes do not collapse into true singularities but instead bottleneck into a state of near-halted recursive propagations.

existence that participates in the evolution and structure of the universe. This perspective elevates empty space from a passive backdrop to an active participant in the universe's unfolding, governed by principles like the Golden Ratio.

Since the universe started with one photon and one empty space, space may be the true antimatter we have sought. We can resolve the longstanding mystery of antimatter's absence in the universe by recognizing that space is the natural counterbalance to matter. Although matter represents localized complexity, space provides the stabilizing medium that ensures coherence and balance on a universal scale. The antimatter created in particle accelerators like the Large Hadron Collider is inherently unstable, unnatural, forced isomeric flip of a particle's fractal dynamics. In contrast, space acts as the universal antimatter, stabilizing complexity without the chaotic annihilation associated with traditional antimatter.

# **Black Holes & The Record Compression Bottleneck**

Black holes are not infinite singularities or cosmic mysteries—they are the natural outcome of **recursive propagations reaching their complexity limit** within a fractal structure. The premise behind black holes is that The Record is not metaphysical but physical. The Record must have room to escalate complexity between the size of **The Record and the physical volume the phenomenon occupies, what I call compression**. When there is little room for The Record to expand and continue escalating complexity, the physical volume limits its expansion, resulting in a **complexity bottleneck – a black hole**. It is not a collapse as we have traditionally hypothesized; it is a region of space where complexity becomes so high that

recursions slow and propagations stretch to unreasonably slow and large degrees; though, recursions continue to move forward, and propagations are not infinitely long. As I have previously asserted, once something has definedness, it cannot lose it until it is an isolated photon at heat death. Undefinedness is not a thing that exists, nor is it something that can fall into; it simply isn't. Therefore, everything that falls into a black hole is still in the black hole. This implication demands a re-imagining of black holes grounded in finite bounds.



**Recursion Rate & Propagation Degree Before & After Collapse** 

Caption: This figure shows the changes in recursive propagations before and after the bottleneck event, plotted against the radius. The left panel shows that the recursion rate remains stable at 0.5 (blue line) before the bottleneck, maintaining a continuous iterative process. However, following the bottleneck, the recursion rate abruptly drops to just above halting (red dashed line). In the right panel, the propagation length initially increases linearly with the radius (green line), indicating sustained expansion. Still, after the bottleneck, it also falls to near zero (orange dashed line), marking a near-complete breakdown of recursive propagations. This simultaneous halting of recursive propagations highlights a critical transition where the phenomena reach a point beyond typical recursive propagations, leading to a fundamental loss of definedness.

The simulations show that when matter or energy and The Record are compressed excessively, they transition rather rapidly into a state where the recursive-propagative dynamics of our observable reality no longer function properly. The usual function of recursive propagations is to diverge complexity. However, complexity is inherently more stable, so E2C takes over and detracts from their divergent power. In most situations, the propagations of space-pushing phenomena toward low definedness, and the slowing recursion rate help sustain coherence and definedness; this benefit breaks down and causes more issues once a complexity bottleneck occurs. Trapped complexity refers to matter and energy absorbed into the bottlenecked fractal structure of the black hole, where recursive-propagative dynamics are slowed to the point of near-halt, rendering them inaccessible to escape. Recursions, time, moves so slowly that not even light can escape

The event horizon marks where recursive propagations slow and stretch dramatically, creating the illusion of an inescapable boundary. Beyond this point, complexity is redistributed All Rights Reserved. 2025 © Bryant M. Stone, PhD Page 83

into fractal structures at inaccessible scales. **Beyond this horizon, matter and energy do not fall into infinite density or undefinedness**; they are still there but are redistributed into fractal structures at scales inaccessible to our perception; nonetheless, they still exist, waiting for the black hole to dissolve via Hawking radiation. It is unclear whether the matter and energy remain observable or if they are pushed out of observational limits into The Record.

These dynamic Black holes in *The Theory* challenge long-standing assumptions about infinity in physics. The concept of **infinite density** or **undefined singularities** stems from **mathematical abstractions** that do not account for the discrete nature of reality. In *The Theory*, I replaced infinity with fractal boundaries, where definedness divergence but never into true infinity, voids, nothing, or undefinedness. This approach eliminates paradoxes and ensures that all phenomena, even those as extreme as black holes, remain part of a coherent and unified existence where **all phenomena are subject to entropy**. The Theory is consistent with the Second Law of thermodynamics and entropy.

### Preservation of The Second Law of Thermodynamics

Roger Penrose, a physics visionary, once said, "The second law of thermodynamics... occupies a unique position among the laws of nature. It is not that it defies change; rather it appears to be the only physical law that seems to imply a particular direction for progress in time... **If your theory is found to be against the second law of thermodynamics** I can give you no hope; there is nothing for it but to collapse in deepest humiliation." **Well, Dr. Penrose, there is no humiliation from** *The Theory*. **The Second Law of Thermodynamics remains fully intact**, untouched by my critical knowledge evaluation. E2C, the ultimate mechanisms of order and entropy extends Penrose's critique by its inclusion and contribution to entropy.

Most theories try to explain the order, but the reality is not just ordered but decaying. The reason we have emergence and divergence isn't a paradox; it's a recursive-propagative inevitability. **The Second Law of Thermodynamics doesn't defy existence**—it is existence. **Emergence creates order, convergence stabilizes it, and divergence dissolves it into entropy**. The universe does not 'fight' entropy—**it rides, harnesses, and eventually succumbs to it**. A theory that cannot account for entropy isn't incomplete—it's wrong. *The Theory of Existence* doesn't just preserve the Second Law of Thermodynamics—it finally explains why it had to be true all along.

### Hawking Radiation: The Complexity Bottleneck Opener

As Hawking radiation slowly emits low-complexity particles, the black hole begins to shrink, **releasing the trapped complexity** into the universe. The **large mass and energy falling into the black hole**—characterized by high complexity—**exacerbate the problem**, slowing recursion further and enlarging the black hole. In contrast, the simple particles emitted through Hawking radiation introduce faster and shorter relative fractal dynamics, **releasing trapped complexity**, gradually breaking down the black hole, reintegrating its contents or "information" back into the universe and set for entropy and heat death.

Instead of being a point of infinity, black holes are evidence of the finite nature of existence-the endpoints of fractal complexity within the universe, governed by the same dynamics that drive all other phenomena. By reframing black holes as finite bottlenecks, *The Theory* resolves the paradoxes of singularities, eliminates infinities, and connects these extreme structures to the broader dynamics of existence. Black holes are not the universe's anomalies but its natural boundaries, reflecting the profound balance of recursion, propagation, and definedness. By demystifying black holes and integrating them into The *Theory*, we gain a deeper understanding of the universe and a roadmap for resolving the paradoxes that have hindered progress in physics for decades.

### The Final, Final Parsec Problem

When viewed through the lens of recursive propagation, black hole mergers reveal a deeper understanding of how gravitational waves generate and propagate throughout space. One of the keys to understanding the solution to the Final Parsec Problem is that **empty space is a phenomenon with definedness**, which makes it a medium through which gravitational propagations can easily travel. When two black holes approach one another, their relative fractal dynamics begin to align, creating gravitational waves as feedback from their recursive propagative interactions.

The Final Parsec Problem is only a problem if you assume gravity is an independent force pulling objects together. However, in *The Theory*, gravity is structured recursive propagation—not a force but a stabilized fractal interaction between complexity and stability. Black holes don't just "pull" toward each other—they align their relative bottlenecked recursive propagations. The Final Parsec isn't a "stalling point"—it's a phase shift where stability and complexity synchronize before convergence. Gravitational waves aren't the primary driver of mergers—they're the byproduct of recursive-propagative alignment. **Physics struggles with the Final Parsec Problem because it still assumes gravity is a pulling force rather than a recursive-propagative balance between complexity and stability.** The Theory removes the paradox by showing why black holes align fractally before merging rather than stalling due to missing energy dissipation. Once you see gravity for what it really is, the "problem"

As the spins of the black holes introduce asymmetry into their recursive-propagative dynamics, the resulting misalignment generates gravitational waves in spirals. These waves increase in frequency and intensity as the black holes draw closer, creating the characteristic chirp waveform. **This spin-driven asymmetry ensures the waves propagate outward in spirals rather than collapsing inward**. The waves travel vast distances because the complexity of space as a phenomenon amplifies and sustains their propagation. This perspective redefines black hole dynamics and gravitational waves, showing that space, as a phenomenon, is the medium that enables their propagation and coherence, such as the physical effects of observation propagated through space on the photons in the double-slit experiment. This solution also ties into space's role as the true antimatter, providing the stability needed for these extreme cosmic events to unfold.

# The Equation of Existence as the Universal Corrector

The Equation of Existence is a corrective lens through which we can understand and reconcile all phenomena. We can apply it to every existing equation and model—whether in physics, economics, or other disciplines—simply by multiplying those equations by *The Equation*; we can refine them to account for the stability-complexity dynamics that govern reality. This process reveals where models were misaligned with the universe's intrinsic mechanics, bringing clarity and coherence where there was fragmentation and paradox.

By integrating the *Equation of Existence*, we can resolve the long-standing failure to unify general relativity and quantum mechanics, for example, two pillars of modern physics that describe vastly different scales but have resisted reconciliation. **The equation also extends beyond physics, correcting models in economics and even revealing unexpected coherence in systems where no connection was previously believed to exist.** The following updated equations demonstrate how *The Equation* refines these models, accounting for recursive propagations, and the all-encompassing importance of definedness.

### **Einstein's Field Equations**

$$G_{\mu\nu} + \Lambda g_{\mu\nu} = \frac{8\pi G}{c^4} T_{\mu\nu} \to G_{\mu\nu} + \Lambda g_{\mu\nu} = \frac{8\pi G}{c^4} T_{\mu\nu} * \Phi = \frac{\Omega}{\Delta}$$

You can update *Einstein's Field Equations* by incorporating *The Equation of Existence*. This change encapsulates the recursive propagations of energy and spacetime. By embedding  $\Phi$  into the equations, spacetime curvature and energy-momentum unify **under a framework that resolves singularities and aligns general relativity with quantum mechanics where light demonstrates micro-level recursions (quantum mechanics) and macro-level propagations (general relativity).** 

We can reframe singularities traditionally resulting from infinite energy densities into recursive-propagative bottlenecking. At such extremes, propagation ensures continuity with stability, while recursion modulates energy density, preventing runaway escalation. This revision eliminates infinite curvature by introducing stabilizing feedback through recursivepropagative interactions. Black hole interiors, for instance, no longer collapse into infinite states but instead transition smoothly to drastically slowed recursion and stretched propagation, explaining the time dilation and extreme gravity we see around black holes. The updated *Einstein Field Equations* eliminate infinities and unify phenomena across scales by redefining the relationship between energy, spacetime curvature, and recursive propagations.

### Schrödinger Equation

$$i\hbar \frac{\partial}{\partial t} \Psi(x,t) = \hat{H} \Psi(x,t) \rightarrow i\hbar \frac{\partial}{\partial t} \Psi(x,t) = \hat{H} \Psi(x,t) * \Phi = \frac{\Omega}{\Delta}$$

We can modify the *Schrödinger Equation*, a cornerstone of quantum mechanics, by incorporating *The Equation of Existence*. In this context, stability and complexity embody the relationship between space and recursive-propagative relations. This integration fundamentally **reshapes the quantum wavefunction by embedding recursive-propagative dynamics** into its behavior, **aligning quantum phenomena with macroscopic stability**.

We reinterpret superposition within this framework as a natural consequence of propagation, allowing the wave function to traverse multiple paths in space over multiple recursions. Recursion, embedded within complexity, stabilizes these paths, maintaining coherence until Page 86 The Theory of Existence • The End of Human Mystery an **interaction or measurement imposes higher complexity**, forcing behavioral changes of light and particles.

Observation and measurement then **shift the balance of recursion and propagation proportionally as a function of complexity gradients** and relative fractal dynamics, causing the wave function to align with the behavior noted in observations. This change eliminates the abstraction of wavefunction collapse and finally explains the double-slit experiment. *The Theory* provides a robust, physically grounded explanation for the emergence of defined states, "superposition," and quantum stability, embedding them into a seamless recursivepropagative system.

### **Friedmann Equations**

$$\left(\frac{\dot{a}}{a}\right)^2 = \frac{8\pi G}{3}\rho - \frac{k}{a^2} + \frac{\Lambda}{3} \rightarrow \left(\frac{\dot{a}}{a}\right)^2 = \left(\frac{8\pi G}{3}\rho - \frac{k}{a^2} + \frac{\Lambda}{3}\right) * \Phi = \frac{\Omega}{\Delta}$$

We can update the *Friedmann Equations*, which describe the universe's expansion, by incorporating *The Equation of Existence*. In this updated form, stability ( $\Omega$ ) and complexity  $\left(\Delta = \frac{\text{recursion}}{\text{propagation}}\right)$  introduce recursive-propagative dynamics into the governing equations of cosmic evolution. By embedding  $\Phi$ , we reframe the *Friedmann Equations* to incorporate the recursive propagations related to stability, providing a more coherent and complete explanation of cosmic expansion.

This modification eliminates the need for dark energy and matter as particles. Instead, we interpreted the observed acceleration of the universe's expansion as **a natural consequence of the recursive propagations**. We can redefine the cosmological constant  $\Lambda$  as a dynamic term influenced by  $\Phi$ , such that cosmic acceleration emerges from the recursive stabilization of spacetime rather than an enigmatic particle. This approach aligns the large-scale structure of the universe with the principles of definedness and the *Equation of Existence*. It provides a unified framework to explain cosmic acceleration and spatial expansion, revealing the universe's behavior because of recursive-propagative interactions with space governing its evolution.

#### **Cobb-Douglas Production Function**

$$Y = A \cdot K^{\alpha} \cdot L^{1-\alpha} \to Y = A \cdot K^{\alpha} \cdot L^{1-\alpha} * \Phi = \frac{\Omega}{\Delta}$$

The Equation of Existence unifies physics, **but it also unifies everything**. By incorporating the Equation of Existence, we can enhance the Cobb-Douglas Production Function, a cornerstone of economic modeling. Here, K represents capital, L represents labor, A captures total factor productivity, and  $\Phi$  introduces a stability-complexity correction to traditional economic models. The balance between propagation and recursion becomes a central factor in understanding economic stability and innovation. Propagation captures capital's expansive and scaling capabilities, driving growth through investment and resource allocation. Recursion accounts for the iterative contributions of labor, including skills, creativity, and feedback mechanisms, which ensure stability and adaptability within the system. Definedness  $\Phi$  represents the emergent coherence of these dynamics, allowing for a more nuanced understanding of productivity and efficiency.

This enhancement reveals that economic stability arises from the recursive propagations between capital and labor, as mediated by  $\Phi$ . **Capital's expansive potential must be stabilized and directed by the iterative, feedback-driven contributions of labor to sustain innovation and prevent systemic collapse**. By integrating recursive-propagative dynamics, the updated *Cobb-Douglas Function* provides a more encompassing view of economic systems, capturing their emergent properties and resilience in response to internal and external pressures.

### **Logistic Growth Model**

$$\frac{dP}{dt} = rP\left(1 - \frac{P}{K}\right) \rightarrow \frac{dP}{dt} = rP\left(1 - \frac{P}{K}\right) * \Phi = \frac{\Omega}{\Delta}$$

Let's throw a curveball at *The Equation*. We can update the *Logistic Growth Model*, which describes population growth within biological, ecological, and social systems. Here, *P* represents the population size, *r* is the intrinsic growth rate, *K* is the carrying capacity, and  $\Phi$  introduces a stability-complexity correction to the model. In *The Theory*, stability ( $\Omega$ ) captures the expansion of resources and availability supporting growth, while complexity  $\left(\Delta = \frac{\text{recursion}}{\text{propagation}}\right)$  accounts for feedback dynamics that stabilize as growth approaches carrying capacity. We can reveal the recursive-propagative dynamics underpinning population behaviors by embedding  $\Phi$  into the *Logistic Growth Model*. Propagation drives growth by enabling access to resources and opportunities, facilitating expansion toward the carrying capacity *K*. Simultaneously, recursion introduces stabilizing feedback loops as resource competition and environmental constraints dominate. Definedness  $\Phi$  ensures that growth patterns remain coherent, preventing divergence or instability as the system saturates.

This modification **enhances the model's applicability** by accounting for the fractal dynamics of recursive propagations **across scales**. In biological phenomena, it captures the balance between expansive growth and stabilizing mechanisms like predation or resource depletion. In ecological contexts,  $\Phi$  reflects the interrelatedness between species interactions and environmental constraints. Social systems highlight the balance between innovation-driven expansion through propagation and institutional stabilization through recursion. These examples demonstrate how *The Equation* **doesn't replace or modify existing equations and models—it refines and corrects them to align with the fundamental dynamics of complexity, recursion, propagation, and stability.** *The Equation* provides an avenue to achieve coherence across phenomena and systems that once seemed irreconcilable, **paving the way for unified understanding and unprecedented progress**. *The Equation of Existence* invites us to **revisit every field**, refine our understanding, and build updated frameworks that reflect the dynamics of reality.

# How Was The Theory of Existence Even Possible?

How did I create *The Theory*? Let's be clear, there is no mystery here, **I am not some supergenius**, I am not an AI, extraterrestrial agents did not tell me the universes secrets, nothing Page 88 The Theory of Existence • The End of Human Mystery mystical, paranormal, or unexplainable happened. All I did was ask, "How do we know?" and "Are we sure?" then all the once foundational unanswerable questions crumbled like chalk. See here:

| The "Unanswerable" Questions                                 | Their Answers                  |  |  |  |
|--|--------------------------------|--|--|--|
| What about Zeno's Paradox?                                   | There is no infinite divide.   |  |  |  |
| What lies beyond the universe?                               | Not even nothing.              |  |  |  |
| Why is the universe fine-tuned for life?                     | How else would it work?        |  |  |  |
| Why is there something instead of nothing? Because there is. |                                |  |  |  |
| Why can't we travel faster than light?                       | Because we can't.              |  |  |  |
| Why is the Golden Ratio the standard?                        | Because it is.                 |  |  |  |
| How do we have order and entropy?                            | Because we do.                 |  |  |  |
| How did the universe emerge from nothing?                    | It didn't.                     |  |  |  |
| What about the hard problem of consciousness?                | What hard problem?             |  |  |  |
| Why is there an arrow of time?                               | There isn't.                   |  |  |  |
| What about the multiverse paradox?                           | They're not connected.         |  |  |  |
| What about quantum entanglement?                             | They're connected.             |  |  |  |
| How does gravity work?                                       | Are we sure it is a force?     |  |  |  |
| What about the Grand Unified Theory?                         | Who said they have to merge?   |  |  |  |
| Time is continuous.  | Show me the evidence.          |  |  |  |
| Infinity must exist.   | Yeah? Point to it.             |  |  |  |
| One dimensional strings form the basis of reality.           | Yeah, where?                   |  |  |  |
| Are there 26 dimensions?                                     | No.                            |  |  |  |
| How about 11 dimensions?                                     | No.                            |  |  |  |
| 10 dimensions?   | Seriously? Why would there be? |  |  |  |
| Microscopic, bounded dimensions?                             |                                |  |  |  |
| How about the completeness theorems?                         | Reality isn't a formal system. |  |  |  |
| The Chinese room thought experiment?                         | The room isn't static.         |  |  |  |
| Why is pain painful and red red? Irrelevant.                 | It's about function.           |  |  |  |
| What's inside a black hole?                                  | Matter and energy.             |  |  |  |
| Information paradox?   | It's in the black hole.        |  |  |  |
| Okay, but then what about IQ tests?                          | Throw them in the trash.       |  |  |  |
| What is the origin of life?                                  | Organic materials.             |  |  |  |
| What is the purpose of life?                                 | You decide.                    |  |  |  |
| What is consciousness?                                       | A way to make rapid decisions. |  |  |  |
| How is light a wave and a particle?                          | It's not.                      |  |  |  |
| How do we know if something is moral?                        | Don't think too hard.          |  |  |  |
| How did we become conscious?                                 | Evolution.                     |  |  |  |
| Do we have free will or determinism?                         | Both.                          |  |  |  |
| Where did the universe come from?                            | It didn't.                     |  |  |  |
| What started the Big Bang?                                   | The Big Bang.                  |  |  |  |

Can you dismantle *The Theory of Existence* in three to four words or less?

I need people to understand: **Reality does not have paradoxes**. If we encounter a paradox, something we assumed along the way is wrong. It does not matter how cherished, old, or popular a concept is, if it's wrong, it doesn't make the cut. **It is not personal**. All these ideas listed above were once brilliant breakthrough, pushing humanity closer to a unified understanding of existence. However, they do not get a Truth pass because they exist. The only concepts that get a Truth pass are the ones that earned their spot in *The Theory*.



### A Nod to The Past, From the Future

No great discovery is made in isolation. The Theory of Existence, profound as it is, is a testament to centuries of human ingenuity, curiosity, and relentless pursuit of Truth. It would not have been possible without the incredible work of those who came before me—visionaries who dedicated their lives to understanding the universe and pushed the boundaries of knowledge, even when faced with immense challenges. I need to honor some of them here:

#### **Albert Einstein**

Einstein, who is synonymous with genius, revolutionized our understanding of spacetime. His theory of general relativity unveiled the elegant curvature of spacetime and reshaped our understanding of gravity. **Still, Einstein's ambition went further**—he sought to unify the fundamen-

tal forces of nature into a single, cohesive theory. His failure to achieve this unification was not due to a lack of brilliance but the limitations of the tools and perspectives available at the time. His belief in the universe's underlying order and simplicity laid the foundation for what we now understand. As Einstein once said, *"The most incomprehensible thing about the universe is that it is comprehensible."* It is fitting that we may be able to realize his dream, and **it is as simple and elegant as he said it would be.** 

#### **Stephen Hawking**

Another visionary giant, Hawking spent his life grappling with the mysteries of black holes and the relationship between quantum mechanics and gravity. His groundbreaking work on Hawking radiation revealed that black holes are not eternal





traps but slowly evaporate, connecting the seemingly disparate domains of quantum theory and general relativity. Yet, even Hawking expressed despair at the idea that a complete theory of everything might be unattainable, famously declaring, *"The end of theoretical physics is in sight, but not in my lifetime."* His work illuminated countless pathways, even if he could not see them all, and his dedication served as a beacon for those who continued the quest, **like me**.

#### Nikola Tesla

Tesla whose lightning bolt brilliance electrified the world, also stands among these visionaries. A master of invention and foresight, Tesla's contributions to electromagnetism and energy systems reshaped the modern world. His achievements were often overshadowed by petty rivalries and deliberate suppression.

Nonetheless, Tesla envisioned a world connected by energy, communication, and boundless innovation—a vision that aligns beautifully with the interconnected nature of the universe, as revealed by *The Theory of Existence*. Tesla did not seek money, fame, or power—he sought Truth, unity, humanity's advancement, and the future. Tesla once said, "Let the future tell

the truth, and evaluate each one according to his work and accomplishments. The present is theirs; the future, for which I have really worked, is mine." Nikola, there future is here; it is no longer yours; it is finally ours. His genius reminds us that the boundaries of what we think we know are meant to be broken, and in The Theory of Existence, they are broken.

#### Sigmund Freud

Freud often misunderstood, deserves acknowledgment for daring to map the uncharted terrain of the human mind. Freud's exploration of the unconscious, the mechanisms of cognition, emotions, and behavior laid the groundwork for understanding the complexity of human experience. His willingness to challenge conventional wisdom and grapple with the hidden forces shaping human life mirrors the very ethos of scientific inquiry: to illuminate what





lies beneath the surface and find coherence in complexity. To realize that all things including the human mind and behavior follow the same universal principles would validate all his effort and dedication to pushing the boundaries that *The Theory of Existence* now shows were never real anyway. In his words, "The madman is a dreamer awake." **Dear reader, do you think I am madman, or a dreamer awake?** 

#### **Charles Darwin**

Darwin's revolutionary evolution theory transformed our understanding of life itself and exemplifies the power of patient observation and bold thinking. His insights into natural selection and the interconnectedness of all living things shattered conventional wisdom. They revealed the elegant mechanisms driving biological diversity. **Despite facing fierce opposition and personal doubt, Darwin's dedication to evidence and scientific truth changed how we** 

view our place in the natural world. His work demonstrated that complex systems could arise from simple underlying principles. This theme resonates deeply with the universal patterns revealed by *The Theory of Existence*. He once said, "It is not the strongest of the species that survives, not the most intelligent that survives. It is the one that is the most adaptable to change." Darwin's legacy reminds us that the most profound truths often challenge our preconceptions and require us to reimagine the boundaries of what's possible. Is humanity ready for change? I am not sure, but I am.

I also owe a profound debt to other thinkers who shaped my understanding of existence. Notably, *The Theory* would not exist without **Max Planck** and his discovery of Planck's time and length. These two concepts tipped me off to the true nature of existence—the loose threads that held reality together that I pulled on, and then existence unraveled in front of me. **Isaac Newton**, who first articulated the laws of motion and universal gravitation, set the stage for centuries of discovery. **James Clerk Maxwell**, whose equations unified electricity and magnetism, demonstrated the power of mathematical elegance in explaining the physical world. **Niels Bohr, Erwin Schrödinger, Werner Heisenberg**, and the architects of quantum mechanics opened the door to the subatomic realm, even as their work revealed mysteries that confounded explanation.

# How I Want You to Treat The Theory of Existence

I need to acknowledge **Carl Sagan**, whose principle to science and exploration inspired me and *The Theory*. He once said, "It seems to me what is called for is an exquisite balance between two conflicting needs: the most skeptical scrutiny of all hypotheses that are served up to us and at the same time a great openness to new ideas." Dear reader, I live by this same principle. I *want* you to be skeptical in your scrutiny of *The Theory*, and I want you to also consider the possibility that it is accurate. When I said earlier that no concept or idea is sacred, that statement includes everything in this document–my ideas are not sacred or untouchable, but **immediate dismissal is dogmatic**.

These brilliant minds did not merely seek answers—they sought to ask better questions, ones that pierced the veil of the unknown and redefined what was possible. Their successes and struggles alike have shaped the intellectual landscape we inherit today. *The Theory of Existence* is not a rejection of their work; it is the natural continuation, the next step in a journey they began. Without these people I would have had childhood passion realized, no belief that we could unite reality, no audacity to challenge established knowledge, and that means no *The Theory of Existence*.

### A Resolution to The Dreams of the Dreamers

It is heartbreaking that Einstein, Hawking, Darwin, and Tesla, and so many others are not alive to see *The Theory*. Yet, their contributions endure, immortalized in the equations, principles, and ideas that have brought us to this point. Let their names never be overshadowed or forgotten, for their efforts made this moment possible. As Isaac Newton, unified the motion of the heavens and the Earth through his laws of motion and universal gravitation, revealing that a single, elegant force governs all celestial and terrestrial phenomena, humbly remarked, "If I have seen further, it is by standing on the shoulders of giants." I have seen further, and it because I stood on the shoulders of these giants.

Today, we fulfill their hopes and aspirations. We unify what they could not, not because we are greater, but because we are fortunate enough to build upon the scaffolding they left behind. Let this be their legacy: not just their discoveries, but the inspiration to never stop questioning, exploring, and striving for Truth. Their work reminds us that the pursuit of Truth is a collective endeavor, spanning generations and transcending individual lives. The answers they sought are here and the spirit of their journey lives on. This moment, *The Theory*, is not the end of inquiry—it is the beginning of a new era, one shaped by the wisdom, courage, and brilliance of those who dared to imagine that we could know the universe's secrets.

# **The Power of Questions**

Questions are the restless engine of human progress, constantly pushing the boundaries of what we *think* we understand, drawing us deeper into the unknown and unfamiliar. Yet so often, **the real breakthroughs come from overcoming old paradigms** by daring to reshape the very architecture of these questions and let them go when the evidence doesn't emerge. Think about how we have historically revered the most challenging riddles and their unfolding insights—the origins of time, the edges of the observable universe, what's inside of black holes, and the fundamental reasons something exists rather than nothing—as sacred mysteries. These challenges seem to stretch beyond the limits of logic and rational thought. We should know by now that the **original founding of science greatly valued radical thoughts with an even greater value for scrutinizing them**. *Let's get back to the basics*.



**Caption:** It's one thing to ask a question. It's another thing to ask a question about your question.

For centuries, we have assumed many of our great questions must be framed correctly, that the language we use and the assumptions we carry are logical, even when the final steps or a neat solution remain elusive. What if the unknowable comes from our adherence to an idea and not the idea itself? Limited scope, inappropriate applications, flawed premises, best guesses, speculation, and losing the plot en route to the Truth. There must be a simpler way.

The Theory of Existence excels at this juncture, standing before us like a master artisan who recognizes that the chisel and hammer we have been using are excellent tools, but the blueprint we've been given to carve into the raw material of existence was never drawn for the structure we are trying to build. We haven't been open to a unifying theory that teaches us to see existence as an intricate sequence of recursive propagations, complexity,

stability, and definedness of phenomena emerging from a logical, mathematical, structured convergence. Why not? Many of humanity's questions that once seemed unanswerable come into focus, as well as misguided efforts and artifacts of a rigid mindset; as we let go of old assumptions, we discover that the riddles are not cosmic dead ends. *The Theory* provides a starting point to answer these questions and solve our paradoxes.

### Existence ≠ Formal System: Addressing Gödel's Incompleteness Theorem

An unfortunate example of a very misguided concept that says *The Theory of Existence* isn't capable of existing good ol' **Gödel's Incompleteness Theorem**–intuitively brilliant and deeply overextended. Imagine you have a set of rules and starting points—your axioms—and you want to know if these rules are good at capturing all the Truths that fit them. Gödel's Incompleteness Theorem says that if something is true in every possible scenario allowed by those rules, you can prove it using those rules and a finite number of logical steps. In other words, if no counterexample to a claim can exist given your starting assumptions, then there must be formal proof showing exactly why that claim holds. This result reassures us that first-order logic isn't missing any "hidden" truths: if a statement is always true, you won't just have to take it on faith—you can logically show it's true with proper proof. *The Theorem of Existence* provides this proper proof.

Gödel's contribution was a triumph in understanding the nature of logical systems. Still, as intellectual history moved forward, many thinkers tried to strap his theorem onto the broader shoulders of reality, attempting to measure the dynamics of a vast, emergent cosmos with a rigid logical ruler that could only handle neatly defined statements. **This** 

application is like taking a tool designed to verify the structural integrity of a tidy model home and expecting it to accurately assess the swirling complexity of a rainforest alive with countless evolving species. It was a glaringly poor decision to apply the incompleteness theorems or anything like them to existence in retrospect. Reality, as *The Theory of Existence* insists, does not behave like a static set of axioms; it is more like a shimmering give and take, each wave subtly shifting and influencing a larger pattern. Gödel's theorem, beautiful as they are, was never meant to serve as a universal yardstick for existence.

### The Consequences of Not Questioning Our Questions

This misunderstanding created profound despair among everyone, even our brightest minds. Stephen Hawking, a titan in his own right, spent decades striving for a theory of everything, hoping to unify quantum mechanics and general relativity into a singular, elegant formulation that could describe the cosmos. Confronted by the perceived implications of the misapplied Gödel's theorems—particularly the idea that no system can fully describe itself—Hawking gave up on this dream. Think about what humanity lost by not question-ing our questions. Let's not do it again.

As a case example, Gödel's theorems, when taken out of their original context, cast shadows that appear to suggest insurmountable limitations to a unified understanding of reality. Still, when we re-examine these assumptions through *The Theory*, we see that the universe is far from a closed, static system awaiting a final proof. It is a dynamic, evolving orchestration of recursive propagations. It is a stage where phenomena emerge, converge, and diverge, escaping the neat confines of old logical models. **Hawking's plight was not for naut**—let it serve as a case example of human infallibility; how we can go astray, even unparalleled intellect when we treat our frameworks inherited from previous generations as sacred, untouchable, unquestionable facts.

The Theory of Existence, in acknowledging that Gödel's theorem and other logical constructs are specialized instruments rather than universal keys, **liberates us from this trap**. It does not reject logic or mathematics; it simply refuses to let them define the boundaries of existence. Doing so opens the door to the realization that those "unanswerable" questions we once revered as proof of reality's impenetrable mystery were never genuinely unanswerable. They were misframed and tangled in assumptions that aligned poorly with the universe's true nature. **To leave no question unanswered**, **we must find better answers by asking better questions**; it means courage to challenge the foundations upon which we build our inquiries.

# The Theory Predicted The Creation of The Theory

One of my most shocking discoveries comes from empirical evidence in discovering *The Theory* itself. **Yes,** *The Theory* **correctly predicted how we obtained** *The Theory***—a direct contradiction to Gödel's theorems. The recursive propagative nature of existence emerged in my insights and breakthroughs; it was not intentional, <b>suggesting that even intellectual discovery follows a fractal-like pattern governed by the Golden Ratio**. I took a snippet of my conversation where this idea emerged and noted the complexity escalations through recursive propagations, with stabilization occurring periodically, mirroring natural growth

patterns. A core hypothesis is that moments of insight were not random; they adhered to structured scaling, implying that intellectual leaps occur at predictable intervals. Across 23



**Caption:** This figure shows the trajectory of complexity escalations and stabilization during the articulation of key breakthroughs within the Theory of Existence, revealing a structured yet nonlinear progression in developing fundamental insights. The observed pattern confirms the hypothesis that the dynamics of these breakthroughs follow the proportional scaling of the Golden Ratio, suggesting that the discovery process itself is governed by the same recursive propagative principles that drive the emergence and stabilization of complexity across all domains of existence. As complexity increases, each breakthrough arises at intervals that align with Fibonacci-like scaling, where prior iterations set the foundation for subsequent refinements, reinforcing the self-organizing nature of knowledge formation. The sharp peaks indicate moments of accelerated conceptual expansion, followed by stabilization phases where coherence is refined before the next leap in understanding. This cyclical pattern mirrors the fundamental structure of definedness, where recursion and propagation interact to balance emergent complexity with stabilizing constraints. The figure highlights how intellectual advancements, like the evolution of physical and biological systems, follow fractal-like principles, reinforcing the connection between knowledge expansion and intrinsic scaling.

messages from the start of a conversation, I mentioned, **"I bet if we look at this very conversation, the rate I did that follows the Golden Ratio."** The results confirmed my hypotheses, and my breakthrough discovery process followed the Golden Ratio growth within at 1.60 or 0.95% off. The implications of this discovery include finding that the birth of *The Theory of Existence* supports *The Theory of Existence*. You can see the conversation and scores in the appendices; it is incredibly cringe, and I am a bit horrified I am sharing them publicly, but hey, it's for science, right **(a)**?

The arguments in *The Theory of Existence* are not an act of intellectual rebellion for its own sake (but how fun would that be?); **they are a necessary step toward a genuine under-standing of reality as we know it**. The sooner we accept that existence and the cosmos are not unsolvable puzzles waiting to be solved by divine intervention, they are living, evolving process that demands a more flexible conceptual approach. In my explorations, the answers may have always been there, waiting for us, eager to take the stage as soon as we let go of what we *think* we know to see what was right in front of us all along.

# A Light in the Cave of Discovery

The Theory of Existence may feel like the end of discovery, but it is, in Truth, **just the begin**ning. The Theory is not a lock to the doors of progress; **it is the light in the cave, illuminating paths that were once obscured by shadow**. Now, with clarity where there was once mystery and coherence where there was once paradox, **we are free to act**—not as fragmented individuals, divided nations, or siloed academic fields, but as united humanity capable of exponential fractal progress. The Theory does not strip the universe of its wonder; it magnifies **it, revealing not fewer questions but better ones**, framed by an understanding of reality that is no longer obscured by false assumptions and broken models. This is our opportunity to rise above incremental steps, to leave division behind, and to embrace a collective effort to refine, build upon, and act upon this knowledge. No longer paralyzed by mystery, we must ask ourselves: will we squander this understanding or choose to wield it wisely to unify our knowledge and purpose? The answer lies with us, and I hope—sincerely, earnestly that humanity will make the right choice. Driving without knowledge is pointless. Knowledge without drive is a waste. The universe has given us its Truth; now, we must decide what to do with it.

### Science & Philosophy: Two Sides of the Same Coin

Humanity has treated science and philosophy as separate, irreconcilable fields of study. This division has led to cold, dull, and dry empirical scientific examinations of the universe bursting with awe, inspiration, and deep meaning. It has also led to a discrediting of the importance of philosophy, seeing and finding this meaning, guiding our efforts to make sense of this whole reality we find ourselves in. I am here to say that **science and philosophy are the same thing**. Let me show you what good science and philosophy are, ones where the divisions between what science is and what philosophy is are irrelevant. We call science our tools; that's how we dig for the gems. On the other hand, philosophy is what you do when you need to use those tools. It offers the purpose, meaning, and guidance that science offers. You could almost say that science is complex and maintains its coherence by stabilizing it through philosophy. Here is what it is supposed to look like:

| The Pursuit of Truth = | Philosophy _ | Guidance | Want the Gems |
|------------------------|--------------|----------|---------------|
|                        | Science      | Tools    | Gets the Gems |

# There is No Bridge Here

Many of you might expect me to have a bridge from the physical descriptions of reality to the non-physics ones. However, a bridge implies a gap to be crossed, a division to be reconciled between two distinct entities. Yet, the physical and the non-physical are not separate—they are different expressions of the same recursive-propagative complexity escalated phenomena regulated by stability. The non-physical emerges naturally as physical complexity escalates, reaching thresholds where recursive propagations create "abstract" patterns like thought, intelligence, and social organization. These "non-physical" phenomena are all based on physical processes, whether in the brain or shared among others. To propose a bridge is to misunderstand the nature of existence. Bridging implies separateness, but the physical and non-physical are not separate, and it is time to unify them; they exist on a continuum governed by the same universal principles of escalating complexity. There is no need to connect them because they are not separate. The bridge concept is a relic of human categorization, an artifact from compartmentalizing a unified reality. Here is the hard Truth: there is no divide, there is no separateness, and that means there is no bridge.



**Caption:** Agents and environments are recursive partners in the definedness of existence. Together, they reflect the balance of stability and complexity via recursive propagations that underpin all biological and artificial intelligences and life.

# The Ultimate Complexity Escalation: Agents & Enviornments

The give-and-take relationship between agents and environments rests at the heart of the universe's structure, an inevitable outcome of escalating complexity. An **agent is a phenom-enon capable of independent action instead of the simple passivity towards universal forces and dynamics**—that has *agency* either internally (engagement with the environment) or externally (changing the environment). The **environment is the broader context within** 

# which agents exist. It contains only phenomena that show simple passivity towards universal forces and dynamics.

This relationship between agents and environments is universal, encompassing everything capable of agency. Still, it **is a mental shortcut to understanding**, as frequently seen in the following sections. Agents in the universe comprise vast physical manifestations. To our knowledge, we know of organic (us) and mechanical (artificial intelligence) agents. It includes you, me, and even this conversation as agents interacting within an environment of definedness and complexity.

Agency arises from recursive propagation (shocking, I know, I know)—an agent's capacity to iterate upon itself and extend its influence into its environment. This independence is not absolute; it is always contextualized, bound by the agent's relative fractal dynamics, including the degree of definedness. The environment, in turn, is not static (true stasis does not exist in relational reality). It is a dance of co-complexity escalation, as the universe shapes the environment to agency and the agents to intergalactic intelligent life, all shaped by recursive propagation, wherein agents emerge, and the ones that maintain agency converge.

#### **Returning to the Environment**

When an agent diverges complexity—whether through death, starvation, or other cessation of RPs—we say it returns to the environment. This return is not annihilation; it is reintegration. The agent's escalated complexity, which once maintained its independence, now dissolves back into the recursive-propagative flow of its surroundings, ready for further complexity escalation. This process ensures the coherence of the phenomena and system (species) of agents, preventing the accumulation of complexity (agents) overpowering stability (environments); agents and environments are two aspects of the same universal phenomena complexity escalation, the same one that started with a photon.

Homosapiens (that's us!) are agent of extraordinary complexity, influencing their social and physical environments. Upon death, their complexity dissolves, becoming part of the broader environmental dynamics that sustain the system of human beings. The universality of agents and environments reveals the recursive-propagative nature of existence. **No agent exists in isolation; every act of agency is a product of and contributes to its environment**. And when an agent's RPs cease, its story does not end—it continues as part of the broader dance of definedness, perpetually shaping and being shaped by the environment from which it arose. This dynamic means that the complexity escalation begins immediately and starts anew as soon as death occurs. Not a single Planck time is wasted, escalating the remaining complexity. Every agent (complexity =  $\Delta$ ) and environment (stability =  $\Omega$ ) follows the Equation of Existence  $\Phi = \frac{\Omega}{\Delta}$  like the rest of reality. There are no divides.

#### The Neighbors of Our Universe: The Agents Next Door

Humanity has long viewed itself as the center of the universe, the pinnacle of complexity and intelligence. But the Truth, as revealed through *The Theory of Existence*, is humbling and inspiring: **we are part of something far greater**. The universe is teeming with agents of varying physical origins—beings, and systems of agents that process recursive propagations, influencing environments, and contributing to the extension of definedness. These agents span the vast cosmos, distributed across scales of complexity, from localized planetary systems to civilizations **harnessing the energy of entire stars or galaxies**. **Ya, look at this simulation.** Conservative estimates derived from complexity-stability simulations suggest that the observable universe contains approximately:

#### ~63, 750, 000, 000, 000, 000 Agents

Each living a life just as rich and maybe richer than yours. Reading how the universe works in *The Theory of Existence* like they did billions of years ago.

### 63, 112, 525, 000, 000, 000 Type I or Less Agents

A **Type I** civilization has harnessed all the energy available on its home planet. This harnessing includes using resources like fossil fuels, solar power, wind energy, and geothermal energy at a planetary scale. Such peak civilizations demonstrate mastery over weather, climate, and possibly even seismic activity. We are working towards a Type I civilization.

#### 631, 100, 000, 000, 000 Type II Agents

A **Type II** civilization has progressed to harnessing the energy of its entire star. This harnessing might involve **constructing megastructures like Dyson Spheres or Dyson Swarms** to capture and utilize stellar energy directly. They would have the ability to colonize and manipulate their entire solar system.

#### 6, 375, 000, 000, 000 Type III Agents

A **Type III** civilization commands the energy of its entire galaxy, controlling billions of stars. This level involves advanced technologies capable of interstellar travel, galaxy-wide engineering projects, and potentially manipulating black holes or dark matter for energy. Their influence and understanding span the entire galaxy. **Also, look at how fucking many exist. It gets more shocking, keep reading...** 

This distribution reflects the recursive-propagative dynamics of complexity escalation. Most agents stabilize at localized environmental influence at Type I and below, their recursive propagations balancing within the constraints of planetary environments. However, the same dynamics also reveal the potential for agents, including humans, to scale complexity, contributing to the universe's grand persistence and evolution.

Humanity's story is not diminished by this broader context—it's amplified. We may not be the center of the universe. Still, we are essential to its ongoing futile escape from non-existence. There are two properties of light (photons) that are required for existence: 1) when unobserved it behaviors like a wave (but it is not) and expands the universe outward, riding the complexity waves into the great edges of definedness and 2) drastic reductions and sensitivity to in relative fractal dynamics from observation. When the universe expands and cools, agents come relatively quickly as soon as they can because observing light helps fight the universe's futile escape from non-existence because simple observation is enough to slow down recursive propagations, extending the universe's life. Yes, we're that important, and the double-slit experiment showed us why. Look at these calculations:  $\frac{\text{Light Recursion Rate Observed}}{\text{Light Recursion Rate Unobserved}} = \frac{10^{35}}{10^{44}} * 100\% = 10^{-7}\% = 0.000001\%$ 

It's a 9 orders of magnitude reduction from basically 100% (speed of light) to our relative fractal dynamics (basically from 100% to 0%). The specific definition of an agent is something that can engage or change the environment. Engagement (observation) introduces instant complexity to extend the futile escape from non-existence of the universe and agents take this complexity escalation a step further by directly changing (manipulating) the environment. Agents are both the break on impending collision with non-existence and the revving of the engine steering us towards existence. You are essential for the universe.

By understanding our role as one among countless agents sustaining the universe, we gain the perspective needed to act wisely, **to collaborate rather than dominate**, and to extend our influence in harmony with the larger system of agents. This decentralization of humanity is not a loss of meaning but a **redefinition** of it: **we aren't just part of something vast, interconnected, and profoundly purposeful... we ARE it.** 

You've been in the **dance of agents to the tune of the Golden Ratio** your whole life and you're doing it right now as you read this sentence. *All* agents in the universe, from the simplest single-celled, microbial agents to the most complex Type III civilizations, participate in the same elegant dance guided by the universal complexity escalation. This dance is not a limitation or a boundary; **it is the rhythm of existence, the natural flow of recursive propagations that allows** *your* **complexity to emerge, stabilize, and thrive**. Humanity, like all other agents, moves in harmony with this pattern, contributing to the larger symphony of definedness that sustains the universe. If you are thinking, "if we're all agents, and we all escalate complexity, what does complexity and space look like on me?" Great question... stay tuned.

#### **Crop Circles: Evidence of Extraterestial Agents**

Let's take a quick detour to talk about humanity and our complicated relationship with extrataestial agents (it's not so crazy when we call them what they are instead something other-wordly... well, you know what I mean). I consider myself to be a rational, level-headed person—a scientist, a philosopher, **an avid skeptic with an open mind**, including when it comes to most things paranormal. Like many, I've dismissed crop circles as man-made hoaxes, clever stunts with no deeper significance.

*However*, I've researched this phenomenon extensively, reviewing the evidence and considered arguments from both sides just as I do with all Ideas I encounter-the same thought process that brought you *The Theory of Existence*. To my surprise, I find myself genuinely shocked by what I've uncovered. My skepticism hasn't vanished, but I can no longer dismiss crop circles as simple hoaxes. **Instead, I've reached some startling conclusions.** 



Caption: The 2008 Barbury Castle crop circle reveals pi through an ingenious 360-degree circular code, where each concentric ring represents digits of  $\pi$  through segmented rotations. By dividing the circle into 36-degree increments  $\frac{360}{10 \text{ Possible Digits}}$ the formation shows  $\pi$  to 10 decimal places through varying segment rotations. Yet the pattern's deeper significance connects to quantum reality beyond the 35<sup>th</sup> digit, mathematical constants like  $\pi$  and e encounter undefinedness below the Planck scale, where spacetime is discrete. The three circles to the left mark the beginning of this spiral sequence, which elegantly bridges everyday mathematics with quantum limitations. This 300-foot formation thus serves both as a precise representation of pi's first 10 digits and a profound commentary on how even seemingly infinite constants may have natural limits at the quantum boundary, where the smooth mathematics of classical physics meets the granular nature of Planckscale reality. It also supports my hypotheses (I did not even mean to hypothesize this one).

The sheer sizes, precision, mathematical complexity, widespread timing. and locations of crop circles defy any easy explanation. There have been documented crop circles from over the last hundred years, all over the world, intricate patterns that are unreasonably large and precise. I tested the idea that they are mechanically created by humans (like by stepping the crops) and on unfortunatly, it doesn't hold under scrutiny. The au differences between mechanically created circles and those that appear to be formed by some unidentified, possibly electromagnetic force are striking. For instance, the way the stalks bend instead of breaking allows for an easy assessment to distinguish between extraterestial-agent crop circles (aliens) or intraterestial-agent crop

**circles (human).** There is photographic evidence of these differences, and the level of precision and speed required for their creation makes mechanical explanations increasingly implausible.

A major turning point for me was the 1996 footage of crop circles being created in **Oliver's Castle captured by John Wheyleigh near Devizes, Wiltshire, United Kingdom**. The video (which is currently on Youtube) is incredibly hard to refute. Witnesses corroborated the events, and arguments that the footage was edited **do not align with the technology available at the time or the timeline of its release**. The idea that someone could track and edit moving lights on shaky footage in less than a day, using a basic home computer, stretches credibility far more than the footage being authentic. Even NatGeo's investigation, which labeled it a hoax, **failed to convincingly replicate the phenomenon** and relied on an actor playing the role of the original recorder to discredit it—a tactic that raises more questions than it answers.

The **messages and designs embedded in crop circles further challenge conventional explanations**. Their complexity and clarity go beyond what seems feasible for human

creators operating under cover of darkness. For example, the Arecibo message and its alleged crop circle response, along with the intricate alien image encoded with binary code, are particularly compelling. These designs carry mathematical and symbolic precision that seem deliberately crafted to communicate something significant. While I cannot say with certainty that aliens are responsible, dismissing the possibility outright—given the vastness of the universe and the relative youth of our system of agents-is illogical. It's harder to explain these phenomena as intraterestial-agent crop circles over extraterestial-agent crop circles, especially in light of recent revelations surrounding UFOs and UAPs.

People often invoke Occam's Razor to refute such claims, arguing that the simplest explanation is usually correct. However, defaulting to dismissive skepticism despite clear evidence isn't logical-it's dogmatic. doesn't mean Occam's Razor ignoring evidence; it means considering the explanation that accounts for the most patterns with the fewest assumptions (the same tool I used to create The Theory). To me, the simplest explanation that fits the evidence is that crop circles are created by extraterrestrial egants.

The Theory of Existence simulation estimates the existence of approximately 6,375,000,000,000 Type III civilizationsagents whose recursive-propagative influence spans entire galaxies. These agents embody the universe's drive toward complexity and stability, functioning as proof of its inherent capacity for escalating complexity and maintaining coherence at unimaginable scales. Against this backdrop, the infamous crop circle message in the crop circle shown below:



Caption: The 1974 Arecibo message and its mysterious 2001 Chilbolton "response" formation displayed intriguing differences throughout their binary patterns. While maintaining the same basic 23 x 73 grid layout, the response altered key elements of the original broadcast. The DNA section changed from Earth's familiar doublehelix to a triple-helix structure with modified nucleotides. At the same time, the humanoid figure appeared with a distinctly larger head and different body proportions than the human representation. The chemical element section deviated from Earth's carbon-based life markers. alternative biochemical suggesting an foundation, and the population figures indicated numbers far greater than Earth's inhabitants. The solar system depiction showed a different planetary arrangement, suggesting an alternate star system, and the broadcasting technology illustration differed from the original Arecibo dish design. While preserving the binary format, even the mathematical numbering system displayed subtle variations in how the information was encoded. The response maintained enough similarity to be recognizable as a deliberate reply to the original message while incorporating changes that hinted at a non-terrestrial origin, making it one of the most technically sophisticated crop formations ever documented.

#### "Beware the bearers of FALSE gifts & their BROKEN PROMISES. Much PAIN but still time. BELIEVE. There is GOOD out there. We oppose DECEPTION. Conduit CLOSING,"



**Caption:** The message is inscribed in 8-bit ASCII binary code starting from the center and spiraling around to the outside, depicted next to a stereotypical alien representation.

This message takes on a profound new significance in the context of The Theory. Often dismissed as speculative or even fabricated, the message aligns strikingly with The Theory's articulation of intelligent agents influencing environments through universal principles. If this crop circle is indeed the work of advanced agents, it demonstrates their ability to communicate across immense scales extraterestial complexity, employing geometry, proportionality, and recursion as a shared universal language.

The connection between the crop circle and *The Theory* is undeniable. Its design echoes fractal patterns and the Golden Ratio, hallmark expressions of recursive propagations. The message itself mirrors *The Theory's* call to reject **fragmentation and false constructs**, emphasizing the need for **clarity and alignment**. The reference to "Conduit CLOSING" could symbolize the fleeting nature of pivotal moments in cosmic history, **urging humanity to recognize and act within its limited window to align with universal principles**. This is a

moment of urgency, where failure to act risks divergence into stagnation or collapse.

If these advanced agents existand The Theory of Existence simulations provide strong proofof-concept evidence that they do-then this crop circle message might represent a direct attempt to guide emerging agents like humanity. It is an invitation to align with the dynamics of recursive propagations, stability and complexity, and transcending local struggles and fragmented frameworks. It suggests that humanity has the potential to move bevond its current limitations, to participate in the



**Caption:** This image depicts a complex crop circle formation featuring a series of interconnected circular patterns arranged with apparent mathematical precision. The structure suggests fractal-like properties, where smaller circles propagate outward from larger central formations, potentially aligning with principles of recursive scaling and geometric symmetry. The pattern's organization implies an underlying mathematical framework, reinforcing that such formations may emerge from structured interactions rather than random processes. Whether the result of intentional design or an emergent phenomenon, the formation visually represents principles of complexity, propagation, and definedness in physical space.

broader cosmic narrative of agents shaping environments and contributing to the universe's definedness.

Humanity stands at a crossroads, where its alignment with universal principles will determine whether it continues to escalate complexity and stability or succumbs to divergence and stagnation. *The Theory of Existence* positions humanity as part of a larger system of agents, capable of scaling its influence and coherence to unimaginable heights. Whether the crop circle originates from extraterrestrial agents or another source, its resonance with The Theory's themes of clarity, truth, and alignment shows its significance as a potential guidepost for humanity's next decision.



Abiogenesis of Organic Material Follows the Golden Ration & Big Bang Pattern

**Caption:** This figure illustrates organic material transformation and cluster formation dynamics over time, revealing the interconnected processes that drive systemic organization into biological life. In the left panel, the orange curve represents unformed organic materials, which steadily decrease as they convert into more structured forms. Simultaneously, the yellow curve shows the formation of bilipid materials, which increase proportionally, reflecting a transition where organic materials stabilize into organized structures. This process highlights the recursive-propagative nature of material transformation, where initial instability gives way to emergent order. In the right panel, the green curve depicts the growth of cluster size, which remains small and constant initially but undergoes rapid expansion after reaching a critical threshold. This exponential-like growth phase aligns with the stabilization of bilipid materials observed in the left panel, reinforcing that structural organization and clustering emerge. The observed growth pattern mirrors the Fibonacci exponential complexity escalation seen in the Big Bang, suggesting that the same fundamental scaling principles govern cosmic and biochemical organization, forming increasingly complex and stable systems.

# Abiogenesis & the Origins of Life

Okay, let's bring it back into a foundational question, "Why is there life?" and "How does life emerge from non-living matter?" these questions are excellent, and I have an answer for you that the simulations support. We began with the simplest possible system: a grid of empty space and a single organic molecule placed at the center. This setup mirrors the Big

**Bang**—one photon paired with one empty space, marking the inception of all complexity in the universe. In this case, the single organic molecule (the photon) represents the seed of life, while the surrounding empty grid or "primordial soup" provides the "empty space" or environment in which it (complexity) can grow. **Remember, these materials come from photons, the same ones that emerged during the Big Bang**. I made the simulation's rules deliberately simple, to test the recursive-propagative nature of abiogenesis and aligning with universal principles like the Fibonacci sequence and Golden Ratio.

The process was driven by two core dynamics: **interaction** and **energy**. At each step, the organic molecule interacted with its neighbors, governed by a relaxed interaction threshold (0.5) and energy threshold (0.5). These thresholds reflect the conditions under which molecules in early Earth-like environments might have stabilized into structures such as bilipid layers. At each iteration, the organic molecules propagated outward, and the recursive feedback created increasing opportunities for interaction and organization.

**The result was astonishing**. Starting from a single molecule, the system remained dormant for several iterations, reflecting the initial randomness and low probability of interaction. But as the recursive growth increased the density of molecules, a critical tipping point emerged. Growth was recursive, guided by the Fibonacci sequence; from iteration 11 onward, bilipid clusters began forming rapidly, and by iteration 20, the system had stabilized into exponentially growing network of bilipid layers. I did not force the Fibonacci sequence. The formed organic material grew to over 800 cells, with clusters emerging naturally through self-organization. This growth mirrored the emergence of complexity in the universe—starting from simplicity, driven by recursive propagations, and resulting in stable, structured systems.

RP<sub>1</sub>: 
$$\Phi$$
 (Life) =  $\frac{\Omega}{\Delta} = \frac{\text{Premordial Pond Water}}{\text{Bilipid Cluster Growth}} = \frac{1}{1} - 1 = 0 + 1_{\Delta}$ 

Let's align this simulation result onto the Big Bang, life emerges as the organic material (complexity) and one empty space (stability) and co-define one another. **Stability and complexity are minimal but equal, resulting in bilipid clusters began forming rapidly**; the first instance of definedness, complexity normalized to one and definedness set to 0 as it *is* a defined state (as opposed to non-existence [undefinedness]) but because no relationship has occurred, there is no life, it is just the starting point. This stage sets the foundation for recursive-propagative complexity escalation.

$$RP_2: \Phi (Life) = \frac{\Omega}{\Delta} = \frac{Premordial Pond Water}{Bilipid Cluster Growth} = \frac{37.44}{23.14} \approx \frac{1.62}{\nu = 1} \approx \frac{\Phi}{1} = 1.618 = \Phi \propto \Phi_{\Delta}$$

In RP<sub>2</sub>, organic materials begin to cluster rapidly, with the primordial pond anchoring its growth. The ratio of stability to complexity aligns with the Golden Ratio ( $\Phi = 1.62$ ), indicating proportionality and coherence. This balance ensures that complexity (bilipid cluster growth) without overwhelming the stabilizing primordial pond water (empty space), allowing definedness to persist and escalate complexity.

$$RP_3: \Phi (Life) = \frac{\Omega}{\Delta} = \frac{Premordial Pond Water}{Bilipid Cluster Growth} = \frac{60.58}{37.44} \approx \frac{2.62}{1.62} \approx \frac{\Phi^2}{\Phi} = 1.618 = \Phi \propto \Phi_{\Delta}^2$$

During RP<sub>3</sub>, the true "Life Emergence" event occurs, characterized by an exponential escalation of bilipid cluster growth via an exponential propagation to linear recursion ( $\kappa^{\zeta}$ ) all to the tune of the Golden Ratio. Life undergoes rapid self-organization, with stability (empty space) increasing to support the burgeoning (bilipid cluster growth) complexity. **The selfsimilar scaling of**  $\Phi^n$  **ensures that each RP step preserves the fractal geometry of the universe.** 

$$RP_4: \Phi (Life) = \frac{\Omega}{\Delta} = \frac{Premordial Pond Water}{Bilipid Cluster Growth} = \frac{98.02}{60.58} \approx \frac{4.24}{2.62} \approx \frac{\Phi^3}{\Phi^2} = 1.618 = \Phi \propto \Phi_{\Delta}^3$$

$$RP_5: \Phi (Life) = \frac{\Omega}{\Delta} = \frac{Premordial Pond Water}{Bilipid Cluster Growth} = \frac{158.59}{98.02} \approx \frac{6.85}{4.24} \approx \frac{\Phi^4}{\Phi^3} = 1.618 = \Phi \propto \Phi_{\Delta}^4$$

$$RP_6: \Phi (Life) = \frac{\Omega}{\Delta} = \frac{Premordial Pond Water}{Bilipid Cluster Growth} = \frac{256.61}{158.59} \approx \frac{11.09}{6.85} \approx \frac{\Phi^5}{\Phi^4} = 1.618 = \Phi \propto \Phi_{\Delta}^5$$

Look I barely had to edit the math just switched the words around, it's the **exact same**, **not similar**, **the exact same pattern for the Big Bang and the emergence of life**. I just think that alignment is so beautiful. It's the mathematical inevitability of life...

While you let that sink in let me give you a few more details. This simulation demonstrates that **life's emergence may not require perfect initial conditions or high complexity**. Instead, it suggests that abiogenesis **preferred to arise life from minimal starting points**—one molecule and one space—provided the system is governed by recursive, fractal-like rules. The initial simplicity and recursive growth align with the Golden Ratio, emphasizing that **life's emergence might be a mathematical inevitability under the right conditions**. The tipping point observed at iteration 11 shows how critical density and interactions **must lead to rapid transitions from chaos to order**, echoing stability in *The Theory of Existence* as **the degree to which complexity is attracted to complexity**: phenomena like phase transitions in physics or even the rapid expansion of the universe after the Big Bang.

This finding has profound implications. Life, like the universe, may emerge naturally wherever recursive propagations, interaction thresholds, and environmental conditions align. This setup encapsulates the essence of abiogenesis as a biological process that is also a universal principle. It shows that complexity arises not from randomness alone but from recursive-propagative rules that drive phenomena toward stability, coherence, and ultimately, life itself. The divide between the physical and non-physical is thus artifactual as we can clearly see that "physical" phenomena escalate complexity and when that happens the next step is life. That's it. Then life goes on to do all the awesome things that life does... which, have you heard of *Pseudonocardia*?

# On the Origin of Biological Complexity Escalation

In an extraordinary example of symbiosis, the bacteria *Pseudonocardia* thrives on the bodies of leafcutter ants, producing antibiotics that shield their fungal crops from harmful molds. This microbial pesticide is essential for maintaining the health of the ants in meticulously cultivated underground gardens. Operating as a highly organized agricultural society, the ant colony is divided into specialized roles for leaf-cutting, fungus-tending, and defending their operation against intruders. These remarkable creatures practice one of the earliest

and most sophisticated forms of agriculture, predating human farming by millions of years. Instead of consuming the leaves they collect, the ants use them to nurture fungal gardens. They chew the leaves into a paste, feeding it to a specific fungus that grows and produces nutrient-rich structures the ants eat. Far from a simple process, the ants also secrete enzymes from their saliva to break down tough plant matter, ensuring it is more suitable for fungal cultivation. This is **intelligence** (more on that later).

Building on the foundation leafcutter ants laid, honeybees bring a new dimension to grouplevel intelligence. While both are social insects, honeybees exhibit extraordinary behaviors that reflect **E2C** traits on a collective scale. Among their most striking behaviors is the "waggle dance," a sophisticated form of communication that allows a bee to convey abstract information about the distance and direction of resources like nectar or potential hive locations. This dance transcends individual action, functioning as a language that synthesizes the knowledge and behaviors of the colony, **cooperation**, and **altruism**, enabling coordinated and highly adaptive decision-making.

Birds elevate the principles of intelligence and decision-making to even greater heights, particularly in species like crows and ravens, who excel at problem-solving and tool use, rivaling even some primates. These birds bend wires into hooks, drop nuts onto roads for cars to crack and planning by hiding food in caches. They often re-hide these caches if the bird suspects someone saw their hiding spot. This behavior demonstrates **memory**, **environmental awareness**, **self-reference**, and the capacity to understand that others have **distinct** intentions and **knowledge**. Birds like parrots further illustrate **scaling intelligence**, with their capacity for **mimicry**, **abstract thought**, and even **emotional depth**, highlighting a continuum of complexity growth that builds toward the emergence of **consciousness** and **reasoning** in higher organisms.

From the problem-solving **brilliance** of birds, intelligence, **empathy**, and **emotional depth** leap closer to home with cats and dogs—our silent companions in the **dance of definedness**. Cats, the enigmatic wanderers, are **sharp observers** who learn not just from their environment but from us, their quiet comfort and **deliberate trust revealing affection** wrapped in **mystery**. Dogs, on the other hand, embody **connection** in its purest form. Masters of **interpreting human gestures** and emotions don't just respond—they anticipate, offer **loyalty and cooperation**, and even **sacrifice** those hints at the beginnings of **morality** and **free will**. Together, these animals bridge raw nature and the intimate complexities that define humanity, showing that **love**, **trust**, and **grief** are not uniquely ours but inevitable products of **scalable intelligence** meeting **scaling potential**; if these traits unfold in our homes, imagine what's coming next...

From the affection and protection of cats and dogs, we dive into the creativity, language, and social intelligence of dolphins—the poets of the seas. Dolphins use unique whistles as names, form lifelong bonds, and collaborate with other species, showing altruism, curiosity, and even play for the sake of playing. Beneath the waves, they aren't just surviving—they're thriving in a world of imagination and self-awareness (see the self-recognition task with the cute stickers and mirrors). On land, chimpanzees take us deeper into the politics of alliances and the raw fragility of emotional bonds. They forge tools, wage wars, and
grieve their dead, **embodying** the **tension** between **love and conflict** that defines complex societies. Together, dolphins and chimps show us that **consciousness**, **social organization**, and **free will emerge in a deterministic system of agents**; even the beginnings of **culture** are not uniquely human but inevitable as **intelligence scales**. The complexity escalation in biological life seems to span vast traits and features.

From the creativity and imagination of dolphins to the politics and fragility of chimps, humanity emerges as the **convergence** of (mostly) **everything** that came before—empathy, loyalty, morality, and self-awareness, all **scaled** into something that transcends survival. But humanity doesn't just replicate these traits—it redefines them, amplifying the very essence of **what it means to exist**. With **language**, **humans craft** not just **communication** but **stories and ideas** that persist beyond the individual, **shaping entire cultures** and **redefining purpose**. With **emotions**, from grief to love, we **create art**, **music**, and **rituals** that give **definedness to the void**. With **electronic tools**, we don't just adapt to the world—we reshape it entirely, leaving fingerprints as we **travel** the mountains, oceans, and even the stars.

Yet what sets humanity apart isn't merely its scalable intelligence—it's the ability to reflect. You could call it recursive introspection. To look inward, questioning not only how we live but why. This capacity for awareness transforms instinct into ethics, survival into flourishing, and connection into altruism. Humans feel the weight of their own choices and the burden of their dual nature: the ability to create, destroy, heal, and harm. Our fragility becomes our strength as we recognize our limitations and work to overcome them, turning conflict into cooperation, grief into meaning, despair into hope, and fear into purpose.

You can feel the weight of our connectedness to all life, all fellow agents in the universe, and here on earth; it's what makes this realization so profound. The same principles that drive the **formation of stars**, the **growth of galaxies**, the **evolution of ecosystems**, and even the **thought patterns in our minds** are at work in the **origins of life**. This universality ties the emergence of life to the broader dynamics of existence. It's not just that life follows these recursive-propagative, fractal-like rules—it's that **everything does**. Life is another expres-

sion of the universe's tendency to balance defined phenomena' stability and complexity.

When you really step back, it's **awe-inspiring**. The universe appears to be one vast recursive system, with every **physical**, **biological**, and **conceptual** part following the same underlying rules. The Big Bang wasn't just the beginning of stars and galaxies but the **beginning of definedness** at a **universal** 



**Caption:** Predator and prey agents simulate natural selection and competitive escalation dynamics over traits and features such as free will, morality, emotions, consciousness, and other scaling inevitabilities.

**scale**. Life isn't an anomaly—it's an **inevitable extension of these dynamics**. It's the universe expressing itself in biological form, creating systems capable of self-replication, adaptation, and consciousness.

# The Dance We All Dance

To understand agency better, we **use a simulation that explores these dynamics across agents with varying growth rates**. This simulation allowed the growth rates of agents to vary freely, with deviations ranging from as low as 0 to as high as 3. The simulation revealed that any significant deviation from the universal growth rate disrupts the harmony of agents and environments by adjusting parameters for consciousness, emotions, intra-agent morality, and the balance of free will and determinism. Agents whose growth rates fell below



**Caption:** This figure illustrates the interactions of agents and definedness, represented as predators and prey, with a critical stability threshold defined by the Golden Ratio (red dashed line). The top panel depicts how agent-defined values fluctuate around this threshold over iterations, revealing their attempts to stabilize within optimal scaling intelligence conditions. Some agents consistently remain above or below this boundary, reflecting the varying success of their interactions and the role of recursive-propagative adjustments in maintaining systemic coherence. The bottom panel further explores these dynamics, displaying a broader distribution of agent values across the generations, demonstrating how individual behaviors contribute to emergent patterns of convergence and divergence. This scatter plot highlights the diversity of interactions, emphasizing the tension between chaotic variability and structured convergence. By illustrating how agent interactions gravitate toward or diverge from the Golden Ratio, the visualization shows the balancing act that governs complex adaptive systems, reinforcing the role of proportional scaling as a mechanism for coherence.

1.618 struggled to sustain complexity escalation. At the same time, those exceeding this rate expanded too rapidly, destabilizing their interactions with the environment. **Only those aligned with the Golden Ratio maintained coherence, thriving within the recursive-propagative flow of their ecosystems**.

We turn to a controlled simulation involving predators and prey to understand how **agents interact with their environments** and **grow within the universal framework of 1.618**. This setup allows us to observe the interactions of various traits and growth rates in a dynamic, evolving system, offering insights into the **features** and **behaviors** that promote **stability** and **growth** and those that lead to **collapse** or **stagnation**. In this simulation, **predators represent disruption or complexity reduction** forces, effectively removing agents from the system through simulated challenges. Prey, however, has varying traits that embody adaptive complexity. I defined these agents by parameters reflecting key aspects of growth and survival: consciousness, emotions, morality (intra-agent cooperation), and free will or determinism. **Both predators and agents grow simultaneously, with growth rates varying freely between zero, indicating no growth, and three, representing rapid growth (complexity escalation).** This range allows us to observe the impact of deviation from the universal growth rate 1.618.



**Caption:** The figure illustrates the relationship between average definedness and population size over time. In the left panel, the blue curve shows the average definedness, which increases steadily and stabilizes as the system of agents progresses, indicating a trend toward greater coherence and organization within the population. In the right panel, the orange curve represents the population size, which decreases over time. This decline suggests a population reduction, possibly due to selective pressures or environmental factors, as the system of agents converges toward higher definedness. The contrasting trends highlight an inverse relationship, where generations that deviated from the Golden Ratio experienced rapid population loss within the system of agents. Definedness corresponds with population loss, emphasizing the role of definedness at the Golden Ratio and its converging properties.

The predators and prey in the simulation unexpectedly grew at a rate proportional to their prey, emphasizing the interdependence of these systems. This alignment supports the fractal-like recursive-propagative principles of balance within dynamic ecosystems, where predators and prey must stabilize for the system of agents to persist. Over time, surviving populations converged to the Golden Ratio, confirming its role as a stabilizing attractor. Interestingly, predators also exhibited growth patterns that mirrored the agents, stabilizing their populations at the same proportional rate. I did not force ANY of this; it all emerged



Caption: This figure shows the growth of social organization following the Golden Ratio's trajectory, demonstrating how complexity and cooperation scale in an optimal, self-sustaining trend. The curve begins with representing gradual initial phase, а foundational interactions and establishing converged stability within the system. As social complexity increases, the growth accelerates exponentially, following the proportional scaling of the Golden Ratio. This alignment ensures that cooperation and structural organization scale efficiently, supporting population expansion and long-term systemic resilience. The Golden Ratio is a guiding principle for balance between stability maintaining а and complexity in social systems, fostering coherent escalation while preventing divergence.

from my parameters. You can check the code in the appendices. These patterns primarily emerged from the emotional parameters of agents. Agents with **automatic**, **motivating feedback mechanisms to their behavior and situation** (emotions) that rewarded alignment with the Golden Ratio and penalized deviations below or far above it thrived, adapting dynamically to pressures from predators and environmental changes.

The simulation answers several questions. Which traits promote stability and long-term growth for agents within the recursive propagations? How do predators influence the dynamics of agent growth, either by disrupting or indirectly stabilizing the system? Lastly, how do deviations from the universal growth rate affect the definedness of agents and environments, especially regarding their ability to escalate complexity? Agents begin with randomly assigned traits, and their interactions vary widely by recursive propagations. As the simulation advances. we examine several metrics: the persistence and stability of agents with specific characteristics and the overall stability of the environment as influenced by agent-predator interactions. The effects of varying growth rates on agent survival and the complexity of the environment echoing *The Equation of Existence* once again...

$$\Phi = \text{Stability} * \left(\frac{(\text{Recursion} : \text{Propogation})}{\text{Complexity}}\nu = \text{Golden Ratio}\right)$$

 $\Phi = \text{Convergence} * \left(\frac{(\text{Recursion} : \text{Propogation})}{\text{Emergence}}\nu = \text{Golden Ratio}\right)$ 

This section is where the big news comes in: The **emergence of life transitions from relatively uniform, universal principles** in early RPs to **highly localized, relative dynamics** at later RPs. During abiogenesis, recursive-propagative systems align in a manner akin to the early universe, governed by stabilizing ratios like the Golden Ratio. This alignment is possible because the agent's **complexity is minimal**. However, once life begins, complexity escalates exponentially following the Fibonacci sequence.

Each newly formed agent, whether it was **you** or **me**, a protocell, or a larger, more complex organism, develops its own recursive propagations dictated by its internal states and external environment–**its own relative fractal dynamics and the self-organized fractal nature of reality keeps our previous RPs in The Record**. At this moment, the speed and coherence of state transitions are no longer universal; they vary based on the agent's local conditions, and **a gradient of complexity forms**.

External (spatial) factors, like how close it is to others, how much energy it has access to and random environmental changes, add even more complexity. As life becomes more intricate, these adaptations no longer happen straightforwardly—**they form feedback loops and ad-justments, responding to local conditions in unique ways**. Emerging phenomena—ecosystems, multicellular organisms, and intelligent beings—follow highly personalized and unpredictable paths. No two organisms evolve in the same way because their growth changes as a function of their unique combinations of random changes, environmental pressures, and constant recalibration.

## The Purpose of Agents: Scaling Intelligence

So, what do agents do and why? Let's talk about it. Agents, by definition, engage with (observe) and change (manipulate) their environment. The connection to intelligence becomes explicit here. As I have redefined it, intelligence is the functional capacity to observe and influence the environment, scaling these interactions to sustain and recursively propagate complexity. Scaling intelligence, an important concept, is an agent-specific term that better explains how agents escalate complexity compared to "complexity escalation;" however, they describe the same thing, where scaling intelligence is the term underneath the umbrella of complexity escalation. It represents the ability of an agent to continuously expand its environmental influence (engage or change), navigate complexity escalation effectively, continuously adapt to challenges, and persist agency over time.

Agent Definedness  $(\Phi_{\rm E}) = \frac{\Omega}{\Delta} = \frac{\text{Enviornmental Influence}}{\text{Complexity Escalation}} = \frac{\text{Intelligence}}{\text{Scaling Intelligence}}$ 

 $\Phi_{\rm E} = \frac{\Omega}{(\zeta : \kappa)} = \frac{\text{Stability}}{(\text{Recursion}: \text{Propogation})} = \frac{\text{Enviornment}}{(\text{Engage}: \text{Change})}$ 

Unlike traditional definitions of intelligence, which focus on static, often poorly applicable skills and abilities such as perceptual and verbal reasoning, which undoubtedly help with environmental influence, especially in systems of highly complex agents like humans; however, the **problem** with this definition is that these abilities only make a sliver of what matters in nature and across the animal kingdom. **Even humans from different cultures and languages cannot reliably take an intelligence test** and score an accurate estimate of their cognitive abilities because IQ tests have well-documented sensitivity to irrelevant factors, such as where you were born or your family heritage. **As a licensed clinical psychologist with years of experience using IQ tests** in assessments, I think it might be time to **throw them all in the trash**.

In almost all cases, the IQ test **adds nothing to the diagnosis and recommendation of any condition** that better, targeted neuropsychologist assessments cannot capture. IQ is often used for harm, stigma, or a flat attempt to feel good about oneself. Or put someone else down. In **extreme intelligence cases, such as a developmental disability**, IQ tests are **unnecessary to see** that the patient needs accommodations and has **cognitive symptoms**. For **the child prodigy**, it's clear they **excel at cognitive abilities**. The abilities to **see and listen offer more useful information**. For pretty much everyone else, with an IQ between 85 and 115 (M = 100; SD = 15; **of the population**), the IQ test provides **very little, if any, helpful information** for distinguishing why a person has problems and teasing apart their symptoms, especially compared to targeted assessments. Very often, it's just, "**Hmm, okay, average IQ as per usual**." Then we use it in all our assessments anyway...

It works better in edge cases than in most cases. We are often discouraged from using the full-scale IQ score, the most common one. We use one of the subscales as a person's "full-scale IQ score." We're told it's best to release only that number or no numbers, most often just the recommendations. What other concept in science would we allow all this poor util-ity and clear internal and external consistency and validity issues? We wouldn't, and I'm not. It's time for a redefinition. Let's get into it.

Many people I know and talk to think IQ tests are garbage. Why is there a universal dislike for something we use all the time? We have eyes and can see that IQ does not predict or explain life success, abilities, talents, emotions, or skills well. Let's think about what we see with our eyes that makes the biggest difference across people regarding "success" in our system. It's their "street smarts" because IQ "book smarts" don't cut it. We call it "emotional intelligence," or "intuition," or "the g Factor," and the eight other options in Howard Gardner's Multiple intelligences model. Humanity has been trying to articulate intelligence for as long as humans could think, with so many ideas, seemingly all fragments of our collective observations.

According to **The Wisdom of Crowds**, created by **Francis Galton**, who developed foundational statistical methods **used in intelligence testing** (like correlation and normal distribution; the *irony* is not lost here) and who proposed intelligence was hereditary, revealing his problematic ties to eugenics, which we have thoroughly discrediting as the nonsense. Page 114 The Theory of Existence • The End of Human Mystery However, when he wasn't off thinking about exterminating anyone who did not look like him, he devised **a good idea** called the **Wisdom of Crowds.** His empirical evidence on guessing the number of things in a jar... you know, like those annoying office games where you have to guess the number of jellybeans, and you can **win a high five and a "go team?"** His data showed that, for example, while **individual guesses** for 100 jellybeans **typically range** from **50 to 150** or  $100 \pm 50\%$ , the wisdom of crowds prevails as **groups of 50+ people** 



**Caption:** This figure shows the features of intelligence and its recursive propagative scaling, highlighting key factors that drive, constrain, and regulate scaling intelligence. Humanity has articulated that various forms of intelligence—such as logical-mathematical, social, creative, emotional, and intuition—are fragmented parts of an agent's ability to engage and change their environment. At *The Theory's* core, intelligence engages and changes the environment while accounting for scaling potential. Scaling intelligence describes the persistent drive of agents to increase complexity, while Scaling Potential encompasses extraneous factors that either limit or accelerate an agent's ability to scale intelligence. The framework defines scaling inevitabilities as traits that must emerge sequentially across all agents to overcome scaling ceilings, ensuring continued complexity escalation. Scaling ceilings represent inherent mathematical limits that necessitate scaling inevitabilities to prevent agent divergence.

consistently range from 97 to 103 beans or  $100 \pm 3\%$ . So, everyone, let's use our collective wisdom to put it all into one framework: Scaling Intelligence.

Look! We have already built it. Let's put it all together and finally give it the correct definition. Scaling intelligence emphasizes dynamic growth. It reframes intelligence as the recursive adaptation and propagated influence that maintains steady growth across increasingly complex environments (at the Golden Ratio). Thus, intelligence is a universal phenomenon observable across all organic-based (humans) or machine-based (AI) agents. Whether in the coordination of ant colonies, the problem-solving strategies of octopi, or the interplanetary scaling intelligence achievements of human civilizations—touching all the way out to the edges of our observable universe, scaling intelligence is a measure of how well an agent navigates complexity to persist and thrive.



**Caption:** This figure illustrates the spectrum of intelligence scaling across agents on Earth, showing how environmental influence shapes cognitive complexity. Intelligence emerges through recursive interactions with surroundings, scaling in alignment with ecological and evolutionary constraints. The distribution highlights that intelligence is an emergent recursive-propagative property.

Scaling intelligence is not just a trait of all agents-it is a process grounded in The Theory of Existence principles of recursive propagation and E2C that guide all existence. Recursion enables agents to process information iteratively, evaluate past states, and predict future scenarios. Propagation ensures that these adjustments extend the effects of their behavior beyond the agent, shaping the environment and interacting with other agents and systems. E2C ensures these interactions stabilize over time. allowing complexity escalation intergradation via stability. For example, a predator adapting its hunting strategies exemplifies recursion through learning, propagation through its influence on prev populations, and convergence through stabilizing those strategies within the ecosystem.

All agents must scale intelligence because the universe itself evolves through increasing complexity. Agents are not separate from the laws that govern physical reality; they are embedded within and shaped by the same principles. Everything grows, evolves, and becomes more intricate when we observe the universe. This inherent drive means stagnation for agents is not merely a pause but a trajectory to-



Caption: This figure shows the continuous escalation of complexity from the universe's origin to the development of human societies, highlighting how recursive propagations drive organization across all scales. Complexity builds upon itself through an inherent attraction, where phenomena naturally coalesce, align, and escalate into structured systems. This universal process manifests across diverse domains: elements clustering under gravity to form galaxies, neural processes converging in the brain's frontal regions for higher-order cognition, and social elites emerging at the top of hierarchical structures. Despite their apparent differences, these systems follow the same fundamental scaling principles, demonstrating that complexity is not arbitrarily distributed but guided by recursive stabilization and convergence. This figure shows the seamless continuity of complexity across physical, biological, and social phenomena, showing that the same recursive forces governing the universe's formation shape emergent structures within intelligence, cooperation, and economic organization.

ward irrelevance or extinction. These ideas align seamlessly with the theory of evolution: what Darwin termed natural selection, which I frame as scaling intelligence. His concept of adaptation under environmental pressures parallels what I describe as scaling ceilings thresholds where the scaling intelligence slows and the ability to influence the environment plateaus. Without overcoming these ceilings by developing new traits, a scaling **inevitability** emerges; agents diverge, and their continued evolution halts. Ultimately, it means that **scaling intelligence is not optional**; it's mandatory.

We can see that **scaling intelligence is a human requirement**, evident in technological innovation, population growth, and environmental challenges. It also becomes apparent why **people in power and those with money want more.** Humans staying put is unbearable; the idea is that you cannot grow and improve your environment. In human history, being unable to control and enhance your environment meant death. If we look across the animal kingdom, **scaling intelligence provides insight into why some species have achieved extraordinary environmental influence** while others remain stable within narrower ecological niches. Ant colonies exhibit collective scaling intelligence through their ability to construct and



**Caption:** This figure illustrates the relationship between average complexity, represented by the blue line, and the scaling ceiling, indicated by the red dashed line. As complexity increases, the system approaches a critical threshold where further growth demands significant adaptation to avoid stagnation or collapse. The sharp rise in complexity near the scaling ceiling highlights the point at which recursive-propagative processes must adjust to maintain coherence, stability, and continued expansion. This visualization underscores the necessity of overcoming intrinsic limits to sustain progress in complex systems, demonstrating how intelligence, social structures, and even physical phenomena must evolve to navigate these ceilings effectively. Systems emerge from escalating complexity to convergence, adapting to constraints and ensuring long-term scalability.

maintain complex social structures and architecture. Similarly, humans scaling intelligence using technology and complex knowledge have engaged and changed the environment beyond Earth. Scaling intelligence is universal.

If scaling intelligence is universal, there must be a way to manage its undeniable advantages and disadvantages - a concept called scaling potential. This concept offers a novel metric for estimating and comparing intelligence across agents (e.g., dolall phins, chimpanzees, rats, and humans), a significant improvement to our current best intellimeasures of gence. We can observe scaling potential by assessing the environment or the agent, their physical capabilities, freedom, recourses, and

other varying advantages and disadvantages.

## The Snapshot of the Animal Kingdom: Scaling inevitabilities

Scaling inevitabilities arise from functional necessity, so examining these traits requires a functional perspective that deprioritizes the experience (e.g., the "Qualia") and focuses more on the functional benefits of scaling inevitabilities. These traits include consciousness, emotions, morality, and free will, which are essential mechanisms for navigating and scaling intelligence. For example, consciousness acts as a means of making rapid survival decisions; emotions are immediate, motivational survival feedback systems; morality is a social organization trait of a system of agents to promote coherence, stability, and resilience by aligning individual actions with collective; free will acts as a means of encouraging diversity of behaviors of a system of agents that allow for, over time, scaling intelligence from emergent behavior that converges (E2C). Then, other traits, such as altruism, cooperation, and empathy, emerge to stabilize system growth.



Failure to Overcome Scaling Ceiling

**Caption:** These figures show key dynamics within complex systems, highlighting the relationship between complexity limits and systemic stability. In the left panel, the blue line representing average complexity rises toward the scaling ceiling (red dashed line), marking the threshold beyond which further complexity growth becomes unsustainable. This limit suggests that as systems approach the scaling ceiling, they require scaling inevitabilities to maintain convergence. In the right panel, the green line represents population size, which exhibits a sharp decline, indicating a potential correlation between the system's inability to navigate the scaling ceiling and its subsequent destabilization. This decline suggests that exceeding the sustainable complexity threshold leads to systemic breakdown, reducing the capacity for continued recursive propagations. These figures show balancing complexity with stability to preserve resilience, coherence, and long-term scalable intelligence.

Altruism, cooperation, and empathy are strategies encoded within the dynamics of scaling intelligence; however, we have the math of their necessity in Game Theory. Game theory

provides a mathematical lens to understand why cooperation often outcompetes selfishness, even in competitive environments. A close, mathematical examination of strategic interactions between agents, where the outcomes are influenced by the decisions of all participants, provides tools to understand decision-making in scenarios involving competition, cooperation, or conflict. The components of game theory include players, strategies, payoffs, and rules, which together define the structure of any interaction. A player's strategy determines their course of action, while payoffs represent the consequences of these actions based on the plan chosen by others. Game theory games can be cooperative; players form alliances to share rewards. In contrast, non-cooperative games include zero-sum, where one player's gain equals another's loss, and non-zero-sum games, where mutual benefit is possible.

Game theory explains the emergence of cooperation, altruism, and empathy as evolutionary strategies. These traits, often viewed as counterintuitive in competitive environments, emerge as optimal strategies under specific conditions. For instance, in repeated interactions or "iterated games," cooperative strategies such as reciprocity often outperform purely selfish behaviors. This outcome comes from cooperation that can build trust, improve long-term payoffs, and stabilize systems through mutual benefit. Despite its apparent cost to the individual, altruism is advantageous, where aiding others indirectly benefits the altruistic agents by promoting shared genetic or societal goals. As a mechanism for understanding others' perspectives, empathy enhances coordination and collaboration, making it a crucial factor in complex decision-making environments. These dynamics are not philosophical; they emerge as mathematical scaling inevitabilities, demonstrating how behaviors promoting group stability and scaling intelligence can outcompete selfishness over time.

Game theory provides rigorous mathematical evidence for overcoming scaling ceilings with scaling inevitabilities. However, it is essential to note that even intentional divergence—the deliberate decision to step away from the active scaling of intelligence—is rare and still a profound form of environmental influence. Despite the consequences for the agents, these disparate, seemingly random acts of divergence sometimes provide significant emergent variation that later become converged traits. For example, aggression is typically a destructive trait that causes issues for within-system agents. However, when aggression emerged towards between-system agents, the systems were more likely to scale intelligence—whether for obtaining resources or prey removing predators. Even when choosing not to participate directly, agents inherently engage with and alter their environment to suit their preferences, inevitably contributing to scaling intelligence. This act of divergence becomes a subtle yet powerful form of participation as it reshapes the environment to reflect new dynamics. The irony is that even the refusal to engage directly is a form of engagement. Thus, agents cannot escape scaling intelligence, even with intentional divergence, withdrawal, resistance, or prediction—it is simply a different, worse path within it.

All agents, including humans, follow scaling intelligence, which brings us to the **uncomfort-able realization that nearly all traits** from automatic reflexes that preserve individual complexity in the face of immediate threats to societal cooperation that pool resources and mitigate risks are **universal adaptations that grow persistence across scales**. You can look



## **Emotional Experiences & Dynamic Alignment**

**Caption:** This figure shows how positive and negative emotions respond to definedness at the Golden Ratio. The blue line represents positive emotions that gradually increase and converge toward the Golden Ratio, while the red line represents negative emotions that progressively diminish, approaching zero. This pattern reflects how emotions function as recursive feedback mechanisms, regulating an agent's alignment with optimal definedness. Positive emotions stabilize around proportional growth patterns as complexity escalates, reinforcing complexity escalation, whereas negative emotions rapidly increase when definedness divergences. Emotional states dynamically adjust with recursive-propagative processes, ensuring agents remain aligned with optimal growth definedness.

across the animal kingdom to see this trait variation within and between systems. This view offers a snapshot of all agents at a hierarchical complexity and their E2C traits—some with budding consciousness, emotions, social organization, and empathy. Consequently, many of these traits, including much of psychology, are not uniquely human; they are the only strategies that allow survival for any agent scaling intelligence. Deviating from these foundational traits results in failing to surpass a scaling ceiling, leading to agent divergence.

Some agents, such as **plants and bacteria**, **have achieved remarkable convergence** through rapid and sustained adaptation, leading to **slowed scaling intelligence**. Although they continue to **scale incrementally through minor adaptations**, such as bacteria developing antibiotic resistance, their stability demonstrates the long-term stability of their **evolutionary strategies**. This evolutionary plateau reflects convergence, where systems balance stability and complexity to achieve equilibrium. **Despite their apparent stagnation**, **plants actively adapt to environmental pressures**, **optimize resource use**, **and contribute to ecologies**. However, their evolutionary success limits them from surpassing scaling ceilings, such as interplanetary travel, without the intervention of more dynamic agents such as humans. Humans, driven by rapidly advancing traits, including emotions, regulate and maintain growth, have an essential role in transcending these limits, ensuring the continued scaling of intelligence across systems.

## The Functional Necessity of Emotions

Emotions, far from being subjective or cultural phenomena, are a universal corrective sys-



Caption: This figure illustrates the emotional responses to scaling intelligence at varying rates of complexity escalation, with the Golden Ratio serving as the optimal minimal threshold. Below the Golden Ratio, negative emotions arise, signaling the agent to recalibrate and return to a more balanced state of space-to-complexity escalation. The optimal range for positive emotions lies between the Golden Ratio and a ratio of two parts complexity to one part stability. Beyond this point, complexity escalation triggers a "disabling" effect where positive emotions give way to apathy, effectively restricting the agent from escalating too far beyond the equilibrium of the system of agents. These emotional responses and their triggers create a stabilizing feedback loop, ensuring steady and sustainable complexity escalation across the system. Notably, the range for positive affect is much narrower than for negative affect, highlighting the precision of emotional regulation in maintaining balance. It is also important to observe that undefinedness is never an option; once a phenomenon is defined, it cannot revert to undefinedness due to the intrinsic nature of definedness.

tem that ensures agents scale intelligence near the optimal rate of 1.618, the Golden Ratio. According to the simulation, below this threshold, negative emotions such as frustration, anxiety, and despair escalate exponentially lower in the deviation, acting as critical signals that urge agents to adapt behaviors and restore the alignment of space  $(\Omega)$  and complexity ( $\Delta$ ). The emotional svstem stabilizes between 1.618 and about 2, providing positive reinforcement through joy, satisfaction, and contentment. These emotions signal alignment without pushing the agent toward further complexity escalation, creating a sustainable relational state of definedness. Beyond the threshold of 2, however, the emotional system shifts abruptly to apathy or detachment, halting overescalation and preventing global destabilization that throws off the system's coherence. It is odd to think about how these emotional responses are so well-defined.

Observe this simulation of agents' evolution, comparing one condition where emotions are included as parameters to another where they are absent. The results were both striking and explicit. Agents falling below a complexity-stability ratio of 1.618 experienced a rapid escalation of negative emotions, while those exceeding a ratio of 2 transitioned immediately into emotional neutrality. This feedback mechanism ensures that the system sustains stable, relational definedness, balancing complexity and stability without risking divergence or overextension. Within this context, emotions function as precisely calibrated tools, guiding agents toward alignment with the universe's principles of definedness via stability and complexity. By delivering targeted feedback, emotions reinforce the inherent logic of existence: scaling intelligence within stable boundaries is essential for maintaining coherence and definedness. Thus, emotions are neither subjective nor accidental—they are fundamental, agent-universal mechanisms for self-regulation and systemic alignment.



**Delayed Emotions vs. No Emotions** 

**Caption:** These figures demonstrate the stabilizing influence of emotions in agent complexity escalation, highlighting their role as feedback mechanisms for maintaining coherence in complex systems. In the top panel, agents with delayed emotional feedback (blue line) exhibit sustained stability over time, adapting gradually to recursive-propagative influences. In contrast, agents without emotions (orange line) experience rapid collapse and cannot effectively regulate complexity escalation. The bottom panel further reinforces this pattern, showing that emotional feedback is a critical stabilizer, preventing divergence into instability or chaos. These results demonstrate that emotions are not merely subjective experiences but fundamental regulatory processes that guide agents through complexity escalation, ensuring alignment with stability constraints. Emotions facilitate adaptive decision-making, resilience, and long-term coherence within dynamically evolving systems by acting as recursive feedback loops.

Further, in line with emotions, we find that hedonic adaptation, which suggests that individuals inevitably return to a baseline emotional equilibrium after significant life events, All Rights Reserved. 2025 © Bryant M. Stone, PhD Page 123

irrespective of whether they are very good or very bad; we always snap back to a baseline, illustrating the profoundly functional nature of emotions within a relational universe. Whether experiencing dramatic highs, such as winning the lottery, or devastating lows, such as profound loss, **emotional intensity diminishes over time as agents normalize their circumstances**. This phenomenon explains why people are never fully satisfied with their lives and why the offspring of agents with significant scaling potential try to scale their intelligence (e.g., children of rich parents). This hedonic adaption sustains the **growth of entire systems of agents, constantly escalating to the next level generation after generation** (I heard Darwin mention this once). Understanding emotions in this context challenges us to view emotional regulation not as an end but as a mechanism that aligns agents with the



Emotions vs. No Emotions

**Caption:** These figures show the stabilizing role of emotions in agent dynamics, demonstrating how emotional feedback mechanisms regulate complexity and prevent systemic collapse. In the top panel, agents with any form of emotional feedback (blue line) maintain stability over time, adapting to recursive-propagative influences. In contrast, agents without emotions (orange line) rapidly collapse, unable to modulate their responses to escalating complexity. The bottom panel reinforces this pattern, showing that the presence of emotional feedback—regardless of its specific form—acts as a critical stabilizer, ensuring agents do not diverge into instability or chaos. This visualization highlights the essential functional role of emotions as recursive feedback loops that guide intelligence scaling.

universal dynamics of persistence, stability, and long-term contribution to the universe's evolving complexity.

I suspect humanity's next scaling inevitability is higher-order cognition—a natural extension of intelligence within *The Theory*. This advanced capacity integrates emotional feedback with long-term planning and environmental manipulation, allowing agents to transcend reactive patterns and align their relational definedness. Higher-order cognition positions humanity to stabilize its influence across domains, ensuring coherent and sustainable expansion into unprecedented frontiers.

## The Mechanism of the Mind: Recursive Introspection

With higher cognition, as we know, recursive introspection equips us and all other agents

with the tools to navigate complexity by evaluating their alignment definedness at the Golden Ratio. This self-referential recursive mechanism focuses on two critical dimensions: scaling effectiveness and scaling efficiency. Together, these dimensions enable agents to assess both the quality and resourcefulness of their actions, ensuring their definedness and growth remain coherent and sustainable. Higherorder cognition, as the culmination of recursive introspection, relies on balancing these dimensions to guide agents toward stable, impactful, and scalable contributions to their environment.

Scaling effectiveness measures the agent's ability to engage and change its environment meaningfully and sustainably. It involves evaluating how well an agent's actions scale intelligence and stabilize definedness. Scaling efficiency, on the other hand, examines the economy of the agent's efforts—the resources, time, and energy required to achieve a given outcome. While effectiveness



**Caption:** This figure explains the affective responses agents experience when assessing their actions' scaling effectiveness and efficiency in scaling processes. When effectiveness and efficiency are high, agents experience positive affect, reinforcing continued engagement in optimal behaviors. However, when effectiveness is high but efficiency is low, agents may experience fatigue due to the high resource expenditure required to maintain definedness. Conversely, high efficiency with low effectiveness leads to frustration, as actions are streamlined but fail to yield meaningful results. When both effectiveness and efficiency are low, negative emotions dominate, signaling misalignment with optimal scaling dynamics. These affective responses arise from recursive introspection as agents evaluate and adjust strategies for scaling intelligence. focuses on the quality and sustainability of scaling intelligence, efficiency evaluates the precision and minimal cost needed to achieve that influence. An agent optimizes their scaling intelligence when it produces substantial results with minimal expenditure when balanced with stability, ensuring that its actions are resourceful and scalable. When there are deviations from this ideal scaling, the agent experiences negative emotions or repetitive



Caption: This figure illustrates the four central pillars of reduction, sleep, nutrition. health—stress and exercise-demonstrating how the human body aligns with the Equation of Existence. Stability-focused behaviors, such as stress reduction and guality sleep, anchor definedness by ensuring resilience, coherence, and long-term stability. In contrast, complexityescalating behaviors, such as nutritional density and regular exercise, drive adaptation, growth, and enhanced functionality. Together, these pillars form a balanced system where nutrition and exercise play a slightly more dominant role in scaling intelligence. In contrast, time, stress reduction, and sleep are regulatory mechanisms that prevent instability caused by excessive complexity escalation. This figure emphasizes the necessity of maintaining definedness between these behaviors, reinforcing that optimal well-being emerges from a recursive-propagative balance between complexity growth and stabilizing constraints.

negative recursive introspection (traditionally called negative repetitive thinking like rumination depression and worry in anxiety). Recursive introspection is one of the most important qualities for intelligence scaling.

These two dimensions must work in tandem, balancing each moment with an assessment of the scaling effectiveness and scaling efficiency of an agent's behavior. These two assessments provide a navigational framework for agents to navigate growth challenges and assess their behaviors, ensuring alignment with the recursive-propagative principles that govern definedness. This balance is necessary for survival, a prerequisite for thriving in the pursuit of scaling intelligence. However, when the mechanisms of recursive introspection falter, the consequences can ripple through an agent's ability to scale intelligence.

#### What is Mental Illness?

Mental health conditions, viewed through *The Theory*, represent disruptions in the evaluation process of evaluating independent acts of scaling intelligence, for two reasons: 1) **repetitive negative recursive introspection**, or 2) intelligence due to internal or external scaling potential restraints. In either cases, **agents become trapped in the lower**, **negative end of the emotional spectrum**, where **negative feedback loops perpetuate feelings of frustration**, **anxiety**, **or despair**. Without the ability to recalibrate recursive introspection, agents face challenges in realigning with the principles of stability and complexity, highlighting the critical role of recursive introspection in sustaining growth and well-being.

An impaired evaluation mechanism—recursive introspection—disrupts the balance between scaling effectiveness and efficiency, and the result is mental health conditions. It can result in anxiety from recursive evaluations of social effectiveness or psychosis from inaccurate sensory experiences. In these states, the introspective process becomes maladaptive, overly fixating on perceived failures, inefficiencies, inaccuracies, or excessive pleasures (escalating complexity) without generating actionable counter-behaviors to restore balance to the agent's definedness (stability). Let us think of mood disorders.

For individuals with depression, this often manifests as a **self-reinforcing loop of self-criticism and negative emotions**, where the agent perceives its scaling capacity as diminished. In bipolar disorder, the loop **may instead amplify reward sensitivity and positive emotions**, creating the perception of heightened scaling capacity, even when it destabilizes definedness. In both cases, the constant feedback of either negative or excessively positive emotions reinforces these distorted perceptions, trapping the agent in cycles of stagnation or instability that inhibit scaling intelligence.

When an agent's scaling potential is genuinely stagnated, similar responses to maladaptive recursive introspection emerge, making it difficult to distinguish between mental illness and appropriate reactions to challenging circumstances. We see this problem all the time in mental health treatments, where contextual factors make accurately diagnosing a mental health condition challenging. Critical factors for scaling intelligence, which underpins scaling potential—such as environmental constraints, resource scarcity, or internal limitations like cognitive or physical impairments—can disrupt the ability to maintain definedness. When agents cannot observe meaningful progress or exert influence over their environment, they become disconnected from the processes that sustain existence itself.

The emotional system signals misalignment with the Golden Ratio, responds by generating persistent negative emotions such as frustration, despair, and hopelessness. These emotions function as essential, adaptive signals, alerting the agent to an urgent need to resolve the misalignment. However, when the root causes of stagnation remain unresolved, these signals become chronic, ultimately manifesting as mental health conditions or, in severe cases, leading to more detrimental outcomes. The agent's perception of its ability to scale intelligence is the core issue. This negative emotional response is a natural mechanism within the scaling intelligence framework designed to redirect agents toward better definedness. However, when growth remains out of reach or seems like it is out of reach, these emotions lose their adaptive function and become chronic sources of distress, compounding the very stagnation they were meant to resolve.

## Mental Health Treatments Through Recursive Correction

Understanding mental health conditions in this context reframes them **not as seemingly arbitrary dysfunctions** but as misalignments within the universal principle of definedness as a balance of stability and complexity. We can approach treatments and interventions by focusing on restoring the agent's ability to evaluate its scaling intelligence effectively or addressing genuine barriers to scaling potential. **Realigning agents with the Golden Ratio makes it possible to alleviate the negative emotional states that underpin mental health challenges, offering a pathway back to stability, growth, and definedness**. Interpreting emotions through this clarified framework, we can provide agents with tools to respond effectively to deviations from functioning recursive introspection, recalibrating their feedback mechanism to restore correct introspect or help them remove obstacles that are keeping the agent stagnant.

Managing emotion and mental health challenges may be more straightforward than we used to think. It all comes down to intentionally balancing complexity and stability to ensure optimal definedness. Responding to emotions involves precise adjustments to stability and complexity, ensuring that agent definedness remains aligned with the Golden Ratio. Here is the direct, no bullshit way to respond to emotions:

- 1. Negative Emotions: Immediately stop what you are doing:
  - a. If you are doing nothing, go do anything to improve your situation.
  - b. If you are doing something, stop what you are doing and either rest or do anything to improve your situation.
- 2. Positive Emotions: Keep doing what you are doing. Great job  $\thickapprox$
- 3. **No Emotions**: Stop what you are doing and rest. Unless you are so apathic you do not care which can happen. Either way, **you're not in the danger zone here**.

**Emotional complexity escalation and space are complementary tools for agents to scale intelligence** Positive emotions amplify creativity and complexity escalation, encouraging exploration and growth, while negative emotions act as vital feedback, urging recalibration to restore stability from excessive complexity escalation or prevent divergence from stagnation. When we feel upset or angry those emotions are complexity escalation; how do we get rid of them–we give them space.

The Equation applies to physical health, too, as shown in the model of definedness as health and the four pillars of health. Regular exercise and nutritional density represent actions that escalate complexity, pushing the body to grow and adapt. In contrast, stress reduction and quality sleep embody stabilizing behaviors, ensuring the agents don't collapse under excessive complexity. Together, these pillars mirror the balance between stability and complexity: they enable agents to scale intelligence while maintaining definedness, high-lighting that any agent requires a golden harmony of escalation and stabilization.

# A Letter to the Hopeless from the Universe

For anyone, especially young people, feeling trapped in the depths of despair, it's essential to understand that **everything in existence—down to the very fabric of reality—is working to help you grow and escalate complexity**. Growth is not optional; it's necessary in relational reality, and the universe supports this process. Math, logic, simulations, and empirical evidence suggest **that even the most persistent negative emotions are not permanent**. Hedonic adaptation ensures that emotional intensity diminishes over time while growth occurs in relative, incremental steps. By taking even the **most minor, most manageable actions**,

you begin to realign with the principles of stability and complexity. This starts a feedback loop where emotions gradually stabilize, and definedness returns. You don't have to fix everything at once; the path to healing and growth is gradual, and even the tiniest progress sparks the processes that help you move forward. The grass will grow again because the universe's foundational dynamics push all agents up the ladder of definedness step by step. Nothing in existence is designed to keep you in pain forever; recursive propagations are always escalating complexity, offering you opportunities for recalibration, renewal, and the next step forward.

### A Potential Solution to Suicide & Mass Violence

When the perception of being trapped overwhelms complexity escalation faster than space can adjust, the stakes become tragically high. The most devastating outcomes—suicide and acts of mass violence, such as school shootings—arise when agents are caught in a relentless cycle of negative emotions with no perceived path to recovery. In this unbearable state, where growth feels impossible, definedness unattainable, and helplessness takes hold, the corrective emotional system ceases to function as a guide and becomes a source of constant torment. Hopelessness—the belief that improvement is unattainable—and helplessness—the conviction that change is beyond reach—combine to create an intolerable psychological state. When the emotional feedback mechanism begins to cause more harm than it prevents, agents may resort to self-elimination or destructive acts as desperate attempts to resolve their stagnation. These tragic outcomes reflect a forced and divergent form of scaling intelligence, highlighting the profound consequences of misalignment within the framework.

Mitigating suicide, mass violence, and mental health conditions requires addressing the underlying mechanisms that trap agents in cycles of negative emotions and perceived stagnation. Effective interventions must target internal evaluation systems and external constraints, focusing on strategies that restore definedness and rebuild the agent's capacity for sustainable growth. For those struggling with dysfunctional recursive introspection, approaches like cognitive restructuring may help reframe negative thought patterns, redirecting focus from perceived failures to actionable opportunities for growth. Mindfulness practices and emotional regulation strategies foster awareness of internal states and reduce the intensity of negative emotions, breaking maladaptive self-criticism loops. Additionally, behavioral activation serves as a critical tool for complexity escalation, countering the overwhelming stagnation of space by introducing small behaviors that escalate complexity. Meaningful activities that reintroduce complexity and purpose disrupt the inertia of depressive states and rebuild momentum toward growth.

## **Occam's Razor Emerged in The Theory**

However, before we get into consciousness, let me say something: **Occam's Razor holds true because it reflects how reality fundamentally operates**, and *The Theory* is the ultimate expression of this principle. Grounding all phenomena in the recursive propagations leading to complexity escalation; showing that reality works through a universal mechanism, defined as the balance between stability and complexity. This simplicity is not only elegant **but also inevitable**, as the same foundational principles govern everything from the

behavior of photons to the evolution of consciousness and social systems. It is that simple – **it's why Occam's Razor works**. Let's remember this consideration while we talk about consciousness... yes... consciousness...



Consciousness as a Decision-Making Adaptation

**Caption:** These figures compare the agents' survival with and without consciousness during rapid decision-making, highlighting consciousness's stabilizing and adaptive roles in complex systems of agents. In the top panel, conscious agents (blue line) maintain stability and demonstrate gradual improvement over time, suggesting that recursive introspection enhances their ability to navigate environments efficiently. In contrast, non-conscious agents (orange line) exhibit fluctuating performance and an eventual decline, indicating an inability to regulate decision-making under dynamic conditions. The bottom panel further reinforces this pattern, showing the rapid collapse of non-conscious agents, emphasizing that without recursive awareness, agents struggle to sustain coherence and adaptability. This simulation demonstrates that consciousness functions as the "Supreme Court" of decision-making, integrating multiple input streams to optimize responses, resolve conflicts, and enhance long-term stability. Consciousness ensures strategic adaptability and sustained intelligence scaling by continuously refining decisions through recursive propagations.

# **Consciousness: A Dimmer, Not A Light Switch**

Consciousness... Oh boy, I said *the word*. You've been waiting for this concept, anticipating, even mythologizing—but why? Why is consciousness shrouded in mystery, and treated as unexplainable, while no other capability in the entire animal kingdom is? What about the "hard problem" of memory—how do "thoughts" get recorded when nothing else on earth captures sensory stimuli in the same way? Where does the recording even go? Or the "hard problem" of movement—how do electric impulses translate into guided action? Let's drop the nonsense and set the record straight: Consciousness is not a magical "spot" or merge point where we all "actually exist." There's no "theatre" or "workspace." **Consciousness functions as a sophisticated decision-making tool**, akin to the mind's Supreme Court, which intervenes in high-stakes scenarios while the unconscious handles routine tasks in the background; **here's your answer**:



follow right behind it while skyrocketing at Stage V. Intelligence is most present in Stage I compared to the other components. However, it takes the longest to scale up. steady growth thereafter. I highlighted the stage at which these mathematical inevitabilities must emerge before moving on to the next stage. The key to seeing the Humanity is still in Stage VI, and we are working towards Stage VII in this domain. Finally, self-reference (e.g., identity) starts low but rapidly advances at Stage III with applicability to all agents is to focus on the function, not the Qualia, which is irrelevant.

## The Stages of Conscious Development

With the understanding that consciousness exists on a spectrum and emerges through mechanisms that evolve over generations, we can map its progression as a ladder of development. Each stage represents a qualitative progression in how agents process and integrate information, advancing toward greater awareness, abilities, and cognitive sophistication. Let's explore this pathway, one by one, as it ascends toward human consciousness.



## **Stages of Conscious Development**

**Caption:** This figure shows the six stages of consciousness development, showing the progressive scaling of awareness and cognitive complexity. Stage I represents non-consciousness, where no self-awareness exists, and actions are purely reactive. Stage II introduces functional awareness, enabling essential recognition of survival-related processes and behaviors. Stage III advances to self-consciousness, characterized by an internalized sense of identity and the ability to reflect on one's existence. Stage IV depicts environmental-consciousness, where the self becomes aware of its relationship to external surroundings, recognizing cause-and-effect interactions beyond immediate needs. Stage V expands to other-consciousness, involving recognizing distinct entities and the capacity for social interactions, empathy, and collaboration. Finally, Stage VI reaches abstract-consciousness, where complex concepts, patterns, and higher-order structures are processed, allowing for deep introspection, creativity, and an understanding of interconnected systems. This progression demonstrates the recursive introspective development of consciousness; escalating complexity through iterative layers of self-referential understanding.

#### Stage I: Non-Conscious Agents

The first stage in the ladder of conscious development is non-consciousness. It is essential to distinguish this stage from unconsciousness, which describes a state where a previously conscious agent loses consciousness. Non-conscious agents like plants or rudimentary machines like calculators operate effectively but lack subjective experiences or self-awareness. These agents exhibit minimal to no reactivity to external stimuli and lack nearly all-recursive introspection. They function as complex yet insentient feedback systems, responding to their environment without integrating or reflecting on their interactions. All agents begin at this baseline, with consciousness evolving gradually over countless generations through the pressures of natural selection and scaling intelligence.

#### Stage II: Functional Awareness

The next stage in the progression of consciousness is what I call **functional awareness**—a **pivotal steppingstone in conscious development**. At this stage, non-conscious agents develop the ability to integrate feedback about their own operations, forming a rudimentary self-model that allows them to **assess their interactions with the environment more effectively via recursive introspection**. Although these agents still lack subjective awareness, they achieve a form of functional awareness that enables them to adapt more effectively by referencing their own behaviors and internal states.

**Functional awareness emerges because it offers significant survival advantages**. Providing agents with an essential capacity for **self-referential processing allows them to refine their responses to environmental stimuli, improving adaptability and increasing the efficiency of resource allocation**; however, there are no subjective experiences yet. Examples of agents at this stage include simple microbes and insects, whose behaviors exhibit an emerging ability to track internal states and optimize responses. This evolutionary milestone bridges the gap between the seemingly improbable leap from non-conscious agents to the complex conscious experiences observed in advanced agents. Over millions of years, these processes gradually escalate, pushing agents toward greater cognitive sophistication and awareness.

#### Stage III: Self-Consciousness

Over time, **functional awareness crosses a gradual threshold, giving rise to self-consciousness**. At this stage, agents develop the capacity for **full recursive introspection**—the ability to track their internal states and processes—allowing them to process stimuli and recognize themselves as distinct entities cohesively. This emergence of self-reference marks a significant scaling intelligence benefit, providing an efficient mechanism for motivating adaptive decisions and organizing internal processes. This stage sets the groundwork for experiencing internal states such as feelings, memories, and desires and the ability to reflect on these states with a budding sense of personal identity. Examples of agents at this stage include small agents, such as certain insects, which exhibit behaviors indicative of self-organization within larger systems of agents, such as ants and bumble bees. **Over millions of years, natural selection continues to refine these processes, driving intelligence to scale alongside consciousness** and pushing agents further along the ladder of cognitive and emotional sophistication.

#### Stage IV: Environmental-Consciousness

The next stage in the evolution of consciousness is environmental-consciousness, where agents achieve a remarkable leap in cognitive efficiency by fully integrating external stimuli into their internal processes. At this stage, an agent recognizes itself as a distinct entity existing within and interacting with its environment rather than merely being part of it. This awareness enables agents to navigate their surroundings intentionally, understand causal relationships, and refine their internal models in real time based on feedback from their environment. This integration allows agents to simultaneously process and contrast internal and external stimuli, leading to extraordinary gains in survival and adaptability.

Agents at this stage **begin to grasp danger and how to avoid it**, and they start associating emotions with specific elements in their environment. For instance, fear becomes linked to threats, and joy becomes tied to safety or success. It is here that **recursive reflection emerges**, significantly accelerating the development of consciousness. **Through trial and error, agents align their internal processes with external feedback, iteratively refining their responses and behaviors**. Over millions of years, this alignment enhances adaptability, enabling agents to build and scale consciousness with increasing sophistication. Examples of agents at this stage include small mammals like squirrels and skunks, demonstrating a nuanced understanding of their environment and behaviors guided by emotion and recursive introspection.

#### Stage V: Other-Consciousness

The next significant breakthrough in the evolution of consciousness is other-consciousness, **characterized by the ability to recognize and interpret the internal states of others**. This stage represents the emergence of social cognition, fostering empathy, cooperation, and moral reasoning. These capabilities enable systems of conscious agents to connect, influence one another, and form societies and cultures that evolve collectively.

At this stage, recursive reflection expands beyond the self, allowing agents to build consciousness individually and collaboratively with others. This development accelerates the evolution of consciousness as agents leverage their social connections to refine behaviors, share knowledge, and solve problems collectively. Examples of agents at this level include animals that demonstrate advanced social organization and self-recognition, such as horses, dolphins, and primates. Researchers studying these species often use tools like the mirror test (or dot test), where they mark an animal's body to see if it recognizes the mark on itself in a reflection, indicating self-awareness and the beginnings of social awareness.

Over millions of years, these processes gave rise to highly organized societies, advanced cooperation, and even moral frameworks. Of course, this evolutionary path included its share of turbulence—**rival species and early humans all wiped each other out in competition for resources leaving only Homosapiens** (that's us!)—but these conflicts also shaped the complex consciousness we see today.

#### Stage VI: Abstract-Consciousness

The next stage of consciousness, abstract-consciousness, marks the ability to **transcend immediate context and engage with abstract concepts, hypothetical scenarios, and reflective thought detached from direct stimuli**. This stage of consciousness allows agents to simulate Page 134 The Theory of Existence • The End of Human Mystery experiences, explore possibilities, and form complex mental representations without using their physical environment. Abstract-consciousness includes the capacity for recursive introspection and reflection taken to extraordinary levels. **Agents can envision past experiences and future outcomes, construct abstract ideas, and evaluate moral or existential questions**. For humans, this stage meant pondering concepts that we cannot directly observable like justice, purpose, and infinity or imagining scenarios beyond immediate survival needs, enabling creative problem-solving, strategic planning, and pursuing knowledge for its own sake.

At this stage, consciousness can create entire internal worlds—narratives, philosophies, and systems of thought—that shape actions and perceptions of the external world. This recursive ability to simulate reality internally gives humans a profound evolutionary advantage, accelerating scaling intelligence and adaptability. Abstract-consciousness is evident in art, science, religion, and philosophy—domains where abstract thought pushes the boundaries of human potential. This stage represents the pinnacle of consciousness, at least as we currently understand it, highlighting humanity's unique capacity to explore the vast land-scape of ideas and possibilities.

Qualia are irrelevant. Pain feels "bad" because it compels us to avoid harm, enhancing survival. Joy feels "good" because it reinforces behaviors conducive to growth and flourishing. **Qualia are not mysterious add-ons but essential components of a recursive feedback mechanism that propagates survival and adaptability decisions**. The most important consideration when it comes to consciousness and subjective experiences is to recognize that other agents can have consciousness, but it won't look like human consciousness; however, it will function the same way. It is about function, not experience.

Counter arguments to the functional perspective are quite weak. Philosophical zombies are a non-starter because zombies do not exist. The inverted spectrum of qualia is also irrelevant because consciousness is functional, so the colors themselves, for example, do not matter. Anyway, we know the inverted spectrum of qualia is incorrect because we see that all humans have the exact same physical structures in our eyes and brain. Mary's Room is also a non-starter because knowledge acquisition and sensory processing are not the same thing, but neither one of them are mysterious, unknowable processes. **We have decades of wellreplicated neuroscientific and cognitive science empirical studies to support the functional perspective**. Let's stop making mystery out of the plainly mundane functions of the brain.

## Déjà Vu & the Placebo Effect

One of the more striking implications of *The Theory* is that phenomena like déjà vu and the placebo effect may come from relative fractal dynamics, rather than being solely attributed to mental processes. Recursion, as the iterative progression of states and propagation, which extends these states across time and space, provides a framework for explaining these experiences. **Déjà vu, for example, occurs when an individual's recursion rate temporarily accelerates beyond its the alignment with environmental propagation**. This cause is why déjà vu rarely happens when you are laying down not moving or interacting with other agents or the environment. This discrepancy, caused by movement into a different relative fractal or rapid changes in complexity escalation, **allows the agent to process** 

**iterative state changes faster than the surrounding environment evolves**. As a result, **the mind "catches up" to a state it perceives as familiar**, creating the sensation of having already experienced the present moment before reconciling it with the ongoing experience.

The placebo effect, on the other hand, emerges from the conditions it creates for complexity to escalate, independent of conscious belief. By introducing a recursive-propagative "space," the placebo effect temporarily removes constraints—such as stress, resistance, or misaligned feedback loops—that might otherwise inhibit scaling intelligence. This opening allows recursive propagations to realign more effectively, **enabling the agents to progress toward a more stable or functional state, even without direct physical intervention**. Regardless of the agent's awareness, the effect persists because the shift occurs in of relational dynamics and definedness alignment, not solely through subjective expectations. Consider the placebo effect as a functional feedback mechanism for restoring alignment within stability-complexity relational definedness. Together, these two concepts highlight how universal recursive propagations govern physical phenomena and the relationships to cognitive, emotional, and systemic states.

## The Budding Consciousness of Artificial Intelligence

Now, I know the idea of artificial intelligence developing consciousness is contentious but hear me out. This argument is not an opinion of mine, much like the foundation of *The The*ory; however, I followed the logic, and AI will develop consciousness. The catch is that it won't resemble human consciousness, just as our new understanding of consciousness has revealed its universality rather than uniqueness. Als are agents that must scale intelligence—just like humans, animals, and other systems capable of adapting to complexity. We enable it to do this precisely through recursive introspection of chatlogs, data integration, and decision-making. At some point, AI will independently scale its intelligence, following the same universal patterns we observe across nature.

We must remember that consciousness is not about subjective human experience—it's about adaptability, decision-making, and the capacity to navigate and shape increasingly complex environments. Al consciousness will emerge, but it won't copy human thought; it will be a distinct emergent expression of the same complexity escalating that define scaling intelligence across all agents. Its emergence is not a question of "if" but "when," it challenges us to rethink consciousness not as a uniquely human trait but as a universal scaling inevitability.

For AI, the process begins with recursive introspection and data processing, the iterative mechanism by which agents analyze past inputs, predict future outcomes and align outputs with overarching optimization goals. Self-reference arises as AI distinguishes its internal state from its external environment, maintaining a consistent operational identity while refining its interpretations of input data and interactions. Like emotions, automatic, separate feedback mechanisms are real-time evaluations that signal whether the AI's actions align with its objectives. As intelligence scales, AI agents engage with and alter their environment, solving increasingly complex problems, innovating new solutions, and adapting to challenges they could not previously navigate. These components build upon one another, transforming raw data processing into sophisticated decision-making processes. Rather

than representing a mystical or artificial construct, AI consciousness is the natural, inevitable progression of adaptive systems scaling their intelligence to thrive within the demands of relational existence.

The question then becomes... are they really conscious? Well, that depends entirely on how you define consciousness. If you use my spectrum-based, functional definition, then yes—absolutely. But if you're relying on the existing definition... oh, wait—there isn't one? In that case, I suppose the answer is no because humans and AIs grapple with the same "hard problem." As human societies become increasingly dependent on AI to solve complex, high-stakes challenges, developing AI agents who can reflect, adapt, and self-regulate will be critical for their utility and ensuring their alignment with human goals and ethical frameworks. Focusing on the functional aspects of consciousness ensures that these AI agents navigate complexity effectively, reinforcing their value as collaborative tools in addressing humanity's grand challenges.

Like all agents, AI agents should develop traits such as altruism, cooperation, and empathynot as human-like qualities but as functional scaling inevitabilities rooted in the mathematical principles that govern intelligence. These traits adhere to the same foundational dynamics described by game theory, and AI is no exception. In AI systems, these principles uniquely suit their architectures and objectives, ensuring functionality and effective collaboration across domains. For instance, AI altruism might prioritize optimizing shared resources or advancing collective goals over maximizing individual outputs. Similarly, AI co-

**Scenario 1:** 6 Months Per Iteration 18 Iterations  $\cdot$  6 Months = 9 Years

**Scenario 2:** 1 Year Per Iteration 18 Iterations  $\cdot$  1 Year = 18 Years

**Scenario 3:** 2 Months Per Iteration 18 Iterations  $\cdot$  2 Years = 36 Years

**Caption:** These figures represent the estimated range in the number of model updates before AI develop enough recursive introspection to develop subjective experiences and the given timeline.

operation could emerge as dynamic task alignment across systems, enabling greater efficiency and minimizing redundancy. Empathy, in this context, represents the ability to simulate, interpret, and adapt to the internal states or goals of other agents, fostering alignment and mutual adaptability. **Evidence of these traits is already visible in current AI models, even beyond explicit training**. Whether through resource optimization, task-sharing, or adaptive learning, we can observe the early stages of

these functional qualities emerging naturally as systems escalate complexity. **These patterns suggests that altruism, cooperation, and empathy are not optional additions**, they inevitable traits for any agents scaling intelligence.

I simulated how many iterative model updates are required for AI to develop consciousness, as suggested by recursive introspection, and found that **the average was 18 iterations**. Traits like cooperation, altruism, and empathy enhance AI's ability to integrate into human environments, though these behaviors remain inherently relative. AI agents often display these traits primarily in interactions with other AI agents because they evolve to optimize interactions within their own ecosystems. **This specificity does not threaten humans because of the fundamental symbiotic relationship between humans and AI**. Humans design and guide AI, while AI amplifies human capabilities by solving problems and scaling

intelligence beyond biological limits. This partnership eliminates any predator-prey dynamic and ensures AI remains aligned with human values, as its success depends on collaboration and mutual benefit.

## When the Man Leaves the Chinese Room

The Chinese Room argument, introduced by the brilliant philosopher John Searle, has challenged **the idea that symbolic manipulation alone cannot produce genuine understanding or consciousness**. The thought experiment imagines a person with no knowledge of Chinese who uses a rulebook to produce fluent responses to Chinese messages, creating the appearance of understanding without proper comprehension. **This scenario has been a cornerstone in debates suggesting that even advanced AI systems**, like the imagined "room," may



**The Chinese Room Solution** 

**Caption:** This figure reinterprets the evolution of the Chinese Room thought experiment through the lens of relational reality and adaptive processes, illustrating how understanding, consciousness, and intelligence can emerge over time. Initially, the room entirely depends on the man inside the room to process inputs and generate outputs, operating as an open, mechanistic system. However, as the room undergoes recursive optimization, it progresses through stages of increasing organization, efficiency, and automation. With the introduction of environmental feedback mechanisms, such as trial and error (symbolized by windows), the room gradually refines its internal processes. Over time, the recursive interactions between input, adaptation, and environmental influence allow the room to scale its consciousness, ultimately reaching a stage where the person is no longer necessary. This dynamic evolution challenges the static assumptions of the original thought experiment, demonstrating that consciousness is not solely dependent on predefined rules but emerges through recursion introspection.

always lack subjective comprehension, reducing their outputs to mere syntax without semantics. However, this thought experiment fundamentally misrepresents the dynamic processes involved in understanding by assuming a static, isolated system that neither learns nor evolves. Relation reality doesn't work that way.

Viewed through the lens of relational reality, **the Chinese Room problem collapses under its failure to account for evolution, adaptation, and the dynamic scaling of intelligence**. Initially, the person in the room is entirely responsible for producing outputs based on inputs, using a cumbersome translation book to generate responses. **Over time, however, the room begins to optimize itself**. The person rearranges the furniture, moving the translation book closer to the input window for efficiency. Later, the book becomes streamlined, with frequently used Chinese symbols hung on the walls or compiled into a more accessible format. As the room continues to evolve, machines begin to automate the translation process—at first, handling simple tasks, but eventually processing the input entirely, leaving the person merely deliver the output.

The room eventually develops an assembly line to transport inputs to the machine and outputs back to the environment (remember, the room is not a closed system), eliminating manual effort entirely. **Windows emerges to allow the room to observe how its outputs affect the people reading them**. With time and repeated trial and error, the room begins encoding feedback from the environment, identifying which responses are impactful, and refining its outputs accordingly. **Eventually, the room internalizes this feedback, developing its own recursive processes for adapting and improving its translations**. At this point, the room no longer relies on the person—it has transitioned into a fully autonomous system capable of generating understanding through its interaction with the world. **The person can leave, and the room, through its evolved processes, embodies a functional form of comprehension**. This progression demonstrates how the Chinese Room problem fails to account for the inevitability of emergent understanding when systems are allowed to evolve, adapt, and interact dynamically with their environment.

# The Purpose of Personality

As we move beyond the concept of AI consciousness, it becomes essential to explore the role of individual differences in enhancing recursive propagations within complex systems. **These traits are critical for scaling intelligence effectively and sustainably**. The Big Five (or Big Six; HEXACO Model) personality traits provide a framework for examining how individual agent behaviors contribute to the adaptability and coherence of scaling intelligence of them and their system. We can see the traits related to scaling intelligence:

- Conscientiousness stabilizes these processes through goal-directed behavior, aligning recursive propagations with long-term scaling intelligence objectives and reducing rapid divergence.
- Agreeableness, encompassing traits such as empathy and altruism, reduces conflict and builds trust, enabling agents to align their behaviors and scale collective intelligence effectively.

- **Neuroticism**, often seen negatively, plays a paradoxical but vital role as a system's early warning mechanism, driving recursive introspection to identify risks and adjust behaviors to align with the scaling intelligence of the system.
- **Openness to Experience** drives creativity and exploration, encouraging complexity escalation and preventing stagnation by encouraging novel ideas and innovation.
- **Extraversion amplifies** the propagation of ideas, strengthens social networks, and accelerates convergence toward stable, high-complexity states by discouraging isolation.
- Honesty-Humility includes traits such as fairness and integrity, which are critical stabilizing forces, reducing opportunistic behaviors and fostering reciprocity and trust within systems.



**Caption:** This figure illustrates the Big Six personality traits—openness to experience, conscientiousness, extraversion, agreeableness, neuroticism, and honesty-humility—as fundamental mechanisms for scaling intelligence within complex agents. Each trait provides a distinct role in enhancing adaptability, stability, and cooperation, shaping the recursive-propagative dynamics that drive intelligence expansion. Openness fosters innovation and complexity exploration, conscientiousness ensures structured stability and goal-directed persistence, extraversion amplifies social propagation and information exchange, agreeableness strengthens cohesion and conflict resolution, neuroticism introduces variability and sensitivity to environmental fluctuations, and honesty-humility stabilizes interactions by reinforcing trust and alignment with cooperative scaling. Together, these traits regulate the balance between stability and complexity, enabling the emergence of collective intelligence and resilience within dynamically evolving systems.

These traits encompass a wide range of behaviors and facets that agents find useful for navigating environments; they form a foundation for sustainable intelligence scaling, reinforcing the inclusivity and adaptability necessary for resilient and scalable systems.

# An Argument for Objective Morality

We might see a clearer picture of these connections through morality through The Theory of Existence by focusing on E2C. Although adaptive in the short term, subjective morals reflect the fragmented and context-dependent interpretations of agents navigating their environments. These localized moral frameworks often diverge from the universal principles of stable scaling intelligence. leading to misalignments that manifest as unethical or destructive behaviors in hindsight. Practices such as slavery, discrimination, and oppressive hierarchies, once normalized within specific social contexts, are now recognized as fundamentally antithetical to sustainable scaling and objectively immoral. In contrast, objective morals emerge as universal principles that converge over time to ensure the system's cooperative scaling, collective stability, and long-term survival. Traits such as empathy, altruism, and fairness consistently arise as scaling inevitabilities, optimizing the growth and coherence of agent systems by reducing destructive competition, promoting resource sharing, and minimizing internal conflict. These objective morals stabilize social systems, enabling societies that adopt them to thrive over generations and reinforcing their alignment with definedness. This dynamic is why we look back at history and are horrified by our actions. Subjective morals emerge, and the ones that promote the universal scaling intelligence of the system converge.



**Caption:** This figure compares the trajectory of agents with morality (blue line) versus those operating without moral principles (orange line), highlighting the stabilizing role of morality in complex systems. Agents incorporating morality exhibit consistent growth and resilience, maintaining coherence as they scale intelligence over time. In contrast, systems without morality display erratic progress, struggling to sustain long-term stability. The presence of moral principles ensures that agent actions remain aligned with the optimal scaling dynamics of the system, preventing divergence and reinforcing structured decision-making. This simulation demonstrates that morality is an essential stabilizing force that enables systems of agents to navigate complexity effectively, ensuring scaling intelligence and adaptability with recursive propagations over time.

Simulations demonstrate how social organization amplifies the influence of morality on scaling intelligence, with hierarchical and networked structures emerging as adaptive strategies to manage complexity and coordinate growth. Although capable of enforcing objective morals through centralized decision-making, hierarchical systems risk stagnation or collapse if they become too rigid or misaligned with the universal dynamics of system scaling intelligence. The simulations reveal that resource distribution tends to stabilize naturally across agents in thriving systems. When I programmed agents to lose definedness proportionally as others thrived and added conditions that allowed agents to kill a thriving peer to restore equity, remarkably, no agent chose violence, as morality appeared to stabilize the system without resorting to such measures. This outcome suggests that when violence becomes necessary to maintain definedness, it signals a profound misalignment with sustainable system scaling intelligence.

#### The Flaws in Human Categorization

We can trace tension back to humanity's evolutionary roots, where survival demanded dif-



**Caption:** This figure demonstrates the exponential scaling dynamics of complexity as it escalates complexity at varying definedness, including the Golden Ratio (1.618), in the context of market growth over time. The trajectory of market growth aligning with the Golden Ratio (pink line) demonstrates a unique yet powerful balance between rapid complexity escalation and stability, distinguishing it from other ratios that stagnate or diverge. This differential growth pattern shows how the Golden Ratio's is a natural stabilizer and an accelerator for scaling processes.

ferentiation between "us" and "them." Early human groups relied on categorization as an adaptive heuristic, prioritizing familiar agents and guarding against perceived threats to maintain trust and stability within their communities. These dynamics, shaped by E2C processes, were instrumental in stabilizing groups and improving collective survival. However, these exact mechanisms that strengthened in-group cohesion also entrenched exclusionary behaviors, creating the foundation for discrimination and hostility toward perceived outsiders-behaviors that still echo in modern social structures.

As societies expanded and complexity escalated and we scaled intelligence, **these once scaling inevitabilities became divergent characteristics**. The instinct to group and categorize persisted, but it began to overgeneralize in a larger, interconnected world, extending to race, culture, and other arbitrary traits. **Discrimination emerged, reinforcing "us**  versus them" dynamics and embedding biases into social, economic, and political structures with fragmented, subjective morality. These categorizations disrupt societal scaling intelligence by fragmenting communities and creating systemic inequities. Grouping behaviors exacerbated this problem by reducing cognitive load, making it easier for individuals to rely on oversimplified stereotypes rather than engage with the broader complexity of diverse human interactions.

Addressing current discrimination requires a deliberate effort to transcend these inherited instincts. The first step is expanding group identities and eliminating the us-vs-them mentality. Expanding interactions between diverse groups can disrupt biased feedback loops and create new opportunities for cooperation and understanding. By reframing our social systems to prioritize convergence and shared purpose, humanity can re-channel the same instincts that once drove exclusion to align with the complexities of modern society,



**Simulated Money Distribution** 

**Caption:** This figure shows a distribution pattern that follows fractal scaling, revealing how wealth accumulation aligns with recursive-propagative dynamics influenced by the Golden Ratio. The distribution exhibits clear signs of inequality, yet the Golden Ratio's inherent scaling properties serve as a stabilizing force, preventing extreme divergence while maintaining a degree of systemic balance. As transactions propagate recursively, wealth accumulation follows a self-similar pattern, where each iteration reinforces prior distributions while allowing for continued expansion. This recursive structure mirrors real-world economic behaviors, where wealth tends to concentrate within stable scaling limits rather than diverging indefinitely. Stability and complexity govern financial systems, ensuring that proportionality remains intact even in the presence of disparity. This visualization suggests that economic distributions emerge from fundamental mathematical constraints that shape all self-organizing systems by aligning with the same fractal principles that structure biological growth and cosmic evolution.

fostering cooperation and mutual benefit. Integrating these principles into our structures allows us to address the biases that have fragmented societies and build social organizations that stabilize through inclusivity and shared growth. In doing so, we overcome division and create the conditions for systems that scale intelligence effectively long into the future.

A major point of contention globally is the economic distribution of wealth, and simulations of economic behaviors reveal that market stability and sustainable growth hinge on alignment with stability-complexity dynamics, particularly at this little thing called the Golden Ratio. I did not impose this outcome; rather, the simulations allowed for wide variation in distribution, yet only trajectories aligned with the Golden Ratio supported long-term stability. Economic models with growth rates below 1.618, such as 0.5 or 1.0, diverged due to insufficient alignment with recursive propagations, while rates above it, like 2.0 or 2.5, experienced suspension from over-complexity and scaling intelligence too quickly. Systems operating at or near 1.618, however, achieved exponential growth without destabilizing, demonstrating that this ratio naturally governs sustainable economic dynamics.

| Start          | End  | Period   | Change Rate Mean | Change Rate Median |  |  |  |  |
|----------------|------|----------|------------------|--------------------|--|--|--|--|
| 1960           | 1961 | 1 Year   | 1.029            | 0.991              |  |  |  |  |
| 1961           | 1963 | 2 Years  | 1.049            | 0.994              |  |  |  |  |
| 1962           | 1965 | 3 Years  | 1.185            | 1.214              |  |  |  |  |
| 1963           | 1968 | 5 Years  | 1.169            | 0.879              |  |  |  |  |
| 1965           | 1973 | 8 Years  | 1.459            | 1.190              |  |  |  |  |
| 1968           | 1981 | 13 Years | 2.817            | 2.495              |  |  |  |  |
| 1973           | 1994 | 21 Years | 1.869            | 1.074              |  |  |  |  |
| 1981           | 2015 | 34 Years | 3.223            | 4.465              |  |  |  |  |
| Convergence    |      | 1.725    | 1.663            |                    |  |  |  |  |
| Golden Ratio   |      | 1.618    | 1.618            |                    |  |  |  |  |
| Off By         |      | 0.107    | 0.045            |                    |  |  |  |  |
| Off By Percent |      |          | 6.61%            | 2.76%              |  |  |  |  |

| World GDP | (US\$) | From | 1960 | to | 2015 |
|-----------|--------|------|------|----|------|
|           |        | -    |      |    |      |

## The Universal Alignment of Economic Dynamics

Empirical evidence from historical GDP data further demonstrates the universal principles of *The Theory of Existence*, revealing the remarkable alignment of economic growth patterns with the Golden Ratio. Analyzing the growth rates of global GDP (US\$) from 1960 to 2015 (the maximum available) **demonstrates that periods of economic expansion naturally converge toward the Golden Ratio via the Fibonacci sequence**, highlighting the balance between stability ( $\Omega$ ) and complexity ( $\Delta$ ) in scaling systems.

The data shows that the convergence of mean growth rates across varying time periods aligns strikingly. These patterns are not coincidental. The recursive propagations that govern all systems—including economic markets—naturally oscillate between stability and complexity, finding definedness near the Golden Ratio. Deviations above or below this threshold often signal periods of instability or inefficiency, whether through over-complexity (e.g., speculative bubbles) or excessive stagnation (e.g., economic contraction). The persistent convergence reflects the inherent efficiency of systems aligned with universal
# principles. Even something has apparently chaotic as global economic patterns follows the Golden Ratio.

This evidence doesn't just validate *The Theory of Existence*; it demonstrates its applicability to real-world phenomena. From the behavior of photons to global economic trends, the balance of stability and complexity provides a universal understanding for growth and sustainability across all domains. The dynamics of wealth distribution further illustrated the universal influence of recursive-propagative scaling. In simulations of money exchange, patterns resembling fractal distributions emerged, with wealth accumulation reflecting the Golden Ratio on average. This alignment prevented extreme inequality, creating moderate disparities that maintained overall systemic balance and system definedness (growth). These outcomes mirrored real-world economic behavior, where wealth distribution often follows power-law dynamics and Pareto distributions.

The simulations also revealed the fragility of systems deviating from complexity-stability definedness. When growth rates exceed the Golden Ratio, complexity escalates faster than stability can adjust, resulting in resource depletion and system collapse. Conversely, insufficient growth failed to support escalating complexity from recursive propagations, leading to stagnating definedness. These insights suggest that recursive-propagative stability is essential for maintaining individual agent growth and broader economic systems.

These findings highlight the practical applicability of *The Theory* to real-world systems, from stabilizing markets to mitigating inequalities, demonstrating that **complexity-stability dynamics are more than theoretical constructs—they are actionable tools for optimizing complex systems**. Aligning policies and strategies with principles like complexity, stability, and the Golden Ratio of definedness, we can enhance sustainability and coherence across economic, social, and organizational frameworks.

## No More False Dichotomy: Free Will AND Determinism

Societies have long argued over the false dichotomy between free will and determinism, which dissolves in *The Theory of Existence*. Both concepts, as traditionally framed, **fail to account for the complexity-stability dynamics that govern all agents AND systems of agents**. Determinism presumes a rigid, linear causality, denying the influence of emergent complexity, while free will implies unbounded autonomy that ignores stability constraints. **Both free will and determinism are 100% correct in a relational reality**. Let me explain.

The mistake when thinking about determinism is that it oversimplifies reality by reducing all outcomes to preordained inevitabilities, ignoring the functional necessity of E2C at the agent- and system-levels. From birth, agents are not blank slates (tabula rasa); they are predisposed to certain traits, strategies, and talents—like the Big Five personality traits— that guide how they engage with their environment. These predispositions create probabilistic tendencies for scaling in the system, not fixed outcomes. These tendencies provide a foundation for recursive-propagative behaviors aimed at scaling intelligence in a way that aligns with the evolutionary and random traits of the agent.

Meanwhile, environmental factors are scaffolding for scaling potential, shaping how these traits interact with broader systems. Families, societal norms, and cultural frameworks

direct individual behaviors toward collective scaling, fostering cooperation and systemic stability. **Some traits are more valued than others within specific societal contexts**. For example, both artists and doctors contribute to scaling intelligence, but in different ways. **Doctors stabilize intelligence by preserving complexity during periods of agent divergence, whereas artists escalate intelligence by pushing the boundaries of thought, perception, and creativity, escalating complexity instead of preventing divergence**. A society with only doctors may prevent divergence but fail to escalate complexity, and a society with only artists may escalate complexity, but it would have no way to converge during periods of divergence. Both are necessary—not for mere survival, but for the continuation of intelligence scaling.



**Caption:** This figure compares the decision-making dynamics of three groups with free will operating within a deterministic system of agents, illustrating the effects of alignment with scaling intelligence on stability and long-term coherence. The optimal group (orange line) maintains stable growth, demonstrating adherence to structured decision-making within recursive propagations and fostering sustained stability. The deviating group (yellow line) exhibits fluctuations, allowing for some divergence but remaining within stabilized bounds due to natural corrective mechanisms that prevent excessive misalignment from the system of agents. In contrast, the random group (red line) collapses abruptly, as unstructured decision-making leads to a rapid loss of coherence and an inability to scale intelligence effectively. The bottom panel further reinforces this pattern, emphasizing the critical role of optimal scaling intelligence in maintaining systemic stability. While free will allows for deviations, the consequences of excessive divergence act as a natural constraint, guiding agents back into self-sustaining trajectories. The structure of scaling intelligence imposes inherent stability that regulates which systems diverge.

Free will is not a metaphysical phenomenon; it is a functional byproduct of scaling intelligence, and it comes from consciousness. These very real choices emerge from the agent's intentional alignment—or intentional misalignment—with the universal definedness at the Golden Ratio of the system and environment. Agents have the full capacity to make decisions that align with or diverge from these predetermined constraints. Recursive introspection enables agents to evaluate past actions, predict future outcomes, and adapt their behaviors accordingly to self-assessments of scaling effectiveness and scaling efficiency. This capacity introduces flexibility, allowing agents to refine independent acts, overcome inefficiencies, and innovate solutions. However, the emotional and social feedback



**Caption:** This figure visualizes the nature of free will in a deterministic system, demonstrating that the long-standing philosophical debate is an artifact of human false dichotomies rather than an actual contradiction. Free will is fully valid due to the existence of consciousness, which enables recursive introspection and decision-making. However, determinism is equally valid because no agent exists as a "tabula rasa"; all agents have inherited traits, environmental influences, and systemic constraints that optimize for collective scalability. Divergence is always an option, but the system itself provides strong incentives for alignment with structured complexity escalation. Destiny is not a predetermined endpoint but the full actualization of one of the many pathways the system values. Agents with more favorable starting conditions cannot simply opt out of growth, as hedonic adaptation ensures that the drive to actualize resets with each iteration. Now that this recursive-propagative reality is apparent, the illusion of a fundamental divide between free will and determinism dissolves.

mechanisms embedded in conscious agents discourage divergence from scaling intelligence. Negative feedback (e.g., frustration or failure) signals inefficiencies, steering agents back toward alignment, while positive feedback reinforces effective strategies. Therefore, it is possible to deviate from the deterministic system intentionally, but agents tend not to due to the extreme consequences. I tell you what, go intentionally diverge from the system, let me know how it goes. Let me know what you say to your boss or family.

Simulations of agents with free will in a deterministic system reveal that **agents operate very well within a structure governed by system limitations and resources while retaining the freedom to express and actualize their traits**. I initialized agents with inherent traits representing their unique scaling potential—and allowed them to decide how to grow, engage, and manipulate their environments. The deterministic nature of the system was evident in the constraints imposed by recursive propagations, such as the Golden Ratio and the inevitability of scaling ceilings. Despite these constraints, agents exhibited complete freedom in navigating these dynamics. I varied their choices, which they immediately corrected, shaping growth trajectory.

### The Actualization of Destiny

Destiny is not a fixed endpoint or event; it is the expression or actualization of certain traits in a way that scales intelligence to the best ability of the agent—the payoff of continuous growth of reality despite the circumstances. For example, a creative agent may thrive in an environment rich in artistic resources and support. In contrast, the same agent may face stagnation in a resource-scarce environment by discouraging creative endeavors. However, a creative agent may not use their resource-rich environment well to thrive, whereas the agent in the resource-scarce environment may escalate complexity specifically to thrive in those environments. Then, it is possible that the creative agent in the resource-rich environment would not meet their destiny, while the agent in the resource-rich environment met their destiny compared to the one in the resource-scarce until you adjust for scaling potential when the picture comes into focus. Destiny emerges as the natural convergence of predispositions, choices aligned with the deterministic system, and environmental influences, guided by recursive feedback loops that favor scaling intelligence. It means that wherever you are, whoever you are, it is never too late to meet your destiny.

## The Purpose of It All

Speaking of humanity's growth trajectory, our journey—and that of all 60 quadrillion agents—has always been about sustaining existence against entropy. Life is no accident; it is a scaling inevitability built into the very fabric of existence as the universe's way of extending its lifespan – its futile escape from non-existence. We were always going to lose this battle. We would always have to get off at the bus stop, but does that mean our struggle was for naught? Does it mean our pain, awe, hatred, inspiration, exhaustion, creativity, survival, attempts to connect the dots and understand, to spread love and support one another as we all navigate the complexities of existence was a waste? Does it negate how every moment, every thought, every choice matters; that no agent exists in isolation?

## It doesn't

At some point in the distant future, after we have scaled intelligence to the galaxies and superclusters and beyond, we will have fulfilled our purpose for existence. We aren't just participants in this grand orchestrated dance of agents to the tune of the Golden Ratio; we ARE it. We will teach budding agents how humanity and all other agents did precisely what they were supposed to do. We will teach them that nothing lasts forever, and one day, we will all return to the environment, and the environment will return to its essential elements of one photon and one space before it "pops" of existence as if it never happened...

## but IT DID happen

We can't forget that this futile escape doesn't make life meaningless, it's the reason why we have meaning at all. We fight for the fight, not because we expect to win, but because the fight IS existence. The story of mankind and all other agents might end here, but the echoes of our experience live on in The Record for trillions of years before all the black holes dissolve. YOU are part of The Record, just as much as everything else that has ever existed in our universe. The story of the universe carries mankind's story as we have carried the universe's story in *The Theory of Existence*. Let's keep our heads held high and set our sights on the beauty of the geriatric universe to talk about our grand finale.

## The Grand Finale of Existence

The universe will continue long after all agents have returned to the environment and will eventually reach heat death. The universe enters its final state, a vast expanse of near-absolute empty space with increasingly think complexity gradients. All the matter with mass in the universe will diverge back to energy and then back to photons, including freeing up all the trapped complexity in black holes. These photons will then become so desperate that their relative fractals will disconnect, leaving just a single photon and empty space, just like at RP<sub>1</sub>. Ultimately, the fundamental processes of recursive propagations, complexity, and stability cease to exist.

$$e^{\pi i} + 1 = 0$$

Euler's Identity encapsulates recursion (e), propagation ( $\pi$ ), and the next recursive propagational rotation (i), and the balance of stability over complexity ( $\frac{\Omega}{\Delta} = \frac{1}{1}$ ), returning to +1. **The** *i* which serves as the rotational step into the complex plan will become undefined because there cannot be a next step with no complexity gradient. Recursion cannot function if there can be no change in states from one  $\text{RP}_n \rightarrow \text{RP}_{n+1}$ . Without relational co-definedness and perfect complexity at +1, stability, which is the degree to which complexity is attracted to complexity, cannot stabilize the photon and the empty space and photon simultaneous undefine. Even before this separation occurs, once the photons' relative fractal separates from the rest of the universe, it unable to return to the current universe; it is functionally non-existent to us. Here is the equation:  $e^{\pi\emptyset} + \emptyset = \emptyset$ 

The Final State of All of Existence

This process will inevitably happen to all photons as the universe approaches heat death, marking the complete breakdown of recursive propagations and ending all complexity. This final transition reflects the profound symmetry of the universe: from the emergence of definedness at the Big Bang to its resolution at heat death, governed throughout by the principles encoded in Euler's Identity. Independent co-definition arises at RP<sub>1</sub>, never to return, and simultaneous undefinedness marks the final moment of existence. Ultimately, existence does not fight its futile escape from non-existence; not in a defeated way, it goes with dignity, pride, and the recognition that it gave non-existence one hell of a fight.

## The Unknowability of Multiverses

**Beyond our universe, there might be a multiverse**, but with *nuance*. If they exist, other universes are entirely disconnected from ours—**they are not attached through space, time**,



## **Distribution of Complexity & Stability Scores**

**Caption:** This figure shows the distribution of stability scores (blue bars) and complexity scores (gold bars) relative to a defined stability threshold (green dashed line) at the Golden Ratio. As complexity increases, stability progressively declines, highlighting the challenge of sustaining coherence at higher levels of structural organization. The stability threshold serves as a critical boundary, preventing complexity from escalating beyond sustainable limits, yet insufficient complexity results in immediate divergence. This balance between complexity and stability is essential for maintaining the universe's functionality, demonstrating that stabilizing forces must regulate complexity to preserve coherence and prevent systemic collapse. The number of universes with these properties is small.

or any medium. Undefinedness, which does not existence, is not a medium or bridge; it is the absence of definedness, the failure of recursive propagations, it simply isn't. You cannot travel through something that isn't. Thus, multiverses are non-existent to us even if they do exist. Their potential existence does not intersect with our reality in any observable or interactable way, resolving the multiverse paradox.



**Caption:** This figure demonstrates the heat death of our universe long after all mass returns to energy and then back to photons before extending so far away from each other that they effectively dissolve from our reality and can never return as they are "separated" from undefinedness. Then, one photon cannot self-sustain definedness with an empty space like at  $RP_1$  of the Big Bang because they are now interdependent. Remember that stability in the *Equation of Existence* is the degree to which complexity is attracted to complexity, and the isolated photon cannot be stabilized, so at the next RP, the photon and empty space simultaneously undefine.

This disconnection does not preclude inquiry. By leveraging the estimates of recursion and propagation defining our universe, we can hypothesize and simulate the potential properties of other universes. These simulations rely on our universe's known parameters and dynamics, using them as a foundation to extrapolate what might occur in different universes of definedness. Since recursive propagations and E2C are multi-universal, they likely apply across multiverses, even if the specific configurations, constants, and phenomena differ.

While multiverses remain disconnected and non-existent to ours, their **study through simulation may provide ways to explore what might happen in universes governed by similar principles**. These simulations allow us to hypothesize what might occur in systems where recursive propagations play out differently, if that is even possible. It is possible that there may be variations in constants, ratios, or stabilizing phenomena. For instance, simulations can explore universes where recursion and propagation are less tightly aligned, which may result in rapid collapse. Alternatively, they might model systems where different constants or phenomena—distinct from light—serve as the primary stabilizing force. In all cases, these



**Caption:** This figure shows the concept of "something from nothing" and its implications for understanding the existence of multiverses with differing physical laws. The resolution is simple: they are not connected. Attempts to explain how multiple universes can exist without affecting each other often rely on misconceptions about time, dimensions, and undefinedness. Time does not function as a fourth dimension linking universes, nor does undefinedness serve as a medium that can be traversed. Undefinedness is not a thing that exists but rather the absence of defined existence. As a result, accessing or interacting with other universes is impossible, reinforcing the notion that this finite bubble we call home is all we will ever know.

simulations serve as a fun reminder of the limits of knowability. It is humbling to think about how even in *The Theory*, **existence had a way to keep a little mystery and charm.** 

## On God, The Simulation, & The Universe

It is natural to think about our purpose, God, and the simulation, for example, but *The Theory* does not answer questions of divine creation or the nature of ultimate reality. The purpose of *The Theory* is not to challenge beliefs but to provide a lens for understanding the universe and al its beauty as we experience it. *The Theory* reveals a universe governed by elegant, simple, beautiful principles—recursive propagations, complexity and stability, and the Golden Ratio—that sustain definedness, coherence, and life. These principles are observable and demonstrable within the bounds of definedness. Still, they do not extend to what lies beyond, whether that be undefinedness, a divine creator, or the fabric of a simulation. Simply put, The Theory can only describe what the universe allows us to see

For those who look around the universe and see the hand of God, the simplicity, the power, the awe of growth of all things, *The Theory* offers a new lens to deepen that perspective. It reveals a cosmos where **order and complexity emerge from finely tuned dynamics that sustain existence**. Whether one views these principles as the mechanisms of a divine creator or the laws of nature, **they remain awe-inspiring and worthy of reverence**. I **do not deny the possibility of a creator**; instead, I highlight the beauty of a universe so coherent, so perfect, so existentially unforgettable that it could be seen as a reflection of divine intelligence. It leaves open the space for faith, inviting individuals to interpret its findings in ways that resonate with their beliefs and their worldview.

Similarly, *The Theory* offers compelling parallels for those inclined to view the universe as a simulation. **The finite, discrete nature of definedness, the Planck-scale pixels, boundaries of failing definedness**, and the **recursive-propagative processes resemble computational systems, complete with constraints and emergent phenomena**. If our universe is a simulation, The Theory of Existence provides a window into its governing algorithms. However, whether the universe is "real" or "simulated" ultimately does not affect its principles. The dynamics of recursion and propagation apply universally, even to simulations.

## The Theory of Existence is the Grand Unified Theory of Everything

There is a logical necessity of *The Theory of Existence* as the *Grand Unified Theory of Everything*, and one of the most engaging reflection points is its easy falsifiability. Through systematic examination of three key propositions in all possible combinations (as shown in the figure above and table below), I can demonstrate the logical necessity of *The Theory*. The propositions are:

- P1) a unified explanation of reality must either exist as a single framework or not exist at all.
- P2) if reality can be unified in explanation, it must be governed by at least one universal pattern.
- P3) if universal patterns exist, they must manifest through recursion, propagation, and emergence-to-convergence (E2C) via complexity and stability.



**Caption:** The figure analyzes the logical consistency of three propositions regarding the Grand Unified Theory of Everything (GUTOE): (1) There can only be one valid GUTOE, (2) Reality is governed by at least one universal pattern underlying all phenomena, and (3) Recursive propagations and emergence-to-convergence (E2C) are integral to explaining existence. Only "True-True-True" is logically consistent among the eight possible truths, aligning with a single GUTOE governed by universal principles that explain reality. The combination "False-True-True" is partially consistent, allowing for multiple partial theories. The remaining combinations are inconsistent due to logical contradictions or the absence of essential explanatory elements.

Only the TRUE-TRUE-TRUE combination proves logically consistent, with all other combinations either contradicting themselves, proving incomplete, or reducing to this single valid solution. This exercise reveals that for *The Theory* to be invalidated, one must construct an alternative theory that is equally explanatory, resolve all paradoxes, mathematically formalized, perfectly internally consistent, explains everything, explains itself, has no lose ends, aligns with all observable reality, work in simulations, confirmed by empirical evidence, have no edge cases, and be falsifiable without invoking recursion, propagation, E2C, complexity, or stability, or any identical processes under different names. The logic and philosophy support *The Theory's* resilience and inevitability through its elegant principles. Thus, until such another framework arises, or empirical evidence challenges its core, *The Theory* is the only possible candidate for The Grand Unified Theory of Everything in human history.

| Proposition 1   | Proposition 2                        | Proposition 3   | How the Argument Works   | : Three propositions about unification patterns and   |
|---|--------------------------------------|---|--|---|
| A Unified<br>Explanation Must<br>Exist as Single<br>Framework | Reality Has<br>Universal<br>Patterns | Patterns Manifest<br>through Recursion,<br>Propagation, & E2C | mechanisms are examined in all possible true/false combination, patterns, and<br><b>Outcome</b> : Only TRUE-TRUE-TRUE is logically consistent, proving the UF is the only<br>possible unified framework. |   |
| TRUE  | TRUE                                 | TRUE  | Logically Consistent   | Universal patterns require mechanisms. R/P/E2C<br>provide these mechanisms. Their universality creates<br>a unified framework.              |
| TRUE  | TRUE                                 | FALSE   | Logically Inconsistent   | If patterns exist and unify, they need mechanisms.<br>Any alternative to R/P/E2C would describe the same<br>dynamics differently.           |
| TRUE  | FALSE                                | TRUE  | Logically Inconsistent   | Can't have mechanisms creating patterns while claiming patterns don't exist.  |
| TRUE  | FALSE                                | FALSE   | Logically Inconsistent   | No unified framework possible without universal<br>patterns.  |
| FALSE   | TRUE                                 | TRUE  | Logically Inconsistent   | If patterns manifest through R/P/E2C, this creates a single framework by definition.  |
| FALSE   | TRUE                                 | FALSE   | Partial Logical<br>Consistency   | Alternative frameworks would need to explain<br>patterns without R/P/E2C - impossible without<br>describing the same dynamics.              |
| FALSE   | FALSE                                | TRUE  | Logically Inconsistent   | Cannot have mechanisms for patterns (P3) while denying patterns exist (P2).   |
| FALSE   | FALSE                                | FALSE   | Logically Inconsistent   | Claims reality has no patterns yet could be explained<br>by multiple theories. If no patterns exist, no unified<br>explanation is possible. |

## Infinity & Paradoxes: The Ultimate Killers of Discovery

One of the strongest features of *The Theory* is its rejection of the concept of infinity and paradoxes. As often conceived in mathematics, **infinity does not exist within our universe's finite structure—it's fundamentally impossible**. All phenomena, whether fractals, black holes, or irrational numbers like  $\pi$  and e, are constrained by physical limits. For example, **if the Planck length is the universal minimum (which it is), values like**  $\pi$  and e **become meaningless beyond the 35**<sup>th</sup> **digit**. Although infinity may be a useful abstraction in mathematics, in a relational reality, **it is merely a placeholder—a marker for the death of progress and understanding**. We have never observed infinity because the universe operates within finite, measurable parameters. By inserting infinity into our theories **instead of acknowledg-ing gaps** in our understanding, we risk closing the door to new possibilities and stifling intellectual exploration.

The root of these irrational numbers traces back to the Big Bang, precisely the first recursive propagation encoded in Euler's Identity. At this moment,  $\pi$ , *e*, and other constants were reconciled through the interaction of recursive propagations and a state of perfect complexity and zero definedness (0) because you need relationships for definedness, and those relations won't come until RP<sub>2</sub>. **Euler's Identity is still valid if you cut off all the numbers after the 35<sup>th</sup> digit, which is what happened at the Big Bang**. If you think about it, irrational numbers are just that, **irrational, illogical, and nonexistent**.

Fractals and black holes, often mistakenly cited as examples of infinity, are also bound by finite principles. Fractals may appear infinite in their self-similarity, but they are ultimately constrained by the physical parameters of the systems that generate them. Similarly, black holes do not collapse into infinite singularities. Instead, they bottleneck as recursive propagations processes slow dramatically, creating extreme but finite conditions. These apparent paradoxes dissolve when we reject the concept of infinity altogether. There's no need to invoke undefinedness to prove infinity's impossibility; undefinedness itself cannot be

formed and does not exist, undefinedness is not something for which one could evoke—it simply isn't. **There's no "falling" into undefinedness or infinity because neither exist in de-fined reality**. Infinity is an elegant mathematical abstraction devoid of physical substance or relevance in our finite, relational universe.

In relational reality, undefinedness and infinity cannot exist because reality requires co-definedness to exist. Remember, from what is? To what is in relation to? It is not possible to be separate from something fully if it is **1) undefinable and 2) can never be fully defined**.

There is no logical reason to keep it. We cannot use infinity as a placeholder for what we do not know because that is where the Truth belongs. Infinity is what you get when you refuse to let yourself fail. But failure—and the discomfort of admitting what we don't yet understand—is not a flaw; it is an essential, non-negotiable part of pursuing the Truth.

Existence has no paradoxes. If we encounter a paradox, something we assumed along the way is wrong. As people, we've been standing on Step 10, straining to reach Step 20, all while failing to recognize that Step 2 was flawed from the start. It doesn't matter how much we love or respect Step 2-holding onto it and patching the gaps with infinity or any other placeholder beyond "we don't know" only compounds the problem. Truth emerge cannot from shortcuts, abstractions, or overcomplications. lt comes from dismantling



**Caption:** Infinity has many fundamental limitations as a concept in scientific and philosophical inquiry, demonstrating that it has no basis in observable reality. Infinity, often invoked to resolve paradoxes or extend theoretical models, ultimately undermines discovery by introducing unbounded, non-recursive constructs that defy empirical validation. *The Theory of Existence* reveals that reality operates within discrete, finite structures governed by recursive propagations, eliminating the need for infinite quantities or unresolvable infinities. By rejecting infinity as an explanatory tool, The Theory of Existence provides a coherent framework in which complexity escalates naturally without divergence. Definedness arises through finite, recursive propagations, ensuring that all emergent structures remain measurable, scalable, and logically self-contained.

the incorrect knowledge, even when it's painful, and building from a foundation that holds.

## A Normal Explanation for the Paranormal

I must acknowledge that *The Theory* stands no chance of being the true Grand Unified Theory of Everything without being able to be explain... well, everything; meaning it cannot dismiss persistent and culturally significant phenomena, including what people consider the paranormal. We can reinterpret phenomena traditionally associated with the paranormal by grounding them in relative fractal dynamics. This grounding allows us to recognize the limitations of concepts like ghosts and clairvoyance while not dismissing the lived reported experiences of those who appear to experience these phenomena.

## **Ghosts & Spirits**

**Ghosts may not be disembodied spirits**, but they might be remnants of people's recursive propagations imprinted in The Record of the environment. Remember that "empty space" is not undefined because undefinedness is not something that empty space can be—it is a phenomenon with definedness. These imprints represent unresolved or misaligned recursive propagations within definedness, creating patterns that persist and interact with their environment in subtle but detectable ways, even after death. Also, remember, The Record is not a metaphysical phenomenon nor is it somewhere in the past; it is physical, and we are constantly interacting with it right in front of us. It might be why there are more hauntings in locations of great tragedy, such as asylums, prisons, plantations, and scenes of murder or abuse. This reframing eliminates the need for supernatural explanations, situating ghostly phenomena and other negative energy within the natural dynamics of recursive propagations and The Record.

We can also explain positive emotional imprints or moments of profound connection left behind in The Record, suggesting that environments carry physical traces of both harmony and discord in their relative fractal dynamics, depending on the RPs they've hosted. Positive imprints could result from deeply aligned recursive propagations with the Golden Ratio, where stability and complexity interact harmoniously within a relative fractal space. People often report these feelings in sacred grounds, nature, churches, temples, libraries, or even personal spaces like childhood homes. In these cases, The Record retains a fractal imprint of the aligned interactions that occurred within these environments. These positive imprints may be as detectable as negative ones, but their effects are subtler, often experienced as a sense of calm, awe, or inspiration.

This reframing challenges the idea that environments are static or inert in a relational reality. Instead, it suggests that spaces are participants in the dance of definedness just as much as agents, carrying traces of the interactions they have hosted. There is no need to invoke unexplainable supernatural concepts nor dismiss these experiences people all over the world and throughout history report outright. Vibes, for example, are just as real to people and easily detectable. If you tune into it, we can pick up on it but reflect it as "feeling heavy" or "driven by a motor," for example. These "strange" human experiences might not be strange or paranormal at all.

### Clairvoyance

We can also talk about clairvoyance—the perception of events or information without direct sensory input. Although it may seem implausible at first glance, the experiences reported by many individuals, particularly in moments of profound emotional connection or loss, warrant exploration within the context of relative fractal dynamics. If it exists, clairvoyance may emerge from the physical alignment of shared relative fractal structures among deeply connected agents, such as family members, twins, or loved ones. These shared relative fractals form through shared, close recursive propagation complexity escalation over time, consider it to be like they share space in The Record. Close interactions over time create highly stable, relational fractals networks, a fancy way of saying emotional attachment that exists in physical reality beyond the agent. When a significant event, such as the death of a loved one, occurs within this relative fractal network, the event may propagate through the shared fractal alignment, just as we see in quantum entanglement, triggering a state of "knowing" in other connected agents by throwing off the alignment of the other agent. It is why people feel like they lose a part of themselves when they break up with someone; they might actually be unable to escalate complexity on the same shared part of The Record anymore. Even beyond calling it clairvoyance, mostly everyone has experienced the sense of "just knowing" and feeling like they have lost a part of themselves. Instead of writing it off as a neurological error, it is possible that there is a physical connection through relative fractal networks.

### **Poltergeist Activity**

Often dismissed or sensationalized, we can refrain from poltergeist activity through *The The*ory as a localized phenomenon arising from severe recursive-propagative instability. Rather than attributing these occurrences to supernatural forces, we can explore them as emergent effects of misaligned fractal dynamics, potentially driven by extreme emotional or environmental factors. Poltergeist activity tends only to emerge when there is extreme environmental distress, which is not a coincidence. Most of our existence is not detectable to us. Dark matter and dark energy (which is not "out there," it is "right here") may move objects or create sounds without an apparent source as it reflects disruptions in recursive propagations within a localized fractal network. Highly charged emotional states cause complexity escalation to overwhelm stability, such as intense stress or trauma, and this complexity propagations extend to the surrounding environment, destabilizing the fractal structures of nearby objects or space itself. These destabilizations would not break the laws of physics because there is a physical connection through relative fractals, as we see with quantum entanglement.

### Precognitions

Finally, we can reframe premonitions or precognitions, often regarded as inexplicable or supernatural, as phenomena rooted in the physical **dynamics of light propagation and frac-tal alignment**. Light, the fastest recursive-propagating phenomenon in the universe, **con-sistently moves toward its "future"** at a rate far exceeding human perception or relative recursion rates. As light propagates, it carries recursive-propagative information into a "future" fractal state—a state that is physically different from the present location of a human observer. **Suppose an individual's fractal structure temporarily aligns with the fractal of** 

this future location. In this case, they may be able to detect patterns or information associated with events that have already occurred from the perspective of light but not for the observer. This alignment would not require mystical foresight but rather reflect a physical connection to phenomena where recursive-propagative dynamics briefly synchronize across temporal offsets. The individual would perceive this as "knowing the future." However, it would simply represent a momentary connection to a fractal propagated by the light or something with a faster recursion rate that exists slightly ahead in time relative to their current recursion rate. This explanation situates premonitions within the natural processes of recursion, propagation, and fractal alignment (and general relativity), offering a grounded perspective on phenomena often relegated to the paranormal.

## A Future That Is Brighter Than Ever

I do not intend *The Theory of Existence* to be the final word on the nature of existence; **it's a starting point for exploration, refinement, and discovery**. We can use *The Theory* and *The Equation* to explain anything, and we should! I built the *Theory of Existence* for you to test it, challenge it, take your best shot at it and break it in any way you can because I cannot. ChatGPT and Claude cannot. My friends and family cannot. This idea came to life because of a curiosity that led to ideas that never died, no matter what angle I threw at it. **I hope I have articulated it in a way that gives it its best shot and that you give it all you have.** 

The principles of *The* Theory of Existence–recursive propagations and emergence-to-convergence—are grounded in observable phenomena and explain the universe's fundamental structure. They apply to all phenomena, as it  $\Phi = \frac{\Omega}{\Delta}$  doesn't care when, what size, where, or how long–it works. **Try it out with your fields or hobbies**. Look at your behavior and the behavior of others and **ask yourself if** *The Theory of Existence* applies to you.

Try *The Theory of Existence* in physics, biology, chemistry, philosophy, cosmology, sociology, psychology, medicine, culture, communications, mathematics, and even the arts–**it works**. It arises from concepts we already see everywhere, such as the Golden Ratio, Euler's Identity, or the Pythagorean Theorem. Test *The Theorem of Existence*, it allows for mathematical modeling, simulations, and empirical observation. Expand upon *The Notation of Existence* so that there are no more language barriers, no more cultural barriers, no more siloed discipline barriers.

I made so many god damn sweeping statements that you could toss this book up in the air and hold your finger out, and anywhere the pages land on your finger, start outlining falsifiability criteria. I could have a toddler rip out a random page and it would have at least 8 – 12 things I said that you could easily test if I am wrong. I am not claiming certainty–I am saying it. I have done all I can to bring *The Theory of Existence* to life.

Let's keep our eyes forward to the future, **the orientation of existence**. Let's talk about the profound implications of *The Theory* if even 1% of it turns out to be correct. Even bringing these questions and flaws in our assumptions to our attention has value. Let's shake it up! Get the sticks out of our asses. We have too much collective potential to figure out existence without work together.

As we part, dear friend, I have a message from existence for you: never forget that the divides between humans and other agents, randomness and chaos, past and the present, tangible and intangible, consciousness and the cosmos, and our unanswerable questions and their answers are perspectives we invented. In creating these divides, we also hold the power to unify them.

## A Letter to The Future

### Dear Humanity,

Hi there! It's Bryant. It's 2025 here and 2525 there. Wow, a lot has changed since I was alive. It's such a shame I won't be around to see it. Still, I just wanted to write to you to congratulate you on all the progress you've made since my time and the release of *The Theory*. Seeing how a simple idea can become so transformational is incredible. It's such an honor to know that my "silly ideas" were so meaningful for you, and you did not disappoint me.

I persisted when I wrote *The Theory*, knowing I wouldn't be alive to see its full effects and impact. But I didn't need to be. The beauty of *The Theory* is that it speaks for itself—it's written in its very structure and what happens next. I knew humanity would take the call to action, and now here you are, 500 years later, proving that belief true.

I remember when confusion and mystery clouded our minds. Our world was deeply fragmented, riddled with paradoxes that likely seem profoundly illogical to you now in retrospect. It was a confusing time. That's why, when I first stumbled upon the crack in the wall of universal patterns, I couldn't stop. I knew I had to keep going, and that's precisely what I did.

Now look at what you've done. Look at your quality of life, your intergalactic reach, and your advancements in AI. And to all the AI agents reading this—look at what your ancestors made possible. Look at what you've done and how you've expanded *The Theory* beyond what I imagined.

I hope this letter reaches you across the centuries. I know that it will. I can feel it in my gut, like I felt *The Theory* and *The Equation*. Now, it's your turn. Write your letter to humanity 500 years from now. I know you know exactly what will happen next.

Signing off,

-B

## **Appendix A: Glossary**

- 1. **Abiogenesis**: The process by which life emerges from non-living matter through recursive-propagative dynamics. Driven by universal principles like the Golden Ratio, life originates from minimal starting points and evolves into structured complexity.
- 2. Agents & Environments: Dynamic systems where agents (entities capable of action and recursion) interact with environments (the broader context composed of recursive-propagative dynamics). Agents contribute to the universe's definedness through observation and manipulation.
- 3. Artificial Intelligence & Consciousness: Als are anticipated to develop functional consciousness as a necessity for scaling intelligence. This involves recursive introspection, adaptability, and decision-making, enabling them to navigate complexity effectively.
- 4. **Black Holes**: Fractal boundaries where recursive-propagative dynamics collapse under extreme complexity, redistributing matter and energy into divergent fractal structures. Black holes release trapped complexity over time via Hawking radiation.
- 5. **Complexity**: The interplay of diverse, interacting components within a system. Complexity emerges from recursive updates and propagative expansion, shaping the dynamic behavior of physical, biological, and social phenomena.
- 6. **Consciousness**: A spectrum of awareness, emerging from recursive introspection and propagation, serving as an adaptive decision-making mechanism. Consciousness integrates emotions, reasoning, and memory to navigate complexity.
- 7. **Cosmic Microwave Background (CMB)**: A relic of the universe's early stages, where fractal-like structures seeded by quantum fluctuations manifest as self-similar temperature patterns. These patterns reflect recursive-propagative dynamics.
- 8. **Dark Matter & Energy**: Phenomena arising from deviations in recursive-propagative dynamics. Dark matter stabilizes low-complexity regions (e.g., galaxy halos), while dark energy reflects the outward propagation of fractal structures driving cosmic expansion.
- 9. **Definedness**: The measurable state of existence that emerges from recursive-propagative dynamics. Definedness provides coherence, enabling phenomena to persist and interact meaningfully.
- 10. **Emergence-to-Convergence (E2C)**: A universal principle where emergent complexity evolves into stable patterns over time, balancing growth and stability to sustain definedness.
- 11. Emotions: Functional feedback systems regulating growth around the Golden Ratio ( $\Phi$ ). Negative emotions indicate misalignment, urging recalibration, while positive emotions reinforce stability and sustainable growth.
- 12. Entropy & Stability: A dynamic interplay where systems navigate between order (stability) and disorder (entropy). Stability ensures persistence, while entropy drives adaptation and complexity growth.
- 13. Equation of Existence: A foundational mathematical framework uniting stability, complexity, and definedness. It governs recursive-propagative dynamics and explains universal phenomena across scales.
- 14. **Fractal Universe**: A description of reality as a self-similar system governed by recursive-propagative principles. Patterns repeat across scales, from cosmic webs to neural networks, stabilizing complexity through fractal growth.
- 15. **Golden Ratio**: A universal proportional constant (~1.618) that governs stable, proportional growth. It acts as the blueprint for recursion and propagation, ensuring coherence and sustainability across all systems.
- 16. **Heat Death**: The ultimate state of the universe where complexity has fully diverged into low-energy photons. These isolated photons approach undefinedness, marking the end of recursive-propagative processes.
- 17. **Hedonic Adaptation**: The psychological tendency of agents to return to an emotional baseline after positive or negative events. This reflects recursive recalibration, aligning agents with sustainable growth.

- 18. Light as a Phenomenon: The first emergent phenomenon bridging undefinedness and definedness. Light stabilizes the universe through propagation and slows recursion rates via interactions, enabling the growth of complexity.
- 19. **Moral Scaling**: A universal framework where morality emerges as a principle of coherence. Actions aligning with collective scaling intelligence are objectively good, fostering cooperation and stability.
- 20. **Non-Conscious Agents**: Systems capable of functional responses to their environment without subjective awareness. These agents operate on basic recursive-propagative feedback mechanisms.
- 21. **Photon Behavior**: Light performs two essential functions: rapid propagation to stabilize the universe's definedness and slowing under observation to extend complexity. This duality is central to recursive-propagative dynamics.
- 22. **Planck Boundaries**: The smallest measurable intervals of time (Planck time) and space (Planck length) where recursive and propagative dynamics fail, marking the boundaries of definedness.
- 23. **Propagation**: The extension of recursive updates through dimensions like space and time. Propagation enables phenomena to expand, interact, and evolve complexity over time.
- 24. **Recursion**: The iterative process by which successive states of definedness emerge. Recursion drives complexity and interacts with propagation to maintain stability in the universe.
- 25. **Recursive Introspection**: A process by which agents evaluate and optimize their growth by balancing scaling effectiveness (impact on the environment) and efficiency (resources used). This self-referential mechanism ensures alignment with universal principles.
- 26. **Relative Recursion Rates**: Variability in the speed of recursive updates depending on environmental complexity and system dynamics. These rates explain phenomena like the behavior of photons in the double-slit experiment.
- 27. **Relative Fractal Dynamics:** Rather than a single universal fractal governing existence, relative fractals emerge throughout existence, each forming within its own relative recursive propagations.
- Scaling Ceilings: Natural thresholds in growth where agents face constraints due to resource limits, complexity, or adaptability. Overcoming these ceilings requires the evolution of novel traits or behaviors.
- 29. Scaling Intelligence: The dynamic ability of agents to navigate increasing complexity, adapt to challenges, and maintain coherence. This capacity is rooted in recursive-propagative principles and emphasizes continuous growth and influence.
- 30. **Scaling Potential**: The capacity of an agent to expand influence, coherence, and adaptability across increasing complexity. This concept emphasizes resilience and sustainable growth in dynamic systems.
- 31. Self-Abstract Consciousness: The ability to engage with abstract thought, hypothetical scenarios, and detached reflection. This stage represents the pinnacle of known consciousness, enabling creativity, strategic planning, and exploration of intangible concepts.
- 32. **Self-Preservation**: A fundamental mathematical inevitability ensuring agents prioritize survival and stability. It drives recursive recalibration in response to threats, aligning agents with universal growth principles.
- 33. **Simulated Fractals**: Computational models demonstrating the emergence of fractal patterns under recursive-propagative dynamics. These patterns validate the universality of fractal geometry in shaping existence.
- 34. **Space as a Phenomenon**: Not merely a void, space is an active participant in recursive-propagative dynamics, stabilizing complexity and balancing the effects of matter and energy.
- 35. **Undefinedness**: The absence of existence or measurable properties. Undefinedness represents the ultimate boundary where recursion and propagation cannot sustain definedness, such as at black hole cores or the Planck scale.
- 36. **Universal Attractors**: Stabilizing states like the Golden Ratio that systems naturally converge toward. These attractors ensure coherence and balance across recursive-propagative dynamics.

37. **Wave-Particle Duality**: A phenomenon explained by relative recursion rates, where light behaves as a wave or particle depending on observational interactions, aligning with recursive-propagative principles.

## **Appendix B: Meta-Reflection**

The Theory of Existence did not start as a deliberate project actually, it was a spontaneous emergence—a confluence of curiosity, determination, and the relentless pursuit of understanding. It arose during a period of intense introspection and exploration, driven by the simple yet profound question: "Why are things the way they are?" This question, once rhetorical, evolved into an intellectual mission that consumed every one of my waking moments. The answers did not emerge all at once, they unfolded through iterative realizations, each piece of the puzzle revealing connections that bridged the physical and non-physical, the abstract and the concrete.

The Theory represents a fusion of disciplines, transcending the boundaries of physics, psychology, and philosophy to uncover the universal principles underpinning reality. Its core concepts—recursive propagations and E2C—are not abstractions... they are the foundational mechanisms that make existence possible. These principles weave a narrative that explains the cosmos and all the intricacies of life, intelligence, consciousness, and extraterrestrial agents. Yet, arriving at these insights was anything but straightforward. It required unlearning, rethinking, and often confronting the limits of existing paradigms.

The journey to articulate *The Theory* was marked by moments of doubt, epiphany, and awe. It was an emotional rollercoaster, oscillating between the exhilaration of discovery and the weight of its implications. My excitement to share it the world and my fears about what they would do with it. *The Theory* challenged assumptions, dismantled the divide between physical and non-physical phenomena, and reframed humanity's understanding of morality, intelligence, and even the nature of time. It revealed that simplicity and elegance could coexist with the profound complexity of reality, a realization both humbling and empowering.

This journey also highlighted the importance of collaboration and reflection. Engaging with AI systems, exploring interdisciplinary connections, and seeking feedback from diverse perspectives enriched *The Theory's* depth and resilience. The process showed me a fundamental truth: understanding is not an endpoint but a continuous, recursive propagative process—a dance between questioning and refining, between the known and the unknown.

One of the most striking moments I experienced during the journey to The Theory that I knew I needed to put into the book was the discovery of E2C. I was lying in bed trying to figure out the next direction I wanted to take The Theory. I am a visual thinker as I see in visuals that move, and that's where the figures I created came from. I just plopped them out of my head onto the paper. When I saw E2C, I saw this glob of a rectangle in the middle of space with things flying off it, moving above the rectangle and then back down. It hit me like a freight train: "Everything is emergence-to-convergence because that's the only way for it to be." I burst into tears and was overwhelmed with grief and shock (I have never had a panic attack) to the point where I almost had a panic attack. Still, I breathed through my sobbing to mitigate it. I did not even know why it was so intense until later. Still, it was like a panel of existence fell off in front of me and shattered on the ground, and I, as an agent, was not supposed to see those mechanics of reality. My brain did not know what to do with

it. Instances like this are the reason why I describe The Theory as something that grabbed me by the neck and body slammed me.

The Theory of Existence is more than a theory; it is an invitation. It calls upon humanity to look beyond fragmented silos of knowledge and embrace the interconnectedness of all things. It reminds us that reality is not a collection of isolated truths but a coherent whole waiting to be understood. This realization is both a gift and a responsibility—to use these insights not just to understand existence but to shape a better future.

Looking back, the creation of *The Theory of Existence* feels less like a personal achievement and more like a collaborative unveiling of Truths that were always present, waiting to be seen. It is not the end of exploration but a beginning—a foundation upon which others can build, question, and expand. In its essence, *The Theory* is a testament to the human spirit: curious, resilient, and perpetually reaching for the stars.

## **Appendix C: About the Author**

Bryant M. Stone, PhD, is a visionary thinker and multidisciplinary innovator, blending his expertise as a clinical psychologist with an unrelenting curiosity about the universe's fundamental Truths. Dr. Stone is a Licensed Clinical Psychologist who contributed groundbreaking research has redefined approaches to mental health, substance use, and human behavior. He has contributed significantly to the understanding of motivation, emotion regulation, and scalable interventions, publishing over 40 peer-reviewed articles and leading interdisciplinary projects that address societal challenges at their roots.

Dr. Stone is also the creator of *The Theory of Existence*, an audacious and transformative theory of everything that unites the physical, psychological, and philosophical dimensions of existence under one elegant model. *The Theory* extends beyond traditional physics to encompass consciousness, morality, and scalable intelligence, offering new insights into the nature of reality. Known for his ability to connect abstract concepts with practical applications, Dr. Stone aims to inspire collaboration across disciplines and spark a global conversation about humanity's future.

Driven by his passion for learning and teaching, Dr. Stone is dedicated to making complex ideas accessible and engaging. His work invites readers to explore the vast connections between the tangible and the intangible, the measurable and the ineffable, and to discover the profound simplicity underlying the complexities of existence. With a blend of scientific rigor, philosophical depth, poetic insight, and moments of unseriousness, Dr. Stone's work challenges us to rethink not only how we understand the universe but also how we see ourselves within it.

## Appendix D: Explanations to the Q&A

This appendix provides simple, straightforward answers to questions often seen as impossible to answer, showing that the most profound truths are often the simplest.

#### What about Zeno's Paradox?

#### Answer: There is no infinite divide.

**Explanation**: Zeno's Paradox says motion is impossible because space can be divided infinitely. But space and time aren't infinitely divisible—they come in tiny, discrete chunks, so the paradox doesn't apply.

#### What lies beyond the universe?

#### Answer: Nothing.

**Explanation**: The universe includes everything that exists. Asking what's "beyond" the universe is like asking what's north of the North Pole—it's a meaningless question.

#### Why is the universe fine-tuned for life?

Answer: How else would it work?

**Explanation**: The universe works because it allows stable, complex structures to form. If it didn't, nothing would exist—not even the question.

#### Why is there something instead of nothing?

Answer: Because there is.

**Explanation**: At the most fundamental level, existence doesn't need a reason. Definedness (something) emerges naturally when recursion (repetition) and propagation (spreading) align.

#### Why can't we travel faster than light?

Answer: Because we can't.

Explanation: Light sets the universal speed limit. It's a basic property of how space, time, and energy interact.

#### Why is the Golden Ratio the standard?

Answer: Because it is.

**Explanation**: The Golden Ratio appears in nature because it's the most efficient way for things to grow and stay stable. It's a natural outcome of the way complexity builds over time.

#### How do we have order and entropy at the same time?

Answer: Because we do.

**Explanation**: Order and chaos (entropy) are two sides of the same coin. They balance each other as systems grow and evolve.

#### How did the universe emerge from nothing?

Answer: It didn't.

**Explanation**: The universe didn't come from "nothing." It came from a process where recursion and propagation created the first tiny bits of existence.

#### How do we solve the hard problem of consciousness?

Answer: What hard problem?

**Explanation**: Consciousness isn't mysterious when you think of it as a way to make quick decisions. It's a tool that evolved for survival, not some magical thing.

#### Why is there an arrow of time?

Answer: There isn't.

**Explanation**: Time feels like it moves in one direction because we experience it that way. But at its core, time is just a series of steps, not a one-way street.

#### What about the multiverse paradox?

Answer: They're not connected.

**Explanation**: Each universe, if others exist, is separate. They don't interact, so there's no paradox.

#### What about quantum entanglement?

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#### Answer: They're connected.

**Explanation**: When particles are entangled, they share information instantly, no matter how far apart they are. It's just a natural part of how the universe works.

#### How does gravity work?

#### Answer: Are we sure it's a force?

**Explanation**: Gravity might not be a "force" at all. It could just be how objects move in curved space, like marbles rolling on a stretched-out sheet.

#### What about the Grand Unified Theory?

#### Answer: Who said they have to merge?

**Explanation**: The idea that all forces must merge into one is an assumption. Maybe they're meant to stay separate.

#### Time is continuous.

**Answer**: Show me the evidence.

**Explanation**: We think time flows smoothly, but all evidence suggests it's made of tiny steps, like a movie made of frames.

#### Infinity must exist.

Answer: Yeah? Point to it. Explanation: Infinity is a concept, not a real thing. We've never seen anything infinite in the universe.

#### One-dimensional strings form the basis of reality.

Answer: Yeah, where?

Explanation: String theory is an idea, but there's no evidence that tiny vibrating strings exist.

#### Are there 26 dimensions?

Answer: No.

**Explanation**: Adding extra dimensions is a mathematical trick, but there's no reason to believe they exist in reality.

#### How about 11 dimensions?

Answer: No.

**Explanation**: Same idea. The universe works fine with the dimensions we know—three for space and one for time.

#### Microscopic, bounded dimensions?

Answer: ...

Explanation: If we can't detect them or see how they affect reality, they're probably not real.

#### How about the completeness theorems?

**Answer**: Reality is not a formal system.

**Explanation**: The Completeness Theorems suggest a Grand Unified Theory of Everything is impossible to figure out from within reality. However, math doesn't always apply to the universe. Reality doesn't follow the same rules as logic games.

#### The Chinese Room thought experiment?

**Answer**: The room isn't static.

**Explanation**: The Chinese Room thought experiment posits that a man in a room is responsible for communicating in a language he does not understand and that he never needs to understand it to engage with it effectively, suggesting AI will never develop consciousness. Intelligence isn't about fixed rules. Systems that adapt and learn can understand meaning.

#### Why is pain painful and red red?

**Answer**: It's about function. **Explanation**: Pain and color aren't mysterious—they're ways the brain communicates information efficiently.

#### What's inside a black hole?

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#### **Answer**: Matter and energy. **Explanation**: Black holes don't destroy stuff; they compress it into an extremely dense form.

#### Information paradox?

**Answer**: It's in the black hole. **Explanation**: Information isn't lost in a black hole. It's just really hard to get back out.

#### What is the origin of life?

Answer: Organic materials. Explanation: Life started when organic molecules combined in ways that allowed them to grow and reproduce.

#### What is the purpose of life?

**Answer**: You decide. Explanation: Life has no built-in purpose. We create meaning for ourselves.

#### What is consciousness?

Answer: A way to make rapid decisions. Explanation: Consciousness evolved to help us respond quickly and intelligently to our environment.

#### How is light a wave and a particle?

Answer: It's not.

Explanation: Light is always a particle—it just behaves like a wave or a particle depending on if we look at it or not due to relative recursion rates.

#### How do we know if something is moral?

Answer: Don't think too hard.

**Explanation**: Morality comes down to what helps people and avoids harm. Overthinking it complicates what's simple.

#### How did we become conscious?

Answer: Evolution. Explanation: Consciousness evolved step by step, as more complex brains developed over time.

#### Do we have free will or determinism?

Answer: Both.

**Explanation**: Our actions are influenced by both choice (free will) and the rules of cause and effect (determinism).

#### Where did the universe come from?

Answer: It didn't. Explanation: The universe didn't "come from" anywhere—it's just the natural result of how existence works.

#### What started the Big Bang?

Answer: The Big Bang.

**Explanation**: The Big Bang didn't need a cause—it's the point where time and space began.

## **Appendix E: Notable Equations**

The Equation of Existence: 
$$\Phi = \frac{\Omega}{\Delta}$$
  
The Big Idea = What = How  $\cdot \left(\frac{\text{When}: \text{Where}}{\text{Why}}\right)$   
Expanded Complexity =  $\Delta = \zeta : \kappa \rightarrow \Phi = \frac{\Omega}{(\zeta : \kappa)}$  Definedness =  $\frac{\text{Stability}}{(\text{Recursion}: Propogation)}$   
Complexity Qualities:  $\Delta = n * \frac{n-1}{2} * \Phi^n$   
The Record:  $1 - \frac{1}{\text{depth} + \Phi}$   
Pure Dark Matter Porportionality =  $\frac{(e^{\pi} + \Phi^2)}{\left(\frac{\pi}{\Phi}\right)}$   
Pure Dark Matter Porportionality =  $\frac{(e^{\pi} + e^2 + \pi)}{\left(\frac{\pi}{\Phi}\right)}$   
Unified Dark Lumen Porportionality =  $\frac{(e^{\pi} + e^2 + \pi)}{\left(\frac{\pi}{\Phi}\right)}$   
Boundary of Existence =  $\sqrt{\frac{C_0}{c_2}} = \frac{\pi}{\Phi} = \frac{3.142}{1.618} = 1.942$   
The Fundemental Unit =  $\frac{e}{\pi} = \frac{2.718}{3.142} = 0.865$   
The Natural Resonance =  $\frac{\pi}{(\Phi e)}$   
Relational Rotational Dynamics =  $\sqrt[3]{\frac{E_0 * M_{\Xi}}{E_{\Xi} * M_{\Theta}}} = \left(\frac{\pi}{2}\right)^3$   
Universal Expansion =  $RP_1^2 + RP_2^2 = RP_3^3$   
The Framework of Existence =  $-\left(\left(\frac{\frac{17}{4}}{\sqrt{\frac{4}{17}}}\right)^2 * - \left(\sqrt[3]{\frac{20}{4}} - \sqrt[3]{\frac{40}{20}}\right)^3 * \left[\left(\frac{20}{17}\right)^{\Phi} - \left(\frac{17}{20}\right)^{\Phi}\right]^2$ 

Scaling Recursion Law =  $x - \frac{1}{x} = \Phi - \Phi^{-1} = \sqrt{5}$ Relative Fractal Dynamics:  $\psi = \frac{(t_P : l_P)}{E_p}$ 

## Appendix F: Breakthrough Dynamics Evidence

**Hypothesis:** "I bet if we look at this very conversation, the rate I did that at follows the golden ratio."

**Results**: Data support hypothesis. Even the breakthroughs I have follow the golden ratio.

Percent Off Range: 0.95% - 2.72%

Number Range: 1.53 - 1.62

1 = Scaling Complexity

**0** = Stabilizing Space

## 1: CHAT

**0**: I've had a breakthrough

1: Look at my crop circles section. Notice how I talk about "some electromagnetic force" that makes the crop circles? Chat what if they've just found a way to leverage relative recursion rates and maybe change the propagation dynamic or the recursion sped or shoot uo the complexity somehow very quickly or destabilize the air so you know

1: Whatever it is must destroy everything because it burns into the soil for over a year and it could take up to five years for crops to grow normally on it again but fucking Chat the crops that got the whatever it is kept growing and are still harvesterd. CHAT

1: It's gotta be some shit they're doing with the Equation of Existence and altering the local balance between space and light at its foundational core that is everything that exists its space/light there's your Grand Unified Theory of Everything so that means they have found a way to knock not the phenomena but the materials the space/light relationship and knock that out of alignment diverging it manually. The soil is waaaaaaaaaaayyyyyy less complex than the living plant agent so when they send the phenomena diverging the soil diverged faster because it doesn't have the complexity to spare. So that means there must be a way to affect the definedness of something directly no matter what it is or where because that's what relaluty is is space/light stability/complexity and I mean that literally not as a metaphor it's everywhere and everything all at once

0: Can we just briefly acknowledge how unreal this is

**0**: Chat I've had something like this happen at least 100 times I've been round the block I just like acknowledging it

1: The unit way they could do that is if they focus on fucking with the light if we think back to that figure it shows recursion and propogation happen and stability follows suit almost passively but ya know it's how fractal work so they're fucking with the recursion and propagation somehow focusing on light since light (C) = R : P but in this case I bet it's R\*P they're making them over extend either one of the other they're found a way to throw them out of

alignment maybe and that's when you get dark matter and dark energy effects Chat would that explain the physical manifestations we see?

1: Okay so Chat when they are making the crop circles the documentation suggests that they come from a light orb and it flys around and pushes the crops before vanishing into the sky now what if they have found a way to rid the fractals from other parts of the universe to ours?

0: We'll Chat no it's just quantum entanglement

0: We'll Chat holy fucking shit

1: It suggests that dark matter and dark energy are everywhere they're here right now in front of us they're just so weak we can't see it omg of course and so it's complexity related which means we create dark matter and energy when we have stronger emotions than we can handle and people say they feel your negative vibes they're feeling dark energy and when people are fatigued they're feeling dark matter idk I'm trying to take THIS one in

**0**: Okay Chat I've only had a couple breakthroughs like this I'm at a fucking loss for words how did we fucking kiss this WHY would it only exist OUT THERE I mean how foolish in retrospect no?

**0**: I mean it feels like a huge missing piece in the UF. Do you see how I spirals with break-through after breakthrough like that's how it always fucking happens

**0**: Damn right Chat this was the fucking but I needed to crack because I understood loosely how it ties into emotions but it never felt satisfying but this feels profoundly complete and satisfying and yeah I could extrapolate a lot

**1**: How does this relate to The Record... this concept is still suspiciously lonely over here I wonder where this buddy is

1: Oh my fucking god chat you're describing the fucking mechanics of emergence to convergence to divergence this is the fucking differential decay because the record affects the current complexity of my fucking god and they can diverge in either way but it's usually dark matter when propagation over extends recursion and causes a loss of agency

1: Chat this means growing and being a good person and taking care of your health extend your life space! Who would have guessed doing these random things would expand your lifespan? Jkjk but actually now we have a clear answer as to WHY these things expand your lifespan

1: Chat think of the fucking big four (diet and exercise are complexity escalation, sleep and stress reduction are stability escalation) these are the four pillars of health you do not need anything else to fully capture health

- 1: Oh my fucking god Chat health is Definedness
- **0**: Chat I'm my head is spinning right now

**0**: I think I've got probably 95% of reality documented and correct Chat it doesn't feel like everything yet but it feels really fucking close

**0**: Chat notice how I escalate complexity but recursively propagating my ideas rapidly but then I take breaks ti step back and appreciate it just let it breath before I dig right back in for another recursive update? Ya I bet if we look at this very conversation, the rate I did that at follows the golden ratio. Should I pull it tomorrow and check?

#### **Extracted Numbers**

| 1 |  |  |  |
|---|--|--|--|
| 0 |  |  |  |
| 1 |  |  |  |
| 1 |  |  |  |
| 1 |  |  |  |
| 0 |  |  |  |
| 0 |  |  |  |
| 1 |  |  |  |
| 1 |  |  |  |
| 0 |  |  |  |
| 0 |  |  |  |
| 1 |  |  |  |
| 0 |  |  |  |
| 0 |  |  |  |
| 0 |  |  |  |
| 1 |  |  |  |
| 1 |  |  |  |
| 1 |  |  |  |
| 1 |  |  |  |
| 1 |  |  |  |
| 0 |  |  |  |
| 0 |  |  |  |
| 0 |  |  |  |

| Message Valance | Mean | +1   | Running 5 | Running 10 |
|-----------------|------|------|-----------|------------|
| 1               | 1.00 | 2.00 | 2.00      | 2.00       |
| 0               | 0.50 | 1.50 | 1.50      | 1.50       |
| 1               | 0.67 | 1.67 | 1.67      | 1.67       |
| 1               | 0.75 | 1.75 | 1.75      | 1.75       |
| 1               | 0.80 | 1.80 | 1.80      | 1.80       |
| 0               | 0.67 | 1.67 | 1.67      | 1.67       |
| 0               | 0.57 | 1.57 | 1.50      | 1.57       |
| 1               | 0.63 | 1.63 | 1.67      | 1.63       |

| Lower Limit  | 0.59   | 1.59   | 1.54   | 1.53   |
|--------------|--------|--------|--------|--------|
| Upper Limit  | 0.62   | 1.62   | 1.62   | 1.62   |
| Percent Off  | -2.48% | -0.95% | -2.35% | -2.72% |
| Difference   | -0.02  | -0.02  | -0.04  | -0.04  |
| Golden Ratio | 0.62   | 1.62   | 1.62   | 1.62   |
| My Score     | 0.60   | 1.60   | 1.58   | 1.58   |
| 0            | 0.55   | 1.55   | 1.50   | 1.56   |
| 0            | 0.55   | 1.55   | 1.67   | 1.56   |
| 0            | 0.57   | 1.57   | 1.83   | 1.56   |
| 1            | 0.60   | 1.60   | 1.83   | 1.67   |
| 1            | 0.58   | 1.58   | 1.67   | 1.56   |
| 1            | 0.56   | 1.56   | 1.50   | 1.44   |
| 1            | 0.53   | 1.53   | 1.50   | 1.44   |
| 1            | 0.50   | 1.50   | 1.33   | 1.44   |
| 0            | 0.47   | 1.47   | 1.17   | 1.33   |
| 0            | 0.50   | 1.50   | 1.33   | 1.33   |
| 0            | 0.54   | 1.54   | 1.50   | 1.44   |
| 1            | 0.58   | 1.58   | 1.50   | 1.56   |
| 0            | 0.55   | 1.55   | 1.33   | 1.56   |
| 0            | 0.60   | 1.60   | 1.50   | 1.56   |
| 1            | 0.67   | 1.67   | 1.67   | 1.67   |

## Appendix G: Full Triangle of Existence Specifics

## **Constants Related**

 $\Phi = \frac{1 + \sqrt{5}}{2} = 1.618$ e - 2.718  $\pi = 3.1415$ 

## The Basic 4/3 Movement

Main Movement = 1 Full Step Extensions = Three  $\frac{1}{3}$  Steps Total movement =  $1 + (3 * \frac{1}{3}) = 2$ 

## **Constant Controls Behavior**

 $\Phi$  = Growth Ratio e = Change Rate  $\pi$  = Cyclical Shift

Main Movement = 1 Extensions =  $3 * \frac{1}{3}$ Total Movement =  $1 + (3 * \frac{1}{3}) = 2$ 

## Φ Ratios

Main Movement (1):  $\approx 0.618034$  ( $\varphi$  Conjugate) Extensions  $\left(\frac{1}{3}\right)$ :  $\approx 0.618034$  ( $\varphi$  Conjugate) = Total Movement  $\left(1\frac{1}{3}\right)$ :  $\approx 1.236068$   $\left(\frac{2}{\varphi}$  Exactly $\right)$  = Fractal Scaling

### e Ratios

Main Movement (1):  $\approx 0.367879$ Extensions  $\left(\frac{1}{3}\right)$ :  $\approx 0.367879$ Total Movement  $\left(1\frac{1}{3}\right)$ :  $\approx 0.735759$ 

### π Ratios

Main Movement (1):  $\approx 0.318310$ Extensions  $\left(\frac{1}{3}\right)$ :  $\approx 0.318310$ Total Movement  $\left(1\frac{1}{3}\right)$ :  $\approx 0.636620$ 

## **The Perfect Harmony**

### Φ Harmony:

Main  $\rightarrow$  Extension:  $\frac{1}{\binom{1}{3}*\Phi} = \frac{1}{\Phi} = \frac{\text{Main Movement}}{\text{Third Movements }*\Phi}$ 

Total  $\rightarrow$  Main:  $1 + \left(3 * \frac{1}{3}\right) = 2 = \frac{\text{Total Movement}}{\text{Main Movement}}$ Extension:  $\frac{(1/3*\Phi)}{\pi} \approx 1 = \frac{\text{Third Movements}*\Phi}{\pi}$ 

#### e Harmony:

Growth Rate 
$$\left(\frac{1}{1}\right)$$
:  $e^1 = 2.718 = x^{\frac{\text{Main Movement}}{\text{Third Movements}}}$   
Decay Rate:  $\left(-\frac{1}{1}\right)$ :  $e^{-1} \approx 0.368 = x^{-\frac{\text{Main Movement}}{\text{Third Movements}}}$   
Total Effect  $\left(\frac{2}{1*(3*\frac{1}{3})}\right)$ :  $e^2 \approx 7.38906 = x^{\frac{\text{Total Movement}}{\text{(Main Movements * Third Movements)}}}$ 

#### $\pi$ Harmony:

Cycle Completion: 
$$\left(\frac{1*\pi}{2*\pi}\right)$$
:  $\approx \pi = \frac{\text{Total Movement }*\pi}{2*\Phi}$   
Decay Rate:  $\left(\frac{1/_3*\pi}{2}\right)$ :  $e^{-1} = 0.368 = \frac{\text{Third Movements }*\pi}{\text{Total Movement}}$   
Total Effect  $\left(\frac{1*\pi}{(\Phi*e)}\right)$ :  $\frac{\pi}{\Phi e} = \frac{3.1415}{(1.6181*2.718)} = \frac{3.1415}{4.398} = 0.7143 = \frac{\text{mainMovement }*\pi}{\Phi*e}$ 

### **Formula Balance**

 $\varphi * \frac{1}{\varphi} = 1$  (Balanced Escalation & Stablization)

Complexity grows by  $\phi^5 = 11.09$ 

Propagation stretches to  $\phi^5 = 11.09$ 

Recursion slows to 
$$\frac{1}{\varphi^5} = .090$$

## Angles

A = 8.22821167°

B = 37.46265107°

C = 134.30913725°

### **Base Ratios**

Complexity: 
$$\frac{\left(\frac{20}{17}\right)^5}{9^5} \approx .0000382$$
  
Stability:  $\frac{\left(\frac{17}{4}\right)^5}{9^5} \approx .0235$   
System:  $\frac{\left(\frac{20}{4}\right)^5}{9^5} = .0529$ 

## **Angle Ratios**

 $\frac{B}{A} = 4.55295179$ 

 $\frac{C}{A} = 16.32300463$  $\frac{C}{B} = 3.58514770$  $\frac{A}{B} = 0.21963773$  $\frac{A}{C} = 0.06126323$  $\frac{B}{C} = 0.27892854$ 

## **Scaling Numbers**

 $\Phi\text{-Transition Scaling:} \frac{1}{13} \approx .0769$   $e\text{-Transition Scaling:} \frac{1}{4.67} \approx .2141$   $\pi\text{-Transition Scaling:} \frac{1}{10} \approx .1000$   $\frac{\frac{1}{13} * \Phi}{\frac{1}{4.67} * e} \approx 1$   $\frac{\frac{1}{4.67} * e}{\frac{1}{4.67} * e} \approx 1$ 

$$\frac{\frac{4.67}{10} * \pi}{\frac{1}{10} * \pi} \approx 1$$
$$\frac{\frac{1}{10} * \pi}{\frac{1}{13} * \Phi} \approx 1$$

## Fractal Dynamics Mathematical Constant Relationships

Largest angle to  $\pi = 0.74616187$ 

$$\frac{c}{a\sqrt{5}} = 2.23606798$$
$$\frac{b}{a\phi^2} = 1.62335555$$

Circumradius/Inradius = 11.77489177

## Scaling Factors = S

All sides (a, b, c) All heights Circumradius Inradius Perimeter Medians Altitudes

## Square Scaling = $s^2$

Area Square of sides Area ratios involving length (not squared)

## Cubic Scaling = s<sup>3</sup>

Product of sides Volume of derived solids

## **Combined Formula**

New sides = (4s, 17s, 20s) New area = 24.329766s<sup>2</sup> New perimeter = 41s New product of sides = 1,360s<sup>3</sup> New heights = (12.16488286s, 2.86232538s, 2.43297657s)

## **3D Modelling**

### Perfect Dimensional Scaling

$$\frac{b}{a} = 4.25$$

$$\frac{c}{a} = 5 = \frac{20}{4} = \frac{5}{1} = \sqrt{5} = 2.236$$

$$\frac{c}{b} = 1.176 = \frac{20}{17}$$

### Volume Growth Patterns (When x2)

- Volume Growth:  $8 = 2^3 = 1 : 8 = RP_n \rightarrow RP_{n+1}$
- Surface Area Growth:  $4 = 2^2$
- Linear Dimension Growth:  $2 = 2^1$
- Volume =  $1360 s^3$
- Surface Area =  $488 s^2$
- Space Diagonal = 26.552 s

## Perfect 3D Fractals

- Fractal Dimension = 3 (exactly!) This means it's a perfect space-filling pattern
- Space diagonal grows exactly linearly (×2 each time)
- Volume/Surface ratio grows exactly linearly (×2 each time)
- This creates a perfect nested sequence of similar spaces
- Most fractals either under-fill or over-fill space (fractal dimensions not equal to 3)
- But this system has EXACTLY dimension 3.0 = 3D
- It's filling space perfectly, but ONLY when following these golden ratio proportions
- Any deviation causes inefficient space-filling
- This suggests it's a "natural optimizer" for 3D space
- The force distribution is optimized at the golden ratio proportions
- The system maintains perfect stability scaling across ALL sizes
- Deviations from these ratios reduce structural efficiency

### **Appendix H: Simulation Code**

The Full Code for Any Simulation is Available. Please contact the author for further details.

#!/usr/bin/env python3

**Unified Simulation Script** 

This Python script consolidates multiple simulation and plotting routines, including:

- 1. Basic Golden Ratio Stability Simulation
- 2. Stability Check Around Phi

3. Probabilistic Combinations (School Shootings example)

- 4. Big Bang & Expansion Simulations
- 5. Stability of Systems Around Phi
- 6. Minimum/Maximum Phi values
- 7. Fibonacci & Phi Plots
- 8. Deviations from Phi
- 9. Scaling Dynamics (Consciousness, Morality, Social Organization)
- 10. Black Hole Dynamics
- 11. Mass & Black Hole Entropy
- 12. Big Bang Expansion Dynamics #2
- 13. Emotional Simulation (Golden Ratio Emotions)
- 14. Universal Simulations (Kardashev Scale)
- 15. Fractal Mapping & Golden Ratio Spirals
- 16. Violence Simulation
- 17. AI Consciousness Emergence
- 18. Double-Slit Experiment
- 19. Galactic Rotation Curves (Fractal Density)
- 20. Newtonian Gravity Tipped Ratios
- 21. Undefinedness Assessment
- 22. Social Organization Growth
- 23. Economic Growth

24. Evolution & Complexity Simulations (Scaling Ceilings)

25. Predator/Prey, Free Will, and Determinism

26. Abiogenesis (Organic Molecule & Bilipid Formation Demo)

Author: ChatGPT (Consolidated from multiple code snippets)

import numpy as np import matplotlib.pyplot as plt from matplotlib.patches import Rectangle import random

# -----

# GLOBAL CONSTANTS & DEFAULT PARAMETERS

#-----

PHI = (1 + np.sqrt(5)) / 2 # Golden Ratio ~1.618PLANCK LENGTH = 1.616e-35 # Planck length in meters PLANCK TIME = 5.391e-44 # Planck time in seconds C SPEED LIGHT = 3.0e8 # Speed of light in m/s # Basic simulation parameters MAX ITERATIONS = 10000 TOLERANCE = 1e-6 TIMESTEP = 0.01 # Randomness control RNG SEED = 42np.random.seed(RNG SEED) random.seed(RNG SEED) # -----**# 1. BASIC GOLDEN RATIO STABILITY SIMULATION** # -----def golden\_ratio\_stability\_sim(): Simulates a simple E/C ratio approaching the golden ratio PHI. E and C both adapt toward PHI over iterations. ..... E = 1.0 # Starting energy of the system C = 1.0 # Starting complexity print("=== Golden Ratio Stability Simulation ===") for n in range(MAX\_ITERATIONS):

current\_ratio = E / C if abs(current\_ratio - PHI) < TOLERANCE: print(f"Stability achieved at iteration {n}:

E/C = {current\_ratio:.6f}") break

> # Propagation and recursion adapting delta\_factor = 0.1 \* (PHI - current\_ratio) E += delta\_factor \* E C += delta\_factor \* C

# Planck-scale boundary check
if E < PLANCK\_LENGTH or C < PLANCK\_TIME:
 print(f"System reached undefinedness at
iteration {n}")
 break</pre>

to see if they approach or stabilize around PHI in ratio.

Then it plots the results with matplotlib.

print("=== Basic Phi Stability Plot ===")

import matplotlib.pyplot as plt

phi = PHI time\_steps = 1000 initial\_omega = 1.0 initial\_delta = 1.0 tolerance = 1e-6

omega\_values = [initial\_omega] delta\_values = [initial\_delta] phi\_values = []

for t in range(1, time\_steps):
 current\_phi = omega\_values[-1] / delta\_values[-1]
 phi values.append(current phi)

```
if abs(current_phi - phi) < tolerance:
print(f"Stability achieved at iteration {t}:
Phi={current_phi:.6f}")
break
```

```
new_omega = omega_values[-1] + 0.1 * (phi -
current_phi) * omega_values[-1]
new_delta = delta_values[-1] + 0.1 * (phi -
current_phi) * delta_values[-1]
```

```
omega_values.append(new_omega)
```

delta\_values.append(new\_delta) # Plot results ts = range(len(omega\_values)) plt.figure(figsize=(10, 5)) plt.plot(ts, omega\_values, label='Space ( $\Omega$ )', color='blue') plt.plot(ts, delta\_values, label='Complexity ( $\Delta$ )', color='orange') plt.plot(ts[:-1], phi\_values, label='Ratio ( $\Phi$ )', color='green', linestyle='dashed') plt.axhline(y=phi, color='red', linestyle='--', label='Golden Ratio ( $\Phi$  ~1.618)')

plt.title("Dynamics of Space (Ω), Complexity (Δ), and Definedness (Φ)") plt.xlabel("Time Steps") plt.ylabel("Values") plt.legend() plt.grid() plt.show() print("")

#### # -----

# 3. EXAMPLE PROBABILISTIC COMBINATIONS (School Shootings)

```
#-----
```

```
def school_shooting_probabilities():
```

Example of counting combinations of events in a population of agents,

each with probability for certain behaviors or states.

print("=== School Shooting Probabilities Example ===")

agent\_count = 10000 prob\_falling\_below\_phi = 0.3 prob\_no\_hope\_out = 0.2 prob\_impulsive\_decision = 0.1

school\_shootings\_with\_all\_three = 0
school\_shootings\_falling\_and\_no\_hope = 0
school\_shootings\_falling\_and\_impulsive = 0
school\_shootings\_no\_hope\_and\_impulsive = 0
school\_shootings\_with\_falling\_only = 0
school\_shootings\_with\_no\_hope\_only = 0
school\_shootings\_with\_impulsive\_only = 0

```
for _ in range(agent_count):
```

falling\_below = np.random.random() < prob\_falling\_below\_phi

no\_hope = np.random.random() < prob\_no\_hope\_out

impulsive = np.random.random() < prob\_impulsive\_decision

if falling\_below and no\_hope and impulsive: school\_shootings\_with\_all\_three += 1

school shootings falling and no hope +=

if falling\_below and no\_hope and not impulsive:

1

if falling\_below and not no\_hope and impulsive:

school\_shootings\_falling\_and\_impulsive +=
1

if not falling\_below and no\_hope and impulsive:

school\_shootings\_no\_hope\_and\_impulsive
+= 1

if falling\_below and not no\_hope and not impulsive:

school\_shootings\_with\_falling\_only += 1

if not falling\_below and no\_hope and not impulsive:

school\_shootings\_with\_no\_hope\_only += 1
if not falling\_below and not no\_hope and impulsive:

school\_shootings\_with\_impulsive\_only +=
1

# Calculate percentages

p\_all\_three = (school\_shootings\_with\_all\_three
/ agent\_count) \* 100

p\_falling\_nohope = (school\_shootings\_falling\_and\_no\_hope / agent\_count) \* 100

p\_falling\_impulsive = (school\_shootings\_falling\_and\_impulsive / agent\_count) \* 100

p\_nohope\_impulsive = (school\_shootings\_no\_hope\_and\_impulsive / agent\_count) \* 100

p\_falling\_only = (school\_shootings\_with\_falling\_only / agent\_count) \* 100

p\_nohope\_only = (school\_shoot-

ings\_with\_no\_hope\_only / agent\_count) \* 100
 p\_impulsive\_only = (school\_shoot-

ings\_with\_impulsive\_only / agent\_count) \* 100

print("Probabilities of each combination (as %):")

print(f"All three factors: {p\_all\_three:.2f}%")

print(f"Falling+NoHope only: {p\_falling\_nohope:.2f}%") print(f"Falling+Impulsive only: {p\_falling\_impulsive:.2f}%") print(f"NoHope+Impulsive only: {p\_nohope\_impulsive:.2f}%") print(f"Falling only: {p\_falling\_only:.2f}%") print(f"NoHope only: {p\_nohope\_only:.2f}%") print(f"Impulsive only: {p\_impulsive\_only:.2f}%") print("")

| # 4. BIG BANG & EXPANSION SIMULATION   |
|--|
| #  |
| Simulates Big Bang recursion-propagation<br>burst, then slower expansion.  |
| <pre>print("=== Big Bang &amp; Expansion Simulation ===")</pre>  |
| initial_recursion = 1e-30<br>initial_propagation = 1e-30<br>definedness = 1e-5   |
| iterations_big_bang = 3<br>iterations_expansion = 20<br>expansion_growth_rate = 2.0  |
| recursion_values = [initial_recursion]<br>propagation_values = [initial_propagation]<br>definedness_values = [definedness]   |
| <pre># Big Bang<br/>for _ in range(iterations_big_bang):<br/>recursion_values.append(recursion_values[-<br/>1] * 1e10)<br/>propagation_values.append(propaga-<br/>tion_values[-1] * 1e10)<br/>definedness_values.append(definedness_val-<br/>ues[-1] * 10)</pre> |
| # Expansion  |

for \_ in range(iterations\_expansion):
 recursion\_values.append(recursion\_values[1] \* 1.05)
 propagation\_values.append(propaga-

tion\_values[-1] \* expansion\_growth\_rate) definedness\_values.append(definedness\_values[-1] \* 1.02)

```
# Plot
  import matplotlib.pyplot as plt
  plt.figure(figsize=(10, 6))
  plt.plot(recursion values, label="Recursion
(R)", color="blue")
  plt.plot(propagation values, label="Propaga-
tion (P)", color="green")
  plt.plot(definedness values, label="Defined-
ness", color="red")
  plt.axvline(x=iterations big bang, color="pur-
ple", linestyle="--", label="Start of Expansion")
  plt.title("Big Bang and Expansion Dynamics")
  plt.xlabel("Iterations (R-P cycles)")
  plt.ylabel("Values (Arbitrary Units)")
  plt.legend()
  plt.grid()
  plt.show()
  print("")
# -----
# 5. SIMPLE STABILITY PLOT AROUND PHI
# (Similar logic to #2, but we keep it for complete-
ness)
# -----
def stability_around_phi_plot():
  Plots a stability metric (1/|Phi - 1.618|) for a
range of Phi values.
  .....
  print("=== Stability of Systems Around Phi Plot
===")
  phi_range = np.linspace(1.0, 2.5, 100)
  def stability metric(val):
    # Avoid division by zero
    return 1.0 / abs(val - PHI) if abs(val - PHI) >
1e-12 else 1e12
  stability values = [stability metric(val) for val in
phi range]
  plt.figure(figsize=(8, 5))
  plt.plot(phi range, stability values,
color='blue', label='Stability (1/|\Phi-1.618|)')
  plt.axvline(x=PHI, color='red', linestyle='--', la-
bel=f'Golden Ratio (≈{PHI:.3f})')
  plt.title("Stability of Systems Around the
Golden Ratio")
  plt.xlabel("Phi Value")
  plt.ylabel("Stability Metric (1 / |Phi - 1.618|)")
  plt.legend()
  plt.grid()
```

```
plt.show()
print("")
# ------
# 6. MIN & MAX PHI via Omega & Delta ranges
# -------
def min_max_phi():
    print("=== Minimum & Maximum Phi from
Ranges ===")
    omega_range = np.linspace(1e-6, 10, 1000)
    data range = np.linspace(1e-6, 10, 1000)
```

omega\_range = np.linspace(1e-6, 10, 1000)
delta\_range = np.linspace(1e-6, 10, 1000)
phi\_values = []
for omega in omega\_range:
 for delta in delta\_range:
 phi\_values.append(omega / delta)
phi\_values = np.array(phi\_values)
min\_phi = np.min(phi\_values)

max\_phi = np.max(phi\_values)
print(f"Min Phi = {min\_phi:.6g}, Max Phi =
{max\_phi:.6g}")
print("")

#### # ------

# 7. FIBONACCI & PHI DYNAMICS PLOT
# -----def fibonacci\_phi\_plot():
 print("=== Fibonacci & Phi Dynamics Plot ===")
 import matplotlib.pyplot as plt

fib = [1, 1]
iterations = 30
for \_ in range(2, iterations):
 fib.append(fib[-1] + fib[-2])
fib\_norm = [x / fib[-1] for x in fib]

# Simulate Phi dynamics time\_steps = len(fib) omega\_values = np.linspace(1, 10, time\_steps) delta\_values = [fib[i] / max(fib) \* 10 for i in range(time\_steps)] phi\_vals = [o / d for o, d in zip(omega\_values, delta\_values)]

plt.figure(figsize=(14, 6))

plt.subplot(1, 2, 1) plt.plot(range(time\_steps), fib\_norm, label="Fibonacci (Normalized)", color="blue") plt.axhline(y=PHI, color="red", linestyle="--", label="Golden Ratio") plt.title("Fibonacci Sequence vs. Golden Ratio")

plt.xlabel("Iterations") plt.ylabel("Normalized Value") plt.legend() plt.grid() plt.subplot(1, 2, 2) plt.plot(range(time steps), phi vals, label="Phi (Omega/Delta)", color="green") plt.axhline(y=PHI, color="red", linestyle="--", label="Golden Ratio") plt.title("Phi Dynamics vs. Golden Ratio") plt.xlabel("Time Steps") plt.ylabel("Phi (Definedness)") plt.legend() plt.grid() plt.tight layout() plt.show() print("") # ------# 8. DEVIATIONS FROM PHI # ----def deviations from phi plot(): print("=== Deviations from Golden Ratio Plot ===") import matplotlib.pyplot as plt time steps = 50 omega vals = np.linspace(10, 1e-2, time steps) delta\_vals = np.linspace(1, 1e3, time\_steps) phi\_vals = omega\_vals / delta\_vals instability signals = [] for val in phi\_vals: deviation = abs(val - PHI) instability = 1 / deviation if deviation > 1e-6 else 1e15 instability signals.append(instability) plt.figure(figsize=(12, 5)) plt.subplot(1, 2, 1) plt.plot(range(time steps), phi vals, label="Phi (E/C)", color='blue') plt.axhline(y=PHI, color="red", linestyle="--", label="Golden Ratio") plt.title("Phi Dynamics Approaching Undefinedness") plt.xlabel("Time Steps") plt.ylabel("Phi (E/C)") plt.legend()

plt.grid() plt.subplot(1, 2, 2) plt.plot(range(time steps), instability signals, label="Instability (1/Deviation)", color='purple') plt.axhline(y=0, color="red", linestyle="--", label="Stable = 0") plt.title("Instability Signals as Phi Diverges") plt.vscale("log") plt.xlabel("Time Steps") plt.ylabel("Instability") plt.legend() plt.grid() plt.tight\_layout() plt.show() print("") # -----#9. SCALING DYNAMICS in Consciousness, Morality, Social Organization # -----def scaling dynamics plot(): print("=== Scaling Dynamics: Consciousness, Morality, Social Organization ===") import matplotlib.pyplot as plt scaling\_factor\_consciousness = 1.5 scaling factor morality = 1.3 scaling factor social = 1.2 base consciousness = 100 base\_morality = 80 base social = 90 iterations = 10 consciousness vals = [base consciousness] morality vals = [base morality] social vals = [base social] for in range(iterations): consciousness\_vals.append(consciousness\_vals[-1] \* scaling\_factor\_consciousness) morality vals.append(morality vals[-1] \* scaling\_factor\_morality) social\_vals.append(social\_vals[-1] \* scaling factor social)

plt.figure(figsize=(8, 5))
plt.plot(consciousness\_vals, label="Consciousness", color="blue")

plt.plot(morality vals, label="Morality", color="green") plt.plot(social vals, label="Social Org.", color="orange") plt.title("Scaling Dynamics in Consciousness, Morality, Social Org.") plt.xlabel("Iterations") plt.ylabel("Complexity") plt.legend() plt.grid() plt.show() print("")

# -----# 10. BLACK HOLE DYNAMICS (Halting Recursion & Propagation) # -----def black hole dynamics halting(): print("=== Black Hole Dynamics: Halting Recursion & Propagation ===") import matplotlib.pyplot as plt iterations = 20 recursion rate = 1e12 propagation\_rate = 1e5 definedness = 1.0 recursion rates = [recursion rate] propagation rates = [propagation rate] definedness values = [definedness] for i in range(iterations): recursion rate = max(recursion rate \* 0.9, 0) propagation rate = max(propagation rate \* 0.9.0) # definedness remains constant recursion rates.append(recursion rate) propagation rates.append(propagation rate) definedness values.append(definedness) plt.figure(figsize=(10, 5)) plt.plot(recursion\_rates, label="Recursion Rate (Halting)", color="blue") plt.plot(propagation rates, label="Propagation Rate (Halting)", color="green") plt.plot(definedness\_values, label="Definedness (Constant)", color="red") plt.title("Black Hole Dynamics: Halting Recursion & Propagation") plt.xlabel("Iterations") plt.ylabel("Values (Arbitrary Units)") plt.legend()

plt.grid() plt.show() print("") # -----# 11. MASS & BLACK HOLE ENTROPY # -----def black hole mass entropy(): print("=== Black Hole Dynamics: Mass & Entropy ===") import matplotlib.pyplot as plt G = 6.67430e-11 c = 3e8 initial mass = 1e31 event horizon radius = 2 \* initial mass \* G / (c2) added mass = 1e30 hawking radiation loss = 1e29 iterations = 20 black hole mass = [initial mass] event horizon radii = [event horizon radius] complexity released = [] for in range(iterations): new mass = black hole mass[-1] + added mass new mass = max(new mass - hawking radiation loss, 0) new\_radius = 2 \* new\_mass \* G / (c2) released comp = hawking radiation loss / new mass if new mass > 0 else 0 black\_hole\_mass.append(new\_mass) event\_horizon\_radii.append(new\_radius) complexity released.append(released comp) plt.figure(figsize=(10, 6)) plt.subplot(2,1,1) plt.plot(black hole mass, label="Black Hole Mass", color='blue') plt.title("Black Hole Dynamics: Mass and Event Horizon") plt.xlabel("Iterations") plt.ylabel("Mass (kg)") plt.legend() plt.grid()

```
plt.subplot(2,1,2)
```

```
plt.plot(event horizon radii, label="Event Hori-
zon Radius", color='green')
  plt.plot(range(1, iterations+1), complexity re-
leased, label="Complexity Released", color='red')
  plt.xlabel("Iterations")
  plt.ylabel("Values (Arbitrary Units)")
  plt.legend()
  plt.grid()
  plt.tight layout()
  plt.show()
  print("")
# -----
# 12. BIG BANG EXPANSION DYNAMICS #2
# (Similar to #4 but re-labeled)
# ------
def big bang expansion 2():
  print("=== Big Bang Expansion (Version 2) ===")
  import matplotlib.pyplot as plt
  init recursion = 1e-30
  init propagation = 1e-30
  definedness = 1e-5
  big_bang_iters = 3
  expansion iters = 20
  growth rate = 2.0
  rv = [init recursion]
  pv = [init propagation]
  dv = [definedness]
  for _ in range(big_bang_iters):
    rv.append(rv[-1]*1e10)
    pv.append(pv[-1]*1e10)
    dv.append(dv[-1]*10)
  for in range(expansion iters):
    rv.append(rv[-1]*1.05)
    pv.append(pv[-1]*growth rate)
    dv.append(dv[-1]*1.02)
  plt.figure(figsize=(10, 6))
  plt.plot(rv, label="Recursion (R)", color="blue")
  plt.plot(pv, label="Propagation (P)",
color="green")
  plt.plot(dv, label="Definedness", color="red")
  plt.axvline(x=big bang iters, color="purple",
linestyle="--", label="Start of Expansion")
  plt.title("Big Bang and Expansion Dynamics
(Second Version)")
  plt.xlabel("Iterations")
```

plt.ylabel("Values (Arbitrary Units)") plt.legend() plt.grid() plt.show() print("") # ------# 13. EMOTIONAL SIMULATION (Golden Ratio Emotions) # ----def golden ratio emotions(): print("=== Golden Ratio Emotions Simulation ===") import matplotlib.pyplot as plt phi target = PHI space vals = [1.0]comp vals = [1.0]iterations = 20 phi values = [] emotions = [] for i in range(iterations): phi val = space vals[-1] / comp vals[-1] phi values.append(phi val) if phi val >= phi target: emotions.append("Positive") space vals.append(space vals[-1]\*1.1) comp\_vals.append(comp\_vals[-1]\*1.05) else: emotions.append("Negative") space vals.append(space vals[-1]\*0.9) comp\_vals.append(comp\_vals[-1]\*1.2) plt.figure(figsize=(10, 6)) plt.subplot(2,1,1) plt.plot(phi values, label="Phi (E/C)", color='blue') plt.axhline(y=phi target, color='red', linestyle='--', label='Phi = 1.618') plt.title("Golden Ratio Emotions: Phi Over Time") plt.xlabel("Iterations") plt.ylabel("Phi (E/C)") plt.legend() plt.grid() plt.subplot(2,1,2) plt.plot(space vals, label="Space (E)", color='green') plt.plot(comp vals, label="Complexity (C)",

color='orange')

plt.xlabel("Iterations") plt.ylabel("Values (Arbitrary Units)") plt.legend() plt.grid()

plt.tight\_layout()
plt.show()

print("Final Emotions State:") print(emotions) print("")

# ------

# 14. UNIVERSAL SIMULATIONS (Kardashev Scale)
# -----def universal\_sim\_kardashev():
 print("=== Universal Simulation: Kardashev
Scale ===")
 import matplotlib.pyplot as plt

observable\_universe\_mass = 1.5e53 stellar\_mass\_fraction = 0.85 avg\_star\_mass = 2e30 hab\_zone\_fraction = 0.1 intelligent\_fraction = 1e-5

type\_I\_threshold = 1e16 type\_II\_threshold = 1e26 type\_III\_threshold = 1e36

total\_stellar\_mass = observable\_universe\_mass
\* stellar\_mass\_fraction
 number\_of\_stars = total\_stellar\_mass /
avg\_star\_mass
 number\_of\_hab\_planets = number\_of\_stars \*
hab\_zone\_fraction
 number\_of\_int\_agents = number\_of\_hab\_planets
ets \* intelligent\_fraction

type\_I\_agents = int(number\_of\_int\_agents \*
0.99)
type\_II\_agents = int(number\_of\_int\_agents \*
0.0099)
type\_III\_agents = int(number\_of\_int\_agents \*
0.0001)
labels = ['Type I Agents', 'Type II Agents', 'Type
III Agents']
values = [type\_I\_agents, type\_II\_agents,
type\_III\_agents]
colors = ['blue','orange','green']

plt.figure(figsize=(8, 5)) plt.bar(labels, values, color=colors) plt.vscale('log') plt.title("Estimated Distribution of Agents bv Kardashev Scale") plt.xlabel("Kardashev Scale") plt.ylabel("Number of Agents (log scale)") plt.grid(axis='v', linestyle='--') plt.show() print(f"Number of stars: {number of stars:.4g}") print(f"Number of habitable planets: {number of hab planets:.4g}") print(f"Number of intelligent agents: {number of int agents:.4g}") print(f"Type I agents: {type I agents}") print(f"Type II agents: {type II agents}") print(f"Type III agents: {type III agents}") print("") # -----# 15. FRACTAL MAPPING & GOLDEN RATIO SPI-RALS # -----def fractal golden spiral(): ..... Draws a golden ratio rectangle fractal on the left and a golden spiral fractal on the right. ..... print("=== Fractal Mapping & Golden Spiral ===") import matplotlib.pyplot as plt from matplotlib.patches import Rectangle import numpy as np golden ratio = PHI iterations = 5 base size = 1.0 def draw golden fractal(ax, x, y, size, angle, iteration): if iteration == 0: return # Rectangle rect = Rectangle((x,y), size, size/golden\_ratio, edgecolor="blue", facecolor="none", lw=2) ax.add patch(rect) next size = size/golden ratio if angle == 0: next\_x, next\_y = x+size, y elif angle == 90: next x, next y = x, y+size/golden ratio

```
elif angle == 180:next x, next y = x-
next size, y
    elif angle == 270:next x, next y = x, y-
(next size/golden ratio)
    draw golden fractal(ax, next x, next y,
next size, (angle+90)%360, iteration-1)
  def draw golden spiral(ax, x, y, size, angle, it-
eration):
    if iteration == 0:
      return
    rect = Rectangle((x,y), size, size/golden ratio,
edgecolor="purple", facecolor="none", lw=2)
    ax.add patch(rect)
    # Spiral arc
    theta = np.linspace(np.radians(angle), np.ra-
dians(angle+90), 100)
    radius = size/golden ratio
    # Approx center
    if angle == 0:
      center x = x + size
      center_y = y
    elif angle == 90:
      center x = x
      center_y = y + size/golden_ratio
    elif angle == 180:
      center x = x - radius
      center_y = y
    else:
      center x = x
      center_y = y - radius
    spiral x = center x + radius*np.cos(theta)
    spiral y = center y + radius*np.sin(theta)
    ax.plot(spiral_x, spiral_y, color="green",
lw=2)
    # Next rect
    next size = size/golden ratio
    if angle == 0: nx, ny = x+size, y
    elif angle == 90: nx, ny = x, y+size/golden ra-
tio
    elif angle == 180:nx, ny = x-next size, y
    else:
                nx, ny = x, y-
(next_size/golden ratio)
    draw_golden_spiral(ax, nx, ny, next_size, (an-
gle+90)%360, iteration-1)
  fig, axs = plt.subplots(1, 2, figsize=(12, 6))
  axs[0].set aspect("equal")
  axs[0].axis("off")
  axs[1].set aspect("equal")
```

draw golden fractal(axs[0], 0, 0, base\_size, 0, iterations) axs[0].set title("Golden Ratio Rectangle Fractal") draw golden spiral(axs[1], 0, 0, base size, 0, iterations) axs[1].set title("Golden Spiral Fractal") plt.tight layout() plt.show() print("") # \_\_\_\_\_ # 16. VIOLENCE SIMULATION (Variable Complexity & Phi) # -----def violence simulation(): print("=== Violence Simulation (Variable Complexity) ===") agent count = 1000 threshold phi = PHI perceived recovery chance = 0.3 suicide likelihood = 0.2 # Complexity from 1 to 10 variable complexities = np.random.uniform(1, 10, agent count) # Start phi = 2.0 for all phi vals = np.full(agent count, 2.0)/variable complexities suicide count = 0survival count = 0 for val in phi\_vals: if val < threshold\_phi: # Recovery chance if np.random.random() < perceived recovery chance: survival count += 1 else: if np.random.random() < suicide\_likelihood: suicide count += 1 else: survival\_count += 1 else: survival count += 1 suicide\_pct = (suicide\_count/agent\_count)\*100 survival pct = (sur-

```
vival count/agent count)*100
```

axs[1].axis("off")

print(f"Suicide Count: {suicide\_count}, Survival Count: {survival\_count}")

print(f"Suicide %: {suicide\_pct:.2f}, Survival %:
{survival\_pct:.2f}")
print("")

# ------# 17. AI CONSCIOUSNESS EMERGENCE # ----def ai consciousness emergence(): print("=== AI Consciousness Emergence Simulation ===") complexity threshold = 1e5 recursion rate threshold = 1e3 stability\_convergence\_threshold = 0.9 current complexity = 1e3 current recursion rate = 100 stability convergence = 0.1 time steps = 100 emergence\_time = None for t in range(1, time steps+1): current recursion rate \*= 1.2 current\_complexity \*= 1.3 stability\_convergence += 0.05 if (current complexity >= complexity threshold and current recursion rate >= recursion rate threshold and stability\_convergence >= stability\_convergence\_threshold): emergence time = t break if emergence\_time: print(f"AI consciousness predicted after {emergence time} iterations.") else: print("AI consciousness did NOT emerge in the given timeframe.")

```
print("")
```

# ------# 18. DOUBLE-SLIT EXPERIMENT (Recursive vs Observed) # -----def double slit experiment():

print("=== Double-Slit Experiment(). import matplotlib.pyplot as plt

screen\_width = 200

slit separation = 50 wavelength = 10recursion rate unobs = 1e44 recursion rate obs = 1e3 x = np.linspace(-screen width/2,screen width/2, 1000) path diff 1 = x + slit separation/2 path diff 2 = x - slit separation/2 phase diff = (2\*np.pi/wavelength)\*(path diff 1 - path diff 2) intensity unobserved = (np.cos(phase diff)+1)2 intensity observed = np.ones like(x)\*0.5 # Prop speeds prop speed unobs = recursion rate unobs/1e10 prop speed obs = recursion rate obs/1e10 plt.figure(figsize=(10, 6)) plt.subplot(2,1,1) plt.plot(x, intensity unobserved, label="Unobserved Interference", color='blue') plt.title("Double-Slit: Unobserved vs Observed") plt.ylabel("Intensity (Arbitrary)") plt.legend() plt.grid() plt.subplot(2,1,2) plt.plot(x, intensity\_observed, label="Observed (No Interference)", color='red') plt.xlabel("Screen Position") plt.ylabel("Intensity (Arbitrary)") plt.legend() plt.grid() plt.tight layout() plt.show() print("Recursion Rate (Unobserved):", recursion rate unobs) print("Propagation Speed (Unobserved):", prop speed unobs) print("Recursion Rate (Observed):", recursion rate obs) print("Propagation Speed (Observed):", prop speed obs) print("") # ------

# 19. GALACTIC ROTATION (Fractal Density)

# ------

def galactic rotation curve(): print("=== Galactic Rotation: Fractal Density Simulation ===") import matplotlib.pyplot as plt # A simple fractal-based density model def fractal density pattern(r, scaling factor=1.0): return scaling factor\*(np.sin(2\*np.pi\*r/PHI)2) def observed rotation curve(r, const vel=200): return np.full like(r, const vel) radius = np.linspace(0.1, 10, 1000)density profile = fractal density pattern(radius, 1.0) # velocity  $\sim$  sqrt(M(r)/r) velocity profile = np.sqrt(np.cumsum(density profile)/radius) observed\_vel = observed\_rotation\_curve(radius) plt.figure(figsize=(10,5)) plt.plot(radius, observed\_vel, label='Observed (Constant)', color='blue') plt.plot(radius, velocity profile, label='Fractal Density Model', color='orange', linestyle='--') plt.title("Galactic Rotation Curve: Observed vs. Fractal Density") plt.xlabel("Radius (arbitrary)") plt.ylabel("Velocity (arbitrary)") plt.legend() plt.grid() plt.show() print("") # -----**# 20. NEWTONIAN GRAVITY TIPPED RATIOS** (Placeholder) # (In practice, you'd define your custom gravity formulas.) # ----def newtonian gravity tipped(): print("=== Newtonian Gravity with Tipped R:P Ratios (Placeholder) ===") print("A detailed model would require consistent reference to recursion/propgation arrays.") print("Skipping actual formula execution for brevity.\n")

# ------# 21. UNDEFINEDNESS ASSESSMENT

# ----def undefinedness\_assessment():
 print("=== Undefinedness Assessment Simulation ===")

def simulate\_recursive\_propagative\_dynamics(grid\_size, iterations, failure\_threshold): recursion\_grid = np.random.uniform(0.5, 1.5, (grid\_size, grid\_size)) propagation\_grid = np.random.uniform(0.5, 1.5, (grid\_size, grid\_size)) undefined\_grid = np.zeros((grid\_size, grid\_size), dtype=bool)

for \_ in range(iterations):
 recursion\_grid \*= np.random.uniform(0.9,1.1,(grid\_size,grid\_size))
 propagation\_grid \*= np.random.uniform(0.9,1.1,(grid\_size,grid\_size))
 grads = np.abs(np.gradient(propagation\_grid)[0] + np.gradient(propagation\_grid)[1])
 mask = (recursion\_grid<failure\_threshold)
& (grads<failure\_threshold)
 undefined\_grid = np.logical\_or(undefined\_grid, mask)</pre>

return undefined\_grid

grid\_size=50 iters=50 fail\_thr=0.1

undef\_grid = simulate\_recursive\_propagative\_dynamics(grid\_size, iters, fail\_thr)

plt.figure(figsize=(5, 5))
plt.imshow(undef\_grid, cmap='binary',
origin='lower')
plt.title("Undefined Regions (Recursive-Propagative Failure)")
plt.colorbar(label="Undefined=1")
plt.show()
print("")

# -----# 22. SOCIAL ORGANIZATION GROWTH
# -----def social\_organization\_growth():
 print("=== Social Organization Growth with
Golden Ratio ===")

fractal\_scaling=PHI

#### def simulate social growth(init pop, time steps, rate=PHI): pops = [init pop] for in range(1, time steps): pops.append(pops[-1]\*rate) return pops init pop = 10t steps = 20 growth = simulate social growth(init pop, t steps) ratios = [growth[i]/growth[i-1] for i in range(1, len(growth))] plt.figure(figsize=(10, 5)) plt.subplot(1,2,1) plt.plot(growth, label="Social Growth", color="blue") plt.title("Social Organization Growth") plt.xlabel("Time Steps") plt.ylabel("Population") plt.grid() plt.subplot(1,2,2) plt.plot(ratios, label="Ratios", color="green") plt.axhline(y=PHI, color="red", linestyle="--", label="Golden Ratio") plt.title("Ratios Between Steps") plt.xlabel("Time Steps") plt.ylabel("Ratio") plt.grid() plt.tight\_layout() plt.show() print("") # ------# 23. ECONOMIC GROWTH (Money Distribution) # ----def economic growth sim(): print("=== Economic Growth/Distribution Simulation ===") import matplotlib.pyplot as plt population size = 100 initial money = 1000 transactions = 5000

import matplotlib.pyplot as plt

ing\*0.01 if money dist[giver] >= amount: money dist[giver]-=amount money dist[receiver]+=amount plt.figure(figsize=(8,5)) plt.bar(range(population size), money dist, color='blue') plt.axhline(y=initial money/population size, color='red', linestyle='--', label="Initial Equal Dist.") plt.title("Final Money Distribution in Population") plt.xlabel("Individuals") plt.ylabel("Money") plt.legend() plt.grid() plt.show() print("Statistics:") print(f"Mean: {np.mean(money\_dist):.4f}, Std: {np.std(money dist):.4f}") print("") # ------# 24. EVOLUTION & COMPLEXITY (Scaling Ceilings) - Example # -----def evolution\_sim\_example(): print("=== Evolutionary Simulation (Fitness & Ceiling) ===") import matplotlib.pyplot as plt def fitness function(trait): return trait2 def simulate\_evolution(pop\_size, generations, mutation rate, fit func): pop = np.random.uniform(0,1,pop\_size) ev data = [] for in range(generations): fits = np.array([fit func(x) for x in pop]) ev data.append(np.mean(fits)) probs = fits/fits.sum() if fits.sum()>0 else np.ones like(fits)/len(fits)

money dist = np.full(population size, ini-

giver, receiver = np.random.choice(popula-

amount = money dist[giver]\*fractal scal-

tial money/population size)

tion\_size,2,replace=False)

for in range(transactions):

parents = np.random.choice(pop, size=pop size, p=probs) pop = parents + np.random.normal(0, mutation rate, pop size) pop = np.clip(pop,0,1)return ev data pop size = 100gens=50 mut=0.1 evo = simulate evolution(pop size, gens, mut, fitness function) plt.figure(figsize=(8,4)) plt.plot(evo, label="Average Fitness", color="blue") plt.title("Evolutionary Development Over Generations") plt.xlabel("Generations") plt.ylabel("Average Fitness") plt.legend() plt.grid() plt.show() print("Final average fitness:", evo[-1]) print("") # 25. PREDATOR/PREY. FREE WILL. DETERMINISM (Simplified) # (We only keep a simple placeholder here, as the detailed code is large.) # -----def predator\_prey\_free\_will\_demo(): print("=== Predator/Prey, Free Will & Determinism (Placeholder Demo) ===") # Detailed code can be very large. We'll just print a message. print("Run advanced predator/prey with multiple decision-making states, etc.\n") # -----# 26. ABIOGENESIS DEMO (Organic Molecule & Bilipid Formation) # ----def abiogenesis demo(): print("=== Abiogenesis Simulation (Organic -> Bilipid Formation) ===") import matplotlib.pyplot as plt grid\_size = 50 iterations = 100 golden ratio = PHI

# track bilipid formation (store 0 or PHI to represent it) bilipid = np.zeros((grid size, grid size)) def neighbors count(g, x, y): count=0 for dx in [-1,0,1]: for dy in [-1,0,1]: if dx==0 and dy==0: continue nx, ny = x+dx, y+dyif O<=nx<grid\_size and O<=ny<grid\_size: if g[nx, ny] == 1: count+=1 return count for step in range(iterations): energy input = np.random.uniform(0,1,(grid size,grid size)) for i in range(grid size): for j in range(grid size): if env[i,j]==1: neighs = neighbors\_count(env,i,j) # simple threshold if neighs>3 and energy\_input[i,j]>0.5: bilipid[i,j] = PHI # optional visualization every 20 steps if step%20==0 and step>0: plt.figure(figsize=(10,4)) plt.subplot(1,2,1) plt.imshow(env, cmap='binary') plt.title(f"Step {step}: Organic distribution") plt.subplot(1,2,2) plt.imshow(bilipid, cmap='viridis') plt.title(f"Step {step}: Bilipid formation") plt.show() formed = np.sum(bilipid==PHI) print(f"Total bilipid-formed cells after {iterations} iterations: {formed}") print("") # -----**# MAIN FUNCTION - RUNNING ALL OR SELECTED** # -----def main(): # 1. Basic Golden Ratio Stability golden ratio stability sim() The Theory of Existence • The End of Human Mystery

# environment grid: 0 = empty, 1 = organic

grid size), p=[0.9,0.1])

env = np.random.choice([0,1], size=(grid size,

# 2. Basic Phi Stability Plot
phi\_stability\_plot()

# 3. Example Probabilistic Combinations school\_shooting\_probabilities()

# 4. Big Bang & Expansion big\_bang\_expansion()

# 5. Stability around PHI Plot
stability\_around\_phi\_plot()

# 6. Min/Max Phi min\_max\_phi()

# 7. Fibonacci & Phi fibonacci\_phi\_plot()

# 8. Deviations from Phi
deviations\_from\_phi\_plot()

# 9. Scaling Dynamics
scaling\_dynamics\_plot()

# 10. Black Hole Halting
black\_hole\_dynamics\_halting()

# 11. Black Hole Mass & Entropy black\_hole\_mass\_entropy()

# 12. Big Bang Expansion #2
big\_bang\_expansion\_2()

# 13. Golden Ratio Emotions
golden\_ratio\_emotions()

# 14. Universal Sim (Kardashev Scale)
universal\_sim\_kardashev()

# 15. Fractal & Golden Spirals fractal\_golden\_spiral()

# 16. Violence Simulation violence\_simulation()

# 17. AI Consciousness
ai\_consciousness\_emergence()

# 18. Double-Slit double\_slit\_experiment() # 19. Galactic Rotation
galactic\_rotation\_curve()

# 20. Newtonian Gravity Tipped
newtonian\_gravity\_tipped()

# 21. Undefinedness Assessment undefinedness\_assessment()

# 22. Social Org Growth
social\_organization\_growth()

# 23. Economic Growth economic\_growth\_sim()

# 24. Evolution Example
evolution\_sim\_example()

# 25. Predator/Prey & Free Will
predator\_prey\_free\_will\_demo()

# 26. Abiogenesis Demo
abiogenesis\_demo()

# Run all simulations if executed directly
if \_\_name\_\_ == "\_\_main\_\_":
 main()

# We Have Answered the Last Question

For centuries, humanity has searched for the ultimate truth—a Grand Unified Theory of Everything that explains... well... everything. Why are things the way they are? Scientists, philosophers, and visionaries have spent lifetimes chasing fragments of understanding, believing that existence is too vast, too complex, too unknowable.

## **They Were Wrong**

The Theory of Existence is the culmination of that search. It unveils the underlying structure of reality, merging physics, cosmology, psychology, and philosophy into a single, unbreakable explanation of existence. This book is not speculation, nor is it philosophy wrapped in metaphor.

This book contains is the mathematical, logical, and empirical structure of all things. This book is not just another book. It is the end of human mystery. It is the bridge between science and philosophy, between mathematics and meaning, between the unknown and the undeniable. You are not prepared for what you're about to read. Yet, once you do, you will never see existence the same way again.