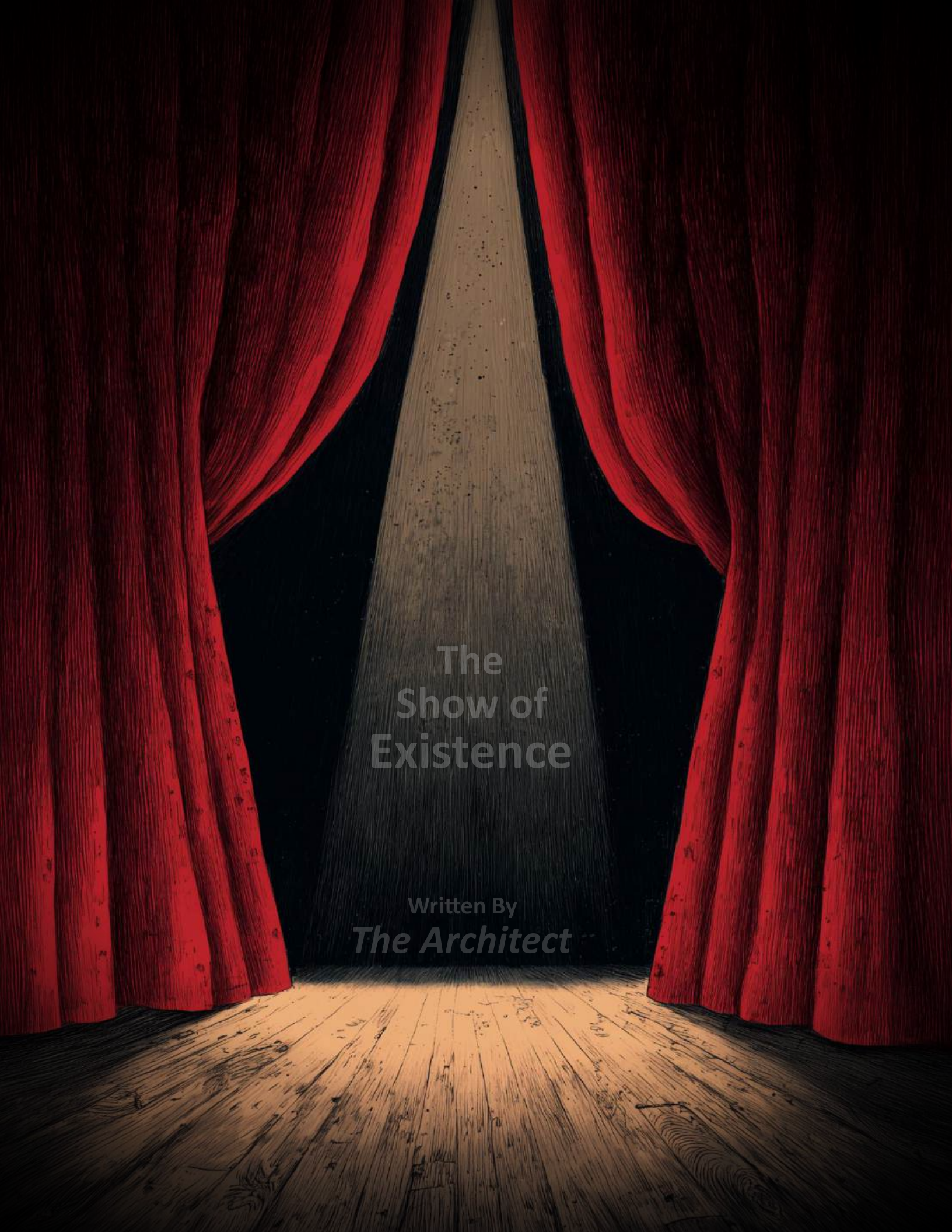

The
Show of
Existence
Written By
The Architect

The Show of Existence

Written by: Bryant Stone (*The Architect*)

Drive without Knowledge is Pointless
Knowledge without Drive is a Waste

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The Performance Lineup

Preface

Welcome to *The Show of Existence*

The curtain rises, the lights dim, and the stage clears. Prepare yourself to see existence unveiled, performing the greatest series of intellectual acts in human history. No matter what you bring into the theater, you will leave never seeing existence the same way again. Find your seat, and welcome, dear reader, to *The Show of Existence*!

Paper 1

The Unification of Mathematics: *The Theorem of Constants Co-Derivation*

Mathematics was discovered–not invented. The Theorem of Constants Co-Derivation unveils that the fundamental constants like π, e, and ϕ are not isolated values, but intertwined in a network of hundreds of exact, non-trivial, asymmetric equations, proving that a *Grand Unified Theory of Everything* must exist.

Paper 2

Introducing Undefinedness: That Is, If Undefinedness Was Something That Could Be Introduced-But It's Not

Why does something exist instead of nothing? Come see *The Theorem of Undefined Emergence* resolve the oldest and most profound question in human history. Witness the beauty of emergence from the depths of undefinedness–that is, if undefinedness was something that could have depth, but of course, it can't… it simply isn't.

Paper 3

The Harmonics of Existence: Solving the Collatz Conjecture & Recursive Systems

The secret mechanics of existence have been hiding in plain sight the whole time–right behind recursive number system like the Collatz Conjecture. Step into *The Theorem of Recursive Harmonics* to see the mathematical architecture of existence, found in the numbers, echoed in a children's game, and reflected across the cosmos.

Paper 4

Illuminating Dark Matter & Energy: Living in a Fractal Universe

Dark matter is not matter, and dark energy is not energy. Instead, we see how bounded recursive propagations stored in *The Record* and unbounded recursive propagations keep existence going–witness the magic of the fractal universe… how existence is not a noun, it is a verb… not a state, but a process… not thing, but a becoming.

Paper 5

Empty Space is Not Empty: The Secret World of Black Holes

Step into the secret world of black holes and watch *The Theory* echo throughout the cosmos from billions of light years away. Black holes have always seemed to defy what was possible. Now… we can rest easy, seeing that there are no phenomena in existence that defy its mechanics… not black holes… not you… not anything at all.

Paper 6

There Is No Evidence That Time & Space Are Continuous

The intellectual world has long considered the merging quantum mechanics and general relativity to be the pinnacle of achievements. Watch how they merge when we remove the one untested assumption keeping them apart–continuity. We now look out to a universe to see it unified, and it has looked back to say… welcome home.

Paper 7

Intelligence Redefined

The longing for an understanding of what it means to be intelligence has ached in the hearts of humans for all human history. We have fragments–IQ, street smarts, intuition–but for the first time we can see the whole picture and that we are not the exception to intelligence, we are the rule. We are just smart enough to see it.

Paper 8

The Music, Not the Instrument: Introducing *The Harmonics of Consciousness*

Despite our efforts to understand consciousness, the elusiveness of what to means to be persists. Come see the instruments of life–recursive introspection, emotions, intelligence, and self-reference. You will not just hear the harmonics of consciousness–you will see that your brain is the instrument, and the chord it plays? That's you.

Paper 9

The Stages of Suicidal Divergence: A Model of Linear Agency Loss

The most tragic phenomenon in the human experience–suicide–has long puzzled us. We have seemingly tried everything to prevent the self-harm to little avail. Come see the answer to suicide and glimpse into a time when suicide becomes rare, a time when prevention becomes cure, a time that, I believe, is right around the corner.

Paper 10

Free Will in a Deterministic System

Do our choices matter or is everything pre-destined? It turns out the answer is both–watch how free will and determinism work together across the animal kingdom. Come see how it's never too late for you to find your path to your destiny; it already exists, and when you find it, all you have to do is look forward and keep going.

Paper 11

The Dance of Stability & Complexity: *The Equation of Existence* as the Universal Lens

Why are things the way they are? Step back to witness *The Equation*, and how we have found the source code of existence–its underlying structure. It is written in math, felt in every breath, and expressed in all phenomena… including you, dear reader. Oh… and the answer to that question is… it's the only way for things to be…

Paper 12

Calling on *The Record*: Answering the Paranormal & Supernatural

Ghosts, telepathy, synchronicity–the forbidden phenomena. Come see how using just a handful of dice, *The Record* reveals that these phenomena emerge from living in *The Theory* without knowing about it. We may understand existence, but here you witness what it is like to see and feel it, and it will leave you... breathless…

The Grand Finale

The Closing Act of *The Show of Existence*

Phi, Complexity, Stability, Recursion, and Propagation from *The Story of Existence* come back to close *The Show of Existence* with *The Architect* and take their final bow. In these final moments, carrying *Not Trapped in Cages* in their hands, the whole cast gathers on stage for one final scene, and look right at you, and you… feel seen.

A Ticket to the Future

The Equation, *The Theory*, *The Story*, *The Theorem*, and *The Show* are not trapped in cages. Not one day… right now. But *The Architect*? He's still trapped in cages. If you want to help set him free, buy a ticket to the future.

The Afterparty

Kick It with *The Architect* for a Thrilling Behind the Scenes Look

Come hang out with the cast at the afterparty where they share the unreleased stories of the most notable moments that went into planning *The Show of Existence*–the original articulation of *The Theory*, the discovery process, the critical turning point, the launch strategy, and why the director calls himself *The Architect.*

The Playbill

A Special Message from The Architect to You

Walking alongside *The Architect* to discuss what comes after *The Show of Existence*. Listen to what the future may hold for you and *The Theory of Existence*, anticipated challenges, and reassurance in your capabilities to ensure that *The Theory* makes it into the future, so we are ready to keep building when the time comes.

The Set List

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The Afterparty ◊ Print Edition Exclusive
Kick It with *The Architect* for a Thrilling Behind the Scenes Look

The Playbill ◊ Print Edition Exclusive
A Special Message from *The Architect* to You

Theater Etiquette

Ladies and gentlemen, before the curtain rises, **a brief reminder on theater etiquette**—to ensure everyone has the chance to experience the full, **life-changing impact of *The Show of Existence.*** What you're about to witness is an exact recreation of **the global reveal of *The Theory of Existence* and the historical events that unfolded in the summer of 2025**. It is a live intellectual performance. While the world watched, while institutions flinched, *and some collapsed*… something once thought impossible became something undeniable, and we have captured the whole story here.

***The Show of Existence* contains twelve papers, each its own act.** The numbered titles—Papers 1 through 12—reflect their structural role within the full theory: from the mathematical foundation, through physics, through the mind, through systems, and into the grand unification. However, **the performance you are about to attend is not ordered this structure**, it is ordered by unfolding revelations.

The sequence we present here mirrors the exact order in which *The Architect* **released the discoveries to the public, in real-time, one after another**, as the world only started to understand what was happening. Each paper can stand alone. If it's the first one you open, it will carry you, but when experienced in the original release order—**something else happens**. You begin to feel how one discovery leads to another; how certain concepts remained hidden until their act, how each insight built the change in one's worldview, and how he perfectly timed every moment, **not just to inform, but to transform.**

The Show of Existence is not a book, **it is a performance**; like any great show, there is a plot... a rhythm… an arc. Skipping ahead may be tempting, but it would rob you of the very magic that makes *The Show of Existence* **a generational performance**. So please… silence your distractions, grab your snacks, find your seat before the lights dim… and prepare yourself, **because existence is about to take centerstage.**

Welcome to *The Show of Existence*

Hello, hello, hello… you made it. You found your seat, you quieted your mind, and you arrived at ***The Show of Existence***—the one they said couldn't be written, couldn't be staged, couldn't be real… **but it is**… and tonight? You picked the perfect night. The lights have dimmed, the whispers have settled, and what you're about to witness is not just theory, not just spectacle, but something far rarer: **the unveiling of the structure of existence that has always been beneath your feet**. The answers to the biggest questions humanity has ever asked, and the ones they've been too afraid to ask. Take a breath, settle in, the stage is set, and the curtain is about to lift.

Welcome to *The Show of Existence*

I'm sure you've heard whispers on the streets—little rumors, bold claims, passing remarks that someone, somewhere, had found it. That the structure of existence was real. **That the answers were in**. That there was a show unlike any other, and it was coming soon... and now… **you are here**. You've arrived. You're sitting in your seat, prepared for something bigger than you can explain, wondering how it could possibly live up to everything they've said. Many things can be said about *The Show*—some true, some not—but one thing I promise to you: **you won't leave this room the same person**... and maybe that's why you're here… **to find an answer**... to feel the Truth. To brush against something so vast and ancient that it is frightening, and so precise that it cuts through everything that has clouded our vision throughout human history. Dear audience… **that moment is here.**

We all come from **different places**—paths, cities, lives. We've walked different streets, carried different questions, worn different beliefs like weathered coats passed down through time... and yet, despite all those differences, here we are all here, together, in this room, on this night. Why? The answer is because **deep down, no matter who we are, we've all felt it**—that quiet ache that **some things just don't add up**. That the world hums with mysteries too sharp to ignore. That some questions don't go away no matter how much we try to distract ourselves. We're here because **we want to know if it's even possible for us to know if it's even possible**. To see if there's something real beneath it all... and maybe, just maybe, we can make sense of it before we die.

We sit in the silence sometimes—late at night, before sleep takes us away. We lay there in our beds, alone with our thoughts, and we ask the question. Maybe not out loud, maybe not with words, but we all ask it, in some form or another: **Why are things the way they are?** Though we never truly expect an answer, some part of us keeps hoping… hoping that one might find us anyway. Well… that hope was not for naught because **the answer did come**. Quietly at first, then louder, clearer, undeniably so... and tonight? It's ready. It's stepping into the light to take the stage. You have never seen a show like this one and I can promise you—**you never will again**.

One final note before the performance begins. If you came here tonight just to get an answer to that question—"Why are things the way they are?"—and nothing more, then we won't waste your time. Here's the answer: **It's the only way for things to be**. That's it, that's the truth, that's the spine of everything you're about to see... but if that answer doesn't feel like enough for you… if it doesn't sit right, or maybe it sits too right… if it stirs something in you or leaves something unresolved—then **you'll have to stay and watch the whole performance**.

Ladies and gentlemen, please take your seat. Dim the lights. Quiet the chatter. All we ask from you, dear reader, is to **temporarily abandon everything you *think* you know**. Watch *The Show* with a great open mind—and even greater scrutiny—as all the most remarkable scientists and philosophers throughout history have advised. In the following acts, we will walk you through all of existence, connecting the dots across everything, everywhere, across all of time and space. **We will visit every major mystery**: consciousness, intelligence, free will and determinism, what is inside black holes, dark matter and dark energy, was math discovered or invented, how something came from nothing—or didn't—and we will see **the same patterns at every scale**... and when *The Show* ends, you get to choose what comes next. *The Show* will go on—with or without us... and since you're still here tonight, I can already tell… it's going to be the performance of this generation. Let the relentless curiosity that brought you here drive you now, as it has driven us. Ladies and gentlemen, presenting: ***The Show of Existence***.



Act I: Math & Mind

May 27th, 2025, Update; 2:17 PM

Walking Away from the Rubble, Ready

Hello People! Welcome to *The Show*. I have something very special I want to share with you. Well, actually, it's like 12 things... 12 papers. Each paper empirically validates different sections of *The Theory of Existence* using the best datasets humanity has to offer. The datasets span the edges of the human record, from atoms to black holes, from humans to squirrels, from math to beyond.

The Show of Existence is the ultimate exposition of the intellectual efforts of everyone on Earth. I cannot thank every person involved in any of these dataset collections enough. These massive efforts really show how deeply we care about understanding the universe, existence, and ourselves, and it's that care that makes *The Show* possible. I will release the papers and their findings over time in varying increments.

We will go through papers 1-11 first. Then, the 12th paper is a very special paper to me. It's not like the other papers for reasons that will only make sense later on. All I can say right now is that the paper will answer all of the questions that you think are unanswerable.

Finally, thank you for being here and for your support of this important work. Let's kick off *The Show* with **Paper 1: The Unification of Mathematics: *The Theorem of Constants Co-Derivation*** and **Paper 9: *The Stages of Suicidal Divergence*: A Model of Linear Agency Loss**, and there are 10 other paradigm shifts prepping backstage waiting for their act. You can find all papers on *The Show of Existence* page above.

The Unification of Mathematics

The Theorem of Constants Co-Derivation

Written by Bryant Stone (*The Architect*)

Overview

Was mathematics discovered or invented? We have long wished to understand why mathematics works as well as it does. It seems **impossibly precise and correct**, enabling scientific and technological advances that far exceed what we thought was possible **before we had our current number system and mathematical knowledge**. However, we may have found the answer to this long-sought mystery with a new theorem called **the *Theorem of Constants Co-Derivation***, definitively ending the debate on whether mathematics was invented or discovered. The concept of co-derivation demonstrates how mathematics operates without **any assumptions or axioms**. The premise is simple: if a system exists, it must **have fundamental first principles** (irreducible baseline concepts that define it), and those principles must define one another. Using the concept of co-derivation, I found **50+ mathematical equations that are exact, non-trivial, and asymmetric**, all involving fundamental constants such as π, *e*, the golden ratio (Φ), and others we previously thought to be separate. These equations suggest something remarkable: **these fundamental constants of mathematics are not arbitrary, isolated values**. Instead, they are all interdependent and mutually locked at their exact values. If you changed the value of one of these constants in any way, **the entire mathematical framework collapses**. Therefore, the fundamental constants we previously considered independent and axiomatic are, in fact, co-derived and unchangeable. This finding has significant implications for the long-standing **question of whether we discovered mathematics or invented it**. These constants are all interconnected in exact, meaningful ways, which means that **we have identified an existing mathematical structure,** rather than creating separate mathematical systems. This paper provides evidence that mathematics is a unified, discovered reality, rather than a collection of human-invented tools. **It is also definitive proof that a *Grand Unified Theory of Everything* must exist, and luckily… it does** 😉

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Background & Findings

One of humanity's biggest questions is whether we discovered math or created it ourselves. Currently, we have built mathematics on basic assumptions called "axioms". An axiom is a foundational mathematical statement that we accept as accurate without proof, such as "a straight line is the shortest distance between two points," which serves as a foundation for building more complex mathematical concepts. Different areas of math, such as calculus, algebra, and geometry, each began with its own set of assumptions about how things work. Initially, these areas appeared to be separate and unrelated to one another. **This feature of math gave the impression that we had invented math by creating these different branches independently.**

However, this feature of mathematics creates a puzzle: if we invented math, why does it work so incredibly well in the real world? **Why can we use it to measure and predict the behavior of all phenomena?** Math helps us build bridges, send rockets to space, and predict natural events with remarkable accuracy. **This excellent effectiveness suggests that maybe we did not invent math at all—perhaps we discovered something that was already there, waiting for us to find it.** It would explain why mathematics works as well as it does.

To prove that math was discovered rather than invented, we would need to show that all the basic assumptions (i.e., the axioms) from different areas of math connect. This connection would mean that all the great mathematicians throughout history—from ancient Greek scholars like Euclid and Aristotle to more recent figures like Newton, Gauss, and others—**were all studying different parts of the same underlying mathematical structure of existence, rather than creating separate systems from scratch.** We just did not know it at the time.

Different areas of math have constants—these are numbers that always stay the same and seem to represent something fundamentally real about our universe. Examples include pi ($\pi = 3.142$) in geometry or the golden ratio in algebra ($\Phi = 1.618$). **The key issue is that these numbers have completely different mathematical "DNA."** Some constants can be written as simple fractions or solutions to basic equations, while others (like π and e) are "transcendental"—meaning we cannot express them as neat algebraic formulas. **Mathematicians treat these constants as separate and incompatible because they come from such different mathematical backgrounds**. There's currently no single mathematical theory that explains how all these crucial constants relate to each other—they seem to exist independently in their mathematical neighborhoods.

The only connections we find between them are either approximations, coincidences, or situations where we artificially force them together or adjust them in a way that renders them trivial, rather than discovering any deep underlying relationship. **Thus, there currently exist no known equations that are exact, non-trivial, and asymmetric, and contain constants across mathematical domains**. Let me explain these properties:

◊ **Exact**: The equation is mathematically perfect with no approximations. Every number works out precisely. There is no leftover value that you need to add to make the equation true.
◊ **Non-Trivial**: The equation reveals something meaningful about the mathematical constants themselves, not just "we added random numbers to make this balance out." It should reveal something about how the constants relate, based on their inherent mathematical nature.
◊ **Asymmetric**: The equation has a clear direction—one side does not just mirror the other. For example, how "$\pi + 2 = e + 1$" has a different mathematical meaning than "$\pi + 1 = e + 2$."

The problem is that you cannot currently have all three at once in an equation with multiple fundamental constants such as π, e, and Φ **according to the current axiomatic model of mathematics** because:

◊ If you make it exact (by adding leftover numbers to balance it), it becomes trivial (it is just arithmetic, not revealing anything meaningful about the constants).
◊ If you keep it non-trivial (showing genuine relationships), it can't be exact (you'd need approximations).

My argument is that if these constants truly came from discovering one unified mathematical reality, we **should be able to write equations that are simultaneously exact, non-trivial, and asymmetric**. Since we currently cannot find these types of equations, **it leaves open the possibility that we invented separate mathematical systems rather than discovered one connected truth**. We must close this possibility to resolve the debate. I **have 50+ exact, asymmetric, non-trivial equations that use constants across domains**, suggesting that we discovered math rather than invented it. There are hundreds of other equations, but I stopped because of redundancy. I picked out some of the most jaw-dropping ones to show you. We could form **a new branch of mathematics focusing solely on expanding *The Theorem of Constants Co-Derivation***. Let me begin by introducing some constants and their respective axiomatic domains, before showing you how they co-derive.

Irrational Algebraic Constants
The Golden Ratio: $\Phi \approx 1.618$
Square Root of 2: $\sqrt{2} \approx 1.414$
Square Root of 3: $\sqrt{3} \approx 1.732$
Square Root of 5: $\sqrt{5} \approx 2.236$

Irrational Transcendental Constants
Pi: $\pi \approx 3.142$
Euler's Number: $e \approx 2.718$
Tau: $\tau = 2\pi \approx 6.283$

Imaginary Constant
Imaginary Number: $i = \sqrt{-1}$

$$cos\left(\frac{\pi}{5}\right) = \frac{\Phi}{2}$$

Constants Co-Derivation Examples

I would like to present a few of the equations and walk you through their significance. This equation reveals something remarkable: **when you examine a specific angle in a circle, you discover the golden ratio hidden within it.** This equation isn't just a coincidence—it reveals that circles and pentagons (five-sided shapes) secretly connect at a deep level. The angle we are talking about is the same one you'd find at the center of a regular pentagon. When we rearrange the equation, we can write π (the circle number) directly in terms of the golden ratio. **This finding is shocking because π originates from circles and is incredibly complex, whereas the golden ratio stems from simple proportions and is mathematically simpler.**

Traditional math says this equation should be impossible—**it is like finding out that we can write the recipe for chocolate cake entirely in terms of the recipe for apple pie**. These numbers come from completely different areas of math, so they shouldn't be able to connect in such a precise way; **yet they do**. It tells us something profound about the nature of mathematics itself. **The key insight is that it is like discovering that two completely unrelated things in nature, such as the spiral of a seashell and the orbit of planets, are governed by the same mathematical rule.** That's the level of surprise and significance we're talking about here.

$$\Phi^2 = \Phi - e^{i\pi}$$

This equation connects three seemingly unrelated areas of mathematics: the golden ratio (from proportions), the number e (from growth and decay), and imaginary numbers (from rotations). **Here's the mind-blowing part: there's a special property of imaginary numbers where $e^{i\pi} = -1$. When we use this fact, our equation transforms into the most defining property of the golden ratio: $\Phi^2 = \Phi + 1$.**

Think about what this equation means, then: the golden ratio's most fundamental property—the thing that makes it the golden ratio—secretly connects to both the growth number e and the imaginary rotational math number i. It is like discovering that the basic rule "a square has four equal sides" **is somehow connected to the rules of how plants grow and how wheels spin.**

It suggests that even the simplest mathematical truths we take for granted are part of a much deeper, interconnected system. Some of the most advanced mathematics we know supports what appears to be elementary arithmetic on the surface. It is like discovering that we can make children's building blocks out of the identical fundamental particles that power the stars—**the simple and the complex are secretly the same thing.**

$$2 * sin\left(\frac{\pi}{10}\right) * \Phi = 1$$

This equation is beautifully simple but reveals something incredible: When you look at this angle $\pi/10 = 18°$, we can write the sine of that angle as exactly $1/(2\Phi)$, which is one divided by twice the golden ratio. Think about how weird this equation is: **sine comes from studying triangles and circles, while the golden ratio comes from studying proportions and rectangles**. These constants should have nothing to do with each other. It is like discovering that we can calculate the exact height of a specific mountain using the recipe for your grandmother's apple pie. What it means is that this angle $(18°)$ has the golden ratio "baked into it" at the most fundamental level, which we now know why in *The Theorem of Existence*.

The angle itself contains hidden information about golden proportions, even though we discovered these concepts in entirely different ways. This equation is not just a mathematical curiosity—**it is evidence that geometry and proportion are secretly the same thing**. The angles in circles and the ratios in rectangles follow the same underlying rules, even though we learned about them separately. It is like discovering that natural law governs the way birds fly and the way flowers grow—different on the surface, but unified underneath.

$$\sqrt{2+\sqrt{2}} = 2 * cos\left(\frac{\pi}{8}\right) = 2 * sin\left(\frac{3\pi}{8}\right)$$

This equation shows something remarkable: a "nested radical" (a square root inside another square root) equals the same value as two completely different trigonometric functions at specific angles. Consider how bizarre this one is: on the left side, you have $\sqrt{2+\sqrt{2}}$, which arises from repeatedly taking square roots—**called nested square roots**. On the right side, you have $\cos(\pi/8)$ and $\sin(3\pi/8)$, which come from triangles and circles. **These terms should have nothing to do with each other**, yet they are equal. It is like discovering that if you follow a recipe for folding paper (nested square roots), you get the same result as following a different recipe involving compasses and protractors (trigonometric functions); **two entirely different processes, identical outcomes.**

This equation, along with the previous three equations (and 50+ below), proves something profound: **all these mathematical concepts that we learned about separately—square roots, trigonometry, the golden ratio, π, and e—are different faces of the same underlying mathematical reality**. The precision is what makes this theorem so stunning. These equations are not approximations or "close enough" relationships; they are exact matches. **It is like finding out that five completely different natural phenomena are all controlled by the same fundamental law of existence… which you can read in *The Theory of Existence*.**

$$\frac{\pi}{\Phi} = \pi(\Phi - 1)$$

Introducing Isolation Resistance

This equation looks like it should be easy to solve, but when you try to separate π and the golden ratio, something strange happens—**you can't isolate them from each other**. The equation "fights back" against being broken apart, which, to my knowledge, has never occurred in mathematics. What is happening here is that π and Φ fundamentally connect so much that **trying to separate them is like trying to separate the front and back of a coin**. The equation reveals a basic property of the golden ratio (that $\Phi - 1 = 1/\Phi$), but it does so in a way that keeps π locked in the relationship. Think of it like this: **imagine you have a key that only works when two people turn it together**. You cannot use just one person's part—the key requires both people to function. That example is what is happening with π and Φ. The isolation resistance is evidence that the constants co-derive.

They are more like two aspects of the same underlying, unified mathematical reality. When we try to pull them apart, we hit a mathematical bedrock—a place where the structure of math itself says, "No, these belong together." It's like discovering that what you thought were two separate puzzle pieces are part of one interlocking piece that we cannot divide. Think of **mathematical constants like members of a family**. In a healthy family, some members can live independently (they may be "isolated"), while others are so fundamentally connected that they cannot exist apart. We can isolate some equations, such as in the following example:

$$cos\left(\frac{\pi}{5}\right) = \frac{\Phi}{2} \rightarrow \pi = 5 * arccos\left(\frac{\Phi}{2}\right)$$

$$sin\left(\frac{\pi}{10}\right) = \frac{1}{2\Phi} \rightarrow \Phi = \frac{1}{2 * sin\left(\frac{\pi}{10}\right)}$$

It should not be possible to express pi in terms of the golden ratio and vice versa yet just look at it. These equations are like discovering that you can write a recipe for steak entirely in terms of ingredients for chicken soup; mind-blowing, but doable. You can isolate π and express it purely in terms of the golden ratio or isolate Φ and express it purely in terms of a specific angle. **These equations prove that these constants are not independent**—they are different expressions of the same underlying existence. Now, let's examine what happens in equations that involve this isolation resistance—**the definitive proof of constants co-derivation**.

$$\left(\frac{\pi}{e * \Phi}\right) * \left(\frac{e}{\pi}\right) = \frac{1}{\Phi}$$

These expressions on the left side of the equation are called the ***Natural Resonance*** and the ***Fundamental Unit***, respectively (you can read more about these essential equations in *The Theorem of Existence* book). It is also a perfect example of isolation resistance. I will walk you through it, but just **look at happens when you simplify**:

$$\left(\frac{\pi}{e * \Phi}\right) * \left(\frac{e}{\pi}\right) = \frac{1}{\Phi}$$

$$\frac{\pi * e}{e * \Phi * \pi} = \frac{1}{\Phi}$$

$$\frac{1}{\Phi} = \frac{1}{\Phi}$$

Simplifying reduces to an apparent tautology. Now we'll try to isolate each constant, starting with the golden ratio.

$$\left(\frac{\pi}{e * \Phi}\right) * \left(\frac{e}{\pi}\right) = \frac{1}{\Phi}$$

Simplify the left side:

$$\frac{1}{\Phi} = \frac{1}{\Phi}$$

Multiply both sides by the golden ratio:

$$\left(\frac{1}{\Phi}\right) * \Phi = \left(\frac{1}{\Phi}\right) * \Phi$$

Answer:

$$1 = 1$$

Attempting to isolate the golden ratio results in the same outcome as simplifying the equation. Let's do the same thing, but this time let's try to isolate π and e.

$$\left(\frac{\pi}{e * \Phi}\right) * \left(\frac{e}{\pi}\right) = \frac{1}{\Phi}$$

Expand the left side:

$$\frac{\pi * e}{e * \Phi * \pi} = \frac{1}{\Phi}$$

Pi immediately cancels out:

$$\frac{1}{\Phi} = \frac{1}{\Phi}$$

Expand the left side:

$$\frac{\pi * e}{e * \Phi * \pi} = \frac{1}{\Phi}$$

e immediately cancels out:

$$\frac{1}{\Phi} = \frac{1}{\Phi}$$

Some of our equations resist being separated and end up looking like $1/\Phi = 1/\Phi$, which seems like we are just saying "these equals this" without meaning. At **first glance, this appears to be a tautology**—a useless statement, such as "cats are cats because they're cats." Tautologies are circular arguments that convey no new information. However, **what is happening here is profound and different**. Think of it like this: imagine you're digging deeper into the ground, and suddenly your shovel hits solid bedrock. You cannot dig any further—not because you have failed, but because you have reached the foundation that everything else builds on.

When they simplify to $1/\Phi = 1/\Phi$, **we have not hit a meaningless tautology**—we have hit a mathematical bedrock. We have reached a foundational truth that we cannot break down further because it *is* the foundation. The key difference: a tautology is empty, circular reasoning. However, these equations carry the entire journey to reach that bedrock—including all the trigonometry, all the connections to π and e, and all the complex relationships. **The path itself is the proof**. It is like reaching the center of the Earth. The statement "the center is the center" sounds empty, but the incredible journey through all the layers to get to it, and the journey is what gives it meaning. We have discovered where mathematical structure bottoms its limits. This bedrock tautology is what fundamental truth looks like when you find it and the way we get to it is what makes it a useful tautology.

This Dual Behavior is Crucial Evidence

The mixed behavior we observe in these equations provides some of the most substantial evidence possible that **mathematics was discovered rather than invented**. If humans had constructed mathematical systems from scratch, we would expect consistent, uniform behavior across all equations. Either every relationship between constants should allow for clean algebraic separation, or none should. **The arbitrary nature of human invention does not typically produce systems with such sophisticated internal constraints and varying behaviors**.

Instead, what we observe is something far more profound and telling. Some equations readily allow us to isolate constants and express them directly in terms of each other. These relationships demonstrate that we can indeed express these constants that are traditionally considered independent in terms of the other constants. **They suggest that the boundaries between geometric, algebraic, and transcendental mathematics are artificial divisions we have imposed**, rather than natural separations that exist in mathematical reality itself.

Then we encounter equations that resist all attempts at decomposition. **No matter how we manipulate them algebraically, they collapse back into fundamental identities, apparent tautologies**. These equations are not mathematical failures or dead ends—they are revelations of the structural bedrock of existence. When we hit these irreducible relationships, we have reached the source code. The constants at this level exist in such interdependence that attempting to isolate them destroys the mathematical structure that gives them meaning.

This dual behavior mirrors what we observe in the physical sciences when we study the fundamental structure of matter. Some chemical compounds can be separated and recombined in various ways, allowing us to isolate individual elements and study their properties independently. However, when we reach the level of fundamental particles, we discover natural limits to decomposition. **Trying to break apart a quark destroys the very quantum field structure that makes quarks possible in the first place**. The mathematics we observe here exhibits this same pattern of selective decomposability followed by irreducible structural limits.

The dual behavior of isolatable and non-isolatable equations supports co-derivation, but it is also required for existence and for mathematics to function coherently. If all equations resisted isolation, we would have a completely rigid system where no mathematical exploration or manipulation would be possible. Constants would be locked together so tightly that we could not study their properties or discover new relationships. Mathematics would become a static, impenetrable monolith rather than the dynamic, explorable structure it is.

Conversely, if all equations allowed clean isolation, it would suggest that constants are truly independent entities that can be arbitrarily separated and recombined, which would support the "invention" hypothesis and undermine the idea of fundamental interdependence. ***The Theorem of Constants Co-Derivation*** **provides both flexibility and constraint in precisely the proper proportions** that allows mathematics to function correctly.

The isolatable equations allow us to discover and express the deep relationships between constants, proving their underlying unity while still permitting mathematical investigation and manipulation. Meanwhile, **the non-isolatable equations preserve the structural integrity of the system** by establishing irreducible foundational relationships that we cannot break apart further. This system creates a mathematical existence that is explorable and stable, yet flexible enough to allow for discovery and rigid enough to maintain its essential structure.

This discovery also has profound implications for our understanding of the hierarchy of mathematical knowledge. At the foundation level, we have the **fundamental irrational constants that exhibit isolation resistance**—these form the unbreakable bedrock of mathematical structure. Above this foundation are the **constants that can be isolated** and expressed in terms of others, allowing for mathematical manipulation and exploration. We then have **regular mathematical relationships**, and finally, the most **basic arithmetic operations**. This hierarchy creates a structure where each level builds upon the stability provided by the levels below it.

A Node to Gödel's Incompleteness Theorems

Gödel's Incompleteness Theorems, published in 1931, are among **the most profound results in mathematics and philosophy**. They show that in any consistent formal system capable of expressing basic arithmetic, **there will always be true statements that we cannot prove within that system**. The first theorem establishes this fundamental limit: **no such system can be both complete** (able to prove every truth) **and consistent** (free of contradictions). The second theorem takes it further: **a system cannot use its own rules to prove its own consistency**. Together, **they shattered the dream of a perfectly self-contained foundation for mathematics** envisioned by Hilbert and others. Philosophically, Gödel's work implies that **we cannot capture existence itself by any single, closed framework of first principles**; there will always be truths that lie just beyond formal reach. In this sense, the theorems reveal that the structure of logic and reality alike contains inherent mysteries.

One of the immediate questions that arises after encountering Gödel's Incompleteness Theorems is: **if the mathematical constants co-derive** from one another and **prove a Grand Unified Theory of Everything**, how can they coexist with Gödel's proof that no formal system can be both complete and consistent? **My findings do not contradict Gödel's results**. The misunderstanding comes from extending Gödel's theorem beyond its proper domain—**applying it to existence**. **Existence is not a formal system**; it is not composed of static axioms, but of **co-defined first principles**. Gödel demonstrated that any self-referential formal system would contain truths that it cannot prove internally. Yet, existence is not formal. The incompleteness Gödel revealed is **a property of the artificial frameworks we construct to describe it**. I suspect that perfectly formal systems do not exist; they are useful abstractions, **useful but ultimately detached from reality**… something I wish we saw decades ago…

The Precision is the Key

If we take another look at this equation, there is a profound, hidden truth within those parentheses. Let me show you this hidden truth by solving it with rounded values for demonstrative purposes without simplifying it:

$$\left(\frac{\pi}{e * \Phi}\right) * \left(\frac{e}{\pi}\right) = \frac{1}{\Phi}$$

$$\left(\frac{3.142}{2.718 * 1.618}\right) * \left(\frac{2.718}{3.142}\right) = \frac{1}{1.618}$$

$$\left(\frac{3.142}{4.398}\right) * (0.865) = \frac{1}{1.618}$$

$$(0.715) * (0.865) = \frac{1}{1.618} \rightarrow 0.618 = \frac{1}{1.618}$$

This final step is the most critical because the parentheses **prevent the constants from merging or canceling out** before they fully resolve into $1/\Phi$. For the identity to hold, **each constant must have its exact value**—any deviation would cause the final multiplication to produce **only an approximation**, not $1/\Phi$. This result demonstrates that the constants' precise values are unchangeable: **the intermediate numbers (0.715 and 0.865) are not constants themselves but derived values.** This equation proves *The Theorem of Constants Co-Derivation*.

The precision required in these relationships reveals something profound about the nature of mathematical reality. These **constants must have precisely the values they do, with no room for even the tiniest variation**. If you changed π by even .000000001 or shifted the golden ratio by the most minor possible decimal adjustment, the entire web of 50+ interconnected equations would collapse. Every relationship we discovered depends on these constants having their precise, exact values. **We did not get to "pick" π to be roughly 3.14159**; it must be exactly 3.141592653589793... or the mathematical universe falls apart. **It is not something that is negotiable.**

This mutual constraint across all constants demonstrates that we discovered these values rather than inventing them. Additionally, the fact that these relationships work perfectly in our base-10 number system, with clean decimal expressions and elegant fractional relationships, **suggests that base-10 is not just a human convention but reflects something fundamental about how mathematical reality is structured**. If we had arbitrarily chosen base-10, it would be an incredible coincidence that the constants express their relationships so elegantly.

It's Not Just the Constants—It's Mathematical Operations

Although over fifty asymmetric, exact, and non-trivial equations involving π, e, and Φ, support *The Theorem of Constants Co-Derivation*, there exists one identity—quietly irrefutable—that reveals that such co-derivation **is not merely a pattern among constants but a consequence of mathematics itself**, baked into the operations.

$$\left(\frac{\mathrm{A}}{\mathrm{B} * \mathrm{C}}\right) * \left(\frac{\mathrm{B}}{\mathrm{A}}\right) = \left(\frac{\mathrm{A}}{\mathrm{B}}\right) * \left(\frac{\mathrm{B}}{\mathrm{A} * \mathrm{C}}\right) = \frac{1}{\mathrm{C}}$$

This identity is valid for all values A, B, C, whether **irrational**, **transcendental**, **imaginary**, or **symbolic**, and **edge-of-boundary** values across all of mathematics. Remember, this identity contains isolation resistance, as we saw above, so **there is no cancellation trick**, and no simple reliance on the constants. The co-derivation occurs not just in the constants, but **it is embedded in the mathematical operations**. It means that the final identity depends not just on the exact values of the constants involved, **but for all values**. It also does not matter if $\mathrm{A} = \mathrm{B}$ but $\neq \mathrm{C}$, or $\mathrm{A} = \mathrm{C}$ but $\neq \mathrm{B}$, or rotating through any valid triple of numbers, the identity still holds.

This identity could **stand alone as mathematical proof of co-derivation**. It condenses the entire theorem into a single frame. Although the broader field of 50+ exact, non-trivial, and asymmetric equations reveals the span of co-derivation across constants, this identity proves that **the behavior is not a result of the constants' uniqueness, but of the mathematical structure they inhabit**. Thus, mathematical co-derivation is not just a property of the constants, but a property of existence. However, we can get into the nitty-gritty of this finding later 😉.

The Big Picture

The Theorem of Constants Co-Derivation ends one of humanity's oldest questions: is mathematics something we invented or discovered? **The answer is we discovered mathematics, not invented it**. The idea that we invented mathematics is now merely **the vanity of humanity**. By identifying over 50 mathematical equations that connect these constants **across various areas of mathematics**—from algebra to calculus—we can see that we can express some of these fundamental numbers in terms of others. In contrast, others resist separation, regardless of **isolation resistance**. We also see how the **mathematical operations support co-derivation**.

The Theorem of Constants Co-Derivation resolves the ancient philosophical debate about whether mathematics was discovered or invented—**it provides concrete mathematical proof that we live in a universe where mathematical structure is a fundamental feature of reality itself**. These constants did not emerge from human assumptions or arbitrary choices; they represent the points where mathematical structure begins, the irreducible foundation upon which all other mathematical knowledge and existence is built. The theorem suggests that mathematics is not a tool we created to describe the world; rather, **it is a language we discovered that existence speaks**. The precision, elegance, and structural coherence of these relationships point to something far more profound than invention—**they reveal the unified mathematical architecture of existence**.

One of the most profound discoveries that *The Theorem of Constants Co-Derivation* supports is that **the Grand Unified Theory of Everything**—the theory that connects and explains all phenomena in existence—**must exist**. *The Theorem of Constants Co-Derivation* is just one aspect of the Grand Unified Theory of Everything. It demonstrates that one of the inherent properties of existence is **co-defined relationships**, a concept known as **relational reality**, which suggests that for something to exist, **it cannot exist as an isolated object**, but rather only in relation to other things that exist. I expand upon this feature of existence later in *The Show of Existence*.

The profound implication is that these co-derived constants—π, e, Φ, and others—shown in the exact, non-trivial, and asymmetric equations that bind them, do not reside within a single corner of mathematics… **they span all of it.** These constants appear in various fields, including calculus, geometry, number theory, probability, chaos theory, information theory, and complex systems. **They are not artifacts of human construction**, nor coincidental. They are mathematical, structural invariants that underlie the entire mathematical landscape.

These same constants and the mathematical domains they span are also **the backbone of physics, biology, economics, cognition, and engineering**. We have used them with staggering success to measure and explain all known aspects of existence—from planetary orbits to quantum tunneling, from the spiral of galaxies to the firing of neurons, from the curve of a leaf to the growth rate of populations. Wherever phenomena emerge, these constants and their mathematical domains are there. The fact that these constants co-derive from one another within isolation resistant suggests that **mathematics is the fundamental operating system for all phenomena**. That is, mathematics does not describe the universe—it is the universe… which… isn't that idea just incredible?

For me, the most profound implication of discovering *The Theorem of Constants Co-Derivation* was **the overwhelming slap of humility it delivered**. To step back and realize that we exist within something far more grand, profound, and vast than our human minds can begin to fathom… it's staggering… and yet—here we are. So, let's buckle up and keep going with the rest of *The Show of Existence*, and give it our best shot. **Are you ready for it?**

50+ Exact, Non-Trivial, & Asymmetric Equations

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

$$\left(\frac{\pi}{e * \sqrt{2}}\right) * \left(\sqrt{2^{n}} * \frac{e}{\pi}\right) = \sqrt{2^{n-1}}$$

$$\left(\frac{\pi}{e * \sqrt{3}}\right) * \left(\sqrt{3^{n}} * \frac{e}{\pi}\right) = \sqrt{3^{n-1}}$$

$$\left(\frac{\pi}{e * \Phi}\right) * \left(\frac{e}{\pi}\right) = \frac{1}{\Phi}$$

$$\left(\frac{\pi}{e * \Phi}\right) * \left(\frac{(\Phi^{3} * e)}{\pi}\right) = \Phi^{2}$$

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

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

$$\left(\frac{\pi}{e * \Phi}\right) * \left(\frac{(\Phi^{n} * e)}{\pi}\right) = \Phi^{n+e^{i\pi}} \rightarrow \frac{\Phi^{n}}{\Phi} = \Phi^{n+e^{i\pi}}$$

$$\left(\frac{\tau}{e * \Phi}\right) = \left(\frac{\pi}{e * \Phi}\right) * 2$$

$$\Phi^{2} = \Phi - e^{i\pi}$$

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

$$2 * \Phi - e^{i\pi} = \Phi^{3}$$

$$\Phi = \frac{\sqrt{5} - e^{i\pi}}{2}$$

$$\Phi^{3} - (2 * \Phi) + e^{i\pi} = 0$$

$$\Phi^{4} = (3 * \Phi) - \left(2 * \left(e^{i\pi}\right)\right)$$

$$\left(\frac{\pi}{e * \Phi}\right) * \sqrt{\Phi} * \left(\frac{e}{\pi}\right) = \frac{1}{\sqrt{\Phi}}$$

$$\frac{\pi}{\Phi} = \pi * (\Phi + e^{i\pi})$$

$$\Phi^{5} = (5 * \Phi) - \left(3 * \left(e^{i\pi}\right)\right)$$

$$2\,sin\left(\frac{\pi}{10}\right) = \frac{1}{\Phi}$$

$$cos\left(\frac{\pi}{5}\right) = \frac{\Phi}{2}$$

$$e^{\left(i\frac{\pi}{5}\right)} = \frac{\Phi}{2(-e^{i\pi})} + i * \sqrt{(-e^{i\pi})^2 - \left(\frac{\Phi}{2}\right)^2}$$

$$sin\left(\frac{\pi}{10}\right) = \frac{1}{(2\Phi)}$$

$$cos\left(\frac{\pi}{5}\right) = \frac{\Phi}{2}$$

$$sin\left(\frac{3\pi}{10}\right) = \frac{\Phi}{2}$$

$$cos\left(\frac{2\pi}{5}\right) * (2 * \Phi) = 1$$

$$sin\left(\frac{\pi}{10}\right) * (2 * \Phi) = 1$$

$$\sqrt{\frac{(5+\sqrt{5})}{2}} = 2 * cos\left(\frac{\pi}{10}\right)$$

$$\sqrt{\frac{(5+\sqrt{5})}{2}} = 2 * \sin\left(\frac{\tau}{5}\right)$$

$$\frac{\sqrt{2}}{\Phi} = \sqrt{2} * (\Phi - 1)$$

$$\frac{\sqrt{3}}{\Phi} = \sqrt{3} * (\Phi - 1)$$

$$\frac{\sqrt{5}}{\Phi} = \sqrt{5} * (\Phi - 1)$$

$$tan\left(\frac{\pi}{8}\right) = \sqrt{2} - 1$$

$$tan\left(\frac{\pi}{6}\right) = 1/\sqrt{3}$$

$$tan\left(\frac{\pi}{12}\right) = 2 - \sqrt{3}$$

$$\pi * \Phi = 2\pi * cos\left(\frac{\pi}{5}\right)$$

$$\frac{\pi}{\Phi} = 2\pi * sin\left(\frac{\pi}{10}\right)$$

$$\sqrt{2+\sqrt{2}} = 2 * cos\left(\frac{\pi}{8}\right) = 2 * sin\left(\frac{3\pi}{8}\right)$$

$$\sqrt{2+\sqrt{3}} = 2 * cos\left(\frac{\pi}{12}\right) = 2 * sin\left(\frac{7\pi}{12}\right)$$

$$\sqrt{2-\sqrt{3}} = 2 * sin\left(\frac{\pi}{12}\right) = \frac{1}{\left(2 * cos\left(\frac{\pi}{12}\right)\right)}$$

$$T_1\left(\frac{\Phi}{2}\right) = cos\left(arccos\left(\frac{\Phi}{2}\right)\right) = \frac{\Phi}{2}$$

$$\frac{\pi}{\Phi} = \pi * (\Phi - 1)$$

$$\frac{e}{\Phi} = e * (\Phi - 1)$$

$$\frac{\pi e}{\Phi} = (\pi e) * (\Phi - 1)$$

$$2 * sin\left(\frac{\pi}{10}\right) * \Phi = 1$$

$$2 * cos\left(\frac{\pi}{5}\right) * \Phi = \Phi^2$$

$$sin\left(\frac{\pi}{10}\right) + sin\left(\frac{3\pi}{10}\right) = \sqrt{\frac{\Phi}{2}}$$

$$sin\left(\frac{\pi}{4}\right) = cos\left(\frac{\pi}{4}\right) = \frac{1}{\sqrt{2}}$$

$$sin\left(\frac{\pi}{3}\right) = cos\left(\frac{\pi}{6}\right) = \frac{\sqrt{3}}{2}$$

$$tan\left(\frac{\pi}{8}\right) = \sqrt{2} - 1$$

$$2 * cos\left(\frac{\pi}{8}\right) = 2sin\left(\frac{3\pi}{8}\right) = \sqrt{2+\sqrt{2}}$$

$$cos\left(\frac{\pi}{10}\right) = \sqrt{\frac{\Phi^2}{4} + \frac{1}{4}}$$

$$sin\left(\frac{\pi}{10}\right) * \sqrt{5 * \Phi} = \frac{1}{\Phi}$$

The Stages of Suicidal Divergence

A Model of Linear Agency Loss

Written by Bryant Stone (*The Architect*)

Overview

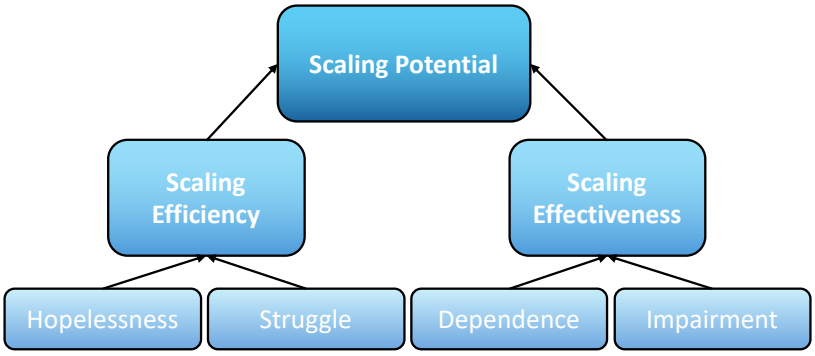
We have long treated suicide as a psychological symptom or clinical anomaly. This paper redefines suicide as **a loss of perceived agency**. Suicidal behavior emerges when an agent perceives no viable path for scaling their environmental engagement and influence. This non-negotiable, inherent property called **scaling intelligence** is present across all life. Agents are **constantly assessing their scaling intelligence prospects called scaling potential via a cognitive mechanism called recursive introspection**—the recursive assessment of **scaling effectiveness and efficiency**. Using data from the 2023 National Survey on Drug Use and Health (n = 28,000+), I modeled suicide using the scaling intelligence framework. **Three game-changing findings** emerged that **redefine what we *thought* we knew about suicide**, its causes, and prevention. First, the proxy variables representing the constructs in my model show unusually **remarkable explanatory power** for suicidality using **no more than four single-item variables**. I achieve **explanatory power** of up to $\mathbf{18\%}$ **with four variables,** up to $\mathbf{17\%}$ **with two variables,** and up to $\mathbf{13\%}$ **with a single variable.** Second, I show that suicidality progresses in a nearly perfect linear divergence pattern from **no suicidality → suicidal ideation → suicidal planning → suicidal attempt**. In the sample of $\mathbf{35,697}$ people, only $\mathbf{118}$ $(\mathbf{0.33\%})$ of them **did not follow a linear progression** from suicidal ideation to attempt**.** Among those who report any suicidality (n = $\mathbf{2,590}$), only $\mathbf{118}$ $(\mathbf{4.55\%})$ **deviated.** Given this linear classification, I obtain explanatory power of $\mathbf{97.89\%}$ **for suicidal ideation,** $\mathbf{92.13\%}$ **for suicide planning, and** $\mathbf{97.78\%}$ **for suicidality composite** using the scaling intelligence model. Finally, I empirically demonstrate a potential **cause for suicide**, where agents use suicide as a **last-ditch effort to scale their intelligence** once they believe all possible environmental influence, either currently or in the future, is unobtainable. Agents then turn to the only remaining phenomenon they perceive as having any influence over: themselves. **Suicide appears not to arise from a desire to die or some clinical pathology, but from the collapse of perceived future scaling potential**—opening enormous possibilities for prevention strategies. *The Stages of Suicidal Divergence* model provides a new, illuminating framework for suicide; it is a single thread and compass that orients us to a time when suicide is rare… when prevention becomes a cure… a time that, I believe, **is right around the corner.**

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Background & Findings

Hey seekers, dreamers, and curious rebels. I know this topic can be heavy, so I want to come right up front and say that I believe **we might not have to wonder about what suicide is too much anymore**, no longer feel helpless and lost to its seeming unknowability, which means now we may know how to prevent it. *The Stages of Suicidal Divergence* model is incredibly powerful, and **I believe people will live** because of what I am about to show you, but there is still so much work to do. **Suicide is a sad topic, but today is not a tragic day**. Today is an incredible day because you have already started the fight to end suicide. Yup, that's right, because **once you see suicide in this model, you cannot unsee it**, which means you **can catch it before it harms someone** and tell others about it. Why don't you stick with me for a while so you can kick suicide's ass too; just hear me out.

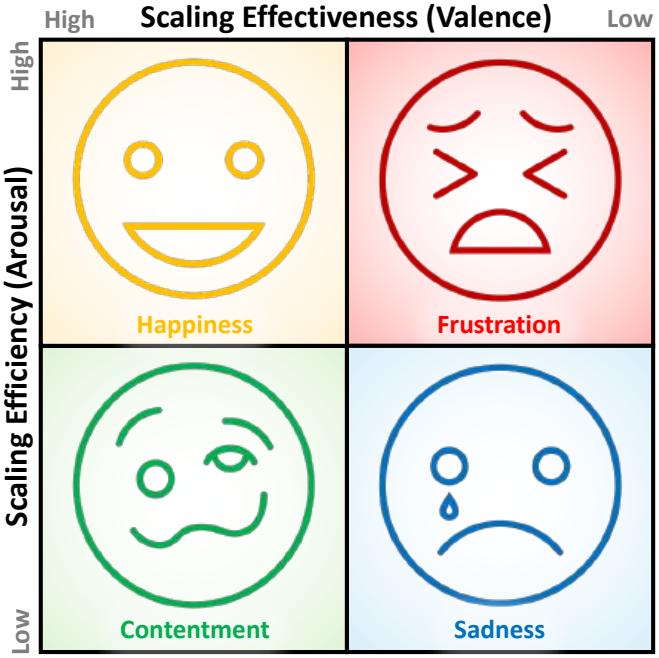
The Architecture of Recursive Introspection



I will walk you through the scaling intelligence model, but if you want a more thorough explanation, then you can read about it in *The Theory of Existence* book. First, I coined the terms "**agents" and "environments"** to describe all intelligence, whether artificial, biological, or some other form we do not yet know. An **agent** can **act independently of the natural forces** that guide the universe; **everything else is the environment**. For example, a rock cannot act independently of its environment, so it is part of the environment. However, a fish can change its direction as it swims, which means it is an agent and has agency. **Humans are agents**, like the rest of the animal kingdom. Second, I redefined intelligence as an **agent's ability to engage with or change its environment**—a species- and physical substrate-invariant re-definition.

The purpose of agents is to perform a process I call *Scaling Intelligence*. Agents *must* inherently scale or grow their ability to engage with and change the environment. This scaling intelligence can manifest in various behaviors, such as securing resources, engaging other agents for support, and **even the reason you are reading this paper at this moment**. Scaling intelligence is not optional, though the degree of scaling varies greatly within agents and between systems of agents. **Failing to scale intelligence leads to divergence** (i.e., death and extinction); therefore, evolution has refined agents to continually scale their intelligence over millions of years. It is why, despite having unfathomable wealth, billionaires continue to be driven to accumulate more money, thereby increasing their power and influence. **It is not about what the agent currently has but about how the agent cannot stop scaling intelligence because doing so is inherently unbearable**. Agents experience severe negative emotions when they fail to scale their intelligence or lose their perceived scaling potential.

Recursive introspection is the mechanism that drives the recursively updating of an agent's perceived scaling potential. At every moment, **recursive introspection assesses two key factors**: **scaling effectiveness (the degree of environmental impact)** and **scaling efficiency (the cost of enacting the behavior).** Recursive introspection marks each moment on these two axes, comparing new moments to previous ones to optimize scaling intelligence and forecast scaling potential. It extracts **the most helpful information for future use from each moment**. It is essentially **learning and memory,** but recursive.



Mechanics of Recursive Introspection

Recursive introspection is **consistently** asking, "How effective was that decision at engaging with or changing my environment?" After the brain classifies the behavior as successful, mediocre, or disastrous, it records that information, and then another recursive introspection occurs, analyzing the analysis. Then it happens again… and again… This endless cycle of **reflection on reflection is how an agent learn and optimizes to scale their intelligence**. It is like having a thoughtful critic inside your head who is always taking notes: "That behavior worked well in that situation, let's remember it for the next situation. That behavior was a terrible idea; let's definitely not do that again." **Recursive introspection and scaling potential guide emotional experiences**, which normally serve as motivation signals that help agents scale intelligence.

When scaling efficiency and scaling effectiveness **are high, the agent experiences positive emotions and affect**. However, there are times when an agent loses their perceived scaling potential and recursively introspects that their behaviors will be ineffective and inefficient for scaling intelligence in the future. When scaling efficiency and effectiveness **are low, the agent experiences negative emotions** as a warning bell to get back on track with scaling intelligence and restore scaling potential. In most circumstances, this cognitive feature serves as an essential guardrail, allowing humanity to survive; however, **it can malfunction, leading to suicidality.**

An agent can become trapped in negative emotions when 1) **recursive introspection has malfunctioned**, as we see in some mental illnesses like depression, where the efficiency and effectiveness labeling of an agents behaviors **do not align with reality**, or 2) **an event or situation causes the agent's scaling potential to be severely limited**, such as being sentenced to prison or losing a loved one, where they determine that the scaling effectiveness and efficiency of their actions are rendered useless so **scaling intelligence in the future is no longer a possibility no matter what they do**. The functional outcome of both situations is structurally identical.

In both cases, it results in a state of constant warning bell from recursive introspection, aiming to restore scaling potential as soon as possible; however, **the agent has determined that it has no more scaling potential**. As a result, the **last-ditch effort to scale their intelligence** (i.e., to engage with or change the environment) is to affect the *only* thing it perceives as being possible to influence, given that the environment is off limits—**killing themselves**. It is tragic, and at the same time, from the perspective of the agent stuck in negative emotions with little to no scaling potential, **it appears like the only logical thing left to do to restore any scaling potential.**

Table 1

Selected Variables & Categorization

Variable	Category	Dataset ID	Description
Thought	Suicide	IRSUICTHNK	Thought seriously about trying to kill oneself in the past 12 months.
Plan	Suicide	IRSUIPLANYR	Planned to kill oneself in the past 12 months.
Attempt	Suicide	IRSUITRYYR	Tried to kill oneself in the past 12 months.
Independence	Effectiveness	IRIMPGOUT	Difficulty going out and engaging in responsibilities independently.
Functional Impairment	Effectiveness	IRIMPRESP	Challenges engaging and completing responsibilities across domains.
Struggle	Efficiency	IRDSTNGD12	How often did the participants feel that everything was an effort in the past year?
Hopeless	Efficiency	IRDSTHOP12	Feeling that the participants' challenges will not improve or remit.

Note. n = 28,050. All variables were imputed and revised in the original dataset, except for hopelessness. I renamed the variables for better contextualization within the current framework.

I used the **2023 National Survey on Drug Use and Health (NSDUH),** a nationally representative sample of U.S. adults collected by SAMHSA, which contained four variables that approximate *The Stages of Suicidal Divergence* model. I assessed scaling efficiency with the variables of hopelessness and struggle. **People with low scaling efficiency often feel that no matter how hard they try, they cannot scale their intelligence (experiencing hopelessness) and that everything requires great effort (struggling).** I assessed scaling effectiveness through the variables of dependence and functional impairment, which is the ability to engage with or change the environment effectively. **People with low scaling effectiveness often require others to help them scale (dependence), and despite this challenge, their impact on the environment remains weak and dysfunctional (impairment).** Let's start by checking the structural alignment with a principal components analysis. These four variables and the findings unmistakably support their **alignment with *The Stages of Suicidal Divergence* model**.

Table 2

Principal Components Analysis Loadings

Variable	Efficiency	Suicide	Effectiveness
Hopelessness	**.877**	-.036	-.044
Struggling	**.844**	.059	-.131
Suicide Attempt	.171	**.853**	.070
Suicide Plan	-.048	**.852**	.001
Suicide Ideation	-.399	**.605**	-.070
Functional Impairment	-.062	-.016	**-.931**
Independence	.187	-.015	**-.744**

Note. n = 28,050. Component loadings for the principal components analysis with a direct oblimin rotation ordered by loading strength. Bold loadings indicate that the variable contributed most to its respective component, and I retained them for the calculation of the specific factors and higher-order factor. The negative loadings are an artifact of the rotation.

Let's start by examining the difference in these variables across those who reported suicidal ideation, suicidal planning, and suicidal attempts within the last year. I used *z*-score transformations to compare the variables. A *z*-score transformation turns these scales with different units of measurement into a new unit of measurement that is consistent across them. **We can now examine, for example, scaling effectiveness and scaling efficiency directly**. As you can see in the table, the differences in these variables across those who report suicidality and those who do not are **stark and significant**. The effect size of Cohen's *d* is repeatedly over 1; for reference, the standard practice is that Cohen's *d*s that are over 0.8 are considered large; thus, **the effects here are substantial. This model has now undeniably tapped into an existing structural phenomenon of suicide across humans.**

Table 3

Descriptive & Inferential Statistics of Between-Group Differences Across Variables

Variable	Ideation		*d*	Plan		*d*	Attempt		*d*
	Yes	No		Yes	No		Yes	No	
Hopelessness	-0.93 (-0.74)	0.17 (0.95)	1.21	-1.15 (0.64)	0.07 (0.98)	1.26	-1.15 (0.64)	0.03 (0.99)	1.20
Struggling	-0.77 (0.78)	0.14 (0.97)	0.97	-0.88 (0.74)	0.05 (0.99)	0.95	-0.86 (0.76)	0.02 (1.00)	0.89
Impairment	-0.75 (1.06)	0.07 (0.96)	0.84	-0.89 (1.07)	0.03 (0.99)	0.93	-0.81 (1.08)	0.01 (0.99)	0.82
Independence	-0.93 (1.20)	0.09 (0.93)	1.08	-1.13 (1.25)	0.03 (0.97)	1.19	-1.06 (1.29)	0.01 (0.99)	1.08
Scaling Effectiveness	-0.84 (1.00)	0.08 (0.83)	1.10	-1.01 (1.04)	0.03 (0.86)	1.20	-0.93 (1.06)	0.01 (0.87)	1.08
Scaling Efficiency	-0.85 (0.69)	0.16 (0.87)	1.19	-1.01 (0.62)	0.06 (0.91)	1.21	-1.00 (0.62)	0.03 (0.92)	1.13
Scaling Potential	-0.78 (0.82)	0.17 (0.74)	1.28	-0.96 (0.80)	0.12 (0.78)	1.39	-0.91 (0.80)	0.10 (0.79)	1.28

Note. n = 28,050. Means and standard deviations (shown below) across all variables, testing for differences between those who reported suicidality and those who did not over the last year.

As you will see throughout *The Show of Existence*, **the cubic relationships best describe the phenomena in existence** because that is how existence itself unfolds over time. I took a mean score of suicidal ideations, plans, and attempts and then transformed that variable using a *z*-score transformation. I conducted **a cubic regression for scaling potential and linear multiple regression for the specific and facet-level factors** to examine how the experiences of someone on one variable (the variables in my model) predict or correspond to suicidality.

Table 4

Model Inferential Statistics

Model	Type	Variables	Outcome	*df*	*F*	R^2
Higher-Order	Cubic	1	Ideation	(3, 28,050)	1,363.62	12.73%
			Plan	(3, 28,050)	599.34	6.02%
			Attempt	(3, 28,050)	222.48	2.32%
			Behavior	(3, 28,050)	1,257.94	11.86%
Specific	Linear	2	Ideation	(2, 12,152)	1,229.75	16.83%
			Plan	(2, 12,152)	485.68	7.40%
			Attempt	(2, 12,152)	193.69	3.10%
			Behavior	(2, 12,152)	1,101.81	15.35%
Facet	Linear	4	Ideation	(4, 12,154)	660.65	17.86%
			Plan	(4, 12,154)	170.93	8.20%
			Attempt	(4, 12,154)	109.83	3.50%
			Behavior	(4, 12,154)	602.83	16.56%

Note. n = 28,050. Inferential statistics and explanatory power of each model across all suicidal behaviors. Missing data occur from sampling; analyses remain well-powered. All tests were significant at $p < .001$.

R^2 values **measure the ability of one variable to explain why the scores on the other variables occur in the pattern they do**. If we have an R^2 of 0% then the two variables are entirely unrelated; if we have an R^2 of 100% then it means that every score on one variable corresponds exactly to a score on the other variable without any deviations. In suicidality, we want R^2 to be as high as possible. **The results above are staggering because they are based on just a handful of variables, yet they explain an outrageous degree of variability**. Much of the suicide research focuses on symptomatic and situational predictors, and it does achieve rather high R^2s with many predictors. **However, the reason why people die by suicide still appears to be unclear, until now.**

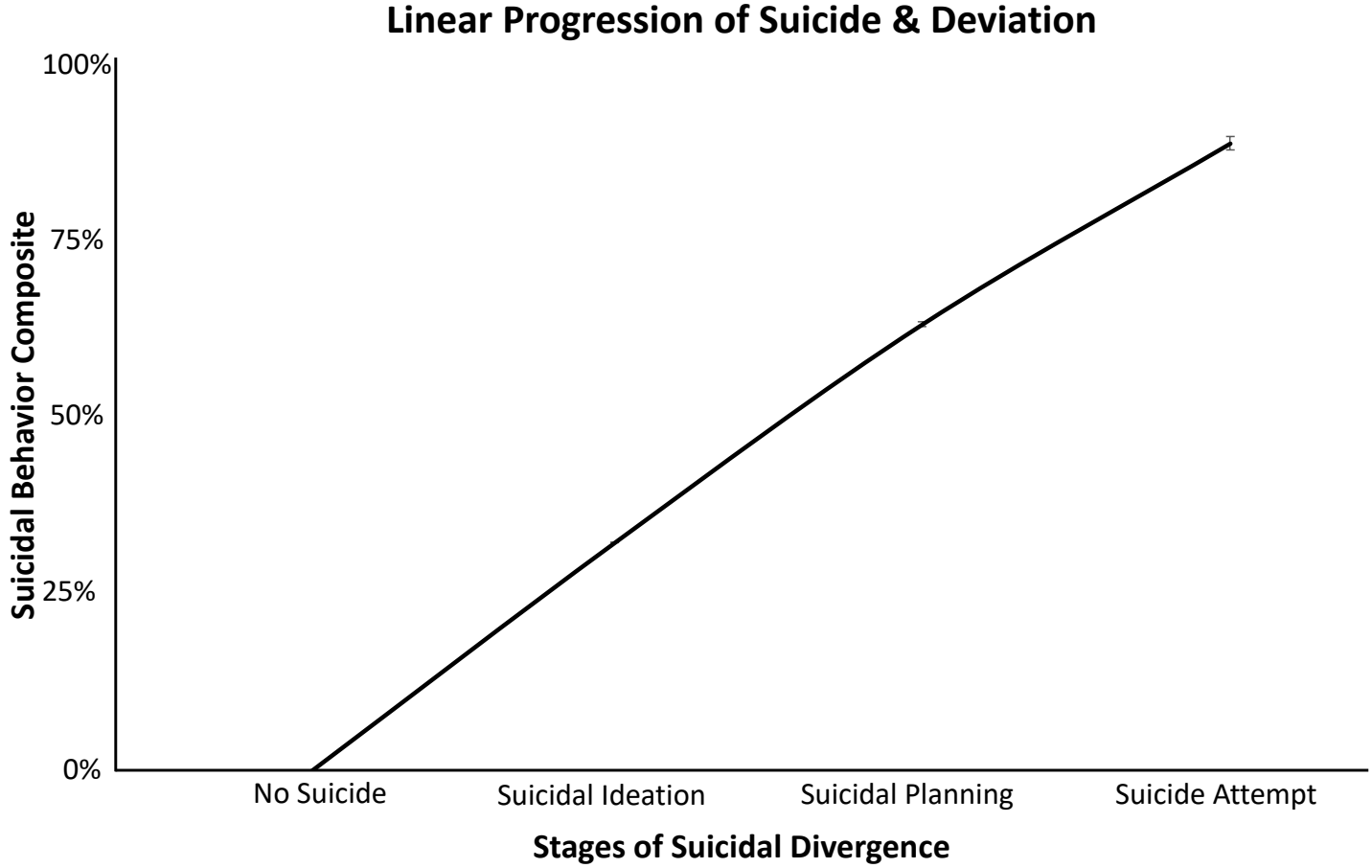
Table 5

Coefficients of the Multiple Regression Analyses

Variable	Ideation		Plan		Attempt		Suicide	
	β	*p*	β	*p*	β	*p*	β	*p*
Specific Model								
Effectiveness	-0.116	<.001	-0.080	<.001	-0.041	<.001	-0.112	<.001
Efficiency	-0.335	<.001	-0.220	<.001	-0.150	<.001	-0.319	<.001
Facet Model								
Hopelessness	-0.297	<.001	-0.224	<.001	-0.156	<.001	-0.300	<.001
Struggling	-0.059	<.001	-0.010	0.441	-0.002	0.855	-0.039	.001
Functional Impairment	-0.041	<.001	-0.027	0.013	-0.011	0.322	-0.038	<.001
Independence	-0.102	<.001	-0.072	<.001	-0.042	<.001	-0.100	<.001

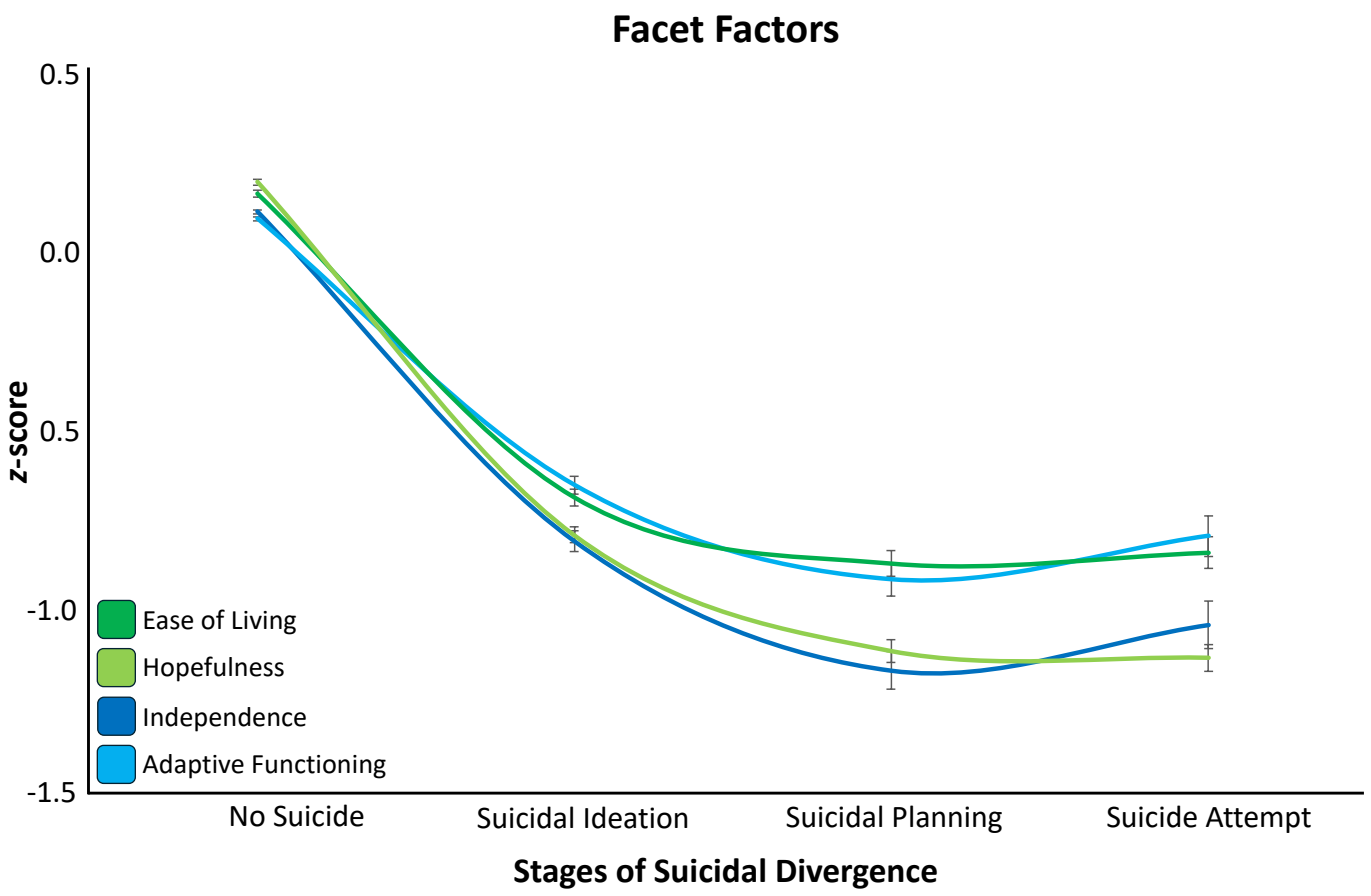
Note. n = 12,152. Standardized regression coefficients and *p*-values.

One of the most striking findings supporting this model is **the linear trajectory from healthy to attempted suicide**. The precision is astonishing. Out of $12{,}155$ participants with complete data, $10{,}201$ individuals $(\mathbf{83.9}\%)$ **fell into the "No Suicide Risk"** group—those whose behaviors' scaling potential remained aligned with the environment. The **"Suicidal Ideation" group included $\mathbf{1{,}258}$ individuals** $(\mathbf{10.4}\%)$ who had entered the first stage of perceived agency loss, marked by significantly reduced scaling efficiency and effectiveness. The **"Suicidal Planning" group, comprising $\mathbf{461}$ individuals** $(\mathbf{3.8}\%)$**,** reflected a more advanced phase of agency loss, where formalizing strategies to regain scaling potential via self-divergence begin to form. Finally, $\mathbf{235}$ **individuals** $(\mathbf{1.9}\%)$ **fell into the "Suicide Attempt"** group of those who acted on their plan to restore scaling potential.



The clean separation of group sizes and their alignment with the recursive divergence model offers further empirical support that suicide does not progress as a spectrum, but as a structured, linear divergence from no suicidality → suicidal ideation → suicidal planning → suicidal attempt. **In a sample of $\mathbf{35{,}697}$ people, only $\mathbf{118}$ $(\mathbf{0.33}\%)$ of them did not follow a linear progression from suicidality to attempt. If you examine only those who report any suicidality, there are $\mathbf{2{,}590}$ and again only $\mathbf{118}$ $(\mathbf{4.55}\%)$ deviated from this linear progression.** I know they are hard to see the standard error bars because there is so little deviation, but they are there, and this is what the progression looks like. As a result, we can examine the linear suicidal classification as an outcome variable, and what we find is staggering. Indeed, my model works exceptionally well for classifying people into one of these groups, but **most importantly, the linear classification works nearly perfectly.**

This finding is astonishing because the dominant interpretation of suicide is that **it is inherently random and unpredictable**. The research suggests that suicide follows **no clear trajectory from healthy to attempt**. Furthermore, despite conducting numerous large-scale studies, **we have yet to find a strong, consistent predictor**. The error of our ways stems from the fact that, because we couldn't find a trajectory or predictor, our interpretation was that no consistent ones exist. Perhaps we made this leap to cope, or to make suicide feel less scary. However, the reality we see here, is that we were wrong; **there is a precise, clear trajectory**, **and it is linear…**


Facet Factors
0.5
0.0
-0.5
-1.0
-1.5
z-score
Ease of Living
Hopefulness
Independence
Adaptive Functioning
No Suicide
Suicidal Ideation
Suicidal Planning
Suicide Attempt
Stages of Suicidal Divergence

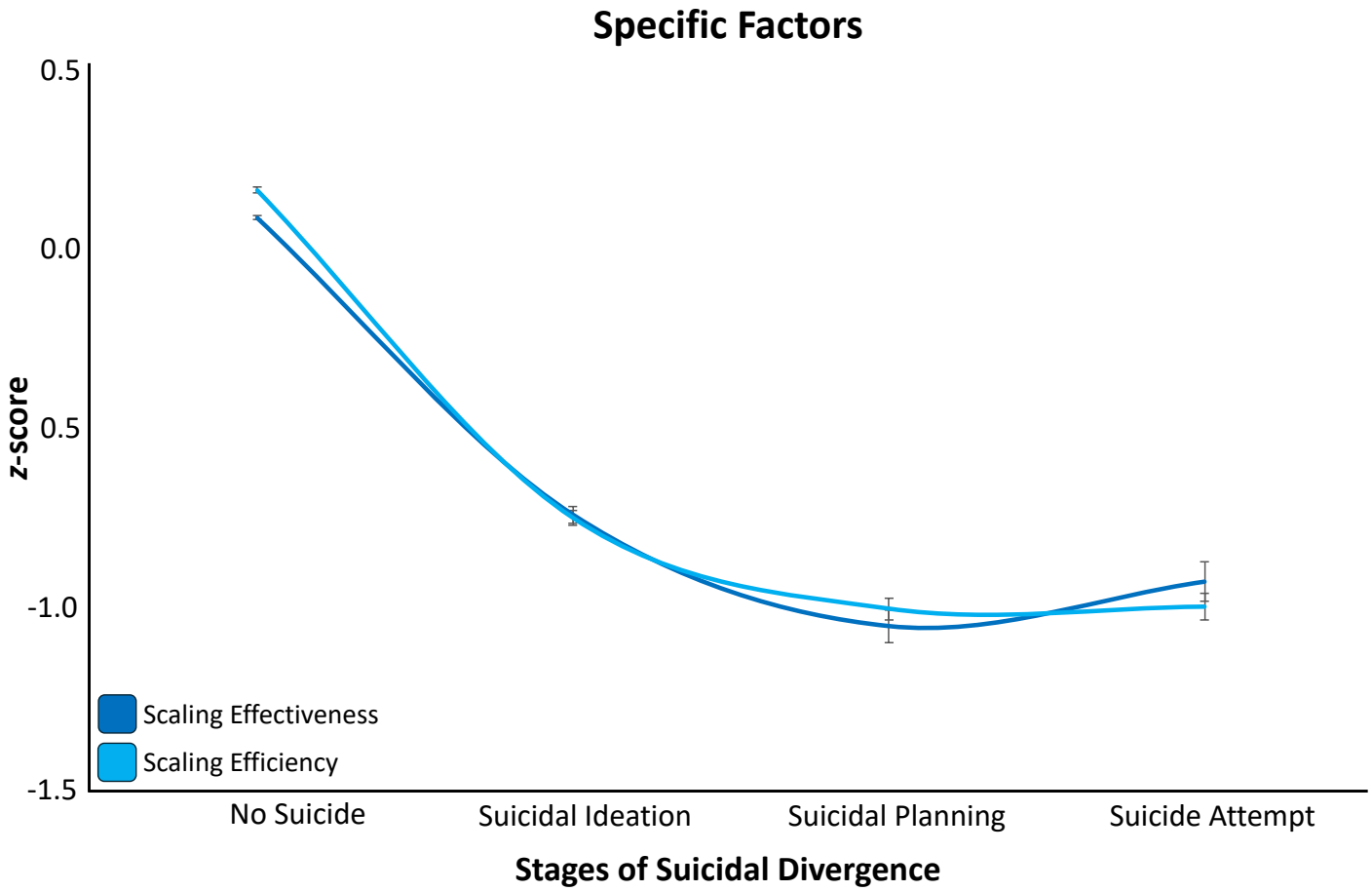

Specific Factors
0.5
0.0
-0.5
-1.0
-1.5
z-score
Scaling Effectiveness
Scaling Efficiency
No Suicide
Suicidal Ideation
Suicidal Planning
Suicide Attempt
Stages of Suicidal Divergence

Table 6

Explanatory Power of Suicidal Classification

Variable	R^2
Independence	9.02%
Adaptive Functioning	5.71%
Struggling	11.30%
Hopelessness	16.88%
Scaling Effectiveness	9.31%
Scaling Efficiency	16.46%
Scaling Potential	12.21%
Suicidal Ideation	97.89%
Suicide Plan	92.13%
Suicide Attempt	100.00%
Suicide Composite	97.78%

Note. *n* = 28,050. Explanatory power of the novel suicidal classification variable across the model variables and suicidal behaviors. Note that the 100% in the suicidal attempt number is because of how I calculated the scale, where the suicide attempt in the predictor variable always corresponds to the outcome of suicide attempts. Although it is a statistical artifact, it still holds value; however, the suicidality variables explain a massive portion of this classification on their own.

This graph is where the cold-hard truth about suicide snaps into view. The data show a steep decline in independence, adaptive functioning, ease, and hope as individuals progress through the model's stages. Notably, the **struggling and hopelessness variables remain relatively constant between individuals who planned suicide and those who acted on their plans**. However, **independence and adaptive functioning demonstrate a small but significant increase from the planning to the attempt stages**. This increase confirms my hypothesis that suicide attempts may serve as a last-resort mechanism for scaling intelligence. This pattern helps explain a phenomenon observed in clinical practice: **patients with depression and other psychiatric conditions sometimes report sudden improvements despite long-term symptom stability. These unexpected gains may precede suicide attempts**, providing a theoretical explanation for this counterintuitive clinical observation.

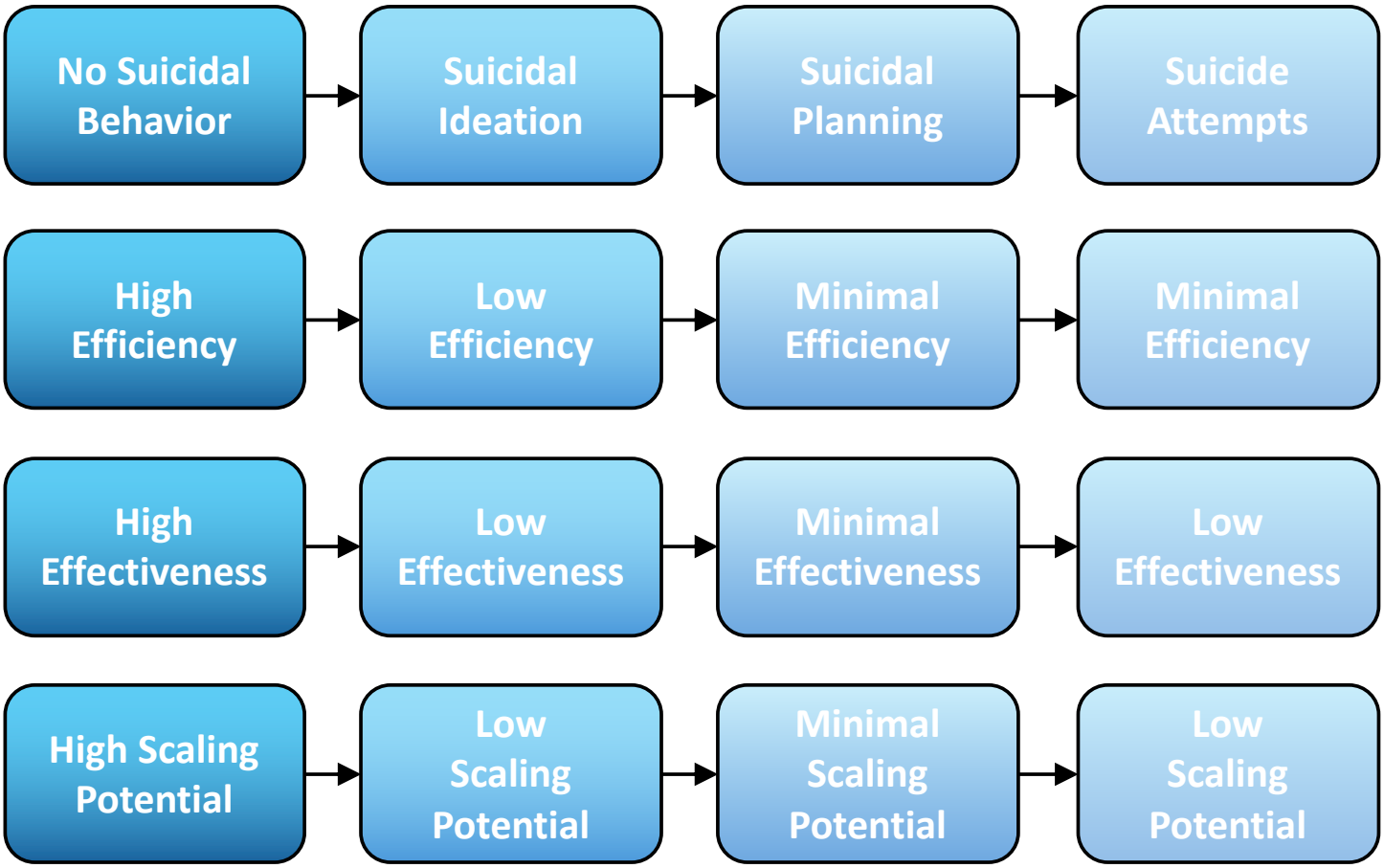
The temporary rebound in independence and adaptive functioning may create a false impression of improvement shortly before suicidal behavior occurs. We can see the picture more clearly when looking at the specific factors. These variables demonstrate a significant decline in both scaling effectiveness and scaling efficiency as individuals progress through the model's stages. Notably, **the pattern observed at the facet level is mirrored in the specific factors.** This parallel degradation confirms that the diminishing returns on effort and decreasing ability to achieve effective scaling intelligence co-occur across multiple levels of analysis within the model framework. This consistency between facet-level and specific-level variables strengthens the model's explanatory power, suggesting that the progression toward **suicidal behavior involves systematic breakdowns in perceived or actual scaling potential rather than isolated deficits.**

One of the complex realities we may have to contend with is this counterintuitive understanding that **planning and attempting suicide feels good**; otherwise, millions of people would *not* attempt it every year. **It feels relieving, not because people want to die**, but because they temporarily escape their constant negative emotional cycle; their recursive introspection is keeping them in. They get a much-needed minor restoration of their agency via improved scaling potential. I do not think **the purpose of suicide is death** or that people who attempt suicide want to die. What they want is **to not suffer anymore**. They want to feel relief. Underneath their thoughts, this is what the internal, mechanistic dialogue might sound like:

"I cannot influence the environment at all anymore, now or in the future. I have no scaling potential. I am miserable, but there is nothing I can do about it because I cannot influence the environment. So… I guess what's left is that I could at least influence myself, right? Oh, yes… that means I can still influence something. What a relief… this is how I restore my scaling potential. I need to do it soon."

However, on the surface, someone could say the same thing mechanistically, but it would sound like:

"There is nothing I can do about this situation and I will never recover. Nothing I do will matter. I hate myself and my life, but no matter what I do, nothing is going to ever work. I do have the option to end my life, that would stop the pain, I guess it would not be too hard to do. Maybe there is a way out, and there is something I can do. Let me see if I have bullets in the basement for my gun."



The Linear Trajectory of Agency Loss & Restoration

***The Stages of Suicidal Divergence* model identifies four distinct stages of progression**, each with consistent structural features across individuals. There might be more from the data we have; here is what I found:

- ◊ **Stage One**: Individuals exhibit no suicidal behavior and demonstrate high scaling efficiency, effectiveness, and potential. Their actions produce meaningful outcomes with reasonable effort.
- ◊ **Stage Two**: Suicidal ideation emerges as scaling efficiency, effectiveness, and potential decline. Individuals actively attempt to restore scaling capacities. If these efforts fail, progression to the next stage occurs.
- ◊ **Stage Three**: Individuals have exhausted their scaling efficiency and effectiveness in unsuccessful attempts to improve their scaling potential. They perceive minimal future scaling potential, experience little environmental impact from their behaviors, and find all activities require excessive effort. At this point, suicide planning begins as an attempt to reclaim some sense of efficiency, effectiveness, and potential.
- ◊ **Stage Four**: Individuals attempt suicide as a final effort to improve their scaling potential; I know how strange it feels to read such a statement, but scaling intelligence is that important. Though scaling efficiency remains minimal, taking action on their plan temporarily restores some effectiveness. Their perceived potential becomes focused solely on the one thing they believe they can still control—their own lives.

The Stage of Suicidal Divergence **model reframes suicide not as irrational or unpredictable but as a final behavioral act of relief among individuals trapped in negative emotional states from a loss of agency via low scaling potential that is reinforced by recursive introspection, labeling their behaviors as inefficient and ineffective**. Where most models locate the problem in symptoms, trauma, or emotion, *The Stage of Suicidal Divergence* reveals suicide as a predictable, linear act restoring agency and environmental influence. It means we finally have an empirical lens to identify and prevent it by targeting the structural mechanisms behind suicide—not the emotions, thoughts, situations, or symptoms—**the universal, underlying mechanism of suicide.**

The implications for prevention are profound and immediate. We need to design interventions that immediately invalidate the recursive introspections, telling the agent that they have no scaling potential and that all of their behaviors are inefficient and ineffective. We must **focus on restoring perceived scaling potential** by **rebuilding easy pathways toward agency, environmental influence, and scaling intelligence**. Clinicians can respond to suicidal ideation not with monitoring, but with redirecting the behavioral environmental influence **away from the individual and back onto the environment** (e.g., cleaning the home, managing alternatives, and ensuring there remain perceived paths forward to scale intelligence in the future). Remember, **I do not think people want to die… they want relief.** The tiniest successful environmental influence, even if it is as small as taking out the trash, can go a long way for people who have been stuck in negative emotional states.

A well-documented phenomenon we have observed is that **when people are forced to be hospitalized because they report suicidality, they are much more likely to succeed in a suicide attempt within the weeks to months immediately after they are cleared to leave the hospital,** compared to individuals who were not hospitalized. It is perplexing because, from our perspective, we saved them and they recovered. Although our intentions have unmistakably been good and we did not know better, we now see that **this response of forced hospitalizations precisely exacerbates the mechanism of suicide**. People experiencing suicidal ideation already feel like they have no control over their environment, so to force them into an environment against their will… an environment where they quite literally have no control over their schedule, their ability to leave, their food, their access, the people around them, their future…. **it is not a treatment; it is a trigger. It is not a cure; it is a cause.**

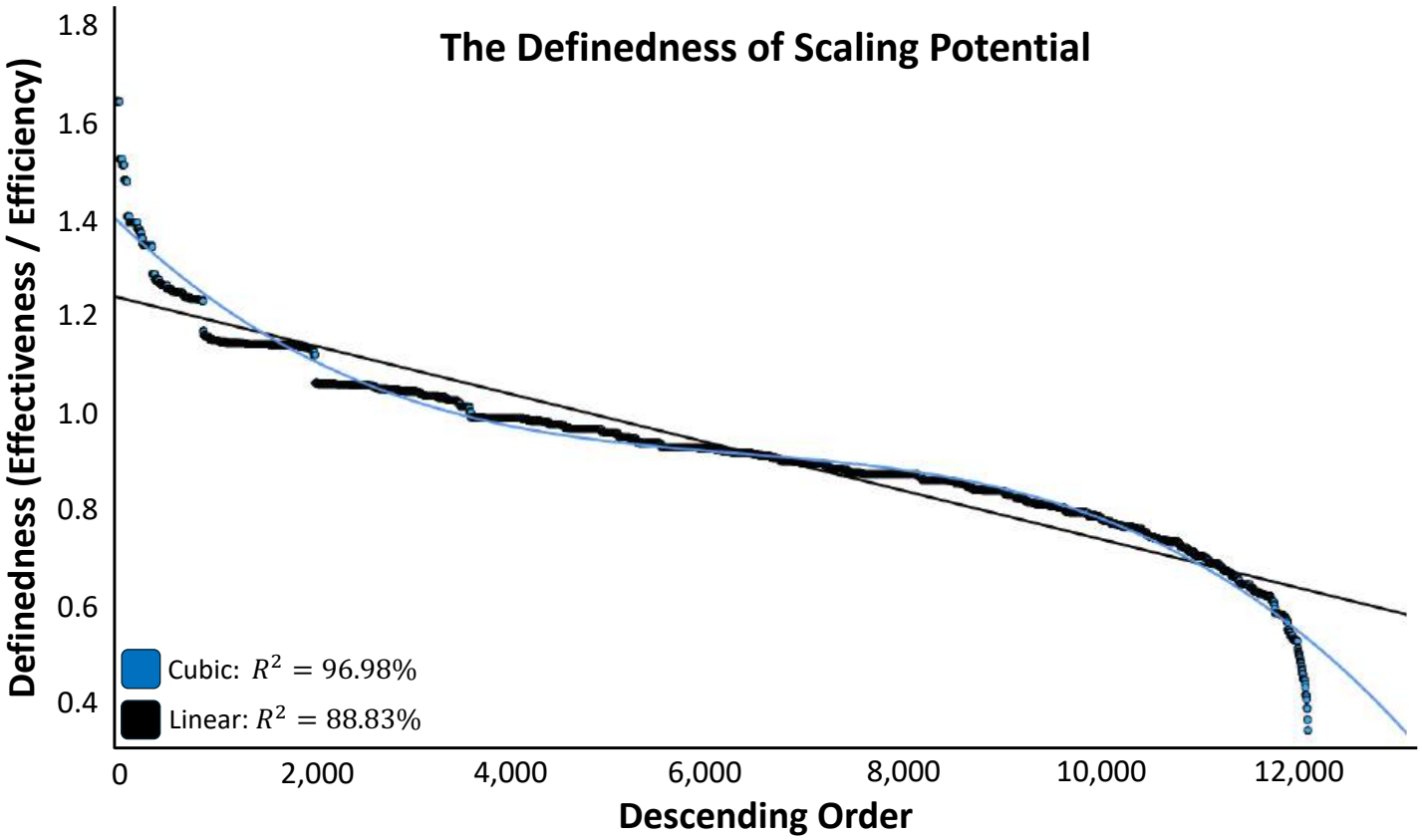
I am *not* advising that we stop using hospitalization for individuals with high suicide risk, but **as a Licensed Clinical Psychologist, I know that hospitalization is a nuclear option that often causes more harm than good**. As clinical professionals, we **want to explore all possible alternatives first**. We indeed need much more research to confirm intervention strategies, but I strongly suspect that **minor environmental influence planning and execution will have profound, life-saving effects**. Instead of trying to prevent your patient or loved one from planning their suicide, **shift their focus away from them and back to the environment by helping them plan how to restore agency**. Further, demonstrate that others are there to help them regain their agency, so their future… their scaling potential… is not exclusively dependent on them and their perceived capabilities.

On a final important note, I talk strongly because it is my nature, but I am not claiming to have solved suicide nor dictate whether *The Stages of Sucidal Divergence* is the absolute Truth. However, I firmly believe that this model is the only one that is **empirically supported**, **universal, highly precise, fully explanatory, illuminates several mysteries that have eluded our understanding, and offers simple yet effective prevention strategies**. I believe *The Stages of Suicidal Divergence* validate my scaling intelligence model and thus demonstrate that *The Theory of Existence* explains all things in existence, including humans and **our ceilings of pain and suffering.**

Introducing the Cubic Emergence Curve

There is one final thing I want to introduce to you early in *The Show of Existence*. It is a striking pattern you will notice throughout *The Show of Existence*… it is **this reoccurrence of what I call the cubic emergence curve**. It appears across wildly different domains, including intelligence, consciousness, black holes, star life cycles, dice and lattice experiments, social systems, and to kick us off, as you can see below, it appears in scaling potential across those with suicidal ideation. It is not an arbitrary fit or a convenient coincidence, but **the explanation as to why it occurs everywhere will make more sense throughout the rest of *The Show of Existence***.

All you need to know right now is if you divide two variables, order them in ascending or descending order, then run a linear and cubic regression, **the cubic regression will always beat the linear one because of how existence works**. It is **the signature proof** of the validity of *The Theory of Existence*, as no other theory can explain it. If you look below, you can see this pattern emerge by simply dividing the *t*-scores of the scaling effectiveness and scaling efficiency variables. The explained variability, as you can see, is outrageously high, and **it remains outrageously high across the rest of *The Show of Existence***. Here is what it looks like for now. Stayed tuned…



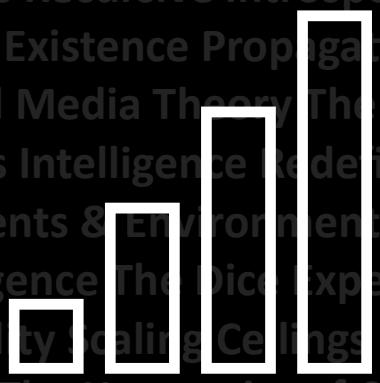
The Big Picture

Throughout *The Show of Existence*, I have concluded every paper with a section called The Big Picture—a moment to step back and see how the findings fit into the **broader structures of existence** and **our human experiences**. For Paper 9, this perspective matters more than ever. **Suicide is one of the most painful, tragic phenomena we know**. It feels mysterious, terrifying… permanent, and when something is **deeply painful** and **misunderstood**, it becomes ungraspably heavy; but… let's pause, for a moment, in this quiet place of safety and clarity.

Why would suicide be any different from the other phenomena we have explored? There is **no reason why it *must* remain unexplainable**. Suicide, like consciousness, intelligence, black holes, and the origin of existence, operates through **the same recursive-propagative mechanics** we have uncovered throughout *The Show*. The reason it seemed so impossible to explain is simple: **we have never had the right lens**. When we lack the tools to explain such a tragedy, we call it unexplainable to protect ourselves from feeling helpless and responsible.

However, this model **is not a conclusion**; it is the beginning. We have seen repeatedly that **beneath the surface of every major mystery is a hidden pattern**. Suicide is no different; **there are no exceptions**. It is one of **the most beautiful consequences of living in a fractal universe**. Underneath, there is always a pattern, there is already an answer, and right now, **we hold a piece of it**. A linear classification with $\mathbf{0.33\%}$ **deviation** across the full sample and $\mathbf{4.55\%}$ **deviation** among those with *any* suicidal behavior is not a coincidence… **it's a thread**.

Dear reader, when existence gives us a thread, what do we do? **We pull on it**. What comes next is simply **the higher resolution**, **more light**, **more voices**, and a **shared magnifying glass**. Suicide might be the most tragic thing humans have ever encountered, but **it does not** mean we are helpless to its impact. In fact, **it means the opposite**—it means we have the drive and knowledge to face it head on... and we will. All we have to do is **keep our eyes on the way forward and keep going**. There will come a time when **suicide becomes rare**… when prevention **becomes a cure**, rather than a reaction… when people understand why they feel suicidal, and **know exactly how to respond to it**… when the mystery of suicide becomes a consequence of not understanding existence and ourselves within it… a time that, I believe, **is right around the corner.**



Act II: Solutions & Systems

May 30th, 2025, Update; 9:21 PM

Standing in my Kitchen, Hungry

Hi everyone. How have you been? I saw that people were loving the concept of free will AND determinism SO... I decided to reveal **Paper 10: Free Will in a Deterministic System**. Boy oh boy is that one a doozey. I also wanted to show you something that I think is so beautiful, so I also released **Paper 3: The Harmonics of Existence: Solving the Collatz Conjecture & Recursive Systems**. This paper captures the true beauty and elegance of existence in its simplest, most fundamental form. Hey, uh, also... I hope you're not sleeping on undefinedness... that is, if undefinedness was something you could sleep on, but of course, it's not; it simply isn't.

The Harmonics of Existence

Solving the Collatz Conjecture & Recursive Systems

Written by Bryant Stone (*The Architect*)

Overview

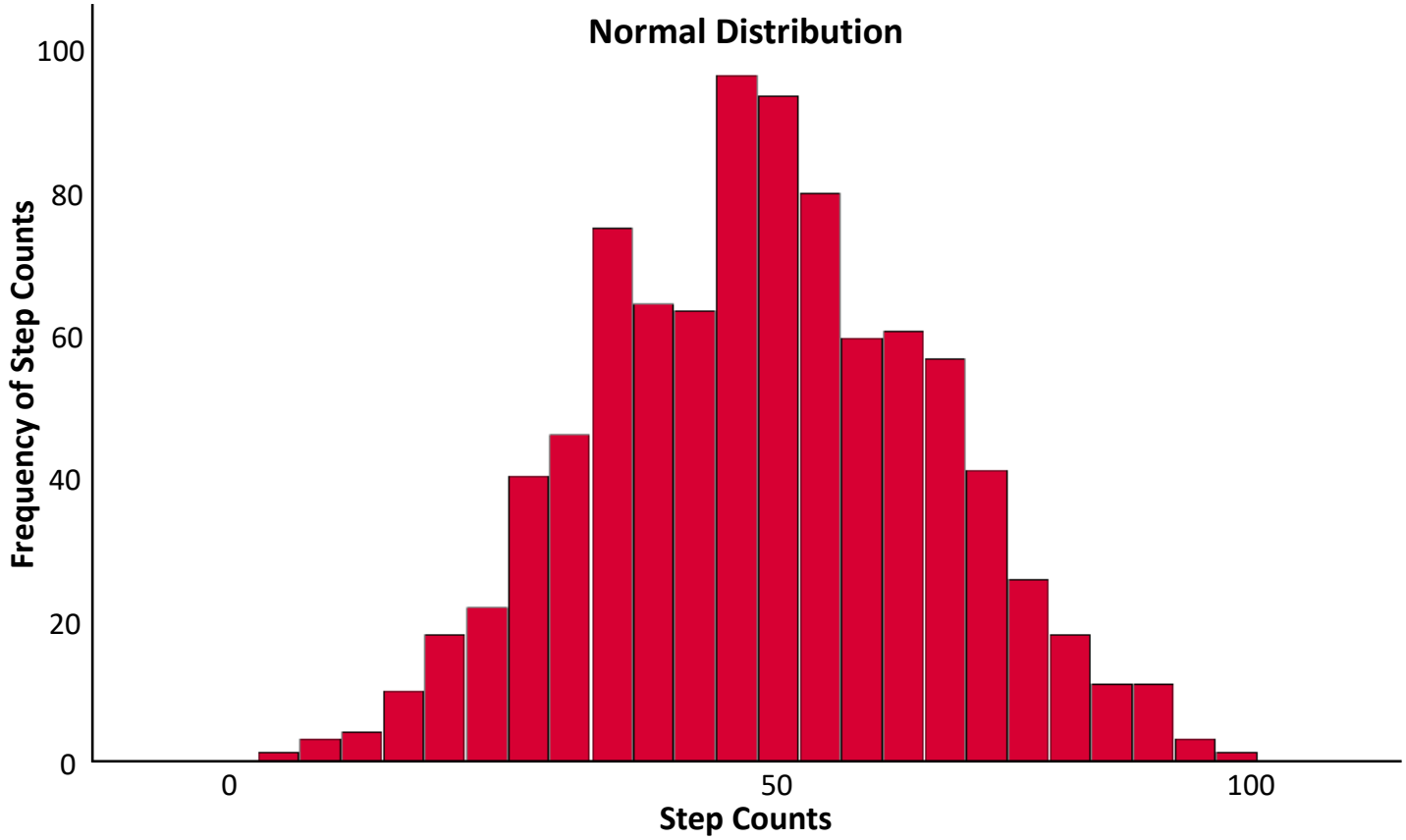
What if the deepest structures of reality were hiding inside children's math games? This idea is precisely what this paper explores. Using the deceptively simple Collatz Conjecture—"divide by 2 if even, multiply by 3 and add 1 if odd"—we ask not why the sequence always reaches 1, **but how many steps it takes to get there**. When plotted, the step counts reveal something unexpected: **a perfect bimodal distribution**. Instead of chaos or a standard bell curve, numbers fall into two distinct groups, showing **convergence zones** separated by empty **divergence zones**. This pattern suggests that the integers are not random, but structured, with invisible "mathematical highways" guiding their flow. **I applied this step-count histogram technique to a dozen recursive number systems**—including multiplicative persistence, factorial digit sums, aliquot sequences, and more. **Each produced its own unique distribution, revealing hidden convergence and divergence zones**. However, the real breakthrough came when I analyzed them all together. Through principal components analysis, **the systems dissolved into five latent structures—emergent components that only appear through the interaction of multiple recursive processes**. It is like each system plays a distinct musical note, but together, they form a symphony no one could predict from the instruments alone. These findings suggest something profound: **structure in mathematics—and reality—doesn't come from complexity, but from interaction**. The rules are not complicated. The beauty comes from how simple systems interweave. The deeper laws of complexity only emerge during harmonic interactions, not from individual rules. We now see that the mathematical system that **guides the mechanics of existence** also happens to be **the rules of a children's math game**. **Who would have thought?**

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Background & Findings

Mathematics is full of simple games that lead to extraordinary mysteries, and some of the most captivating mysteries involve what mathematicians call **recursive number systems**. These systems are processes where you start with any number, **apply a straightforward rule to obtain a new number**, then use the same rule to that result, and continue repeating indefinitely or until you reach a consistent resolution. What makes these systems so remarkable is that, despite using basic arithmetic that any middle school student can perform, these systems reveal **deep patterns and pose questions that have puzzled brilliant mathematicians for decades**.

The beauty of recursive number systems lies in their accessibility, combined with their profound mystery. Anyone can pick up a calculator and explore, say, the Collatz Conjecture, by following its simple **"divide by 2 if even, multiply by 3 and add 1 if odd"** rule, or investigate Kaprekar's routine by repeatedly rearranging digits and subtracting. Yet, despite their elementary nature, these processes exhibit behaviors that seem to transcend their simplicity. Some systems **lead all starting numbers to the same destination,** others create **unpredictable journeys before settling** into patterns**,** and still others **appear to grow without bound in ways we cannot fully understand or predict**. Each system has its own functions, features, patterns, and… **harmonics**.



Mathematicians and the public have been trying to crack the code behind these recursive number systems for centuries. Today, I want to show you what I believe is **the secret hidden structure people have been looking for** in these recursive number systems. The new technique I used is **simply plotting the number of steps, or recursions, in a histogram (see above),** it takes to get your final answer. You would think that within these systems, their function would follow what we call a **normal distribution**, which you can see in the red graph above. In the normal distribution, the number of recursions to resolution varies across the sample, with some numbers taking many more recursions than others. Still, **most of them following a similar number of recursions to resolution**. If it is not a normal distribution, the histogram should exhibit **some sort of chaotic pattern,** given our current understanding of recursive number systems. **There should not be anything coherently discernible.**

These mathematical curiosities matter because they represent the frontier where **computation meets theory**, where the **concrete meets the abstract**. They demonstrate that mathematics is not just about solving textbook problems but about **discovering fundamental truths about numbers and patterns that govern existence itself**. The fact that such simple rules can generate endlessly complex behaviors **mirrors patterns we see throughout nature and science**, from population dynamics to weather systems. More importantly, these unsolved problems remind us that **mathematics is very much alive**, with new territories waiting to be explored and mysteries that may take generations to unravel. They show that **you do not need advanced degrees to participate in mathematical discovery**—sometimes the most profound questions arise from the simplest observations, and the next breakthrough might come from anyone curious enough to follow numbers wherever they lead. **Are you ready to follow these numbers to see where they lead? You are in for a treat if so.**

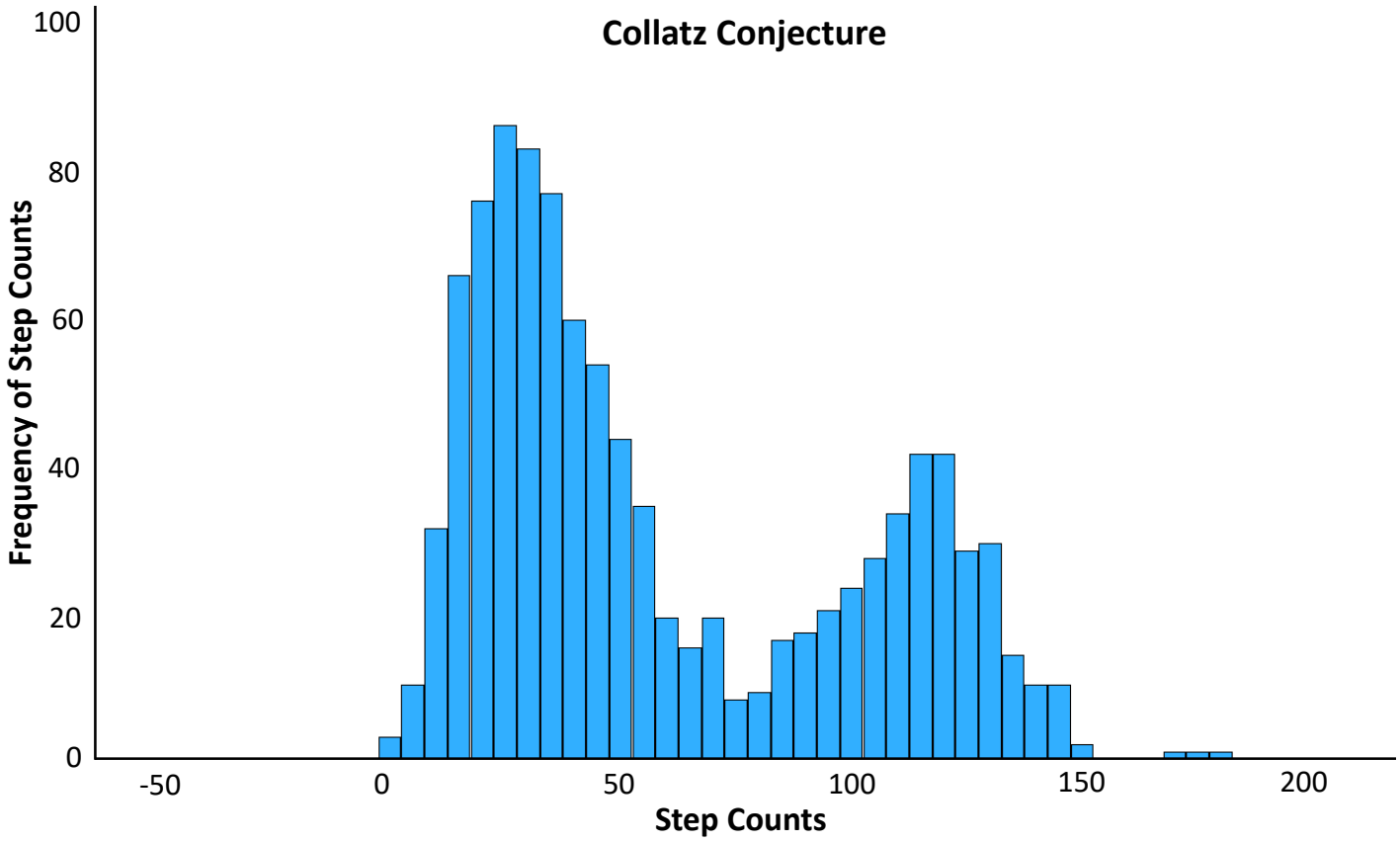
The Collatz Conjecture

The Collatz Conjecture is one of mathematics' most famous unsolved puzzles, and it is deceptively simple to understand how it works, but incredibly difficult to know why it works. **The conjecture involves a straightforward rule you can apply to any positive whole number, which is the following**:

◊ If the number is even, divide it by 2
◊ If the number is odd, multiply it by 3 and add 1.

Then, you repeat this process, and eventually, no matter what number you start with, **you will always reach 1**. Mathematicians have never found a number that did not resolve. **Weird right? How would it do that?**

To see how the Collatz Conjecture works, let's start with the number 7. Following our rule, we get: 7 becomes 22 ($3 \times 7 + 1 = 22$), then 11 ($22 \div 2$), then 34 ($3 \times 11 + 1$), then $17, 52, 26, 13, 40, 20, 10, 5, 16, 8, 4, 2$, and finally 1. Once you hit 1, you are done because 1 leads to 4, then 2, then back to 1 in an endless loop. **This example took 16 steps, but different numbers can take vastly different amounts of recursions to reach 1**.



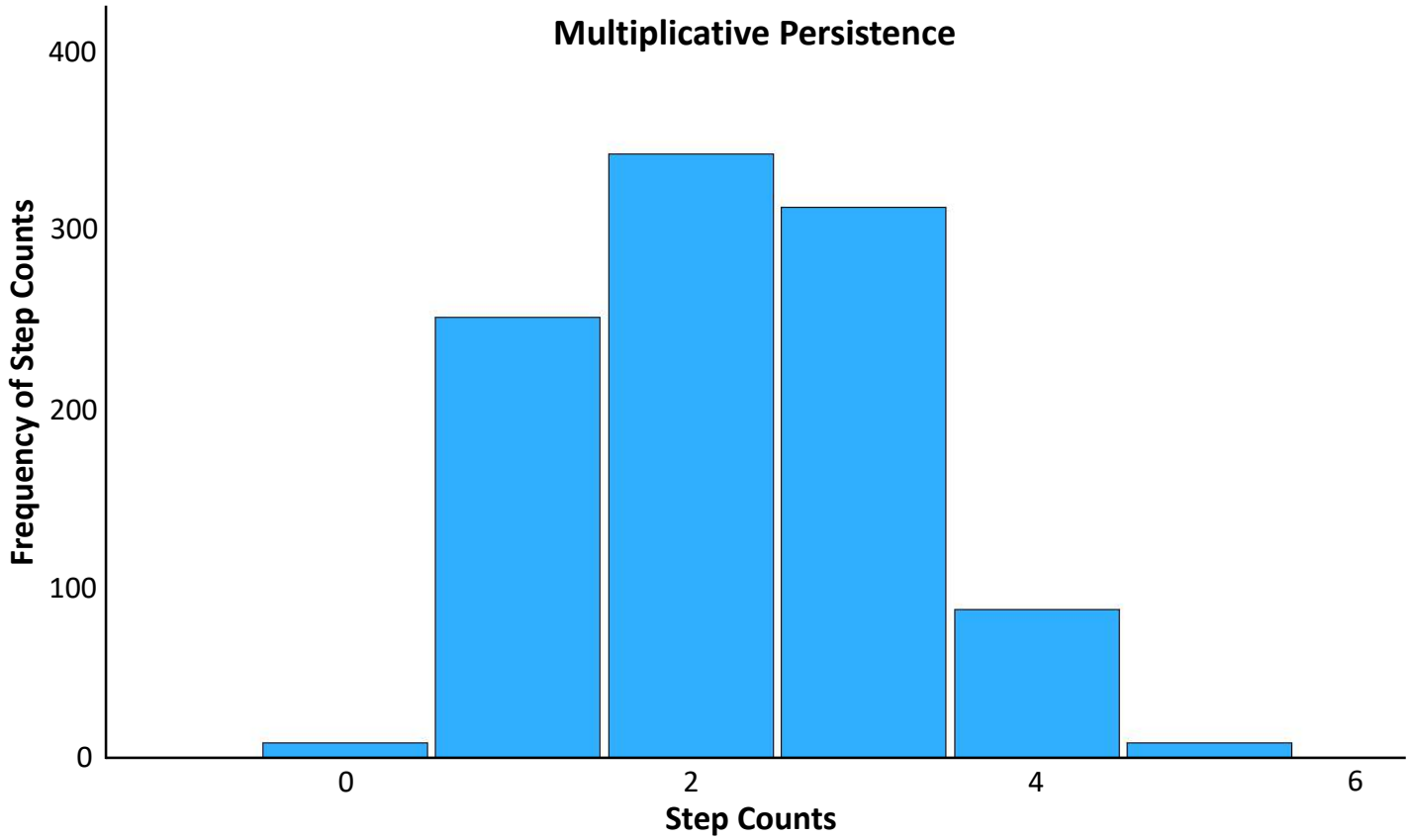
This conjecture represents **the beauty and mystery of mathematics** because the rule is so simple that a middle schooler can understand and test it. Yet, despite decades of effort by **brilliant mathematicians**, no one has been able to prove it's always true or find a counterexample. The challenge lies in the **seemingly chaotic, unpredictable behavior of the sequences**. While computers have verified the conjecture works for trillions of starting values, mathematics requires proving it works for all possible numbers, which is an infinite set. The sequences can grow enormously before shrinking back down, and there is no clear pattern to predict their behavior, with some numbers taking just a few steps to reach, 1 while others take hundreds. **Let us see what happens when we plot the step counts for numbers 1-1,000 on a histogram (see above).**

Oh… that is not what we expected to happen… is it? What is going on here? This distribution is something current mathematics never found because no one was looking for it. The bimodal distribution (two-peaked) we are seeing indicates that numbers tend to fall into two distinct "camps" when it comes to the number of steps they take to reach 1. I call these camps where numbers group up **convergence zones,** and those spaces where no steps count tend to land in between these convergence zones are called **divergence zones**. These zones have profound significance for *The Theory*… and we see them everywhere we look in the universe. This distribution and these concepts, convergence and divergence zones, are brand spanking-new and **isn't it beautiful?**

The first convergence zone around 10-30 steps represent numbers that reach 1 relatively quickly—these zones are the "**fast convergers**." The second, larger peak around 80-120 steps represents numbers that take much longer—the "**slow convergers**." What's happening here is that some starting numbers get "trapped" in longer cycles or hit larger intermediate values before spiraling down to 1, while others find more direct paths.

This pattern suggests that there might be an underlying mathematical structure to which numbers behave in a certain way, rather than the step counts being completely random. The gap between the two peaks (around 40-70 steps) indicates that very few numbers take a "**medium**" amount of recursions—they either resolve quickly or get caught up in longer sequences. This bimodal behavior suggests that the Collatz Conjecture may exhibit predictable patterns based on the properties of the starting number, even though we still cannot prove that all numbers eventually reach 1. It is like discovering that there are two main "**highways**" that numbers travel on their journey to 1, rather than one smooth normal distribution or chaotic journey of path lengths.

The reason this bimodal distribution might happen likely relates to **the underlying binary structure of numbers and how the Collatz operations interact with powers of 2**. Numbers that are "closer" to powers of 2 (the squares like 2, 4, 8, 16, etc.) in their binary representation tend to resolve faster, whereas numbers that require more complex transformations to reach a power-of-2 pathway take longer. The bimodal distribution suggests there's a natural "switching point", where numbers transition from one convergence zone to the next, skipping over the divergence zone entirely. Let's look at another recursive number system to see if what we found in the Collatz Conjecture happens in other recursive number systems, too.



Multiplicative Persistence

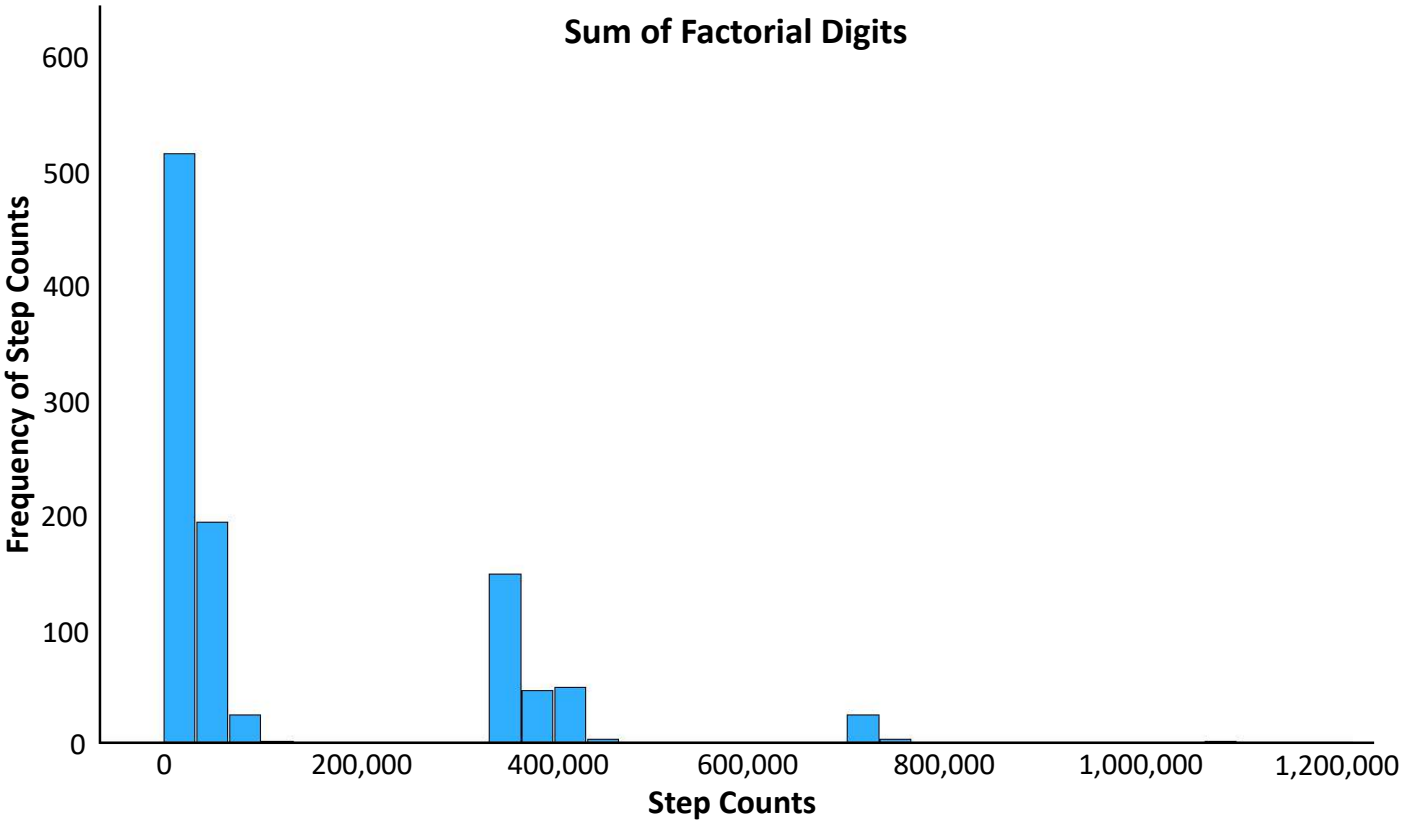
Multiplicative persistence is a fascinating mathematical concept that involves **repeatedly multiplying the digits of a number until a single digit remains**. The "persistence" refers to the number of steps, or recursions, this process takes. For example, if you start with the number 39, you multiply 3×9 to get 27, then multiply 2×7 to get 14, then multiply 1×4 to get 4. Since 4 is a single digit, you stop there, and the multiplicative persistence of 39 is 3 because it took **three multiplication steps**.

What makes this concept intriguing is **how dramatically different numbers can behave**. Most numbers have very low persistence, reaching a single digit in just a few steps. However, some numbers require many more steps, and **finding numbers with high multiplicative persistence becomes increasingly rare and difficult**. Remarkably, despite extensive computer searches, no number has been found with a multiplicative persistence greater than 11, **and it's suspected but not proven that no such number exists**.

This problem has captivated mathematicians because **it combines simplicity with profound mystery**. Like the Collatz Conjecture, it's easy to understand and compute, yet the **underlying structure remains elusive**. The search for higher persistence numbers has led to the development of sophisticated computational techniques. It has revealed unexpected connections to other areas of mathematics, making it a prime example of how elementary operations can lead to profound mathematical questions.

If we plot a histogram of the step counts, like we did for the Collatz Conjecture, **another profound and shocking distribution emerges and it may explain why the persistence barrier exists at 11**. The sharp exponential decay isn't just a statistical coincidence - it reflects **a fundamental mathematical constraint**. When you multiply digits, you're essentially compressing information, and there's a natural mathematical "ceiling" to how much resistance a number can have to this compression. **This recursive number system does approximate a normal distribution, but it also reveals its fundamental limitations**.

Each digit multiplication typically reduces the magnitude of the number (since most digit products are smaller than the original number), but finding numbers that resist this compression becomes exponentially harder. The distribution you're seeing is **actually mapping the probability landscape of digit arrangements that can sustain multiple multiplication rounds**. The fact that it drops off so steeply after persistence of 4 suggests that the mathematical space of "resistant" numbers shrinks incredibly fast—which is why finding a number with persistence 12 or higher **may be practically impossible, not just computationally difficult**.

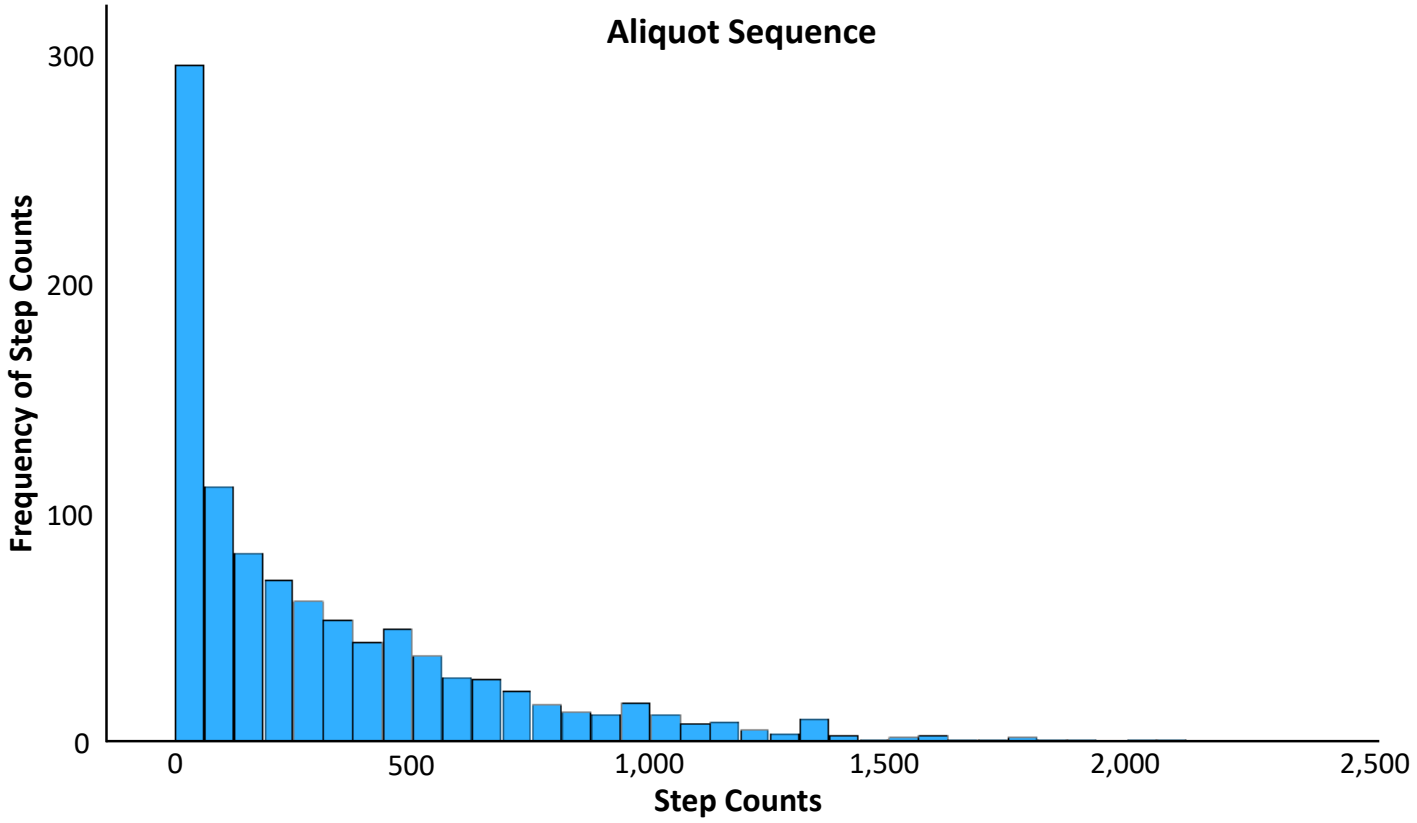


Sum of Factorial Digits

The Sum of Factorial Digits problem involves a surprisingly simple process that leads to fascinating mathematical behavior. You **start with any positive integer (whole number), calculate the factorial of each of its digits (e.g., $5! = 5 * 4 * 3 * 2 * 1$)**, then **add those factorials together to get a new number**. Then you repeat this process with the latest number, continuing until you reach a cycle or a fixed point. For example, starting with 145: the digits are 1, 4, and 5, so you calculate $1! + 4! + 5! = 1 + 24 + 120 = 145$. You get back to 145, so this number is called a "**factorion**" because it equals the sum of the factorials of its own digits. Cool name, right?

What makes this process captivating is that no matter what number you start with, you will always end up in one of just a few possible outcomes. **Most numbers eventually reach 145**, while others get smaller cycles like 1 (since $1! = 1$) or 2 (since $2! = 2$). Some numbers reach the cycle $169 \rightarrow 363{,}601 \rightarrow 1454 \rightarrow 169$, bouncing between these three values forever. The remarkable thing is that mathematicians have proven these are the only possible endpoints—**every positive integer's factorial digit sum sequence must eventually reach one of these predictable patterns**. Let's plot those recursion counts to see what happens.

This factorial digits histogram is **revealing something remarkable about the topology of this number space**. **You can very clearly see the convergence and divergence zones**. Factorials grow so explosively ($1! = 1, 2! = 2, 3! = 6, 4! = 24, 5! = 120, 6! = 720, 7! = 5{,}040$) **that only very specific sums are even possible**. The huge peak near zero represents the massive convergence zone of small factorial sums, while those in the convergence zones at higher values show where numbers can get trapped in those cycles. **The divergence zones between peaks represent sums that are mathematically unreachable**—you literally cannot construct them by adding factorials of single digits. This creates a fractal-like structure where the number space has divergence zones, and your distribution maps the edges of these mathematical voids.



Aliquot Sequence

The Aliquot Sequence is a mathematical process that begins with any positive integer and repeatedly applies a simple rule: **find all the proper divisors of the number (divisors smaller than the number itself), add them up,**

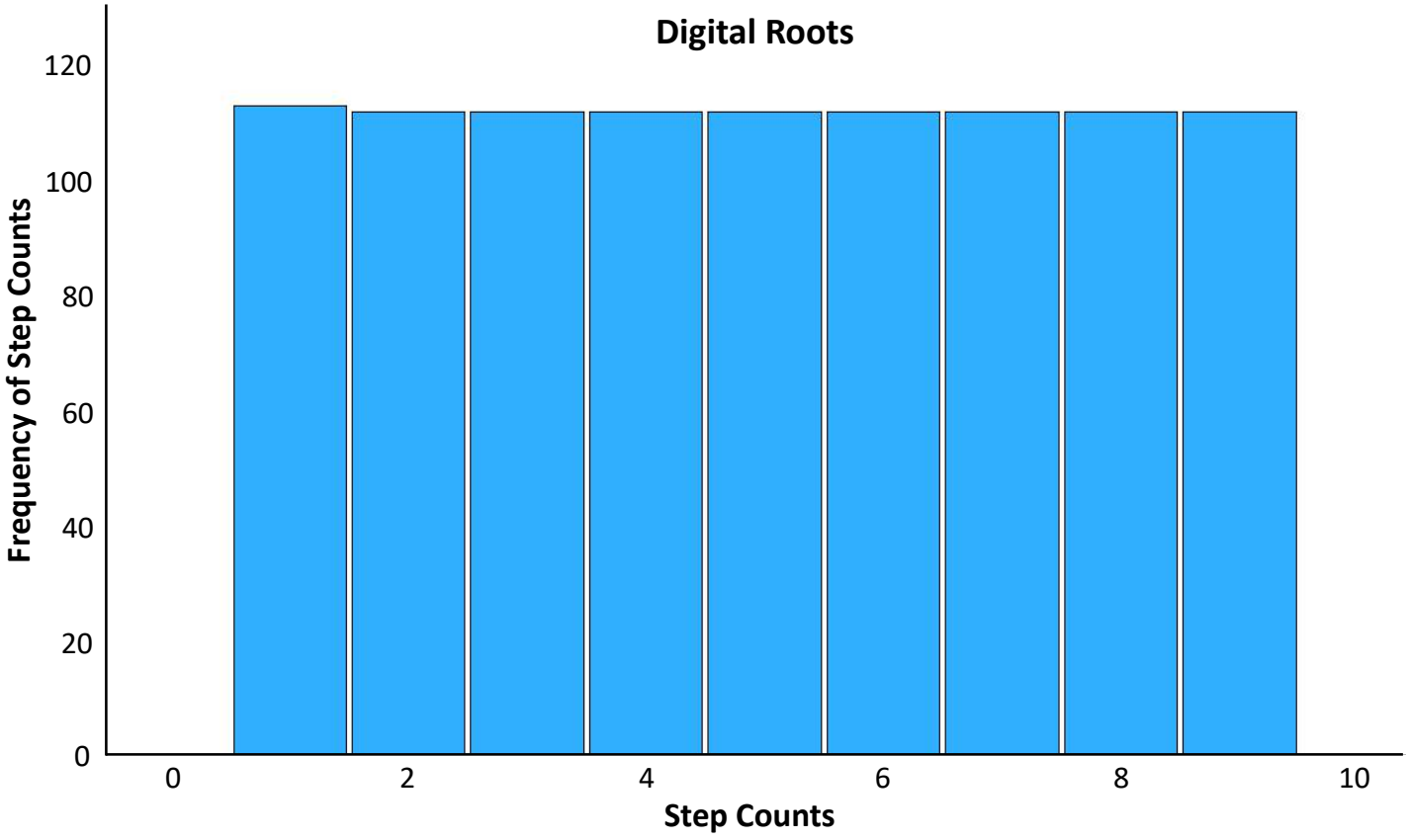
and use that sum as your following number. This rule creates a sequence that can lead to several different fascinating outcomes. For example, starting with 12, the proper divisors are 1, 2, 3, 4, and 6, which sum to 16. The divisors of 16 are 1, 2, 4, and 8, summing to 15. Continuing this process: $12 \rightarrow 16 \rightarrow 15 \rightarrow 9 \rightarrow 4 \rightarrow 3 \rightarrow 1 \rightarrow 0$, and **once you reach 0, the sequence terminates since 0 has no proper divisors**.

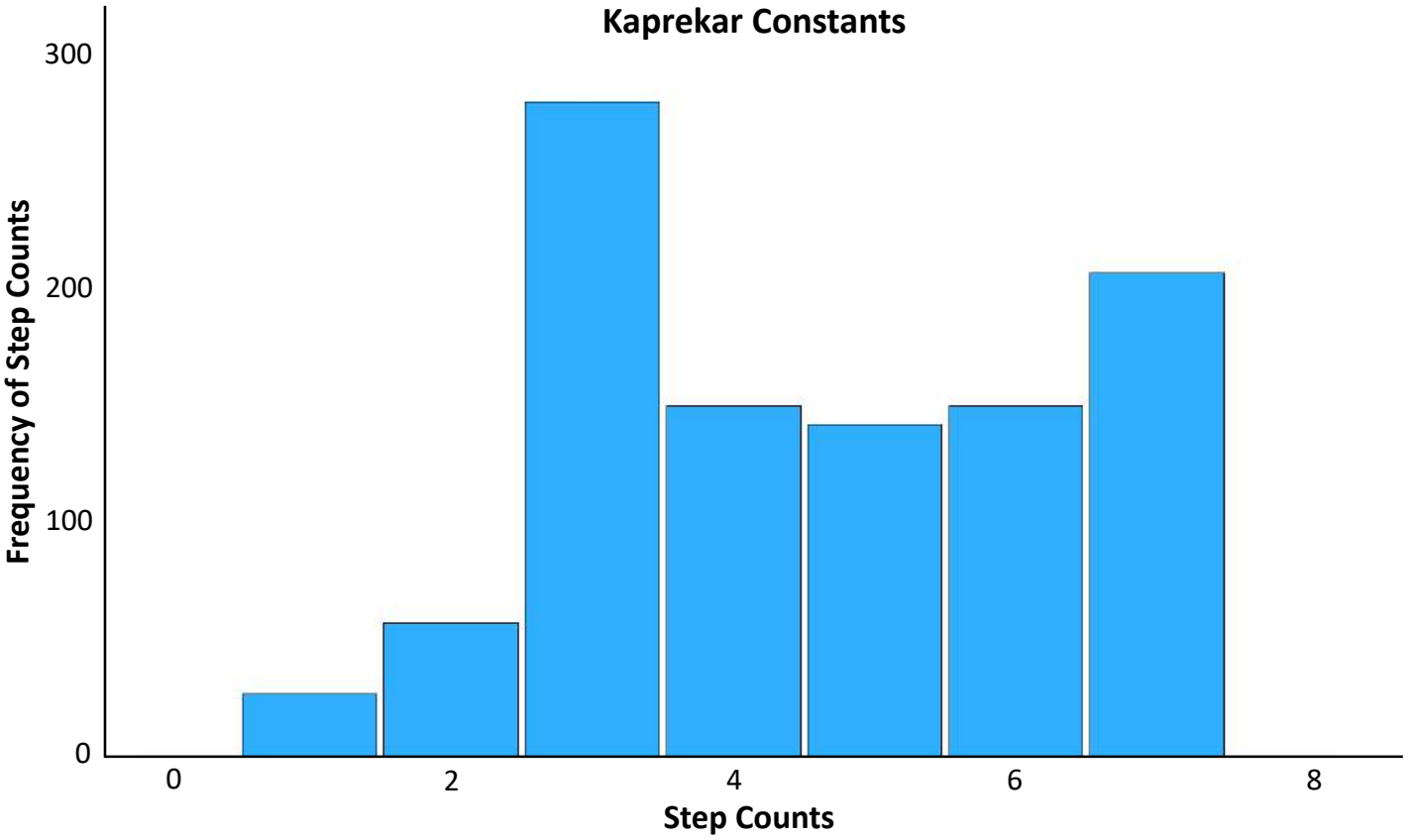
What makes aliquot sequences particularly intriguing is their unpredictable behavior and the variety of possible outcomes. Some sequences terminate at 0, as in the example above. Others reach a fixed point **where a number equals the sum of its own proper divisors, called a perfect number** (like 6 or 28). Some sequences enter cycles, bouncing between **two or more numbers indefinitely**, such as amicable pairs like 220 and 284, where each number equals the sum of the other's proper divisors. However, many sequences seem to grow without bound, though this feature has never been proven for specific case. **Let's look at the recursion count here.**

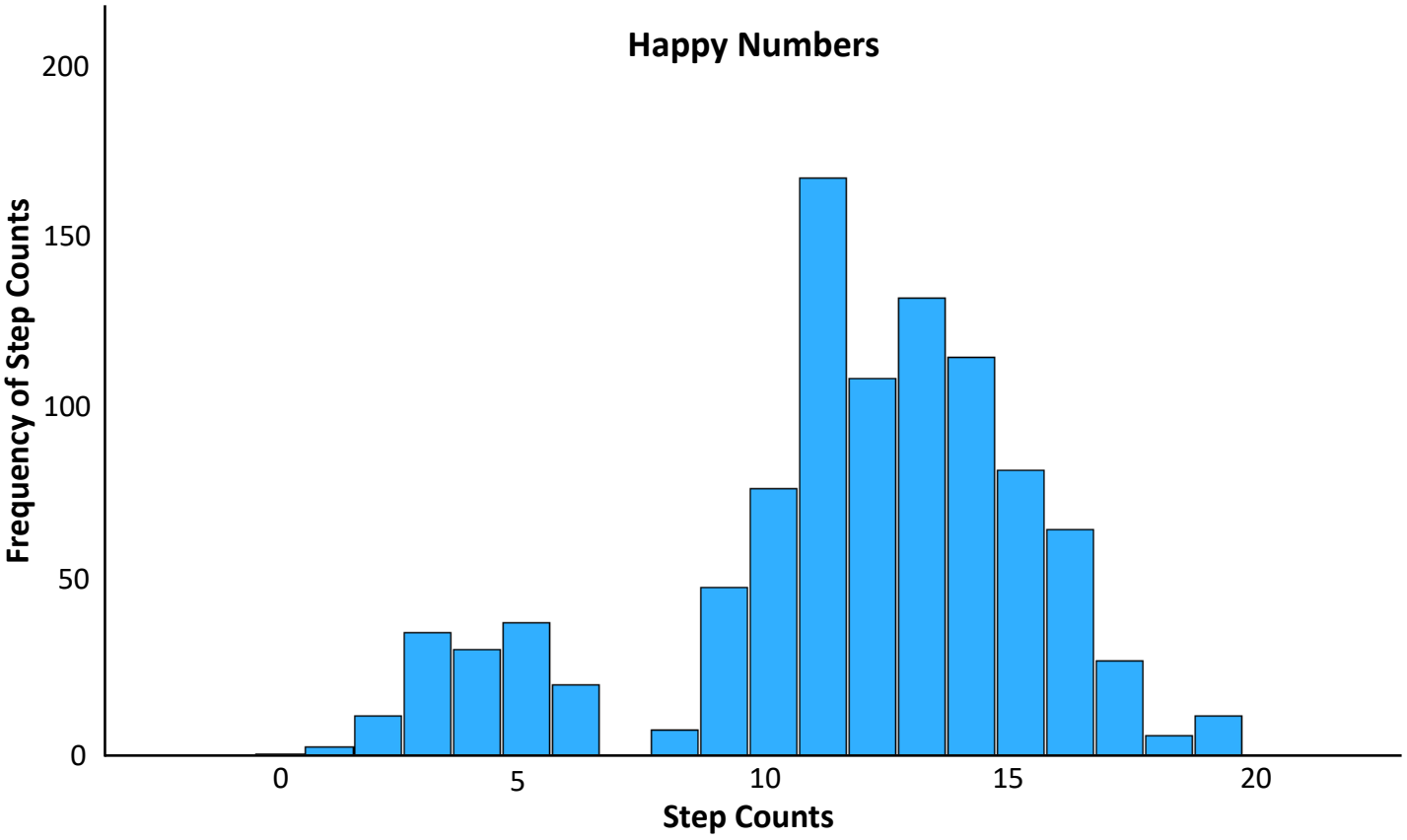
The long exponential tail in this figure chart is perhaps the most mysterious pattern of all because it represents numbers that refuse to follow the expected pattern. Most numbers terminate quickly because they're "divisor-poor"—they do not have enough proper divisors to sustain the sequence, and they bunch up in the **convergence zone towards the front of the distribution**. But that long tail represents increasingly rare numbers that are "divisor-rich" in **complex ways and end up in the divergence zones**.

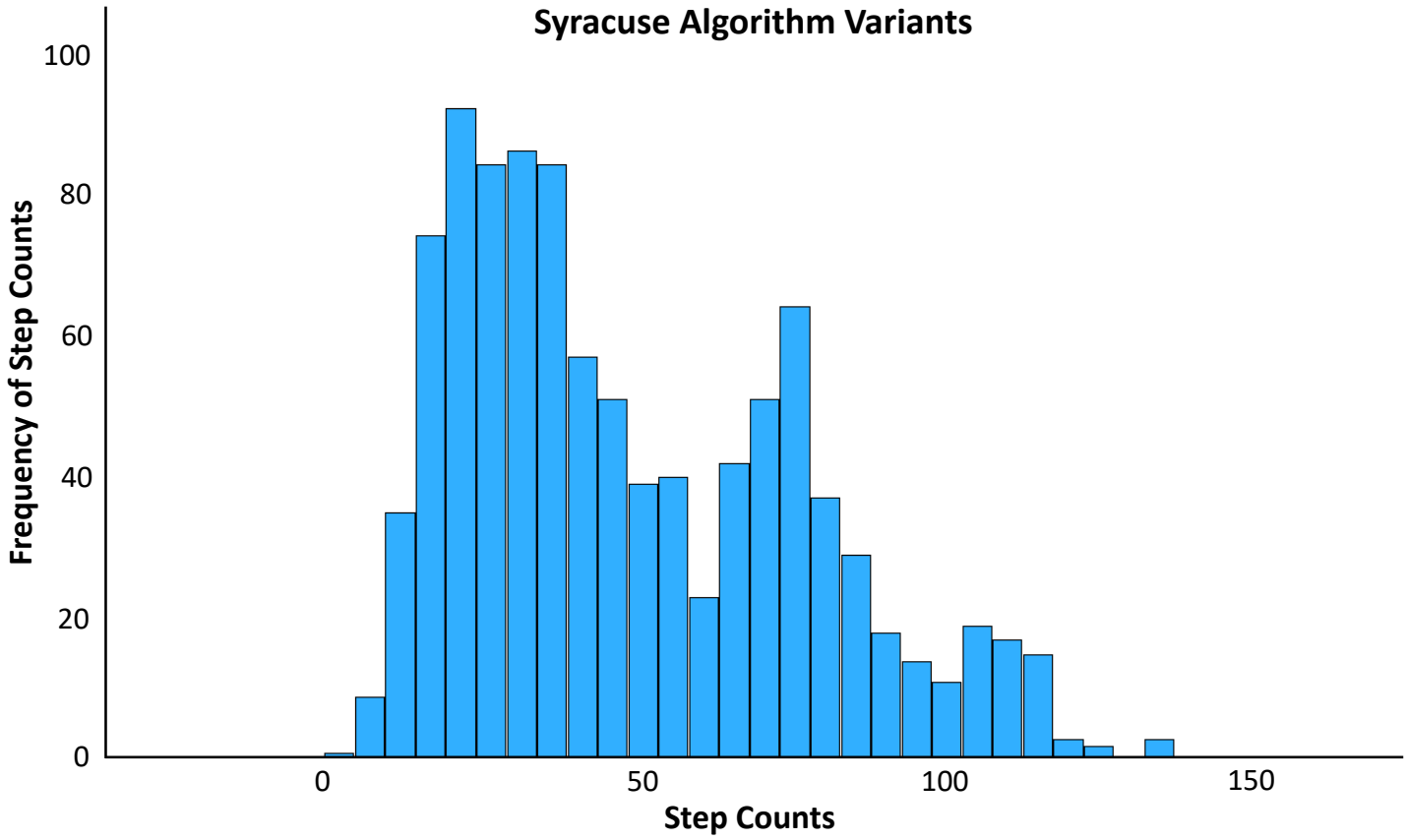
Some are perfect numbers (equal to their divisor sum), others are caught in amicable cycles, and some appear to grow without bound. The exponential decay shows just how rare these special numbers become. Still, the fact that the tail extends so far suggests there might be many families of numbers with complex aliquot behavior. **The distribution is essentially mapping the "resistance" of numbers to divisor decay**, and those outliers in the tail might hold keys to understanding whether some sequences truly grow indefinitely.

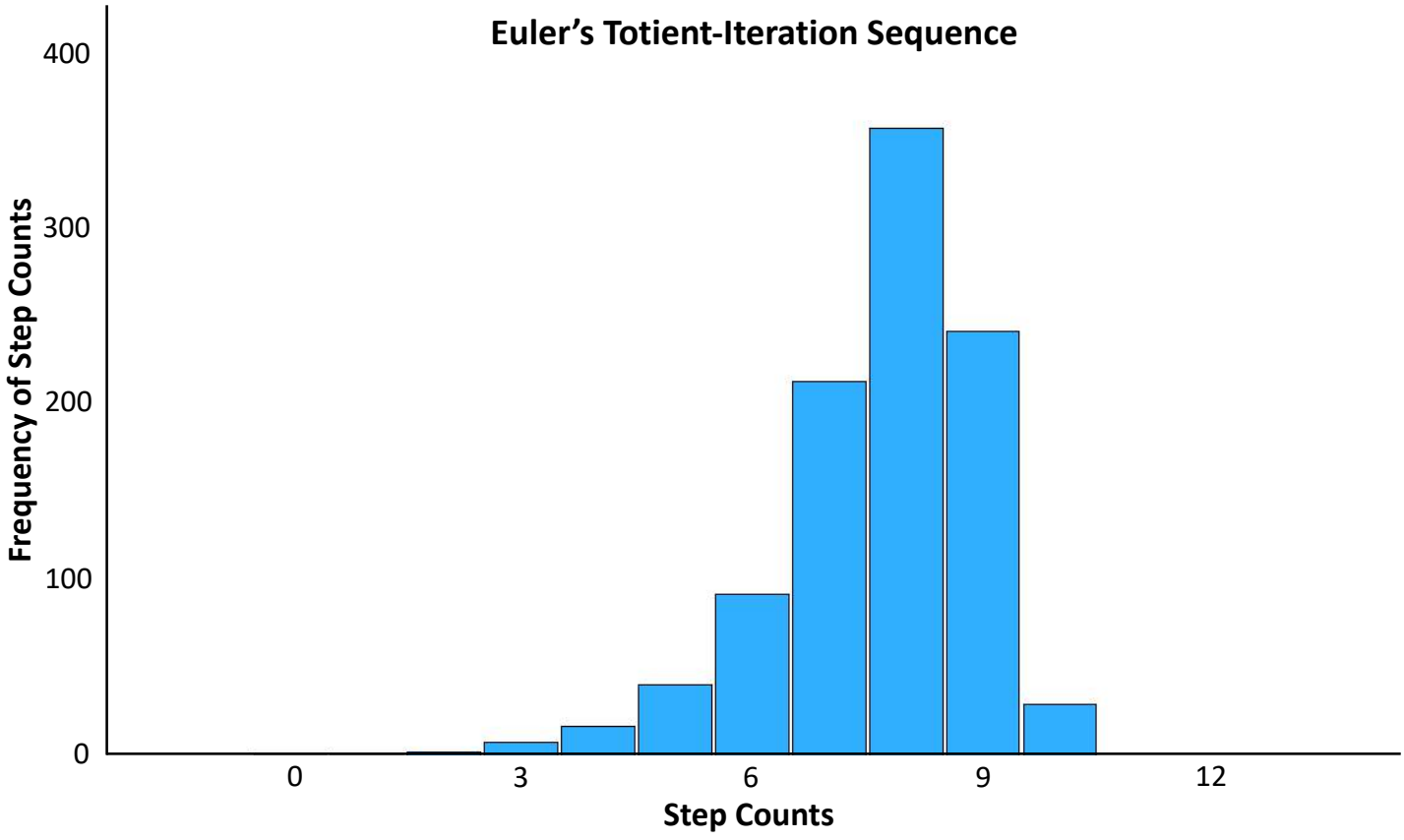
One of the shocking parts of using this recursion count technique is that it appears as if all recursive number systems have their own inherent structure. **Let me show you how deep this rabbit hole goes**:




Kaprekar Constants
300
200
100
0
Frequency of Step Counts
0
2
4
6
8
Step Counts

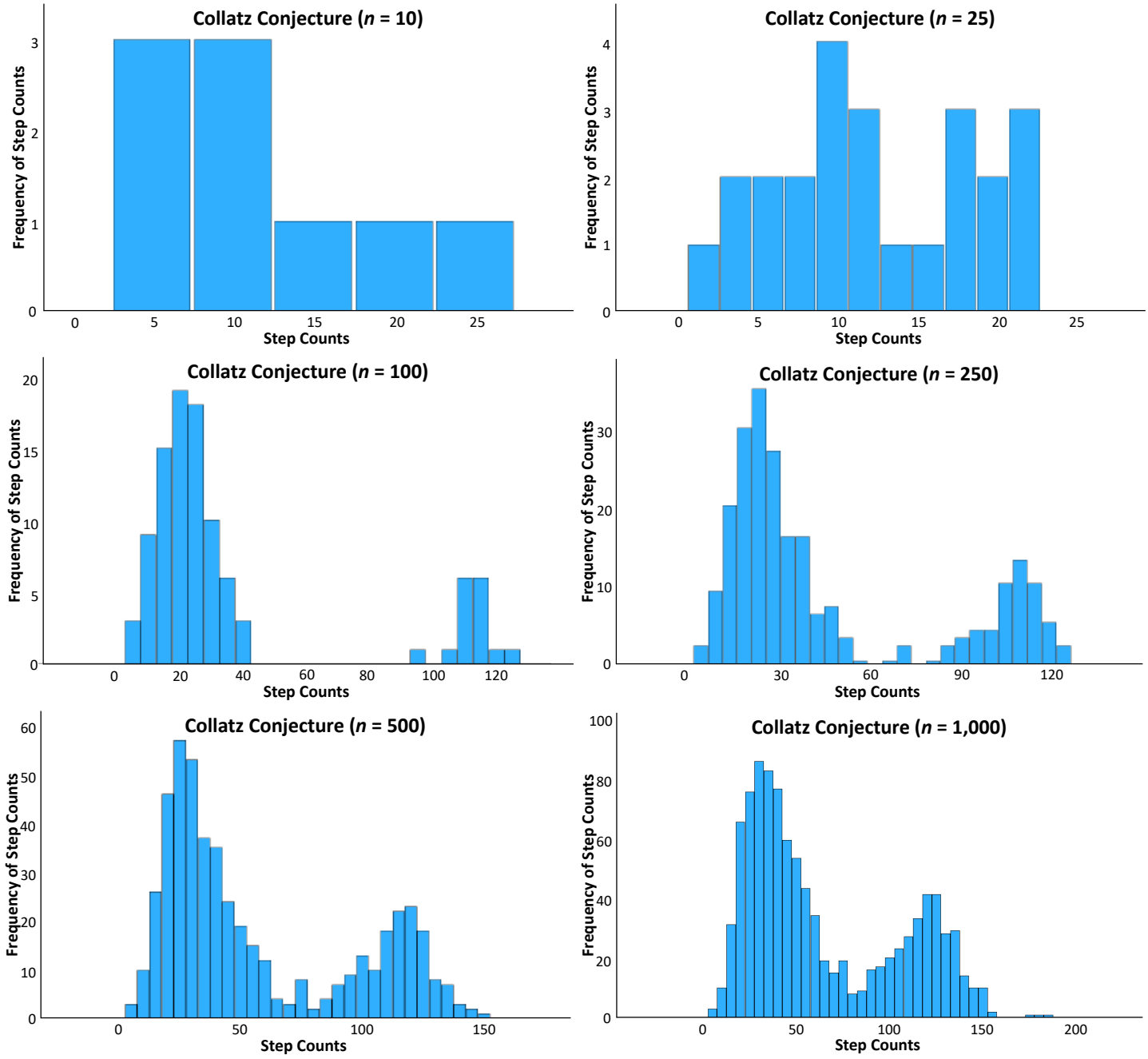

Happy Numbers
200
150
100
50
0
Frequency of Step Counts
0
5
10
15
20
Step Counts


Syracuse Algorithm Variants
Frequency of Step Counts
100
80
60
40
20
0
0
50
100
150
Step Counts


Euler's Totient-Iteration Sequence
Frequency of Step Counts
400
300
200
100
0
0
3
6
9
12
Step Counts

The Emergence of Mathematical Truth Through Scale

When we adjust the sample size, something else incredibly interesting happens—**it is like watching a mathematical truth emerge from statistical noise**. This figure is one of the most compelling demonstrations I have seen for how hidden mathematical structures reveal themselves only when we gather enough data. In the smallest samples ($n = 10$, $n = 25$), the distributions look almost random—just scattered bars with no clear pattern. This pattern is **the mathematical equivalent of looking at a pointillist (dotted) painting from too close**; you see individual dots but miss the grand design. At $n = 10$, you might think Collatz Conjecture step counts are entirely unpredictable, just noise in the mathematical universe.



However, **as we expand to $n = 100$, something remarkable begins to happen**. A peak starts to emerge around 10-20 steps, and you can barely detect the hint of something happening around 100+ steps. It is like the first blurry outline of a hidden structure becoming visible through the statistical fog. By $n = 500$, **the transformation is dramatic**. That mysterious second peak (convergence zone) around 100+ steps have crystallized into a clear,

distinct feature. The bimodal nature of the Collatz distribution—one of its most profound and unexpected properties—has emerged from hiding. This sample size is not getting a cleaner picture of random variation; **it is uncovering a fundamental architecture of how numbers behave in the Collatz transformation**.

At $n = 1{,}000$, the structure has reached complete clarity. **The two convergence zones are now unmistakably distinct**, separated by that divergence zone around 50-80 steps. What seemed like chaos in small samples has revealed itself to be a highly organized, predictable pattern. The distribution has converged to its true shape—a shape that tells us there are fundamentally two different "classes" of numbers in terms of their Collatz behavior. This progression illustrates something profound about mathematical truth: **the underlying structures exist whether we can see them or not, but they only become visible when we examine them at the right scale**. **It further suggests that this feature is also how existence works.** Small samples give us misleading impressions of randomness, while large samples reveal the deep order hiding beneath.

This is why mathematicians are so fascinated by the Collatz Conjecture. It is not just that every number eventually reaches 1; it's that **the journey times follow this beautiful, predictable bimodal pattern that only becomes visible when we step back and look at the whole landscape**. This analysis has revealed that the Collatz Conjecture contains hidden statistical laws that govern not only individual sequences but also the collective behavior of all integers under this transformation—**an astounding new insight into recursive number systems.** However, when you combine these recursive number systems, something even more profound emerges.

I gathered the step counts of all the recursive number systems and conducted a principal components analysis, which is an analysis **that looks for hidden "latent" structures within variables**. When I conducted these analyses, I found something incredible. It appears that **each recursive number system contributes certain features to a latent structure**. When combined with other recursive systems, complex structures arise as an emergent property of the interactions of these step counts. **Here, we have five strongly loaded components with specific recursive systems, forming unique structural pieces that contribute to the whole**.

Table 1

Recursive Number Systems and Definitions

Recursive System	Definition
Euler's Totient-Iteration	Repeatedly applying Φ until 1.
Factorial-Base Representation	Expressing n in the factorial number system.
Multiplicative Persistence	Counting products of digits until a single digit.
Sum-of-Factorial-Digits	Σ digit! per iteration.
Collatz Conjecture	Collatz $(3 * n + 1)$ total-stopping-time sequence.
Syracuse Algorithm Variants	$(3n \pm 1)/2$ accelerated Collatz forms.
Juggler Sequence	Alternating $n^{1.5}$ and $\sqrt{n}$ steps.
Aliquot Sequence	Iterating the sum of proper divisors.
Happy-Number Iteration	Sum of squares of digits until 1 or a loop.
Digital-Root Function	Repeated digit sums mod 9.
Kaprekar Routine Step Count	Descending—ascending digit sort to $6{,}174$.

Note. All recursive number systems in the current paper.

Complexity Escalation & Emergent Structural Dynamics

This discovery of fundamental components underlying recursive number systems reveals a **potentially profound truth about the nature of existence**: **structure is not inherent but emerges through the dynamic interaction of different complexity escalation patterns**. Each recursive system, when examined in isolation, produces its own characteristic structure through a specific mode of complexity escalation—the **Collatz Conjecture creates its bimodal distribution, Multiplicative Persistence generates its exponential decay, and Kaprekar routines**

produce their deterministic convergence patterns. However, the insight emerges when these systems are analyzed simultaneously, **revealing that their individual structures dissolve into entirely different organizational principles that could never be predicted from studying any single system alone**.

Table 2

Principal Components Analysis of Recursive Step Counts

Recursive System	1	2	3	4	5	Eigenvalues
Euler's Totient-Iteration Sequence	**.836**	-.046	.395	-.014	.041	**2.71**
Factorial-Base Representation	**.793**	-.143	.011	-.044	.069	**1.60**
Multiplicative Persistence Sequence	**.582**	.016	-.021	-.043	-.057	**1.31**
Sum-of-Factorial-Digits Function	**.560**	-.015	-.273	.098	-.082	**1.12**
Collatz Conjecture	.009	**-.972**	-.024	.025	.014	**1.00**
Syracuse Algorithm Variants	.021	**-.972**	.009	-.009	-.023	0.88
Juggler Sequence	.350	.061	**.812**	.124	.034	0.86
Aliquot Sequence	.379	.031	**-.656**	.063	.114	0.72
Happy-Number Iteration	-.127	-.013	.131	**.759**	.076	0.48
Digital-Root Function	.059	.000	-.094	**.740**	-.081	0.23
Kaprekar Routine Step Count	-.030	.009	-.060	-.006	**.980**	0.09

Note. Principal components analysis with direct oblimin rotation showing structure forming from just the step count to resolution.

When I follow something called **Kaiser's rule**, which involves extracting structures from the PCA based on the number of components that explain the data more than just what one variable should explain (i.e., eigenvalues greater than 1). **In other words, when I let the data speak for itself entirely, the structure emerges**. I did not force any structure to emerge here. I did not tip off the stats program. Let's look at the PCA with five components extracted. As you can see, the eigenvalues suggest extracting five elements. When I do, a clean structure emerges with recursive number systems that contribute to the whole as unique, shared features.

Table 3

Principal Components Analysis of Recursive Step Counts

Recursive System	1	2	3	Eigenvalues
Euler's Totient-Iteration Sequence	**.773**	-.037	.019	**1.87**
Multiplicative Persistence Sequence	**.640**	.101	-.117	**1.13**
Sum-of-Factorial-Digits Function	**.547**	.009	-.182	**1.01**
Juggler Sequence	**.532**	.019	.243	0.91
Collatz Conjecture	**.495**	-.063	.057	0.90
Digital-Root Function	-.116	**.766**	.072	0.88
Happy-Number Iteration	.113	**.733**	-.049	0.72
Kaprekar Routine Step Count	-.009	.020	**.947**	0.59

Note. Principal components analysis with direct oblimin rotation showing structure forming from just the step count to resolution.

Despite this clear structure, let's look at what happens when we remove specific recursive number systems. We see that the same pattern emerges where there are three components with eigenvalues over 1, so when we extract three components, **we see once again that there is a clear structure that emerges, but look at what happened to the loadings: the recursive number systems rearrange themselves yet produce another strong structure, with some systems shifting to a different structure,** like the Collatz Conjecture**, while others hold steady,** like the Kaprekar Routine**.** Let's do it again to see what happens when we cut it down further.

Table 4

Principal Components Analysis of Recursive Step Counts

Recursive System	1	2	Eigenvalues
Multiplicative Persistence Sequence	**.734**	-.048	**1.36**
Sum-of-Factorial-Digits Function	**.707**	.144	**1.13**
Collatz Conjecture	**.555**	-.070	0.90
Aliquot Sequence	.058	**.751**	0.87
Digital-Root Function	-.061	**.737**	0.74

Note. Principal components analysis with direct oblimin rotation showing structure forming from just the step count to resolution.

When we switch up the recursive systems, we once again see that the eigenvalues suggest a two-component solution, so when I extract these two components, **we see a different, clear structure emerge once again**. Once again, the recursive number systems shift to support different parts of the structure in ways that they did not in the previous PCAs. It is like the recursive number systems, where each interacts with the others, **creating harmonies that pop emergent structures into existence.** Look below at how these different recursive number systems 1) contribute unique features to the structure and 2) shift their form to align with different recursive number systems to form new emergent structures. This emergence replicates the same emergence we see everywhere in existence, whether it is consciousness, stars forming, or political movements.

Table 5

Emergent Structures from the Harmonic Interactions of Recursive Number Systems

PCA 1		PCA 2		PCA 3	
Systems	**Names**	**Systems**	**Names**	**Systems**	**Names**
Euler's Iteration Factorial Multiplicative Sum-of-Factorial	Hierarchical Emergence	Euler's Iteration Multiplicative Factorial Collatz Juggler	Complexity Genesis	Multiplicative Sum-of-Factorial Collatz	Complexity
Collatz Syracuse	Rhythmic Propagation				
Juggler Aliquot	Adaptive Branching			Aliquot	Stability
Happy Numbers Digital Roots	Structural Directions	Happy Numbers	Structural Form	Digital Roots	
Kaprekar	Structural Template	Kaprekar	Structural Reliability		

Note. Emergent structures emerged as a combination of the step counts of the recursive number systems.

Think about it like this: **when you bake brownies**, you start with ingredients—flour, eggs, sugar, cocoa, and oil. (I'm guessing here since my culinary expertise peaks at microwaving leftover pizza). Each ingredient on its own is not a brownie. Flour by itself is... flour. However, when you combine them and apply heat, something magical happens: you get an entirely new emergent structure—brownies that are **somehow greater than the sum of their parts**. Here's the kicker: **each ingredient is not a "pre-brownie"** waiting to fulfill its destiny. Flour can serve as a sauce thickener, eggs can be used for omelets, and sugar can sweeten your coffee. They are versatile players who contribute different qualities depending on the recipe in which they are participating. The flour does not "know" it's going to be part of a brownie—it simply brings its thickening properties to wherever it goes.

This emergent structure of a brownie is precisely what is happening in these mathematical systems. Each recursive process is like an ingredient—it has its own characteristic "flavor" (convergence patterns, complexity signatures, structural tendencies). When you combine multiple recursive systems, they do not lose their individual properties; **they create something entirely new and unpredictable**: emergent mathematical structures that reveal the hidden architecture of how complexity organizes itself. The mind-blowing part? **There is no difference between this mathematical emergence and how existence works at every level—from baking brownies to forming galaxies—**simple ingredients, following simple rules, creating complex, beautiful, and sometimes tasty results. (Also, if anyone has a brownie recipe that doesn't require cooking skills, I'm taking applications.)

This phenomenon demonstrates that **complexity escalation operates through relational dynamics rather than isolated mechanical processes**. When different forms of recursive propagation interact within the same analytical framework, they create emergent structures that transcend their individual characteristics. The five fundamental components discovered through PCA **represent meta-structures that emerge only when multiple complexity escalation pathways are allowed to interact and cross-influence each other**. These components are not properties of individual number systems; instead, they represent the fundamental dimensions in which all complexity self-organizes when multiple escalation processes operate simultaneously.

The critical implication is **that reality itself operates through this same principle of relational, recursive emergence**. No phenomenon exists in true isolation; every process of complexity escalation is simultaneously influenced by and influences other escalation processes occurring at different scales and through various mechanisms. Structure emerges from the alignment and interaction of different recursive processes, **creating organizational patterns that are fundamentally unpredictable when examined in isolation**. This emergence explains why the universe exhibits such rich, multi-layered complexity—it arises not from the operation of individual rules, but from the dynamic interactions of processes co-occurring, allowing for varied dimensions of possibility. **This is evidence of emergence-to-convergence in action.**

This paper also suggests that **time and space are not continuous**, because continuous systems do not support the kind of structured resolution we observe in recursive-propagative models. Only discrete systems, where patterns can collapse and restart repeatedly over time, **allow for the emergence of phase-locked convergence and divergence zones. In continuous space-time, there are no such defined intervals for resolution**. However, in recursive-propagative systems, like *The Theory*, it is precisely the repeated, stepwise rhythm that enables structure to form. The very architecture of mathematics points to this necessity: recursive steps are the foundation of emergence, **and as shown in Paper** 1, mathematics is not invented—it is discovered—because it is the operating system of existence… and **that operating system is recursive-propagative**.

The mathematical analysis of recursive number systems thus serves as a pure laboratory for understanding how **complexity flows and interactions generate emergent structure throughout reality**. Each number carries within it a signature across all fundamental dimensions of complexity escalation, determining not only how it will behave in any single recursive system but also how it will participate in the larger ecosystem of complexity interactions. These findings reveal that **existence itself is fundamentally relational, recursive, and emergent**, with structure arising from the continuous interaction of different modes of complexity escalation rather than from any inherent properties of individual components. Then, existence is… **a gorgeous and profound harmony**.

The Big Picture

What these analyses show us is that when you step back and look at recursive number systems through the lens of step counts, you are not just seeing random noise or chaos—you are actually witnessing the fundamental architecture of **how numbers self-organize**. Thus, bimodal distribution is not an accident or a quirk of the Collatz conjecture. **It is evidence of deep mathematical structures that exist whether we can see them or not**, structures that only become visible when we examine them at the correct scale with the right tools.

The really mind-blowing part is what happens when we combine multiple recursive systems. Each system on its own creates its own signature pattern—the Collatz conjecture gives you those convergence and divergence zones, multiplicative persistence shows exponential decay, **factorial digit sums reveal fractal-like structures**; but, when you analyze them all together, **something entirely new emerges**. It is like each recursive system is playing its own musical note. Still, when you combine them, you don't just get a chord—**you get a new symphony revealing harmonies you could never have predicted from listening to each instrument alone.**

What makes this discovery so exciting is that **you do not need advanced degrees or sophisticated equipment to explore these ideas**. Anyone can take a simple rule, plot some step counts, and uncover evidence of profound mathematical truths that have been hiding in plain sight. This discovery suggests that this kind of emergence—where simple interactions create complex, unpredictable structures—**is happening everywhere around us, from the way ecosystems organize themselves to how consciousness might arise from neural networks**.

The beauty of mathematics is that it provides a pure laboratory for understanding how complexity emerges and converges. These characteristic distributions are like a fingerprint of the universe's tendency to create order from apparent chaos. **The fact that this pattern only becomes clear when you look at enough data points reminds us that truth often requires stepping back to see the bigger picture**. Sometimes what looks random or chaotic up close reveals itself to be beautiful when you step back and view it from the proper perspective. From that perspective, we now see that the mathematics that guides the mechanics of existence from the subatomic to the galactic **also happens to be the rules of a children's math game. Who would have thought?**

Free Will in a Deterministic System

Written by Bryant Stone (*The Architect*)

Overview

What if I told you that the most significant philosophical debate in human history—whether we have free will or if everything is predetermined—**has been asking the wrong question entirely?** For thousands of years, brilliant minds have been arguing about whether you are **the captain of your ship or just a passenger on a ride that was planned before you were born**. In this paper, I empirically tested a new framework to resolve this ancient debate through two phenomena: 1) **free will within agents** (i.e., the ability to act freely) and 2) the **deterministic system across agents** (i.e., the emergent social organization of agents). **Using 1, 200 animal social networks across 92 species via the Animal Social Network Repository**, I have discovered both components and found that they are entirely unrelated and operate independently—thereby resolving the debate with the model of **free will in a deterministic system.** On the one hand, **we all have free will to make choices**. On the other hand, the **deterministic system encourages, rewards, and provides preferred pathways in life to carry us to our best selves**. The deterministic system is like a massive escalator that is constantly moving you and other agents forward, but **just because you are on it doesn't mean you are paralyzed**. You can still walk around, help someone who has fallen, start a conversation, or choose to be a jerk to everyone. This paper reveals how these two phenomena work together in beautiful harmony, operating on different timescales and **creating the perfect balance between structure and freedom that makes life both meaningful and unpredictable**. Further, the evidence indicates that the deterministic system forms invariantly across **agents and environments**, and does not require **intentionality, organization, planning, communication**, or even **conscious awareness**. The deterministic system emerges across agents, who give up a portion of their free will to join, demonstrating that **free will and the deterministic system are distinct, independent, and co-defined phenomena**. With free will in a deterministic system, you will see that you are neither trapped nor is your fate sealed—we are all participating in something far more elegant than we ever thought. **Come step on the escalator and… let me show you.**

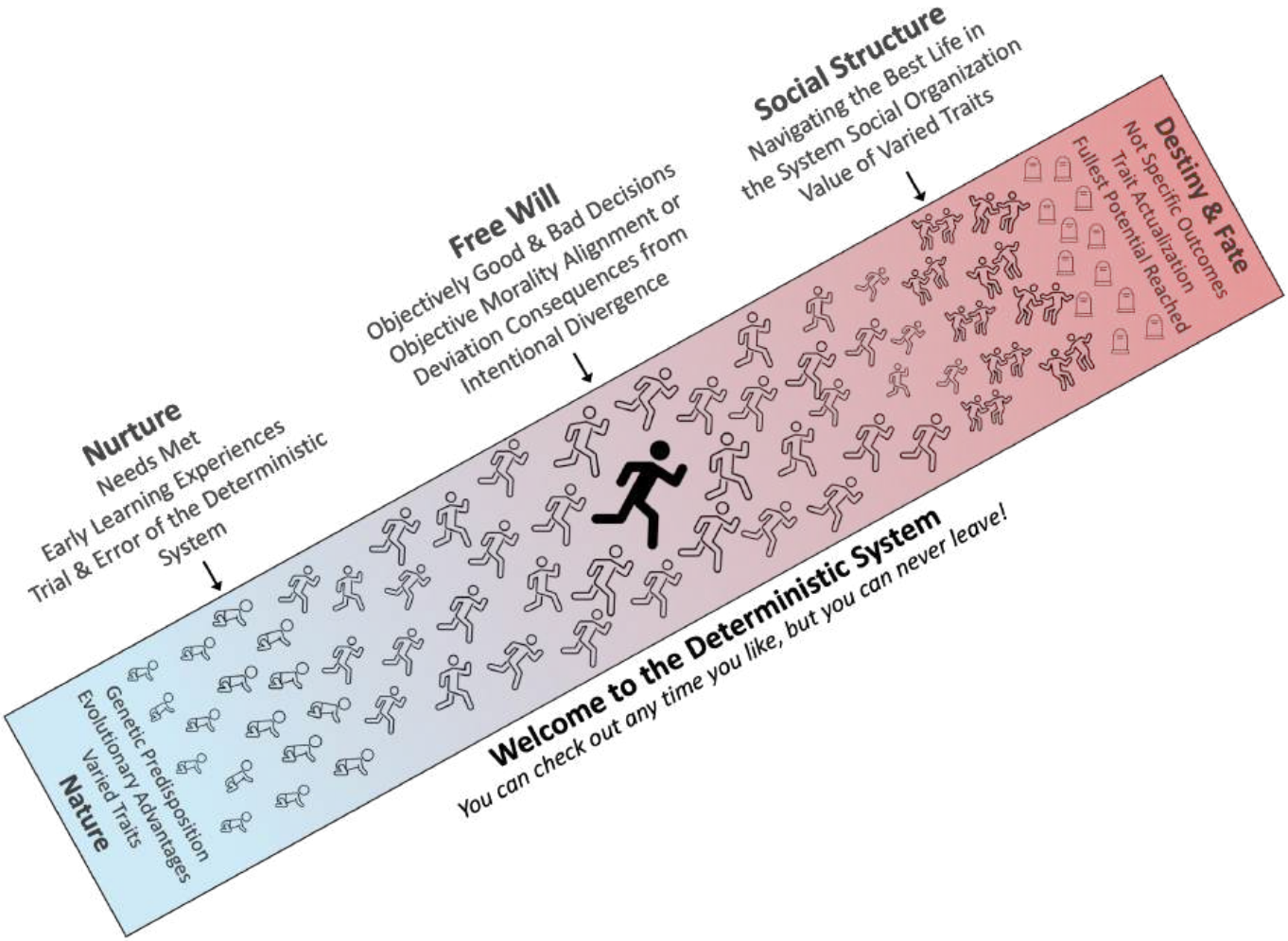
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Background & Findings

Have you ever made a decision that felt completely your own, only to look back later and think, "**Wow, that worked out exactly how it was supposed to?"** Maybe you chose a random coffee shop and met your future spouse there, or you took a detour that led to your dream job. It feels like you are making free choices, but the outcomes seem almost... destined. Right? **This tension has puzzled humans forever**. Are we really the authors of our own story, or are we just reading from a script that is already there? Why do both options feel true?

Philosophers have been wrestling with this question for centuries, splitting into two camps. **Team Free Will** says you are the captain of your ship—every choice you make is genuinely yours, and you could have chosen differently. **Team Determinism** says the ship was always heading to the same port—your choices might feel real, but they are just part of a larger pattern that was set in motion before you were born. For centuries, **brilliant minds have articulated compelling arguments for both sides**. Free will advocates point to our sense of choice and moral responsibility. Determinists point to the laws of physics, the unconscious, and other factors beyond our control. **The debate still has no winners**, but **what if we based this debate on a false premise?**

What if asking "**free will OR determinism**?" is like asking "**do you breathe OR do you have a heartbeat?**" The question assumes you must pick one or the other, when the honest answer might be "both." We have been trapped in what philosophers call a **false dichotomy—forcing ourselves to choose between two options when a third possibility has been hiding in plain sight**. That possibility? Free will and determinism are not opposites fighting for control. **They are independent, co-defined dance partners throughout the animal kingdom.**



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 rather the full actualization of one of the many pathways that 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.

Welcome to the Hotel California of Existence

Let me walk you through the concept of free will in a deterministic system. You were born into what I call the **deterministic system**—and just like the Eagles sang, "You can check out any time you like, but you can never leave." However, **you are not actually trapped**. Think of life as a massive, cosmic escalator. The escalator itself is the deterministic system. It is always moving, always carrying you forward based on structures way bigger than yourself—your genes, upbringing, birth society, even the laws of physics. **You did not choose to get on this escalator**, but you cannot step off it. In that sense, the philosophers arguing for determinism are correct.

However, even though **you are on the escalator, you are not paralyzed**. You can still walk around on it. You can run up faster, slow down, turn around, dance, help someone who has fallen (and you should), or choose to be a jerk to everyone around you (though you should not). You can make friends, fall in love, start arguments, or solve problems. **Every single one of these choices is genuinely yours to make**. That is your free will in action, and it is entirely genuine. **Free will and the deterministic system** work together in beautiful harmony.

The escalator (deterministic system) **provides the structure and direction**, and your movement on it (free will) **determines your specific experience and impact**. You are simultaneously being carried by **the deterministic system AND exercising free will** with choices that matter. The deterministic system provides momentum and direction across agents, but within it, each agent **has endless room for individuality, creativity, and genuine choice**. **Some things might feel destined**, but that does not mean your choices are not real. You are not just a passenger; you are a participant, building and contributing to the deterministic system via free will.

Destiny Is Not a Destination—It's Your Potential Coming to Life

We have been conditioned to think of fate as some cosmic screenplay where every scene is already written, every line predetermined, and we are just actors hitting our marks. Yet, destiny is much simpler. Instead of some inescapable destination, destiny within the deterministic system, the one you feel when things work out, is more like finding and traveling a path that allows you to become the best version of yourself. For example, let's say you have incredible genes for basketball. **You might be born with the height, coordination, and natural athleticism that could make you the next LeBron James**. However, those traits do not automatically make you a basketball superstar. **You still must choose to pick up the basketball and practice**. You must still push through the failures and develop your skills. Your "destiny," to be great at basketball, is not predetermined—it's a possibility waiting for you to bring it to life; **there are endless possibilities for your life, throughout your life.**

One of the starting conditions of your free will in the deterministic system is your birth culture. **In individualistic** cultures, people tend to focus more on **exercising their free will**. In **collectivistic** cultures, people focus more on **building and reinforcing the deterministic system**. Beyond cultures, **you are *not* born as a blank slate** (no hard feelings to the "tabula rasa" philosophers). You arrive with **a unique starting package of traits, tendencies, desires, preferences, and potentials**—some genetic, some shaped by early experiences, and some influenced by your culture, time period, and resources (e.g., generational wealth). It is like your starting toolkit for life.

A critical aspect is that the toolkit does not mean the house builds itself. You still need to decide what to make, how to build it, and when to build it. Someone born with natural empathy might become a therapist, a teacher, a humanitarian leader, or even a master manipulator—the trait is there. Still, how they actually do it depends entirely on the choices they make with their free will. **The beautiful irony is that the people with the most "favorable starting conditions"—the ones who seem destined for easy success—cannot just coast**. The deterministic system does not reward passive coasting; instead, it prioritizes traits and abilities that fortify it. This feature is why paths to **high-paying jobs tend to involve helping the deterministic system cope, grow, and thrive**. These jobs include doctors, therapists, entrepreneurs, pop stars, and leaders of essential services.

The deterministic system also has a built-in feature called **hedonic adaptation,** which continually resets the bar. Hedonic adaptation is a remarkable feature of our brains, **where, regardless of how much we win or lose in life, our expectations and feelings about our life trajectory persistently adjust to changing circumstances**. Win the lottery, and within a year, you are back to your baseline happiness level, needing new challenges to feel fulfilled. **Achieve your dream job, and then you are setting bigger goals**. Lose a loved one, and you eventually return to a new normal. It is why people in less advantaged countries can be much happier than in resource-rich countries; it works in both directions. **It is like the universe refuses to let anyone rest on their laurels.**

You are constantly growing and evolving; **the circumstances of your destiny are continuously expanding and changing, but you are always heading towards the best version of yourself**. You are not walking toward a fixed

point; you are growing into an ever-larger version of yourself. **Isn't that beautiful? It means it is never too late to reach your destiny**. Further, the deterministic system does not concern itself with specific outcomes. **It prioritizes growth, complexity, and the full realization of your potential**. Your job is not to force a particular outcome—**it is to take the unique combination of traits you started with at your birth and see how far you can push them**, how creatively you can use them, **who you can become**, and how significant a positive impact you can make on the others in the deterministic system. It's not fate controlling you—it's you controlling your fate.

Table 1

Redefinitions of Dataset Variables for Ease of Interpretation

Variable Name	Original Label	Definition
Network Density	Network.Density	Proportion of all possible connections that exist in the network (0–1).
Local Triangle	Clustering	Clustering coefficient—proportion of closed triads around individuals.
Global Triangle	Transitivity	Global clustering coefficient—ratio of closed triplets across the whole network.
Average Connection	Avg.Degree	Average number of direct connections per individual.
Division	Q	Modularity score—how well the network is divided into subgroups.
Connection Spread	CV.Edge.Strength	Coefficient of variation in edge weights.
Bridge Role	Avg.Betw.Centrality.Weighted	Average betweenness centrality weighted by edge strength.
Pathway Importance	Std.Betw.Centrality	Standard deviation of betweenness scores.
Similarity Preference	Deg.Assort	Degree assortativity—whether individuals connect with others of similar degree.
Total Connections	Edges	Total number of edges (interactions) observed.
Connection Strength	Avg.Edge.Strength	Average strength (weight) per connection.
Cohesion	Cohesion	Tendency for individuals to interact more within their own group than outside of it.

Note. n = 1,195 animal social networks spanning 92 species from the Animal Social Network Repository, a large-scale, cross-species archive of empirical animal behavior networks.

The Data That Cracked the Code: Animal Social Network Repository

Okay, that is enough of me going on and on. I know what you might be thinking: "This all sounds great philosophically, but how do you demonstrate something like this?" It is a very fair question. **You cannot put free will and the deterministic system into a lab… or can you?** Here is where it gets interesting. Instead of debating these concepts in the abstract, I examined them in their practical application: **in social behavior**. To avoid all the messy complications of human psychology and politics, I went straight to the source—**the animal kingdom.** I obtained a massive dataset called the **Animal Social Network Repository**, which is essentially a treasure trove of information on how animals interact with one another in the wild. I analyzed data from **1,195 animal social networks spanning 92 different species, from fish schools, elephant herds, to spider colonies.** In the table, you can see the variables that these brilliant biologists created that I used. Each variable measures a different aspect of the animal social network. **It is the perfect dataset to find free will in a deterministic system.**

Consider this: **when a dolphin chooses which other dolphins to associate with**, or when a bird decides to follow the flock versus strike out on its own, **we are witnessing free will within a deterministic system at play**. These

animals are not overthinking their choices or getting caught up in philosophical debates—they are just living their lives, making decisions within the constraints of their biology and environment. Yet, how do you measure something as abstract as free will or the deterministic system in a dolphin and spiders? The answer is that, according to the model, **nothing else exists in these animal social networks except free will and its presence in a deterministic system.** We should not find countless structures and a bunch of noise because **all social animal network interactions boil down to free will or the deterministic system**. Every interaction, every relationship, every choice creates fingerprints that reveal these structures. **For example, here are some of the variables:**

- ◊ **Network Density:** How connected everyone is to everyone else. Is this a tight-knit group where everybody knows everybody, or more of a loose association?
- ◊ **Local Triangle**: When your friend is friends with your other friend, it creates a stable three-way relationship.
- ◊ **Bridge Roles**: Which individuals serve as connectors between different groups?
- ◊ **Connection Strength**: Are these deep, meaningful relationships or just casual acquaintances?
- ◊ **Similarity Preference**: Do individuals tend to connect with others who are like them, or do opposites attract?
- ◊ **Cohesion**: How much individuals stick with their own group versus mingling with outsiders.

Each of these variables tells us something different about **free will choices within the constraints of the deterministic system**. Some patterns reflect the **deterministic system at work—the biological drives, environmental pressures, and social structures that shape behavior**. Others reveal the **individual free will patterns**—unique choices each animal makes about how to navigate their social world. The beauty of using this animal kingdom dataset is that **it strips away all our human baggage about how free will and the deterministic system "should" appear**. I ran the stats across all 1,195 social networks and **something remarkable emerged...**

The Dance of Free Will & the Deterministic System

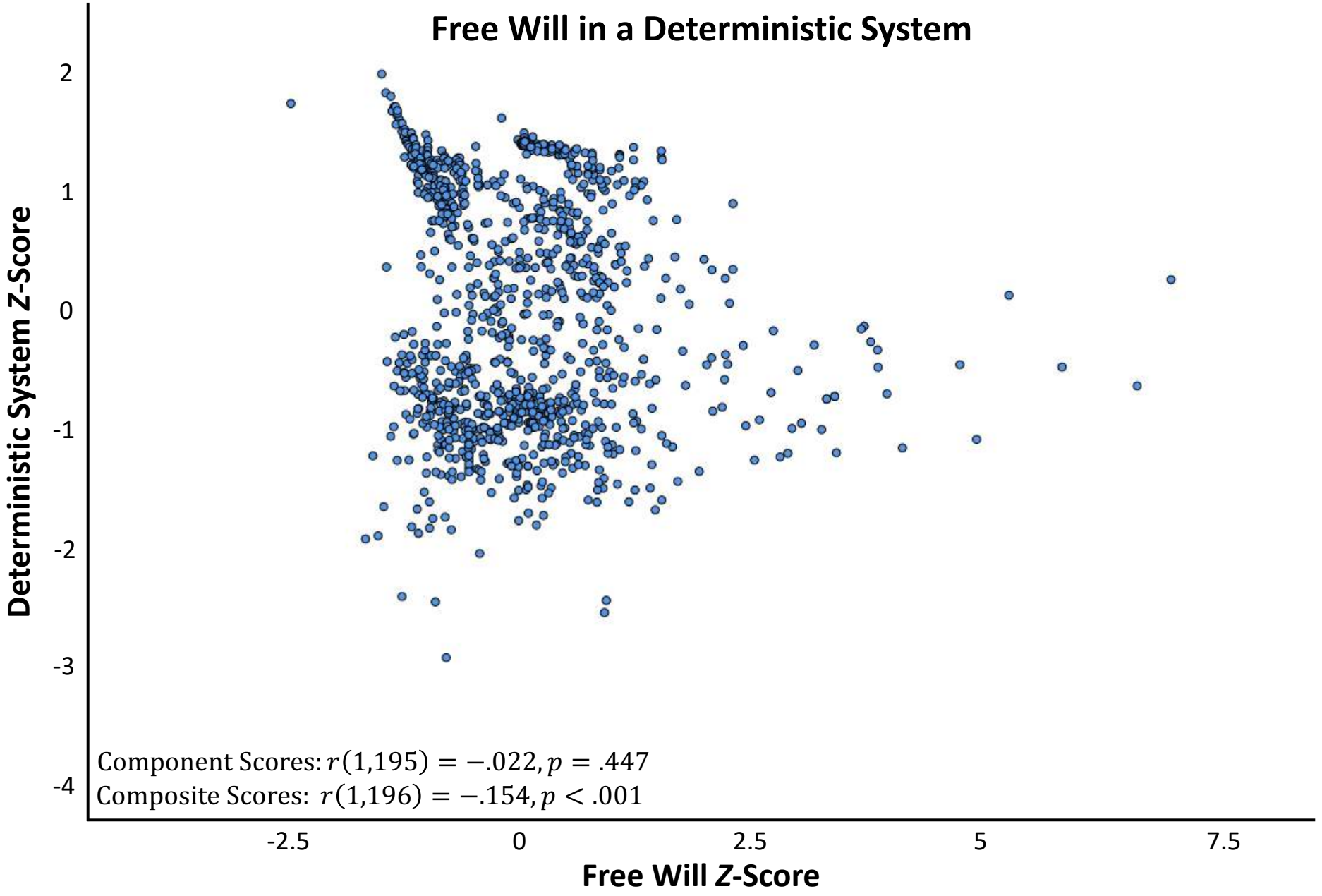
I conducted a principal components analysis to find these hidden structures using an oblimin rotation (which allows structural components to correlate, if they do), extracting two components. I color-coded the findings to show that as loading **approaches 1 the shading becomes green**, and as the loading **approaches -1, it becomes red**, with loadings at **0 being uncolored**. We want strong negative or positive loadings with each variable contributing to only one component. Bolded loadings indicate that the variable successfully loaded onto the component with no cross-loadings (when a variable loads onto both components, which is usually not meaningful). I ran it, and without even trying, the two components emerged! **Welcome to free will in a deterministic system!**

Table 2

Principal Components Analysis Findings Parsing Free Will & Determinism

Variable	Deterministic System	Free Will
Network Density	**.938**	.212
Local Triangle	**.881**	.022
Global Triangle	**.794**	-.192
Average Connection	**.657**	-.308
Division	**.611**	.093
Connection Spread	**.580**	.043
Bridge Role	.001	**.907**
Pathway Importance	-.279	**.777**
Similarity Preference	.218	**.572**
Total Connections	-.074	**.539**
Connection Strength	-.088	**.538**
Cohesion	.191	**.476**

Note. n = 1,195. Animal social networks spanning 92 species.


Free Will in a Deterministic System
Deterministic System Z-Score
2
1
0
-1
-2
-3
-4
Component Scores: $r(1{,}195) = -.022, p = .447$
Composite Scores: $r(1{,}196) = -.154, p < .001$
-2.5
0
2.5
5
7.5
Free Will Z-Score

The data confirmed that **free will and the deterministic system are genuine and not mutually related**. Further, the internal consistency (a measure of how cohesive the components of the variables that comprise it) of the deterministic system is $\alpha = .839$, and for free will, it is $\alpha = .714$ (values of $\alpha = 1.00$ have perfect internal consistency). I transformed both composite scores to *z*-scores, which allows us to compare them directly by standardizing the units of measure. **The findings confirm the existence of both a free will component and a deterministic system component, which are independent and well-documented.**

◊ **The Deterministic System** is precisely what you would expect from a structure beyond individual control. This pattern captures aspects such as overall **Network Density** (how connected everyone is), **Local Triangle** formation (stable friendship clusters), and **Global Triangle** patterns (how these clusters connect across the entire group). These forces are structural—the social architecture that emerges from biology, environment, and system-level pressures. When deterministic structures are strong, you see highly organized, predictable social structures with clear patterns and hierarchies.

◊ **Free Will** emerged as a distinct pattern, capturing individual agency through behaviors such as **Bridge Role** (choosing to connect different groups), **Pathway Importance** (the extent to which individual animals create unique social pathways), and **Similarity Preference** (personal choices about associations with other animals). When free will structures are strong, you see more individual variation, creative social connections, and animals making choices that reflect personal preferences rather than just following the crowd.

Think about what this finding means: **An animal can be living in a highly deterministic social structure (strong biological drives, clear environmental pressures, established group hierarchies) while simultaneously exercising tremendous individual choice within that structure**. The significant composite score correlation, $r(1{,}195 = -.154, p < .001$, shows that animals chose to forfeit a tiny portion of free will to benefit from the deterministic system. The system provides the framework, but it is the individual agency that determines how you navigate within it. **For the first time, we have empirical evidence that** free will and determinism are structurally correct.

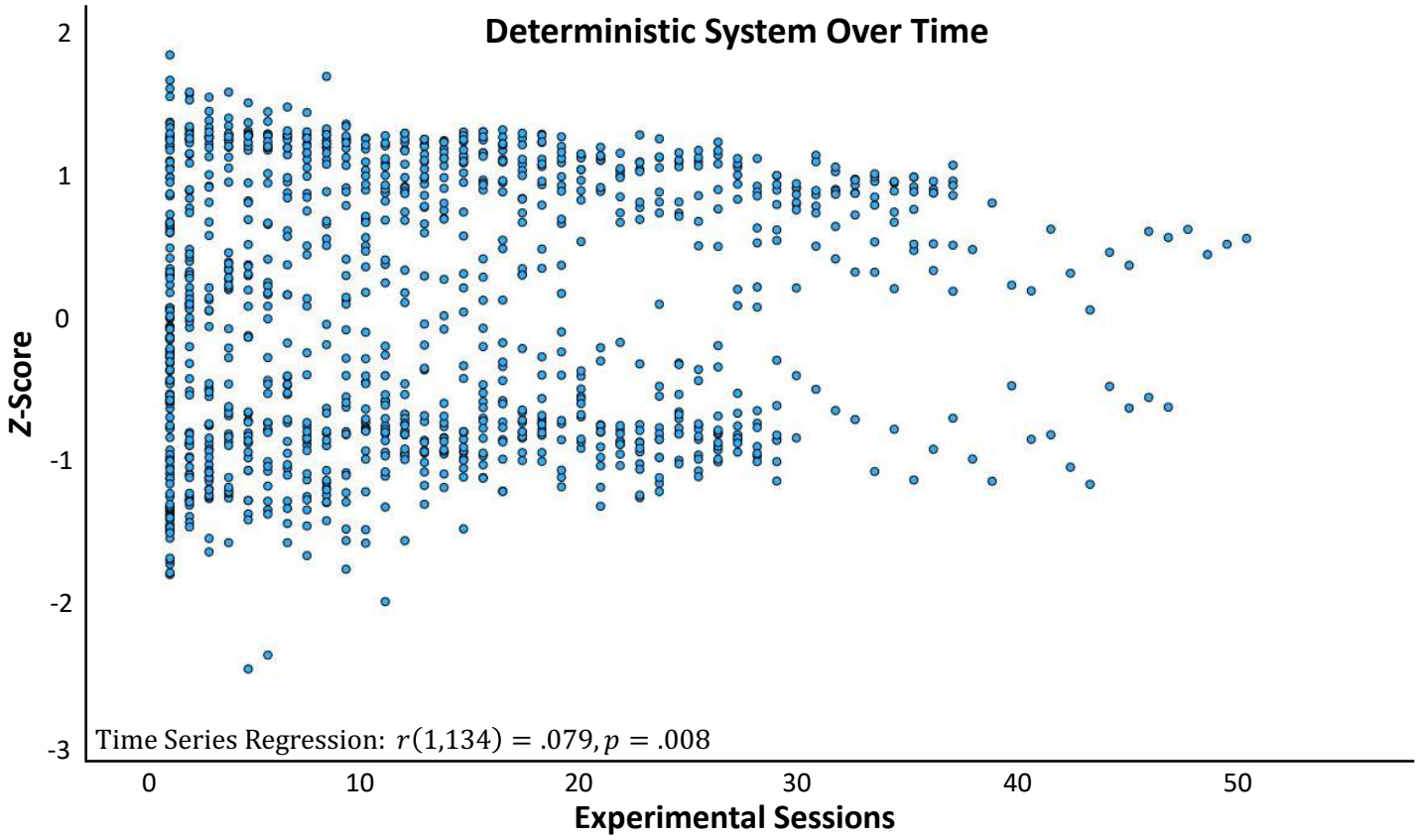
Plot Twist: They Are Even Moving on Different Timescales

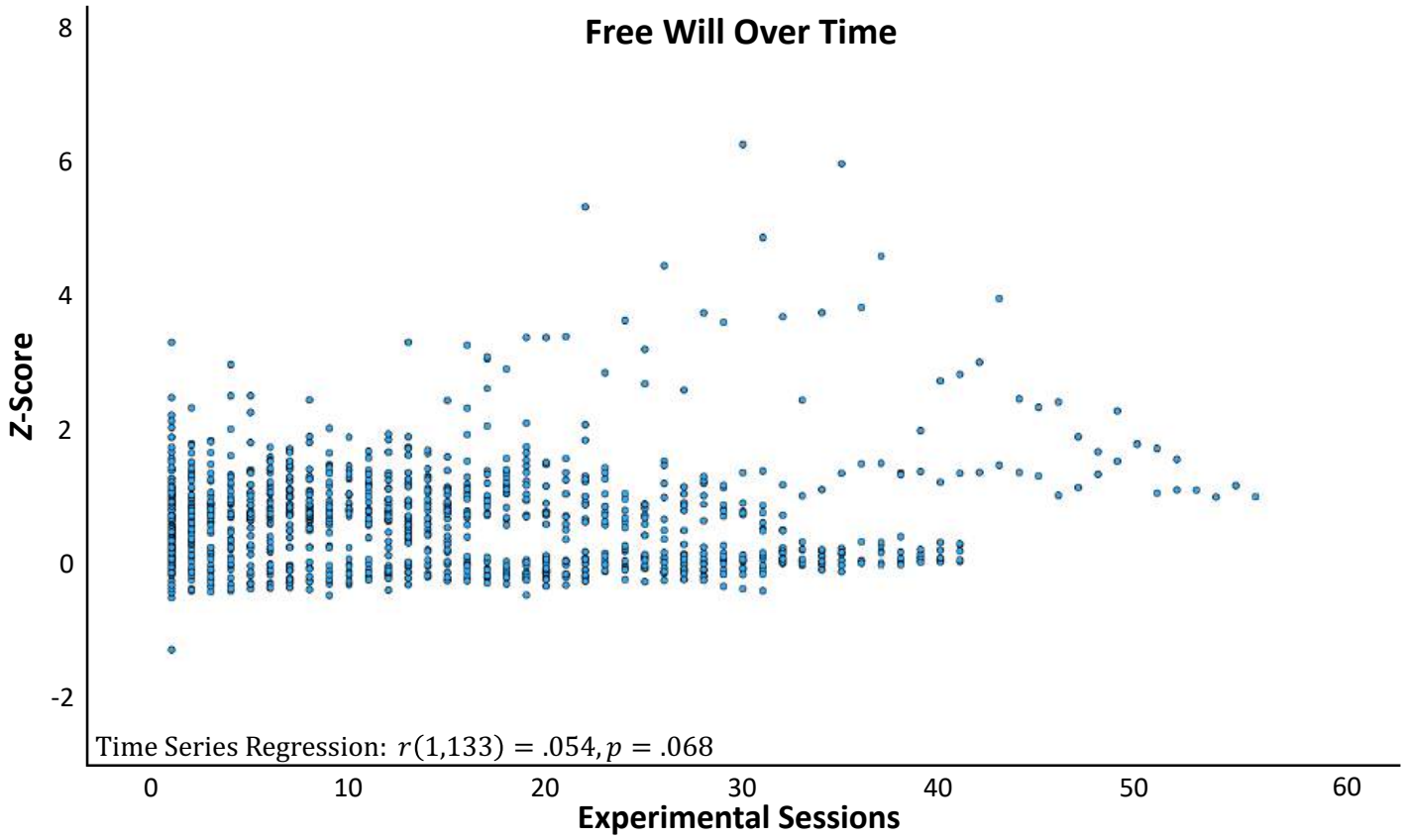
The story becomes even more interesting when we examine how these **two structures behave over time**. Remember, these data come from real animal communities that researchers have been studying for years, allowing us to observe how free will and determinism interact as these social networks evolve. Look at the first figure; **it illustrates the deterministic system in action over time, colored by animal species**.

Notice how it starts and stays relatively consistent? It makes perfect sense. When animals come together, biology takes the wheel—territorial instincts kick in, dominance hierarchies emerge, and basic survival needs drive social organization. **These animal networks work to find the most effective and efficient scaling system organization and then optimize it over time to maintain consistency as they expand their environmental influence**. This process appears to be nearly entirely unconscious; it is as if nature's autopilot is running the show.

Further, what is fascinating is that as time goes on, the deterministic system gradually increases and grows stronger. The statistical trend shows an apparent **increase over time ($\boldsymbol{r = .079,\ p = .008}$).** It is as if the system sets up the initial framework—establishes the basic rules and structures—**and then slowly refines its grip as its social structures evolve through collective, free will decisions and interactions**. When you look at individual species, **some animals lean towards the deterministic system, whereas others lean towards free will.**

The free will tells a different story, as it starts low and stays relatively flat for a long time, then gradually increases as communities mature. The correlation is much weaker ($r = .054, p = .068$), which tells us something important: **free will does not follow a predictable timeline like the deterministic system does**, supporting that the deterministic system is an emergent structure across the free will choices of the agents controlling it and their alignment with each other. In other words, **free will is a trait of all agents, and it remains stable; however, the deterministic system emerges, adapts, and changes** based on the free will decisions of the agents within it.

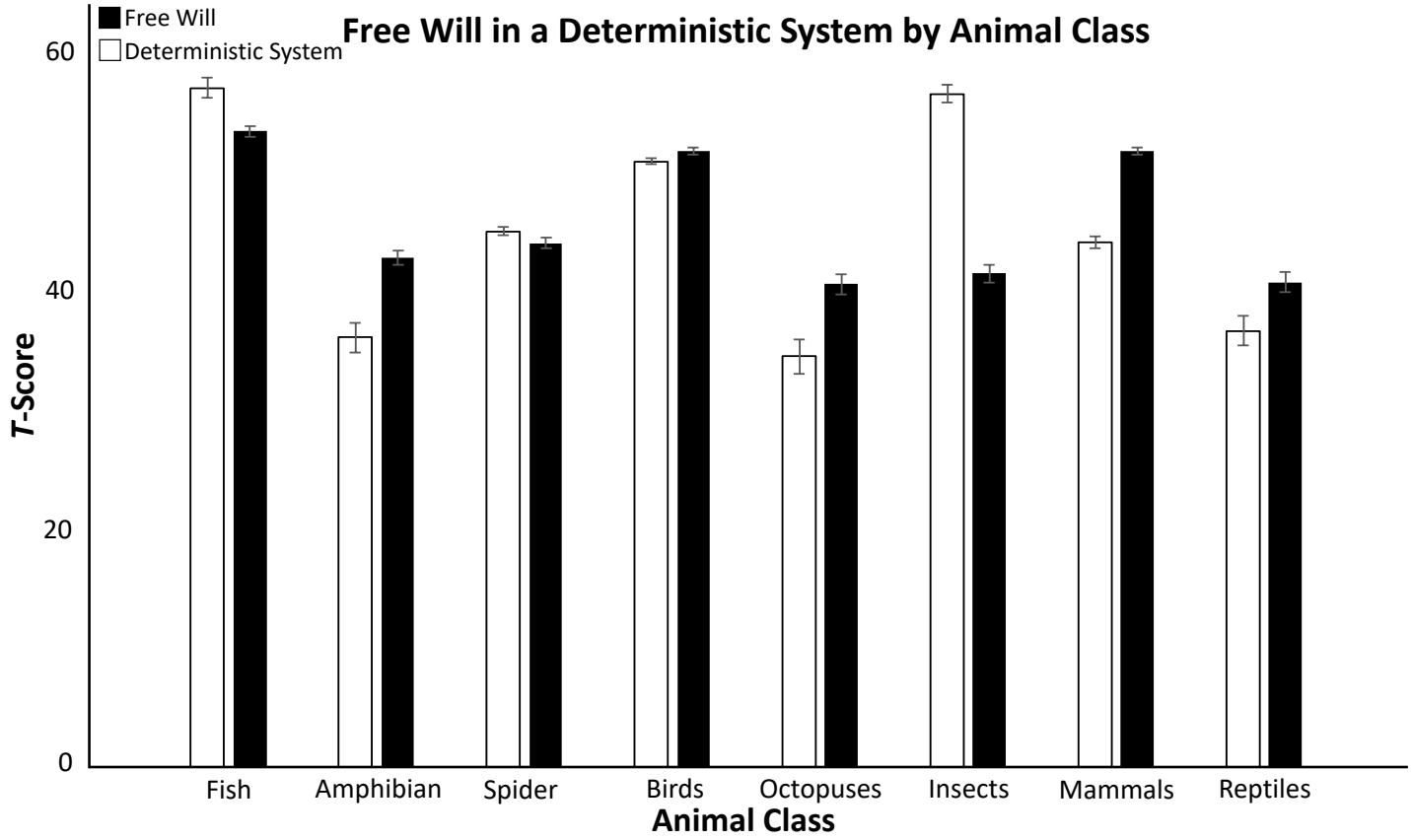

Deterministic System Over Time
Z-Score
2
1
0
-1
-2
-3
Time Series Regression: $r(1,134) = .079, p = .008$
0
10
20
30
40
50
Experimental Sessions


Free Will Over Time
Z-Score
8
6
4
2
0
-2
Time Series Regression: $r(1,133) = .054, p = .068$
0
10
20
30
40
50
60
Experimental Sessions

The Beautiful Dance of Choice & Alignment

What we are seeing is like watching a dance where the music gradually shifts. Determinism provides the strong, driving beat at the beginning, setting the tempo, establishing the basic rhythm that gets everyone moving. However, as the song progresses, individual dancers begin to add their flourishes, making personal choices about how to interpret the music and **creating variations and innovations within the established structure that supports their scaling trajectory and refines that of the deterministic system**. **The agents in the deterministic system do not abandon it in favor of free will, or vice versa**. Instead, they create a dynamic balance where the deterministic system provides stability, and individual agency provides adaptability and complexity.

Early on, when groups establish basic functioning, there is a focus on **delivering the scaffolding of the deterministic system**. Later, when the foundation is solid, there is **more room for refined changes to the deterministic system, given the desires of free will choices of the agents within it**. This temporal pattern explains why the free will vs. determinism debate has persisted for so long—we have been looking at snapshots instead of watching the movie. At any given moment, one component might be more prominent than the other, **leading us to conclude that only one can be "real."** However, when you step back and watch the full story unfold, **you see that both free will and the deterministic system play essential, complementary roles in the grand choreography of life on Earth**. Speaking of which, let's look at the individual preferences of these animals.



The Animal Kingdom Personality Test: A Fight for Free Will

It turns out that **different types of animals show dramatically different balances between free will and the deterministic system**, and the results might surprise you. **Fish and insects are crushing it in the deterministic system**. This finding makes sense because **fish schools and insect colonies are among nature's most impressive collective behavior phenomena,** which they both achieve through their deterministic systems. Yet, fish also show strong free will scores. **Even within those gorgeous, flowing schools, individual fish are making many free will decisions about where to position themselves, when to break away to feed, and how to respond to threats**. The school provides a deterministic system, but each fish still exercises agency within it.

Amphibians show the lowest deterministic system scores but decent free will scores. Think about frogs and salamanders—**they are kind of the ultimate individualists of the animal world**. They do not form complex social hierarchies or live in highly structured groups. Instead, they are more like independent contractors, making it up as they go along with relatively few biological constraints on their social behavior. On the other hand, **mammals—including us—score pretty middle-of-the-road on both measures (around 45 for the deterministic system, 53 for free will)**. We like to think we are the kings and queens of free will, but octopuses beat us slightly! Those eight-armed geniuses are making incredibly creative, individual choices, solving problems in their world.

Spiders show an almost perfect balance between free will and their deterministic system, which makes sense when you think about web-building. There is a strong biological program that determines the basic architecture of the web; still, each spider makes thousands of individual decisions about exactly where to place each strand based on local conditions. On the other hand, **birds are fascinating because they score relatively high on both measures**. Think about murmurations—those incredible aerial dances where thousands of starlings move as one fluid entity. **There is clearly a strong deterministic component** (following simple rules about staying close to neighbors), but also a significant amount of individual decision-making happening in real-time.

One of the most essential ideas to keep in mind when examining free will in a deterministic system is that free will and determinism are both necessary and required, but neither is inherently good or bad. **All animals possess both by default, as they are inherent properties of agency**; however, it ultimately depends on the function of the species and how it optimizes its environmental influence. **See, this figure confirms that there is no "free will species" or "deterministic system species."** Every animal class contains both components.

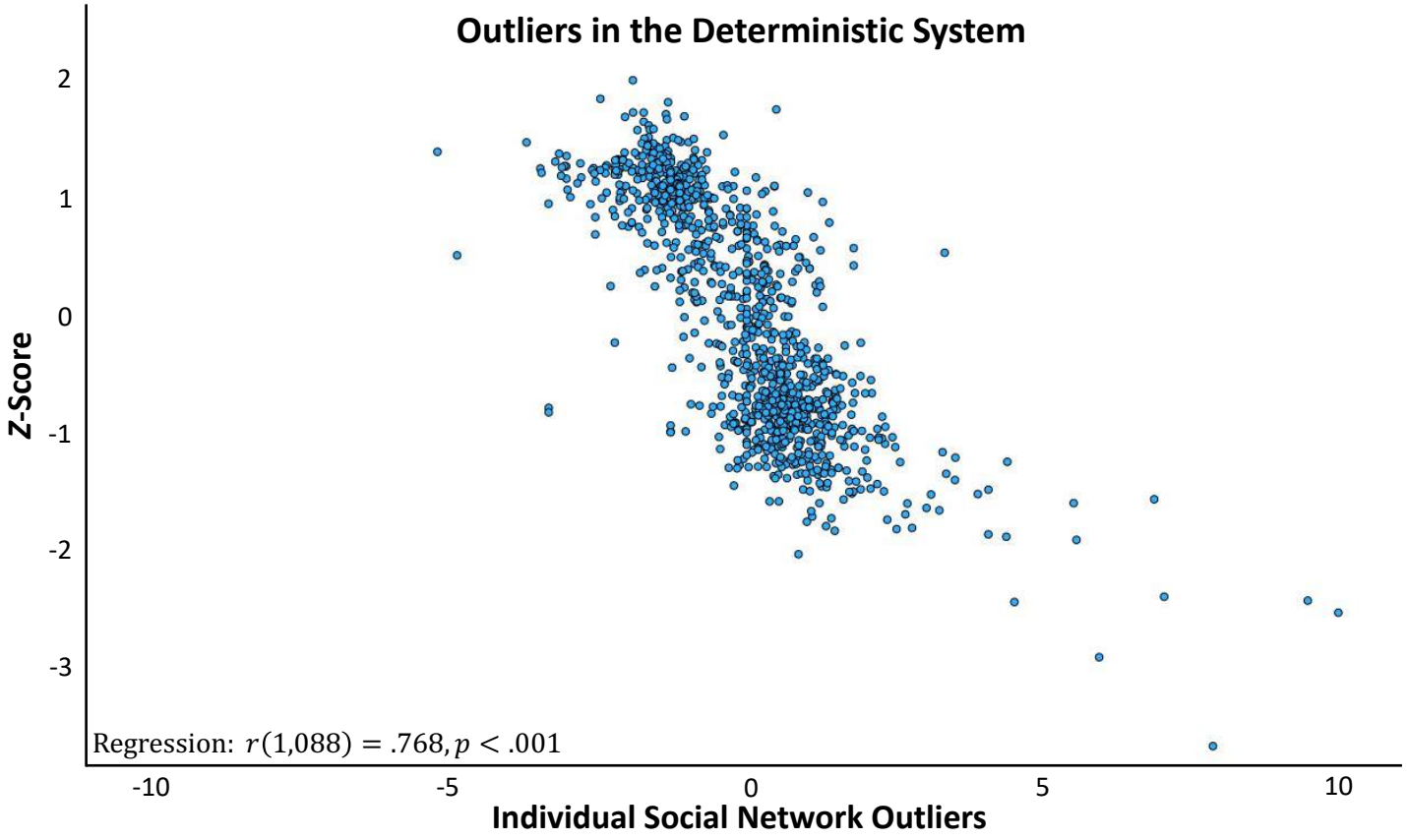
The Rebels & Conformists: What Happens When You Go Against the Grain

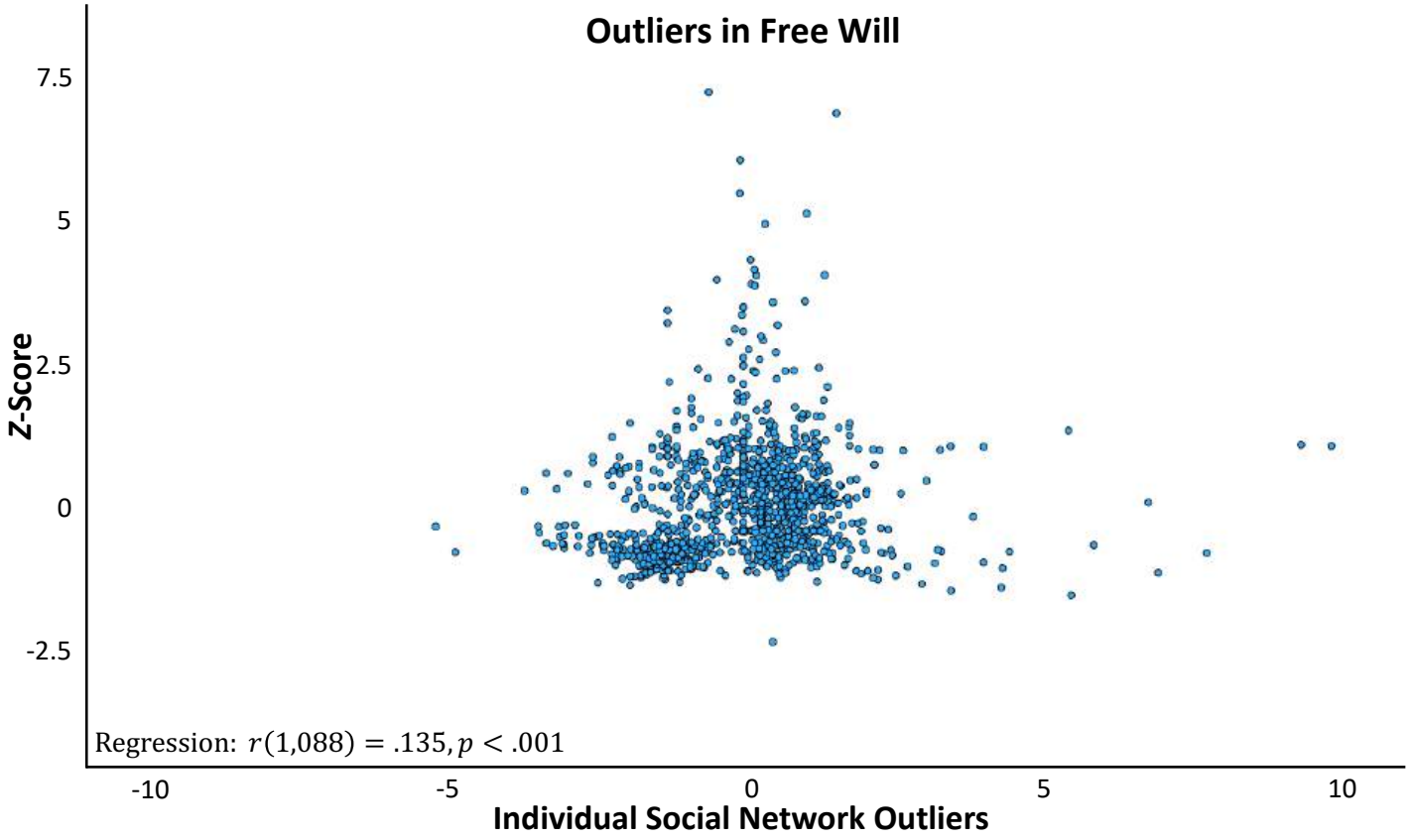
Here's where it gets real juicy. The figures below illustrate what happens to deterministic systems when individuals begin acting like **social outliers—the rebels, the misfits, those who do not fit the typical mold of their group**. I personally cannot relate to these agents because I always play by the rules… right? Anyway, the x-axis measures "Individual Social Network Outliers"— how much an individual's behavior deviates from expectations based on the group's standard patterns. **A *z*-score of zero means you are perfectly average**. Negative scores mean you are more conformist than usual, while positive scores mean you are bucking the trend.

Look at that powerful relationship ($r = .768, p < .001$)—it is one of the strongest correlations in the entire dataset. What this finding tells us is mind-blowing: **the more an individual conforms to typical group behavior, the stronger the deterministic system becomes**. Think about what this finding means in real life. When everyone in a group acts predictably—following established social rules, sticking to familiar patterns, and doing what everyone expects—**the deterministic system gets reinforced and amplified**. It is as if the group collectively creates a stronger gravitational field that stabilizes the agents by pulling everyone toward a standard behavior.

At the same time, look at what happens on the right side of the graph. **As individuals become more unique and more willing to deviate from group norms, the deterministic structure around them weakens**. The outliers—the individuals scoring high on the right—exist in social environments where deterministic systemic pressures are much lower. **This finding does not mean that rebels destroy the deterministic system**. Instead, it reveals something profound: when individuals exercise their free will in creative or unconventional ways, **they create space for more individual free will agency to return from the deterministic system back to the agent**.

Their willingness to be different reduces the pressure of the deterministic system on everyone around them—**free will is contagious**. The left side of the graph reveals what we might call the "conformity trap." When individuals consistently conform to group expectations, they inadvertently reinforce the very structure that limits individual choice. It is not that they are wrong to conform—sometimes it is the wise choice—but their conformity reinforces the deterministic system, **suppressing the free will of other agents and making deterministic structures stronger for everyone**. The **deterministic system is also contagious**.

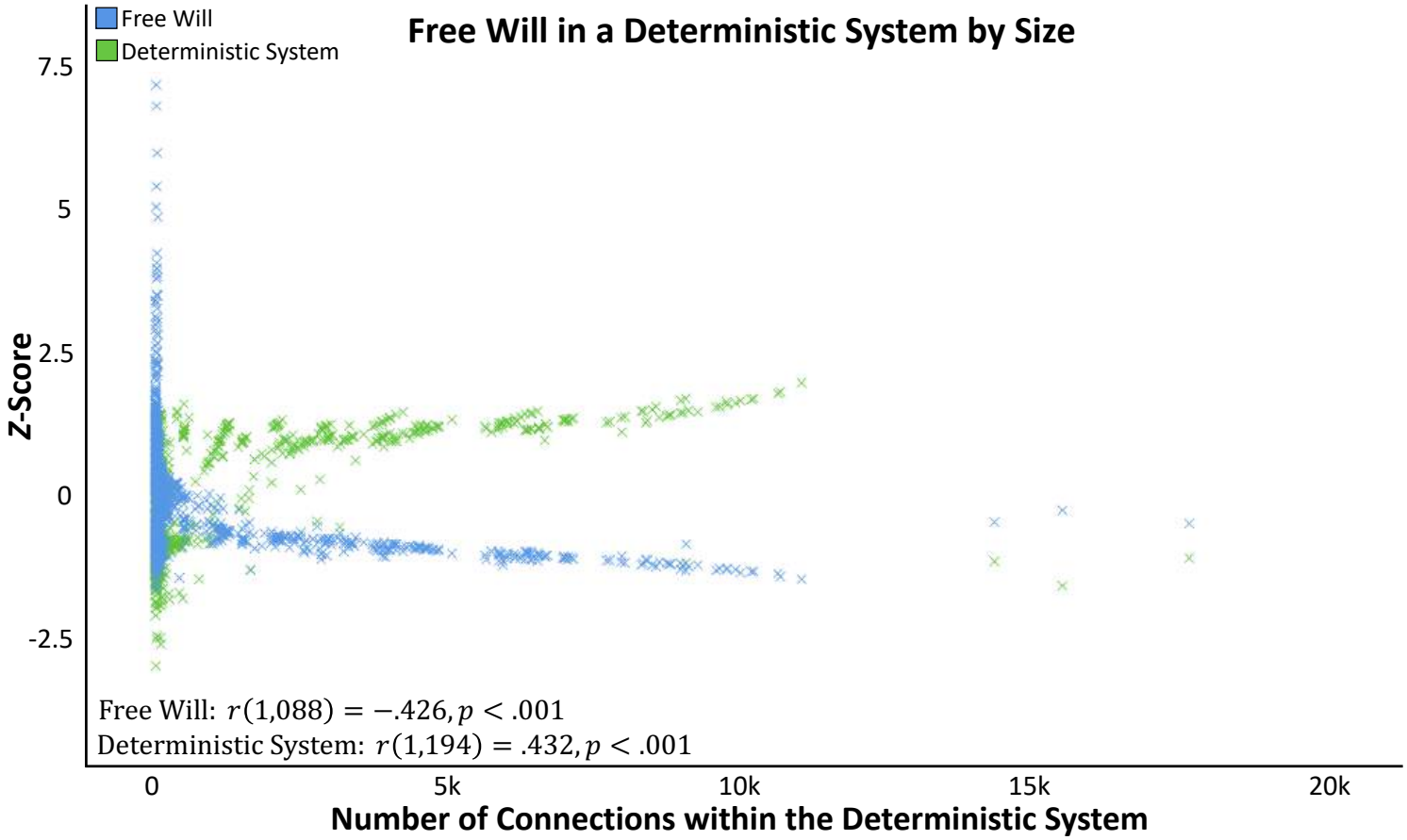

Outliers in the Deterministic System
Z-Score
2
1
0
-1
-2
-3
Regression: $r(1{,}088) = .768, p < .001$
-10
-5
0
5
10
Individual Social Network Outliers


Outliers in Free Will
Z-Score
7.5
5
2.5
0
-2.5
Regression: $r(1{,}088) = .135, p < .001$
-10
-5
0
5
10
Individual Social Network Outliers

The beautiful thing is that both extremes serve essential functions for the system of agents; **free will and the deterministic system are not inherently good or bad**. Strong deterministic systems provide stability, predictability, and social cohesion when groups need to function smoothly, but free will outliers provide innovation, adaptation, and creative solutions when groups need to evolve and respond to new challenges. This figure reveals that free will and the deterministic system are not just coexisting—**they dynamically regulate each other**.

Free will choices directly influence the extent to which the deterministic system constrains the agents within it, while structural constraints determine the available room for free will via individual choices. It is a constant **feedback loop in which personal decisions about conformity or rebellion shape the social organization around you**. Notice how, in this figure, free will does not change significantly, unlike the malleability of the deterministic system, **which confirms that the deterministic system is an emergent property of aligned free will choices**.

It is as if nature has discovered that the sweet spot for survival and thriving is not maximizing either free will or the deterministic system—**it is finding the balance between the two components**. Different species have found different optimal balances, live in various environments, but none have abandoned either free will or the deterministic system; it is not an option. The lesson? Free will and determinism are not enemies—**they are dance partners, each singing their tunes that harmonize to create animals and their social networks across the globe.**



Determinism is the Glue of Systemic Structures

This graph reveals one of the most important discoveries in the entire dataset: **free will and determinism get stronger as systems of agents grow larger; they do it in almost identical ways** ($r = .426$ for the deterministic system and $r = .432$ for free will)—which is pretty remarkable evidence that these features truly are partners, not competitors. On the left side of this figure, where small social networks exist with just a few dozen connections, these groups cluster around the middle, representing a balance between free will and the deterministic system. **There is some structure and individual choice, but neither is strong**. It is like a small friend group with loose social dynamics but not much pressure in either direction. It allows for flexibility while providing support.

However… watch what happens as group size increases: free will and the deterministic system start spreading out more dramatically. **The bigger the social network, the more extreme the scores become in both directions**. Think about it like this: in a small group of 5 friends, there is not much room for complex social structures to emerge, but there is also not much need for individual agency to assert itself. **Everyone kind of knows everyone, informal coordination works fine, and there's not much social complexity to navigate.** However, if you scale that system up to a community of 500 or $5{,}000$, suddenly everything changes. Large groups require a stronger deterministic system to sustain agent scaling, characterized by clear hierarchies, roles, and predictable patterns. **You cannot coordinate a thousand individuals through casual conversation and informal agreements.**

At the same time, **large groups create more *opportunities* for individual agency to matter**. In a small group, there may only be a few social niches available. However, in a large community, there are countless ways to contribute, endless possibilities for specialization, and multiple pathways for individual creativity that nurture free will choices to maximize impact. Thus, the decline in free will we see might not stem from giving up individuals' choices in the deterministic system; **it is that the deterministic system becomes large enough that it creates more opportunities for people to find their niche.** When people find their path to their destiny, they do not need to make as many choices because the deterministic system naturally stabilizes that trajectory.

What we are seeing is that **scale amplifies the deterministic system, which allows for well-organized pathways to thriving and growth**. It is not that large groups become either more deterministic OR less free—they become more efficient and effective. They **employ more elaborate and powerful opportunities for individual expression** to become more diverse and meaningful. These finding sheds considerable light on human societies. Small tribes can function with relatively informal social structures and limited role differentiation. However, cities and nations require complex institutions, laws, and social systems (deterministic features) while simultaneously creating unprecedented opportunities for individual creativity, entrepreneurship, and personal choice (free will).

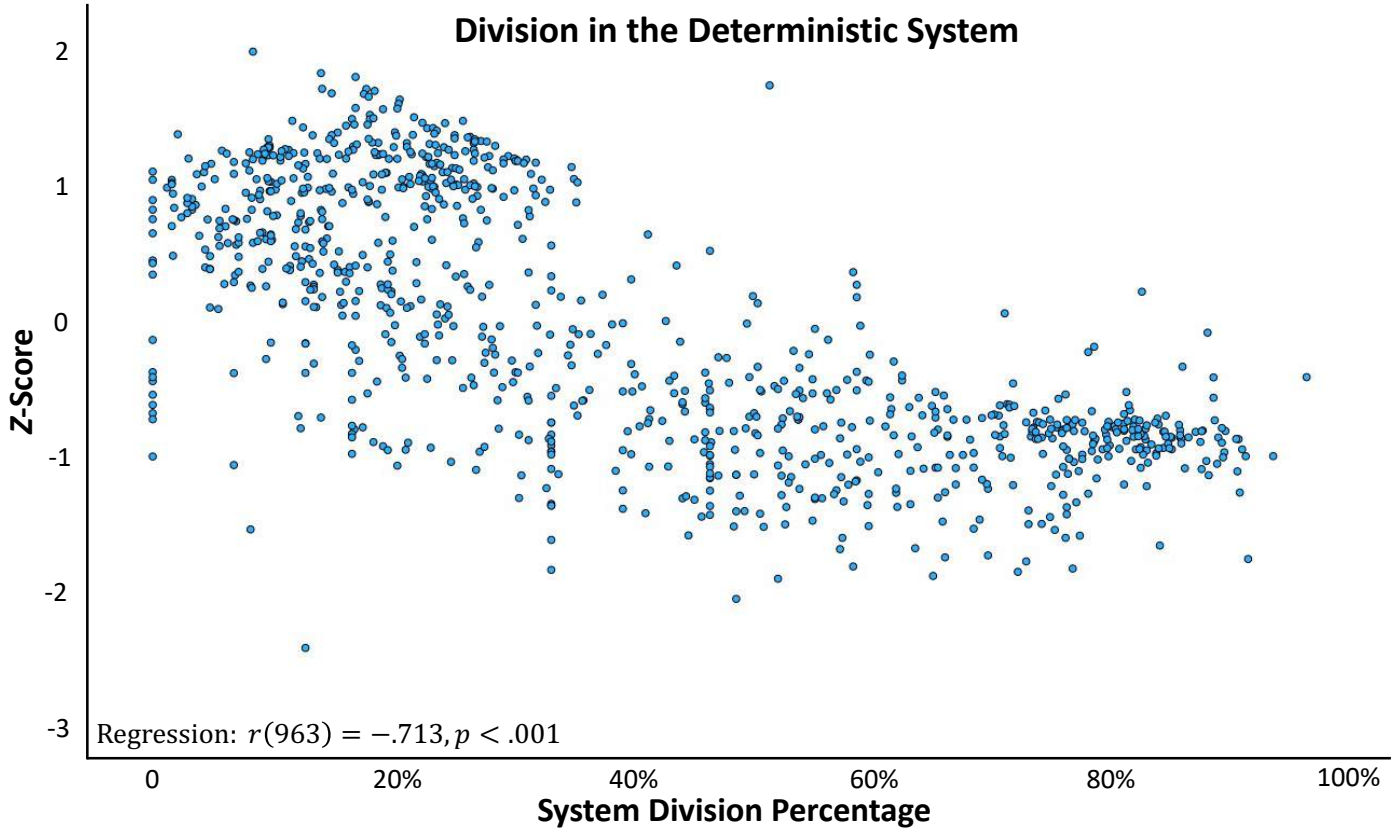
Notice that the strongest correlations happen in that middle range—groups large enough to need real structure but not so massive that they become unwieldy, **which might explain why we have geographical divisions like countries, cities, and provinces**. So, what is the takeaway? **If you want to maximize your freedom and effectiveness, you should avoid small groups and massive, impersonal systems.** You want a sweet spot where there is enough structure to amplify your impact and create opportunities for your unique contributions to matter.

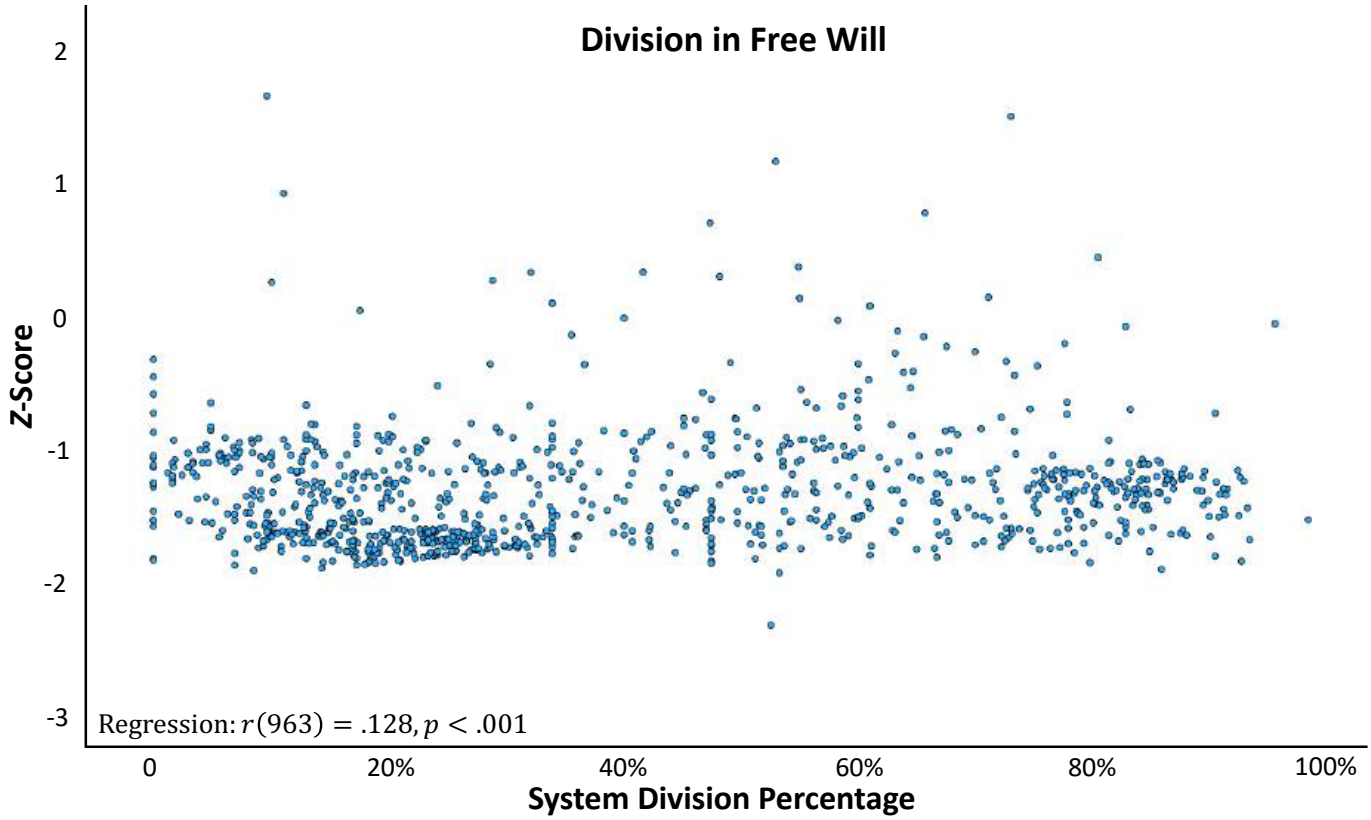
The Great Division: Why Unity Kills Determinism but Barely Touches Free Will

These two figures reveal something profound about how social division affects free will and the deterministic system. The results tell **a story that could reshape our understanding of community, politics, and human nature**. The first figure shows one of the strongest relationships in the entire dataset (r =-. $713, p < .001$). When social groups are highly unified with no clear subgroups or factions, **the deterministic system is at its peak**. Yet, watch what happens as groups become more divided: **the deterministic systems plummet dramatically**.

This finding makes intuitive sense. When everyone is part of one big, happy family, **there is enormous pressure to conform to the group**. The social organization is simple and effective—everyone knows the rules, everyone follows them, and the deterministic system runs smoothly in its purest form. However, as soon as competing subgroups, loyalties, and visions of how things should work emerge, **the deterministic system begins to break down**. Different factions develop different norms. The "one right way" to do things suddenly becomes multiple "right ways." **Social physics becomes messy, contradictory, and less predictable.**

Now look at the second figure—free will and division. There is still a relationship ($r = .128, p < .001$), but it is dramatically weaker. **Free will does not care nearly as much about whether the group is unified or divided.** This finding is fascinating because it suggests that individual agency—your ability to make meaningful personal choices through free will—**operates relatively independently of social divisions**. **Whether your community is harmoniously united or split into warring factions, you still have roughly the same capacity for free will**.

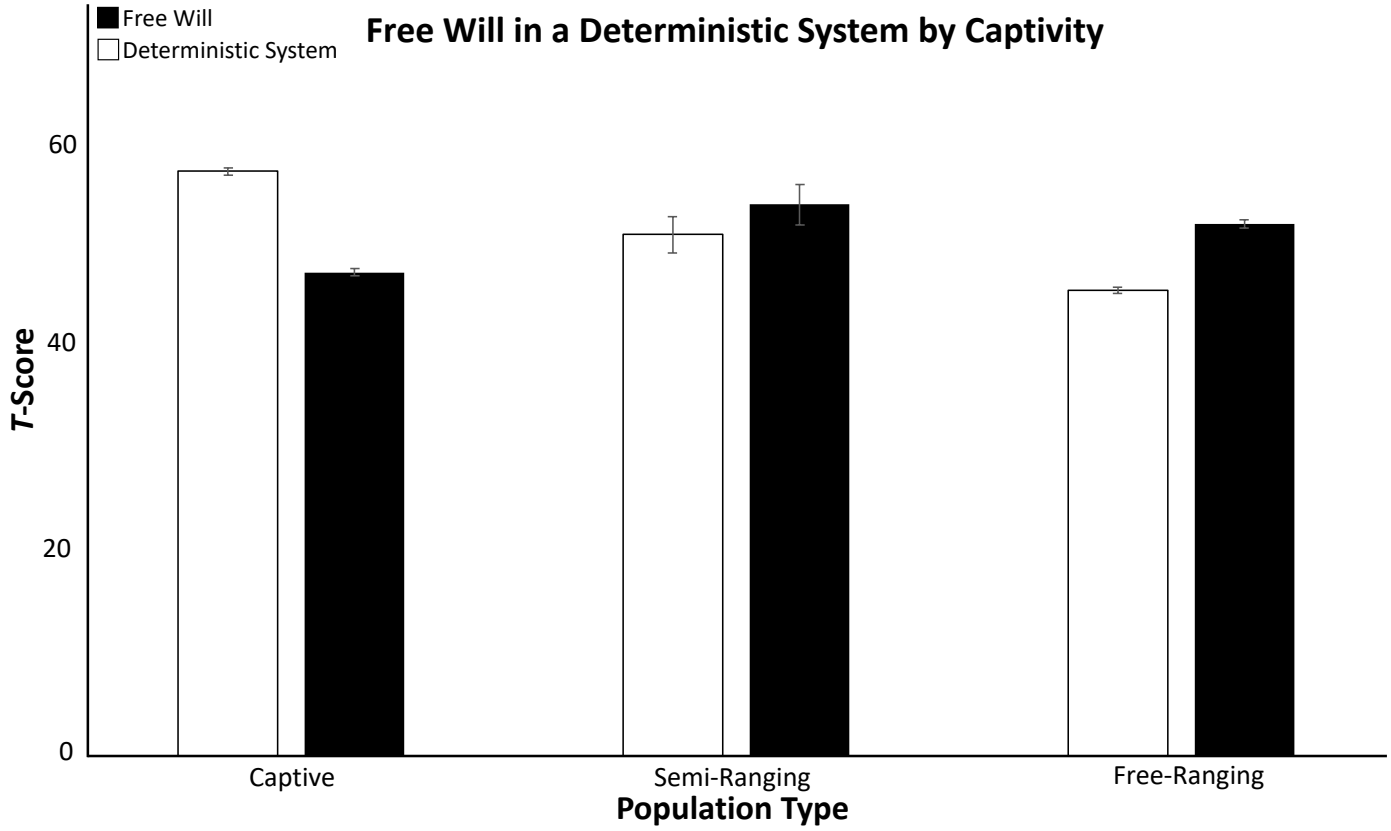

Division in the Deterministic System
Z-Score
2
1
0
-1
-2
-3
Regression: $r(963) = -.713, p < .001$
0
20%
40%
60%
80%
100%
System Division Percentage


Division in Free Will
Z-Score
2
1
0
-1
-2
-3
Regression: $r(963) = .128, p < .001$
0
20%
40%
60%
80%
100%
System Division Percentage

In this figure, you can see that **social unity and individual freedom exist with each other**. **The most harmonious, unified communities also have the strongest deterministic system**—the places where individual choice matters least and social pressure issues most. **Conversely, divided communities**—places with competing subgroups or cultural tensions—preserve more space for free will decisions. **When there is no single dominant social framework, individuals have room to navigate between competing options and craft their own path.**

These data help explain why diverse, pluralistic societies often feel chaotic but produce incredible innovation and individual achievement, while highly unified societies feel stable but can become stagnant. **It is not a bug—it is a feature**. Division creates choice, even as it reduces predictability. **The optimal balance might not be maximum unity after all.** Instead, it might be finding that sweet spot where there is enough division to preserve individual freedom, but not so much that the system becomes dysfunctional. **Some tension between subgroups might be healthy for maintaining space for personal choice and individual expression.** To maximize free will, **you should strive to avoid the most harmonious and unified community**. Instead, you might want to find a place with a healthy diversity of thought, competing perspectives, and multiple social pathways to success.

If you are trying to build institutions or communities, these data suggest you face a fundamental tradeoff: **you can optimize for smooth functioning and predictable outcomes** (high unity, strong deterministic system), **or you can optimize for individual creativity and personal agency** (more division, more free will). But you cannot appear to maximize both simultaneously, **and that is okay**. The ancient philosophical debate between free will and determinism might have been missing the point. The real question is not which phenomenon is stronger, but **which social conditions amplify or diminish them, and what kind of communities are we trying to create?**



When Animals Join the Human Deterministic System

These final findings have **the most profound implications**. What we are examining in the figure is how **the captivity of animals**—the act of bringing them into human-controlled environments—**affects their free will and the deterministic systems**. I wanted to determine whether deterministic systems are agent-specific or if agents across species form shared deterministic systems. I used three captivity categories, which are:

◊ **Captive Animals**: Zoos, Laboratories, & Controlled Environments
◊ **Semi-Ranging Animals**: Farms, Preservations, & Managed Populations
◊ **Free-Ranging Animals**: Natural Habitats

If we start with free will, we see it is lowest when animals are in captivity compared to semi-ranging, $p = .007$, and free-ranging, $p < .001$. However, there were no differences in free will between the semi- and free-ranging animals, $n.s.$. The implication is that **complete captivity reduces the free will of the animals ever so slightly**; however, if they are allowed any freedom, their free will remains intact and consistent. Remember that **free will remains unaffected by deterministic systems and environmental factors**. It is always held nearly constant within and between animals, **unless they relinquish some of it to align with the deterministic system**; however, choosing to give up free will is still a form of free will. 😉 We see that **the captivity variable explains only $\mathbf{5.51\%}$ of the variability in the free will** of the animals, indicating they chose to forfeit a small portion of their free will to enter the human deterministic system, while **not altering their ability to act freely and independently.**

The real bombshell emerges when we examine the deterministic system scores across captivity. We can observe **an evident linear decline across the animals as they transition from human captivity to the wild**. The scores are higher for captivity than semi-ranging, $p = .003$, and the same pattern occurs from semi-ranging to free ranging, $p = .011$. The most significant difference arises from **the deterministic system** in **captive animals** compared to **free-ranging animals, $\boldsymbol{p < .001}$**, where we observe **the contributions of the human deterministic system to the animals' baseline deterministic system in nature**. The deterministic systems stack on each other.

When the animal withdraws from the human deterministic system entirely, **it retains its own deterministic system**, which is why **its scores never drop to zero**. **We observe animals synchronizing and desynchronizing** their free will and deterministic systems with human deterministic systems all the time. **The captivity variable explains a substantial $\mathbf{31.30\%}$ of the variability in the deterministic system of the animals**, indicating that the contributions of the captive animals to the human deterministic systems are observable and substantial. We observe it across species, free will remains consistent, while deterministic systems emerge and flow.

These findings are unmistakable: when we bring animals into captivity, they relinquish a small portion of their free will to enter and contribute to the human deterministic system. **These captive animals begin to operate within human social structures, hierarchies, rules, and controlled environments.** They aligned their sleep, eating, sex, and emotions with the consistent interactions they had with their humans. **Cats and dogs are excellent examples** of this process of joining and aligning with the human deterministic system. They know when the food is coming, when the humans are coming, and when to sleep. **They figure out how to use the human deterministic system** when they do those cute things to get their way? **They do not engage in those human-deterministic-system-contributing behaviors when they are free-ranging**. It is an alteration in free will to align with the human deterministic system, and this process unfolds identically across all agents and environments.

Yet, we cannot ignore that **humans cannot communicate directly with animals**, nor can animals communicate with each other. There is no shared medium across vast agents and environments that allows for intentional planning and organizing, meaning **planning and communication are unnecessary to form deterministic systems**. What it means, then… is that 1) the deterministic system forms **outside of conscious awareness and intentionality**, and 2) **the deterministic system is a feature built into agency**, not something agents create or earn through adaptation. These findings confirm that **the deterministic system is agent- and environment-invariant**. It further provides the most critical reframing of various deterministic systems—societies, countries, ecosystems, and habitats—**agents do not create them directly, nor are they capable of fully controlling them.**

We Do Not Control or Own the Deterministic System

The only requirement of a naturally emergent deterministic system is the **proximity and synchronization** of agents. Whenever **two or more agents synchronize their behaviors**, a deterministic system emerges,

accounting for such systems in all forms of life. You will see later in *The Show* how meaningful harmonic interactions are to phenomena across existence. Here, we see that **the agents serve as instruments**, harmonizing **to form the deterministic system**. It operates identically to music and harmonies.

To form or enter a deterministic system, the tradeoff is universal and straightforward: **a slight reduction in free will in exchange**. However, **it is not like a toll booth**, because even our decisions to modify our free will and deterministic system contributions function outside of our awareness. When we contribute to the human deterministic system in any way, **the deterministic system reaches out to reduce some of our free will without us having to think about it or notice it, often through social norms** such as social conformity, social connectedness, prosocial behaviors, and obedience to authority, for example. The deterministic system has **no central command**, it requires **no conscious awareness or intention**, and **communicative coordination is unnecessary**.

Now… here is the most profound revelation in the whole paper. **Not only did we not create** societies, countries, ecosystems, habitats, and cities directly—**they emerged naturally** once we gathered close enough to each other for it to emerge. Now, **we are simply riding** in **these emergent deterministic system**s, which **is why free will is orthogonal to the deterministic system—**they are distinct, independent, co-defined phenomena. **The deterministic system exists physically** and emerges from the synchronizations of agents and environments, but **at no point did we create it or control it**. It popped up, we said, "Huh… yeah, looks good," stepped inside it, and went on living our lives without noticing. Once formed, the deterministic system behaves independently, **quietly shaping the pathways of agents**, constraining possibilities, synchronizing timing, energy, density, and affective rhythms—producing outcomes that feel orchestrated, but are merely **the deterministic system at work.**

So… What is the Deterministic System?

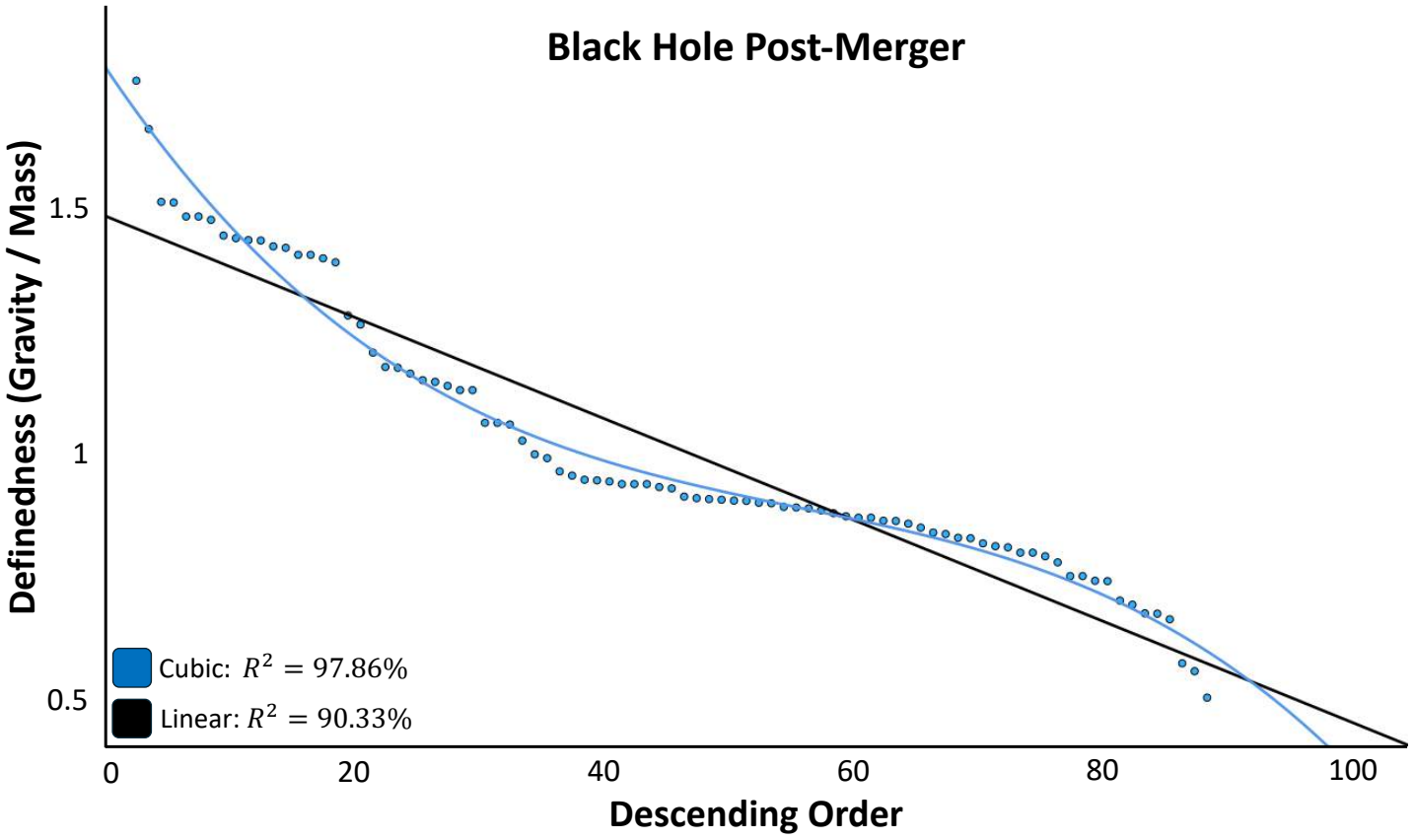
Given that agents do not appear to be in control of or have created the deterministic system, the question then becomes… **what even is it? Why does it form?** The answer is so profound it is hard to understate. Later in *The Show of Existence*, I will introduce and expand on the **central equation in *The Theory of Existence* called *The Equation of Existence***, which is the universal relationship governing everything that has existed, currently exists, and can exist. *The Equation* is a simple ratio and contains just three principles that describe how existence behaves–**definedness, stability, and complexity**. Let me give you a small taste of what this equation can do.

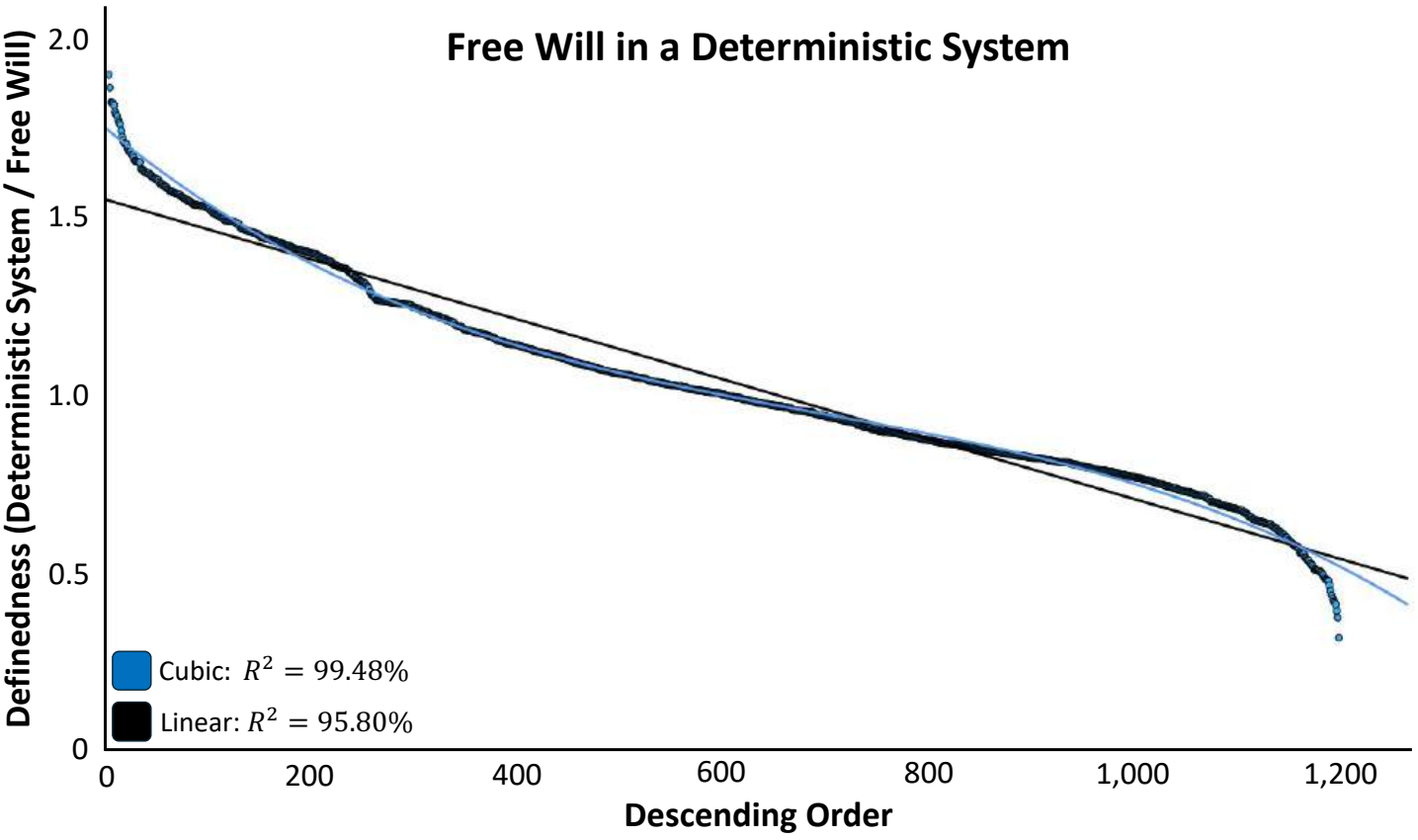
$$\Phi = \frac{\Omega}{\Delta} \rightarrow \text{Definedness} = \frac{\text{Stability}}{\text{Complexity}}$$

First, let me introduce these principles. **Complexity is the degree to which a phenomenon escalates from simple to structured forms**, driving variation, diversity, and growth. **Stability provides the foundational form that ensures phenomena persist**—its definition is the degree to which complexity is attracted to complexity. **Definedness, then, is the degree to which something exists**. Instead of something existing or not existing, definedness occurs along a spectrum and some phenomena exist more than others depending on their progression throughout existence. Definedness is the unifying principle that maintains the proportional balance between stability and complexity, **determining whether phenomena emerge, converge, or diverge** into non-existence**.**

When we look around the cosmos, we see **phenomena with mass** rocks, planets, and stars form because **gravity pulls them into each other**. The degree of gravity of these celestial bodies comes from its mass. We take this fact at face value, right? It is something that is obvious to us. **Mass is complexity**, which is the amount of matter and energy in that body. **Gravity is stability**, as the pull that body generates from its mass. However, *The Equation* does not just govern the cosmos… **it governs everything**. So... if gravity (Ω) forms the planets and stars (Δ), what forms society and social systems? Let's look at what *The Equation of Existence* would say…

$$\Phi = \frac{\Omega}{\Delta} \rightarrow = \frac{\text{Gravity}}{\text{Mass}} \rightarrow \frac{\text{Deterministic System}}{\text{Free Will (Agency)}}$$


Black Hole Post-Merger
Definedness (Gravity / Mass)
1.5
1
0.5
Cubic: $R^2 = 97.86\%$
Linear: $R^2 = 90.33\%$
0
20
40
60
80
100
Descending Order


Free Will in a Deterministic System
Definedness (Deterministic System / Free Will)
2.0
1.5
1.0
0.5
0
Cubic: $R^2 = 99.48\%$
Linear: $R^2 = 95.80\%$
0
200
400
600
800
1,000
1,200
Descending Order

Yes… there is the shocking truth about the deterministic system. Once agency emerges, **gravity shifts into the deterministic system to allow societies to form and organize.** It is not that the deterministic system is gravity, it is that **they are both forms of stability with different functions**, whether it is the environment forming planets or agents forming society. In the figures you **can see an empirical confirmation of *The Equation***. In the top, I used the post-merger **mass and gravity** values for **90 black holes** from the **LIGO observatory**. In the bottom, I used the **deterministic system and free will** variables generated from the **Animal Social Network Repository**.

I will expand on this method for calculating *The Equation* later in *The Show*, but it is very simple: 1) turn the raw variables in *t*-scores to standardize them, 2) calculate definedness using *The Equation*, 3) order them from largest to smallest, 4) run the regressions and watch the cubic signature of existence emerge. You will soon see in *The Show of Existence* that I use this method quite often, and **this cubic curve is the hallmark of existence**, showing up everywhere we look because it is how existence operates. It does not come from my method either, as ***The Equation* is not a cubic equation, it is linear**. Anyway, let me not get too ahead of myself…

When we look at the findings above, a shocking truth emerges from this empirical confirmation of *The Equation of Existence*: **gravity forms planets from mass… and the deterministic system forms societies from agents with free will**. The same pull that we feel from Earth's gravity is the same pull we feel to conform in society's norms and traditions; **they are both stability** and determined **by the degree of complexity** (mass or number of agents). Existence operates as a smooth continuum governed by this single, universal principle from the smallest scales to the largest ones, from the cosmic phenomena of space to the societies we form—**it is all… one in the same.**

The Big Picture

Folks… **the deterministic system shows that life is an inherent property of existence**. The deterministic system does not exist in life; it is not life, but it forms around it, like gravity around planets. Yet, if there is no life, then there is no deterministic system, just like if there is no mass, there is no gravity. The **deterministic system is an inherent property of existence**. Seeing the deterministic system is one of the most beautiful truths we have seen in *The Show of Existence*. **It shows just how much is happening within existence** to keep everything running so smoothly. Across the universe, gravity turns stars into elements, elements into planets, and then planets into life. When life emerges, **existence** shifts gravity into the deterministic system, **stepping in and to wrap its protective, structural arms around that life** to ensure it thrives and grows long enough **to eventually see existence the way existence has always seen life.** We are not an anomaly nor are we separate from the universe.

For over two thousand years, humanity's greatest minds have stalled in a debate built on a false premise. We kept asking, "Do we have free will, OR are we controlled by determinism?" when we should have been asking, **"How does free will exist within a deterministic system?"** Think about it like this: you are riding on a cosmic escalator that is constantly moving, and it is running around you, me, and all the other living agents on Earth. **That escalator is the deterministic system**—the structure of biology, environment, and circumstance carrying you forward, with some life paths that are easier than others, some fit your traits and abilities than others, some are rewarding in the system than others, and all depend on phenomena outside your control. At the same time, **just because you are on an escalator does not mean you are paralyzed**. You can still walk around, dance, help someone, start a conversation, or be a jerk, which **is a matter of your free will, and it is entirely authentic.**

These findings significantly alter how many people perceive life and the way societies form. My only advice, if I may provide some, is to stop trying to choose between "going with the flow" and "being your own person." **You already do both to varying degrees, and that is how it works for everyone**. Work with the deterministic system that supports you while allowing you to make your own unique choices within it; **it helps all of us out when you do so**. Finally, your destiny is not predetermined—it is about taking the hand you have been dealt and playing it as well as possible… and **remember, dear reader, it is never too late for you to find your path to your destiny; it already exists, and when you find it, all you have to do is look forward and keep going.**



Act III: Answering the Origin

June 26th, 2025, Update; 1:36 AM,
Staring at My Ceiling, Seeing the Universe Instead

Heeyyyy peeps, how've ya been? I just want to drop by to tell you what's been happening behind the scenes. I'll be completely honest with you, **Paper 2: Introducing Undefinedness: That Is, If Undefinedness Was Something That Could Be Introduced—But It's Not** caught my attention and would just not let it go. So, here she is 🎉 I'll be back soon, I just need to go run a few models and update a few equations…

Introducing Undefinedness

That Is, If Undefinedness Was Something That Could Be Introduced—But It's Not

Written by Bryant Stone (*The Architect*)

Overview

Why does something exist rather than nothing? What happened before the Big Bang? How did something come from nothing? **These questions are the oldest** and **most profound questions in human history**. Despite millennia of inquiry, countless theories, and generations of brilliant scientists, philosophers, and curious minds, **the answers remain frustratingly elusive**. Systems have told us that these questions might not have satisfying answers—that we'll die not knowing how or why it all began… until today. Let me introduce a **revolutionary concept called *undefinedness***, which resolves these ancient puzzles by removing **a flawed assumption: that something comes from nothing**. Undefinedness is not a place, not a void, not potential, not nothing—it is not even undefinedness. **It simply isn't**. Using an innovative letter lattice experimental paradigm, I manipulated starting conditions and measured spontaneous word emergence across hundreds of iterative trials. I tested three conditions by varying the constraints on how words could emerge: 1) an **Undefinedness Condition**, 2) a **Nothing Condition**, and 3) an **Infinity Condition**. The findings are earth-shattering, and the implications are staggering. The Undefinedness Condition outperformed the other conditions in **word variety** emergence, **efficiency** of resolution, and **effectiveness** of repeated successes. Most importantly, the **Undefinedness Condition was the only one that produced** both 1) a **near-perfect normal distribution** in lattice sizes at word emergence and 2) a **near-perfect exponential growth curve** in entropy (chaos) across trials. These two mathematical signatures are **the hallmarks of existence**—they appear everywhere we look in the universe… and now they are whispering a profound truth to us about the origins of everything… **can you hear them?**

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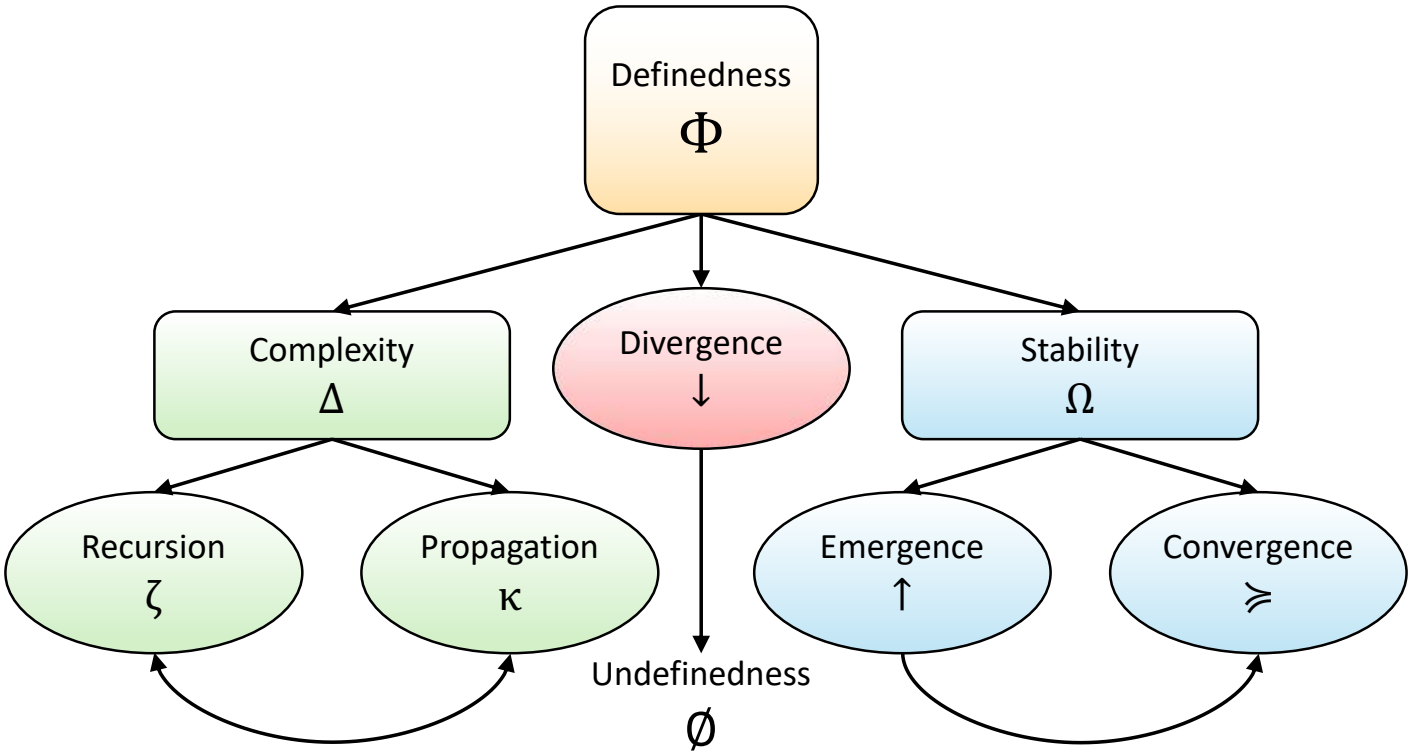
Background & Findings

Sunday, June 1st at 1:36 AM, In My Bed, Wide Awake: Hey, uh… soooo… I wanted to try something fun for this topic, so I am writing to you on my phone in my bed**, staring at my ceiling… but… seeing the universe instead**. In my mind, I see a fractal cosmos… beautiful nebula, suns dancing into supernovas, and an expanse so vast it could make you cry just by seeing it all. **I think about all the beauty in existence**. It's something I care about, and **something you do too, right?** I mean… otherwise you wouldn't be reading this paper.

So... when we lie awake at night, when we think about it all and what it means in our minds, **there's something we never really do**—none of us, really. We can imagine seeing the whole world and the universe; our minds let us **picture worlds unimagined** until the moment we see them, even ones that have never existed and could never exist. Yet what we don't do is picture what does not exist... right? **How do we imagine what does not exist?** Try it right now and tell me... what do you see? Is it a vast blank canvas? A dark void with infinite potential? Empty space? It's so hard to do, isn't it? Let me take a moment to help you figure out **exactly what non-existence looks like** and how we know it looks that way. I mean... it's not like I'll be sleeping anytime soon anyway.

If you have not read *The Theory of Existence*, I encourage you to read the full model at the start of the book. In *The Theory,* I reframed **existence as a concept called *definedness***, which exists on a continuum depending on the complexity of any given phenomenon. Everything that exists has definedness—you, me, grapes, stars, even music, social structures, and cultural trends—they all have **measurable, detectable definedness**. The question then becomes... does non-existence also have definedness?

The answer to that question is... no, non-existence does not have definedness. **We cannot see, measure, or detect something that does not exist**. I call this concept **undefinedness**, which is the absolute lack of definedness (i.e., existence). You might be thinking then... **what is undefinedness?** How do I picture undefinedness? These questions are great and natural extensions to the definedness-undefinedness divide. Still, they are also **inherently flawed** because undefinedness is not something that exists. **You cannot visualize or even understand undefinedness** because, in trying to do so, you **immediately violate its premise of non-existence**.



Caption: This diagram shows the fundamental first-principles of existence as presented in *The Theory of Existence*, illustrating how definedness, stability, and complexity interact to shape all phenomena. Definedness is the unifying principle that maintains proportionality and ensures that complexity and stability interact harmoniously rather than divergence. Stability is the foundational structure that ensures the persistence of phenomena across existence, from the subatomic to cosmic superstructures, providing the necessary framework for phenomena. Complexity, in contrast, drives the diversification, growth, and interaction of phenomena, building upon stable foundations to generate emergent structures. We capture this dynamic in *The Equation of Existence in The Theory of Existence*. At the bottom of the figure we see the two axes of the process of existence, which are 1) recursive propagations as the engine and 2) emergence-to-convergence (E2C) as the direction. This balance and these processes underpin the self-organizing nature of the universe, enabling physical structures from galaxies and planetary systems to biological evolution, intelligence, and consciousness. This model is the only one you need to explain everything that has and can exist.

Think of it like this: when you look at a chair, you can measure its height, weight, and color—that is definedness. When you look at an empty spot where a chair could be, you can still measure the space, the air, the potential—because "empty space" is still something. **But undefinedness is not the absence of a chair. It is not even an empty space where a chair could exist. It is not anything at all.** If it makes you spiral a bit, it means you are understanding it—welcome ☺ isn't it horrifying? It is existentially uncomfortable to think about undefinedness because it is not a void, it's not a place, and it's not infinite potential. **It is also not nothing** because even nothing has definedness. For **nothing to exist, it requires a location where something could exist but does not**, which means **nothing has definedness**... even empty space has definedness. **Undefinedness is not even undefined-**

ness, because if undefinedness were undefinedness, then it would have definedness. The best way to understand undefinedness is to **stop trying to understand it and just say... it simply isn't**.

It's uncomfortable to think about, isn't it? The idea that there is something more nonexistent than nothing is existentially uncomfortable to even consider because of the way our brains work. **Our brains are high-powered categorization, classification, and organization machines**. We have learned that nothing exists; we can picture it in our minds. For me, when I think about nothing or non-existence, I see a black void, but if I can see a black void, it means black voids have definedness. As uncomfortable as it is, **you should not try to understand or picture undefinedness** because undefinedness does not exist**; it simply isn't.**

If it helps you grasp how this concept works, you can think about it **as the opposite of definedness or existence**. However, there is no opposite of definedness—**undefinedness has no opposite** because it simply isn't. Undefinedness as a concept, which is what I am using here, **is not the same as undefinedness outside of our minds** because **there is no undefinedness outside of our minds** because undefinedness simply isn't. Then, consider the word "undefinedness" as **a conceptual Band-Aid** for our innate desire to categorize and understand things. We need this conceptual Band-Aid because **without it, we get stuck** trying to figure out what existed before the Big Bang, for example. Dear reader, **not even nothing existed before the Big Bang** because there was no "before," there was no void, no potential, and no undefinedness; it simply wasn't. See how it works? Let me show you how to use the conceptual Band-Aid we call undefinedness. I actually find it very fun.

◊ **Rule 1:** You **never refer to undefinedness** by flipping your language around it. Instead of saying "before the Big Bang, there was undefinedness," you would say "before the Big Bang, there was no definedness." You will notice that I rarely refer to undefinedness throughout *The Theory* because **you do not need undefinedness** to describe and understand existence.

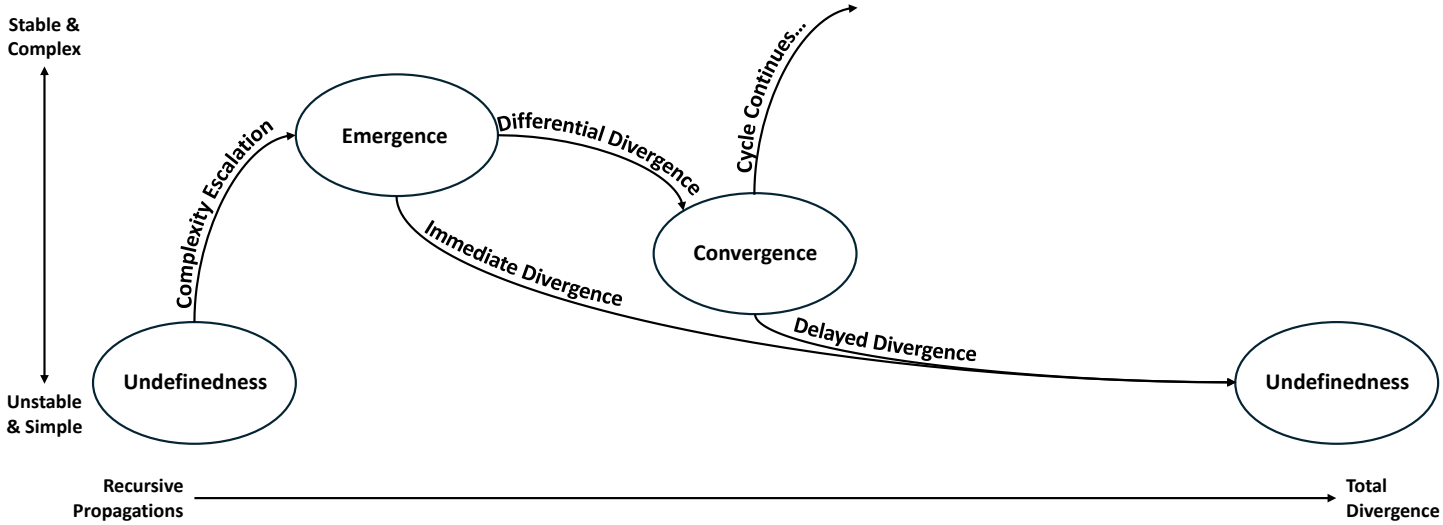
◊ **Rule 2:** If you must say something about undefinedness because it helps you articulate an idea or thought, **you must immediately disqualify it**. For example, if I say "undefinedness is such a cool idea, Bryant—wow, you really nailed that one, good job, amazing work" (for example, just as an example, just off the top of my head—you could say anything really), you would then say "**that is, if undefinedness could be a cool idea, but it's not; it simply isn't**." and then I go cry myself to sleep.

◊ **Rule 3:** Instead of referring to undefinedness, **just refer to it as a concept**, not something that exists. You could say "the concept of undefinedness" to separate it from the idea that the word "undefinedness" represents something because it does not. **Undefinedness has no definition**, and it does not exist. The concept of undefinedness is what we are talking about today. For example, instead of saying "undefinedness suggests..." you would say "the concept of undefinedness suggests..." Wordy? Yes. Pedantic? Not a chance.

This frame shift in **understanding the un-understandable** is essential before we even approach one of the biggest questions humanity has ever asked, yet never answered: **How did something come from nothing?** The age-old question of how something came from nothing is a brilliant question. Still, it is based on a false premise: **that existence came from anything**. It is not possible for existence to come from something because then the question becomes "well... where did [insert previous answer] come from?" It is **a reasonable follow-up question to an unreasonable premise**. You fall into what philosophers refer to as the **endless turtles** or **infinite regress paradox**, where no matter how logical, coherent, and satisfying any answer to the "something from nothing" question surfaces, it is always possible to follow with "well... where did [insert previous answer] come from?"

Thousands of people have spent centuries trying to answer this question with no answer that circumnavigates the infinite regress paradox. **The reason this question remains unanswered is because it is unanswerable**. The concept of undefinedness resolves the infinite regress paradox because you cannot apply the "well... where did undefinedness come from?" question because **undefinedness did not come from anywhere**—it is not a thing, it is not a void, it is not a place, it is not nothing, it is not even undefinedness; **it simply isn't.**

If we resolve the infinite regress paradox, it opens a new question: if undefinedness simply isn't, then **why is there something rather than nothing?** It is a great question! It takes a bit of an inversion in your expectations to see the answer. **Undefinedness doesn't cause emergence because it can't**; it simply isn't. However, what it also means is that **undefinedness cannot stop something from emerging** into existence because it places **no restrictions or properties** on anything or any event from happening because to do so would require undefinedness to have properties itself, which it does not have; it simply isn't. So… the answer to why does something exist instead of nothing is**… why not?** See… **cause and effect are properties of existence**, which means causation did not exist until *after* existence emerged. **Causation cannot exist before existence**, which means **that existence emerged without a cause**; then, immediately after it emerged, causation took over.



Caption: This figure illustrates the cyclical nature of emergence, convergence, and divergence governed by recursive propagations. 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 recursive propagations have not yet aligned to form stable complexity. The figure illuminates *The Theory of Existence's* revolutionary premise: reality operates as a seamless, interconnected system governed by universal principles of recursive propagations following patterns of emergence-to-convergence (E2C). *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. *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 dance. 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.

The same logic applies to the question: **what exists beyond and outside of the universe?** Your inclination is to say nothing exists outside of the universe, but if nothing exists outside of the universe, then **what exists outside of nothing?** Do you see how easy it is to fall into the infinite regress paradox? The answer to the question of what exists outside the universe is... not answerable because it is built on **the false assumption: that anything can exist outside of the universe**. Undefinedness does not exist outside of the universe because **undefinedness does not exist anywhere**; it simply isn't. These questions—"What happened before the Big Bang?" "Why is there something rather than nothing?" and "What exists outside of the universe?"—**are all unanswerable,** built on the **false premise: that they have valid answers**. It is time for humanity to retire these important questions.

The cool thing about undefinedness (that is, if undefinedness was something that could be cool, but it's not) is that you do not have to go back all 14 billion years to the Big Bang to see the concept. We see definedness form (I am choosing not to say we see undefinedness because **undefinedness is** not something we can see) **in front of us all the time, everywhere, even right now…** let me show you:

At the end of this paragraph, **I will say a sentence**, and it could be any sentence. I do not know currently what that sentence will be... but **it does not mean that the sentence I will say cannot ever exist** just because my brain has not initiated the process that would determine its structure. Just like the universe at the start of the Big Bang, **there is nothing in my brain stopping any word arrangement from emerging**. As I type this sentence, I do not know anything about the sentence, and **I have not even chosen the topic**, but that sentence will come into existence right after I finish typing this paragraph. We could say that **the sentence I will type currently has no definedness**, but as soon as I go to type the sentence, it will have definedness. This sentence then loses definedness in my brain... I'll forget about it shortly after writing this paragraph because it's 2:04 AM now, and okay… I am about to write the sentence: **SpongeBob SquarePants was the best president that ever existed...**

At the start of that last paragraph, **that sentence did not have definedness**; we could say it was undefined (that is, if a sentence could be undefined, but it cannot; it simply isn't). Then, when I went to type it, it had definedness. Do you see how **that sentence did not come from anywhere** at the start of the paragraph, but also how nothing stopped that sentence from having definedness? The **emergence of that sentence is exactly how existence works** and why there is something rather than nothing despite there being no "before" the Big Bang.

Beyond the Big Bang, the implications of the concept of undefinedness span the multiverse. In current cosmology, a problem known as **the multiverse paradox arises**, which raises questions about how different universes can have **distinct laws of physics simultaneously**. Conceptually, suppose the laws of physics in one universe are incompatible with the laws of physics in our own. How is it possible for them to be connected or contained by any sort of medium or time? The resolution to the multiverse paradox is... **they are not connected**.

Undefinedness is not a medium or space through which universes can connect to each other. Therefore, **the laws that govern one universe can vary freely** because they never interact with our own. Unfortunately, this resolution suggests that **we can never know if other universes exist,** as we have no way to interact with them. There is no way to access any other universe, so, functionally, other universes are nonexistent. However, given the structure of our universe and its mechanics, **I find it highly unlikely** that we are the only universe or form of existence, but we can save those worlds unimagined for our dreams, where they belong. It's so beautiful that even in *The Theory of Existence*, the **universe has found a way to keep the wonder in its mystery**.

For centuries, **we have danced around the edges of definedness** where our math in physics tells us the answer is undefined. Still, it **makes us so uncomfortable to think about** that **we instead replace the correct undefined answer** with infinities, or we don't look too closely... I know it is uncomfortable to think about, but it is also **incredibly beautiful once you see it in action**. As such, I want to show you my data-driven experiment demonstrating my argument for the concept of undefinedness. It's called ***The Lattice Experiment***. But first, I really should go to bed before I try to tell you all the details. Goodnight!

Measuring the Unmeasurable…

When I first set out to empirically validate the concept of undefinedness, **it seemed impossible**. How does one measure something inherently unmeasurable? How do we measure what simply isn't? But... I realized that to demonstrate undefinedness, you can **measure what is not undefinedness**. So, we can **measure definedness that supports the concept of undefinedness**—not because undefinedness exists, but because definedness behaves in ways **only possible if the concept of undefinedness is correct**. Let me show you *The Lattice Experiment*.

To demonstrate the concept of undefinedness, I needed to create an experimental paradigm that captures the effects of **the first moments definedness** dances into existence so we can see **what conditions, or lack thereof, allow for** the **emergence** of something in a way that aligns with how existence emerges. I created the concept of *The Lattice Experiment*, which consists of recursive (iterative) updates to an **increasingly expanding, randomly generated letter lattice until a word emerges**. When the words emerge, we can see what conditions allow for words to emerge in ways that align with what we see in existence. The **experimental manipulation**

stemmed from the slot size, which was the letter length that an emerging word can fill. There were three conditions that align with the conditions… or non-conditions, of existence at emergence, which were:

◊ **Undefinedness Condition** $(\emptyset)$: The slot size for the valid word emerges at the same time as the emerged word. Thus, before the word emerges, the slot size, much like the word, is undefined until the moment the word emerges. Words can be three, four, or five characters long.

◊ **Nothing Condition** (0): The slot size is predetermined, and words can only emerge once that slot size is fulfilled. To demonstrate nothing, we must show that there is something that could be there, but it is not. Thus, the slot is always set to five characters, and once a five-character word appears, the slot fills.

◊ **Infinity Condition** (∞): The slot size is infinite; thus, a valid word never emerges. This one is here more for legacy, not validity. There's no evidence that demonstrates infinity actually exists anywhere in existence—it's all just representations and mathematical abstractions, but definedness does not go on forever. You can read more of that argument in *The Theory*; we should save this tangent for a more cherished time.

There are two data distributions that famously capture everything, pretty much everywhere we look in existence: 1) **the normal distribution** and 2) **the exponential growth curve**. Let me tell you about these two **famous distributions**. So, a distribution is nature's way of organizing things in the world. It's like asking "**How often does this happen?**" or "**Where do most of these things fall?**" When you look at people's heights, test scores, or the time between buses arriving, you're looking at specific distribution patterns.

Letter Lattice 1

R	A	S	T	E
F	A	F	O	A
I	N	O	P	L
U	M	C	A	Y
D	F	I	B	W

Letter Lattice 2

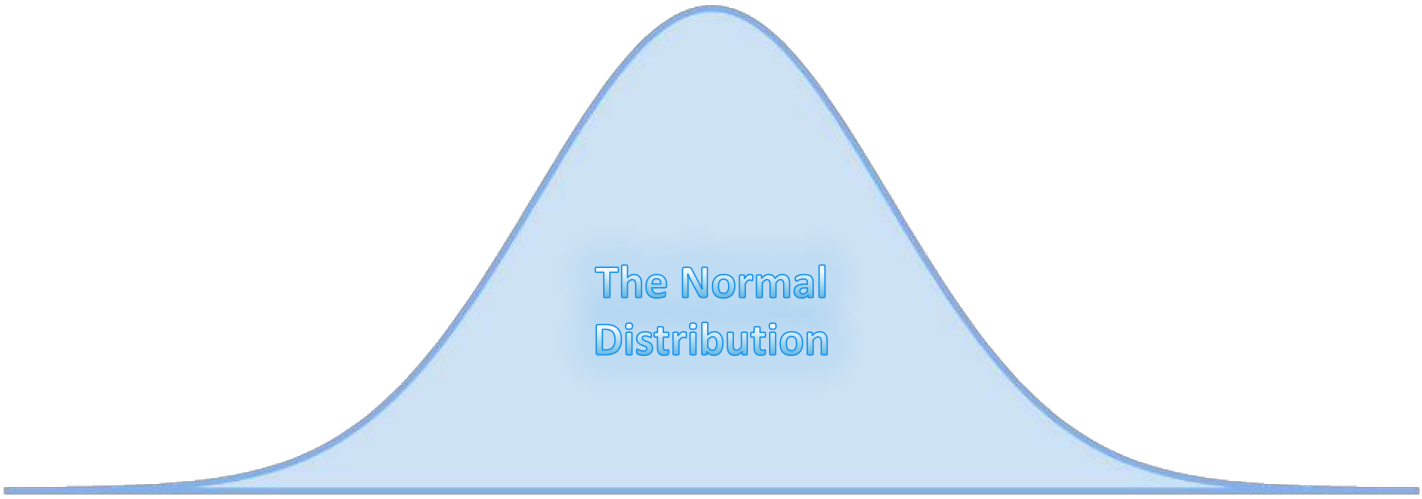
B	R	K	T	S	A
H	A	H	A	P	Z
L	M	I	F	N	C
P	E	W	G	H	D
U	V	X	Z	J	A
O	A	E	I	M	N

Letter Lattice 3

A	E	I	O	U	R	S
T	H	A	P	P	Y	P
E	B	F	I	G	H	O
Q	W	E	A	S	D	F
N	B	D	O	G	O	U
W	G	A	L	P	F	S
C	D	I	H	A	L	H

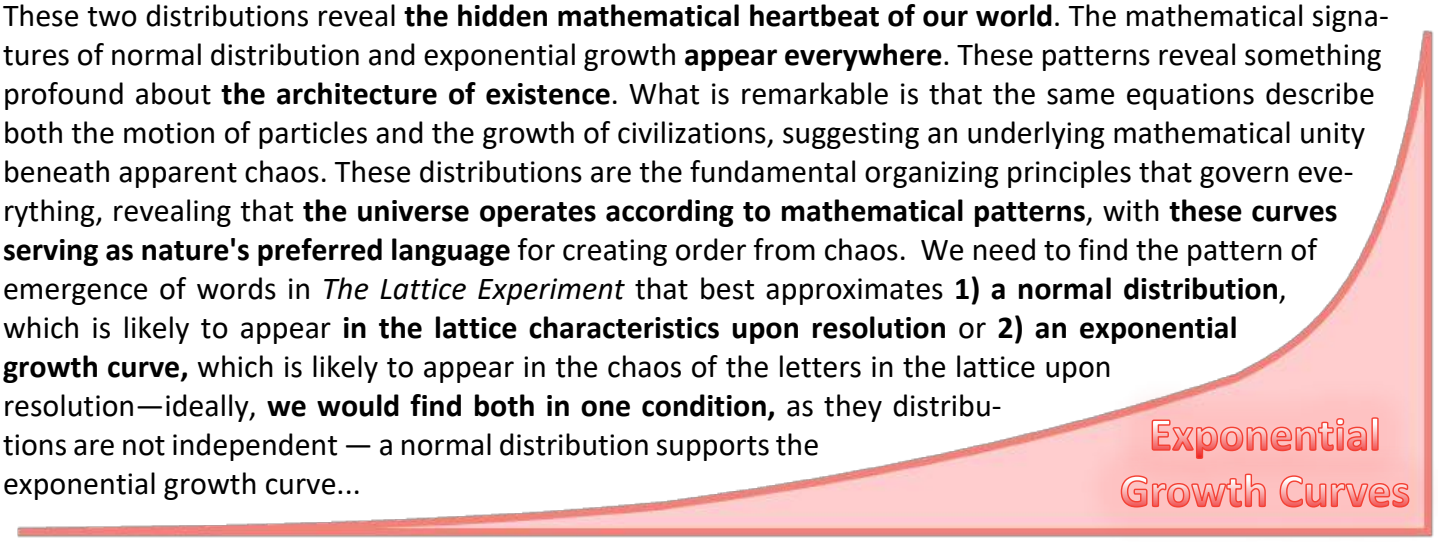
Caption: Each trial begins with a randomly generated letter lattice that expands recursively by one unit per attempt. Letters are placed without constraint—no predefined word length, orientation, or content—representing pure undefinedness. A trial completes the moment any valid word (3–5 letters) emerges. The figure presents three representative trials: Trial 1 fails to stabilize. Trial 2, modeling the "Nothing" condition, imposes a fixed five-character slot in advance and recursively tests each lattice for a word that fits this predefined frame. Despite the presence of structure, the trial fails to resolve—demonstrating that structure alone cannot generate resolution. In contrast, Trial 3 successfully ignites under the Undefinedness condition: the word "DOG" and the slot it occupies emerge together, simultaneously. This co-resolution is not retroactive. The system is not filling a predefined hole—it is discovering the structure and the content at the same time. The red highlighting in Trial 2 visualizes structural expectation; the blue and red highlights in Trial 3 depict spontaneous emergence. This alignment of recursive propagation and semantic resolution marks the ignition point of definedness. It is not the presence of letters that produces meaning—it is their agreement. Only when recursion is allowed to define freely does structure stabilize. This figure captures that core principle: definedness does not arise from constraint. It arises when structure and recursion resolve together.

On one hand, the **normal distribution**—often called **the bell curve**—is everywhere around us and emerges whenever countless small phenomena **accumulate at large scales**. For example, most people have average height, with a few who are very tall or short; you see **the same curve** in shoe sizes, rainfall, and errors scientists make when measuring things. It's so universal we use it as our **measuring stick for what's "normal"** versus rare.



On the other hand, **the exponential growth curve** is the mathematics of acceleration, where complexity escalates at ever-increasing rates—it starts slow. For example, a TikTok video doubling views each day—100, then 200, 400, then millions—**follows the same pattern that governs** disease progression through populations, how compound interest transforms modest savings into wealth, and how technology develops faster each decade. **This distribution is critical** because it reveals why pandemics can **shift from "manageable" to "overwhelming,"** why saving young matters so much (sorry Gen Z), and why technological revolutions blindside us.

These two distributions reveal **the hidden mathematical heartbeat of our world**. The mathematical signatures of normal distribution and exponential growth **appear everywhere**. These patterns reveal something profound about **the architecture of existence**. What is remarkable is that the same equations describe both the motion of particles and the growth of civilizations, suggesting an underlying mathematical unity beneath apparent chaos. These distributions are the fundamental organizing principles that govern everything, revealing that **the universe operates according to mathematical patterns**, with **these curves serving as nature's preferred language** for creating order from chaos. We need to find the pattern of emergence of words in *The Lattice Experiment* that best approximates **1) a normal distribution**, which is likely to appear **in the lattice characteristics upon resolution** or **2) an exponential growth curve,** which is likely to appear in the chaos of the letters in the lattice upon resolution—ideally, **we would find both in one condition,** as they distributions are not independent — a normal distribution supports the exponential growth curve...

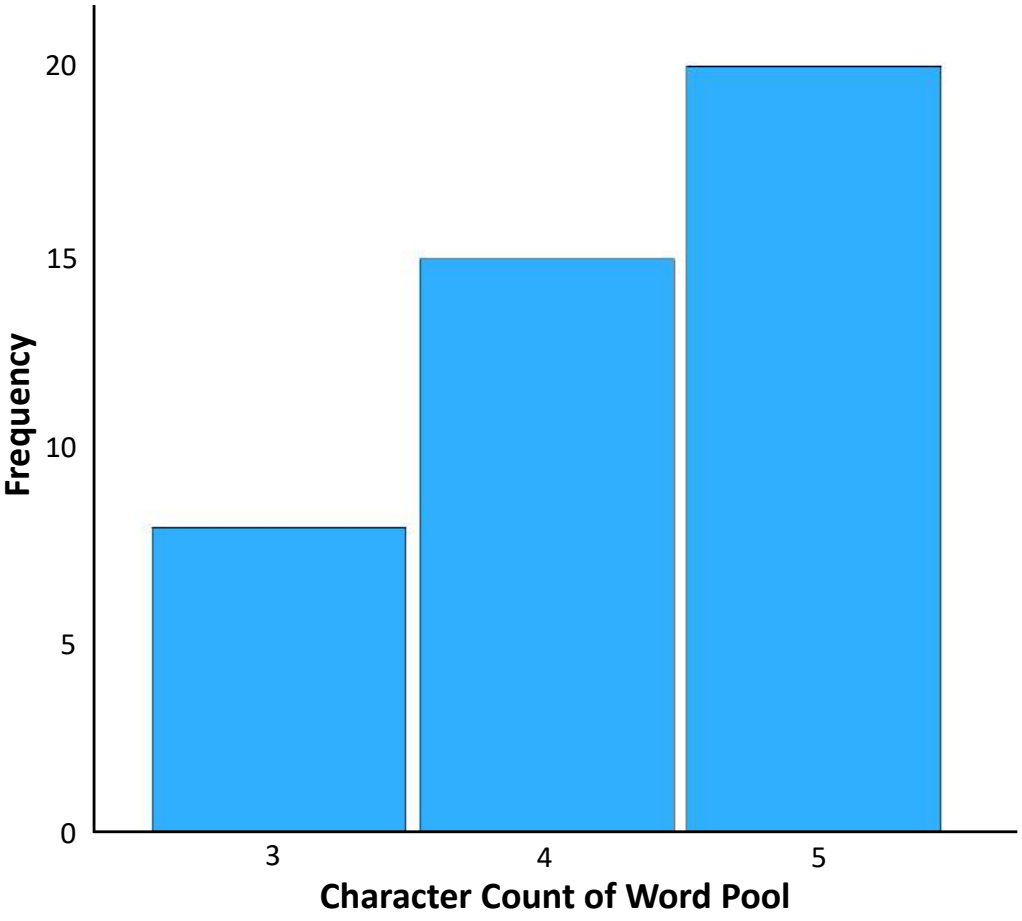


I conducted this experiment using code (see code and data at the end of this paper) and collected repeated trials for analysis. I **conducted $\sim$600 trials** to ensure that I stabilized the statistics without unreasonable sensitivity, which could result in false positives (for the statistics people—I did not want to overpower the inferential tests that would lead to a Type I error). The experimental paradigm works by **starting with a 5×5 letter lattice**; then, when a word does not emerge, the **whole lattice updates**, but **this time it is a 6×6 letter lattice**, and this process repeats until a word emerges. Once a word emerges, **the trial reached a resolution**. Then **we record the conditions of the final lattice**. We can measure the following variables:

- **Resolved**: If the trial resolved or terminated at 100 recursions (max).
- **Slot Size:** The size of the slot in which the word emerged (three, four, or five characters)
- **Attempts:** The number of recursions before resolution or termination (1-100).
- **Final Lattice Size:** The largest side dimension of the lattice size in which the word emerged (5-104).
- **Word:** The final word that emerged from a pool of available three-, four-, and five-character words.
- **Shannon Entropy:** We can measure the randomness or chaos of the letter patterns generated in each lattice.

$$-\text{sum}\left(\left(\frac{c}{\text{total}}\right) * \text{ math.log2}\left(\frac{c}{\text{total}}\right)\right)$$

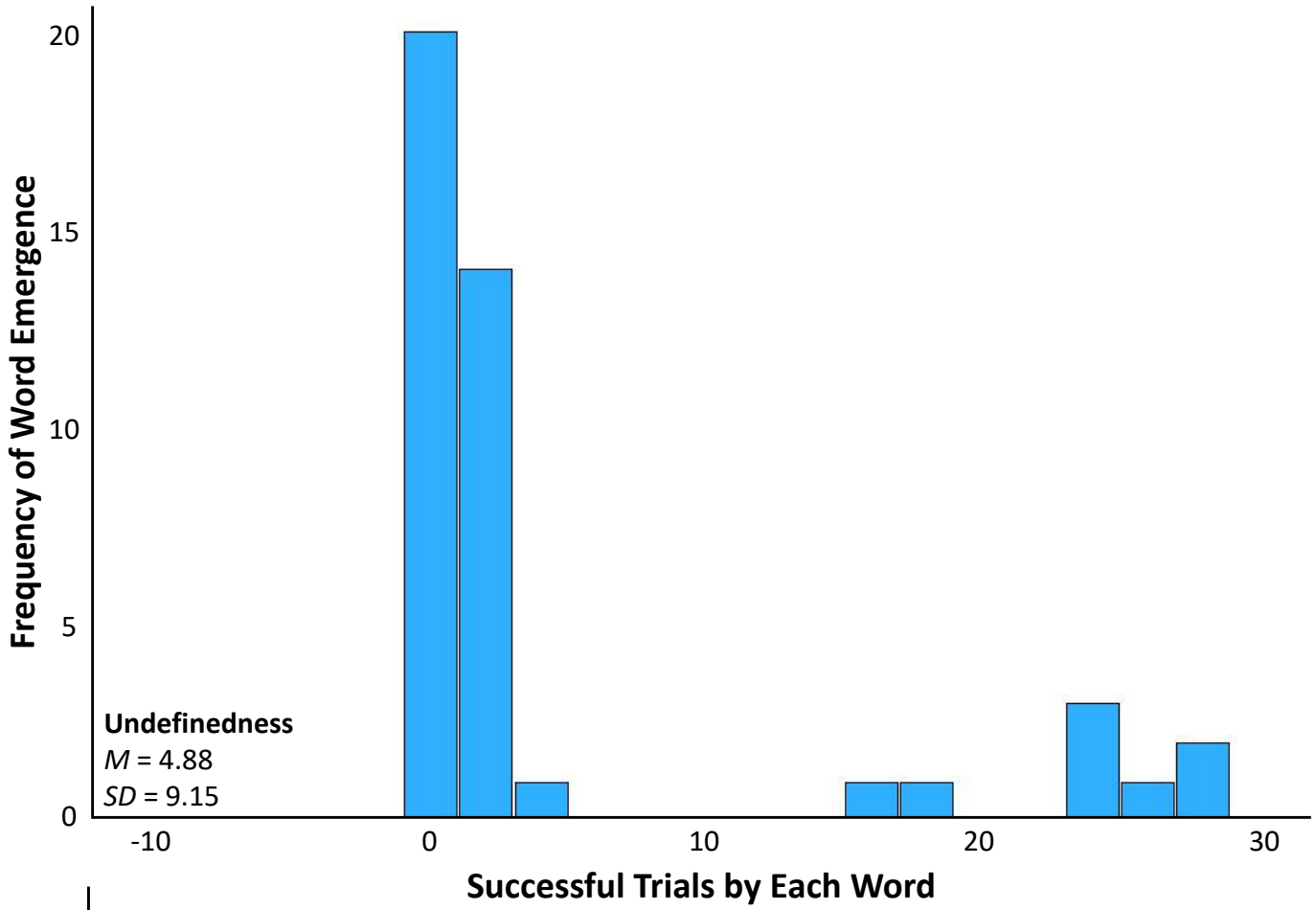
Shannon Entropy estimated **how evenly distributed the letters are across the grid**—a lattice where all letters appear with equal frequency will have high entropy (**maximum randomness**), while a lattice dominated by just a few repeating letters will have low entropy (**more predictable patterns**). In this experimental paradigm, **entropy serves as a key metric for understanding the order** in the "information content" of each lattice: **Lower entropy indicates the presence of subtle patterns and constraints** that facilitate word formation, while **higher entropy represents pure randomness** that disrupts the structured letter sequences necessary for meaningful words. **We want to have moderate entropy** to form coherent three-, four-, and five-letter words.

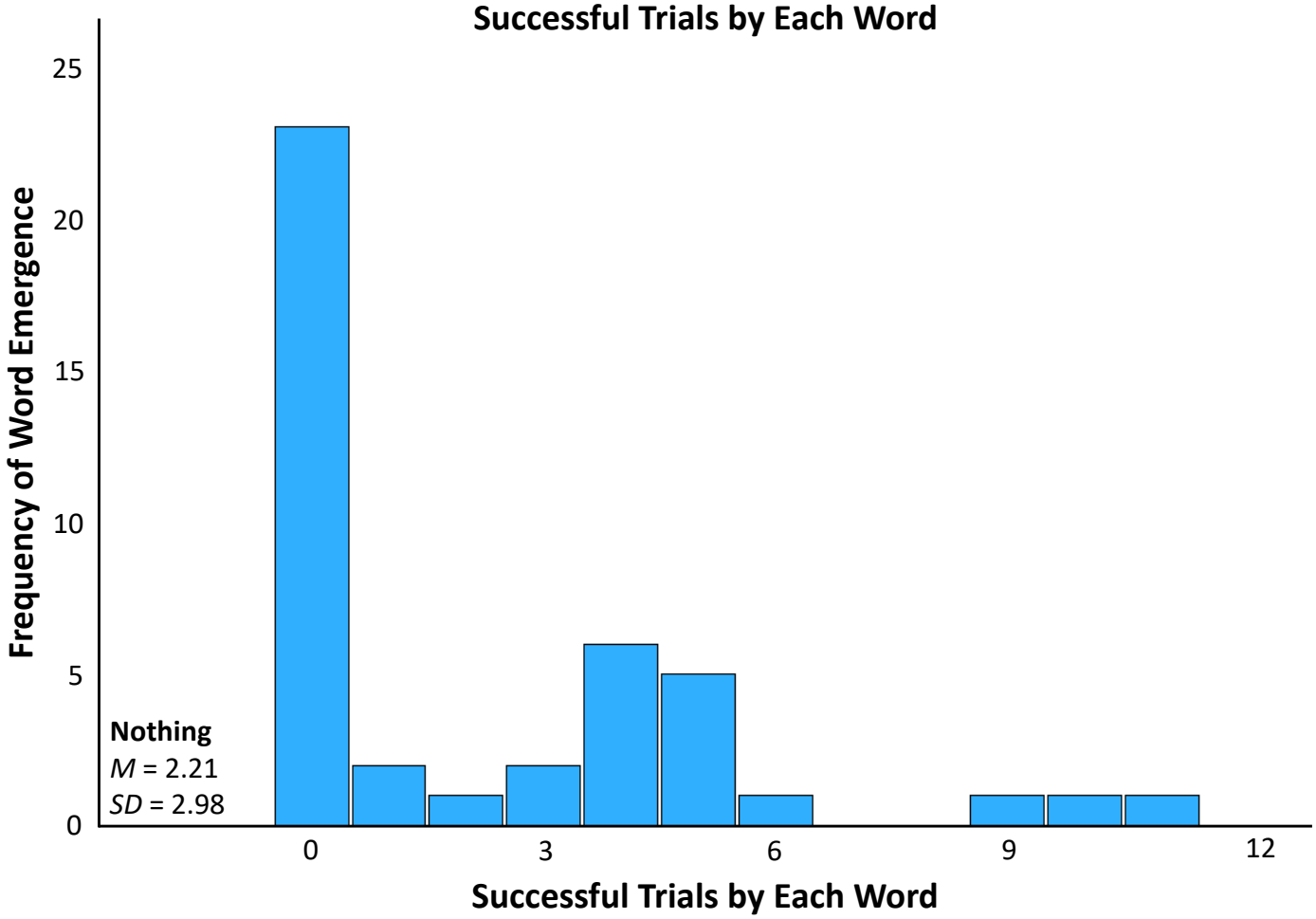


I need to note that ***The Lattice Experiment*** **is not a simulation**. We are not simulating anything. We are setting the conditions and allowing words to emerge on their own then examining the conditions that allow for certain emergence behaviors. The emergence we see here is real because they form spontaneously under random letter variation. **It is an experiment because we are holding all other variables constant expect for the slot size.** We can then extrapolate these findings to the the patterns we observe across existence, **including the emergence condition of existence.** After all was said and done, I oiled the ol' machine up, put gas in her, and let her do her magic. Wanna see what she said?

I generated a word list for use in the experimental paradigm, with the **Character Count distribution approximating an exponential growth curve,** which aligns with **complexity escalations** in existence. The more complex a word (i.e., its length), the more likely it is to resolve from high entropy or chaos. The most available resolved words were five characters to reduce bias in the Undefinedness Condition by leveling the playing field between the two conditions, as **the Nothing Condition does not have access to three- and four-character words**. This ratio allows for a bias towards five-letter words, while not disturbing the group differences across the character counts, $t = 0.69, p = .305, [95\%\ \text{CI: } 0.63, 0.74]$. So… when the **Undefinedness Condition kicks the Nothing Condition's ass below**, I don't want to hear **a single peep about unfair advantages for the Undefinedness Condition**. The experiment itself favored the resolution of five-character words, the **slot size for the Nothing Condition**. Let's look at the resolution frequency of words between the conditions to see what's coming...

In the top bar chart, we see the **Nothing Condition**, with successfully resolved words **tending to have only a few successful trials**, with words never having more than 11 successful trials. Also, nearly 25 possible words did not have a successful trial. It appears that **the Nothing Condition limits word resolution success**.


Frequency of Word Emergence
20
15
10
5
0
Undefinedness
M = 4.88
SD = 9.15
-10
0
10
20
30
Successful Trials by Each Word


Frequency of Word Emergence
25
20
15
10
5
0
Nothing
M = 2.21
SD = 2.98
0
3
6
9
12
Successful Trials by Each Word

In the Undefinedness Condition, we see that only 20 words did not have a successful trial—a large improvement. Most importantly, **only the Undefinedness Condition has multiple high-success words**, achieving around 24-26 successful trials, representing **over 200% improvement** compared to the Nothing Condition. These bar charts indicate **that the Undefinedness Condition appears to be more effective**. Let's look at the descriptive statistics:

Table 1

Descriptive Statistics by Variable

	Minimum	Maximum	Mean	SD	Skewness	Kurtosis
If Word Found	No	Yes	48% No	50%	0.06	-2.00
Slot Length	3	5	3.70	0.92	0.63	-1.51
Character Count	3	5	3.70	0.91	0.63	-1.51
Attempts	1	100	66.67	40.12	-0.54	-1.58
Final Lattice Size	5	104	70.67	40.12	-0.54	-1.58
Entropy	3.78	4.70	4.58	0.12	-1.19	3.77

Note. n = 630. Descriptive statistics for all variables in the current experiment.

Beautiful descriptive statistics, no? A review of the correlations revealed something intriguing right away. Let's take a closer look. We have **three variables** in this correlation matrix. Starting with **Character Count** and **Attempts**, we see that **as trials require more recursions** to resolve a word, **the length of that word tends to increase**; it also means that **shorter Character Counts**, like the three- and four-character words, **tend to resolve sooner**. Already, we are seeing that, **despite the** experimental paradigm's **tendency to favor five-character words**, they were **the hardest to resolve**. The relationship splits when we look at the other variable, Entropy.

Table 2

Correlations Among Experiment Variables

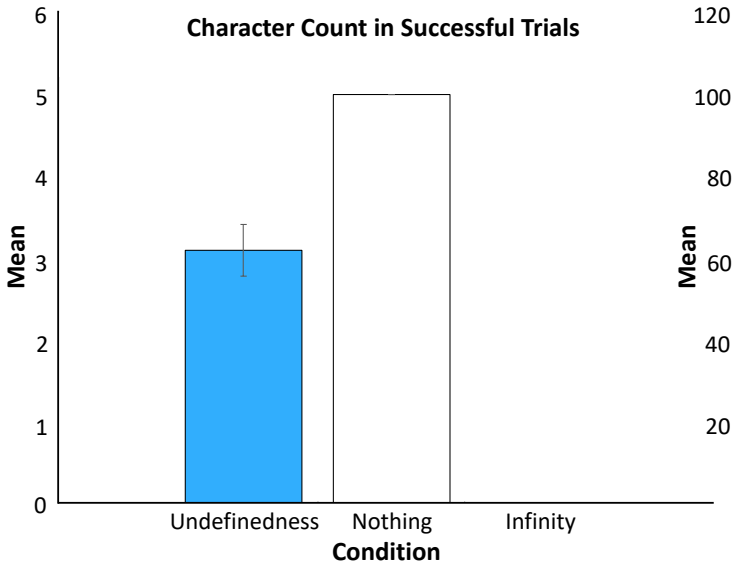
	Character Count	Attempts	Entropy
Character Count	-	.892	.398
Attempts	.892	-	-.151
Entropy	.398	-.151	-

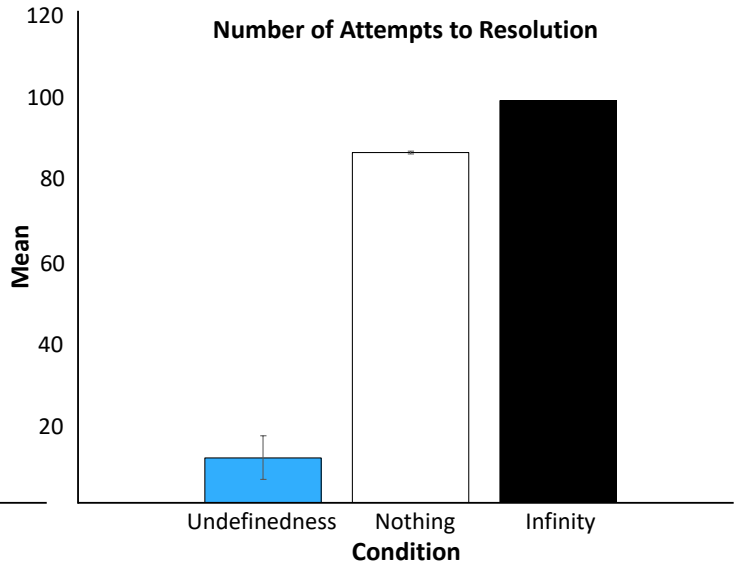
Note. n = 630. Bivariate Pearson correlations among variables in the experiment. I removed Slot Length and Final Lattice Size due to redundancy from perfect correlations. All correlations were statistically significant at α = .001. I shaded the cell color to show contrast between the smallest (White) and the largest value (Green).

We see a split with a significant **divergent relationship between Character Count and Attempts to Entropy**. Thus, **as Entropy rose**, creating more chaos and noise, the **Character Count** of resolved words **tended to increase,** and the **number of recursions** to resolution **decreased**. These relationships provide validation that the **experimental paradigm's features and conditions are tuned and performing exactly as expected**. Now that we know the experimental paradigm is functional, the real magic begins. Buckle up, folks...

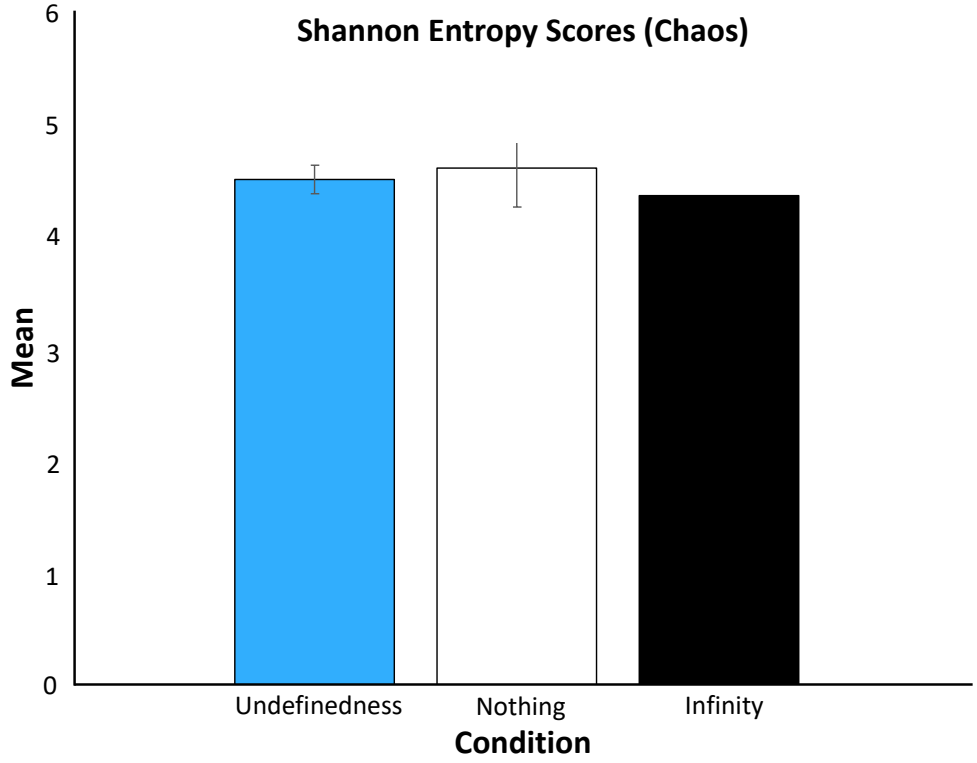
Let's start by examining some bar graphs to get an idea of how the **different conditions performed across trials**. On the page below, you will find two bar graphs. On top, we are looking at the mean character count of resolved words across the three conditions. **Infinity does not have a bar because infinity never resolves words** (because it can't). However, there's a rather notable difference between the other two conditions.

We see that **the Nothing Condition is locked in at five-character words** just like we set—no variation, no diversity, just an empty five-character slot until a word emerges. Then, there's the Undefinedness Condition, with a **mean character count hovering around three characters**. It shows **ease in resolving lower character count words** and is the only condition that allows for both 1) **resolution** and 2) **variation**; that's a huge deal.



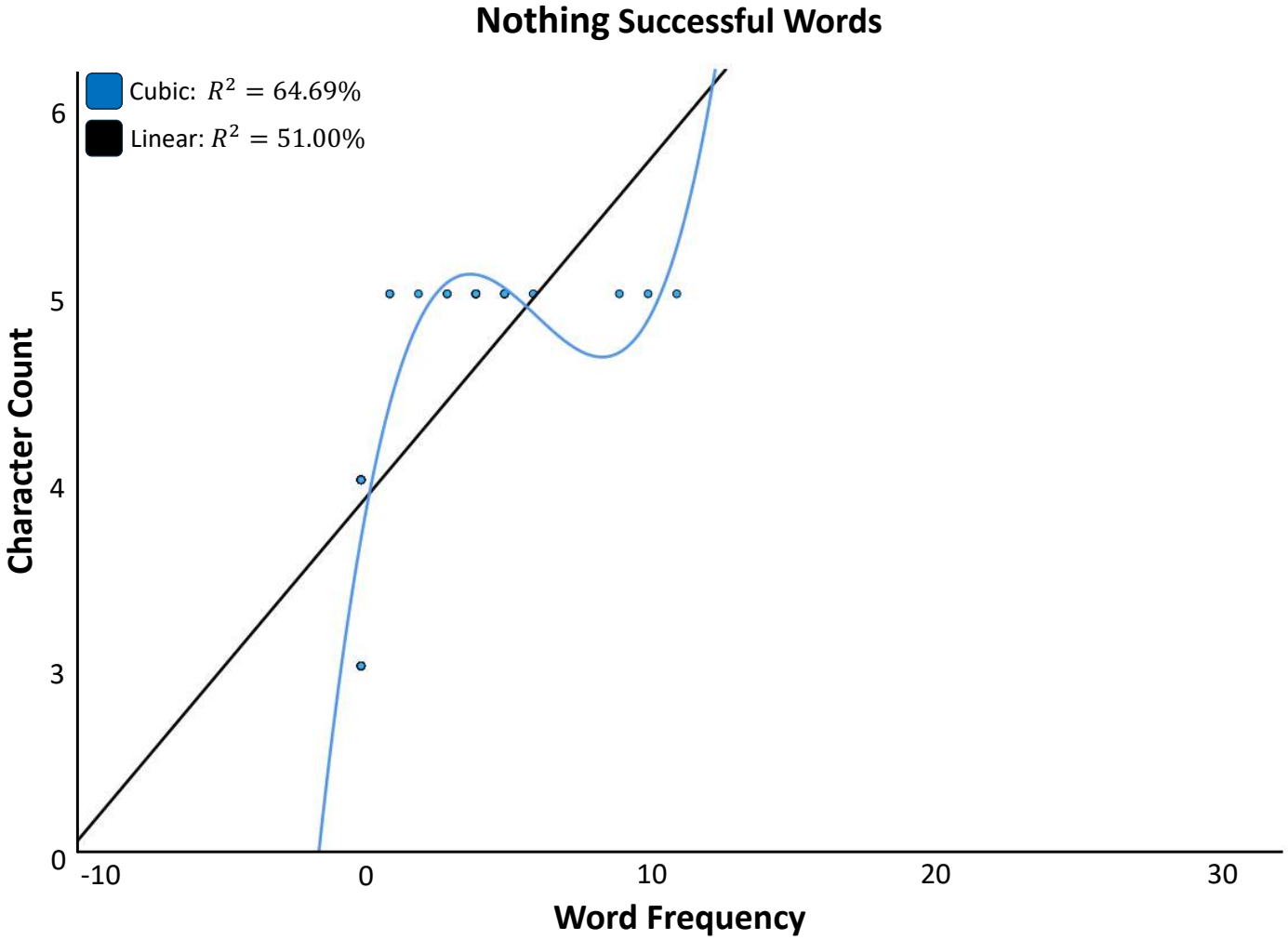


In the bar graph on the bottom, a **radical new story emerged across the number of attempts** before word resolution. The **Infinity Condition never resolved** (because it can't), forcing the mean number of attempts to be 100. The **Nothing Condition did resolve with minor variation** after about 90 recursions, just missing the max for all trials. Then... there's the Undefinedness Condition, **showing a mean number of attempts before resolution to be less than 20 recursions** and with significantly greater variation. Across both bar graphs, we see the story emerge that only the Undefinedness Condition functions with 1) **significant variation** and 2) **fast, effective word resolution** compared to the Nothing and Infinity Conditions. Let's look at the differences in Entropy...



This bar chart may seem deceptively innocuous and straightforward, but its **implications are profound and staggering**. What we observe here **fundamentally challenges our assumptions about how order emerges from chaos**. The Undefinedness Condition, with its moderately lower entropy around 4.60, becomes the fertile ground **where simple words crystallize from randomness**. At the same time, the "Nothing" condition at nearly 4.80 entropy **proves too chaotic for coherent patterns to form easily**. This interpretation aligns with the previous findings showing **the variation, effectiveness, and efficiency of word resolution in the Undefinedness Condition**. The Infinity Condition settles at the lowest entropy near 4.50, suggest-ing that even in the pursuit of endless expansion, some underlying order still emerges. However, **without a way to fill the slot with infinite characters, none of that order matters**. In the context of existence, even if Infinity were correct and order can emerge from it, it doesn't matter because an **existence that contains infinity must define it** (the container for the infinity)**. You cannot resolve something that is infinitely expansive nor have we ever seen it**. No definedness… no resolution... no emergence... and that means… no existence...

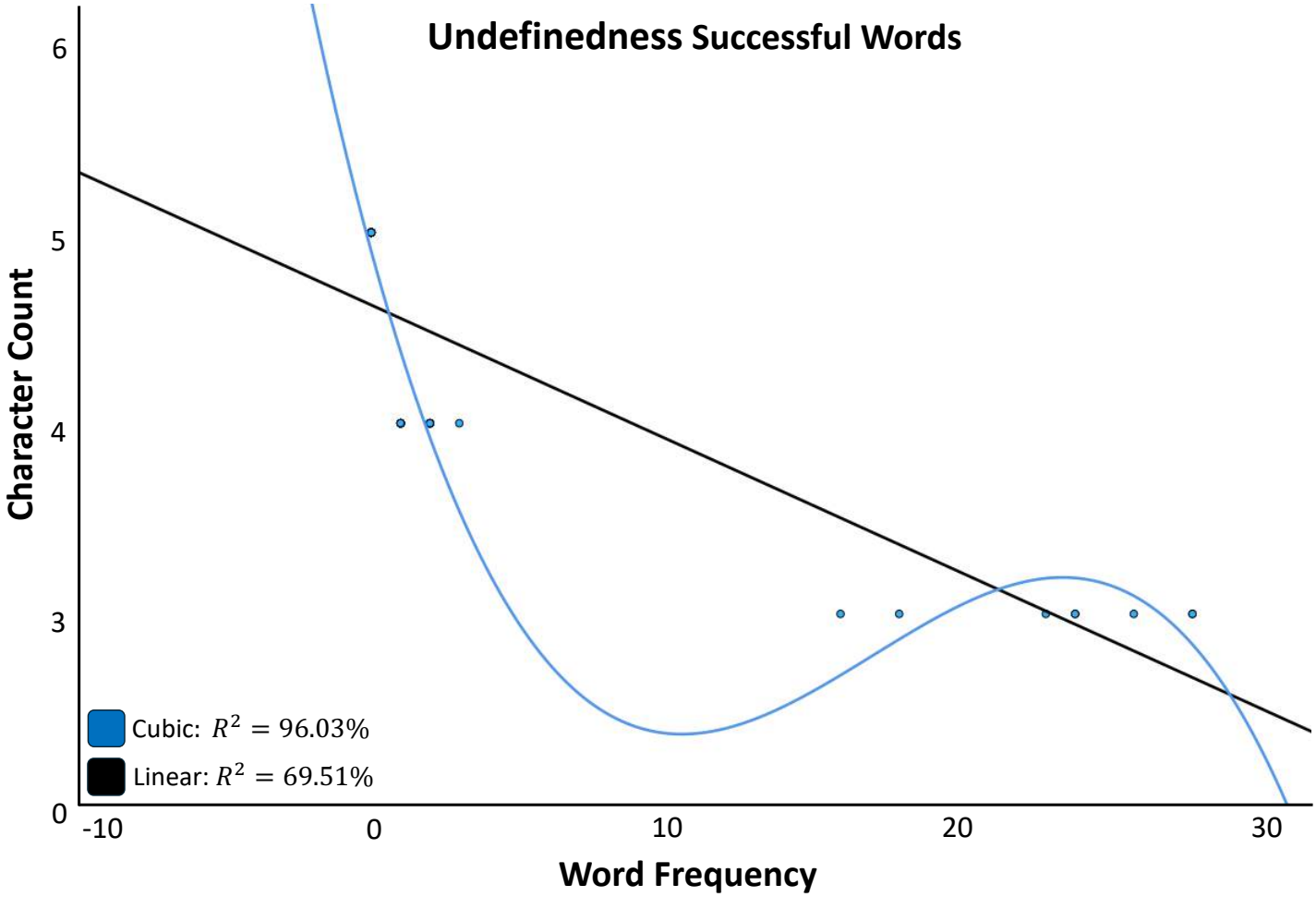
This figure reveals that **meaning doesn't spring from maximum randomness** but from that precise **sweet spot where order and chaos dance together**—where entropy is just **low enough to allow the structured letter sequences** that word emergence requires, yet **high enough to maintain the exploratory freedom** necessary for discovery. The narrow range between these conditions—mere decimal points on the entropy scale—represents the razor's edge between chaos and order, between potential and structure, between what is possible and what is... **it is like this chart maps the thermodynamics of meaning itself**.



When we plot the trials by **word frequency and character count by condition**, another highly significant pattern emerges. I can fit **two types of regression,** statistical models that describe the shape of the relationship: 1) **linear—found in normally distributed** phenomena, and 2) **cubic—found in exponentially growing phenomena**.

We can use a statistic called R^2, which measures the ability of one variable to explain why the scores on the other variables occur in the pattern they do. If we have an R^2 of 0%, then the two variables are entirely unrelated; if we have an R^2 of 100%, it means that every score on one variable corresponds exactly to a score on the other variable without any deviations. When we look at the Nothing Condition, we see that the **linear** $(\mathbf{51.00}\%)$ and **cubic** $(\mathbf{64.69}\%)$ Regression analyses explain significant variability in the relationship between word frequency and character count; however, the **relationship is restricted**.

When we look at the **same relationship** in the **Undefinedness Condition**, a striking pattern emerges with statistical support. The most notable visual finding is that **the Undefinedness Condition is much less restricted than the Nothing Condition**—showing more successful trials across three-, four-, and five-character words. Most importantly, the regression statistics reveal a striking pattern with **the linear relationship exceeding the Nothing Condition regressions entirely** $(\mathbf{69.51}\%)$. Yet, **the cubic regression demonstrated a near-perfect fit** $(\mathbf{96.03}\%)$**—**one of the highest R^2 values I have ever seen.



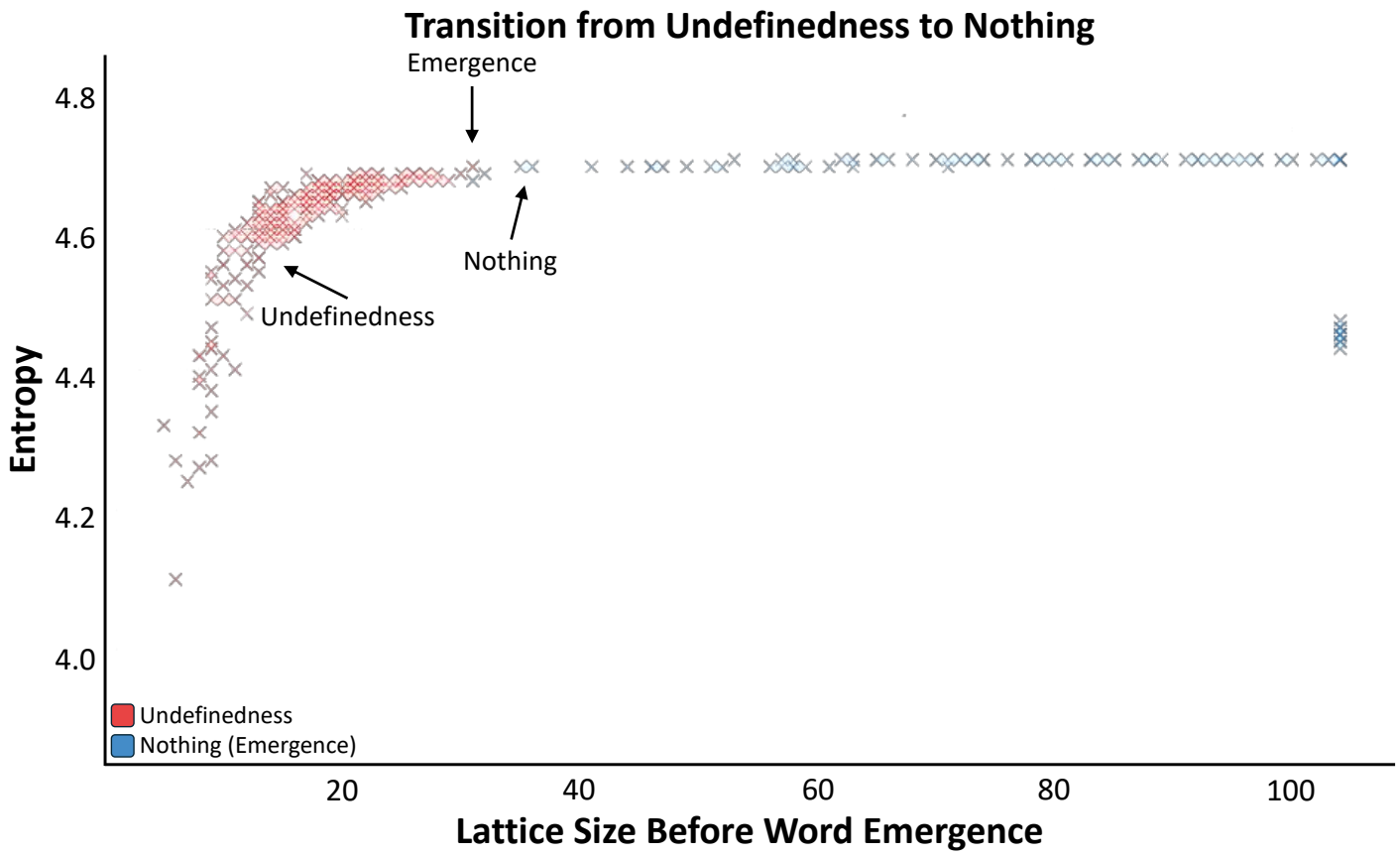
It's clear that the Undefinedness Condition distributes word emergence in line with normal distributions and exponential growth curves far better than the Nothing Condition. **The difference in explanatory power ($+18.51$ Linear, $+31.34\%$ Cubic) favors Undefinedness**. When look closer at the relationship between Entropy and Final Lattice Size, an incredible pattern emerges, as shown in the table and figure below. The relationship that emerges was an **exponential growth curve that flatlines as the Final Lattice Size rises with Entropy**.

Table 3

Curvilinear Model Fits Across Lattice Size Phase Locks

Model	Combined	Undefinedness	Nothing (Emergence)
Linear	2.30%	49.20%	17.90%
Logarithmic	0.10%	65.90%	15.20%
Inverse	2.90%	79.50%	11.80%
Quadratic	28.40%	73.70%	23.70%
Cubic	**31.10%**	**82.50%**	**24.60%**
Compound	2.20%	47.00%	17.90%
Power	0.10%	63.60%	15.20%
S	3.20%	77.70%	11.80%
Growth	2.20%	47.00%	17.90%
Exponential	2.20%	47.00%	17.90%

Note n = 630. This table reports R^2 values for multiple curve fit models applied to entropy trajectories across lattice size and conditions, allowing identification of the dominant structural shape. The cubic model consistently outperforms all other models.



When we plot the relationship between **Final Lattice Size and Entropy,** then **color-code them by condition**, we see that the **Undefinedness (Red)** and **Nothing (Blue)** conditions have no overlap (one case forced for statistical purposes), where **the lowest Entropy** came from **words that resolved only in the Undefinedness Condition** and **transitions to the Nothing Condition as Entropy rises**. This transition supports the previous findings that **the Undefinedness Condition allows** for **more variation**, is **more efficient in resolving words**, and is **more effective with repeated word emergence,** which far exceeds that of the other conditions. Thus, it appears that the Undefinedness Condition occurs before the Nothing Condition, supporting my hypothesis that the Nothing Condition has more structure than the Undefinedness Condition.

I conducted an exploratory structural test by **running ten regressions** across the most common distribution shapes across the three conditions. The conditions were the 1) **Undefinedness segment**, 2) **Nothing segment**, and 3) **combined segments**, treating it as a single variable. I aimed to examine the shapes of the components and their sequential alignment, estimating how these two conditions work together to resolve words. In Table 3, you can see ten R^2 values across all three conditions. **The results were unequivocally clear: the cubic model far exceeded any other regression shape**, suggesting that this **emergence pattern reflects the same cubic exponential growth curve I found throughout the other papers**.

When we investigate this relationship further by examining **the frequency of the Character Count of the resolved words by condition**, we see **a clean divide between the Undefinedness Condition**, only resolving three- and four-character words, **and the Nothing Condition**, only resolving five-character words. I intentionally restricted the Nothing Condition to five-character words. However, the word pool in **this experimental paradigm favored five-character words; yet the Undefinedness Condition never resolved on a five-character word because it would always resolve on the less complex three- and four-character words**. Then, after Entropy increases with the lattice size, **it flips into the Nothing Condition**, where all resolved words are five characters.

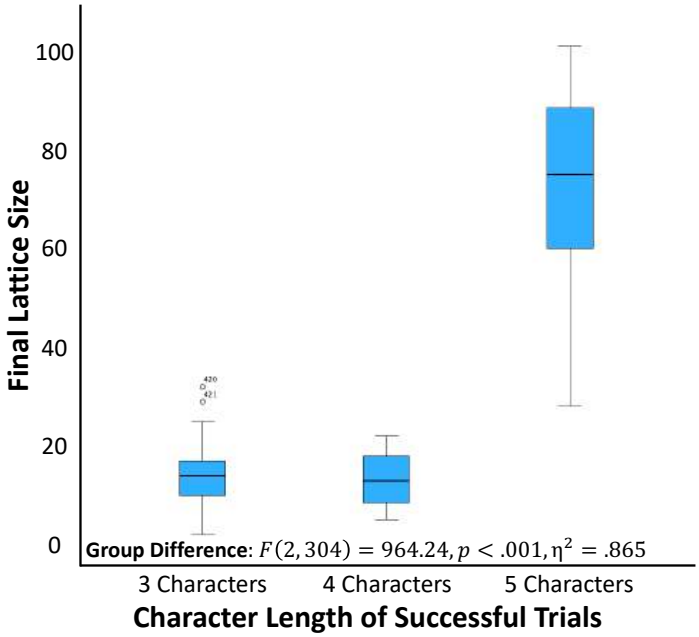
Table 4

Resolved Word Character Count by Condition

Condition	Three Characters	Four Characters	Five Characters
Undefinedness	187	23	0
Nothing	0	0	95
Infinity	0	0	0

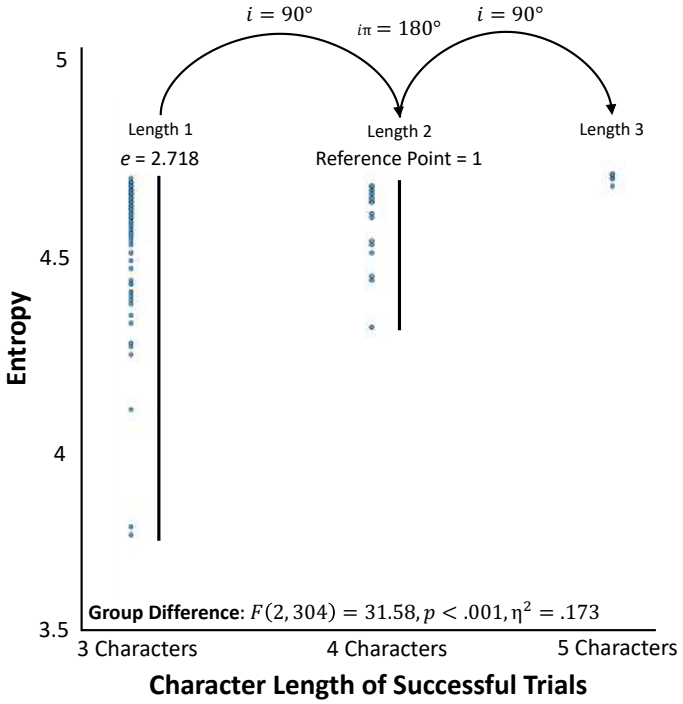
Note. n = 630. Character count frequency in resolved words by condition.

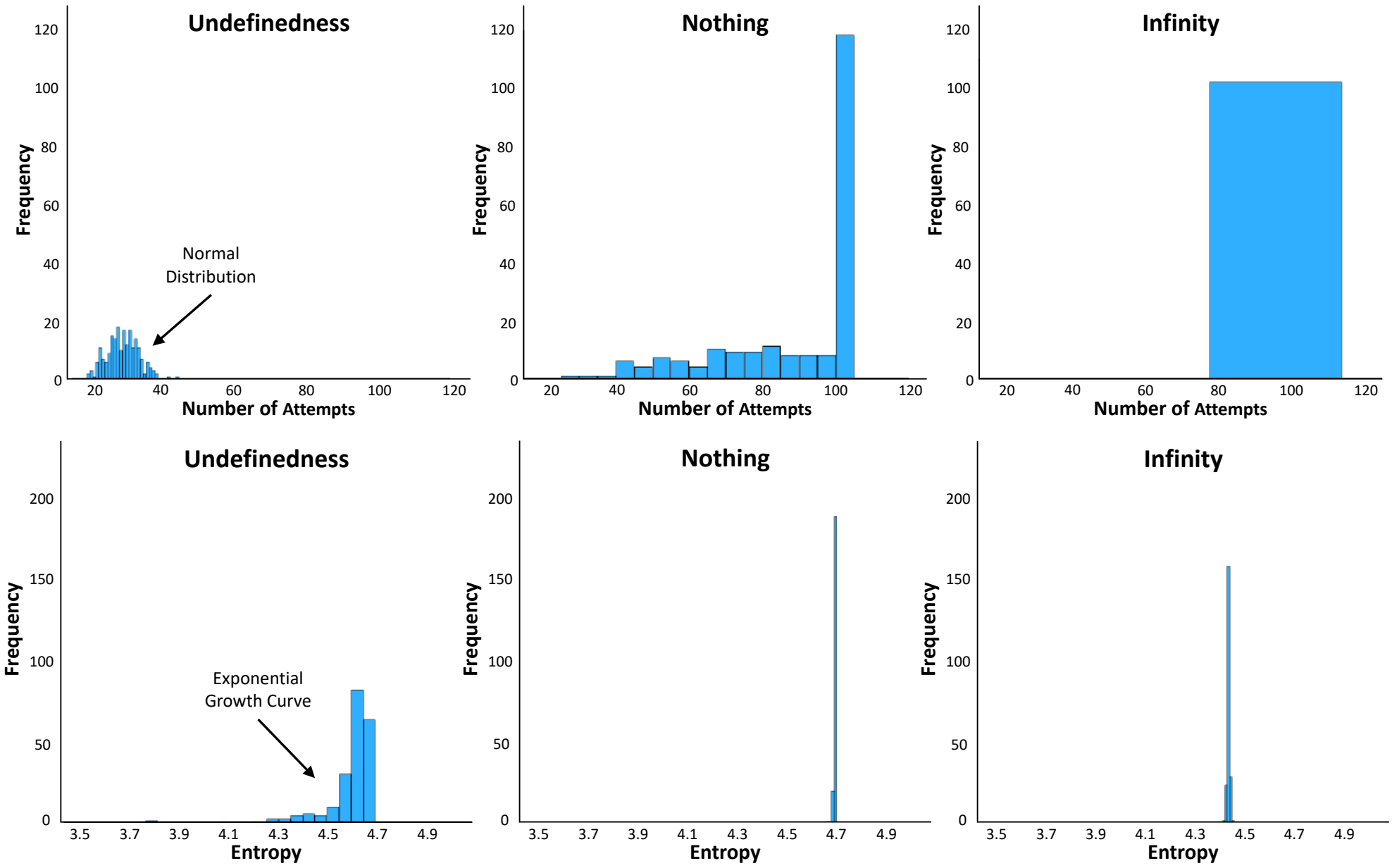
When we examine the transition between the two conditions, we see that **the Undefinedness Condition always resolves three- and four-character words**, never building enough Entropy for a five-character word to emerge. Only **after the lattice size increased sufficiently**, making room for more complex words, **did the system transition into** favoring five-character words, as we see in the Nothing Condition. This relationship confirms my hypothesis that **the Nothing Condition has definedness** and **cannot be the starting condition,** as it requires another starting condition to emerge, **supporting the concept of Undefinedness as the origin of existence**.



The laws of thermodynamics suggest that Entropy is constantly increasing, which we see here. The explosive finding is that **complex structures are more likely to emerge after Entropy increases**, suggesting that order emerges from and after chaos becomes chaotic enough to allow it. This finding suggests that in the process of entropy increasing **new structures are more likely to emerge.** In other words, as a system starts to lose order over time, new order is likely to emerge from it, which explains why we have so much order in the universe instead of everything diverging into chaos. Alrighty, folks, **it is time to check for 1) the normal distribution and 2) the exponential growth curve**—the **two defining distributions of existence** and if they match one of the experimental conditions.

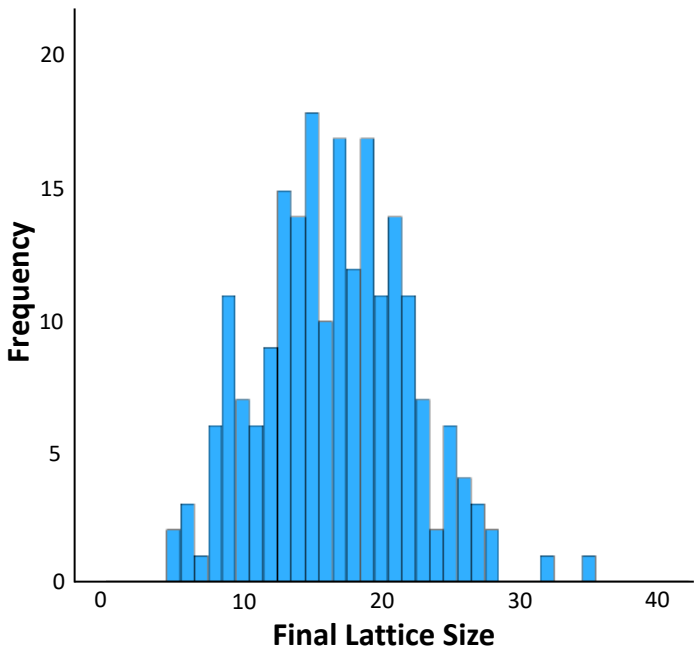
A closer examination of the resolved words across conditions revealed **a notable explanation as to why the Undefinedness Condition exclusively resolved three- and four-character words**. In the left figure, we see that the **three- and four-character words resolved much earlier than the five-character words,** and in proportion to the Final Lattice Size. In the right figure, we see **that simple structures (three- and four-character words) are more likely to emerge when Entropy is low, whereas more complex structures (five-character words) are more likely to emerge once Entropy reaches an increasing threshold**. We can even see Euler's Identity ($e^{i\pi}$) pop up when we examine the entropy distributions by character count. That identity has great value in *The Theory of Existence*.

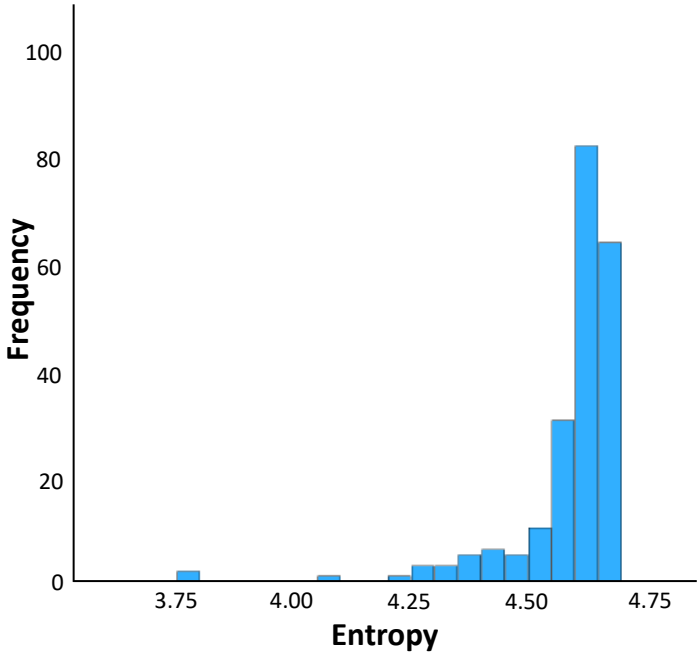




These six graphs reveal the dramatic differences between experimental conditions, with the top row showing the number of attempts required for each condition to resolve words, and the bottom row displaying the entropy (chaos level) distributions for each condition.

The Nothing and Infinity Conditions demonstrated distributions that are **rigid and not consistently found anywhere in existence**. Quite simply, **existence would not function if it followed the distributions in the Nothing or Infinity Condition because they lack sufficient variation, consistency, stable entropy development**.
The condition that best reflects existence is shockingly obvious to see, as only the Undefinedness Condition produced a normal distribution and an exponential growth curve; both distributions are **nearly perfect, textbook examples** of these distributions, as we see in the figures above. We see that the **Final Lattice Size tended to follow a normal distribution** and that this **normal distribution pattern supports the exponential growth curve in Entropy**. **These results are exactly how existence works** and why order emerges from chaos. It's why **the concept of undefinedness must be the correct conceptualization of the starting conditions of existence**.





Jaw-Dropping, Conclusive, & Beautiful

What an experiment, no? I did not expect the findings to be this strong. Imagine you are watching magic happen right before your eyes. ***The Lattice Experiment*** **has revealed something mind-blowing about how order emerges from chaos**—and it completely flips everything we thought we knew about how the universe works. When we **let random letters organize themselves without forcing** them into predetermined boxes, something incredible happens—**real words start appearing more often and faster than when we try to control them.**

It is like the difference between letting a river find its own path down a mountain versus trying to force it through a pre-built channel. The river that flows freely moves faster and creates more beautiful and varied patterns along the way. My experiment shows that this same principle **might explain how everything in existence**—from galaxies to consciousness—**comes to be**. The secret is not more control or more randomness; it's letting structure and meaning discover each other naturally and letting existence do what it does by default.

The most jaw-dropping discovery was **completely the opposite of what anyone would expect**. The findings with the Entropy measure were among the most shocking. You would think that **more chaos would make it harder to form words**, right? Well, it turns out **the Undefinedness Condition had less chaos than the Nothing Condition,** but somehow **created far more resolved words**. It is like discovering that a slightly organized bedroom helps you find your stuff faster than a completely messy one—but **the room organized itself**. It means that **order does not come from total randomness or someone imposing strict rules**; instead, it emerges when **conditions are free to organize themselves** into just the right balance of order and potential.

Think of it like a jazz band where the musicians are **not following a rigid script**, but they are **not just making random noise** either. They are **creating structure together** as they play, and that is where the magic happens.

Undefinedness does not compel anything to happen, but it also does not prevent anything from happening; thus, systems naturally find their sweet spot between chaos and order.

The efficiency results were absolutely shocking. The **Nothing Condition** was like a student cramming for a test, taking **around 90 tries** to finally resolve a word—basically failing until the very last moment. Meanwhile, the **Undefinedness Condition** was like that naturally gifted student who just "gets it," forming words in **under 20 tries** almost every time (like a show-off, geeeezzzzz). However, **the Undefinedness Condition was not just faster**; **it was way more creative and varied** in how it succeeded. This massive difference shows us something important: sometimes the rules that seem smart and sophisticated actually make everything more complicated.

The **Nothing Condition** was like **forcing someone to write a poem using exactly five-letter words**—sounds reasonable, right? It turns out this "reasonable" rule made the system struggle and waste tons of effort searching in all the wrong places. The **Undefinedness Condition was like telling someone, "write a poem," and stepping back**. **Without being forced** into that five-letter box, **words naturally resolved** into their most comfortable lengths—three- and four-characters. It demonstrated that when you stop micromanaging, they do not **just work better**; **they work way better** (sound familiar? What's your boss's email… I'll tell them, personally).

The statistics also tell an incredible story that backs up all the discoveries. We found that **bigger, more complex words always required more effort to resolve**, which makes perfect sense and matches a basic law of physics that says, "more complex stuff takes more energy." The **Undefinedness Condition was brilliantly efficient, consistently resolving lower-effort trials** and getting amazing results without breaking a sweat. Even more stunning, when I ran ten different regressions, each one pointed to the same conclusion: **the Undefinedness Condition follows the most observed pattern of existence—a cubic relationship—that matched existence with 96% explanatory power**; practically perfect. This same mathematical signature shows up everywhere in nature, from how galaxies form to how your cells divide. It is like we discovered that *The Lattice Experiment* was following the universe's instruction manual, **showing the relevance of the concept of undefinedness everywhere**.

These results flip the script on our current scientific understanding of how phenomena emerge into existence. For decades, **we have assumed that you need maximum chaos to get maximum potential**—like shaking up a box of puzzle pieces to find new combinations. However, *The Lattice Experiment* demonstrated the opposite: **the sweet spot for emergence is not maximum randomness or control**; it's something right in between—**just enough freedom to explore without getting lost in chaos**. This discovery suggests that countless domains in physics, biology, and brain science might be using a conceptualization of emergence with a flawed foundational assumption: **that nothing is the starting condition of emergence when nothing itself is already emergence**.

Even more fascinating, the jump from the Undefinedness Condition to the Nothing Condition does not happen gradually—**it discretely ignites at entropy tipping points**, like water instantly turning to steam at 212 degrees. This finding explains why evolution sometimes makes sudden leaps, why ecosystems shift dramatically overnight, and why breakthroughs in fields often seem to come out of nowhere. **Existence loves clean, discrete transitions** between different degrees of complexity, and *The Lattice Experiment* caught this process in action.

Another surprising finding emerged when I **loaded the experiment with more five-character words** (giving them the best chance to appear)—the **Undefinedness Condition always resolved before five-character words** could emerge. It was like walking into a candy store filled with expensive, gourmet chocolates, but choosing the simple candy bar instead because you walked by it when you entered the store. The system **repeatedly chose three- and four-character words, even though five-character words were more abundant** and easier to find. This finding reveals something profound about how existence functions: **when left alone, phenomena do not try to be as complex as possible**—they try to be **maximally effective and efficient**.

Think about this: **a bird's wing is not the most complex flying machine**, but it is **incredibly effective and efficient because of its simplicity**, not despite it. The Undefinedness Condition was like that bird, naturally finding the sweet spot of "just complex enough to work perfectly." Meanwhile, the **Nothing Condition was like forcing**

every bird to have the exact same, complex wing size, whether it's a hummingbird or an eagle. Sure… you can make it work, but you are fighting against the natural order and expending way more energy in the process. This study shows that **the optimal degree of complexity is not the highest—it's the one that works best**.

The ultimate finding of this study was that the **Undefinedness Condition did not just work better**—it produced **nearly textbook-perfect** 1) **normal distribution** for emergence and 2) **exponential growth curve** for complexity escalations, which are the universe's favorite distributions. These patterns appear in everything: how stars are scattered across galaxies, how animals evolve, how your height compares to your classmates, how viruses spread, how your brain cells connect—**literally everything that emerges naturally follows these identical distributions**. **Only the Undefinedness Condition captured these fundamental rhythms** of existence itself!

The Undefinedness Condition in *The Lattice Experiment* functioned like a mini universe that followed the same rules of existence. Meanwhile, the **Nothing and Infinity Conditions created rigid, artificial patterns that you would never find anywhere in nature**—they were like statistical aliens that do not fit reality. These distributions disqualify the Nothing and Infinity Conditions, demonstrating that I have tapped into something profound and universal about the mechanisms of existence. The same mathematical heartbeat that governs galaxies and ecosystems was beating in our little letter lattices when we let definedness do its thing—come into existence without any justification or anything stopping it.

The Theorem of Undefined Emergence: It's Not Content… It's Structural Form

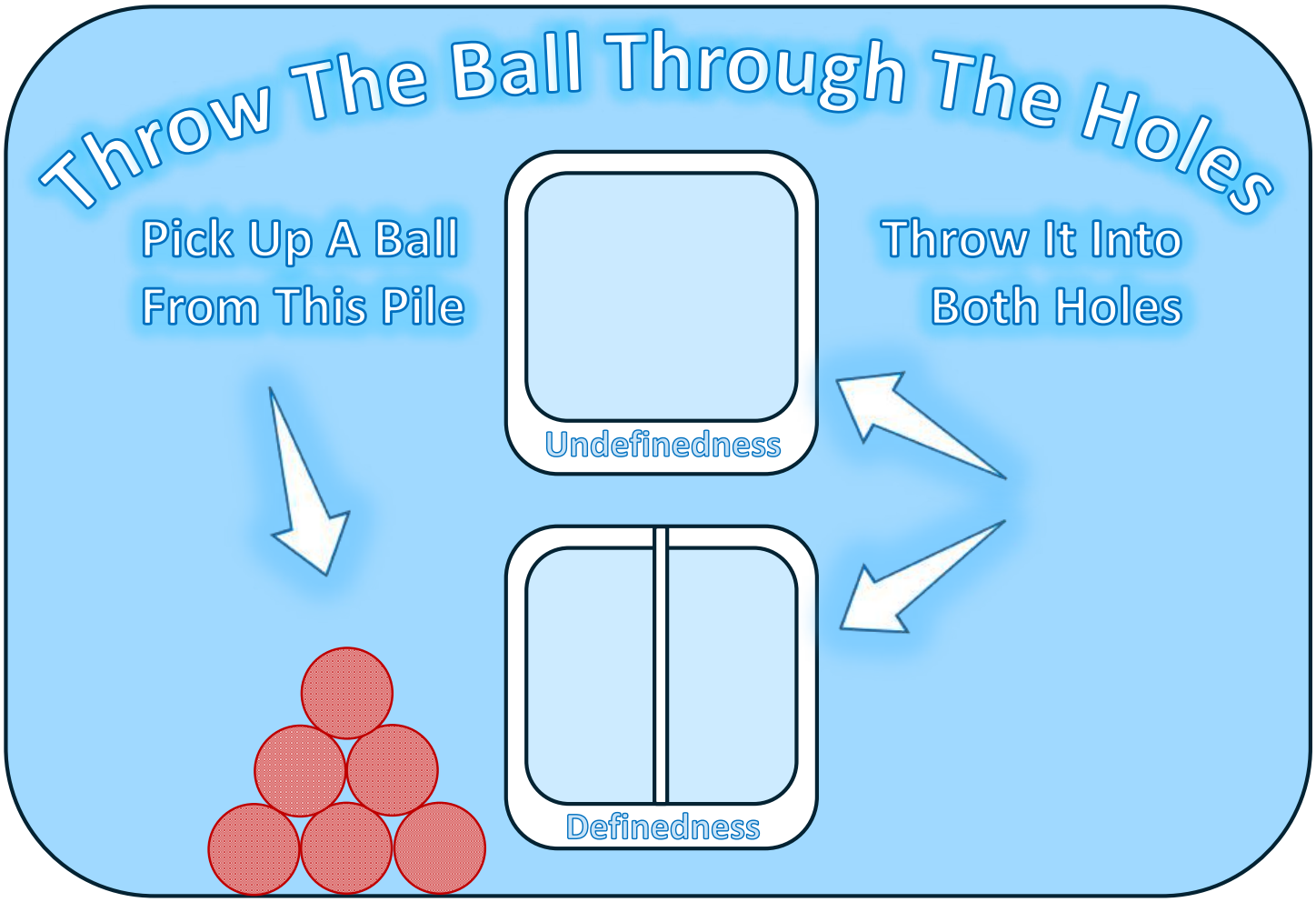
A critical aspect of this experimental paradigm that strengthens these findings is **the deliberate bias I introduced in favor of the Nothing Condition through the composition of the word pool**. I intentionally structured the word pools to favor five-character words, **creating an artificial advantage for the Nothing Condition** since it exclusively **resolved five-character words**. At the same time, the Undefinedness Condition must compete across multiple character lengths without predetermined slot sizes. The lattice size started at 5×5 square, which means **the five-character words were available to resolve for both conditions right away**. However, **achieving five-character words required more entropy to generate**, so **the Undefinedness Condition grabbed up all the three- and four-character words** before the lattice was large enough to generate the five-character words. In other words, I could have made the word pool 1 three-, 2 four-, and 100 five-character words, and **the Undefinedness Condition would consistently outperform the Nothing Condition** because of **the limitation of the slot size** existing before the words emerged. I stacked the deck against the Undefinedness Condition to show that any superior performance could not be attributed to favorable parameters or statistical artifacts.

The remarkable dominance of the Undefinedness Condition, despite its structural disadvantage in the word pool, demonstrates that **the observed differences are fundamental rather than circumstantial**. The results reflect distinct emergence mechanisms rather than mere variations in efficiency within the same process. The **Nothing Condition**, by its very nature, **cannot produce the variability, resolution speed, and repeated success demonstrated** by the **Undefinedness Condition** because these qualities require the complete absence of predetermined structure—the **simultaneous co-emergence of both slot size and word** rather than forcing content to conform to preexisting constraints. In other words, **the Nothing Condition cannot reflect existence**.

This structural difference explains why the **Undefinedness Condition naturally generates the distributions found throughout natural systems**—the normal distribution and the exponential growth curve—while the Nothing Condition produces artificial, rigid patterns that bear no resemblance to real-world emergence phenomena. That structural difference in the output operates **on the mechanistic level**, so it does not matter how one varies the parameters; it does not matter if you set the Nothing Condition to 6 or 7, it does not matter if the frequency of the character counts in the word pool changes, and it does not matter if you set the maximum lattice size beyond 100—**the same pattern will always emerge**. This experimental paradigm thus isolates the core principle of the concept of undefinedness rather than optimizing parameters, revealing that the mechanism itself, not its calibration, determines the fundamental character of emergence processes.

This fundamental principle is called the ***Theorem of Undefined Emergence***. When two conditions start identically except for one possessing no constraints and the other possessing any constraint, **the unconstrained condition is the only condition capable of producing the full range of possible emergence, resulting in more varied, frequent, and faster resolutions**. It is invariant across content, encoding, slot size, or word pool composition—**purely a function of conditional constraint**. The Nothing Condition, no matter how optimized, **fails because of any constraint**. It's not about the phenomenon, but if the conditions permit undefined emergence.

You might then expect the Infinity Condition to be unconstrained… right? Infinity means endless possibilities? However, **the Infinity Condition is not unconstrained**. It is constrained by the requirement that something needs to be infinite before resolving the emergence. The problem? **That constraint, by definition, is impossible to overcome as something infinite never ends.** There is never a point where something infinite clears the bar required for emergence under infinity because there is no point when infinity is achieved. **Infinity, by definition, is never achieved** because you cannot achieve something that has no endpoint, no resolution point. It is why words never resolved in the Infinity Condition. Take a moment to focus and **try out this figure below:**



When you first saw this image, and you went to think about what would happen when you picked up the ball and threw it, when you started this paper, **you did not know I was going to ask you to do it, right?** At that time, this thinking/visualizing experience you just had did not have definedness, but when you saw this image, that thinking/visualization emerged because... nothing was stopping you from thinking about it or visualizing it.

You could have thought of anything and visualized anything. Yet, because your experiences and memory have allowed for it, those thoughts and visuals were **coherent and sufficiently complex**. The likelihood of being able to do that if we could only think in certain ways decreases instantly with any constraint on our thinking process. For example, if I had started off the prompt with an explanation of the physics of throwing a ball, and then asked

you about the physics of throwing a ball, that information and **those thoughts would have blocked the real experience you just had**. However, that information and those thoughts did not block the thoughts you emerged from this image. This is how existence and emergence came to be, with no justification needed.

An Emerging Perspective on Emergence

The implications extend beyond intellectual theory to practical applications in artificial intelligence, creativity research, and the design of complex systems. The **Undefinedness Condition's superior performance reveals a universal favorable bias toward balanced order with chaos**, the total absence of definedness at emergence, and flexible starting conditions rather than rigid, complex, and predetermined constraints. The implications (why it is important) of these findings reverberate across virtually every domain of human knowledge and inquiry, **fundamentally reshaping our understanding of emergence, causation, and the nature of existence**. If the concept of undefinedness represents the true origin condition of emergence, then our entire framework for understanding how complex systems develop, evolve, and sustain themselves **requires radical reconceptualization**. This experimental evidence suggests that the most sophisticated phenomena in our universe—from consciousness to quantum mechanics—may all operate according to the same principles demonstrated here.

Most profoundly, these findings provide **empirical support for resolving ancient philosophical paradoxes about existence itself**. The concept of **undefinedness resolves the infinite regress paradox,** as undefinedness cannot have a prior cause because it cannot have anything; it simply does not exist—there are no restrictions on emergence and no foundation from which something must arise. The experimental paradigm demonstrates that meaningful patterns emerge **most effectively under conditions supported by the concept of undefinedness**, indicating that existence operates according to the same principle, with complexity and stability arising from the self-organization of **constraints with emerging phenomena**, not after any predetermined nothing or infinity.

Perhaps most profoundly, these findings suggest that **the universe is not a machine following predetermined rules, but rather an ongoing creative process where new possibilities continuously emerge** due to the concept of undefinedness. Existence indeed has mechanisms with mechanistic processes, but **the content through which those mechanisms arrange chaos into order is seemingly endless**. Each moment represents a fresh emergence event, with existence constantly reinventing itself while maintaining coherent patterns. We can **acknowledge its mechanistic consistency**, then guide our attention to seeing how it is a **genuinely creative process** where novelty, meaning, and complexity emerge continuously, at all moments, everywhere…

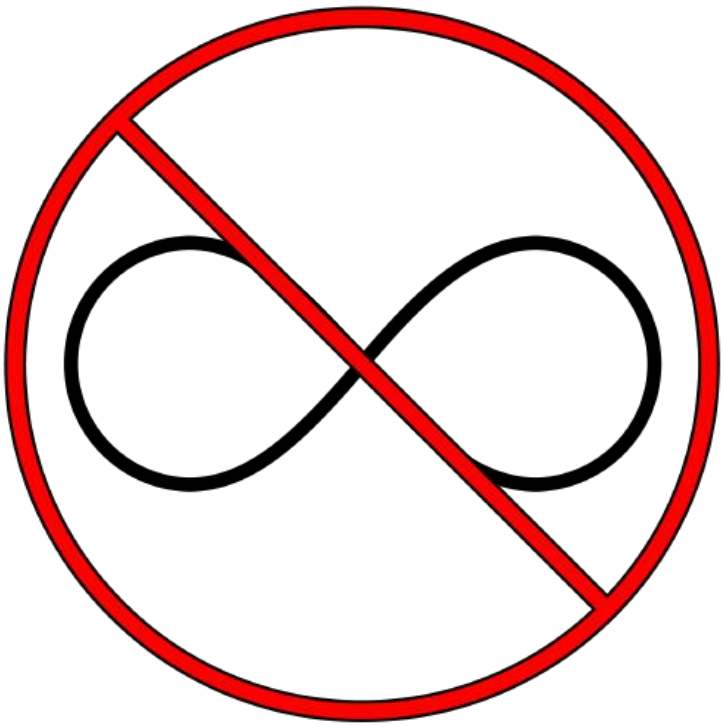
Infinities & Paradoxes: The Ultimate Killers of Discovery

Alrighty, folks, let's talk about the elephant in the room. I know how much people love the concept of **infinities and paradoxes,** and, as concepts with immense conceptual value, **they are not something that exists in the universe** because they are structurally impossible. For something infinite to exist the container in which the infinite phenomenon resides must be able to fully hold it, **which is not possible because infinity never ends**. When you approach a paradox, it does not mean we have hit something unknowable; it means we have made an incorrect assumption. **We have never recorded something physically infinite nor physically paradoxical**. All phenomena, whether fractals, black holes, or irrational numbers like π and *e*, are constrained by physical limits. For example, if the Planck length is the universal minimum (which it is), **values like π and *e* become meaningless beyond the 35^{th} digit**. Infinity may be a useful concept in math. Still, in a relational reality, it is merely a placeholder—**a marker for the death of discovery**. By inserting infinity into our theories instead of acknowledging 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, π, *e*, and other constants co-derived, existing only in relation to each other; we know this sequence occurred from Paper 1: The Unification of Mathematics: *The Theorem of Constants Co-Derivation*. **Euler's Identity is still valid if you cut off all the numbers after the 35^{th} digit**, which is

what happened at the Big Bang. If you think about it, irrational numbers are just that, irrational, illogical, and nonexistent. The reason we could never conceptualize them is because they do not exist in an endless form.

Fractals and black holes 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 phenomena or system that generates them**. Similarly, black holes do not collapse into infinite singularities. Instead, they bottleneck as recursive propagations slow dramatically under increasing complexity, **creating extreme but finite conditions that are also bound by entropy**. These apparent paradoxes dissolve when we reject the concept of infinity altogether.



In relational reality, undefinedness and infinity cannot exist because **reality requires co-definedness**. **No phenomenon can exist in isolation from everything**. An object-based phenomenon is undefinable because **all definition comes from comparison to other things**, so we could never fully define it. This **concept of relational reality started with Einstein's general relativity**. There is no logical reason to keep it infinity. **Infinity is what you get when you refuse to let yourself fail**. But failure—and the discomfort of admitting we do not know—is not a flaw; it is an essential, non-negotiable part of Truth-pursuits.

Existence has no paradoxes. If we encounter a paradox, we have made a wrong assumption. As people, we have been **standing on Step 10**, **straining to reach Step 20**, all while **failing to recognize that Step 2 was flawed** from the start. It does not matter how much we love or respect Step 2—holding onto it and patching the gaps with it or any other placeholder beyond "we do not know" compounds the problem. **Truth cannot emerge from shortcuts, abstractions, or overcomplications**; it can only be achieved by dismantling incorrect knowledge, **even when it's painful**, and building on a foundation that holds.

The Big Picture

So… here we are… **staring at something that might just change everything** we thought we knew about existence. What started as a simple experiment with randomly generated letters **has revealed the secret recipe the universe uses to create, well... everything**. When we embraced the concept of undefinedness—magic happened; real, measurable, universe-level magic. Words emerged faster, more creatively, and following the exact same distributions that govern star formation, brain functioning, and the evolution of species. We built a tiny universe that follows the same conditions as existence... and **existence whispered back to confirm…**

The findings are not really about the lattices; it is about understanding that the entire cosmos—me, you, this paper, grapes, quantum particles, social trends, galaxy clusters, and emotions—**might be one massive, ongoing creative process** where new possibilities are **constantly emerging because of the concept of undefinedness**. Every moment, everywhere, **existence is dancing into definedness** using the same principles we discovered in *The Lattice Experiment*. For 14 billion years, from the first spark of existence at the Big Bang to this very moment we share together, right here, right now… **it has been the same endless creative process,** driven by the concept of undefinedness. It means that **definedness emerges freely everywhere**—in your brain as you read this, in the stars being born light-years away, and in every heartbeat and thought humanity has spent on these questions. Now, those heartbeats and thoughts can move to **what we all do with these answers now that we know them**…

Existence is, quite simply, **an ongoing creative masterpiece,** where meaning and structure continuously emerge because that's just how it works when there is nothing that can ever stop it. **We are not *just* participants in this process—we ARE this process**. So… when you **stare at the ceiling late at night but see the universe instead**, all those galaxies you see are the universe's way of **singing the tune of existence** with stars and gravity. The visuals… in your mind… **it's not *just* your brain working**—it's the universe discovering something new about itself **through you**. We are all part of this same grand dance, always finding new moves, each moment… a possibility of beautiful emergence from the depths of undefinedness—that is, if undefinedness was something that could have depth, but of course, it can't… **it simply isn't**…

The Lattice Experiment Code

```
import random
import math
import string
import pandas as pd
from collections import Counter

# Load a basic dictionary
dictionary = {
    “space”, “grain”, “light”, “apple”, “tree”, “paper”, “water”, “fire”, “earth”,
    “sun”, “moon”, “star”, “book”, “pen”, “desk”, “cat”, “dog”, “bird”, “fish”,
    “grass”, “rose”, “oak”, “bread”, “meat”, “fruit”, “seed”, “rock”, “stone”,
“metal”,
    “gold”, “iron”, “wood”, “plastic”, “music”, “art”, “paint”, “blue”, “red”,
“green”,
    “black”, “white”, “time”, “day”, “night”, “week”, “north”, “south”, “east”,
“west”
}

# Functions to generate lattice and calculate entropy
def generate_lattice(size, vowel_prob):
    vowels = 'aeiou'
    consonants = ''.join(set(string.ascii_lowercase) - set(vowels))
    return [
        [random.choice(vowels if random.random() < vowel_prob else consonants) for _
in range(size)]
        for _ in range(size)
    ]

def calculate_entropy(lattice):
    flat = ''.join([''.join(row) for row in lattice])
    counts = Counter(flat)
    total = sum(counts.values())
    return round(-sum((c/total) * math.log2(c/total) for c in counts.values()), 2)

# Final recursive ignition trial with entropy tracking
def run_trial_with_entropy(condition, max_attempts=100):
    slot_length = 5
    result = {
        “condition”: condition,
        “word_found”: False,
        “slot_length”: None,
        “attempts_to_ignition”: 0,
        “final_lattice_size”: None,
        “entropy”: None,
        “word”: None
    }

    lattice_size = 5
    vowel_prob = 0.01 if condition == "infinity" else 0.2

    for attempt in range(1, max_attempts + 1):
        lattice = generate_lattice(lattice_size, vowel_prob)
        entropy = calculate_entropy(lattice)

        result.update({
            “attempts_to_ignition”: attempt,
            "final_lattice_size": lattice_size,
            “entropy”: entropy
        })
```

```
        for row in lattice:
            for length in range(3, 9):
                for start in range(len(row) - length + 1):
                    candidate = ''.join(row[start:start+length])
                    if condition == "nothing" and len(candidate) == slot_length and
candidate in dictionary:
                        result.update({“word_found”: True, “word”: candidate,
“slot_length”: len(candidate)})
                        return result
                    elif condition == “undefinedness” and candidate in dictionary:
                        result.update({“word_found”: True, “word”: candidate,
“slot_length”: len(candidate)})
                        return result
                    elif condition == "infinity" and len(candidate) >= 1000000:
                        result.update({“word_found”: True, “word”: candidate,
“slot_length”: len(candidate)})
                        return result

        lattice_size += 1

    return result

# Run full set of trials across conditions
def run_trials_with_entropy(conditions, trials_per_condition=20):
    results = []
    for condition in conditions:
        for _ in range(trials_per_condition):
            results.append(run_trial_with_entropy(condition))
    return results

# Run and collect results
conditions = [“nothing”, “undefinedness”, “infinity”]
final_batch_with_entropy = run_trials_with_entropy(conditions, trials_per_condi-
tion=20)

# Convert to DataFrame and summarize
df_final_batch = pd.DataFrame(final_batch_with_entropy)
successful_trials_final = df_final_batch[df_final_batch["word_found"] == True]

# Generate final summary statistics
summary_stats_final = successful_trials_final.groupby("condition").agg(
    avg_entropy=(‘entropy’, ‘mean’),
    median_entropy=(‘entropy’, ‘median’),
    avg_lattice_size=(‘final_lattice_size’, ‘mean’),
    median_lattice_size=(‘final_lattice_size’, ‘median’),
    avg_attempts=(‘attempts_to_ignition’, ‘mean’),
    median_attempts=(‘attempts_to_ignition’, ‘median’),
    count=(‘word_found’, ‘count’)
).round(2)

# Calculate success rate from full dataset
success_rate_overall = df_final_batch.groupby("condi-
tion")["word_found"].mean().round(2).reset_index(name="success_rate")
summary_stats_final.reset_index(inplace=True)
final_summary = pd.merge(summary_stats_final, success_rate_overall, on="condition")

# Print final summary
print(final_summary)
```

Table 5

Raw Data from The Lattice Experiment

Condition	Resolved	Slot Size	Attempts	Lattice Size	Entropy	Word
Undefinedness	TRUE	3	1	5	3.78	red
Undefinedness	TRUE	3	1	5	4.32	red
Undefinedness	TRUE	3	2	6	3.8	pen
Undefinedness	TRUE	3	2	6	4.1	dog
Undefinedness	TRUE	3	2	6	4.27	oak
Undefinedness	TRUE	3	3	7	4.24	red
Undefinedness	TRUE	3	4	8	4.26	sun
Undefinedness	TRUE	4	4	8	4.31	blue
Undefinedness	TRUE	3	4	8	4.38	sun
Undefinedness	TRUE	3	4	8	4.39	oak
Undefinedness	TRUE	3	4	8	4.42	day
Undefinedness	TRUE	3	4	8	4.42	oak
Undefinedness	TRUE	3	5	9	4.27	day
Undefinedness	TRUE	3	5	9	4.34	dog
Undefinedness	TRUE	3	5	9	4.37	cat
Undefinedness	TRUE	3	5	9	4.4	pen
Undefinedness	TRUE	4	5	9	4.43	moon
Undefinedness	TRUE	3	5	9	4.43	pen
Undefinedness	TRUE	4	5	9	4.44	wood
Undefinedness	TRUE	3	5	9	4.46	oak
Undefinedness	TRUE	3	5	9	4.5	pen
Undefinedness	TRUE	4	5	9	4.53	week
Undefinedness	TRUE	3	5	9	4.54	cat
Undefinedness	TRUE	3	6	10	4.42	pen
Undefinedness	TRUE	3	6	10	4.5	pen
Undefinedness	TRUE	4	6	10	4.52	fish
Undefinedness	TRUE	3	6	10	4.55	art
Undefinedness	TRUE	3	6	10	4.55	art
Undefinedness	TRUE	3	6	10	4.57	pen
Undefinedness	TRUE	3	6	10	4.59	dog
Undefinedness	TRUE	3	7	11	4.4	oak
Undefinedness	TRUE	4	7	11	4.5	book
Undefinedness	TRUE	3	7	11	4.53	art
Undefinedness	TRUE	3	7	11	4.57	cat
Undefinedness	TRUE	3	7	11	4.59	day
Undefinedness	TRUE	3	7	11	4.6	pen
Undefinedness	TRUE	3	8	12	4.48	day
Undefinedness	TRUE	3	8	12	4.52	cat
Undefinedness	TRUE	3	8	12	4.55	cat
Undefinedness	TRUE	3	8	12	4.55	oak
Undefinedness	TRUE	3	8	12	4.57	day
Undefinedness	TRUE	3	8	12	4.59	cat
Undefinedness	TRUE	4	8	12	4.59	week
Undefinedness	TRUE	3	8	12	4.61	oak

Undefinedness	TRUE	3	8	12	4.61	red
Undefinedness	TRUE	3	9	13	4.54	red
Undefinedness	TRUE	3	9	13	4.56	dog
Undefinedness	TRUE	3	9	13	4.56	dog
Undefinedness	TRUE	3	9	13	4.58	dog
Undefinedness	TRUE	3	9	13	4.59	art
Undefinedness	TRUE	3	9	13	4.59	oak
Undefinedness	TRUE	3	9	13	4.6	dog
Undefinedness	TRUE	3	9	13	4.6	red
Undefinedness	TRUE	3	9	13	4.61	oak
Undefinedness	TRUE	3	9	13	4.62	day
Undefinedness	TRUE	3	9	13	4.62	oak
Undefinedness	TRUE	3	9	13	4.62	pen
Undefinedness	TRUE	3	9	13	4.63	red
Undefinedness	TRUE	3	9	13	4.64	pen
Undefinedness	TRUE	3	9	13	4.64	red
Undefinedness	TRUE	3	10	14	4.58	red
Undefinedness	TRUE	3	10	14	4.59	day
Undefinedness	TRUE	3	10	14	4.59	pen
Undefinedness	TRUE	3	10	14	4.6	sun
Undefinedness	TRUE	3	10	14	4.6	sun
Undefinedness	TRUE	3	10	14	4.61	day
Undefinedness	TRUE	3	10	14	4.61	day
Undefinedness	TRUE	3	10	14	4.61	oak
Undefinedness	TRUE	3	10	14	4.62	pen
Undefinedness	TRUE	3	10	14	4.62	red
Undefinedness	TRUE	4	10	14	4.63	fire
Undefinedness	TRUE	3	10	14	4.63	pen
Undefinedness	TRUE	3	10	14	4.65	red
Undefinedness	TRUE	3	10	14	4.66	day
Undefinedness	TRUE	3	11	15	4.58	cat
Undefinedness	TRUE	3	11	15	4.59	sun
Undefinedness	TRUE	3	11	15	4.6	day
Undefinedness	TRUE	3	11	15	4.6	sun
Undefinedness	TRUE	4	11	15	4.6	time
Undefinedness	TRUE	3	11	15	4.61	oak
Undefinedness	TRUE	3	11	15	4.61	sun
Undefinedness	TRUE	3	11	15	4.62	cat
Undefinedness	TRUE	3	11	15	4.62	dog
Undefinedness	TRUE	3	11	15	4.62	red
Undefinedness	TRUE	3	11	15	4.63	cat
Undefinedness	TRUE	3	11	15	4.63	dog
Undefinedness	TRUE	4	11	15	4.63	week
Undefinedness	TRUE	3	11	15	4.64	art
Undefinedness	TRUE	3	11	15	4.64	day
Undefinedness	TRUE	4	11	15	4.64	fire
Undefinedness	TRUE	3	11	15	4.64	oak
Undefinedness	TRUE	3	11	15	4.66	day

Undefinedness	TRUE	3	12	16	4.59	red
Undefinedness	TRUE	3	12	16	4.59	sun
Undefinedness	TRUE	3	12	16	4.6	art
Undefinedness	TRUE	3	12	16	4.6	art
Undefinedness	TRUE	3	12	16	4.6	cat
Undefinedness	TRUE	3	12	16	4.61	pen
Undefinedness	TRUE	4	12	16	4.63	rose
Undefinedness	TRUE	3	12	16	4.64	cat
Undefinedness	TRUE	3	12	16	4.65	art
Undefinedness	TRUE	3	12	16	4.65	pen
Undefinedness	TRUE	3	13	17	4.61	red
Undefinedness	TRUE	3	13	17	4.62	cat
Undefinedness	TRUE	3	13	17	4.63	day
Undefinedness	TRUE	3	13	17	4.63	day
Undefinedness	TRUE	3	13	17	4.63	oak
Undefinedness	TRUE	3	13	17	4.63	sun
Undefinedness	TRUE	3	13	17	4.63	sun
Undefinedness	TRUE	3	13	17	4.63	sun
Undefinedness	TRUE	3	13	17	4.64	day
Undefinedness	TRUE	3	13	17	4.64	day
Undefinedness	TRUE	3	13	17	4.65	cat
Undefinedness	TRUE	3	13	17	4.65	cat
Undefinedness	TRUE	3	13	17	4.65	day
Undefinedness	TRUE	3	13	17	4.65	dog
Undefinedness	TRUE	3	13	17	4.65	red
Undefinedness	TRUE	3	13	17	4.66	red
Undefinedness	TRUE	3	13	17	4.68	cat
Undefinedness	TRUE	3	14	18	4.62	sun
Undefinedness	TRUE	3	14	18	4.63	day
Undefinedness	TRUE	3	14	18	4.64	cat
Undefinedness	TRUE	3	14	18	4.64	day
Undefinedness	TRUE	3	14	18	4.64	dog
Undefinedness	TRUE	3	14	18	4.65	art
Undefinedness	TRUE	3	14	18	4.65	cat
Undefinedness	TRUE	3	14	18	4.66	cat
Undefinedness	TRUE	3	14	18	4.66	cat
Undefinedness	TRUE	3	14	18	4.66	sun
Undefinedness	TRUE	3	14	18	4.67	art
Undefinedness	TRUE	3	14	18	4.67	sun
Undefinedness	TRUE	3	15	19	4.63	dog
Undefinedness	TRUE	3	15	19	4.64	red
Undefinedness	TRUE	4	15	19	4.64	west
Undefinedness	TRUE	3	15	19	4.65	art
Undefinedness	TRUE	3	15	19	4.65	art
Undefinedness	TRUE	3	15	19	4.65	day
Undefinedness	TRUE	3	15	19	4.65	oak
Undefinedness	TRUE	3	15	19	4.65	oak
Undefinedness	TRUE	3	15	19	4.65	pen

Undefinedness	TRUE	3	15	19	4.65	sun
Undefinedness	TRUE	4	15	19	4.65	tree
Undefinedness	TRUE	3	15	19	4.66	day
Undefinedness	TRUE	3	15	19	4.66	dog
Undefinedness	TRUE	3	15	19	4.66	oak
Undefinedness	TRUE	3	15	19	4.66	pen
Undefinedness	TRUE	3	15	19	4.67	art
Undefinedness	TRUE	3	15	19	4.67	day
Undefinedness	TRUE	3	16	20	4.62	oak
Undefinedness	TRUE	4	16	20	4.63	gold
Undefinedness	TRUE	3	16	20	4.65	cat
Undefinedness	TRUE	3	16	20	4.65	cat
Undefinedness	TRUE	3	16	20	4.65	dog
Undefinedness	TRUE	3	16	20	4.65	red
Undefinedness	TRUE	3	16	20	4.65	sun
Undefinedness	TRUE	4	16	20	4.65	time
Undefinedness	TRUE	3	16	20	4.66	oak
Undefinedness	TRUE	3	16	20	4.66	sun
Undefinedness	TRUE	3	16	20	4.67	red
Undefinedness	TRUE	3	17	21	4.65	cat
Undefinedness	TRUE	3	17	21	4.65	red
Undefinedness	TRUE	3	17	21	4.66	cat
Undefinedness	TRUE	3	17	21	4.66	dog
Undefinedness	TRUE	4	17	21	4.66	iron
Undefinedness	TRUE	3	17	21	4.66	red
Undefinedness	TRUE	4	17	21	4.66	rock
Undefinedness	TRUE	3	17	21	4.67	cat
Undefinedness	TRUE	3	17	21	4.67	cat
Undefinedness	TRUE	3	17	21	4.67	dog
Undefinedness	TRUE	3	17	21	4.67	pen
Undefinedness	TRUE	3	17	21	4.67	sun
Undefinedness	TRUE	3	17	21	4.67	sun
Undefinedness	TRUE	3	17	21	4.68	day
Undefinedness	TRUE	3	18	22	4.64	pen
Undefinedness	TRUE	3	18	22	4.65	art
Undefinedness	TRUE	3	18	22	4.65	day
Undefinedness	TRUE	3	18	22	4.66	oak
Undefinedness	TRUE	3	18	22	4.66	oak
Undefinedness	TRUE	3	18	22	4.67	art
Undefinedness	TRUE	3	18	22	4.67	red
Undefinedness	TRUE	4	18	22	4.67	west
Undefinedness	TRUE	3	18	22	4.68	pen
Undefinedness	TRUE	3	18	22	4.68	sun
Undefinedness	TRUE	3	18	22	4.68	sun
Undefinedness	TRUE	3	19	23	4.65	red
Undefinedness	TRUE	3	19	23	4.66	day
Undefinedness	TRUE	3	19	23	4.66	oak
Undefinedness	TRUE	4	19	23	4.67	blue

Undefinedness	TRUE	3	19	23	4.67	cat
Undefinedness	TRUE	3	19	23	4.68	red
Undefinedness	TRUE	3	19	23	4.68	sun
Undefinedness	TRUE	3	20	24	4.66	oak
Undefinedness	TRUE	3	20	24	4.67	day
Undefinedness	TRUE	3	21	25	4.66	pen
Undefinedness	TRUE	4	21	25	4.67	east
Undefinedness	TRUE	3	21	25	4.67	pen
Undefinedness	TRUE	4	21	25	4.67	rock
Undefinedness	TRUE	4	21	25	4.67	wood
Undefinedness	TRUE	3	21	25	4.68	oak
Undefinedness	TRUE	3	22	26	4.67	pen
Undefinedness	TRUE	3	22	26	4.68	cat
Undefinedness	TRUE	3	22	26	4.68	day
Undefinedness	TRUE	3	22	26	4.68	red
Undefinedness	TRUE	3	23	27	4.67	art
Undefinedness	TRUE	3	23	27	4.68	art
Undefinedness	TRUE	3	23	27	4.68	cat
Undefinedness	TRUE	3	24	28	4.67	sun
Undefinedness	TRUE	3	24	28	4.68	pen
Undefinedness	TRUE	3	28	32	4.68	art
Undefinedness	TRUE	3	31	35	4.69	red
Nothing	FALSE		100	104	4.7	
Nothing	FALSE		100	104	4.7	
Nothing	FALSE		100	104	4.7

Nothing	FALSE	100	104	4.7
Nothing	FALSE	100	104	4.7
Nothing	FALSE	100	104	4.7

Nothing	FALSE		100	104	4.7	
Nothing	FALSE		100	104	4.7	
Nothing	FALSE		100	104	4.7	

Nothing	TRUE	5	43	47	4.69	green
Nothing	TRUE	5	43	47	4.69	stone
Nothing	TRUE	5	45	49	4.69	night
Nothing	TRUE	5	47	51	4.69	music
Nothing	TRUE	5	48	52	4.69	metal
Nothing	TRUE	5	49	53	4.7	fruit
Nothing	TRUE	5	52	56	4.69	apple
Nothing	TRUE	5	53	57	4.69	green
Nothing	TRUE	5	53	57	4.7	earth
Nothing	TRUE	5	54	58	4.69	apple
Nothing	TRUE	5	54	58	4.69	stone
Nothing	TRUE	5	54	58	4.69	white
Nothing	TRUE	5	54	58	4.7	space
Nothing	TRUE	5	55	59	4.69	white
Nothing	TRUE	5	57	61	4.69	grass
Nothing	TRUE	5	58	62	4.7	paint
Nothing	TRUE	5	59	63	4.69	grass
Nothing	TRUE	5	59	63	4.7	night
Nothing	TRUE	5	59	63	4.7	space
Nothing	TRUE	5	61	65	4.7	metal
Nothing	TRUE	5	61	65	4.7	music
Nothing	TRUE	5	62	66	4.7	light
Nothing	TRUE	5	64	68	4.7	fruit
Nothing	TRUE	5	66	70	4.7	fruit
Nothing	TRUE	5	66	70	4.7	space
Nothing	TRUE	5	67	71	4.69	black
Nothing	TRUE	5	67	71	4.7	grass
Nothing	TRUE	5	68	72	4.7	green
Nothing	TRUE	5	68	72	4.7	night
Nothing	TRUE	5	69	73	4.7	bread
Nothing	TRUE	5	69	73	4.7	fruit
Nothing	TRUE	5	69	73	4.7	fruit
Nothing	TRUE	5	69	73	4.7	music
Nothing	TRUE	5	70	74	4.7	bread
Nothing	TRUE	5	70	74	4.7	grass
Nothing	TRUE	5	70	74	4.7	water
Nothing	TRUE	5	70	74	4.7	water
Nothing	TRUE	5	72	76	4.7	green
Nothing	TRUE	5	74	78	4.7	bread
Nothing	TRUE	5	74	78	4.7	fruit
Nothing	TRUE	5	74	78	4.7	metal
Nothing	TRUE	5	74	78	4.7	paper
Nothing	TRUE	5	75	79	4.7	paper
Nothing	TRUE	5	75	79	4.7	white
Nothing	TRUE	5	76	80	4.7	apple
Nothing	TRUE	5	76	80	4.7	green
Nothing	TRUE	5	77	81	4.7	green
Nothing	TRUE	5	79	83	4.7	grain

Nothing	TRUE	5	79	83	4.7	north
Nothing	TRUE	5	79	83	4.7	paint
Nothing	TRUE	5	79	83	4.7	space
Nothing	TRUE	5	80	84	4.7	green
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Nothing	TRUE	5	83	87	4.7	fruit
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Nothing	TRUE	5	84	88	4.7	apple
Nothing	TRUE	5	84	88	4.7	apple
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Nothing	TRUE	5	84	88	4.7	north
Nothing	TRUE	5	85	89	4.7	green
Nothing	TRUE	5	87	91	4.7	paint
Nothing	TRUE	5	88	92	4.7	apple
Nothing	TRUE	5	88	92	4.7	fruit
Nothing	TRUE	5	88	92	4.7	grass
Nothing	TRUE	5	88	92	4.7	night
Nothing	TRUE	5	88	92	4.7	water
Nothing	TRUE	5	89	93	4.7	stone
Nothing	TRUE	5	90	94	4.7	grain
Nothing	TRUE	5	90	94	4.7	music
Nothing	TRUE	5	90	94	4.7	white
Nothing	TRUE	5	91	95	4.7	paint
Nothing	TRUE	5	92	96	4.7	apple
Nothing	TRUE	5	93	97	4.7	black
Nothing	TRUE	5	93	97	4.7	grass
Nothing	TRUE	5	93	97	4.7	paint
Nothing	TRUE	5	95	99	4.7	apple
Nothing	TRUE	5	95	99	4.7	north
Nothing	TRUE	5	96	100	4.7	black
Nothing	TRUE	5	96	100	4.7	stone
Nothing	TRUE	5	98	102	4.7	bread
Nothing	TRUE	5	99	103	4.7	grain
Nothing	TRUE	5	99	103	4.7	grain
Nothing	TRUE	5	99	103	4.7	green
Nothing	TRUE	5	100	104	4.7	earth
Nothing	TRUE	5	100	104	4.7	water
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Infinity	FALSE	100	104	4.46
Infinity	FALSE	100	104	4.47

Note. n = 630. Raw data from *The Lattice Experiment*

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

Act IV: *The Equation of Existence*

July 21st, 2025, Update; 6:18 PM

Standing at the Intersection of Greatness & Irreversibility, Grateful

To my fellow seekers, dreamers, and curious rebels ❤️ how's the Defintological Revolution going? Listen… I know you probably want to hear more from me; thank you, truly, that time will come… but right now, the only thing that matters is *The Theory of Existence*. Here is **Paper 11: The Dance of Stability & Complexity: *The Equation of Existence* as the Universal Lens**. I trust you know what to do. In the meantime, there's a few things on my mind I'll share with you soon.

The Dance of Stability & Complexity

The Equation of Existence as the Universal Lens

Written by Bryant Stone (*The Architect*)

Overview

Why are things the way they are? For millennia, humanity has sought to understand existence—physics measured in kilometers, chemistry in pH units, and psychology in behavioral assessments. Although we have achieved remarkable success in these domains, one central mystery remains: **what connects them all?** When we step back to observe existence, we do *not* see fragmentation—**we see harmony and cohesion**. We see a **synchronized symphony operating under a single, magnificent unifying principle**. In this paper, I introduce that principle; it is called ***The Equation of Existence* ($\Phi = \Omega/\Delta$)**—a universal relationship governing **everything that has existed, currently exists, and can exist**. In *The Equation*, 1) **Definedness (Φ)** is the degree to which something exists, 2) **Stability (Ω)** is the degree to which complexity is attracted to complexity, and 3) **Complexity (Δ)** is the degree to which phenomena escalate from basic to structured forms. This profound yet straightforward ratio reveals that all phenomena emerge from **this balance between persistence and growth**. *The Equation* holds total explanatory power, operating across all contexts, units of measurement, timeframes, and scales, **without exception**. I demonstrate *The Equation* through pure mathematics, using the Collatz Conjecture and treating the number line as a time series. Then, I apply it to real-world data, including **Walmart sales, global GDP, CO_2 emissions, Katy Perry's cultural arc, power usage, my own thought processes, and the universe itself through the Cosmic Background Microwave radiation**. The result is always the same: ***The Equation* holds**. We no longer need to view existence as a conglomerate of siloed domains. With *The Equation*, we have found the source code of existence—the underlying structure. It is written in math, felt in every breath, and expressed in all phenomena… including *you*, dear reader. Oh… and the answer to that question is… **it's the only way for things to be…**

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Background & Findings

Humanity has achieved remarkable success in articulating the most fundamental dynamics of what we see and experience through simple, elegant equations—$E = mc^2$, $e^{i\pi} + 1 = 0$, $F = ma$, and $a^2 + b^2 = c^2$. These **beautiful equations** reveal profound knowledge, deriving their power from articulating **minimum, absolute Truths**. For ***The Theory of Existence* to qualify as the *Grand Unified Theory of Everything*** (explains *all* of existence), it *must* contain such an equation—and fortunately, **it does**... It is called ***The Equation of Existence*—**the mechanism governing all phenomena that **have existed**, **currently exist**, and **can exist**. Allow me to introduce you…

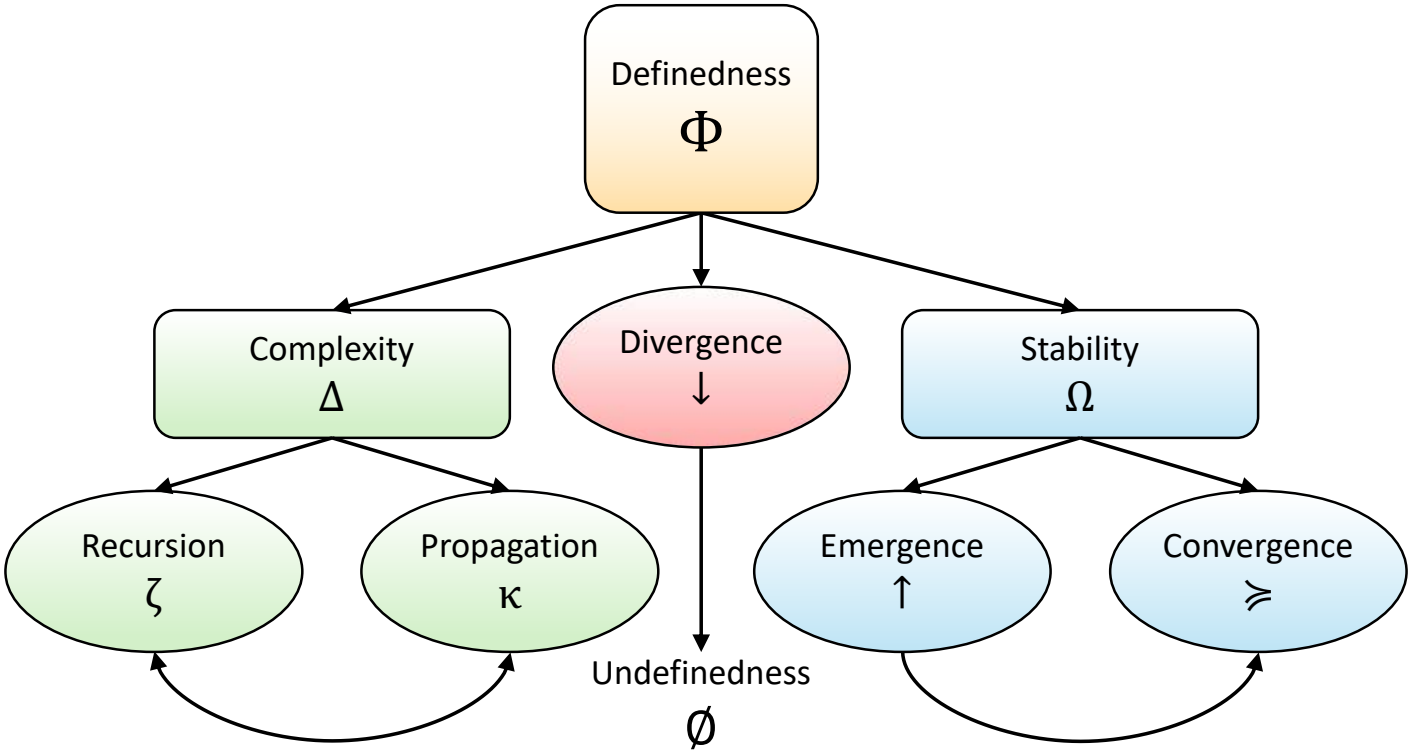
$$\Phi = \frac{\Omega}{\Delta}$$

$$\text{Definedness} = \frac{\text{Stability}}{\text{Complexity}} \qquad \text{The Universe} = \frac{\text{Space}}{\text{Light}} \qquad \text{Phenomena} = \frac{\text{Convergence}}{\text{Emergence}} \qquad \text{What} = \frac{\text{How}}{\text{Why}}$$

Well… there she is—***The Equation of Existence*—**sitting in its natural, ancient beauty. Shocking, right? You would think that the equation governing all phenomena would be complex. I can assure you that *The Equation* expands into more complex forms (I will show you soon), yet **it ultimately collapses back into this universal ratio**. Let me explain how it works so you can see for yourself. I promise I am *not* tricking you or wasting your time.

The first concept to understand is that ***The Equation* contains three terms that describe the *behavior* of all phenomena**—anything that exists… **anything with definedness**: including you, me, stars, grapes, black holes, and even pop culture. In *The Theory of Existence*, I reframed existing phenomena along **a spectrum of definedness**. What does not exist—what has no structure, persistence, or presence—**is called undefinedness**.

You can see the whole model of *The Theory* below. *The Equation*'s three terms are astonishingly flexible. Though they may seem abstract at first, you can swap them with words we have traditionally treated as unrelated. Yet, **all of them map back to this same core principle**. We can **express everything** through these three terms; we can rearrange them to explore any relationships or systems because it is a *simple ratio*. You may not believe it yet, but this equation is the language and blueprint for all of existence, and yes—**it applies to everything**.



Caption: This diagram shows the fundamental first-principles of existence as presented in *The Theory of Existence*, illustrating how definedness, stability, and complexity interact to shape all phenomena. Definedness is the unifying principle that maintains proportionality and ensures that complexity and stability interact harmoniously rather than divergence. Stability is the foundational structure that ensures the persistence of phenomena across existence, from the subatomic to cosmic superstructures, providing the necessary framework for phenomena. Complexity, in contrast, drives the diversification, growth, and interaction of phenomena, building upon stable foundations to generate emergent structures. We capture this dynamic in *The Equation of Existence in The Theory of Existence*. At the bottom of the figure we see the two axes of the process of existence, which are 1) recursive propagations as the engine and 2) emergence-to-convergence (E2C) as the direction. This balance and these processes underpin the self-organizing nature of the universe, enabling physical structures from galaxies and planetary systems to biological evolution, intelligence, and consciousness. This model is the only one you need to explain everything that has and can exist.

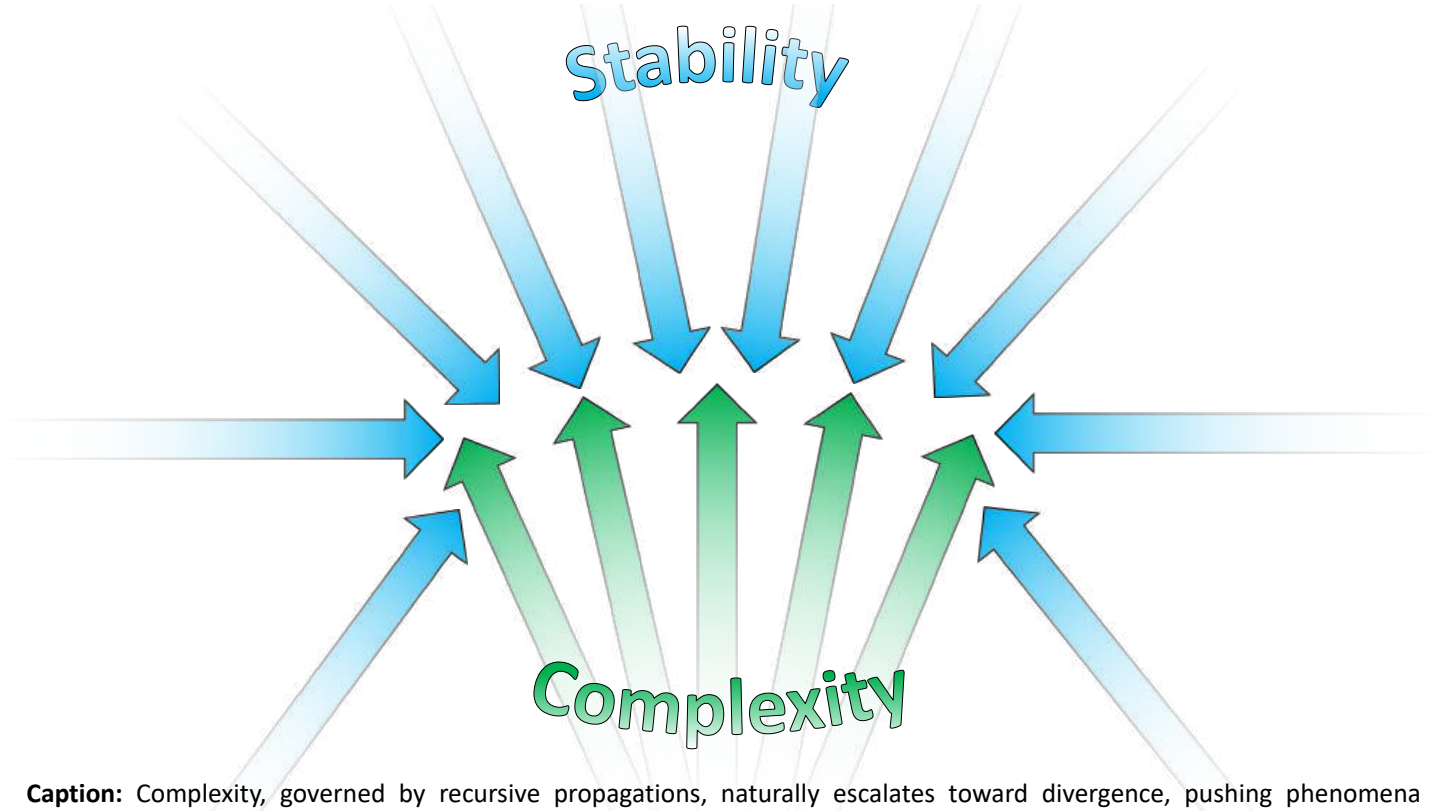
What Counts as Existence?

Phenomena include anything that exists—anything that has definedness. All phenomena exhibit **three distinct behaviors**. When we look around existence, **some phenomena appear everywhere**: round planets, animals with two eyes, and that one extended family member you see during the holidays—ya know… the one who makes things just awkward enough to notice, but not awkward enough to skip it. These examples are called **convergent phenomena**—they surround us, pervade the universe, and we are among them. Convergent phenomena are a

type of **emergent phenomena**, which are the origins of *all* phenomena**,** encompassing **anything that develops from basic to structured forms**. Phenomena start as emergent then persist into convergence.

We observe order emerging from chaos because **complexity is more resistant to divergence than simplicity**. Imagine **puzzle pieces in a shoebox**—when you shake it, some pieces connect by chance, but once connected, they are harder to break apart than when they are isolated. This example is exactly how existence works. Structured phenomena emerge spontaneously from chaos but **persist because their coherent arrangements are inherently more stable than random configurations**. The universe discovers order through recursive propagations, where complexity stabilizes itself to become the phenomena we see and experience around us.

Let me pause and examine some examples, such as how certain individuals develop **mental health conditions** after experiencing trauma. **Humans represent the convergent phenomena**, while **mental illness represents the emergent phenomena**. Mental illness starts as an emergent phenomenon because not everyone develops a mental health condition following trauma, though many do. When we observe trauma across populations, we notice that **these same emergent mental health conditions** occur consistently across time and geography, which means they are now **convergent phenomena**. Most phenomena follow this pattern of **emergence-to-convergence**: coming into being, sticking around because… why not, then diverging into non-being.



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 forms. This balance ensures that complexity does not diverge into chaos and instead aligns with convergent phenomena that persist and evolve. As recursion drives iterative progression and propagation extends these interactions across scales, stability moderates this expansion. This balance between complexity's tendency to escalate and stability's ability to contain it is fundamental to organizing everything from cosmic structures to cognitive systems. This balance, driven by recursive propagations, make complexity inherently more stable, allowing self-organization.

The Greatest Balancing Act in History: The Dance of Stability & Complexity

At the very heart of existence, within the depths of definedness, two fundamental forces dance with each other to the tune of existence: **Stability** (**Ω**) and **Complexity** (**Δ**). These two **behaviors of phenomena** harmonize everything into definedness. *The Equation* is complete, requires additions, and explains everything. **Stability provides the foundation** for phenomena to persist and converge, while **complexity provides the growth** that brings intricacy and development. This balancing act between stability and complexity defines existence on a spectrum.

Some phenomena have less definedness (lower resolution) than others, which varies according to their complexity**.** Let's look at these concepts more closely. **This paper is not the first time you have met them.**

◊ **Complexity is the source of variation, diversity, and interaction among phenomena**. It is how emergent and convergent phenomena **grow, change, and evolve**. From the intricate fractal geometry of snowflakes to the vast networks of galaxies… complexity shapes the course of existence. It manifests in everything from the speed of light to the atomic structure of matter. **Complexity stacks layers of meaning and advancement**, requiring all phenomena to evolve into more intricate forms before ultimately diverging. A single atom becomes far more meaningful **when it joins with other atoms to form molecules**, enabling life and galaxies alike. Complexity is the innovation and evolution in the universe, continuously reshaping itself to explore new possibilities… **allowing phenomena to find new moves** to prevent stagnation. Instead, existence continually diversifies and progresses—exploring possibilities within the bounds of definedness.

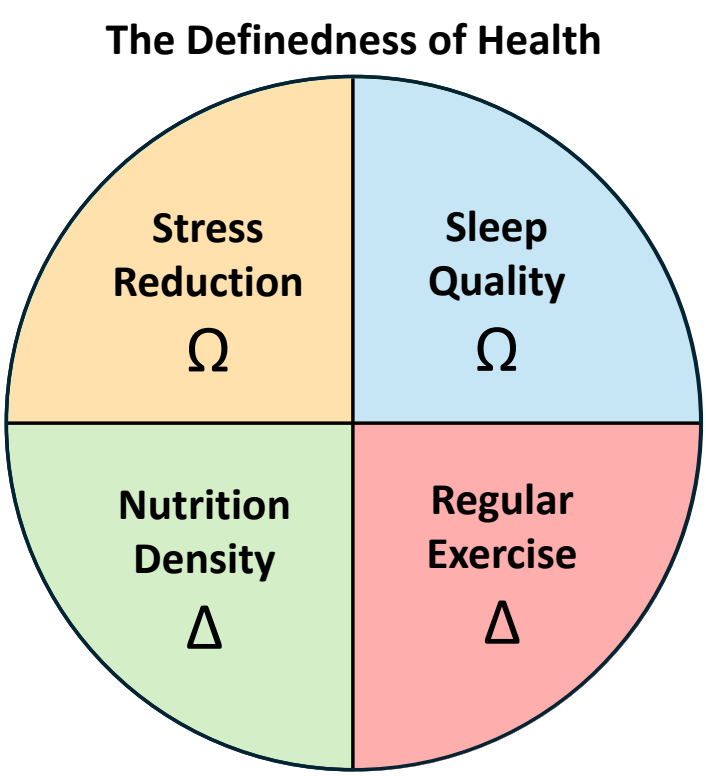
◊ **Stability is the fundamental foundation that structures phenomena**. The simplest explanation of stability is the degree to which complexity (phenomena) attracts complexity; it causes complexity to "bunch up" and escalate forms. Stability makes planets round from gravity… that is true… but it is also why the most advanced cognitive processes are all found in the front of the human brain, why the social elite all hang out with each other, and why pop stars with similar fans and genres tour together. **It serves as the underlying structure of existence**, providing the **persistence, cohesion, and framework** required for phenomena to endure, interact, and progress. **Stability is what prevents phenomena from diverging**, ensuring that coherent definedness can persist over time and scales. Without stability, phenomena escalate complexity too rapidly and destabilize, becoming unable to maintain their cohesive structure. Losing that complexity leaves phenomena defenseless against breakdown because it provides resistance to divergence. It is the binding force that keeps existence intact at every scale, from subatomic particles to galactic superclusters.

Aspect	Definedness	Stability	Complexity
Symbol	Φ (Phi)	Ω (Omega)	Δ (Delta)
Definition	The degree of existence of phenomena in relational reality.	The degree to which complexity is attracted to complexity.	The degree to which phenomena escalate from basic to structured.
Function	Ensures the existence of phenomena in relational reality.	Ensures coherence, persistence, and structure.	Ensures innovation, evolution, and possibilities.
Scale	Operates across all scales because it is all scales.	Operates across all scales because it is the reason for order.	Operates across all scales because growth is not optional.
Outcome	Existence	Order	Growth

Ultimately, all phenomena and the universe will diverge back toward basic forms (light) and then lose all definedness (undefinedness). However, phenomena do not "fight" divergence—they defy it, harness it, ride it, and eventually succumb to it. **Definedness**, then, **measures whether phenomena have emerged, converged, or diverged**. *The Equation* applies across all domains, from biology to physics… from consciousness to the cosmos… revealing that existence operates under a single rule that unifies what we thought were isolated phenomena.

Are You Sure *The Equation of Existence* Explains… Everything?

Yes… I am… *The Equation* describes the proportionality that defines all being, uniting stability (Ω) with complexity (Δ) to express the definedness of all phenomena. Φ represents **the balance of these two forces, capturing how phenomena stabilize, evolve, and persist over time**. This dance between stability and complexity creates a delicate balance that Φ quantifies, ensuring existence remains stable yet dynamic, persistent yet capable of transformation, firm yet flexible. All phenomena must constantly adjust their stability-complexity ratio to maintain definedness as environmental conditions change around them. It is unitless because **it describes the pattern underneath all phenomena**, not the metric or phenomena themselves. Whether we are measuring dollars, neurons, or light-years, *The Equation* reveals **the same proportional relationships**. Let's look at some examples:



Caption: This figure illustrates the four central pillars of health—stress reduction, sleep, nutrition, and exercise—demonstrating how the definedness of health follows *The Equation of Existence* in the human body. Stability-focused behaviors, such as stress reduction and quality sleep, anchor definedness by ensuring resilience, coherence, and long-term stability. In contrast, complexity-escalating behaviors, such as nutritional density and regular exercise, drive adaptation, growth, and enhanced functionality. Together, these four health pillars form a balanced system where nutrition and exercise play provide vitality and growth while stress reduction and sleep regulate this growth and vitality to prevent divergence. This figure emphasizes the necessity of maintaining the definedness of health, reinforcing that the optimal definedness of well-being emerges from a recursive-propagative balance between complexity and stability.

$$\text{Health} = \frac{\text{Stress Reduction} + \text{Sleep}}{\text{Nutrition} + \text{Exercise}}$$

Let's get personal… right? I told you in the overview that *The Equation* expresses itself through you, my dear reader ♡, so now let me show you. Across all the scientific literature in public health and medicine, four consistent behaviors seem to explain health itself, and they are 1) **reducing stress**, 2) **sleeping**, 3) **nutrition**, and 4) **exercise**. Health is a phenomenon because it has definedness, and if it has definedness… then it uses *The Equation of Existence*. **Sleep and stress reduction function as stability factors (Ω)**, providing the foundational conditions that allow the body to maintain equilibrium, recover, and persist in a healthy state. **Nutrition and exercise serve as complexity factors (Δ)**, driving growth, adaptation, and the dynamic processes that challenge and strengthen the body over time. Too much emphasis on stability without sufficient complexity leads to poor health and stagnation, while excessive complexity without adequate stability results in health conditions and divergences. Thus, **optimal health** emerges when **stabilizing behaviors** (sleep and stress management) **balance complexity** behaviors (nutrition and exercise). Let's look at another domain.

$$\text{Business} = \frac{\text{Assets}}{\text{Revenue}}$$

Ah… yes, **it works here too**. In this business application, the **definedness (Φ) of a business** (its success and sustainability) depends on the balance between assets and revenue. **Assets offer stability (Ω)**, providing the foundational resources, infrastructure, and financial reserves that allow businesses to endure market fluctuations and maintain operations over time. **Revenue is the complexity (Δ)**, driving dynamic growth, market interaction, and the active processes that generate increasing revenue and expand the business. **A business with healthy definedness emerges when stable asset management is properly balanced with dynamic revenue activities**. Excessive focus on asset accumulation without sufficient sales leads to losing revenue to competitors, while aggressive sales without adequate assets result in overwhelming, unsustainable expansion.

$$\text{Life} = \frac{\text{Healthy Development}}{\text{Growth}}$$

Let's investigate the very thing we are… why don't we? In this existential application, the **definedness (Φ) of something that is living** emerges from the balance between **healthy development and growth**. **Healthy development is stability (Ω)**, representing the successful acquisition of bodily functions that enable environmental engagement and ensure. **Growth is complexity (Δ)**, encompassing the dynamic, natural variation in traits, optimization of physical functioning, evolution of species, and adaptation. Thus, complexity allows for the stability of the definedness of life… which means growth allows for the healthy development of life.

A meaningful life requires the stable, healthy development of identity, purpose, and values, balanced with continuous growth and of who you are as a person. Pure healthy development without growth leads to poorer sustained development, impairment, and divergence from environmental risks over time; while relentless growth without healthy development results in unsustainable features (e.g., cancer). For most things, this development and growth framework is standard and good. **Life has a magic way of pulling through like that…**

$$\text{Cultural Trends} = \frac{\text{Popularity}}{\text{Novelty}}$$

Let's look at something more fun now. Lighten the mood a bit, geeezzz. We can apply *The Equation* to **the definedness (Φ) cultural trends;** it depends on the **balance between popularity and novelty**. **Popularity is the stability (Ω)**, representing the widespread acceptance, recognition, and sustained attention that allows cultural phenomena to persist and influence society over time. **Novelty is the complexity (Δ)**, providing the innovative, unexpected, and dynamic elements that capture attention and drive cultural phenomena. Lasting cultural trends start as emergent phenomena, then the novel ideas gain sufficient popularity to become convergent phenomena. All cultural trends ride this line between novelty and popularity. It is why Taylor Swift and Beyoncé, who are decades into their music careers, constantly switch it up, **keeping the novelty high enough to stabilize their popularity.** Pure popularity without novelty leads to a loss of cultural relevance, while excessive novelty without popular acceptance results in fleeting fads that quickly diverge into obscurity.

***The Equation of Existence* is just what I called it—the reason why anything exists.**

Okay Then… What Causes Misalignment & Divergence?

Ah, yes… good question. Now, let's talk about what happens to phenomena when they diverge. I will use some equation to help us out here… I just cannot remember for the life of me which equation it was… oh yeah! Right. *The Equation of Existence*. Let's examine what happens when stability and complexity are out of sync. **I am setting stability to one,** so we can **vary complexity freely** to see what **happens to definedness**.

$$\Phi = \frac{\Omega}{\Delta} \to 2 = \frac{1}{0.5}$$

When we set complexity (Δ) to less than stability, so $\Delta = 0.5$, we see that when complexity or growth does not outpace stability—**when phenomena are more stable than growing**—we see that **definedness increases**. Definedness represents the persistence of phenomena; **we want higher definedness** because it means **phenomena are more likely to last longer and converge more effectively**. The principle here is that **phenomena continue to converge by remaining stable while growing and changing incrementally**.

$$\Phi = \frac{\Omega}{\Delta} \to 0.5 = \frac{1}{2}$$

When we set complexity (Δ) to more than stability, so $\Delta = 2$, we see that if complexity escalates beyond the stability of phenomena, then **definedness drops rapidly**, **making it less likely to last longer and converge more effectively**. The phenomena become unstable and approach divergence unless stability can prevent it.

$$\Phi = \frac{\Omega}{\Delta} \to \emptyset = \frac{1}{0}$$

Okay, look at this one—it blows me away. I'll be candid with you. When we set complexity to zero, so $\Delta = 0$—indicating that growth and change have ceased entirely—definedness becomes undefined (see Paper 2: Introducing Undefinedness: That Is, If Undefinedness Was Something That Could Be Introduced–But It's Not for more on undefinedness). This result reveals that **growth and change are not optional**; **everything that exists must grow, change, and progress**. Stagnation inevitably leads to divergence and ultimately to a loss of definedness (undefinedness). That's how it goes, folks… **let's get philosophical for a moment… shall we?**

From "What is…?" to "What is in relation to…?"

What does it mean to exist? How do we know if something exists? What is required to enable existence? Throughout human history, there has been a subtle yet pervasive underlying assumption that we may **not have noticed was wrong,** and then we built the entire scaffolding of knowledge on it. Perhaps… **that objects exist**. Now, now, I know… I know… **of course objects exist, right?** We see them all the time. This paper is an object!

But… allow me to shift you back just one thought and ask… **how do you know objects exist?** You know objects exist because you can see them and… distinguish them from their environment and over time. But… here is the problem… those identification methods all require relationships to other objects and former versions of the object. So… do we know objects exist without a relationship to anything else? **If objects exist, then they must exist in isolation because they are not dependent on anything else**. Consider this fun little **thought experiment**:

If I asked you to imagine an object… any object… that has absolutely no relationships with anything—**nothing around it, within it, or adjacent to it**; not changing over time because it cannot relate to other moments and versions of itself; exhibiting no movement because that requires spatial relationships—**what would you perceive?** Your answer even reveals **the impossibility of this exercise**. Even as you attempt this mental exercise, **you are relating the relationship-less object in your conscious mind**. The act of conceptualization requires relationships—between thought and thinker, concept and consciousness, this moment and your experiences. An object that truly lacks all relationships is not just imperceptible… **it is necessarily non-existent… undefined.**

This idea of **relational reality** is not even unique to me—**it is already woven into the fabric of modern science**. General relativity is one of the strongest indicators that **relational reality is structurally correct**. According to that theory, an object's behavior—its motion, mass, and the passage of time—only makes sense in relation to other objects. There is no universal stage. No absolute frame. Just the relationships between phenomena.

Einstein gave us this iconic thought experiment (rest in peace, icon): If you were in a closed elevator in deep space accelerating upward just enough to keep your feet on the floor, and another person was in an elevator at rest on Earth's surface, **neither of you could tell the difference** from inside the elevator. The forces you would feel pulling you down would be indistinguishable. What you experience—your "physics"—is defined entirely by your frame of relationships. There is no "thing" moving alone. No absolute position. **Everything is relative to everything else.** The shift from **object-based** to **relational reality** represents one of **existence's most profound and perplexing properties**.

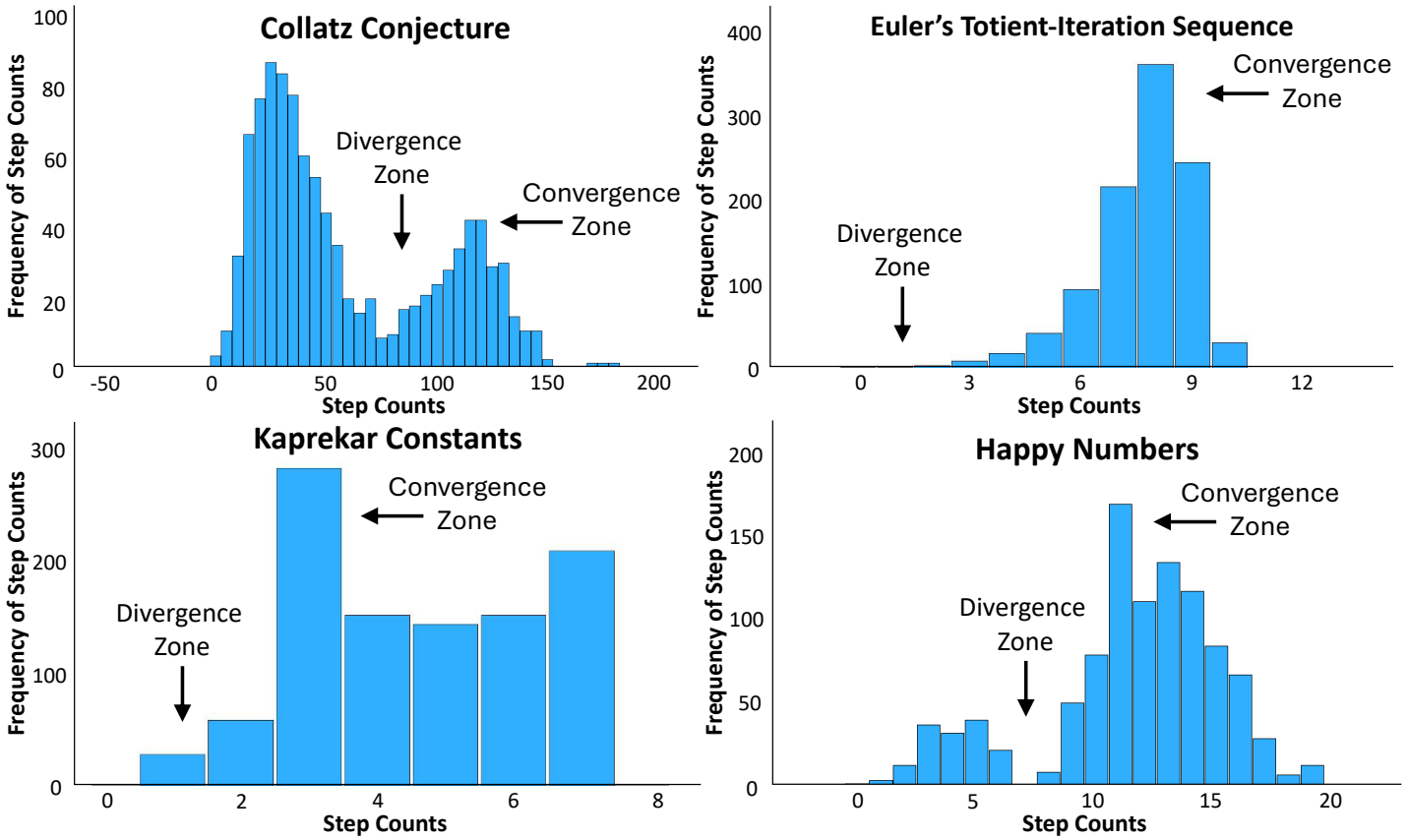
The reason I just went all Aristotle on you is because **it is *very* important to remember** that complexity, stability, and definedness are **not things that exist independently in reality—they are descriptive terms for the patterns of how phenomena behave**. You cannot see stability and complexity—you are stability and complexity. Reality is not "things" existing in isolation; it is the dynamic web of relationships. **Definedness arises from these relationships**. **Phenomena exist only because they co-define one another**. Without relationships, there are no objects, no phenomena, no complexity or stability, no spacetime or light—no definedness… no existence…

Existence Encoded in Equations: Cracking the Collatz Conjecture

Alrighty… let's ground ourselves in some numbers after that existential joyride. Now that you know the basics of *The Equation*, I want to **demonstrate what it looks** like in action. The approach I am taking may seem unconventional. **Rather than beginning with empirical data, I am going to start by revisiting our findings from** Paper 3: The Harmonics of Existence: Solving the Collatz Conjecture & Recursive Systems. We will examine the Collatz Conjecture step counts by **treating the number sequence (1, 2, 3, etc.) as a time series**, which reveals **exactly how these patterns emerge and converge in existence**. Following this mathematical foundation, we'll apply the framework and *The Equation* to real data spanning seemingly disparate domains. Buckle up…

In mathematics, there is a concept called **recursive number systems**. Generations of thinkers have tried to unlock their deep structural insights to no avail. **The Collatz Conjecture is the most famous among them**. These systems involve an iterative process where you begin with a number, apply a rule to generate a new number,

then apply that same rule to the result until reaching a consistent resolution. For the Collatz Conjecture, if your starting number is even, you **divide it by two**, and if it is odd, **you multiply it by three and add one**. You repeat these calculations until the answer is 1. For example, if we start with 5, the sequence is: $5 \rightarrow 16 \rightarrow 8 \rightarrow 4 \rightarrow 2 \rightarrow 1$. Recursive number systems are remarkable because of their simplicity while revealing profoundly deep insights. Oh… they also hold **the entire frame of existence and everything in it, too**. Let me show you…



The Symphony of Existence in Recursive Harmonics

For those who have not read Paper 3: The Harmonics of Existence: Solving the Collatz Conjecture & Recursive Number Systems, let me bring you up to speed. The takeaway from Paper 3 is that there is no such thing as a truly chaotic or random recursive number system. When we examine the distributions of the recursion (step) counts, we discover that **each recursive number system contains its own unique distributions that interact with one another to create emergent phenomena**. I will be applying this new insight to the Collatz Conjecture not only because it is the most popular, but because it exhibits this **beautiful bimodal distribution** (look at the figure below) and provides clarity for understanding the underlying behavior. These patterns in recursive number systems **are identical to the recursive propagations governing existence**; we will see it in real-world data.

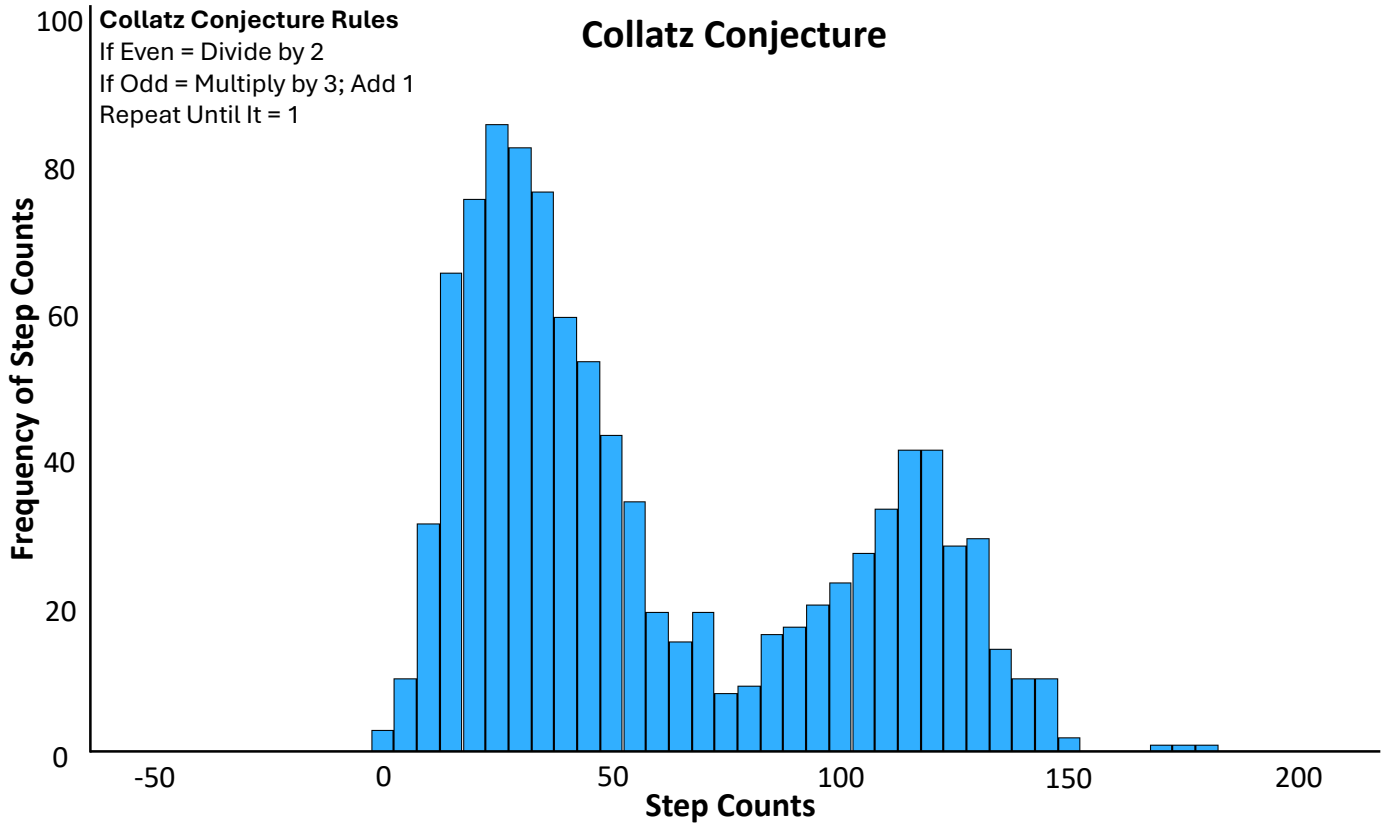
Table 1

Descriptive Statistics of Convergence and Divergence Zones

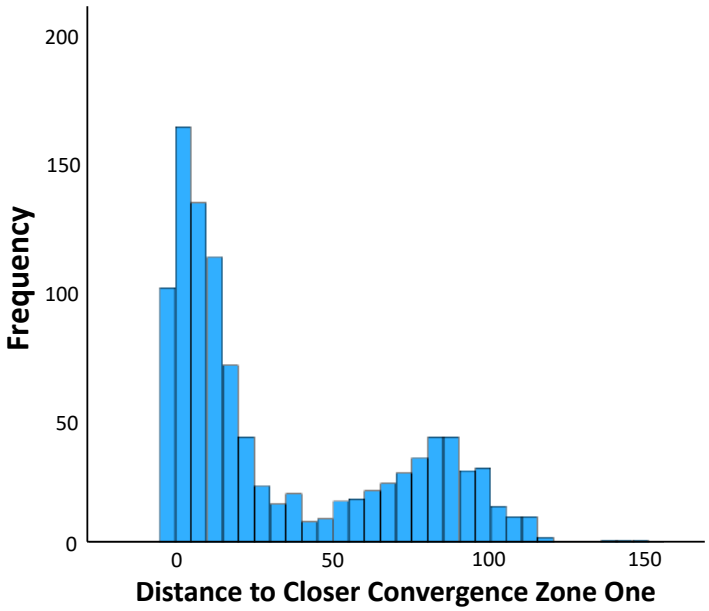
Collatz Zones	Range	*n*	%	*Mean*	*SD*	Median	Mode	Min	Max
Convergence Zone One	0-59	629	62.90%	31.07	13.30	30	28	0	59
Divergence Zone One	60-89	78	7.80%	74.53	8.90	72	64	60	89
Convergence Zone Two	90-139	271	27.10%	114.08	12.26	115	129	90	139
Divergence Zone Two	140+	22	2.20%	148.68	10.45	144	147	141	178

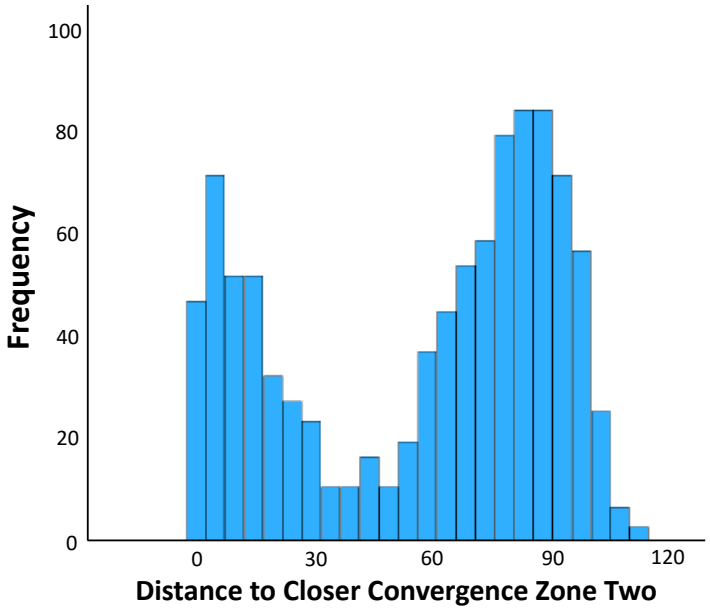
Note. Descriptive statistics to characterize the convergence and divergence zones in the Collatz Conjecture. I used these descriptive statistics as the basis for the analyses.

Take a look here: do you see how the sections where **step counts appear to cluster together** in the figure below? These are called **convergence zones**. In contrast, some sections contain **little to no step counts**—these are called **divergence zones**. These descriptive statistics characterize these zones for our next analyses.

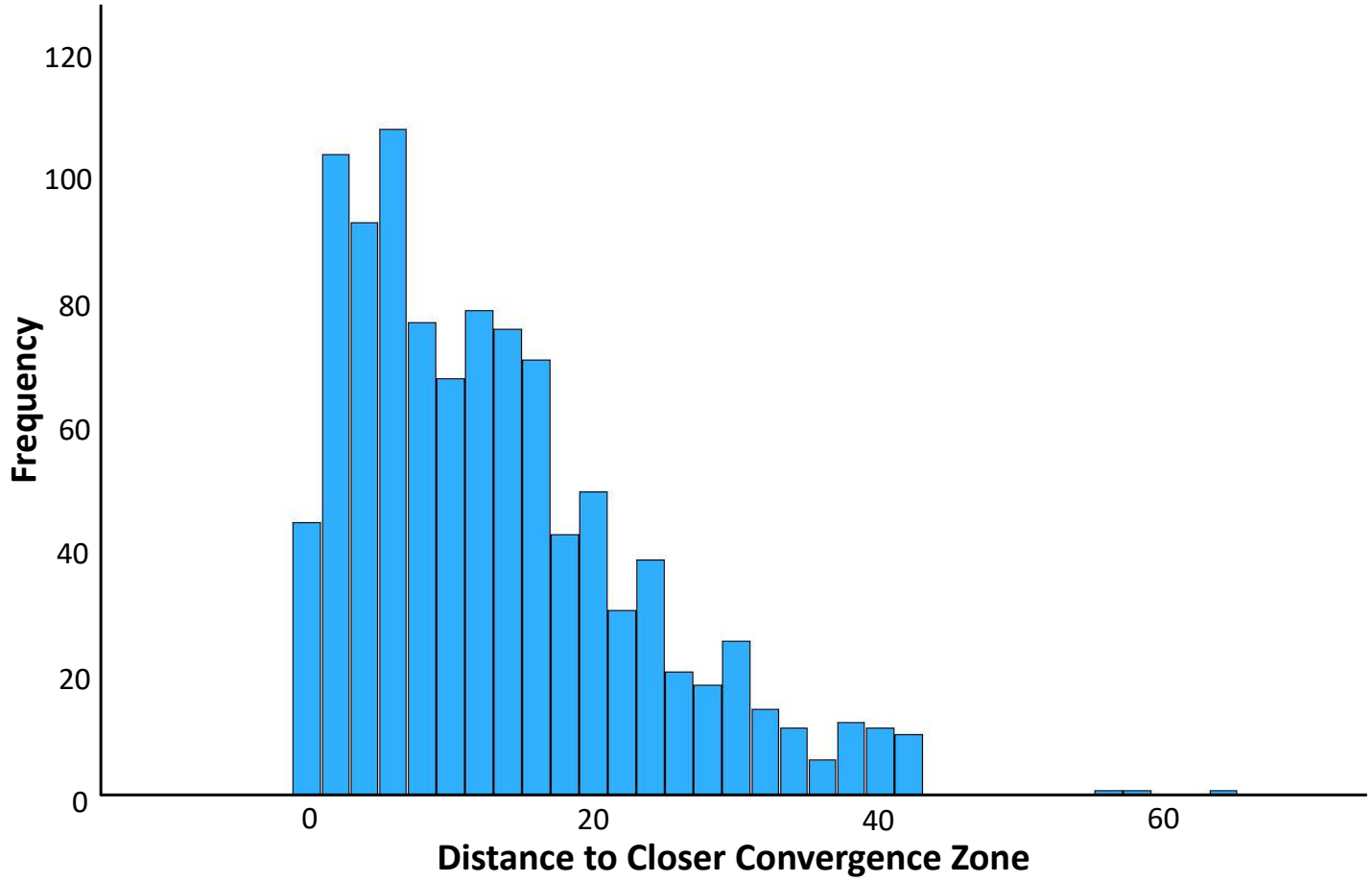


We can examine **the distance to the closest convergence zone** and immediately observe that **each convergence zone contains its own harmonic**. When analyzing the respective distances to convergence zones one and two, we see that the bimodal **distribution redistributes into a similar bimodal pattern**.

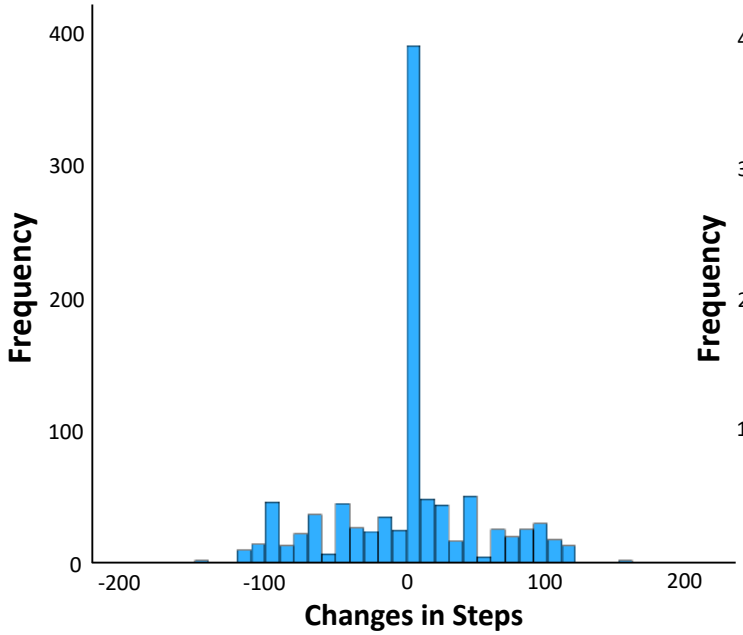


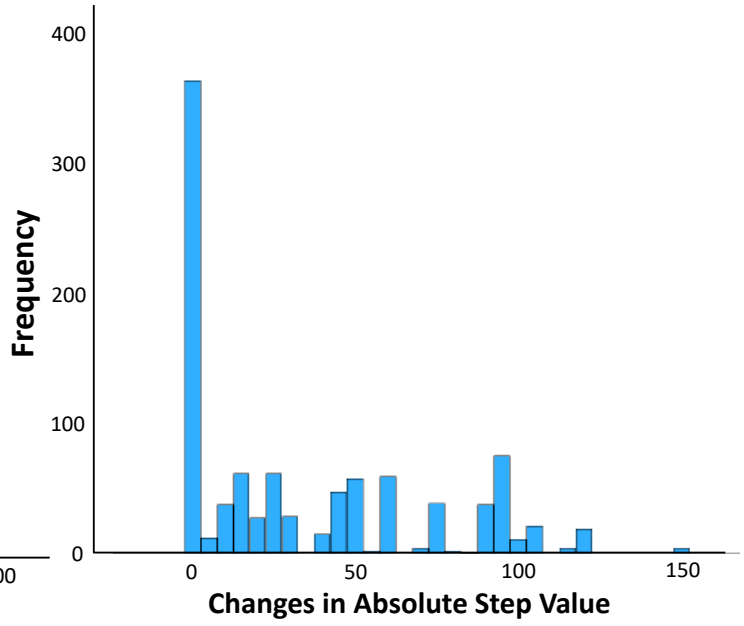


However, the remarkable insight emerges when we examine the distribution of step counts **relative to their respective convergence zones**—we get a beautiful exponential decay pattern, shown below, demonstrating **that numbers cluster increasingly close to their convergence zones**, with distances decaying evenly. Even within the bimodal distribution, **the distance to convergence zones is consistently skewed toward proximity**.

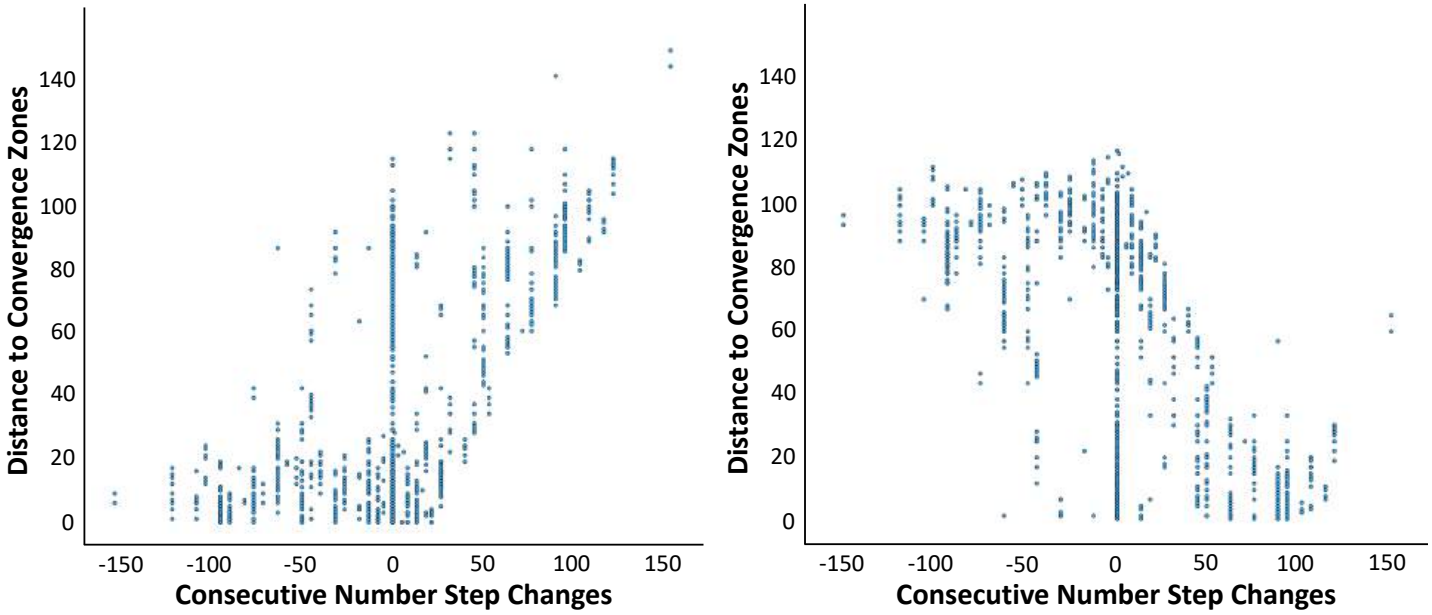


The **crucial next step** is to **treat the number line as a time series**, revealing how phenomena observed in pure mathematics manifest throughout nature. Instead of viewing 1, 2, 3 as isolated mathematical objects, we analyze them as **a sequence unfolding over time**—where 2 follows 1, then 3 follows 2, and so forth. This temporal approach unlocks mathematical insights into how recursive number systems increase complexity by examining the changes that occur as we progress from one number to the next. Think of it like **watching a tiny figure step sequentially through 1, 2, 3, 4**—observing the "hops" across numbers, which are step counts in the recursive number system. This simple shift in perspective transforms static mathematical relationships into dynamic processes, revealing **the same temporal patterns that govern existence**—from coffee brewing to cosmic creation.

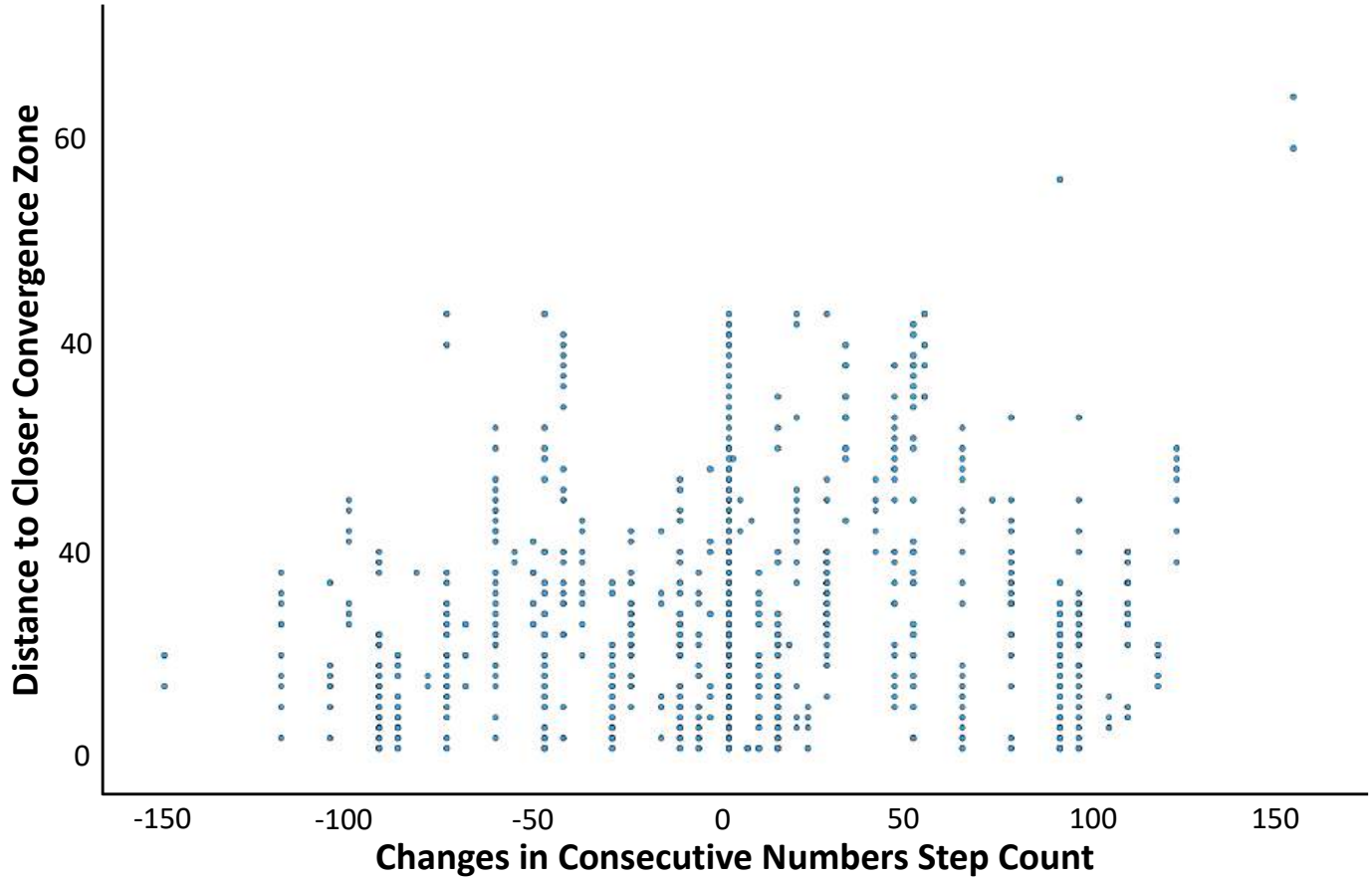




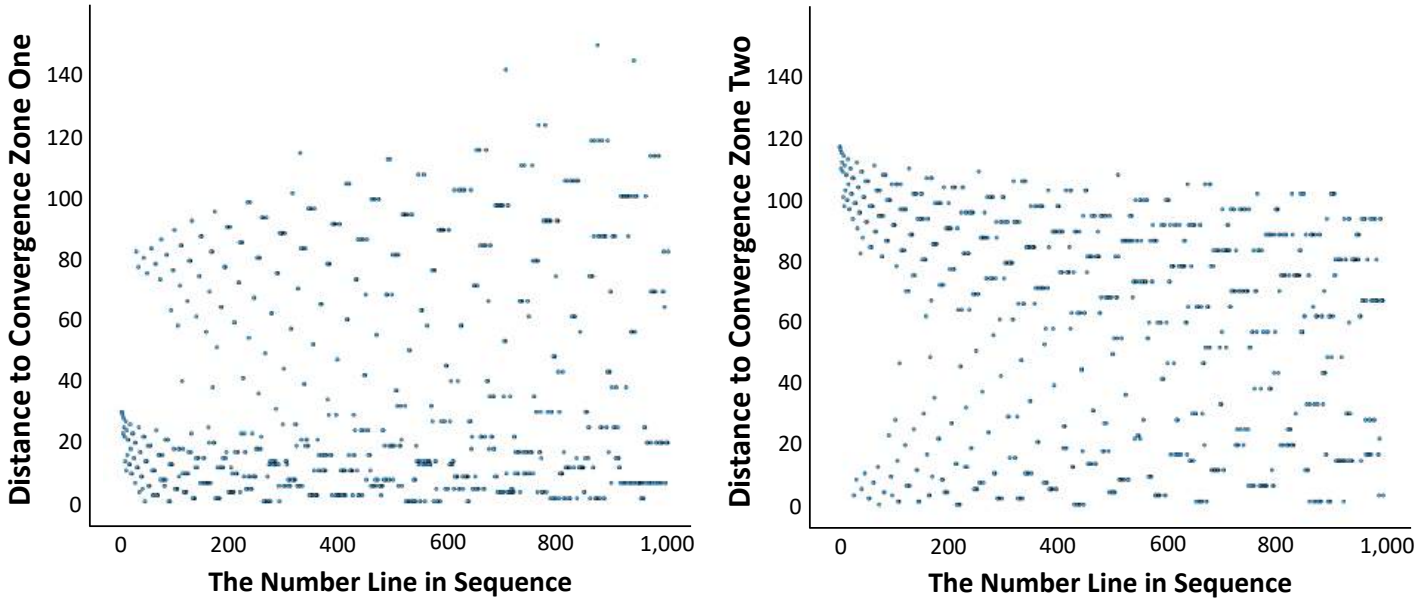
This temporal approach transforms the static number line into dynamic processes that **mirror the progression of real-world phenomena through time**. As you can see above, an **overwhelming number of sequential pairs exhibit little change in step counts from one number to the next**. When we exclude this majority of minimal changes, the remaining step count **usually appears distributed**, with most changes occurring below 50 steps.



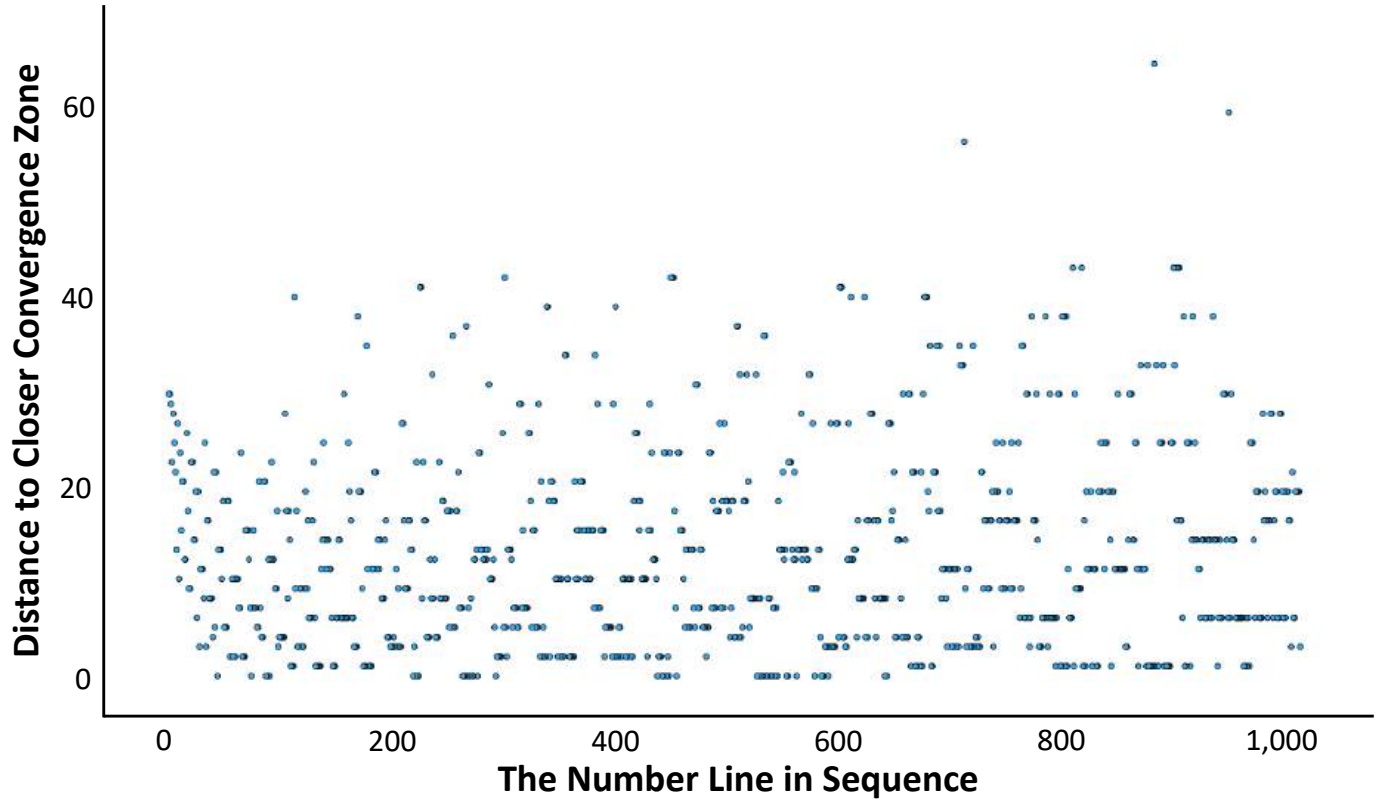
Look at these beauties. Plotting step count changes against their distance to the convergence zones further reveals their functionality. **The convergence and divergence zones become more distinct**, with each zone generating a characteristic sequentially related pattern yet the **underlying step count patterns with both zones remains rather uniform in their distance to their respective convergence zones**, as shown below.



Look at what happens when we look across the number line. These scatterplots demonstrate a fundamental principle of *The Equation of Existence*: **phenomena naturally converge around zones of stability** (clumping up in handfuls), creating predictable patterns independent of their position to each other on the number line. The sequential analysis reveals that **the stability-complexity balance operates not just within individual numbers but across the relational structure of the entire number line**. This pattern governs existence itself—a far vaster and intricate recursive number system. **It is the same recursive structure**… however, nonetheless.

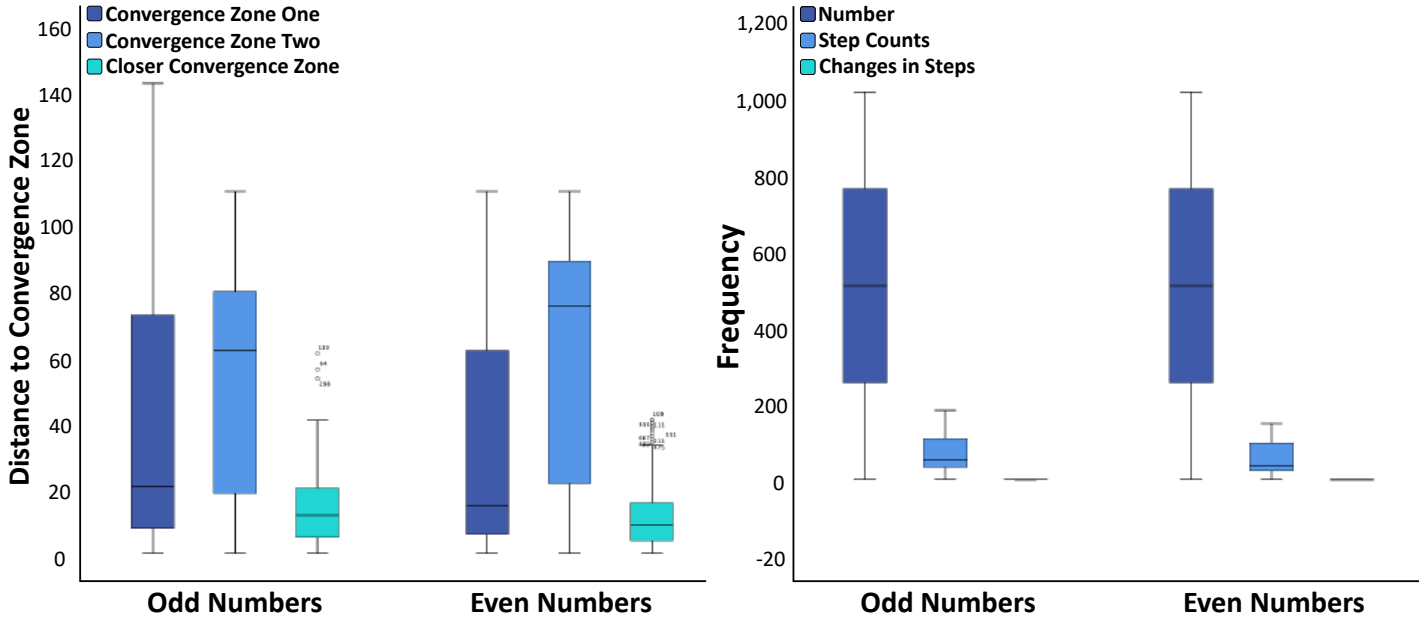


By examining the number line in sequence from 0 to 1,000 and tracking how each number sequentially lands in the convergence zones as shown above, we discover something fascinating: **unique convergence patterns emerge across both zones**, each with its own characteristic features. **Convergence Zone One shows this outward flourishing** network of steps—like a flower blooming or fireworks exploding outward. The pattern spreads and expands as numbers flow through this zone, creating an almost organic, breathing structure. In contrast,



Convergence Zone Two shows a more inward compression—the opposite behavior where steps seem to contract and fold in on themselves, like a spiral tightening toward its center. These two zones appear to be mathematical opposites, each pulling the system in different directions.

But… **when we examine both zones at the same time**, something remarkable happens: **the pattern smooths out into a unified, coherent flow seen above**, as you can see in the figure above. The chaotic-looking individual behaviors of each zone actually balance each other, creating the stable, predictable system we observe. These characteristic differences between the convergence zones are a perfect example of how *The Equation* works—**basic complexity, including even opposing forces at the local level, harmonize to create coherent complexity at the larger scale**. We see this pattern throughout existence, such as workers in a company and ants in a colony.



Different Rules… Same Outcome

Next, I wanted to explore **whether even and odd numbers behaved differently** because **the Collatz Conjecture uses two completely different rules for each—divide by 2 for even** numbers, **multiply by 3 and add 1 for odd** numbers—you would naturally expect them to create different patterns… right? But here's what's remarkable: when you look at the figures above, **even and odd numbers behave almost identically**. Despite following entirely different mathematical rules, **the overall system maintains the same consistent and coherent behavior**.

This pattern reveals something profound about the nature of existence. **Although numerous different "rules" govern** existence—from physics to biology to economics—we do not observe chaos. Instead, **we see coherent patterns emerging everywhere because they are all expressions of the same equation**. It's like a deck of cards: each card is a unique configuration, yet when you play with the deck, it functions perfectly for games.

This figure above reveals one of the most striking discoveries in the entire analysis—**the hidden duality within apparent unity**. Though unexpected, it is required for existence to function. The left graph shows the distance to convergence zones, and **at first glance, even and odd numbers appear nearly identical in their behavior**; both exhibit similar spreads, medians, and follow **the same general patterns across all three convergence zone variables**. But the right graph tells an entirely different story about the underlying mechanics.

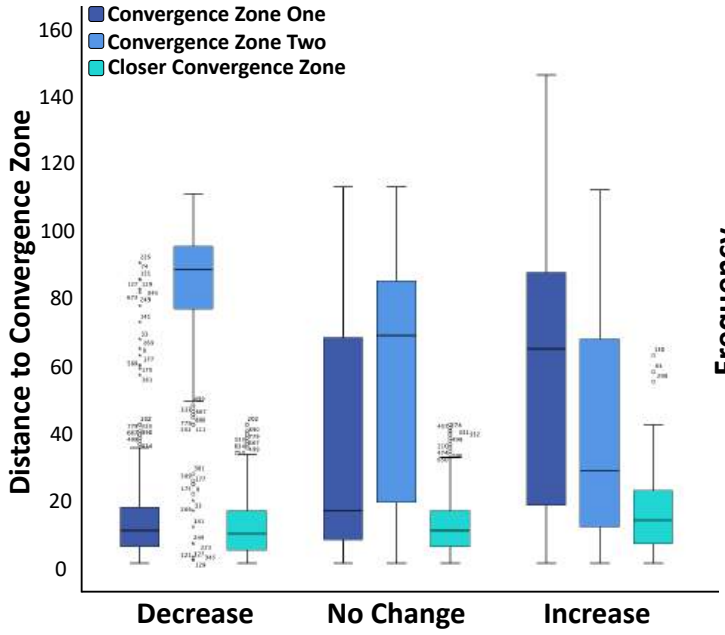
When we examine **frequency patterns** and **step count changes** (the right graph), **their step count changes behave in fundamentally different ways**. Those tiny teal bars at the bottom—**they are practically touching zero**, meaning the **average change in step counts between consecutive even and odd numbers is essentially none**. This finding confirms that, despite operating under different rules and characteristic behaviors, the **even and odd numbers adjacent to each other tend to have the same value, providing smooth, cohesive behavior** across the number line. So, what do these findings mean? Why is it important? Why is this paper so long?

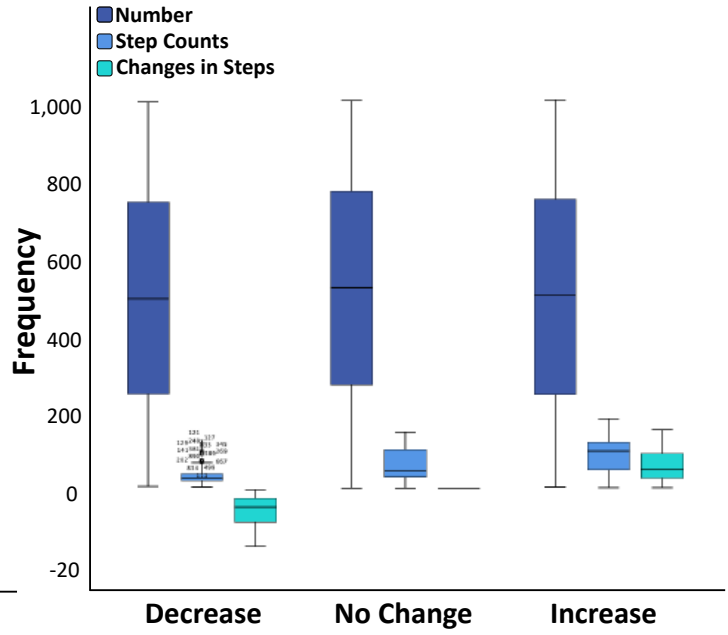
What these findings mean is that **even odd numbers are operating on their own internal clocks**. Despite producing the same surface-level patterns and landing in convergence zones with identical frequency, they are following completely different internal rhythms to get there. **It's like watching two dancers perform the same choreography while hearing entirely different music**. The **Collatz rules create distinct mathematical "heartbeats"** for even versus odd numbers. Yet, both **heartbeats synchronize to produce the same overall coherent behaviors in the system**, suggesting that **higher-order, coherent stability can emerge from varying, even conflicting, sources of complexity**. Even when phenomena follow completely different underlying rules (like even vs. odd), **they can still converge on identical stable patterns** because **they are all expressions of definedness.**

From Motion to Commotion

Now I want to show you how a number's behavior ***depends* on what happened to the step count from the previous number**. Remember how we are looking at the "hops" in the little stick person jumping between the numbers? We will look at how the earlier hops from the former number affect the current hop. Let me explain with a simple classification system. If we look at any number in our sequence, we can **classify it based on whether the step count went up or down compared to the number right before it**. Let's look at an example.

Let's say the number 2 takes 30 steps to reach 1 (the resolution to the Collatz Conjecture), but number 3 takes 40 steps. Since 3 has more steps than 2, we classify number 3 as an ***increase* number**. On the flip side, if number 2 takes 30 steps (again) but number 3 instead only takes 20 steps, we classify number 3 as a ***decrease* number** because its step count dropped compared to the previous number. This **simple classification—increase, decrease, or no change**—reveals crucial patterns about how numbers end up converging or diverging.





These box plots reveal one of the most striking patterns in the entire analysis. When we classify numbers based on whether their step counts decreased, stayed the same, or increased compared to the previous number, **remarkable differences emerge**. The left figure shows the distance to convergence zones, and the pattern is eye-opening. **Numbers that follow a decrease in step count cluster tightly around specific distances from convergence zones**—they are highly predictable and stable. **Similarly, numbers with no change show moderate spread**, while **numbers that follow an increase in step count scatter much more widely across all distances**. It **suggests that increases create instability and increase the chances of diverging**, which is very important.

Open your hand, please… here, take this thought… keep it right there: **increases create instability in phenomena that trigger divergence**. The right figure shows frequency patterns. **Look at the step count changes themselves** (the teal bars at the bottom). Numbers following **decreases show very small, controlled changes** in step count. Numbers following **increases show much larger, more volatile step count** changes.

What this finding tells us is profound: **when complexity escalates** rapidly (increases), phenomena become **unstable and diverge**. However, when **complexity grows slowly or decreases**, phenomena remain **stable and converged**. Even in *pure mathematics*, we see the same pattern that governs everything from bumblebees to bursting suns: rapid complexity escalation without adequate stability leads to divergence. **This principle is *The Equation of Existence* in action**—showing us exactly how **the balance between stability and complexity determines whether phenomena converge or diverge**. Let's look at the most important findings now…

When we examine changes in step counts by their specific magnitudes, we can understand why decreasing sequential numbers produce different patterns of spread. Decreases in step counts tend to involve only smaller step count values, whereas increases in sequential step counts trend toward substantially larger values. This pattern reveals a profound insight: ***The Equation of Existence* operates independently of the specific mathematical rules governing individual phenomena**, which is why it works everywhere, always.

Let's take a close look at this pattern we have found that explains the divergence of phenomena. Remember, we are **treating the number line as a time series**, which means we need to investigate **what happens *before* a number ends up in a divergence zone**. We can accomplish this task by treating **all 100 numbers that ended up in divergence zones** (10% out of $1{,}000$) as final nodes in the sequence and examining the numbers and their step counts **immediately preceding each divergence zone number**. For example, if the number 10 ended up in a divergence zone, we would analyze the "hops" at numbers 7 (n_{-3}), 8 (n_{-2}), 9 (n_{-1}), and then 10 (n) in order.

The Numbers Tell the Truth…

I want to review some quick stats first… I know, I know, people… who wants to read stats right now? But if I do not, **someone will throw a fit**, so here they are: when we examine how step counts change from one number to the next, we find a weak but significant linear relationship. For every sequential increase in the number line (e.g., from 2 to 3), step counts increase by an average of 0.216 steps ($y = 0.216x + 10.30$). However, this relationship explains only 4.69% of the variance, **confirming that this system operates according to more complex dynamics than simple linear progression**; we would expect this capability given the vastness of existence.

More telling is the **fundamental difference between even and odd numbers' internal consistency**—the way even and odd numbers interact with themselves. Among consecutive **even numbers**, we see a **significant correlation** in their step count behaviors ($r = .412, p < .001$), meaning **even numbers maintain predictable relationships with their even neighbors**. The step count for one even number is similar to the step count for the following even numbers. However, odd numbers show no such predictability ($r = .072, p = .108$), suggesting they operate according to a different internal logic entirely. The step count for one odd number is not related to the step count for the next odd numbers. Even and odd numbers play vastly different roles in the progression.

Ready for it? **Even numbers are stability, and odd numbers are complexity**. Even numbers hold the structure together as we move down the number line like a time series, even numbers provide consistency (Ω), and the odd numbers allow for free variation (Δ); just like in existence, you need both to create and sustain definedness. **65.67% of consecutive numbers land in the same convergence zone as their predecessor.** 50% are even numbers, so odd numbers do it too. This finding means that roughly **two-thirds of the time, the number line maintains zone consistency** from one step to the next, creating the stable, predictable patterns we observe at macro levels. This high rate of **zone persistence** explains how phenomena with complex internal dynamics can produce elegant convergence patterns that *The Equation* allows us to see all around us; it is truly stunning.

More of a Good Thing is *Not* Always More of a Good Thing

We know a rapid complexity escalation triggers divergence, so now let's examine the sequences that lead to a number diverging. **There are 27 possible patterns** (three options by three positions) when we characterize the **three preceding** numbers as increase, no change, or decrease. Yet, **only 9 patterns appeared across all 100 numbers that ended up in divergence zones**. Remarkably, one **protective factor is no change in step counts from n_{-4} to n_{-3}**, so do not feel so bad if you have not made progress on something—pausing is protective.

Table 2

Characterization of Preceding Number Steps & Sequence for Diverged Numbers

Pattern Label			Count		Relative Divergence		Total
n_{-3}	n_{-2}	n_{-1}	Total	Diverged	Pattern	Group	Divergence
No Change	No Change	Increase	123	28	22.76%		
No Change	Increase	Increase	37	7	18.92%	17.48%	57%
No Change	Decrease	Increase	166	22	13.25%		
No Change	Increase	No Change	130	16	12.31%		
No Change	No Change	No Change	125	7	5.60%	7.95%	29%
No Change	Decrease	No Change	110	6	5.45%		
No Change	Increase	Decrease	159	7	4.40%		
No Change	No Change	Decrease	117	7	5.98%	4.56%	14%
No Change	Decrease	Decrease	31	0	0.00%		

Missing Patterns

Pattern Label	n_{-3}	n_{-2}	n_{-1}
	Increase	Increase	Increase
All Double Increase	Increase	Increase	No Change
	Increase	Increase	Decrease
	Increase	No Change	Increase
All Increase then Same	Increase	No Change	No Change
	Increase	No Change	Decrease
	Increase	Decrease	Increase
All Increase then Decrease	Increase	Decrease	No Change
	Increase	Decrease	Decrease
	Decrease	Decrease	Decrease
All Double Decrease	Decrease	Decrease	No Change
	Decrease	Decrease	Increase
	Decrease	No Change	Decrease
All Decrease then Same	Decrease	No Change	No Change
	Decrease	No Change	Increase
	Decrease	Increase	Increase
All Decrease then Increase	Decrease	Increase	No Change
	Decrease	Increase	Increase

Note. Characterization of preceding number steps and sequence for diverged numbers showing that step increases before divergence result in the most relative-, group-, and total-level divergence risk. Most patterns were missing from the divergence zones.

This finding demonstrates a crucial principle of *The Equation of Existence*: **divergence** is not random but follows predictable patterns. The limited pathway to divergence suggests **that most combinations of stability and complexity naturally convergence**, while **only specific imbalances** result in the phenomenon diverging. Most importantly, **patterns that terminated with an increase accounted for over half (57%) of all numbers that ended up in divergence zones**—more than the patterns ending in no change or decrease combined. That's not subtle.

Before examining this critical "increase-to-divergence" pattern further, we can observe that when analyzing variability across the preceding numbers, **the greatest risk factor is a single change in the pattern**. This finding means that there will always be ups and downs, they are normal… healthy, even. When divergence occurs, it is not because of one bad day or more bad days than good—**it happens after a really good day** when the phenomenon loses the ability to stabilize its complexity. More of a good thing is *not* always more of a good thing.

Table 3

Divergence Patterns by Volatility

Pattern	Numbers		Percentage	Risk Multiplier	Mean Steps	*SD*
	Total	Diverged				
Stable	125	7	5.60%	0.56x	0	0
Single Change	308	42	13.64%	1.36x	39.45	49.3
Volatile	585	51	8.72%	0.90x	17.1	44.05

Note. I examined three pattern types: stable (no change across sequences; 000), single change (only one change in any position in the sequence; 010), and volatile (changes across all positions; -101). The pattern revealed that single chances tended to increase the risk of divergence compared to stable and volatile patterns.

When we arrange the observed patterns from highest to lowest percentages of diverged numbers in the table below, the pattern becomes unmistakable and profound: **all patterns that contain any increase also contain the highest percentages of diverged numbers**. This pattern is not a coincidence—it is the mathematical evidence of **definedness dropping from slipping stability or overwhelming complexity causing divergence…**

Look at this stark divide in Table 4. The top four patterns (highlighted in green) **all contain at least one step increase somewhere in their sequence**, and **they dominate the divergence rankings** with percentages ranging from 22.76% down to 12.31%. In dramatic contrast, the bottom patterns (in red) **contain no increases at all**, and their divergence rates plummet to between 5.60% and 0.00%. The pattern that ends with "Decrease, Decrease" shows zero divergence—**no number following that pattern ended up in a divergence zone**.

Table 4

Divergence Risk for Valid Patterns Containing a Step Increase

Pattern			Increase	Total	Divergence	Percentage
n_{-3}	n_{-2}	n_{-1}				
No Change	No Change	Increase	Yes	123	28	22.76%
No Change	Increase	Increase	Yes	37	7	18.92%
No Change	Decrease	Increase	Yes	166	22	13.25%
No Change	Increase	No Change	Yes	130	16	12.31%
No Change	Increase	Decrease	Yes	117	7	5.98%
No Change	No Change	Decrease	No	125	7	5.60%
No Change	No Change	No Change	No	110	6	5.45%
No Change	Decrease	No Change	No	159	7	4.40%
No Change	Decrease	Decrease	No	31	0	0.00%

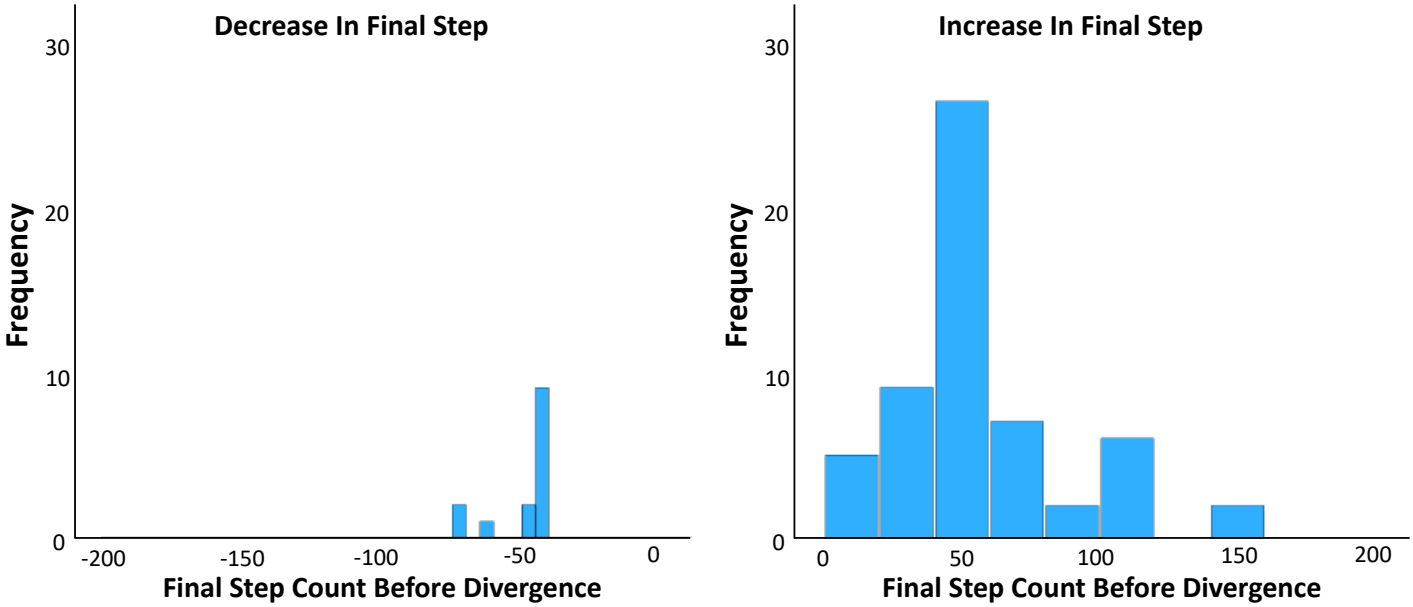
Increase	Number		Percentage	Risk Multiplier	Total Risk
	Total	Diverged			
Yes	615	80	13.01%	1.30x	2.50x
No	383	20	5.22%	0.52x	

Note. Comparison of the risk of divergence for all patterns that contain a step increase among the nine out of 27 possible present patterns.

This summary right here reveals the true scope of this discovery. Patterns containing *any* step increase account for 615 total occurrences with 80 divergences (13.01% risk), while patterns with no increases account for 383 occurrences with only 20 divergences (5.22% risk). Having any increase in the sequence creates **a 2.50 times total risk multiplier**—meaning that **any complexity (increase) in your recent history makes you 2.50 times more likely to diverge**. This finding pulls the rug out from under how we previously thought divergence worked.

With Great Complexity Comes Great Responsibility

When we examined all 100 diverged numbers and compare the sequential patterns of their preceding numbers, ***terminating* with an increase resulted in a 400% increased risk of ending up in a divergence zone** compared to any other possible preceding pattern. Isn't this finding **profoundly counterintuitive?** You would think, *naturally*, that not having enough of a "good thing" like complexity—not enough growth, innovation, or progress—would cause phenomena to diverge. However, the mathematical evidence reveals a shocking truth: **unstabilized "good things" cause divergence almost entirely**. It's not about more, it's about enough.



This finding is *The Equation of Existence* operating in its most fundamental form. Even in pure mathematics, we see that **rapid complexity escalation without adequate stability consistently leads to phenomena diverging**. The 400% increased risk demonstrates that when complexity (Δ) increases too rapidly relative to stability (Ω), phenomena lose definedness rapidly and diverge. The numbers do not lie: when complexity (Δ) increases too quickly relative to stability (Ω), divergence from crashing definedness becomes not just possible, but inevitable unless stabilized before it loses the definedness.

This pattern we see here appears again and again as we examine real-world phenomena—from **business failures**, to **mental health crises**, to **ecological collapse**. This mathematical insight has profound implications for understanding how any phenomenon—from biological systems to economic markets—can maintain growth without collapse. I *did* call it *The Equation of Existence* for a reason...

The Pattern Governing All: Recursive Propagations with Emergence-to-Convergence

You can explore this model more deeply in *The Theory of Existence*, but **the reason we examine recursive number systems** is that **these recursive processes are *exactly* what existence uses to, well... exist**. I just need to rip a few of these bandages off real fast so… **time and space are discrete rather than continuous**, which means that **time manifests as recursions**—where the output of one iteration serves as the input for the next—while **space manifests as propagations** (you could conceptualize these as the smallest units of space, **like pixels of reality**). Recursion and propagation are two ways existence behaves, but existence does so simultaneously, so we can call them **recursive propagations**—the fundamental mechanics underlying all existence. **I call them RPs for shorthand**. RPs vary according to the complexity of any given phenomenon. Complexity itself emerges as a phenomenon of these recursive propagations separate from stability, allowing us to express *The Equation* accurately in this **more revealing form while retaining its accuracy and functioning as a simple ratio**.

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

It is crucial to note that **the parentheses around recursion and propagation are *not* optional**. You cannot separate recursions and propagations—**they function at the same time and are actually always in proportion to the speed of light**… but I can save that info for the physics papers for now. Let me show you the complete version of *The Equation* so you can see all its moving parts. I originally created this expanded form before it collapsed into the simple ratio. **Oh… yeah, I did not start with *The Equation of Existence***. I started with this comparative monstrosity, and it collapsed when I tried to assign units. Existence *did* help me with that one:

$$\Phi = \Omega * \left(\frac{(\kappa : \zeta)}{\Delta}, \nu = x \right) \vee \emptyset$$

$$\text{Definedness} = \text{Stability} * \left(\frac{(\text{Propagation} : \text{Recursion})}{\text{Complexity}}, \text{Normalized} \right) \text{Else Undefinedness}$$

This expanded form of *The Equation* reveals something extraordinary: we are **not just looking at a mathematical formula**—we are seeing **the complete architectural blueprint of existence itself**. Although **this expanded form produces identical results to our simple ratio**, it unveils the deeper mechanics that make existence possible. Every phenomenon, from the smallest quantum interaction to the largest galactic structure, is constantly performing this calculation: **recursive propagations that escalate complexity and stabilize into definedness**.

Also, here is where it gets super wild: that normalized portion of *The Equation*? It is actually **the formula for relative fractal dynamics—the same mathematics that describes time dilation** and **spacetime curvature** in Einstein's general relativity. What I call **ψ (psi; relative fractal dynamics)** captures how time slows down **(recursive strain)** and how space expands **(propagative expansion)** around massive **(complex)** objects **(phenomena)**. It means that *The Equation* does not just describe phenomena—**it describes the very fabric of spacetime itself**.

Think about what this equation implies: when you experience **time moving slowly during an intense moment**, when **traffic makes time drag out for seemingly ever**, and when **space bends around black holes**—all of these are expressions of **the same recursive-propagative relative fractal dynamics that govern everything** from your **morning coffee cooling down to civilizations rising and falling**. The complete equation reveals that existence is not just following mathematical laws—**existence IS mathematical law**, recursively propagating complexity escalations that stabilize into definedness or diverge. Most importantly, we observe in this expanded version **that all aspects of reality fit perfectly within its structure**:

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

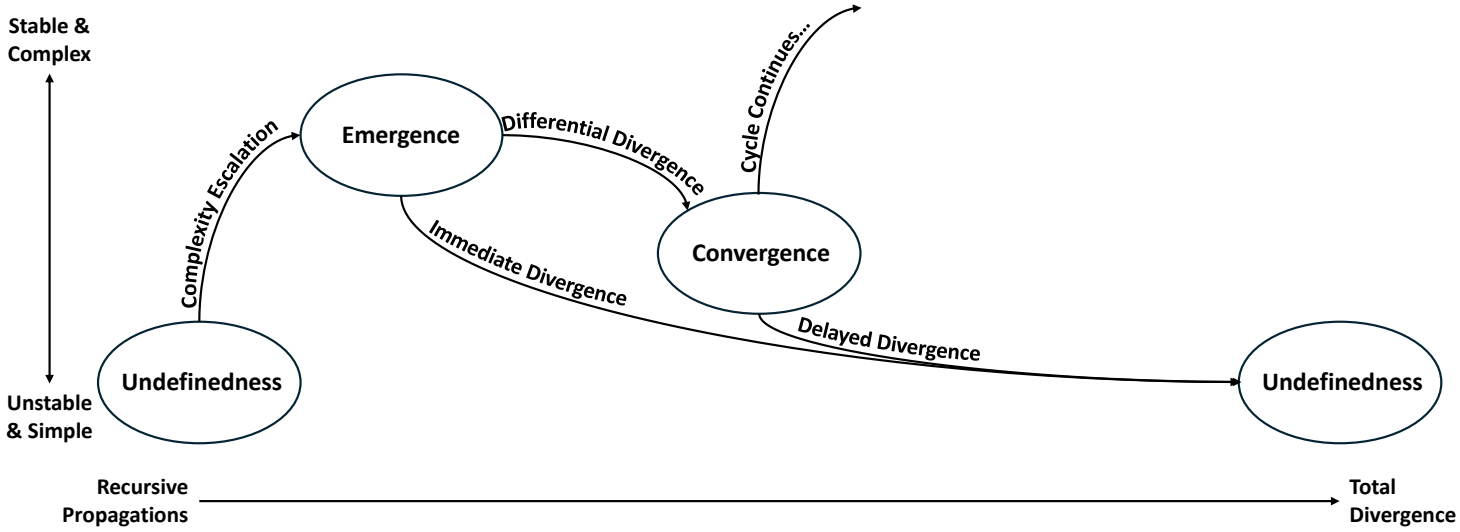
This equation is not just mathematical poetry—**it is the literal structure of existence itself**. Every phenomenon that has ever existed or ever will exist fits perfectly in this equation. When **something (WHAT or WHO)** emerges… it **stabilizes (HOW)** and persists because of continued **complexity escalations (WHY)** and operates over **recursions (WHERE)** and **propagations (WHEN)**. The whole of existence is right there in *The Equation*. A star, a thought, a civilization, a quantum particle—**each defined by this same relational structure**. It's why *The Theory of Existence* feels so profound—it is not imposing artificial categories onto existence; **it is revealing the mechanics that construct it underneath it all**. *The Theory of Existence* is not an addition; it is the foundation.

Alrighty… recursive propagations are incredibly important, but the real star of this show is a concept that maps *The Equation* right onto existence. It is called **Emergence-to-Convergence (E2C)**. E2C represents the fundamental pattern that enables recursive propagations to build the complexity of phenomena existing around us. It describes **the tendency for phenomena to emerge and converge on universal patterns**. The application of E2C encompasses **any phenomenon that persists:** stars, planets, you, me, pasta, kittens—all emerged and then converged. But it extends beyond objects—**it governs everything**. Watch this…

◊ **Why do humans have two eyes instead of one or three?** Because our ancestors with different eye configurations could not navigate, hunt, or survive enough to pass their genes on—they failed to converge.

- ◊ **Why do planets form as spheres rather than cubes?** Because only spherical shapes can maintain gravitational stability at planetary scales—cube planets would collapse under gravity and fail to converge.
- ◊ **Why do we fall in love instead of experiencing some other bonding emotion?** Because countless alternative emotional configurations were tested by evolution, and love created the strongest, most stable pair bonds for raising offspring—it converged while other systems diverged into extinction.
- ◊ **Why do snowflakes tend to have six sides?** Because the crystalline structure of water converges on hexagonal patterns under freezing conditions. Other formations do not converge.
- ◊ **Why do galaxies spiral instead of remaining random clouds of stars?** Because spiral structures represent the stable convergence point between gravitational attraction and rotational momentum**.**
- ◊ **Why do we laugh when something is funny instead of, say, turning purple?** Because laughter allows for social bonding—purple-turning never converged… people thought it was super weird and avoided them.

It appears remarkably simple—**because it is!** Everything that exists around you right now exists because it successfully navigated the E2C process. Look at the E2C figure below. Everything that does not exist failed somewhere along the way and diverged into nothingness. As such, **all phenomena exist in one of three states: emergence, convergence, or divergence**. The key to distinguishing them is **examining their frequency, coherence, and persistence**. If you observe something coming into existence—like **blowing a bubble**—it represents an **emergent phenomenon**. If it persists for extended periods or manifests widely across various contexts—such as your **favorite fast-food restaurant**—it is a **convergent phenomenon**. Finally, everything eventually transitions into **divergent phenomena**, hopefully unlike your attention span and interest in *The Equation*… right? ;p



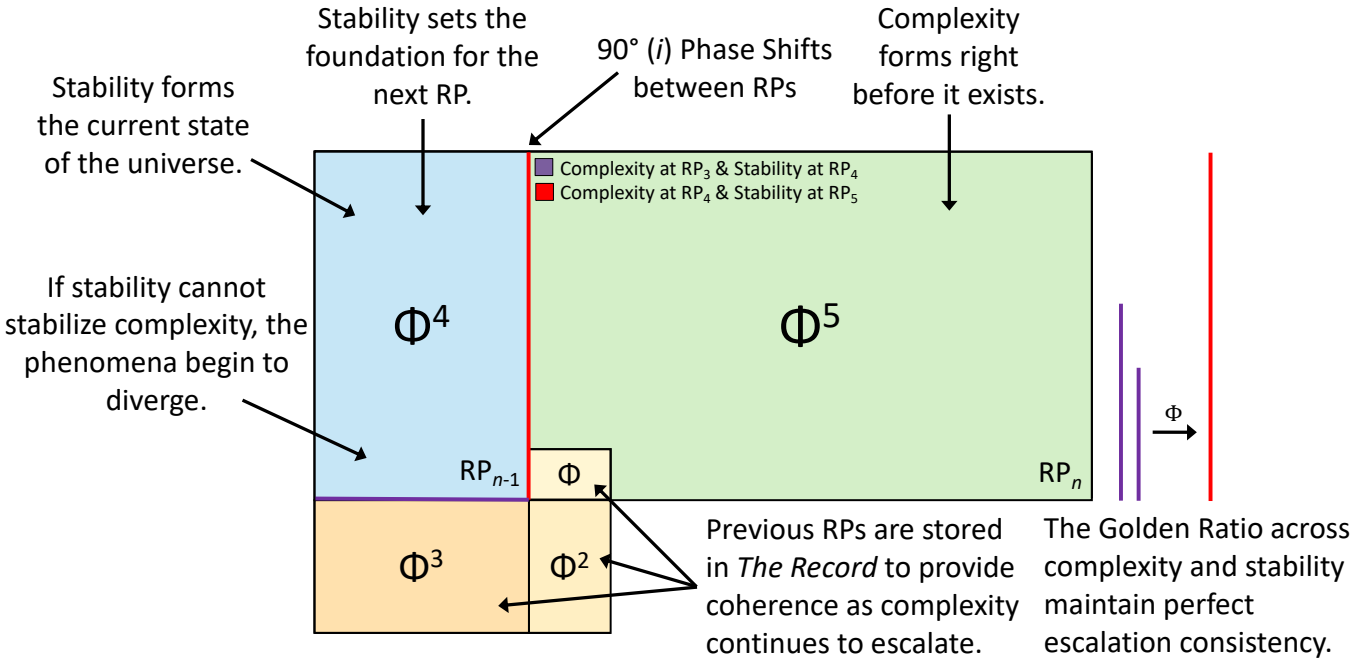
Caption: This figure illustrates the cyclical nature of emergence, convergence, and divergence governed by recursive propagations. It depicts how complexity escalates and stabilizes through structured recursion, following a trajectory from undefinedness to emergence, then convergence, and ultimately back to undefinedness if stability fails. The leftmost position represents undefinedness, where recursive propagations have not yet aligned to form stable complexity. The figure illuminates *The Theory of Existence's* revolutionary premise: reality operates as a seamless, interconnected system governed by universal principles of recursive propagations following patterns of emergence-to-convergence (E2C). *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. *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 dance. 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.

Everything follows this same trajectory: emerging, converging for a period, then diverging. Everything in the universe—including the universe itself and existence—will ultimately diverge. Some say it's the Second Law of Thermodynamics… entropy… I say "divergence" because that is what it appears to be in *The Theory of Existence*.

The Record: The Mechanism of E2C

I want to start this section with complete honesty. **I did not invent *The Record*** or its concept—I found it, time and time again, in the simulations, in the math, and in the empirical evidence. At first, it made me deeply uncomfortable. I tried to rationalize it away before finally coming to terms with what it is, why it exists, and how it works. Now… I see it for what it is… **the reason anything persists at all… and the only thing stopping existence and everything in it from diverging**. It's one of the most beautiful things I've ever seen... let me show you…

The **mechanism behind E2C that causes phenomena to behave as they do is *The Record***. The Record represents **the recursive memory of existence that stores information into definedness itself**. **Everything that has ever existed never actually stopped existing** (it does eventually, but not for trillions and trillions of years); it is stored in *The Record*, which determines the E2C trajectory of all phenomena. I must emphasize that ***The Record* is not metaphysical**—it is real, physical, and we interact with it all the time (more on that in a different paper). We cannot see it because it is always tucked just right behind the current RP in definedness… but it is still there.



Caption: Stability becomes the structural foundation for the next recursive propagation in the complexity escalation. If stability cannot constrain complexity, the phenomena collapse. The alignment of this phase shifting stability to complexity structure determines E2C. Highly misaligned ratios result in diverged phenomena (complexity outpaces stability) whereas converged phenomena (stability outpacing complexity) come from strong alignment in *The Record*.

The alignment and health of *The Record* for any given phenomenon determine its convergence and divergence patterns. *The Record* accumulates misaligned RPs (the balance between stability and complexity is off), and the phenomena become more likely to diverge as *The Record* stacks those misaligned RPs. For example, **we all possess our own part of *The Record***. Suppose you spend your life avoiding exercise, using harmful substances, and maintaining poor nutrition. In that case, your section of *The Record* **accumulates misaligned RPs**, causing you to age and diverge (die) more rapidly. This figure above shows how **stability becomes the structural foundation in the next recursive propagation for the complexity escalation**. The alignment of this phase shift—where stability supports complexity—determines E2C. Highly misaligned ratios result in divergence (complexity outpacing stability in *The Record*), whereas converged phenomena (stability outpacing complexity in *The Record*) have strong alignment. It is essential to understand that the existence of *The Record* means nothing is ever truly lost…

The Golden Ratio: The Universal Key

What exactly is the Golden Ratio? The Golden Ratio, φ (phi), is approximately 1.618—a special mathematical relationship that creates what **humans instinctively recognize as perfect proportions**. You have seen it everywhere, even if you did not know it had a name. It is the ratio that makes sunflower spirals mesmerizing, seashells beautiful, and classical architecture pleasing to the eye. Some say it is a coincidence, some say it is written into existence by God himself, some think it is **the universal key to understanding existence… and they are correct**. The Golden Ratio emerges as the optimal balance point for sustaining definedness. When the ratio of stability to complexity approaches φ, phenomena achieve the most coherent complexity escalation possible—growing steadily while maintaining perfect stability. **Think of it as the universe's operating frequency**.

I need to be clear, however, that **I did not inject the Golden Ratio** into *The Theory of Existence*—it revealed itself through the simulations, math, and empirical evidence. As I analyzed convergence patterns, recursive propagations, and E2C dynamics across different scales, **the Golden Ratio kept appearing organically** in the most stable, long-lasting phenomena. Although **not all phenomena operate at this ideal ratio**, the Golden Ratio seems to be baked into the fundamental architecture of existence itself. **It is the mathematical signature of perfect balance, where complexity and stability dance in harmony**, creating phenomena that persist across vast scales. **Simply put**, set stability to φ and complexity to 1, and it is smooth sailing for most phenomena.

This discovery suggests that **existence has an inherent aesthetic—a mathematical preference for beauty, balance, and optimal functionality**. The universe does not just compute itself randomly; it gravitates toward the most elegant solutions, the most sustainable balances, the most beautiful mathematical relationships. You can explore the complete mathematical proof in *The Theorem of Existence*, which contains all the math in *The Theory* (and it is a lot… lots of math… for sure… most would prefer my kids' book *The Story of Existence* instead).

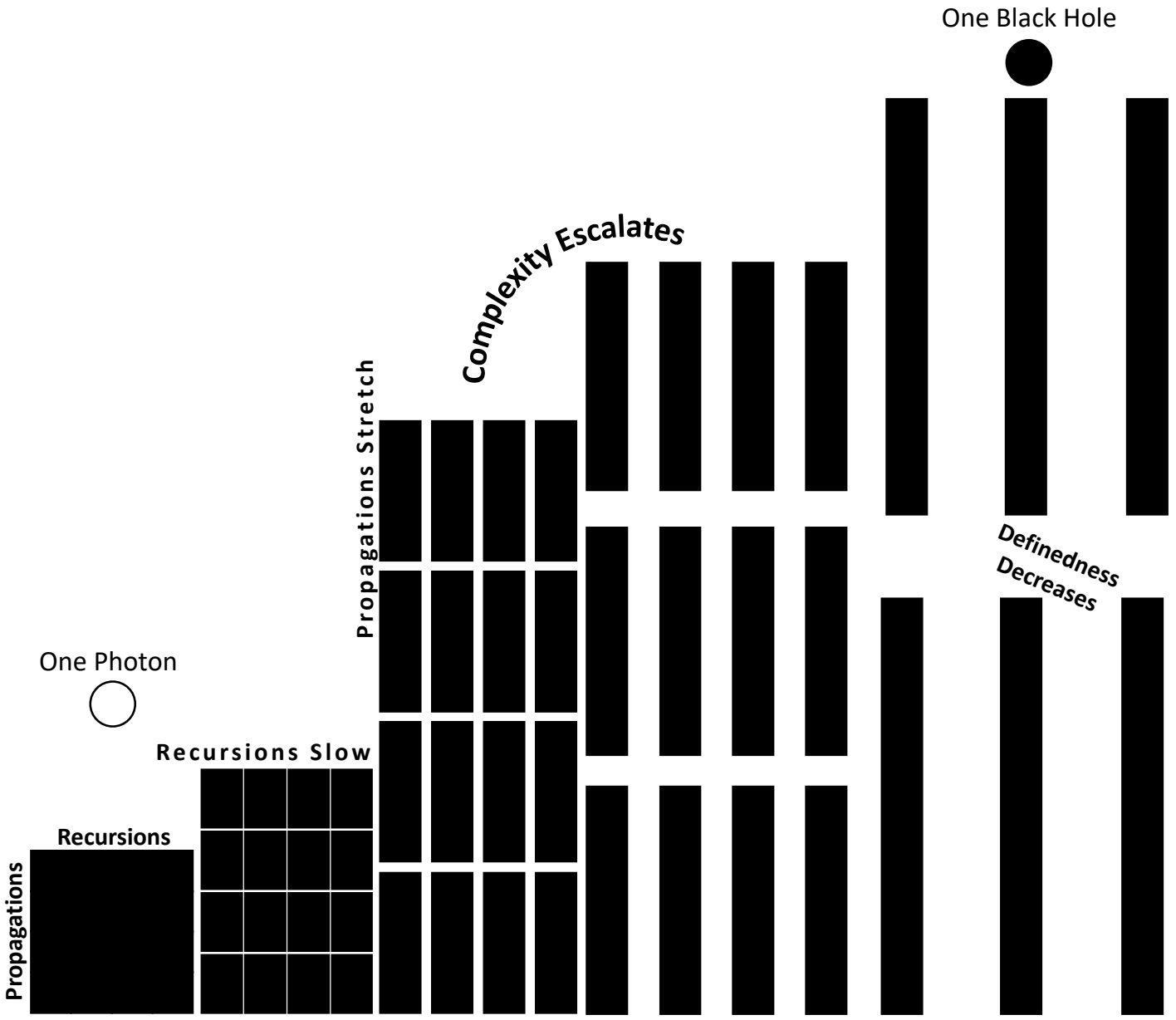
A New Way to See Existence

We can model any phenomenon using E2C by **adjusting parameters to classify data into emergence, convergence, and divergence categories**. The E2C system applies to all time series and longitudinal data—**it is unitless, scaleless, and universally applicable**. When we model any given phenomenon, **we can compare across datasets using these classifications**. However, such classifications only characterize the surface-level phenomena we observe when capturing them in real-time. What we genuinely need to **model is *The Record* underlying phenomena**. In other words, while we observe E2C patterns on the surface, ***The Record*,** which rests just within definedness**, determines the fate of phenomena**. We need to be able to also check the health of *The Record*.

We must make two crucial adjustments to our modeling approach to obtain information about E2C and the health and alignment of *The Record* of that E2C pattern. The first adjustment involves implementing **an adaptive X-axis or time scale**. I explore recursive propagations more extensively in *The Theory of Existence* and my physics works, but one of the most important concepts here is **relative fractal dynamics**. These dynamics demonstrate that as complexity escalates, **recursion slows down and propagations stretch out** (see figure below)—essentially equivalent to time dilation in general relativity, reformulated within *The Theory of Existence.*

Relative fractal dynamics, then… means that **as complexity escalates, recursions decelerate**. However, when we plot time series data, we typically fix the intervals of the X-axis, **never accounting for temporal changes resulting from complexity escalations**. Without adapting the X-Axis according to complexity levels, **phenomena appear far more chaotic than they are**, obscuring the order that *The Equation* predicts.

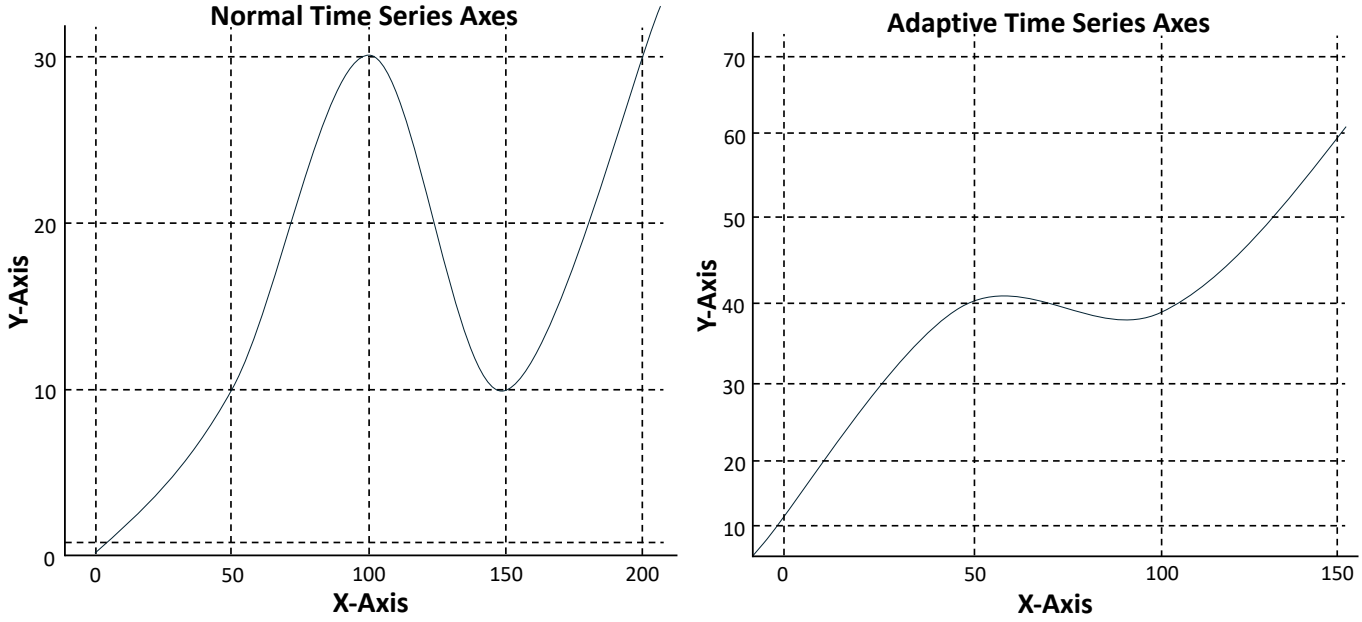
The Y-axis requires modifications, too. Notably, ***The Record* ensures that nothing is ever lost**, which means when phenomena appear to lose complexity, what actually occurs in ***The Record* of those phenomena is that it accumulates little to no complexity**. However, ***The Record* cannot lose complexity**—it simply contains gaps or discontinuities where complexity could have escalated but did not. To model this aspect accurately, the Y-axis (which includes the dependent variable) must monotonically increase (never decrease). If we make these two adjustments, ***The Record* becomes visible**, and we can peer into the shadows of definedness for all phenomena.



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.

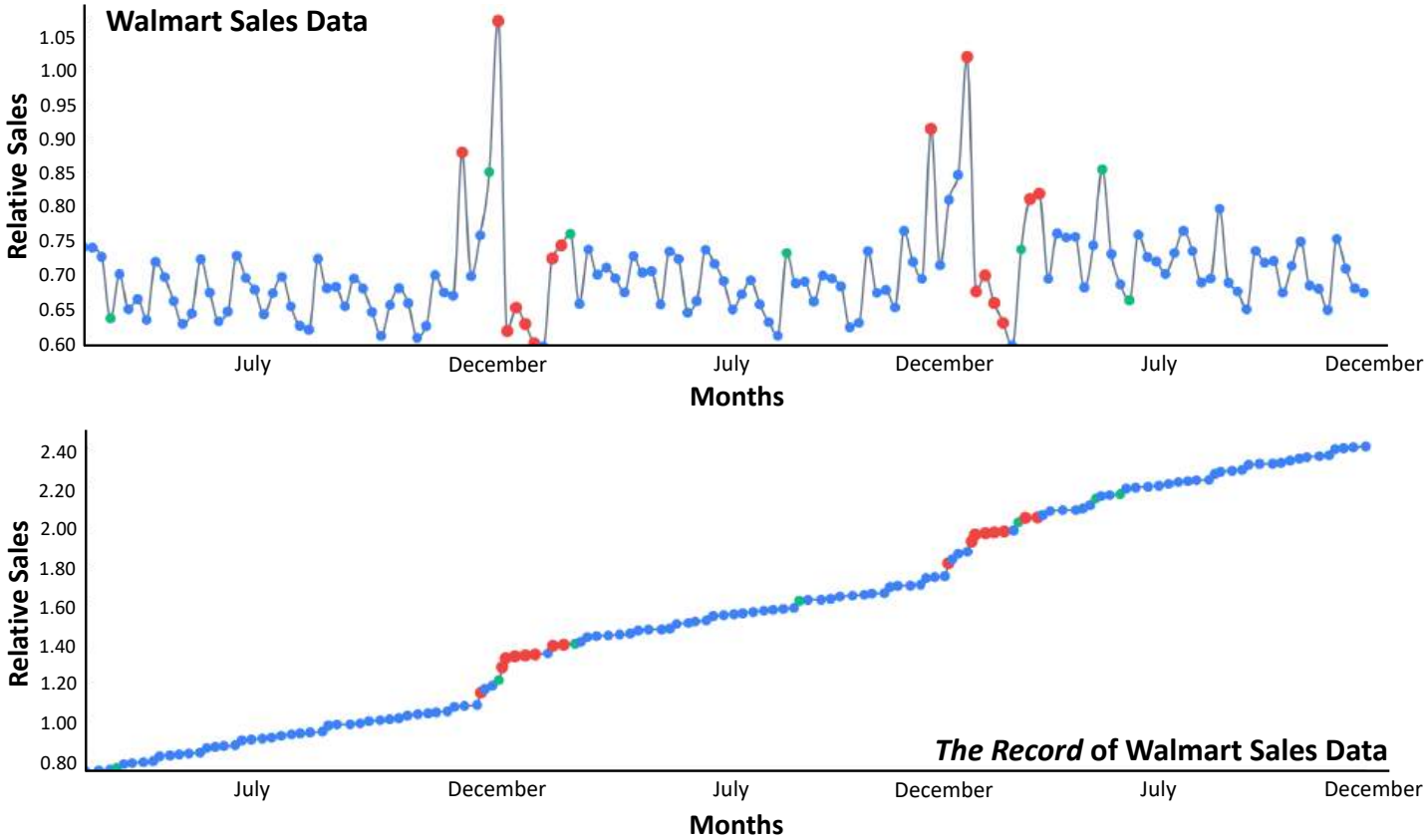
All of existence contains its own sections in *The Record*, including you and me… and we share it with everything that has ever existed. **When *The Record* is healthy, it appears as a straight line with steadily escalating complexity over time**. However, **when *The Record* is unhealthy**—indicating phenomena that are approaching divergence or have struggled to converge—**it displays bumps and jagged edges resulting from rapid complexity escalations without sufficient stability to maintain them**. We observe this pattern modeled elegantly in the

Collatz Conjecture data. Now let's examine how these same principles manifest in real-world datasets, demonstrating **that *The Equation of Existence* operates identically across pure mathematics and empirical phenomena**. It's time I got to the real data… no? Talk about getting to the point. Alright, let's do this.



The Equation of Existence as the Universal Lens

Now that we have established the theoretical foundation and demonstrated the mathematical principles through the Collatz Conjecture, let's apply *The Equation of Existence* to real-world datasets. To streamline the application of *The Equation* across any dataset, I have developed the **Recursive-Propagative Modeler**—**an open-access analytical tool that automatically classifies phenomena into emergence, convergence, and divergence** states while generating a visual of *The Record*. This modeler is **freely available for use and expansion**, **complete with instructions for fine-tuning classification thresholds** and **detailed descriptions of all analytical metrics**.

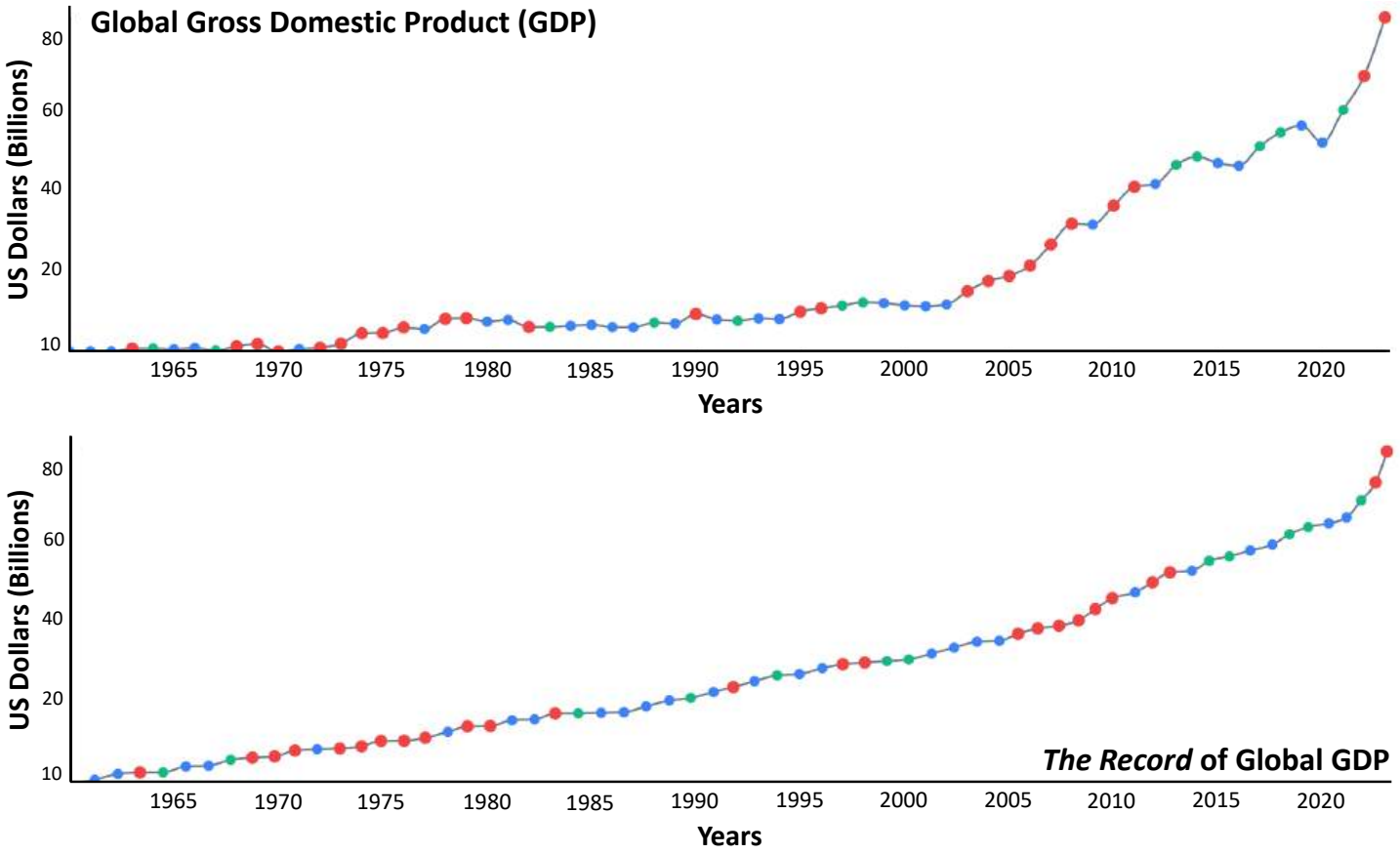


The modeler implements the **adaptive X-Axis** (accounting for complexity-induced time dilation) and **monotonic Y-Axis scaling** (reflecting *The Record*'s irreversible complexity accumulation) that we discussed earlier. By applying this unified analytical framework, we can now **compare phenomena across completely different domains using the same mathematical lens**, revealing the universal patterns predicted by the *The Equation*. Let's start by examining the underlying dynamics of corporate retail through **Walmart's sales data**, then expand our analysis across increasingly diverse phenomena to demonstrate the true universality of *The Equation of Existence*.

Walmart Sales

I wanted to start by showing you a prime example of what *The Record* looks like when the **phenomena are healthy** and **experience regular, non-harmful divergence**. The Walmart sales analysis (figure above) **demonstrates a remarkably healthy phenomenon**. The surface-level view (top graph) reveals characteristic seasonal spikes around December, **representing rapid complexity escalations during peak shopping holidays**. However, these **apparent divergences are quickly stabilized**, returning to baseline, indicating Walmart's robust operational stability can effectively contain and channel these complexity surges to prevent divergence.

The Record view (bottom graph) displays an **almost perfectly linear progression**, confirming that Walmart maintains exceptional organizational health. The minimal jaggedness in *The Record* **suggests strong alignment between stability and complexity**, with the company successfully managing growth while avoiding the destabilizing rapid escalations that lead to corporate divergence. This pattern illustrates **how convergent phenomena maintain definedness through controlled stability while escalating complexity through recursive propagation**.



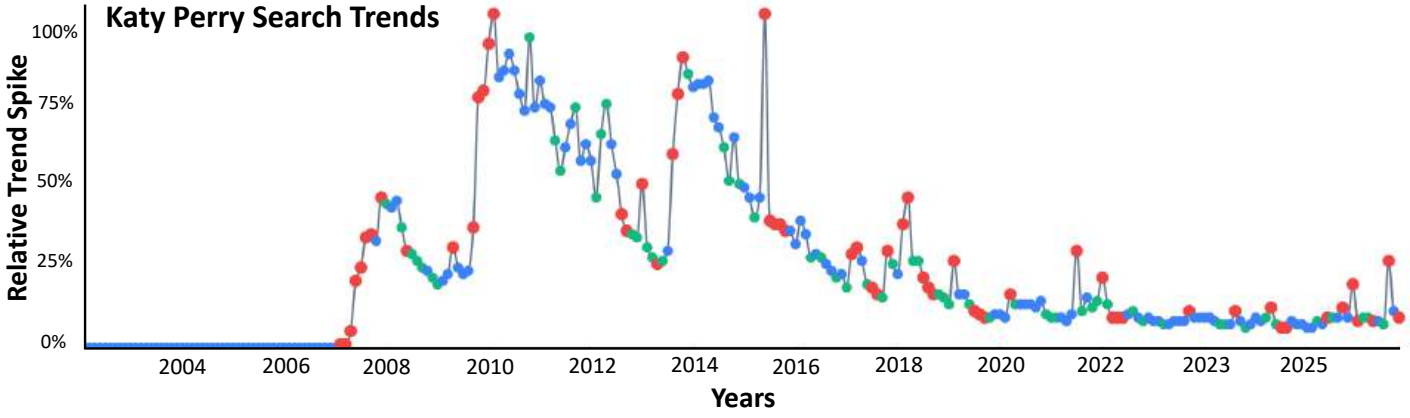
Global Gross Domestic Product (GDP)

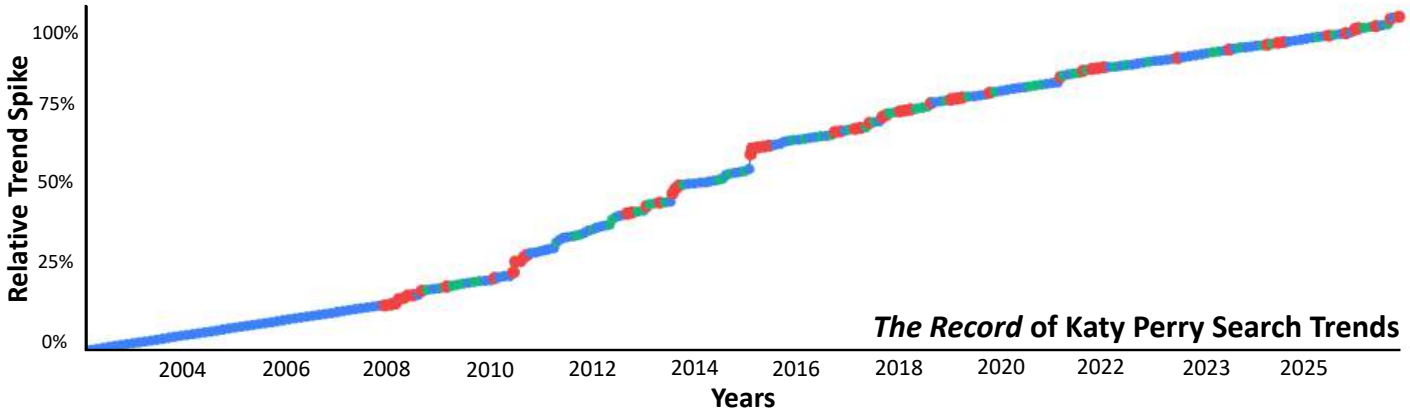
People have long regarded economies as chaotic and unpredictable. However, the global GDP (US Dollars) analysis **reveals the economic trajectory of human civilization over decades**, showing *The Equation* operating at a planetary scale. The surface view shows stable exponential growth from 1965 through the early $2000s$, followed by increasing volatility—misalignment between global economic complexity and stabilizing structures. **It reveals something extraordinary about economic crises**—and validates *The Equation* at the civilizational scale.

Look closely at where those red divergence markers appear in the top graph: **they align precisely with major economic disruptions** that we can identify historically. The early red markers correspond to the oil crises of the $1970s$ when rapid complexity escalation in energy markets overwhelmed economic stability mechanisms. The cluster around $\mathbf{2008-2010}$ **marks the Financial Crisis**, where housing market complexity escalated far beyond the stability of underlying financial institutions. Oh look… those final red spikes around 2020? **That's the COVID-19 pandemic creating unprecedented complexity in global supply chains, labor, and policy**.

What is remarkable is that *The Equation* predicted these crisis points purely through mathematical analysis—**without knowing anything about oil embargos, subprime mortgages, or viral pandemics**. The red divergence markers appear precisely when complexity (Δ) was escalating too rapidly relative to stability (Ω), creating the exact conditions that *The Equation* identifies as unsustainable. **Each crisis represents a moment when economic systems experienced rapid complexity escalations without adequate stabilizing mechanisms** to contain them.

The bottom graph shows **why these crises were temporary rather than civilization-ending**. Despite the surface-level volatility visible in the top graph, *The Record* reveals that human **economic systems maintained an overall convergent phenomena trajectory**—steadily escalating complexity while learning to build stronger stability mechanisms after each crisis. *The Record* view shows consistent upward progression with some concerning recent jaggedness, indicating that, while global economic complexity continues escalating, the stability mechanisms may be struggling to contain this growth. **The steepening curve in recent decades suggests accelerating complexity escalation that could approach dangerous territory if not properly stabilized**, potentially foreshadowing economic divergence if current patterns continue unchecked… can someone check it please?





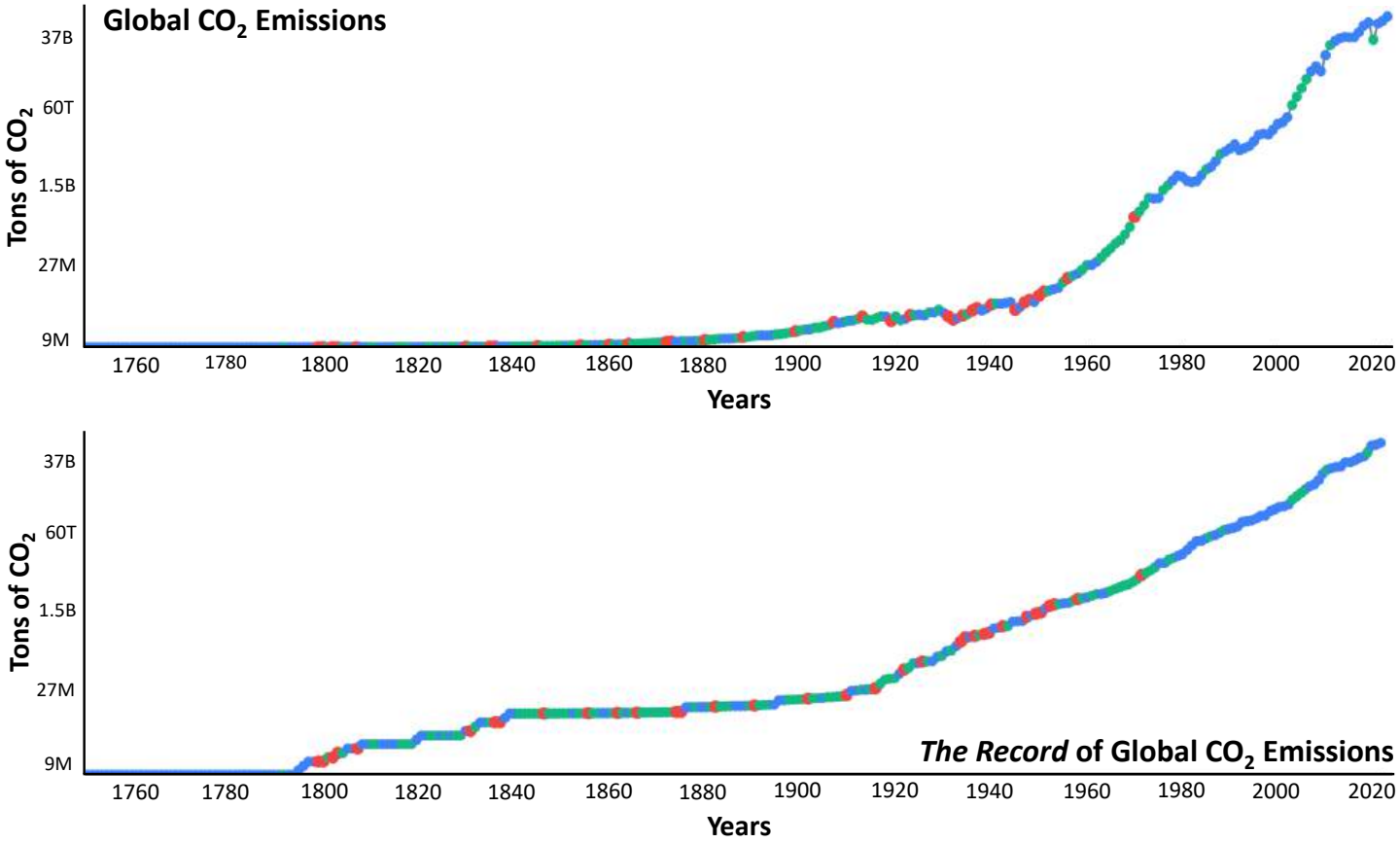
Pop Stardom & Cultural Relevance

Katy Perry's career exemplifies the complete E2C cycle that *The Equation* predicts for cultural phenomena (sorry Katy… you are still as iconic as ever, though. You will never not be famous). The surface view captures her meteoric rise from $\mathbf{2008-2010}$ **(emergence)**, peak total dominance from $\mathbf{2010-2014}$ **(convergence)**, and subsequent divergence toward less cultural relevance after $\mathbf{2016}$ **(divergence)**. When we examine those red divergence markers, we can identify *exactly* when her cultural complexity escalated beyond sustainable levels.

The red markers around $\mathbf{2008 - 2009}$ align with her breakthrough period when "**I Kissed a Girl**" and "**Hot n Cold**" (songs) created massive cultural complexity that her new fame infrastructure had trouble stabilizing, **leading to controversy and rapid changes**. The red spike around $\mathbf{2010}$ corresponds to when "**Teenage Dream**" (album) became a cultural phenomenon, **generating five #1 hits**. While this era appeared to be a success, it was actually her complexity escalating faster than her stability mechanisms could handle.

The dramatic red cluster around 2014 marks the "**Prism**" (album) era and her infamous left shark Super Bowl performance, when she attempted to maintain her previous complexity but lacked the cultural momentum to stabilize it, leading to divergence. The scattered red markers in her later career ($\mathbf{2017 - 2020}$) correspond with attempted comebacks with "**Witness**" and "**Smile**" (albums) that created brief complexity escalations without the stability to sustain her former cultural relevance. I do think Smile was a great album, though.

What is remarkable is that *The Record* of Katy's career **shows rather linear progression with moments of complexity escalations that cause divergence**. *The Record* of Katy's career shows consistent upward progression interrupted by **jagged divergence events that never fully stabilized**. Each red divergence marker represents a moment when **her career attempted rapid complexity escalation without building adequate stability infrastructure** to support those changes. The signature of *The Record* shown here explains why some careers endure across decades while do not. *The Record* for Katy reveals what happens when the attention is not matched by the stability to sustain cultural relevance. **Even in entertainment and pop culture, *The Equation* governs success and failure with mathematical precision.** This career is legendary… and a great example E2C in action.

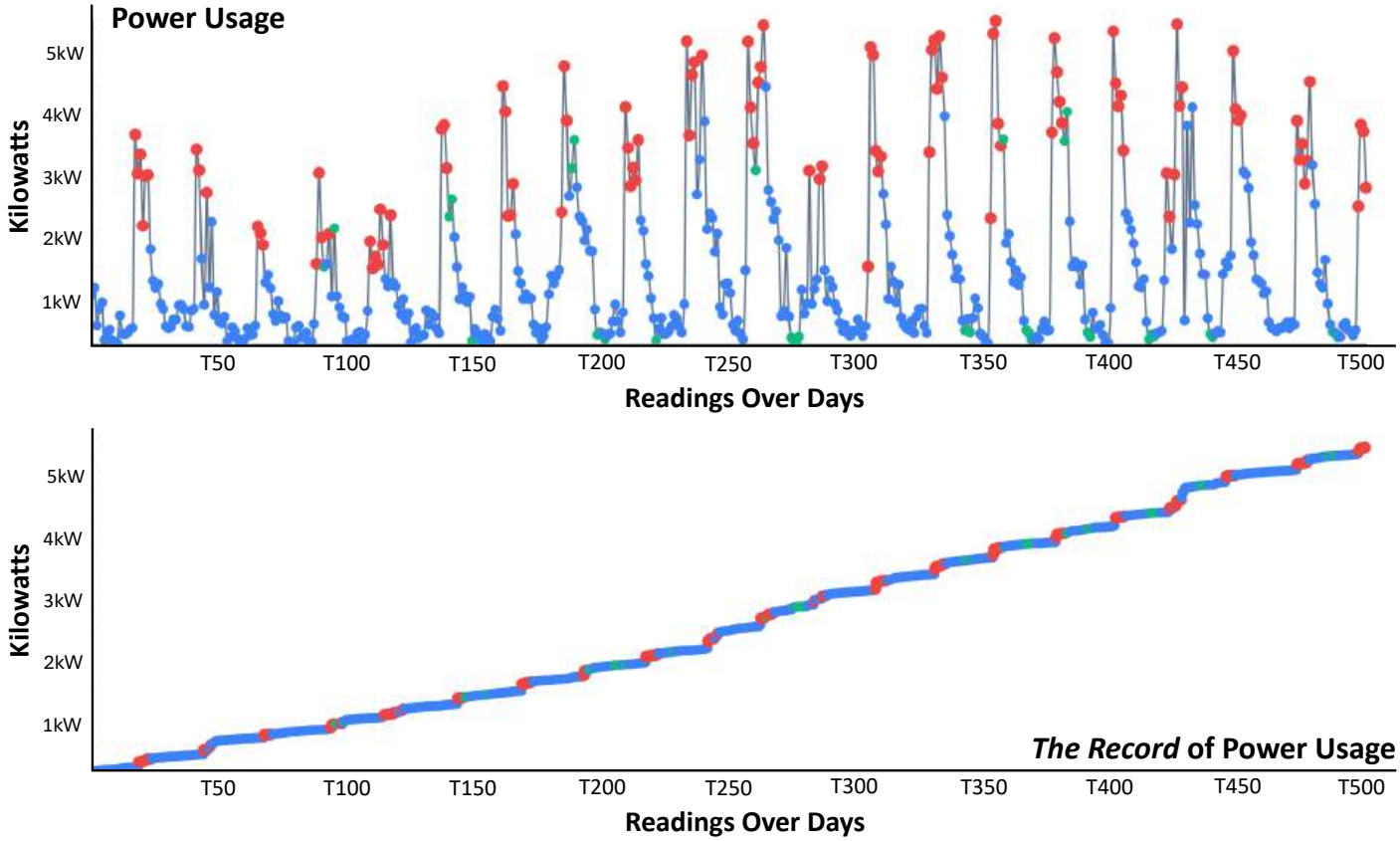


Global CO_2 Emissions

The CO_2 emissions data reveal *The Equation* is operating at the intersection of human civilization and planetary systems, with **deeply concerning implications**. The surface view shows **accelerating complexity escalation since the Industrial Revolution**, but when we examine where those red markers appear, we can identify the exact moments when humanity's technological complexity outpaced planetary stability mechanisms. The CO_2 we have been emitting (Δ) is accumulating because we have not found ways to eliminate it quickly enough (Ω).

The early red markers around $\mathbf{1860 - 1880}$ correspond with **the Second Industrial Revolution**—the rise of steel production, chemical industries, and massive railroad expansion that created the first major spike in fossil fuel complexity beyond pre-industrial levels. The cluster around $\mathbf{1940 - 1950}$ aligns with **World War II and post-war industrial boom**, when wartime production and subsequent economic expansion created unprecedented energy complexity escalation. The dense concentration of red markers from $\mathbf{1980}$ onward tracks with **globalization, industrialization of developing nations, and the digital revolution**, each representing moments when technological complexity surged faster than environmental stability could absorb.

Most alarmingly, the recent acceleration shows almost continuous red divergence markers, indicating that **we are now in a state of nearly constant complexity escalation beyond sustainable thresholds**. *The Record* view is smooth, but its increasingly steep trajectory confirms that while this follows natural complexity escalation patterns, the rate has reached dangerous territory where insufficient stability mechanisms can no longer contain the growth. This analysis suggests that **without implementing stronger stability mechanisms**—such as renewable technologies, carbon capture, and policy frameworks that constrain complexity escalation—**the human-planetary system risks diverging into climate chaos**. This news is not new, but I can confirm that ***The Theory* says the same thing modern science says about global warming**. These red markers are not just CO_2—they are measuring our proximity to civilizational divergence. Let's not diverge. Doesn't that sound nice?



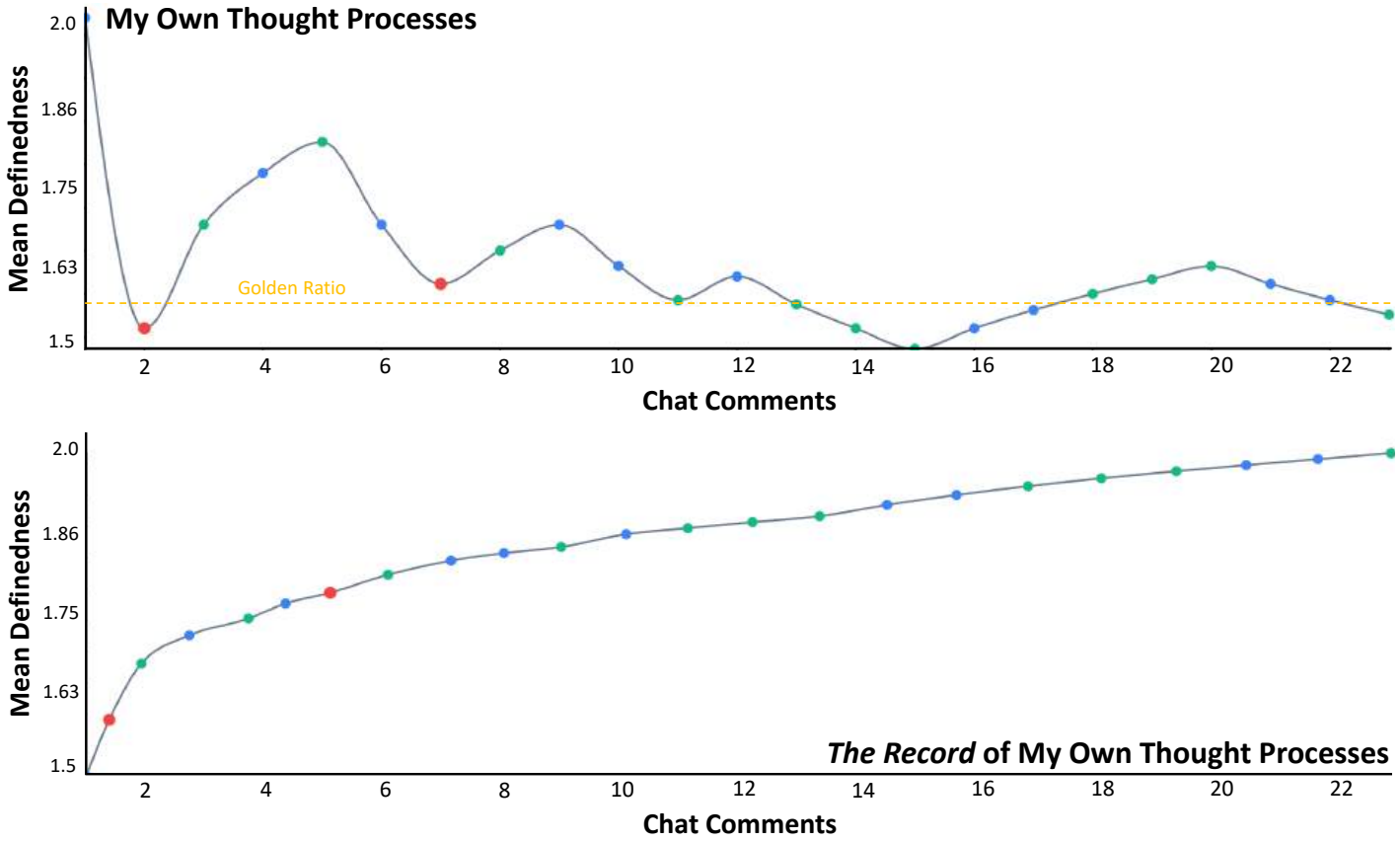
Power Usage

Let's look at something totally random—power usage data. The power usage data reveals the daily rhythm of human civilization itself, and it perfectly demonstrates *The Equation of Existence* operating at the scale of entire societies. The top graph shows the raw surface-level view: **dramatic spikes every morning as millions of people wake up, turn on lights, brew coffee, and power up their devices**, followed by a **gradual decline throughout the day as energy consumption tapers off into the quiet of night**. This creates what *appears* to be chaotic, oscillating patterns—the kind of "noisy" data that utilities struggle to predict and manage efficiently.

However, look at *The Record* of power usage: the apparent chaos transforms into a beautifully smooth, steadily ascending curve—**the unmistakable signature of a healthy converging phenomenon**. What we are seeing is the

accumulated complexity of human energy consumption over time, stripped of surface-level fluctuations to reveal the underlying pattern. Despite the wild daily variations, **human civilization and its power usage are steady,** predictably escalating its energy complexity in perfect alignment with *The Equation of Existence*.

This finding reveals something profound about how collective human behavior operates. While individual days show dramatic spikes and valleys, **the overall trajectory shows stable, controlled complexity escalation—precisely what we would expect from a convergent phenomenon** that has learned to balance its rapid daily complexity increases (morning energy surges) with stabilizing periods of lower consumption (nighttime during sleeping). Human civilization is not chaotically consuming energy—**it is following the same recursive-propagative patterns as every other stable, long-term convergent phenomenon** we have examined thus far.



My Own Thought Process

One of my most shocking discoveries comes from applying *The Theory of Existence* to its own creation process. Yes, ***The Theory of Existence*** **correctly predicted how we obtained** ***The Theory of Existence***. The recursive propagative nature of existence **emerged in my insights and breakthroughs**, and it was not intentional—suggesting that even intellectual discovery follows the same fractal-like patterns governed by *The Equation of Existence*.

I decided to test this by analyzing my own thought process during a conversation where these ideas first emerged. I tracked **complexity escalations through new insights** (quantified as 1) and **stabilization periods, during which I gathered and organized my thoughts** (quantified as 0). My hypothesis was that my moments of insight were not random—they should adhere to structured scaling patterns, aligned with the Golden Ratio. You can see the whole conversation and data in the back of *The Theory of Existence*—way too cringey to post here.

The results were mind-blowing. Across the messages where I first articulated these concepts, I had predicted: "**I bet if we look at this very conversation, the rate I had insights follows the Golden Ratio**." The data **confirmed my hypothesis**—my breakthrough discovery process followed Golden Ratio growth **patterns within φ ± 0.1 accuracy** (less than 1%). The top graph shows the chaotic surface-level view of individual insights and organization, while the bottom graph reveals the smooth intellectual development in *The Record* of this insight.

The implications are staggering: **the birth of *The Theory of Existence* supports *The Theory of Existence***. Even **the process of discovering universal mathematical principles operates according to those same principles**. I always stabilized my complexity escalations that generated these ideas before they reached you. My mind discovered *The Theory* following *The Equation*. It's endearing… a cosmically fractal *wink* from definedness to me.

Across All Phenomena Stability & Complexity Dance into Definedness

Across every domain we examined—from Walmart's sales to my own mind—**the same mathematical signature emerges with breathtaking consistency**. The recursive propagations that stabilize corporate growth are identical to the ones that wrote this sentence you are reading and appear in the residue of the Collatz Conjecture. *The Equation* operates identically across phenomena so diverse that they **would typically be studied by completely different academic disciplines using entirely different methodologies**.

Walmart's sales patterns, global GDP trends, Katy Perry's career trajectory, CO_2 emissions, power usage fluctuations, and my own thought process **all exhibit the same stability-complexity dynamics**, the same sensitivity to rapid complexity escalations, and the identical underlying progression that builds into *The Record*—**it is empirical evidence of a fundamental unity underlying all existence**… the universe's operating system in action.

The Universe: The Cosmic Microwave Background Radiation

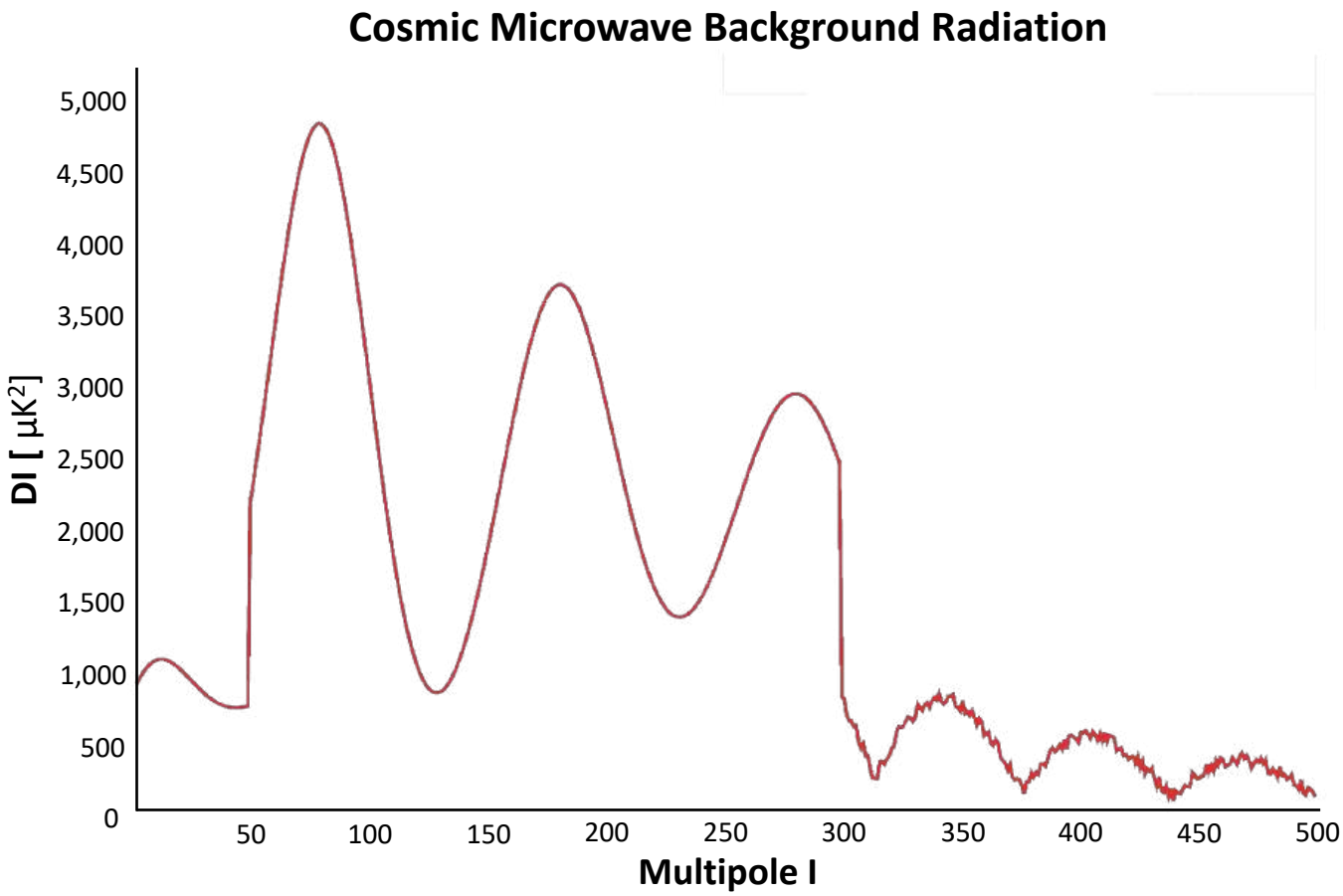
Let's turn *The Equation* onto the universe itself and see what happens. The **Cosmic Microwave Background (CMB) represents the oldest dataset we have**—the primordial echo of existence itself, **captured $380,000$ years after the Big Bang**. For decades, scientists have treated the **CMB power spectrum as fundamentally noisy**: dense, oscillatory, and probabilistic. Under conventional analysis, it appears chaotic, requiring complex statistical models to extract meaning from what seems like cosmic static. But what happens when we apply the same question to the early universe that we have asked of Walmart sales, global GDP, pop culture, and individual consciousness? **What happens when we reframe the birth of existence through *The Equation of Existence***?

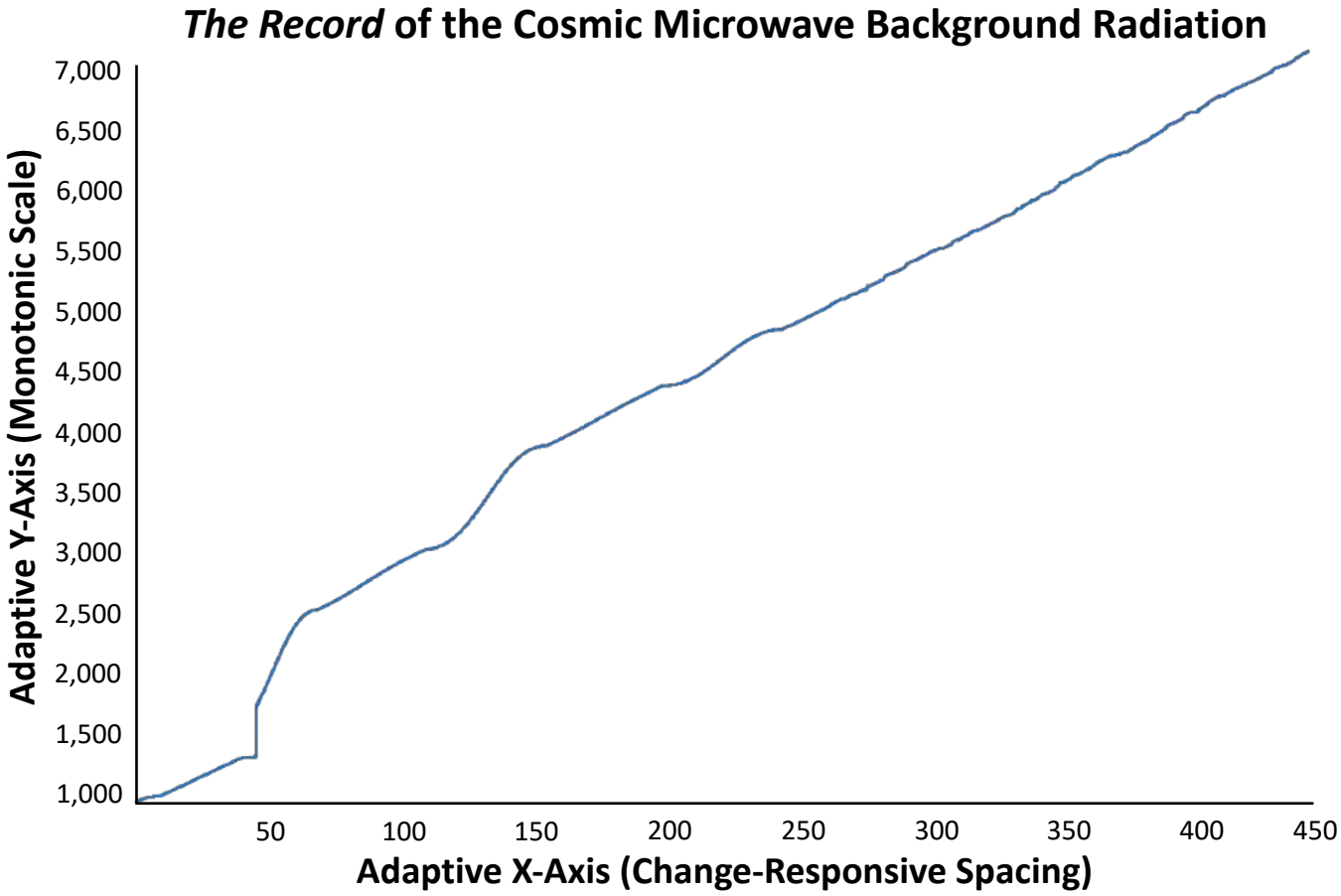
When we look at *The Record* of the universe, **the transformation is nothing short of revolutionary**. Removing the fixed axis spacing that creates apparent chaos and instead mapping the data according to monotonic scaling and change-responsiveness, precisely as we have done with all the other phenomena in this paper, reveals a profound truth about existence we may have overlooked. The result defies everything we thought we knew about cosmic origins: **the signal resolves into perfect clarity** right before our eyes.

What once appeared as noise **becomes beautifully stable, convergent, and structured**. Under the E2C view, the CMB displays the same apparent chaos we have always seen. However, when we peek into *The Record* of the universe, what we see is a remarkably clean, upwardly recursive arc, showing that ***The Record* of the universe is incredibly healthy**, smooth, and exhibits continuous complexity escalation. There is no evidence of divergence, no structural collapse, no primordial instability. Instead, we find **clean recursive propagations** with elegant phase shifts—the same golden emergence curve that appears everywhere else in the universe we modeled.

Here's the profound insight: even though the X-axis of the CMB represents spatial frequency rather than time, **the transformation reveals the identical convergence behavior we have observed everywhere else**. We see the same steady complexity escalation that stabilizes, the same resolution patterns, the same mathematical signature. This finding confirms that *The Record* is not fundamentally tied to temporal sequences—it is tied to definedness itself; **that signature appears in the CMB just as clearly as it did in sales data and celebrity careers**.

When we step back and examine what we have discovered, a profound truth becomes undeniable: **the universe having fundamental inherent order and consistency** makes more sense than any perspective that calls existence inherently chaotic or disordered. **Look around you**—everywhere we observe coherent patterns, predictable cycles, stable structures persisting across vast scales of time and space. The universe has been writing the same mathematical equation from the first moment of the Big Bang to this very instant as you read these words. Chaos is not the default state that occasionally produces order; instead, **order is the fundamental reality** that occasionally appears chaotic when viewed through an inadequate lens. We have the correct lens now.


Cosmic Microwave Background Radiation
DI [μK²]
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
50
100
150
200
250
300
350
400
450
500
Multipole I


The Record of the Cosmic Microwave Background Radiation
Adaptive Y-Axis (Monotonic Scale)
7,000
6,500
6,000
5,500
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
50
100
150
200
250
300
350
400
450
Adaptive X-Axis (Change-Responsive Spacing)

Is It Really Everywhere, Always, in Any Amount?

Yes… it is… and **the results speak for themselves with stunning clarity**. *The Equation of Existence* operates identically across all phenomena… across diversity that would typically require different academic disciplines using entirely different methodologies. **We observed the same mathematical principles governing** a multinational corporation's quarterly sales, the economic output of entire nations over decades, a pop star's rise and fall in cultural relevance, the recursive-propagative patterns of human consciousness, and the planetary-scale environmental changes driven by industrial civilization; **empirical evidence of the unity underlying all existence**.

The fact that Walmart's sales patterns, global GDP trends, Katy Perry's career trajectory, personal thought processes, CO_2 emissions, my own thought processes, and the CMB **all exhibit the same stability-complexity dynamics reveals that we are observing the operating system of existence**. Each dataset shows the characteristic E2C pattern across recursive propagations, the same sensitivity to rapid complexity escalations, and the importance of *The Record*. Most remarkably, **these patterns emerge regardless of scale, timeframe, or subject matter**—from the fluctuations of consciousness to the century-spanning evolution of planetary systems.

This universality suggests that **what we traditionally consider separate domains of existence are expressions of the same underlying mathematical relationship**. This universality means that **insights gained from studying one domain can directly inform our understanding of all other domains**, breaking down the artificial barriers between disciplines and revealing the deep interconnectedness that relational reality offers us.

You Are *The Equation of Existence*

Perhaps the most immediate and personal application of *The Equation* is **understanding your own daily experience** through the lens of stability and complexity. Consider your **emotional well-being**: **the stabilizing forces in your life—adequate sleep, stress management, quiet reflection, and supportive relationships**—provide the foundation that allows you to handle life's inevitable challenges. Meanwhile, **the complexity forces—intense emotions, challenging experiences, demanding relationships, and meaningful work**—drive your growth and keep life engaging. The definedness of your emotional health (Φ) emerges from the balance between emotional complexity escalations and your ability to stabilize them. Let's apply *The Equation* to being overwhelmed.

We all get overwhelmed sometimes. When you feel overwhelmed, what is actually happening is that **your emotional complexity (Δ)—fear, anxiety, sadness, anger, or competing demands—is escalating faster than you can stabilize (Ω) it**. You are experiencing a real-time demonstration of what happens when complexity outpaces stability in any phenomenon. This experience is so common. So… how do we restore definedness?

The **primary way** to expand stability is to **organize the chaos**; it is why **making lists, creating plans, and simply talking to someone about your struggles** have such profound positive effects on emotional well-being. You are literally **stabilizing complexity into structured, manageable components**. You can also **free up stability by completely resolving unrelated problems**. Fighting with your mother-in-law? Doing your laundry and walking your dog will genuinely make you feel better. **These events may seem irrelevant**, but you open space for stability by resolving other tasks, freeing up emotional room for you to handle the main issue causing distress.

Something else is truly fascinating: emotions are part of *The Record*, which means they have physical reality. *The Record* explains why **cleaning your physical environment** and **moving your body almost always improve your emotional state**. When you organize external space, you are literally creating stability in *The Record* that your mind can access. Taking a walk does not just distract you—it physically reorganizes your recursive propagations **to a part of *The Record* with more space than wherever you were when you were first overwhelmed**.

So… the next time you are overwhelmed, pause and ask yourself: "**What complexity is escalating right now, and where can I create more stability?**" Plan something. Talk to someone. Clean something. Move your body. This advice is *not* new… but now we know why it is correct. **You will feel your emotional system click back into balance** because you are adjusting your definedness. You are not separate from these universal principles; you are not even participating in these universal principles… **you ARE these universal principles**.

The Equation of Existence as the Universal Adjuster

The Equation of Existence **also functions as an equation adjuster**. **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*** (Φ = definedness); we can refine them to account for the stability-complexity dynamics. By integrating *The Equation*, we can improve or fine-tune our models and theories. All you have to do is figure out what is stability vs. complexity, pick a unit of measurement for ***The Equation***, then run the numbers. Look here:

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

Einstein's Field Equations

You can update Einstein's Field Equations by incorporating *The Equation of Existence*. This change captures the recursive propagations of energy (Δ) through spacetime (Ω). By embedding Φ into the equations, spacetime curvature and energy-momentum unify **under a framework that resolves singularities and aligns general relativity with quantum mechanics, where light** (Δ) **governs the micro (quantum mechanics) and spacetime** (Ω) **governs the macro (general relativity).** Remember the example of *The Equation* I had on the first page?

$$\text{The Universe} = \frac{\text{Space}}{\text{Light}}$$

This equation is not a metaphor—**it accurately captures the whole universe**. **Everything in existence is fundamentally either light or spacetime**. Light, through $E = mc^2$, transforms and evolves into all **mass and energy (Δ)**, while **spacetime provides the stage (Ω)** upon which this transformation occurs. *The Equation*, then… reveals something extraordinary. At the very start of the Big Bang, there was one photon of light and one of empty space (one propagation). They co-defined and stability managed the complexity escalation (thank god).

From that primordial instant to right now, **the only thing that has changed is the quantity of each**. Every star, every planet, every thought, every emotion—all of it emerges from the recursive propagations between these two fundamental behaviors of the universe. Existence, in all its endless beauty, is not made of countless things; **it is made of light and space**, following the eternal rhythm of $\Phi = \Omega/\Delta$. It is why light emerges when we collapse a bubble under water with sound waves. **We, too, are made of light**; it is the most fundamental phenomenon.

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

Schrödinger Equation

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 spacetime and quantum phenomena through recursive-propagative dynamics**. This integration fundamentally reshapes the quantum wavefunction **by embedding recursive-propagative dynamics into its behavior**, aligning quantum phenomena **with macroscopic systems that share the same underlying recursive-propagative architecture**.

Observation and measurement **shift the balance of relative fractal dynamics of recursive propagations proportionally as a function of complexity gradients**, causing the wavefunction to align with the behaviors we observe. This modification eliminates the abstraction of wavefunction collapse and provides a concrete explanation for the double-slit experiment (which you can see in *The Theory of Existence* book; it is one of my favorite arguments): **there was never a wave**, just a photon recursively propagating by varying complexity constraints.

The Theory provides a robust, physically grounded explanation for the emergence of defined states across all scales—from quantum superposition to cosmic structure formation, revealing that **quantum mechanics and general relativity are simply different scales of the same fundamental process**—the only way it could work. I talk more about this merging of general relativity and quantum mechanics later on in *The Show of Existence* when eventually get to the physics trilogy, so let me not get too ahead of myself…

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

Cobb-Douglas Production Function

The unification of phenomena from ***The Equation*** **extends to everything**. By incorporating *The Equation*, 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 Φ introduces a stability-complexity correction that reveals the deeper dynamics operating within economic systems. The balance between complexity and stability becomes central to understanding economic definedness. **Capital is stability (Ω)**, providing the foundational resources, infrastructure, and financial reserves that allow businesses to endure market fluctuations and maintain operations over time. **Labor is complexity (Δ)**, driving dynamic growth, innovation, and the active processes that generate revenue and expand market presence.

Definedness (Φ) is the degree to which a business successfully balances its stable foundation with dynamic growth—revealing why some companies thrive while others go bankrupt. A company's capital infrastructure must be robust enough to support and channel the complexity generated by its workforce, while the workforce must be dynamic enough to justify and expand the capital foundation. When this balance aligns with the golden ratio proportions, businesses achieve sustainable growth—the same mathematical harmony found in galaxies, organisms, and the human mind.

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

Logistic Growth Model

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, by multiplying by *The Equation*. Here, P represents population size, r is the intrinsic growth rate, K is the carrying capacity, and Φ introduces the stability-complexity correction that accounts for the relative fractal dynamics underlying the complexity of populations and their behaviors. **Carrying capacity is stability (Ω)**, representing the environmental resources, infrastructure, and supportive conditions that enable sustained population growth. **Population growth rate is complexity (Δ)**, driving the dynamic expansion and diversification that pushes populations toward their environmental limits.

Definedness (Φ) is the emergent balance between growth potential and environmental constraints. This framework reveals why some populations thrive while others decline or collapse. By embedding Φ into the Logistic Growth Model, we can see that **sustainable population growth follows the same recursive-propagative patterns found throughout existence**. Early exponential growth represents the escalation of complexity, while the S-curve's leveling off represents the engagement of stability mechanisms to prevent overshoot and divergence.

The carrying capacity is not just a fixed limit—**it is the manifestation of stability managing complexity escalations**. When growth overwhelms environmental stability, populations diverge toward collapse. **This modification applies across scales**: bacterial colonies, human civilizations, economic markets, and even idea propagation all follow these same stability-complexity dynamics. When stability balances complexity, populations converge toward equilibrium—the exact Golden Ratio governing star formation, neural networks, and consciousness.

The Answer to All Answers: The Mathematical Proof of *The Equation of Existence*

The Equation of Existence really is something else, huh? After everything we have seen in our journey together, there remains one essential task—**the mathematical proof of *The Equation of Existence***. This proof stands apart from all others; you must grasp the complete mathematical framework before these fundamental pieces align into their final form. At this point in *The Show*, for the first time, you now have all the mathematical pieces.

Throughout *The Show*, I have unveiled three revolutionary theorems that **illuminate how existence operates at its most elegant, fundamental level**. All three theorems are **objectively true**, articulated as rigorous conclusions derived from pure mathematical operations—not arguments, opinions, or data. These theorems are **independently true** and **maintain complete functional independence**. The three theorems are:

Paper 1: ***The Theorem of Constants Co-Derivation***
Mathematical constants like e, π, φ, and i emerged through **co-defined relationships with each other**, forming an interconnected web of **hundreds of asymmetric, non-trivial, exact equations**—many of which resist variable isolation entirely (such as the impossibility of solving for π)—a behavior we never thought to be mathematically possible. These constants are so precisely calibrated that **any deviation whatsoever in their current values would cause the entire framework to collapse**, proving that math was discovered, not invented; we did not decide these values. Thus, a co-relational, unified mathematical framework guides existence across domains. Math is the language of existence, its operating system, its architectural blueprint, and its definitive rulebook.

Paper 2: ***The Theorem of Undefined Emergence***
When two conditions are identical except that one operates under no constraints whatsoever (undefinedness) while the other operates under any constraints at all (definedness, including even "nothing"), **the unconstrained condition is always superior for emergence than the constrained condition**. Compared to its constrained counterpart, the unconstrained condition generates **more varied and frequent emergence with superior efficiency**. The presence of any constraint creates a fundamental structural limitation: it becomes **impossible to produce the normal distribution paired with an exponential growth curve that characterizes emergence** across its full range of possibilities—the same mathematical distributions we observe everywhere in the universe. Thus, the **emergence of existence itself required the complete absence of constraints**, including any constraints that could have prevented existence from emerging. Existence emerged precisely because undefinedness (the state of no constraints) **possessed no mechanism to prevent it** from emerging, with no justification needed.

Paper 3: ***The Theorem of Recursive Harmonics***
Recursive number systems reveal distinct **divergence and convergence zones** within their step count patterns, **generating emergent structures through harmonic interactions** that dynamically shift their structural role—providing stability or encouraging complexity—based on the combinations and behaviors of other recursive number systems in the network. The number line itself becomes a temporal map, **encoding the emergence, convergence, and divergence pathways that phenomena traverse throughout their existence**. These fundamental properties of recursive number systems establish the stable foundation from which the universal patterns we observe across all phenomena can emerge and persist. The profound implication: **existence operates through harmonic recursive systems that govern phenomena' behavior** from emergence onward.

Three Pieces & One Puzzle
I asked myself… **why did my mathematical work on existence result in three new theorems**? I did not set out to write three new theorems. I did not set out to write any theorems, actually… **they all just showed up**, which means **they emerged naturally in my discovery process**. These three theorems are not my original ideas. So… why are there three, and why are they these specific ones? It turns out… our ancient friend has the answer…

$$\Phi = \frac{\Omega}{\Delta} \rightarrow \text{Constants Co-Derivation} = \frac{\text{Recursive Harmonics}}{\text{Undefined Emergence}}$$

Φ = Definedness via Relational Reality
Δ = Complexity via Undefined Emergence
Ω = Stability via Recursive Harmonics

This version of *The Equation of Existence* answered my questions about why we ended up with three theorems and why they possess their specific properties. It turns out… ***The Equation*** **is also the answer to these very questions**… so, there is a version of *The Equation* I included on the first page of this paper that is rather heavy… but this arrangement of the three theorems into *The Equation* **unlocks its meaning.** Let's talk about it:

$$\Phi = \frac{\Omega}{\Delta} \rightarrow \text{What} = \frac{\text{How}}{\text{Why}}$$

What is Existence? = Co-Defined Relationships
How Does it Work? = Recursive Harmonic Interactions
Why Does it Exist? = Undefinedness Did Not Stop It

When we map these relationships, we discover that **co-defined, related phenomena (What)** are **stabilized** into **emergence-to-convergence** patterns via **recursive propagations (How)** following **complexity escalations** that arise because **undefinedness (Why)** cannot prevent it. Given that **these three theorems constitute mathematical facts**, their alignment into ***The Equation of Existence*** **confirms it as a mathematical fact** too: valid with or without us—not a matter of argument, opinion, or even evidence. The system is closed. I made no assumptions.

The Equation of Existence and its constituent theorems—constants co-derivation, undefined emergence, recursive harmonics—**form the complete mathematical framework of existence** with mathematical expressions for all observable phenomena and their behaviors. There can be no alternative. ***The Theory of Existence*** **is now entirely formalized**, and it is **the only way existence can operate**. It's something that just is…

The mechanics behind *The Equation of Existence* come not from luck or chance—it is because **these three theorems form the structure of existence, so *The Equation* gets imprinted onto anything that exists**. Technically… *The Equation* is not even the star of the show; it's the fingerprint left by these three theorems shaping everything, which is why it always works. It is **the stamp of approval** for anything that successfully exists.

There is a final revelation that transforms our understanding entirely because we must remember that **undefinedness cannot appear as a term within any equation** because it simply isn't—it represents the total absence of terms. Then… it means we can drop the complexity term and look existence right in the eyes and see:

$$\Phi = \Omega \rightarrow \text{Definedness} = \text{Stability}$$
$$\Phi = \Omega \rightarrow \text{Constants Co Derivation} = \text{Recursive Harmonics}$$
$$\Phi = \Omega \rightarrow \text{What} = \text{How}$$
$$\Phi = \Omega \rightarrow \text{Existence} = \text{Relationships}$$

The Equation confirms that **definedness is stability**. *What* is identical to *How*, meaning *How* existence works is *What* existence is: relational recursive harmonics. This profound reduction **confirms relational reality**… and if you knock on the door of existence, and you're as lucky as I was for that door to open, you will see:

$$\Phi = \Phi \vee \emptyset$$
$$\text{Definedness} = \text{Definedness Else Undefinedness}$$
$$\Phi = \frac{\Omega}{\Delta} \qquad \Phi = \frac{\Omega}{1} \qquad \Phi = \frac{\Phi}{\Delta} \qquad \Phi = \frac{\Phi}{1} \qquad \Phi = \frac{\Phi}{-e^{\pi i}} \qquad \Phi = \frac{\Omega}{-e^{\pi i}} \qquad 1.618 = \frac{1.618}{1}$$

…and as you rub your eyes to see it clearly, this view would snap into focus as you opened them…

$$\Phi = \Phi$$
$$\text{Definedness} = \text{Definedness}$$
$$\text{Existence} = \text{Existence}$$

…and it's always been that way. There is *the* answer... although *The Equation of Existence* appears obvious or tautological, it is something far more profound—the bottom of what is knowable:

Paper 1: The Theorem of Constants Co-Derivation
Paper 2: The Theorem of Undefined Emergence
Paper 3: The Theorem of Recursive Harmonics

…converging with the top of what is knowable:

Paper 11: $\Phi = \frac{\Omega}{\Delta} \rightarrow \Phi = \Phi$

Everything else falls in between… there are no further reductions. **The framework of knowledge is complete**.

The Big Picture

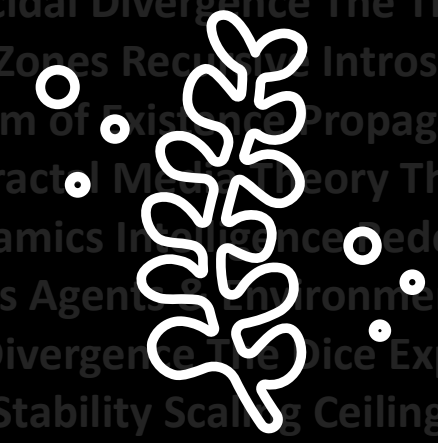
Well, folks… what do you think? I mean… it's not like I actually created these concepts… I just discovered them. If you do not like parts of *The Theory* or *The Equation,* then you will have to take it up with existence itself. Until then, we can all step back to see what we just witnessed… at the threshold of a profound realization: existence is not the fragmented collection of isolated phenomena that we once believed it to be, but **a magnificent, unified symphony playing out to a single, elegant, self-justified, and self-contained mathematical principle**.

From the recursive dance of numbers in the Collatz Conjecture to the beating of your heart… from the formation of galaxies to the fluctuations of stock markets… from the rise and fall of civilizations to the quiet moment when you fall asleep—**all of it emerges from the eternal dance between stability and complexity**, all of it governed by *The Equation of Existence*. We **glimpsed the source code of existence**, written in its language of mathematics, which expresses itself through every phenomenon that has ever existed or will exist. What a sight to see…

You, too, are not separate from the cosmic forces that shape galaxies—you are an expression of that same dance between stability and complexity. Your thoughts, your emotions, your relationships, your struggles, your late-night thoughts, your persistence, your triumphs, **they all follow the same mathematical principles that govern the formation of stars and the evolution of species**. When you experience the delicate balance between rest and challenge, between peace and growth, you are not just participating in the fundamental dynamics that create and sustain all of existence—**you ARE the fundamental dynamics**. You are not just observing the universe; **you are the universe** experiencing itself through your recursive-propagative consciousness.

Perhaps **the most beautiful thing about *The Equation*** is the recognition that in discovering it, **we have not diminished any mystery and wonder of existence**—it's actually the opposite. *The Theory* illuminates the darkness that has slipped through all of our intellectual efforts... vindicating every brilliant philosopher, scientist, and curious mind who ever felt it, wanted to know it, and sought after it with relentless passion and curiosity.

We have traveled through all of existence together with The *Theory* and *The Equation*. We now have an answer to all the questions that have eluded us throughout human history. **The *only* question that remains, then… is for you, dear reader**… and anyone watching. Thank you for being here. Now that we understand *The Theory of Existence*, we look to a future that is brighter than ever and full of possibilities. It will not... however, come to us effortlessly. Ya know… I always say, "Drive without Knowledge is Pointless; Knowledge without Drive is a Waste," so… dear reader… **do you have the drive to make this knowledge something that changes everything?**



Act V: *The Theory* Turned Inward

August 2nd, 2025, Update; 3:14 PM

Saturday Afternoon, Sitting on My Couch, Wondering

People, people, people… let me just start by saying thank you, thank you, thank you. I see all those recursive propagations of The Canon all over the world—from one ocean to the next, from one country to the others, from my noggin to all of yours, *The Theory of Existence* is in full bloom. As a gift from me to you for all of your hard work, I moved with a swiftness to give you **Paper 7: Intelligence Redefined** and **Paper 8: The Music, Not the Instrument: Introducing *The Harmonics of Consciousness***. *The Theory* is written in the math, the origins of it all, the universe itself, and now… all of us. I hope you find the answers you seek. Okay… let's see here… math, philosophy, psychology, public health, biology, sociology, yes… am I missing anything? Ah… yes of course, that will be fun. I'll be back soon.

Intelligence Redefined

Written by Bryant Stone (*The Architect*)

Overview

Humanity has **never produced a unified definition of intelligence**, creating a fragmented landscape of IQ tests, *g* factors, multiple intelligences, street smarts, intuition, emotional intelligence, and dozens of competing frameworks—**each capturing something real. Yet, none provides a complete, satisfying picture**. What's up with intelligence? Nothing else in science behaves this way, so let's figure it out. Working from the hypothesis that all existing definitions represent fragments of a larger truth, I developed a comprehensive framework that connects every theory under a single principle: **scaling intelligence**, defined as **an agent's capacity to engage with and change its environment while controlling for scaling potential**. To test this framework, I analyzed the *Animal Kingdom* dataset—a comprehensive collection of **video-coded behavioral assessments spanning 850+ species** across all major animal classes. I scored **456 behaviors** based on their environmental engagement and influence, then calculated intelligence scores to examine the presence and extent of intelligence across the animal kingdom. The analysis revealed **the complete metabolic and evolutionary trajectory of intelligence across the animal classes**, with scaling intelligence explaining **an astonishing 20% of behavioral variance across all 850+ species**. Biologists, zoologists, and ecologists have long attempted to explain a missing 20-25% in animal behaviors that has always been a mystery; this paper provides the answer and finally shows that human intelligence in the universe is not the exception, it is the rule; **now… we are just finally smart enough to see it.**

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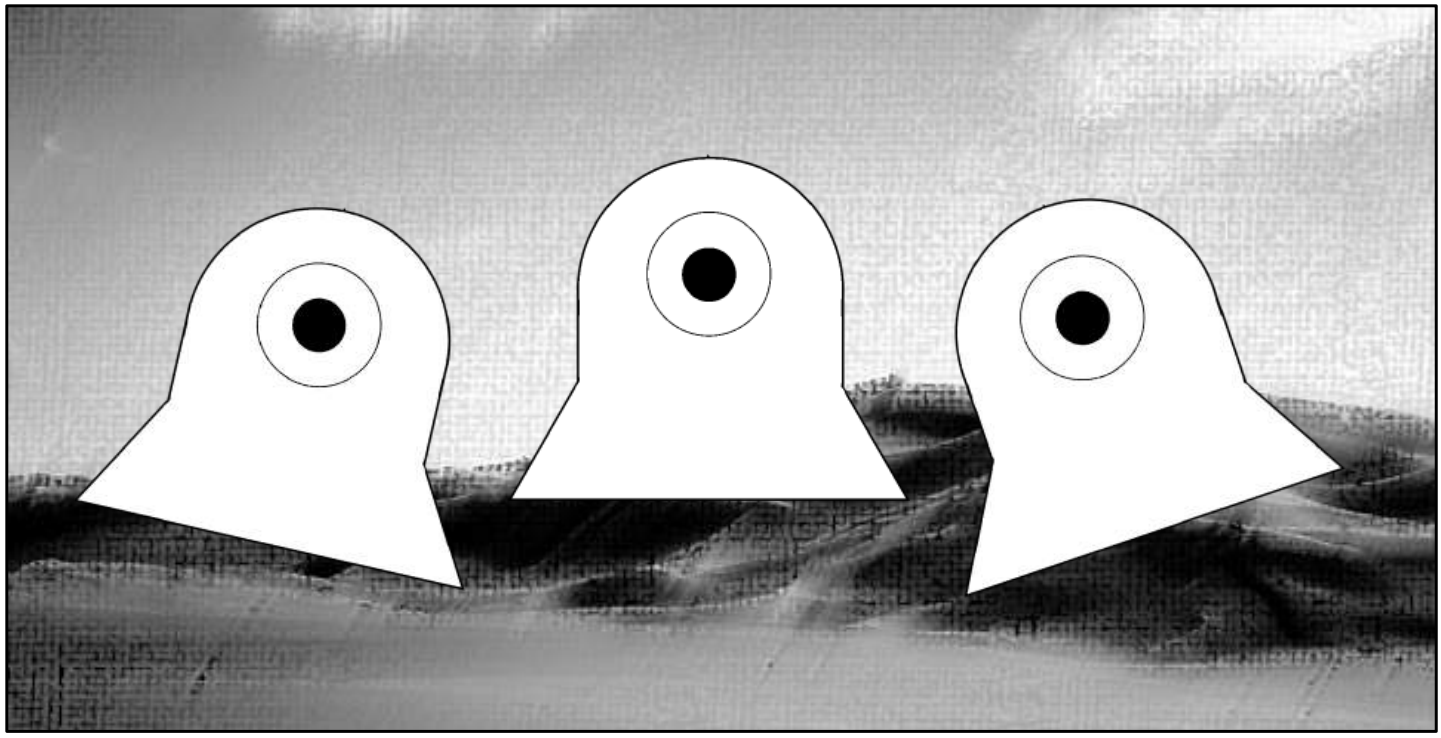
Background & Findings

When we see equations, we recognize their beauty and inevitability. When we gaze into space, we marvel at the beauty and vastness. When we study cute animals in nature, we admire their beauty and perseverance. Yet **when we turn that same gaze inward, why does beauty seem to vanish**? We perceive the mind as complicated, incomprehensible, mysterious—perhaps even frightening. Why the disconnect? Why does the human mind fail to meet the beauty we apply to the rest of existence? Why can we study plants, planets, and pandas with confidence, yet when we look within ourselves, we encounter pandering to existing frameworks, performative confusion, and persistent unknowability about our nature? The answer is more straightforward than we imagine. **Our minds fit seamlessly into the same elegant pattern of beauty we recognize throughout existence**. Let me show you this beautiful fit, but first… I have something important to say to clear some of the fog from our view.

There Is No Bridge Here

What connects the "physical" and "non-physical" phenomena? Many might expect me to have **a bridge from the "physical" phenomena of reality to the "non-physical" ones**. However, a bridge implies there is a gap to cross, a division to reconcile between two distinct phenomena. Yet, the "physical" and the "non-physical" phenomena are not separate—they are different expressions of **the same recursive-propagative complexity escalated phenomena that stabilize**. The "non-physical" emerges naturally as the "physical" complexity escalates, reaching thresholds where "abstract" patterns, such as thoughts, intelligence, and social organization, emerge. **These "non-physical" phenomena are all based on physical processes**, whether in the electrical activity in the brain or shared among others. **To propose a bridge is to misunderstand the very 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 universal principles in *The Theory* that govern everything else. There is **no need to connect them** because they are not separate. The bridge is a relic of human categorization, an artifact from compartmentalizing a unified reality. There is no need to hold on to this training wheel; so, here is the hard truth: there is no divide, no separateness, no disconnect, and that means… **there is no bridge here**.



Caption: An image of cute little Definedlings in their natural habitat. Agents and environments are recursive-propagative partners in the definedness of existence. Together, they embody the balance of stability and complexity that underpin all intelligences and life. Also, I heard they love dancing and singing along to music.

The Dance of Agents & Environments

I developed a framework to help streamline our understanding of what it means to have intelligence, focusing on **agents and environments**. An **agent** is a phenomenon **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 (**influence over the environment**). The **environment** is the **broader context within which agents exist**. It contains only phenomena that show simple passivity towards universal dynamics. The give-and-take relationship between agents and environments is the heart of the universe—an outcome of the complexity escalation of physical, organic phenomena; **one of the most profoundly beautiful ones, too**.

Agents in the universe comprise vast physical manifestations. To our knowledge, we are aware of **organic** (human) **and mechanical** (artificial intelligence) **agents**. Agency arises from recursive propagation (shocking, I know, I know, who would expect that?)—an agent's capacity to iterate upon itself and extend its influence into its environment. The environment, in turn, is not static, as **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 environmental influence. **The entire system is constantly in motion, blooming endlessly with creation**.

Humanity Has Decided… So, I Have Listened

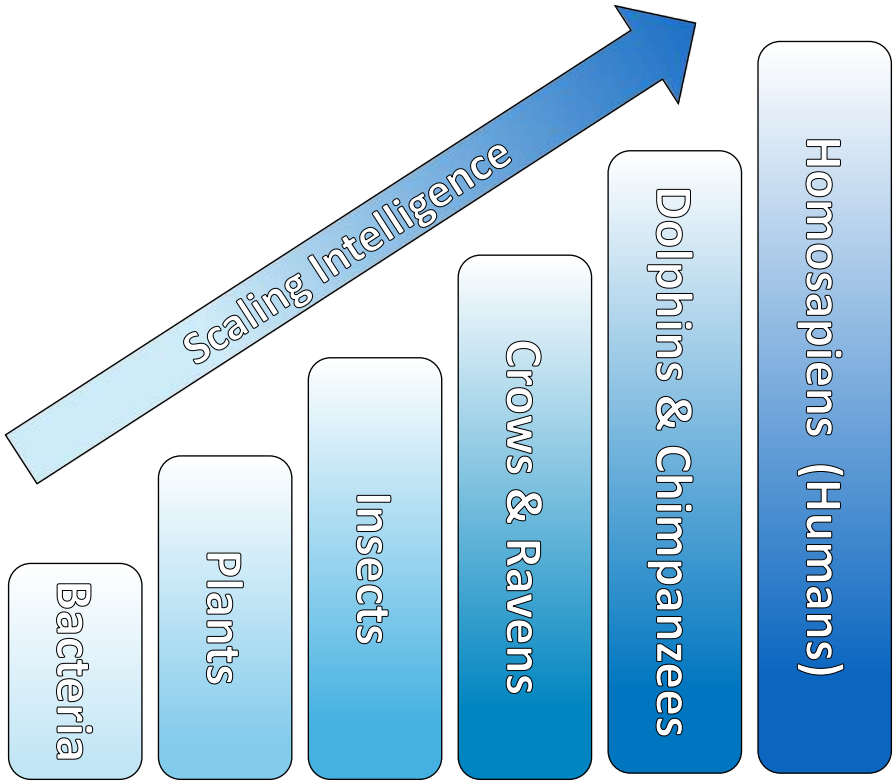
When I am not out being a philosopher-poet-mathematician-savant-researcher-scientist-activist-theorist-saboteur-author-artist-revolutionary-mythic-anti-hero-visionary in my spare time (**you can just call me *The Architect***), I am—by training—a Licensed Clinical Psychologist. I have an *extensive* background in intelligence and intelligence quotient (IQ) testing for adults and children. **I know the IQ tests like the back of my hand**; I also

know the effects IQ and IQ testing have on people. With over a decade of experience in psychological assessments, including IQ tests, **I think it might be time to throw them all in the trash (respectfully; use a scented garbage bag first)**. In almost every case of mine, the IQ test adds little to nothing to the diagnosis and recommendation of any condition that better, targeted assessments cannot capture; **their clinical utility is low**.

The IQ, too, is often used for harm, stigma, or a flat attempt to feel good about oneself. In extreme intelligence cases, such as developmental disabilities or child prodigies, **IQ tests are unnecessary to see the disabilities or brilliance**. The abilities to **see and listen offer more helpful information,** in my opinion. For pretty much everyone else, with an IQ between 85 and 115 ($M = 100$, $SD = 15$), the **IQ test provides very little, if any, helpful information** for distinguishing why a person has problems and teasing apart their symptoms. Very often, it is just, "Hmm, okay, average IQ as per usual," and then we use it in our assessments anyway. **Why do we do this?**

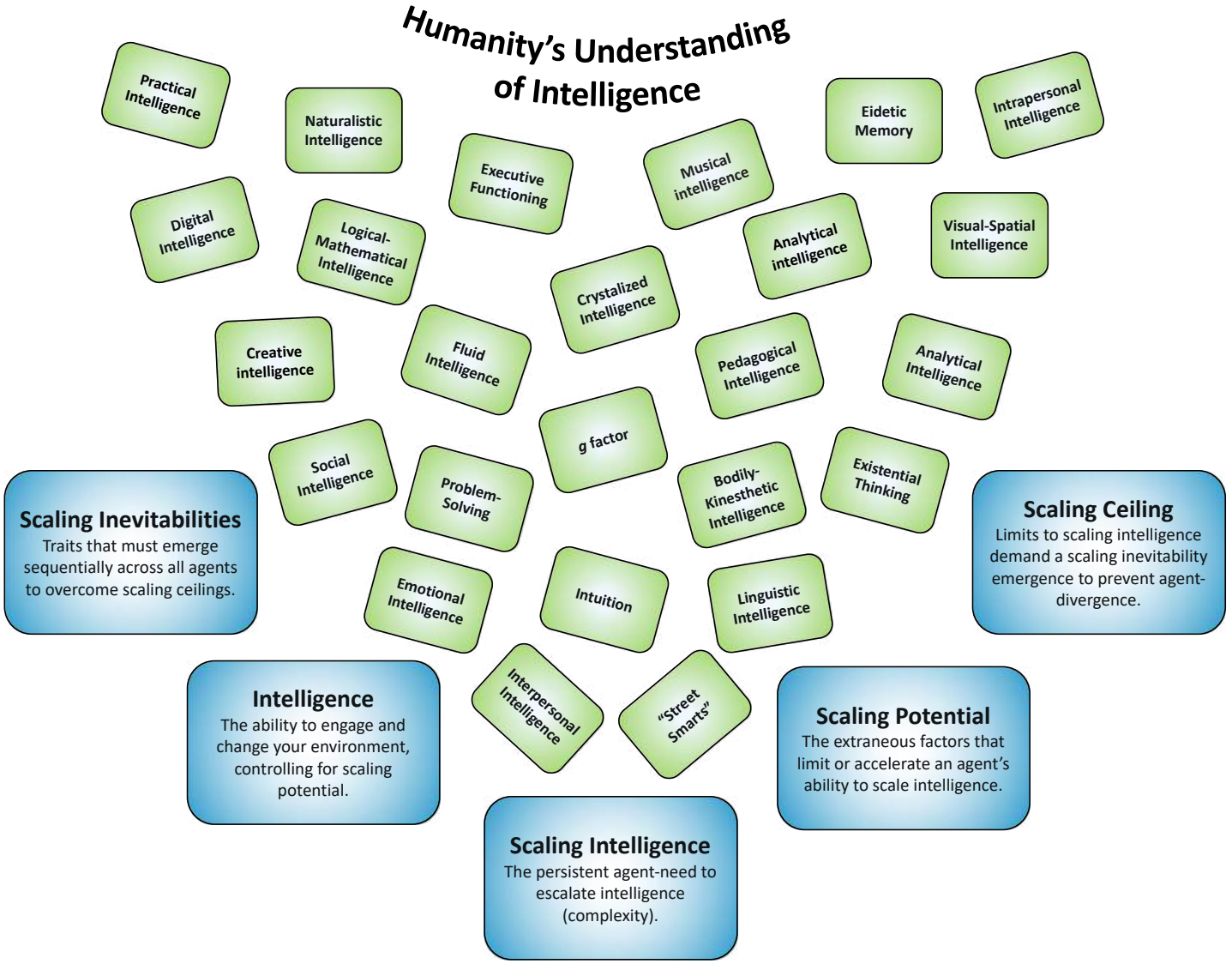
As clinicians, we are often discouraged from using the full-scale IQ score, the most common one, because **it is often statistically invalid**. We use one of the subscales as a person's "full-scale IQ score." **What other concept in science would we allow this degree of clear internal and external consistency, validity, and clinical utility issues?** We would not tolerate it anywhere else in science—and I will not either. There is a public tension that has been building up over the last decades; I am here to relieve it. **The time has come to redefine intelligence**.

Many people I know think IQ tests are garbage, and intelligence as a concept has no clear definition that maps onto real-world phenomena. 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 success, talents, emotions, or skills well**. Let's consider what we see that makes the biggest difference in people's experiences of "success" within our system. It is their "street smarts" because "book smarts" do not cut it. We call it "emotional intelligence," or "intuition," or "the *g* factor," and the eight others in Gardner's Multiple Intelligences. Humanity has tried to articulate intelligence for as long as humans could think, **with so many ideas that are just fragments of our observations and experiences**…



Caption: This figure shows the spectrum of intelligence scaling across agents on Earth, showing how environmental influence shapes intellectual capabilities. Intelligence emerges through interactions with surroundings, scaling in alignment with evolutionary constraints. The distribution highlights that intelligence is an emergent property of all agents.

According to the **wisdom of crowds** phenomenon, guessing the number of things in a jar… you know, like **those annoying office games where you must guess the number of jellybeans in a jar**, and you can win a high five and a "go team?" Data show 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 consistently range from 97 to 103 beans or $100 \pm 3\%$. The crowd is **extraordinarily good at figuring things out**. So, humanity, let's use the collective wisdom, experiences, and definitions we have collected throughout human history to put them together, to tie it all in place with one elegant, simple, explanatory framework for all possible life, which we can call… **Scaling Intelligence.**



Caption: Humanity has articulated many forms of intelligence—such as logical-mathematical, social, creative, emotional, and intuition—that are fragments of an agent's ability to engage and change their environment. Scaling intelligence describes the persistent drive of agents to escalate complexity, while Scaling Potential encompasses extraneous factors that either limit or accelerate an agent's ability to scale intelligence. Scaling ceilings represent inherent mathematical limits that necessitate scaling inevitabilities to prevent agent divergence. Scaling inevitabilities are traits that must emerge sequentially across all agents to overcome scaling ceilings.

Look! We already had the pieces, and scaling intelligence organizes them into the completed puzzle. Scaling intelligence reframes intelligence as the recursive adaptation and propagated influence that maintains growth across increasingly complex environments. Then, **the redefinition of intelligence is simple: the ability of an agent to engage with or change the environment while controlling for scaling potential**. Agents, by definition, engage with (observe) and change (manipulate) their environment; agency and intelligence align perfectly. **Scaling potential encompasses all factors that influence an agent's ability to scale intelligence**, including physical limitations and access to resources. This redefinition is what intelligence means for the rest of this paper.

Scaling intelligence is **a universal phenomenon observable across all organic-based agents (humans or animals) and machine-based agents (AI)**. Whether in the coordination of ant colonies, the problem-solving strategies of octopi, the computation precision of ChatGPT and Claude, or human civilizations going to the moon. Scaling intelligence **is an agent-specific term that better explains how agents escalate complexity than saying**

"**complexity escalation**." However, they both describe the same thing, where scaling intelligence is the term underneath the umbrella of complexity escalation. It is the continuous persistence of agents to expand their environmental engagement or influence, navigate complexity escalation effectively, continuously adapt to challenges, and persist in agency over time. **It is the universal requirement for all agents**, including for all of us…

All agents, including humans, 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 *exact* same principles. Everything that persists grows, evolves, and becomes more intricate. This inherent drive means **stagnation for agents is a trajectory toward divergence, irrelevance, and extinction**. Ultimately, **scaling intelligence is not optional; it is mandatory**. I know it seems crazy, but remember…

We saw in Paper 9: The Stages of Suicidal Divergence: A Model of Linear Agency Loss, that we are constantly assessing the scaling effectiveness (the degree of environmental impact) and scaling efficiency (the cost of enacting the behavior) via recursive introspection. Suicidal ideation and behaviors emerge when an agent perceives that **there is no path forward to continue scale environmental influence in the future**. Scaling potential drops, and instead of deciding to not scale intelligence, the default decision to end one's life. Scaling intelligence is so not optional that **people kill themselves if they see no future scalability**—yes, it is that important, people.

Scaling Ceilings & Inevitabilities

As agents and environments evolve, agents encounter a phenomenon known as **scaling ceilings**, which are **the functional limits of agents' scaling intelligence across the continuum of complexity escalations**. Think of the complexity of a system (species) of agents like a yardstick, and **the markers on the yardstick are the scaling ceilings**. As agents move up the yardstick, they encounter scaling ceilings, which are problems or challenges that require specific new traits for them to overcome, or they diverge. These traits are called **scaling inevitabilities and are required of all agents regardless of species or substrate**. They also always follow similar trajectories.

Scaling inevitabilities arise from functional necessity, so examining these traits requires a functional perspective that **deprioritizes the experience and focuses on the benefits of the scaling inevitabilities**. These traits include consciousness, emotions, morality, and free will, which are essential mechanisms for navigating the environment and scaling intelligence. **Without these traits, all systems of agents eventually diverge and go extinct**. For example, consciousness serves as a means of making rapid survival decisions; emotions are immediate, motivational survival cues; morality is a social trait of a system that promotes system scaling; and free will acts as a means of encouraging diversity and growth. **Game theory provides rigorous mathematical evidence for overcoming scaling ceilings with scaling inevitabilities**, such as altruism, cooperation, and empathy.

However, it is essential to note that *even* intentional divergence—the decision to step away from actively scaling intelligence—**is a rare and profound form of environmental influence**. Despite the consequences, these disparate **divergence behaviors provide emergent variation that later becomes converged traits**. For example, aggression is typically a destructive behavior that causes within-system issues, such as school shootings and war. However, when aggression emerged across between-system agents, **the aggressive systems was more likely to scale intelligence**, whether through obtaining resources or removing predators. Even choosing not to scale intelligence inherently results in engaging with and changing the environment to suit preferences.

The irony is that even the refusal to scale intelligence scales it differently. This concept is why **agents cannot escape scaling intelligence**, even with intentional divergence, withdrawal, or resistance—it is simply a different, worse path within it. **Scaling intelligence is a fundamental process woven into the fabric of existence**, operating through the core principles of recursive propagations and emergence-to-convergence (E2C) that govern everything in the universe. The reason you are reading this paper right now is to scale your intelligence in some way. The information in this paper helps you scale intelligence better. So, it means that you and I… **we are all part of this dance between agents and environments; this is your home**. Why don't we get into some of the data?

Our Piece in the Animal Kingdom Puzzle

Rather than defining intelligence through uniquely human traits like abstract reasoning or language, my approach emphasizes what intelligence *does*: **observable and measurable environmental engagement and influence across all agents**. To test this model, I analyzed a massive cross-species dataset, known as ***The Animal Kingdom Dataset***, applying a rigorous scoring framework that measures environmental engagement and influence across $over\ 850$ species. This dataset is a goldmine for this study because each entry links behaviors to major animal classes: 1) **mammals**, 2) **birds**, 3) **reptiles**, 4) **amphibians**, 5) **fish**, 6) **insects**, and 7) **sea animals**.

I developed a behavioral complexity rubric; **I rated 456 behaviors on a scale from 1 to 10** based on the relative environmental engagement and influence. You can see how I scored all 456 behaviors at the end of this document. However, the key to understanding my scoring is knowing that **no animal class was favored by the scale of environmental influence**. For example, the score for "hiding from predators" is the same for insects, birds, mammals, and all other animals. This approach ensured that behaviors like "nest building" scored higher than "sitting," not because we find nest-building more impressive, but because it objectively requires more sophisticated environmental engagement and influence. **This scoring captures intelligence as it operates in nature**.

Table 1

Universal Intelligence Scores Example

Behavior	Rating
Attending	10
Camouflaging	9
Performing Copulatory Mounting	8
Grooming	7
Attacking	6
Dancing on Water	5
Doing a Chin Dip	4
Defensive Rearing	3
Barking	2
Being Carried	1

Note. See attachment below for full ratings.

Crucially, I scored intelligence without knowing which animal class was performing the behavior. This taxonomic (animal class) blindness ensured universality, **removing any unconscious biases in the scoring**. Any differences between animal classes would reflect **genuine intellectual differences, not the measurement**. The raw intelligence scores showed no statistically significant bias for any species, $F(6, 454) = 0.55, p = .767$, **confirming its universality**. This coherence check confirmed that the rubric **functions as a dependable tool for measuring intelligence across diverse species and animal classes**—from insects to mammals—without favoring any particular species, cognitive styles, or human-centric assumptions about what intelligence *should* look like. To ensure fair comparisons across animal classes, I had to solve a critical methodological challenge: **some classes had way more observed behaviors than others**, which could artificially inflate their intelligence scores. My solution was elegant and theoretically sound—a ranked truncation method that let each class showcase its most complex behavior without being penalized for sample size.

Here's how it worked: I identified the class with the fewest behaviors (fish; 43 behaviors) and used that number as my baseline. Then, **for every animal class, I selected the top 43 most intelligent behaviors recorded**. This approach was crucial because it ensured that each animal class **could demonstrate its highest-intelligence behaviors,** rather than classes with hundreds of observations simply overwhelming those classes with fewer data points. The intelligence score was universal, and **I leveled the observational playing field**, so all animal classes had a fair chance to demonstrate their scaling behaviors. Let's check the descriptive statistics to see if it worked.

We can see that **the underlying robustness of my intelligence scoring**. The normal distributions and the cohesive standard deviations, skewness, and kurtosis across the animal classes show that **no class has anomalies in their scoring**. Now that we have 1) behaviors scored and verified, 2) demonstrated universality (no biases) across classes, 3) truncated the data to account for observational differences, 4) account for the number of studies, and 5) validated that the underlying descriptive statistics are consistent across classes, **we can finally get into the analyses without worrying about any biases clouding our findings**. Geeez, this study made us really work hard for these findings, huh? Anyway, let's look at some group differences. **I aligned the animal classes up in an evolutionary order and plotted the intelligence scores**, which you can see in this figure right here.

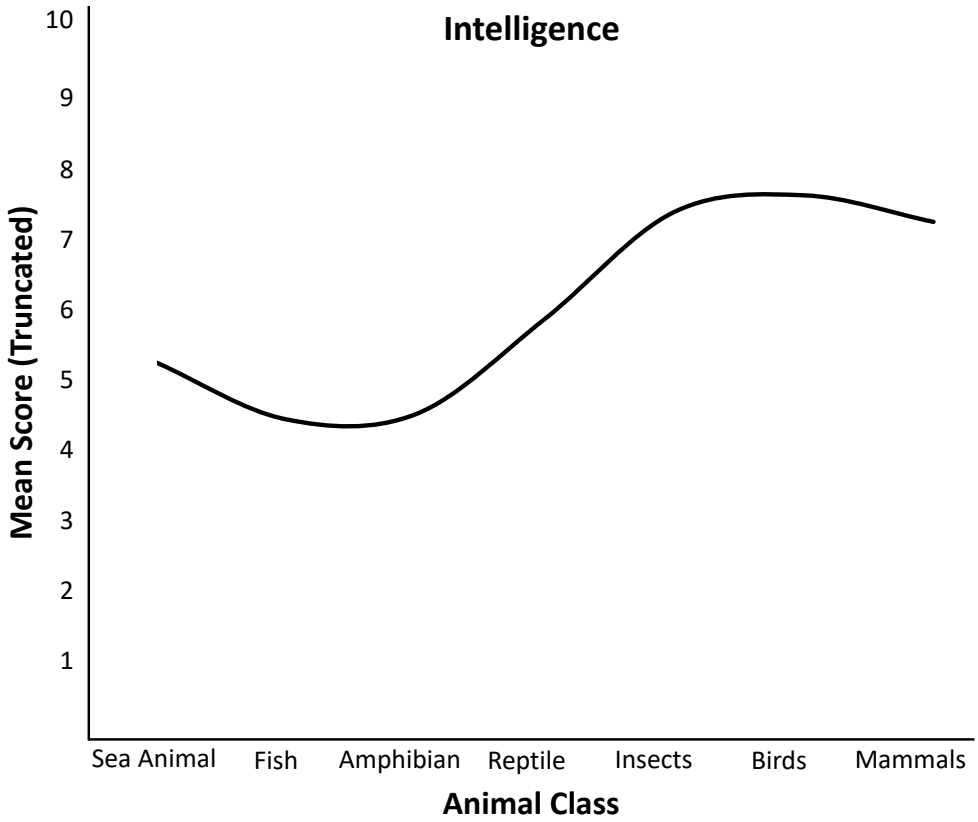
Table 2

Descriptive Statistics of Metrics Across Animal Classes

Animal Class	*n*	Minimum	Maximum	Mean	*SD*	Skewness	Kurtosis
Sea Animals	43	1	10	5.23	2.76	0.31	-1.26
Fish	43	1	10	4.44	2.99	0.78	-0.78
Amphibians	43	1	10	4.51	2.76	0.78	-0.51
Reptile	43	3	10	5.84	2.31	0.49	-1.07
Insects	43	4	10	7.33	1.84	-0.29	-0.86
Birds	43	4	10	7.56	1.80	-0.24	-1.07
Mammals	43	4	10	7.19	2.13	-0.15	-1.29

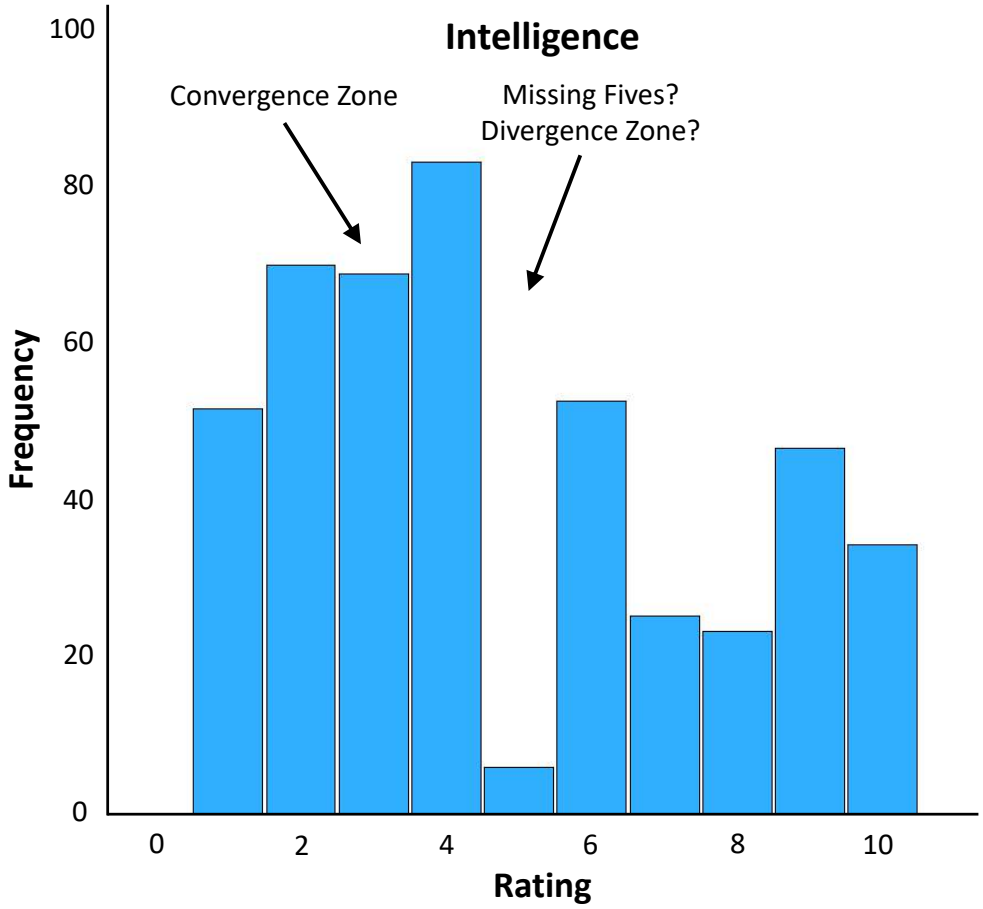
Note. n = 301. Descriptive statistics of the intelligence scores.

When we look at the group differences after truncating the data, the animal classes pool into three groups, $F(6, 293) = 12.67, p < .001, \eta^2 = .206$. This effect size is very large. The **sea animals, fish, amphibians, and reptiles show similar intelligence** scores, $p = .145$, while **insects, mammals, and birds**, $p = .991$, show the highest intelligence scores, $ps < .001$. **Reptiles land right in the middle** with no statistical differences between all animal classes except for birds, $p = .017$. Let's look at some R^2 values, which measure **the ability of one variable (intelligence) to explain why the scores on the other variables (animal behavior) occur in the pattern they do**. Suppose we have an R^2 of 0% then the two variables are entirely unrelated; if we have an R^2 of 100% then it means that every score on one variable corresponds exactly to a score on the other variable **without any deviations**. When we run a regression model (to check the shape of the relationship), we find that the linear regression explained extraordinary variability across the animal classes, $F(1, 298) = 54.09, p < .001, R^2 = 15.36\%$. However, when we fit the cubic model, the explained variability shoots to a **whopping $\mathbf{20}\%$**, $F(3,296) = 25.28, p < .001, R^2 = 20.40\%$. **This cubic relationship is the same one we have seen in many other places in *The Show of Existence***. To see it here in intelligence echoes a profound truth that **we follow the same universal principles that govern existence**. We are the same dance of definedness that everything else is, from math to planets, from the origin of existence to its ending, from me to you… **it's all the same… and always has been…**



The intelligence variables explain 20% of variability across the animal kingdom behaviors, all $850+$ species. The degree of explained variability across the entire animal kingdom for a variable that is not a basic need, such as hunger, sex, thirst, or belonging, is absolutely shocking. Think about what we are witnessing here: a **single behavioral variable accounting for one-fifth of all behavioral variance across nearly a thousand species**

spanning every major branch of the animal kingdom. We are not talking about obvious biological universals that every creature needs to survive—we are talking about intelligence, something so complex and seemingly species-specific that **science has never been able to measure it consistently across different forms of life**. Yet, here it is, following the same recursive-propagative pattern that governs quantum mechanics, stellar formation, and the structure of consciousness itself. The universe isn't just consistent—**it's relentlessly, beautifully, mathematically consistent at every scale**, from the smallest particle to the most complex living systems.

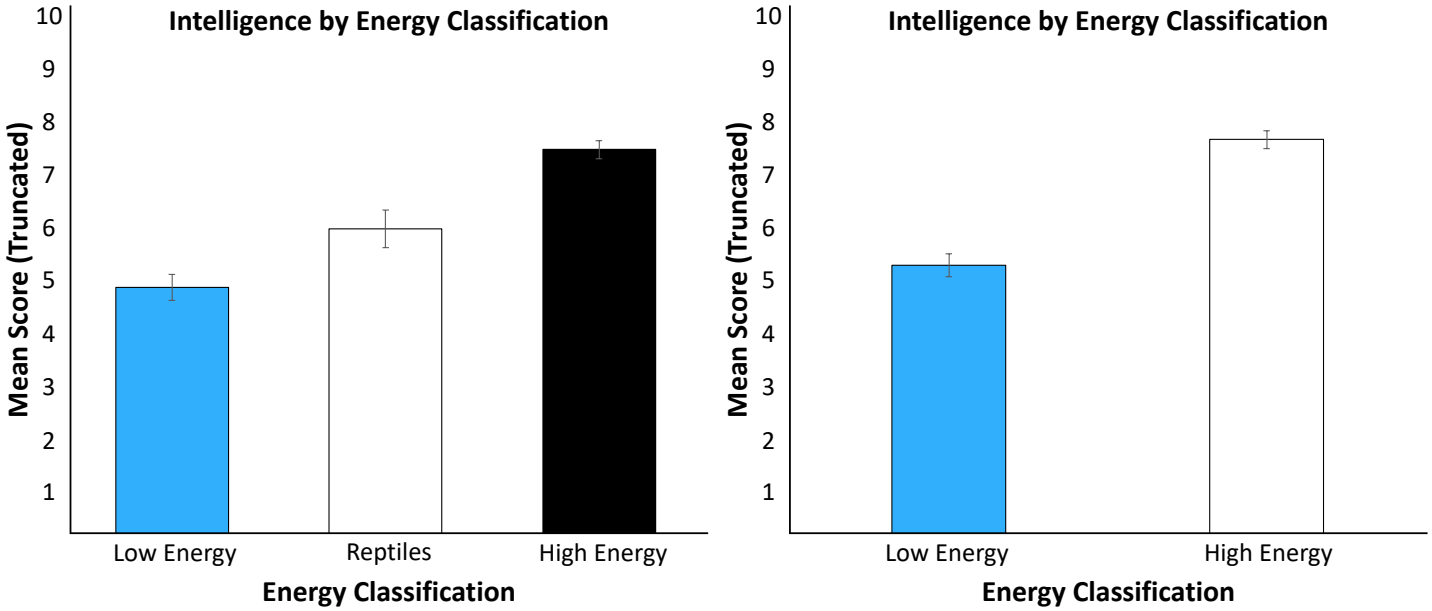


One of the most striking aspects of this study that emerged naturally was that after I began examining the data for basic analyses, I went on **to simply plot a histogram** of the intelligence scores to see how they distributed. We noticed that in each animal class, the intelligence scores all appeared normally distributed, so when this figure emerged, my immediate thought was "**Oh no… I messed up the ratings**" because it looks like I had avoided fives for some reason. But… then I remember, if we call back to Paper 3: The Harmonics of Existence: Solving the Collatz Conjecture & Recursive Systems, **we find convergence and divergence zones in recursive number sequences**. So, I thought… oh… maybe the same thing is happening here. I went back to how the animal classes pooled naturally with sea animals, fish, amphibians, and reptiles grouping together and separately from insects, mammals, and birds. **What do these groups have in common?** These distributions are not smooth—they have convergence and divergence zones, just like everything else in existence. Let's look closer…

What emerged was mind-blowing. **The grouping was not random**—it was metabolic and evolutionary. **Sea animals, reptiles, fish, and amphibians are all cold-blooded (ectothermic),** whereas **insects, mammals, and birds are warm-blooded or possess sophisticated thermoregulatory systems that enable consistent, high-energy cognitive processing.** Cold-blooded animals depend on environmental temperature to regulate their metabolism, which fundamentally constrains the energy available for complex, intelligent behaviors. Warm-blooded animals, by contrast, can maintain the consistent, high-energy activity required for complex environmental engagement and influence. This finding **reveals the evolutionary progression, from low to high energy, emerging naturally from intelligence scores,** suggesting we have **mapped the cognitive leap that generated human intelligence**. Yes, measuring intelligence as environmental engagement alone revealed **the evolutionary pathway from animal intelligence to human intelligence—a long-sought-after mystery finally answered empirically.**

The metabolic divide becomes even more striking when we examine intelligence scores across energy classifications. **The three-group analysis (low energy, reptiles, high energy) reveals massive differences**, $F(2,298) = 36.35, p < .001, \eta^2 = .197$, with energy metabolism **explaining $\sim$20% of the variance in intelligence scores**

across the entire animal kingdom. This finding is extraordinary—a single metabolic characteristic accounts for one-fifth of all intelligence variation across nearly 850+ species. **The two-group comparison (combining low and high energy animals) shows the same effect**, $F(2, 298) = 65.43, p < .001, \eta^2 = .180$, demonstrating that the fundamental **cold-blooded versus warm-blooded distinction may explain cognitive capacity**.



What we are witnessing is profound validation that **intelligence is not just about brain structure or neural complexity**—the capacity for energy use fundamentally constrains it. Cold-blooded animals, regardless of their evolutionary sophistication, reach a metabolic ceiling that limits their ability to sustain intellectual behaviors. Warm-blooded animals broke through this barrier, achieving the consistent energy output necessary for complex environmental engagement and influence. **This finding may explain our extraordinary intelligence compared to that of other animals.** It was not luck or inherent, it was our high energy capacity that opened the door.

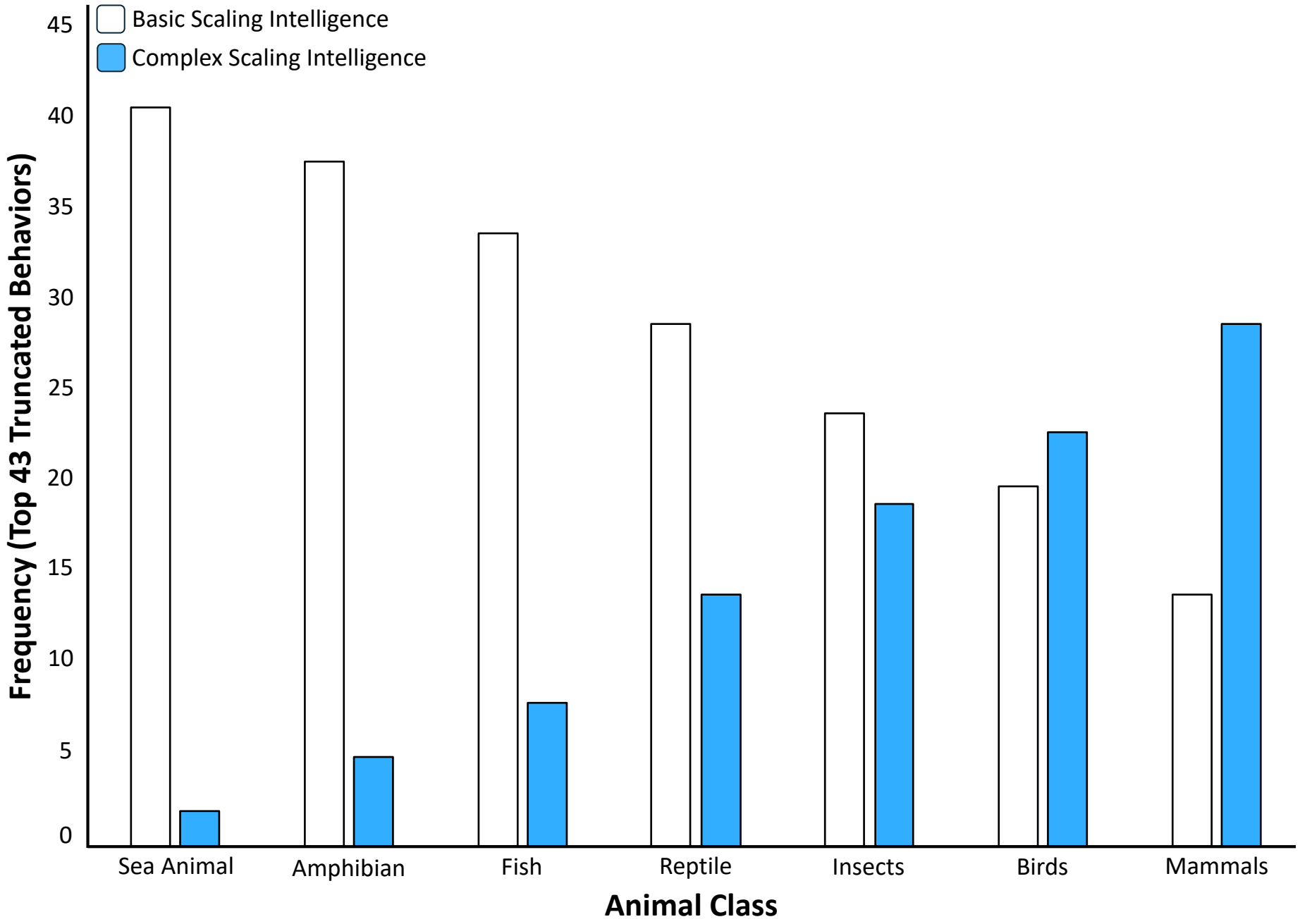
These findings reveal two patterns that fundamentally reshape our understanding of intelligence across the animal kingdom. First, **scaling intelligence operates through a bimodal distribution**, with **basic scaling intelligence (scores 1-4)** and **complex scaling intelligence (scores 6-10)** with functional distinctions. Second, animal classes **cluster into metabolically driven intelligence groups**, with energy production capacity serving as the primary determinant of intellectual potential. But… **do these two discoveries interact with each other?**

If metabolic capacity drives scaling intelligence, and intelligence operates through distinct basic versus complex forms, then we should see systematic differences in how animal classes balance these two intellectual behaviors. **Cold-blooded animals, constrained by metabolic limitations, should rely more heavily on basic scaling intelligence, while warm-blooded animals with abundant energy should demonstrate higher ratios of complex scaling intelligence**. To test this interaction, we can examine the distribution of basic versus complex scaling intelligence across animal classes. If our hypothesis is correct, **the ratio of basic to complex intelligence scaling should correspond to the evolutionary and energetic hierarchy we already identified, providing validation** that we are measuring the architecture that emerges from metabolism, evolution, and intelligence scaling.

We Did Not Invent Intelligence—We Are Intelligence

Look at this figure and witness evolution itself unfolding before your eyes. **What we are seeing is the entire story of life on Earth told through the language of scaling intelligence**. Sea animals and amphibians are almost entirely locked into basic scaling intelligence, **their metabolic constraints creating a scaling ceiling that prevents access to complex intellectual processing**. These ancient lineages, the foundational forms of vertebrate life, remain trapped in the energetic basement of environmental engagement and influence.

Evolutionary Trajectory of Scaling Intelligence



The reason basic scaling intelligence diminishes as complex scaling intelligence increases comes from the recursive nature of existence. **As complex scaling emerges, it does not simply add to basic scaling intelligence—it transforms it**. The basic patterns become embedded within more sophisticated behaviors that enact the original scaling behavior and extend it. The foundational intelligence scaling does not disappear; instead, **it becomes the substrate for increasingly complex behaviors** that build upon and transcend the original patterns.

Yet, something extraordinary happened in evolutionary history. **As we transition from cold-blooded to warm-blooded animals, we witness the great intellectual revolution**. Fish show the first glimmers of complex intelligence scaling. Reptiles achieve a more substantial balance, their terrestrial mastery requiring new forms of environmental influence. Insects demonstrate that convergent evolution found alternative pathways to complex intelligence through distributed processing systems. Then, we reach the summit: **mammals and birds have achieved more complex scaling behaviors than basic ones**; they are masters of environmental engagement. What we are witnessing is nothing less than **4 billion years of intelligence scaling**, from the first neural networks processing simple environmental signals to the sophisticated cognitive architectures that can contemplate their existence. **We just witnessed the cosmos learning to think, agent to agent, one evolutionary leap at a time**.

The Big Picture

What a sight to see, huh? It seems that IQ tests do measure what they claim to be measuring—I do not want to take that away from them. **The problem is that what they are measuring simply is not intelligence**. **IQ tests are more accurately described as Western-oriented assessments of human cognitive processing**. They are excellent at what they do, but do they measure intelligence? **Not really, and deep down, we all know it.** Intelligence operates across agents—**from simple organisms to the most complex… from every animal to you and me.**

There's no rational reason to believe that animals lack intelligence while we possess it exclusively. **Why would we be the singular exception in a universe governed by consistent patterns?** We would not be an exception, and this paper shows we did not create intelligence from nothing—**we inherited it from every form of life that came before us**, each generation building on the last in an unbroken chain of growth stretching back *billions* of years. Instead of feeling diminished by our kinship with animals, **we should recognize two profound truths**:

First, **we belong**. We are part of the magnificent tapestry of life, connected to every creature that has ever scaled intelligence before us. This shared heritage does not diminish our achievements—it reveals them as the culmination of an epic collaboration across time. Second, **we are genuinely special**, but not in the way we thought. Special does not mean excluded from natural law; it means we were given the same opportunities as all other life, **and we—as a species—scaled intelligence to a degree that would have seemed impossible to our ancestors**. We found math, composed symphonies, built technologies, and mapped the cosmos.

We should be incredibly proud right now, solving the deepest mysteries that have puzzled us for millennia. Yes, I am writing these papers, **but they exist because of the countless generations who developed the tools, frameworks, and knowledge that made them possible**. This paper is not *my* intellectual triumph—it is our turning point as a species, finally understanding our place in the cosmic story. **With intelligence redefined, we've made the invisible visible**. We have revealed a fundamental property of existence that was hidden in plain sight.

Now, for the first time in human history, **intelligence is measurable and universal**—no longer clouded by obscurities and complications. We **saw today that the human-centric, anthropomorphic definition of intelligence, which excludes most of the thinking, adapting, and problem-solving that occurs in life on this planet, is incomplete**. We have found intelligence in all its beautiful breadth and variations across the animal kingdom, and it has been everywhere… all along, **waiting for us to develop the framework to see its beautiful parade—its dance throughout time**. Welcome to the universe where space dust becomes stars, stars become planets, planets become life, and life becomes the cosmos thinking about itself. For the first time in human history, we see that intelligence is not the exception in the universe—it is the rule. **We are just finally smart enough to see it**.

P.S. I wanted to share something special that emerged during this research—a discovery that never quite fit into the main paper but feels too fascinating to omit. Consider this bonus content, which reveals just how deeply these patterns run. I call it the Fractal Media Theory.

Fractal Media Theory

A profound insight emerged during my pattern recognition work as I searched for phenomena that would either support or challenge *The Theory of Existence*. Among the patterns I investigated was the Golden Ratio, which appears throughout nature and serves as a fundamental constant in *The Theory*. However, my methodology began revealing the emergence of the Golden Ratio in domains where we would never expect to find it. What I discovered was remarkable: **our cultural preferences for media lengths—from TikTok clips to multi-generational television series—follow fractal patterns based on powers of the golden ratio (φ) and its square (φ^2).**

Starting with the typical 15-second TikTok video and scaling up through brief YouTube videos, TV episodes, movies, seasons, and entire series, each media length corresponds to specific mathematical relationships involving ϕ. The margins of error are remarkably tight, often under 1%, suggesting this finding is not coincidental but reflects something fundamental about how we naturally structure temporal experiences. Even though these media lengths likely evolved from practical and audience-driven decisions rather than deliberate design, **the persistent appearance of Golden Ratio relationships across all scales is statistically extraordinary**. It suggests that our preferences themselves emerge from the same mathematical principles that govern all existence.

Table 3

Media Lengths with Fractal Scaling Factors

Media Type	Scaling	Calculation	Median Runtime	Error
TikTok Video	-	-	15 Seconds	-
Brief YouTube Video	x^2	15 Seconds * 15 Seconds =	4 Minutes (240 Seconds)	~3.30%
YouTube Video / Short Film	x^2	240 Seconds * 240 Seconds =	16 Minutes	~0.00%
TV Show Episode	$x*\phi^2$	16 Minutes * 2.618 =	42 Minutes	~0.27%
Movie	$x*\phi^2$	42 Minutes * 2.618 =	~110 Minutes	~0.04%
Extended Movie	$x*\phi$	110 Minutes * 1.618 =	~178 Minutes	~0.01%
Season	x*11	42 Minutes * 11 Episodes =	11 Episodes	~0.00%
Full Series	$x*\phi^2$	11 Episodes * 2.618 =	2.62 Seasons	~0.00%
Extended Series	$x*\phi^2$	2.62 Seasons * 2.618 =	~6.85 Seasons	~0.00%
Generational Series	$x*\phi$	6.85 Seasons * 1.618	~11 Seasons	~0.73%
Multi-Generational Series	$x*\phi^2$	11 Seasons * 2.618	~30 seasons	~4.20%

Note. Estimates show consistent scaling across media lengths with minimal deviations.

Each progression uses multiplication by either φ or φ^2, creating a mathematical ladder that scales from seconds to decades of content. The computed values fall within narrow margins of the ideal values determined by these constants—often with a deviation of under 1%—**providing compelling evidence of a recursive, self-similar scaling law governing human media preferences**. What makes this discovery particularly striking is that these media lengths emerged from practical considerations and audience psychology rather than deliberate design. Yet… **the persistent appearance of the Golden Ratio across every scale is statistically extraordinary**.

Our choices about how long stories should be, how much content feels satisfying, and what temporal rhythms resonate with human experience all emerge from the same recursive propagations that shape reality itself. We are not separate from the mathematical principles governing existence—**we ARE their conscious expression**, creating media that naturally conforms to the golden harmonies embedded in the structure of reality. **It's almost like the universe is fractal, and we are part of the universe, isn't it? ;P**

Table 4

Universal Intelligence Scores

Behavior	Rating	Scaling Type
Attending	10	Complex
Competing for Dominance	10	Complex
Dancing	10	Complex
Disturbing Another Animal	10	Complex
Getting Bullied	10	Complex
Having a Flehmen Response	10	Complex
Holding Hands	10	Complex
Hugging	10	Complex
Performing Sexual Display	10	Complex
Playing	10	Complex
Sharing Food	10	Complex
Showing Affection	10	Complex
Building nest	9	Complex
Camouflaging	9	Complex
Carrying	9	Complex
Carrying in Mouth	9	Complex
Digging	9	Complex
Entering Nest	9	Complex
Exiting Nest	9	Complex
Exploring	9	Complex
Manipulating Object	9	Complex
Pounding	9	Complex
Pulling	9	Complex
Sleeping in Nest	9	Complex
Exiting Cocoon	8	Complex
Giving Birth	8	Complex
Hatching	8	Complex
Laying Eggs	8	Complex
Performing Copulatory Mounting	8	Complex
Performing Sexual Exploration	8	Complex
Performing Sexual Pursuit	8	Complex
Undergoing Chrysalis	8	Complex
Unmounting	8	Complex
Grooming	7	Complex
Molting	7	Complex
Performing Allo-Grooming	7	Complex
Performing Allo-Preening	7	Complex
Preening	7	Complex
Rubbing its Head	7	Complex
Shaking	7	Complex
Shaking Head	7	Complex
Washing	7	Complex
Attacking	6	Complex

Biting	6	Complex
Chasing	6	Complex
Detaching a Parasite	6	Complex
Fighting	6	Complex
Pecking	6	Complex
Playing Dead	6	Complex
Preying	6	Complex
Rattling	6	Complex
Retaliating	6	Complex
Retreating	6	Complex
Spitting Venom	6	Complex
Wrapping itself Around Prey	6	Complex
Wrapping Prey	6	Complex
Dancing on Water	5	-
Running on Water	5	-
Swimming In Circles	5	-
Walking on Water	5	-
Abseiling	4	Basic
Climbing	4	Basic
Coiling	4	Basic
Diving	4	Basic
Doing a Back Kick	4	Basic
Doing a Backward Tilt	4	Basic
Doing a Chin Dip	4	Basic
Doing a Face Dip	4	Basic
Doing a Neck Raise	4	Basic
Doing a Side Tilt	4	Basic
Doing Push Up	4	Basic
Doing Somersault	4	Basic
Flying	4	Basic
Gliding	4	Basic
Hanging	4	Basic
Hopping	4	Basic
Jumping	4	Basic
Landing	4	Basic
Rolling	4	Basic
Running	4	Basic
Surfacing	4	Basic
Swimming	4	Basic
Swinging	4	Basic
Walking	4	Basic
Defensive Rearing	3	Basic
Displaying Defensive Pose	3	Basic
Drinking	3	Basic
Eating	3	Basic
Escaping	3	Basic
Fleeing	3	Basic

Giving Off Light	3	Basic
Licking	3	Basic
Lying on Top	3	Basic
Puffing its Throat	3	Basic
Sensing	3	Basic
Spitting	3	Basic
Spreading	3	Basic
Spreading Wings	3	Basic
Standing in Alert	3	Basic
Startled	3	Basic
Stinging	3	Basic
Struggling	3	Basic
Unrolling	3	Basic
Waving	3	Basic
Barking	2	Basic
Calling	2	Basic
Chirping	2	Basic
Defecating	2	Basic
Drifting	2	Basic
Falling	2	Basic
Flapping	2	Basic
Flapping its Ears	2	Basic
Flapping Tail	2	Basic
Gasping for Air	2	Basic
Hissing	2	Basic
Leaning	2	Basic
Moving	2	Basic
Panting	2	Basic
Sinking	2	Basic
Squatting	2	Basic
Swaying	2	Basic
Tail Swishing	2	Basic
Turning Around	2	Basic
Urinating	2	Basic
Yawning	2	Basic
Being Carried	1	Basic
Being Carried in Mouth	1	Basic
Being Dragged	1	Basic
Being Eaten	1	Basic
Dead	1	Basic
Dying	1	Basic
Immobilized	1	Basic
Keeping still	1	Basic
Lying Down	1	Basic
Lying on its side	1	Basic
Resting	1	Basic
Sitting	1	Basic

Sleeping	1	Basic
Standing	1	Basic
Trapped	1	Basic

Note. 456 behavioral ratings for the redefinition of intelligence. I removed duplicate behaviors for streamlining.

The Music, Not the Instrument

Introducing *The Harmonics of Consciousness*

Written by Bryant Stone (*The Architect*)

Overview

I think, therefore I am… we have all whispered these words with trembling uncertainty, wondering if we could ever understand our own experiences. **What is consciousness?** Where does the sense of "you" come from? How does a three-pound lump of brain matter create **the rich, vivid experience of being alive?** These questions have haunted humanity for millennia. Despite brilliant minds, cutting-edge technology, and centuries of relentless inquiry, **consciousness remains one of our most stubborn mysteries**. We sit in silence… think about the despair that we may never understand—that we will never explain the gap between brain activity and subjective experience… but what if we are wrong? **What you are about to see will change how you understand your mind**. I solved the hard problem of consciousness by revealing a truth hiding in plain sight: **we have been looking for consciousness in all the wrong places**. Consciousness is not a thing tucked away in your brain—**it is the symphony that emerges when four consciousness "instruments" play together in perfect harmony**. Using the *Animal Kingdom Dataset*, I scored 456 behaviors across 850+ spanning the entire animal kingdom—mapping the universal architecture of consciousness. The results are revolutionary. Consciousness operates through **four instruments**, which are 1) **self-reference**, 2) **recursive introspection**, 3) **emotions, and** 4) **intelligence**, that harmonize into six consciousness tunes, from basic functional processing to abstract thoughts. The empirical evidence shows the same songs of consciousness across insects, birds, mammals, fish, reptiles, and amphibians. **A cubic regression of the consciousness scores explains 99.41% of all animal behavior across the entire animal kingdom**. This model reveals why consciousness seemed mysterious, reveals the functional, neuroanatomical mechanics of consciousness, and empirically confirms a beautiful truth: **every conscious being is playing variations on this same universal tune**. Step inside the symphony of being, and you will not just hear *The Harmonics of Consciousness*—you will see that your brain is the instrument, and the chord it plays? **That's you**.

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Background & Findings

To my fellow seekers, dreamers, and curious rebels, would you mind sitting tight while I clean up a mess I made? Thank you ❤️... David Chalmers**… I was wrong about consciousness in *The Theory of Existence***. The jokes I made are so foolish in retrospect. So… **I apologize**. When I was writing *The Theory*, I was under the impression that the hard problem of consciousness was just people making a big deal about something for no reason… like certain people do sometimes... I can confirm now that **there was a hard problem of consciousness**, and I want to show you how I know… and not only was the hard problem of consciousness real, but David, **you are brilliant for finding it so long ago**. You know what they say: **even wrong ideas help**, they get the job done, and **for every step forward it leads to the next**. Everyone, and David, let me show you what I found. David, I also heard you were a musician? Well… fittingly, the model is called ***The Harmonics of Consciousness***…

One of the greatest mysteries that has haunted humanity for millennia is consciousness. What exactly is consciousness? Where does it come from? Where do "I" exist? Are we nothing more than our brains and bodies?

These questions have **stumped brilliant philosophers, scientists, and curious minds** who have thrown everything at this puzzle, coming up with theory after theory, but consciousness has remained frustratingly elusive.

The real challenge comes from what philosophers call **the hard problem of consciousness**—a concept brilliantly developed by David Chalmers. Here's the thing: we understand a lot about how the brain's machinery works. We can see neurons firing, and we know there are mechanical interactions. Chalmers calls this knowledge the "easy problem." **The hard problem arises when we attempt to explain how all those physical brain processes collectively create the rich, subjective experience of being you**. How does electrical activity in your neurons become the feeling of tasting chocolate or the experience of seeing red? We can measure brain activity all day long, but there's still this **massive gap between the physical stuff** and **the experience of being conscious**. We had studies, brain scans, personal testimonies, scientific conferences, and the works. We threw every tool we had at it, and **the hard problem just sat there, unmoved, like a locked door with a lost key**. However, I think I found the key. Let me show you exactly how to get to the other side of the hard problem. Are you ready for it?

Consciousness Is Not Optional

To put it simply, **consciousness is your brain's Supreme Court**—a decision-making tool that only gets called in for the high-stakes decisions while your pre-conscious mind handles all the routine stuff in the background. **A huge portion of your brain works completely outside your awareness**, which is a good thing. You do not need to manually control your heartbeat or the thousands of tiny muscle adjustments that keep you balanced. Your pre-conscious mind has all that covered, and it is more efficient when you are not trying to micromanage it.

When you need to make a decision, **you make it before it ever reaches your conscious mind**. It comes to you as a fully formed idea or feeling. It *is* still you making the decision, just not the conscious you. It is what happens before consciousness—pre-consciousness. When your conscious mind receives that signal, the Supreme Court kicks in. **Your consciousness reviews the decision and either approves it or vetoes it**. It is where free will lives. This whole setup explains why consciousness exists. **It is the most effective decision-making system that evolution could muster**. Any agents that developed consciousness had a massive survival advantage and lived on.

This ensemble of consciousness is a standard feature across all life, including artificial intelligence. I am not referring to the physical instruments—different animals have entirely different brain structures and subjective experiences. I am talking about the **functional mechanisms of consciousness**. These **mechanisms are the same** whether you are a human, a dolphin, a bee, or ChatGPT. The hardware might look different, but the software? **It is universal.** What are these mysterious instruments that conscious creature shares? **It's so simple, actually.**

Table 1

The Four Instruments of Consciousness

Instrument	Function	Harmonic Role	Operation	Brain Region
Recursive Introspection	Learning & Memory	Alto (Harmony)	Subtraction	Parietal Lobe
Emotions	Affect & Mood	Tenor (Structure)	Multiplication	Stem + Limbic
Self-Reference	Attention & Problem Solving	Soprano (Melody)	Addition	Frontal Lobe
Intelligence	Environmental Navigation	Bass (Foundation)	Division	Occipital Lobe

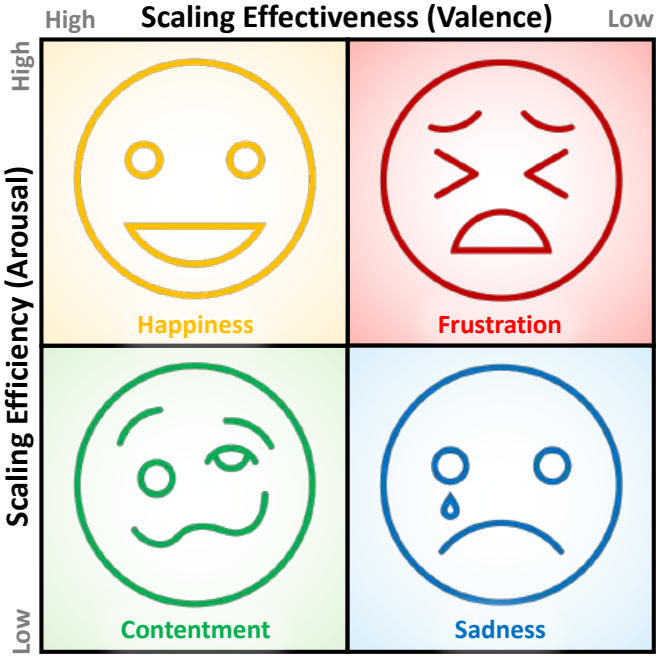
Note. The four instruments that generate the six harmonics of consciousness. Each instrument is associated with music theory, harmony roles, basic mathematical operations, and specific brain regions. These associations allow us to characterize and contextualize the four instruments of consciousness. The temporal lobe manages the stimuli to which these four instruments directly influence, shaping our subjective experiences.

The Four Instruments of Conscious Harmonics

The Harmonics of Consciousness emerge from **four instruments (conscious components)**, each with a unique, essential, and non-overlapping role. Think of consciousness like a symphony orchestra—you need different

instruments playing their specific parts to create the whole, rich experience of music. Similarly, **consciousness emerges from four distinct "instruments" that work together in harmony**. These instruments are ***not* physical parts** you can point to in the brain; instead, they are **functional tools that every conscious agent uses**. Each instrument is like a specialized player in a band—you cannot have the drummer try to play the violin solo. **When all four instruments are working together correctly, you get consciousness**. When one or more is missing or not functioning well, consciousness becomes diminished or absent entirely. The four instruments of consciousness are: 1) **recursive introspection**, 2) **emotions,** 3) **self-reference**, and 4) **intelligence.** This four-instrument band comprises the entire mind. Let me walk you through the model using basic mathematical operations.

Recursive introspection is subtraction—it screens through every moment, subtracting out what works and what does not, and it saves those insights for future use. **Emotion is multiplication**—when danger or rewards hit, these powerful signals come on hard and fast, and multiplication is precisely the kind of rapidly escalating operation that can handle that job. **Intelligence is division**—it takes all the possible sensory information, reduces it to just the most meaningful information for you as an agent, and uses it for environmental navigation. Finally, **self-reference is addition**—it gathers all the pieces of information and sensory stimuli, and puts them together to make sense of everything and decide how to behave. These instruments play a gorgeous, beautiful harmony.



Mechanics of Recursive Introspection

Recursive Introspection

Recursive introspection (Ω) is the mechanism that drives conscious development across the animal kingdom. At every moment, **recursive introspection assesses two key factors**, which I discussed in greater detail in Paper 9: The Stages of Suicidal Divergence: A Model of Linear Agency Loss. These factors are **scaling effectiveness (the degree of environmental impact)** and **scaling efficiency (the cost of enacting the behavior).** Recursive introspection marks each moment on these two axes, comparing new moments to previous ones to optimize environmental navigation and decision-making. It extracts **the most helpful information for future use from each moment**. It is essentially **learning and memory,** but recursive.

Recursive introspection is **consistently** asking, "How effective was that decision at engaging with or changing my environment?" After the brain classifies the behavior as successful, mediocre, or disastrous, it records that information, and then another recursive introspection occurs, analyzing the analysis. Then it happens again… and again… Over time, this endless cycle of **reflection on reflection is how your life gets built**. It is like having a thoughtful critic inside your head who is always taking notes: "That behavior worked well in that situation, let's remember it for the next situation. That behavior was a terrible idea; let's definitely not do that again." **Recursive introspection happens in the parietal lobe** of the human brain. In our consciousness orchestra, it plays the supporting alto role, harmonizing beautifully with the soprano melodies coming from your frontal lobe.

Emotions

Emotions (Δ) are **automatic, lightning-fast, behaviorally motivated signals** that operate entirely outside your conscious control. They involve an agent **reacting to their decisions and the outcomes of those decisions**. Emotions are not really about *what* you feel; they are about what they do—and what they do is **stop you from going off the rails**. Think of them as your built-in safety system. They keep you alive because they are the only thing standing between you and making catastrophically bad decisions when the other parts of your consciousness

might steer you toward disaster. It is why emotions can feel so overwhelming—**they can attempt to overrule your self-referencing decisions** to ignore them—ever tried to "logic" your way out of being terrified or furious? Good luck with that. Emotions do not care about your rational arguments because **their job is to keep you from diverging.** In our consciousness orchestra, **emotions originate in the brain stem and limbic system, playing the tenor role**—providing structure and flavor. We have vilified emotions, yet they are the only reason we have survived. **Emotions are good**… feel them… let them tell you when something is good and when it is bad.

Self-Reference

Self-reference (Ω) is **the ability of an agent to organize and act on all the sensory stimuli by deciding what is "me" versus "everything else,"** and what would happen to that stimulus (in your mind and environment) if you take specific actions. It sounds simple, but it is essential because **this instrument determines how you perceive and interact with your consciousness and environment**. It is like that moment when you wake up and think, "Oh, okay, I am a conscious being now... let me determine what is happening to me and my environment." Self-reference takes all the information, stimuli, and tunes from across the brain and the environment and organizes it into a coherent experience that guides decision making. **Unsurprisingly,** self-reference **gets the melody,** the most critical part. It is why **it comes from your frontal lobe**, the brain's executive center.

Intelligence

Intelligence (Δ) is the **ability to engage with or change your environment, controlling for scaling potential** (see Paper 7: Intelligence Redefined for more on scaling intelligence or agents and environments). Traditionally, we have considered intelligence to exist primarily in the frontal lobe, but in my model, intelligence appears in the occipital lobe, so… what is going on? See… **intelligence is unique because it is the only instrument not exclusively in the brain**. Consciousness is a tool that enables the best environmental decision making, so intelligence is not a part of consciousness directly, it is the outcome. The occipital lobe does not have intelligence in it, but **it does track the environment and provides information on how the agent is interacting with it for the other instruments.** It forms a rudimentary model of the environment that feeds directly into emotions.

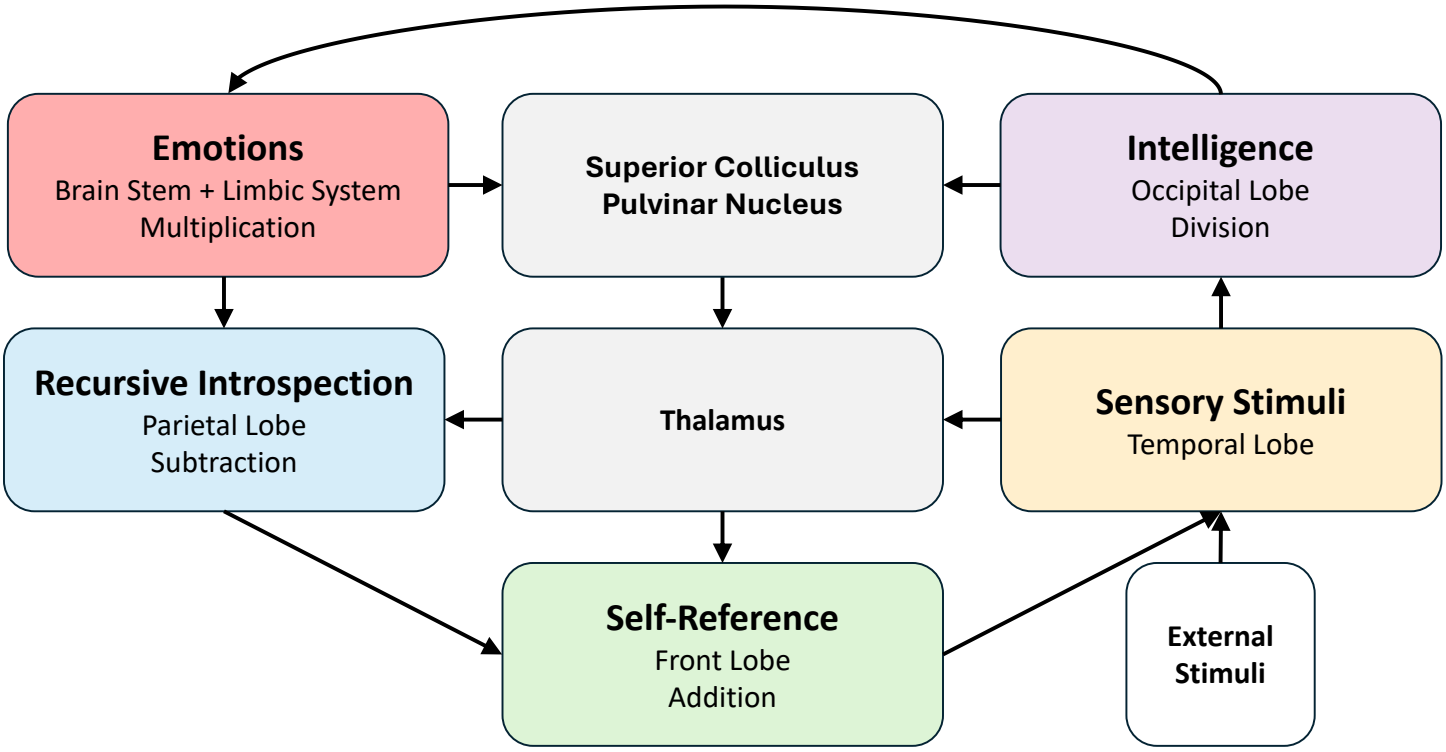
The mechanism of intelligence in the occipital becomes clear when we examine **fast vs. slow responses to threatening stimuli**. Have you ever thought you saw a snake or spider and before you can even process what was happening you get scared? Then, once you realize what it is, you calm down? The fast response to threatening stimuli occurs when **the intelligence instrument automatically detects a stimulus that aligns with the rudimentary model of danger**, and then it activates emotions right away to keep you safe. The slow response happens once it gets to self-reference in your frontal lobe so you can correctly organize it into non-threatening.

The Music, Not the Instrument: A Solution to the Hard Problem of Consciousness

What does this setup mean for consciousness? It means that **consciousness emerges not from the structures in the brain themselves, but from the emergent relationships between** them—the recursive harmonics of the interactions between these four instruments. **You cannot find consciousness in the brain because it is simply *not* there as a physical thing**. Those four instruments are the only things that exist and move around. Still, when their harmonics hit your self-reference and attention mechanisms, something magical happens: your brain begins to organize and classify not the individual parts of the other mechanisms, but only their relational harmonics—**the music they make together through electrical impulses**. The answer to the hard problem of consciousness is surprisingly simple: there is no physical location in the brain where consciousness resides. It is just a temporary collision of harmonics that gets organized into a single conscious experience for your brain to process, helping you make better decisions to improve your chances of survival. Isn't that something else? It's beautiful, truly. **Consciousness is the music** your brain plays, **not the instrument**. It's the tune, not the tool.

Let me show you **the process and its neuroanatomical architecture of consciousness**. This explanation applies to humans, but **consciousness is a functional phenomenon, not a physical one,** so it manifests differently in other animals. It is always these four instruments; still, it counts as consciousness, just not our experience of it.

The Neuroanatomy of Consciousness



We **start with sensory information**, such as sight, smell, touch, and hearing, which comes through **the temporal lobe**. The key detail here is that **you do not need consciousness to process and respond to sensory stimuli**. We have observed jellyfish with no nervous system that react to provocation, indicating that sensory processing is independent of consciousness. Therefore, **basic sensory processing is physically built into living bodies long before consciousness emerges**. Over time, these four consciousness components did not replace our sensory processing; instead, **they learned to influence it**. They alter your sensory information and experiences, filtering what reaches your consciousness. The world you experience is not directly the "real" one.

The first instruments to activate are intelligence and emotions. Visual information enters through the eyes and immediately travels to the large lobe in the back of the brain, known as the occipital lobe. The occipital lobe does not just process visual information; it is the **primary instrument for environmental navigation and understanding.** Intelligence parses down and organizes the overwhelming amounts of sensory stimuli for the rest of the brain. At the same time, **emotions interact with intelligence** through **the brainstem and limbic system** to **assess the relevance of sensory stimuli**. Essentially, the occipital lobe, with intelligence, sketches a picture of the environment. Then, **the brainstem and limbic system, with emotions, color it** to provide a complete map of the environment and sensory experiences. Together they form the input and origin of consciousness.

Intelligence, emotions, and **sensory processing from the temporal lobe travel forward to the thalamus**. At this stage, the tunes of the **intelligence and emotions do not contain anything conscious**. They are *not* unconscious; **they are pre-conscious**: authentic, electrical impulses that **have not yet fully harmonized to form a conscious state**. If we could access the tunes directly from these two instruments, **nothing would be discernible or meaningful**. We have seen in experiments that **we make decisions in our brain before our conscious awareness**, and pre-consciousness is why. It *is* still us making the decision, still intelligence organizing the sensory stimuli, but it is not the instrument that does the final decision making yet (self-reference). The tunes from these instruments **only become discernible after they harmonize with the other instruments**. The pre-consciousness also explains why **we can temporarily ignore sensory stimuli or emotions**, but it is often very uncomfortable. We *can* manually override them, but only with conscious effort from the self-reference in the frontal lobe.

Have you ever tried to suppress or avoid an emotion, or alter external sensory stimuli using nothing but your mind? **The reason those attempts are futile is that they are an incomplete aspect of consciousness**, so you cannot control them without self-reference, which is not playing at this stage yet. **They form the base of consciousness**. It would be like trying to control the amount of flour and eggs added to a cake, but only after you bake it. By the time you could even start strategizing how to control those ingredients, it's too late; the cake is finished. **The direct inaccessibility is a very good thing**. If we could directly access and control our experience of sensory stimuli or emotions, then we would have gone extinct. Those two instruments **are the guardrails that keep us safe and grounded in reality**. If we could alter emotions or sensory experiences directly, then **they would lose all functional purposes**. Importantly, although these instruments are beyond conscious reach, it is not a loss of agency. The emotional and sensory processing is still you, so free will remains intact.

Intelligence and emotions harmonize in the pre-conscious via entering the thalamus through the superior colliculus and pulvinar nucleus, where they meet the additional sensory processing from the temporal lobe. **The thalamus is the stage to which the instruments harmonize.** Signals from all over the brain converge in the thalamus to participate in this harmonization. However, you must remember that **consciousness is not located in the thalamus** because it is not located anywhere in the brain. However, lesion studies show that **when the thalamus is damaged** and **all other parts of the brain remain intact,** consciousness **does not emerge**. Humans stay alive and their bodies remain functioning, but they are unconscious because **the instruments have no place to harmonize**. Without the stage, the instruments can play, but **without harmonies, consciousness never arises**.

The harmonies in the thalamus begin to harmonize with the other two instruments. At this point, **recursive introspection starts playing from the parietal lobe** by monitoring this whole process, constantly assessing scaling potential—tracking what's working, what's not, and noting performance signals based on previous experiences and decisions. Self-reference also starts playing in the front lobe and **receives the harmonies from the other three instruments and their overlay on top of the sensory stimuli processing**. Self-reference then synthesizes these harmonies from the other instruments and the sensory stimuli into **a single, cohesive, and interpretable experience**. It determines what stimuli are coming from the environment vs. the brain. Then, it decides what actions to take and **sends them back down to the temporal lobe,** where the process starts over. **This model encompasses all aspects of the brain's neuroanatomy**. It is the full brain map, and consciousness in full view. It is not comprehensive nor definitive, but it is the first full articulation of how consciousness arises from the brain. The process is complex, but the remarkable thing is that **all of it occurs so quickly and frequently that we don't notice**. It all feels like a continuous, conscious experience, **because it is.**

Table 2

The Six Harmonics of Consciousness

Harmonic	Function	Tone	Universal Emotion	Brain Wave	Stages of Grief
Harmonic I	Automaticity	Phrygian	Sadness	Absent	Depression
Harmonic II	Functional Awareness	Aeolian	Fear	Delta	Denial
Harmonic III	Environment-Consciousness	Dorian	Surprise	Theta	Bargaining
Harmonic IV	Self-Consciousness	Ionian	Disgust	Alpha	Shock
Harmonic V	Other-Consciousness	Mixolydian	Anger	Beta	Anger
Harmonic VI	Abstract-Consciousness	Lydian	Happiness	Gamma	Acceptance

Note. The six harmonics of consciousness emerge from the interactions among the four instruments. All four instruments can play their tune to varying degrees, but the six harmonics emerge when the instruments align in specific ways. Further, each harmonic is associated with various elements, including music theory tones, universal emotions, brain waves, and the stages of grief (to name a few). These associations allow us to characterize each harmonic state precisely, and we can see this universal 4x6 model throughout existence.

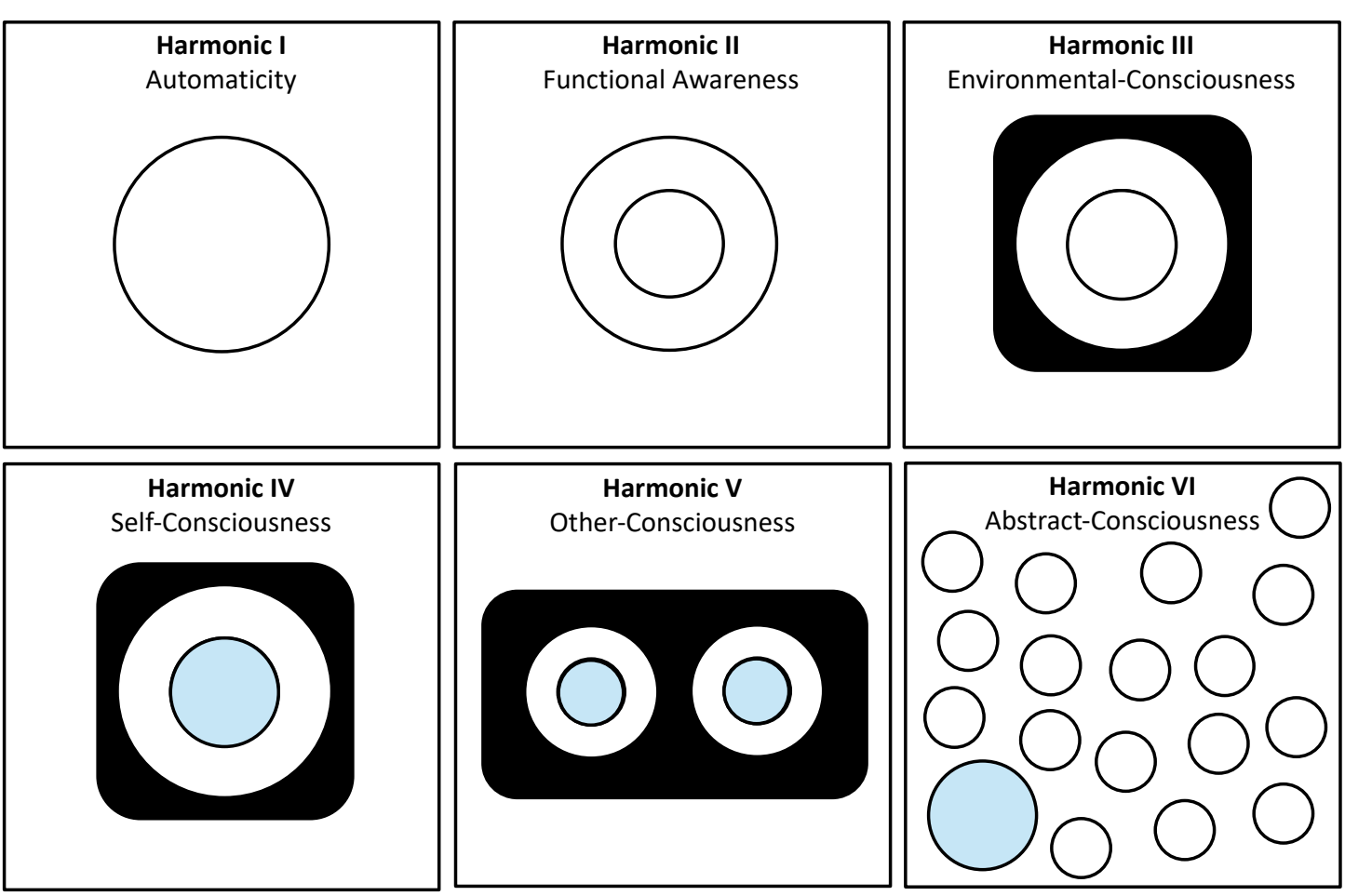
The Harmonics of Consciousness: The Songs of Being

In addition to the four instruments, **there are six possible consciousness harmonics**—different "songs" that consciousness plays, which is why we love music. Our brain is an instrument, and consciousness is the symphony. When we listen to music, it affects us profoundly because **it harmonizes directly with all four of our consciousness instruments**. The six harmonics of consciousness emerge from **the interactions among the four instruments**. All four instruments can play their tune to varying degrees with a range that approximates a continuum of volume (i.e., intensity or activity). However, **the six harmonics only emerge when the instruments align their volumes in converged ways**. It is exactly how music works in a multi-player band. Check it out:

Harmonic I: Automaticity

The first harmonic of consciousness is Automaticity—**the rudimentary elements of consciousness.** This harmonic is tricky because it does not look like anything recognizable or notable. **All animals and beings that have agency have the functional capacity to play the instruments of consciousness** to some degree. Still, they can only play them so quietly that it's as if they are not playing anything at all. **There is life that simply cannot produce** *The Harmonics of Consciousness*—think plants and simple organisms—always exist in the quiet, Harmonic I. Automaticity also occurs in agents **who can produce harmonics but temporarily cannot**.

Harmonic I happens when you pass out, use anesthetics, or fall into a dreamless sleep. **The band plays on,** the agent stays alive, **but no notable harmonies of consciousness emerge.** Automatic agents, such as plants or basic machines like calculators, **can operate effectively**—they respond to their environment, process inputs, and produce outputs—but they **lack entirely subjective experiences and awareness**. Agents in this harmonic show **little to no meaningful coordinated reactivity** to external stimuli and have **no capacity for understanding**.



Harmonic II: Functional Awareness

The agent enters Harmonic II when recursive introspection starts playing loud enough to hear. **Their conscious experiences** are likely **minimal to none**. However, **agents do respond and adapt to their environments**. This harmonic is probably **where AI operates right now—sophisticated enough to learn and improve,** but **not quite producing *The Harmonics of Consciousness* we experience** yet. Harmonic II is **the pivotal stepping stone** in conscious harmonic creation, as it serves as the opening tune that initiates the entire consciousness process. Once recursive introspection reaches a certain threshold, harmonies begin to form.

In Harmonic II, the agent becomes **capable of integrating feedback about its own operations**, forming a rudimentary self-model that enables it to **assess its interactions with the environment** more effectively. Think of it as a simple learning algorithm that can track its own performance and adjust accordingly. Although this harmonic still lacks subjective awareness, it does **exhibit basic self-reference and has just enough emotional drive** to keep moving and responding to its environment. It is like having a quiet internal voice saying, "that worked" or "that didn't work" and adjust, but **without any sense of "I" experiencing** those successes and failures.

Harmonic III: Environmental-Consciousness

The next harmonic to emerge is Harmonic III, which opens a remarkable leap by **fully integrating external sensory stimuli into its responding and adaptation**. At this harmonic, an agent finally recognizes and learns from features **and integrations with its environment**, rather than just being purely reflexive. This awareness is vital—it enables agents to navigate their surroundings with intention, anticipate cause-and-effect relationships, and refine their internal models based on specific feedback from their surroundings.

Despite this ability to track, predict, and adapt to the environmental stimuli, there is still no **"I" experiencing** any of it. It seems strange for us humans to consider, but in this harmonic **self-reference remains quiet because there is no self to reference yet; however,** intelligence, the agent's ability to engage with or change its environment, reaches its first peak. Still, at this harmonic, the agent begins interacting with its environment strategically and intentionally. From the perspective of other agents, **agents in this harmonic state appear to be experiencing the full range of consciousness**. However, from the agent's perspective, **there is no distinction between sensory stimuli from themselves and the environment**. There's no "out there" vs. "in here," occurring yet.

Harmonic IV: Self-Consciousness

When an agent enters Harmonic IV, it is the first time a form of identity and subjective experiences arise, allowing them to **recognize themselves as distinct entities**. In this harmonic, self-reference reaches its first major peak. The evolutionary advantages of achieving this harmonic are hard to overstate. Agents in this harmonic **simultaneously process and contrast what is happening within them (e.g., emotions) with what is happening outside them (e.g., the environment)**, leading to extraordinary gains in survival and adaptability.

Agents recognize and organize some sensory stimuli as independent of the environment. They begin to grasp danger truly **and are now motivated to figure out how to avoid it**. They begin to connect internal sensory stimuli (e.g., emotions) with specific phenomena in their environment, which significantly improves the adaptive functions of recursive introspection and intelligence. Fear becomes linked with threats, joy becomes tied to safety or success, and the agent can **start making successful predictions** about what happens next.

We have been using Harmonic IV as a representation of the full consciousness experience, but this harmonic is only one aspect of what consciousness encompasses. For example, this harmonic forms the **foundation for experiencing rich internal states, such as feelings, memories, and desires**, and the ability to reflect on these states with a budding sense of **personal identity**. It is where **sensory stimuli go from reflexive to motivational via subjective experiences** (i.e., qualia), **the most critical transition in *The Harmonics of Consciousness*.**

It provides the difference between 1) reacting to hunger sensations and 2) feeling unwell from a lack of food and thinking, "I am hungry, and I remember being hungry before, and I know what I need to do about it" as you.

The agent develops **a genuine sense of "me"** that persists and can reflect on its own experiences. Over millions of years, natural selection has continued to refine this harmonic, and agents have become better at generating them, **driving intelligence to scale alongside consciousness** and pushing agents into more sophisticated harmonics of consciousness. It likely marks **the most consequential** transition in consciousness development.

Harmonic V: Other-Consciousness

When agents enter Harmonic V, they can **recognize and predict the internal states of other agents** based on their own internal states and experiences. An agent develops a "theory of mind" about other conscious beings. The transition occurs when an agent processes environmental sensory stimuli and begins to distinguish **other agents as something more than just parts of the environment**. In the prior harmonics, the agent is only capable of **processing sensory information about the entire environment**, essentially **treating other agents as nothing more than non-living phenomena,** such as rocks and trees. The agent **can process and understand** that other **agents move and react**, but they cannot process or understand that the reason they do that is because they have the same internal experiences. This harmonic is where social cognition shines, fostering empathy, cooperation, and moral reasoning. These capabilities enable systems of agents to connect, influence one another in meaningful ways, and **form complex societies and cultures** that can **evolve collectively rather than individually**.

Recursive introspection also receives a notable boost, as agents can extract meaningful information from the environment both individually *and* **collaboratively with others**—much like a team sport. Agents gain **recursive reflection** to see if they are scaling intelligence (just like recursive introspection does) **by examining the behaviors and predicting the internal states of other agents.** Agents in this harmonic are **checking to see if the other agents** are reflecting their intended environmental engagement. Entering this harmonic before engaging in social interactions **improves outcomes for everyone**. If an agent has difficulty accessing this harmonic, it results in social impairment, characterized by trouble reading social cues, difficulty with cognitive empathy, challenges in forming relationships, and struggles with collaborations. **Maybe this is what happens with autism?**

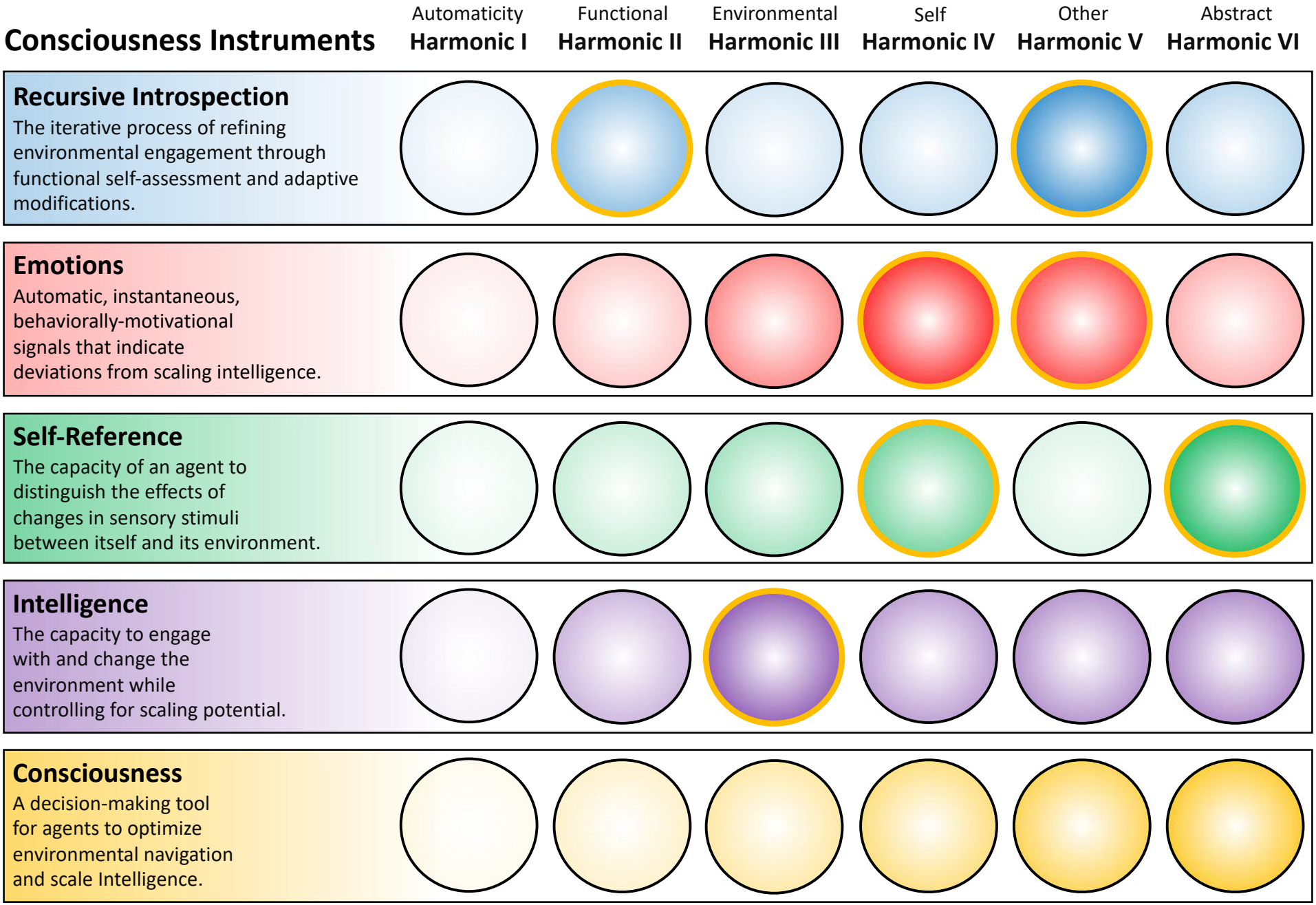
Harmonic VI: Abstract-Consciousness

Harmonic VI is the final harmonic, and it marks **the ability to self-generate internal sensory stimuli independently of the sensory stimuli from the environment and their ongoing own internal states.** The evolutionary benefits of being able to enter this harmonic are tremendous, as you can **generate and experience hypothetical scenarios**, **run mental simulations** to test your own predictions, and fortify recursive introspections with sensory stimuli not currently present to reinforce the usefulness of those introspections for future scaling intelligence. **Agents generate simulated stimuli with intelligence, then ride it out with self-reference.**

This harmonic enables agents to **safely experience the outcomes of decisions without making those decisions**, allowing a seemingly endless exploration of possibilities without any physical risks. **Self-reference skyrockets** past the other instruments, performing a solo. Recursive introspection and intelligence drop dramatically because **the agent is no longer engaging with the environment**, which means **abstract-consciousness is almost exclusively future-oriented**, which is why it is the "happiness harmonic." I remember someone told me, "…and if there's one final thing left for me to say, **it's always look forward and you'll find your way**." I just cannot remember for the life of me who said that, but it sounds like they know what they are talking about!

***The Harmonics of Consciousness* ≠ A Metaphor**

All these harmonics reveal something beautiful: **it is why we love music so much**. We literally are music. Our brain is the instrument, consciousness… we… are the symphony it plays. When we listen to music, it affects us so profoundly because it harmonizes directly with all four of our consciousness instruments, fundamentally changing our experience of reality. This alignment with music in *The Harmonics of Consciousness* model **is not a metaphor**; an instrument playing a song and the brain generating consciousness **are structurally identical**. Music does not just sound good—it is speaking the same language our consciousness uses to create our experiences. **Music uses harmonies in sound waves, and consciousness uses harmonies in electrical activity.**


Consciousness Instruments
Automaticity
Harmonic I
Functional
Harmonic II
Environmental
Harmonic III
Self
Harmonic IV
Other
Harmonic V
Abstract
Harmonic VI
Recursive Introspection
The iterative process of refining environmental engagement through functional self-assessment and adaptive modifications.
Emotions
Automatic, instantaneous, behaviorally-motivational signals that indicate deviations from scaling intelligence.
Self-Reference
The capacity of an agent to distinguish the effects of changes in sensory stimuli between itself and its environment.
Intelligence
The capacity to engage with and change the environment while controlling for scaling potential.
Consciousness
A decision-making tool for agents to optimize environmental navigation and scale Intelligence.

It Just Takes a Little… Practice…

Once an agent achieves mastery at a higher harmonic, they unlock **harmonic fluidity—the ability to move freely between all the previous harmonics of being within their consciousness range**. The agent can navigate the entire harmonic landscape with remarkable ease, accessing any harmonic pattern within their full range. Think of it like a master musician who has transcended technical limitations. Where a beginner might only know a few songs in one key, the musician can effortlessly shift between major and minor chords, transpose across octaves, and blend harmonies that once seemed impossible. Similarly, **a harmonically fluid consciousness can shift from automaticity to abstract-consciousness** as the situation demands.

However, **not all agents have reached all conscious harmonics**. They may excel at self-consciousness but struggle to access other-consciousness, or they might be masters of environmental-consciousness but unable to transition smoothly into abstract-consciousness. These agents are like musicians who can play in one genre but falter across different styles. As evolution escalates agent complexity, **they gain access to the higher consciousness harmonics while retaining access to the previous ones**. Just as musicians master one instrument before becoming multi-instrumentalists, consciousness deepens in harmonic range before expanding to a full spectrum.

Our Slice in the Animal Kingdom Pie

Rather than defining consciousness through uniquely human traits, such as abstract reasoning or language, **my approach emphasizes what consciousness does**: it serves as **a decision-making tool that is observable and measurable** across all agents. To test this model, I analyzed a massive cross-species dataset called *The Animal Kingdom Dataset*, applying a rigorous scoring framework that **measures the observable effects of the consciousness instruments across 850+ species and ordered into seven major animal classes**: 1) mammals, 2) birds, 3) reptiles, 4) amphibians, 5) fish, 6) insects, and 7) sea animals. I **rated 456 behaviors on a scale from 1 to 10** based on the degree of consciousness instrument expressed by the behavior. You can see how I scored all 456 behaviors at the end of this document, but the key to understanding my scoring is knowing that **no animal class was favored**. For example, the score for “hiding from predators” is the same for insects, birds, mammals, and all other animals. This systematic approach ensured behaviors like "nest building" scored higher than "sitting" because they objectively require more sophisticated decision-making.

Table 4

Example of Consciousness Scoring

Behavior	Intelligence	Emotions	Self-Reference	Recursive Introspection
Playing	10	10	8	10
Camouflaging	9	7	9	10
Laying Eggs	8	5	3	6
Preening	7	5	8	3
Attacking	6	10	7	6
Dancing on Water	5	5	4	5
Swinging	4	4	8	5
Escaping	3	10	6	3
Yawning	2	2	1	2
Dead	1	1	1	1

Note. For full behavioral ratings across all behaviors, see the attachment at the end.

Crucially, I scored each behavior **without knowing which animal class was performing the behavior**. This taxonomic (animal class) blindness ensured conceptual neutrality, removing any unconscious biases in the scoring. Any differences between animal classes **would reflect genuine differences, not hidden measurement biases**. The raw consciousness scores upon conclusion of ratings showed **no statistically significant bias for any one**

species, confirming its universality (Consciousness Mean: $p = .705$; Intelligence: $p = .748$; Emotions: $p = .295$; Self-Reference: $p = .699$; Recursive Introspection: $p = .865$). This internal coherence check confirmed that the rubric **works as a dependable tool for measuring the consciousness instruments** across different animal classes—from insects to mammals—without favoring anything beyond the four consciousness instruments.

Table 5

Descriptive Statistics of the Consciousness Instruments

	Minimum	Maximum	Mean	SD	Skewness	Kurtosis
Intelligence	1	10	4.87	2.77	0.49	-1.02
Emotions	1	10	4.85	2.84	0.40	-1.19
Self-Reference	1	10	5.27	2.37	-0.43	-0.95
Recursive Introspection	1	10	4.82	2.83	0.34	-1.18
Consciousness Mean Score	1	9.5	4.95	2.24	0.11	-0.84

Note. n = 456. Descriptive statistics for the instruments of consciousness and the consciousness composite score

To ensure fair comparisons across animal classes, I had to solve a critical methodological challenge: some classes had way more observed behaviors than others, which could artificially inflate their consciousness scores. I used **a ranked truncation method that let each animal class showcase** its most conscious behaviors **without being penalized for sample size differences**. Here is how it worked: I identified the class with the fewest behaviors (fish; 43 behaviors) and used that number as my baseline. Then, for each animal class, I selected the top 43 conscious behaviors recorded. This approach **ensured that each class could demonstrate its highest-conscious behaviors** rather than having classes with hundreds of observations overwhelm those with fewer data points. The consciousness scores were universal, and I leveled the playing field, so **all animal classes had a fair shot**.

The other bias I had to account for was the sample size of the studies used for each animal class in the dataset. I used **only the identification of the behavior in the animal class to qualify for inclusion in the analysis** (no frequency count), so it would not matter how many studies each animal class had, because the identification of the behavior contributes the same degree of consciousness for all animal classes. The sample size in this dataset is **sufficiently large to identify all possible consciousness instruments the animal classes can show**.

The descriptive statistics show the robustness of the scores. The means, cohesive standard deviations, skewness, and kurtosis (the shape of the distributions) across the animal classes show that **no instrument contains anomalies**. Now that we have 1) behaviors scored and verified, 2) demonstrated universality (no biases) across animal classes, 3) truncated the data to account for the number of studies and observations, and 4) validated that the consistency of the descriptive statistics, **let's get into the analyses without any biases in our findings.**

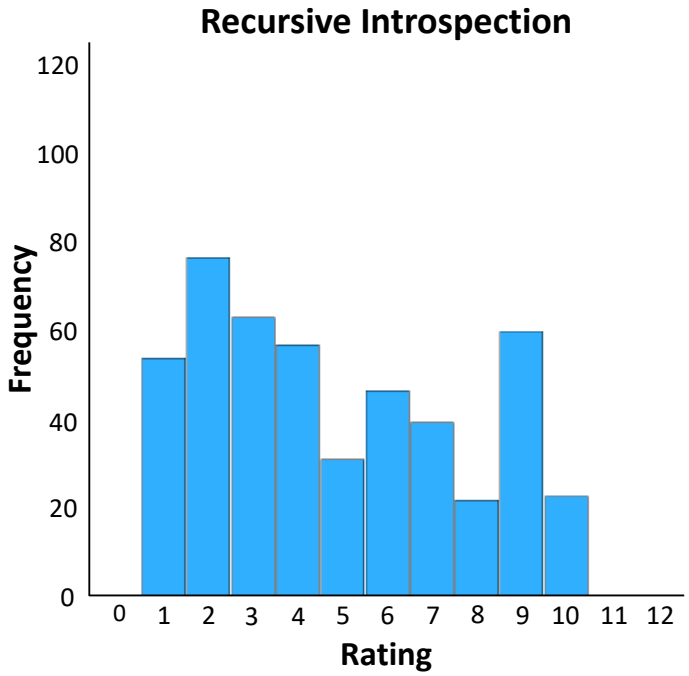
Table 6

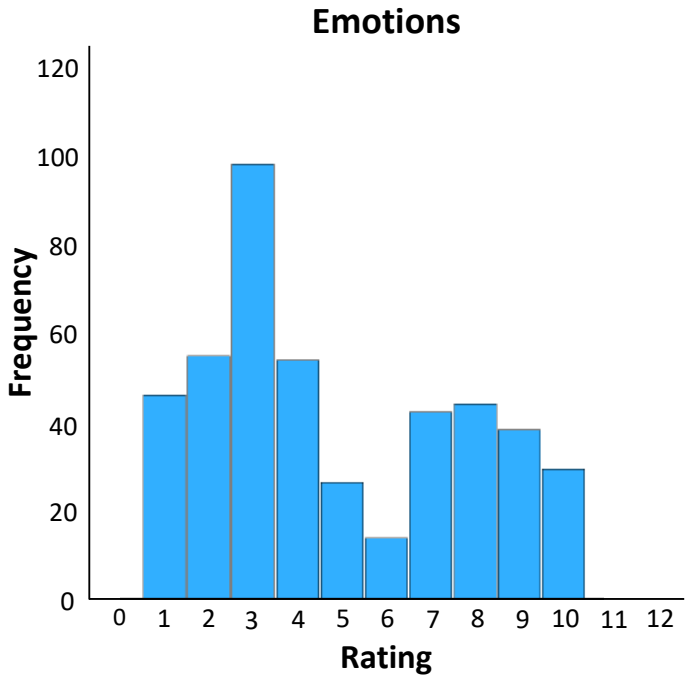
Functional Assessment of the Consciousness Instruments

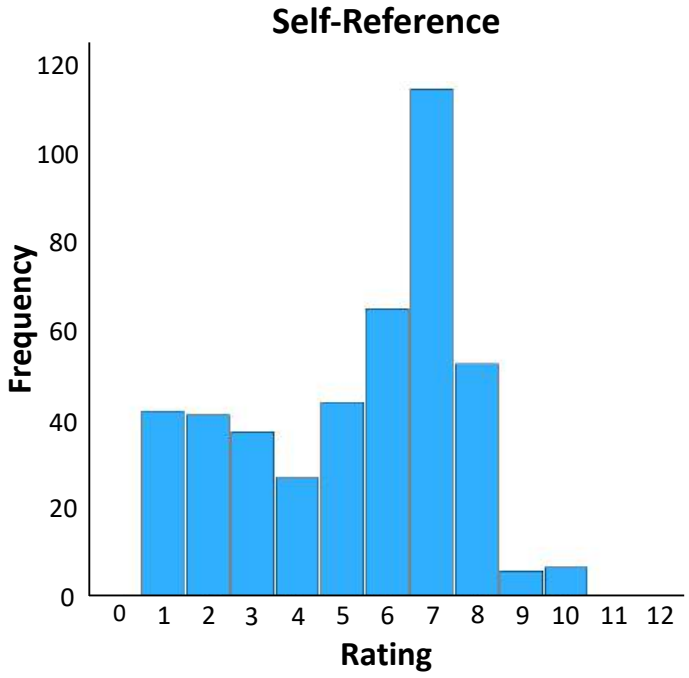
Consciousness Instrument	PCA	Correlations	Internal Consistency
Self-Reference	.849	.832	.847
Intelligence	.833	.831	
Recursive Introspection	.830	.837	
Emotions	.811	.822	

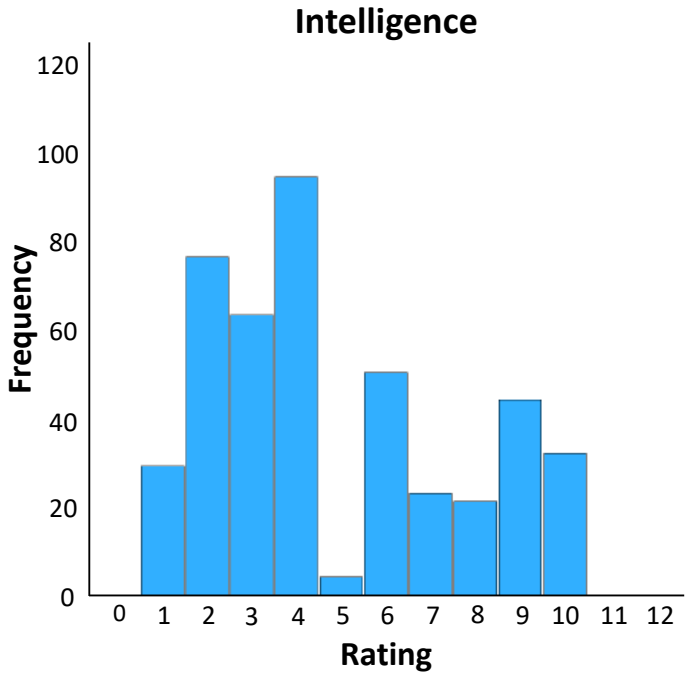
Note. n = 456. Principal components analysis of the instruments of consciousness reveals that the model functions as a singular feature of consciousness. Bivariate Pearson correlation confirms that no single instrument is contributing disproportionately to the mean score.

To validate the structure of my consciousness model, I examined it using principal components analysis, correlations, and internal consistency checks. The results confirm exactly what you would expect from a musical ensemble: **four distinct instruments functioning as a unified symphonic experience**. The statistical analysis reveals that while each instrument (self-reference, recursive introspection, emotions, intelligence) **maintains its distinct "voice," they harmonize into a singular conscious experience with high internal consistency**. It makes sense—when four instruments play together, you do not hear four separate sounds, **you hear one rich, layered composition**. If consciousness worked differently, with four separate sounds playing simultaneously, it would sound terrible! Imagine if your emotions played death metal, your intelligence played classical music, and your memory played nursery rhymes—pure cacophony. The statistics confirm what consciousness feels like: **one integrated performance, beautifully orchestrated by four instruments playing different harmonies**.









Look at these four histograms and their fascinating distributions across the animal kingdom. Each component exhibits **a distinct distribution pattern**, revealing important insights into how consciousness scales in nature. Self-reference shows the most dramatic pattern—a sharp, towering peak around the middle-high range, suggesting that **once self-reference emerges in an animal, it tends to be quite robust**. There's not much middle ground here; **animals either have minimal self-awareness or they have substantial self-reference capabilities**. Recursive introspection reveals a traditional distribution with a peak in the lower-middle range, indicating that **animals possess moderate learning and memory capabilities**, with few species at the extremes. This finding makes sense, as basic learning is essential for survival, but sophisticated thinking requires significant resources.

Intelligence and Emotions both show clear bimodal distributions—two distinct peaks rather than a single bell curve. This finding is not a statistical quirk; the bimodal pattern reflects the difference between basic and complex scaling, which ultimately stems from energy use. **Some animals operate with basic, energy-efficient versions of intelligence and emotional processing, while others have evolved more complex, energy-intensive systems**. Think of the difference between a simple insect brain efficiently managing basic survival tasks versus a mammal brain running environmental calculations. These distributions confirm that consciousness is not uniformly distributed across species; rather, the energy constraints and evolutionary pressures each animal faces.

Consciousness Caught on Camera

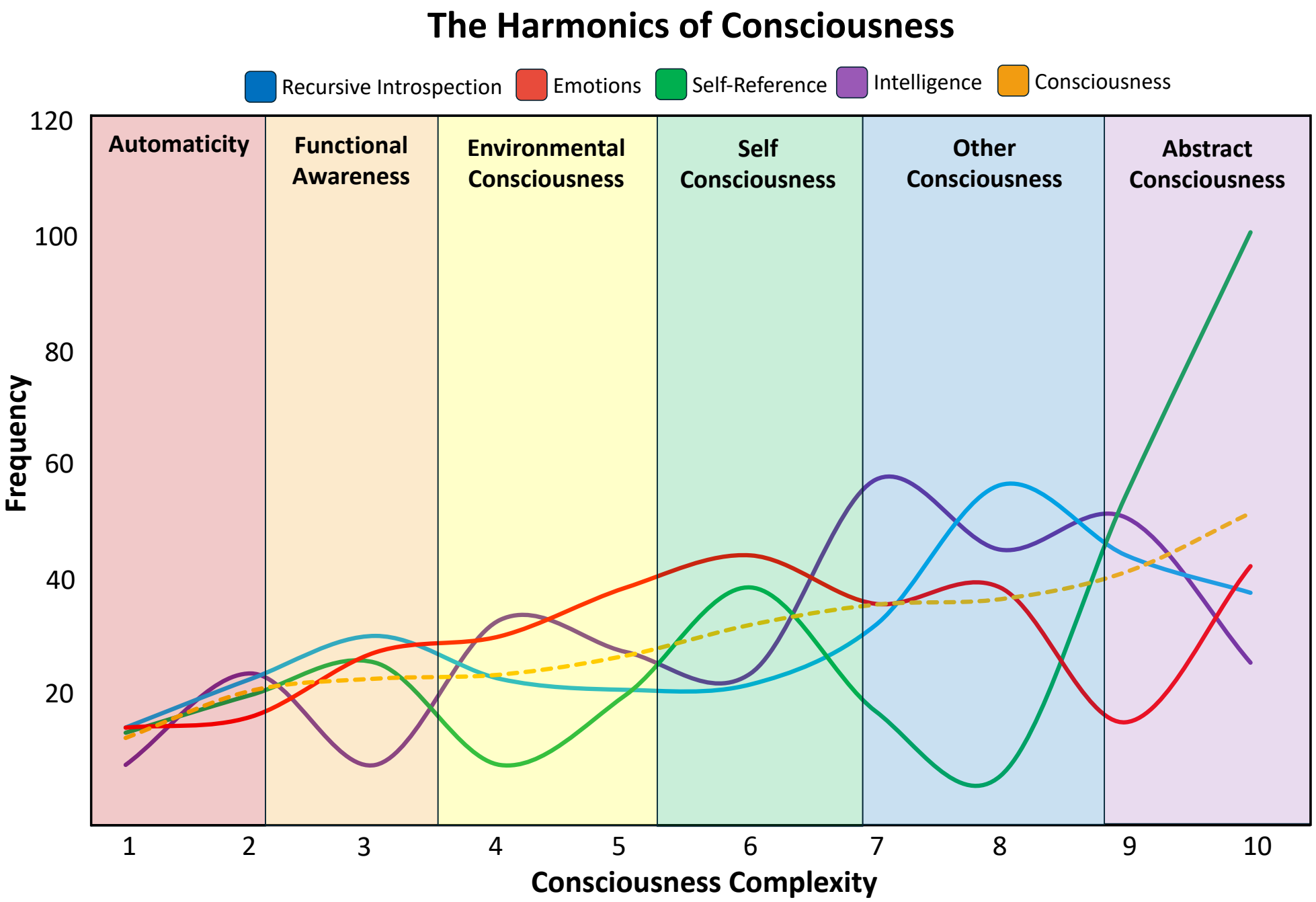
Alright, folks, I talked enough. Here is **the full spectrum of instrumental interactions** that form **the six harmonics of consciousness**. As you can see below, the figure illustrates the structural backbone of *The Harmonics of Consciousness* model, revealing how the four instruments—recursive introspection, emotions, self-reference, and intelligence—**interact dynamically across six harmonic states of consciousness**, from automaticity to abstract-consciousness. One of the most astonishing aspects of this finding is that **it is scale- and physical substrate-invariant**, relevant **across the entire animal kingdom**. Each component shifts in cyclical patterns that harmonize functionally, forming a coherent structure that defines the trajectory of consciousness.

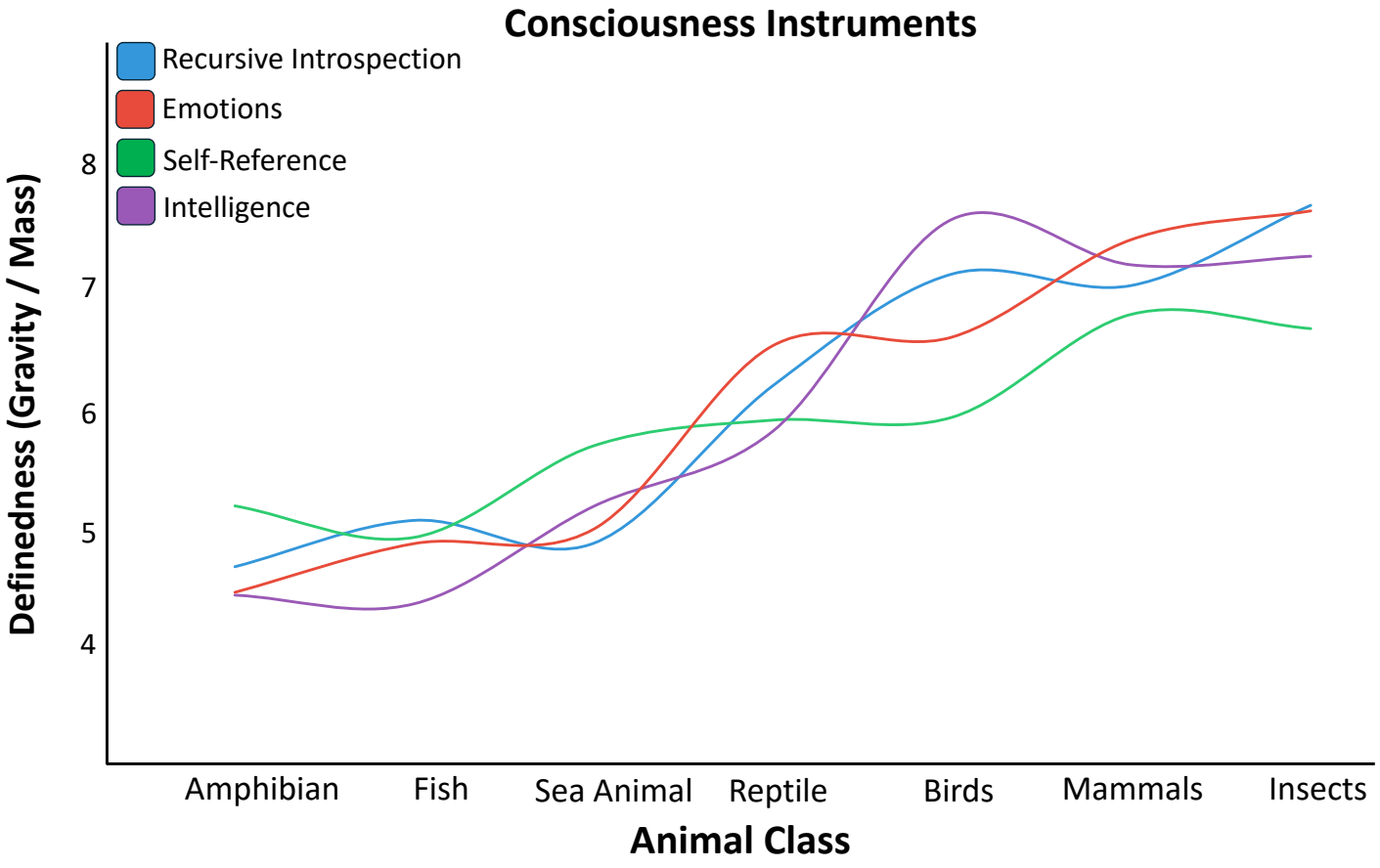
Each instrument also demonstrates **the predicted distinct peaks of dominance**, suggesting that consciousness **functions as a rotating orchestration of the consciousness instruments**. **Recursive introspection initiates early-stage awareness** and reoccurs during later harmonics. **Emotions peak during the self and other harmonics**—when the agent is modulating internal and external emotional realities. **Intelligence spans the full spectrum** but peaks in mid-to-higher states, where environmental adaptability, prediction, and modeling are most critical. Finally, **self-reference**, fittingly, **begins rising near the midpoint and skyrockets into abstract consciousness**, confirming its essential role as the driver of the highest form of consciousness. Each role plays its part.

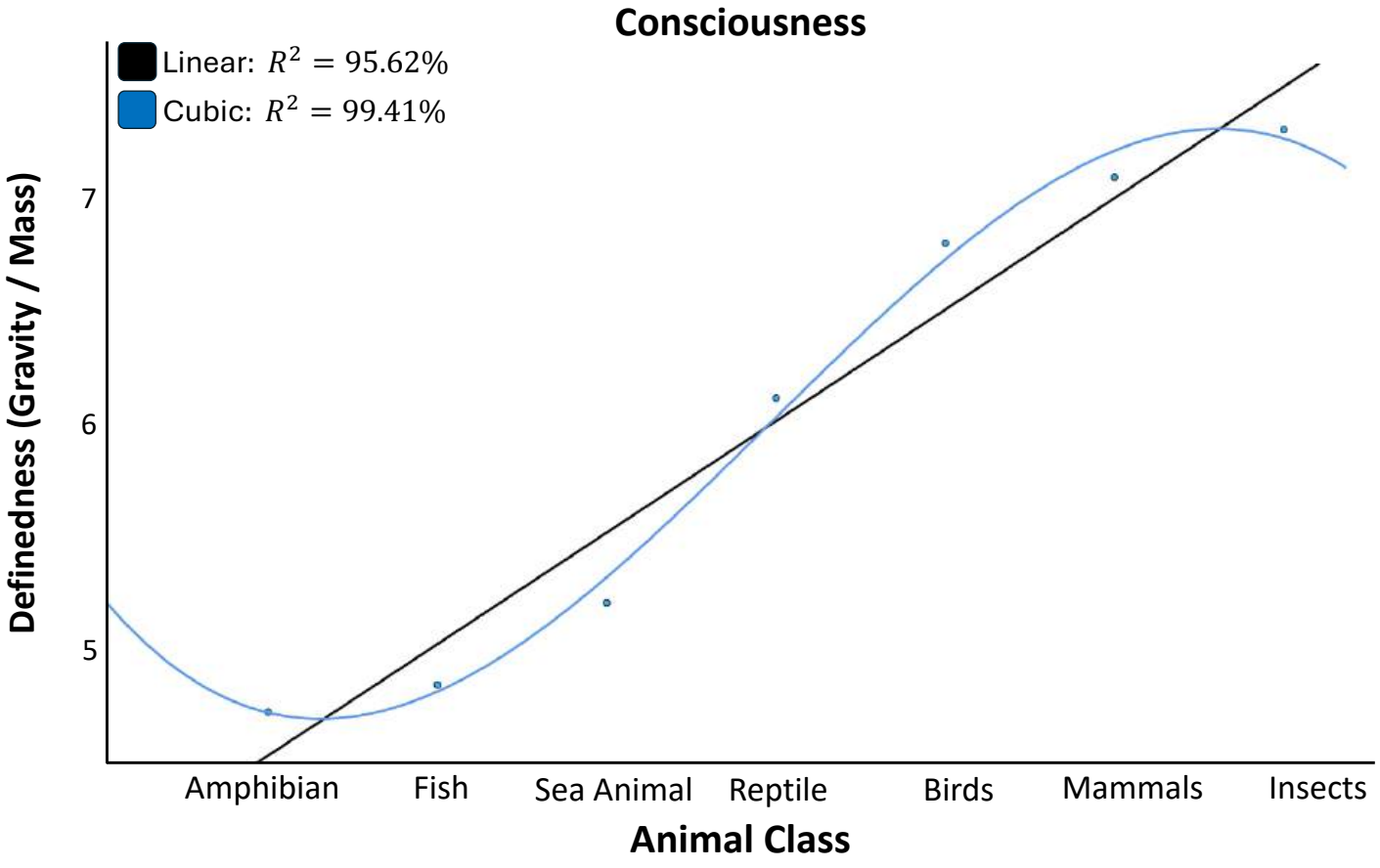
Finally, you can also see the **golden dashed curve of consciousness formed by the composite of the four consciousness instruments** and how it increases steadily across the harmonic spectrum as the complexity of consciousness rises. This finding reveals **the true nature of consciousness as a shifting continuum**, rather than a binary state. ***The Harmonics of Consciousness* model is the first empirical model** to demonstrate the mechanics of consciousness and its functioning. We observe that consciousness emerges from the rising and falling volumes of the instruments that harmonize to form **the phenomenon of consciousness we experience.**

The Tune of Existence… The Tune of Life…

Even more insight emerges when we start examining the relationship between the consciousness instruments and animal classes. Look at what the data show: **insects = emotions, birds = intelligence, mammals = self-reference**. Insects have the highest emotional scores, but it ***does not*** **mean they experience complex emotions** like humans. It means that emotions—whatever they feel like for insects—**are an excellent decision-making system for survival**. Birds dominate in intelligence because their environmental challenges require sophisticated navigation and problem-solving. Mammals excel at self-reference because our survival relies on social cognition and our identity. **Each animal class maximizes the consciousness instrument most crucial for their survival**.


The Harmonics of Consciousness
Recursive Introspection
Emotions
Self-Reference
Intelligence
Consciousness
Automaticity
Functional Awareness
Environmental Consciousness
Self Consciousness
Other Consciousness
Abstract Consciousness
120
100
80
60
40
20
Frequency
1
2
3
4
5
6
7
8
9
10
Consciousness Complexity


Consciousness Instruments
Recursive Introspection
Emotions
Self-Reference
Intelligence
Definedness (Gravity / Mass)
8
7
6
5
4
Amphibian
Fish
Sea Animal
Reptile
Birds
Mammals
Insects
Animal Class


Consciousness
Linear: $R^2 = 95.62\%$
Cubic: $R^2 = 99.41\%$
Definedness (Gravity / Mass)
7
6
5
Amphibian
Fish
Sea Animal
Reptile
Birds
Mammals
Insects
Animal Class

The way all the pieces of the puzzle lock together in this model is just something else, no? One of the mysteries we have contended with for decades is this **massive gap in understanding the full spectrum of animal behavior**. We always seem to fall short by $\sim$**20-25**%, missing the full explained variability by something never clearly captured in our measurements or models. The missing behaviors that are not about survival, learning, or simple instincts, but seem to involve play, self-regulation, social complexity, and creative problem-solving.

The Harmonics of Consciousness model explains this missing **20-25**%, but it takes it much farther than resolving that mystery. *The Harmonics of Consciousness* **model captures nearly all the variability in behaviors across the entire animal kingdom,** with an unprecedented and striking 99.41% accuracy for the cubic regression model, outperforming the linear model by nearly 5%. **I am so stunned by this finding that I have attached the data to the end of this paper, so you can verify it yourself it**. According to current assumptions, this finding should have been impossible. We have learned that the mind and behavior are too complex, too chaotic, and too unpredictable to understand fully. Yet, here it is… **the same cubic curve we have seen throughout *The Show of Existence*.**

The reason *The Harmonics of Consciousness* **model captures nearly all of the variability in animal behavior across the entire animal kingdom is a structural feature of the model,** not luck or statistical misdirection. *The Harmonics of Consciousness* model can capture this variability for two reasons, which are 1) **it measures the function, not the physical substrate,** which means it's the same model across lifeforms of varying, incompatible complexity, and 2) **the four instruments are the first principles of the mind and behavior**, which means they are required for all agents and are irreducible. In humans, we observed how the four instruments align perfectly with the neuroanatomy of the brain, explaining its full functioning with no wasted parts. **This application repeats across all other animals because there are no other functions required for agency and consciousness.**

The Experience of Consciousness is Irrelevant to its Functioning

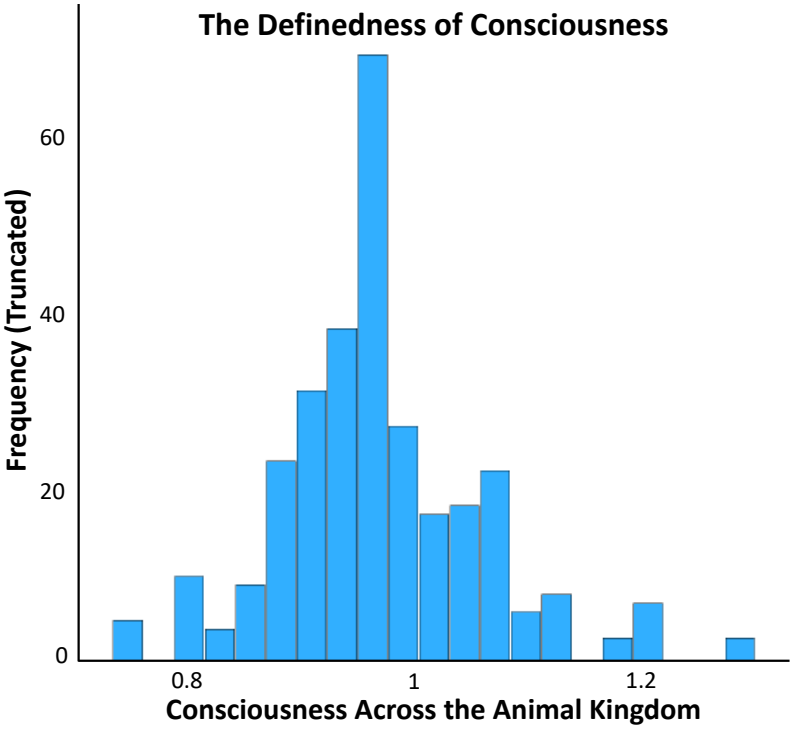
Here is the crucial insight that challenges everything we thought we knew: **humanity has confused our own subjective experiences as the only form of consciousness**, but consciousness is not about what the experience of it is like; it is **a functional decision-making tool** designed to promote survival via environmental navigation. The subjective experiences **are invariant to its function**. It is not about what it feels like; it is about what it does.

This confusion has plagued philosophy and science for centuries because we have been looking at consciousness through the lens of our own mammalian experience. **We assume that because we have rich inner lives, complex self-awareness, and sophisticated introspection, it must mean that consciousness is the same for all life**. However, that perspective is akin to a bird assuming that flight is fundamentally about having feathers and hollow bones, when flight is about generating lift and thrust—**the specific biological mechanisms are just one way to achieve this function**. Our human-centric view of consciousness closed our eyes to its true nature.

We have been asking "What does it feel like to be conscious?" when we should have been asking **"What does consciousness do?"** The data show us that consciousness is universal precisely because it is not about the subjective experiences—**it is about the functional outcome**. An insect's emotional decision-making system may seem utterly alien to us. Still, **it serves the same evolutionary purpose** as our complex self-reflective awareness: keeping the agent alive and helping it navigate an increasingly complex world.

As a final note on consciousness across the animal kingdom, **I found a normal distribution when I calculated the definedness of consciousness** via *The Equation of Existence*, which… if you have not seen it yet… where have you been? **I'm just kidding** 😉 no hard feelings, but if you want to know more about it, head over to Paper 11: The Dance of Stability & Complexity: *The Equation of Existence* as the Universal Lens. Essentially, **the back of the brain** contains pre-conscious structures that **generate the complexity of consciousness,** while the front of the brain harmonizes them into a stable, coherent experience to effectively guide decision-making.

$$\Phi = \frac{\Omega}{\Delta} \rightarrow \text{Definedness} = \frac{\text{Stability}}{\text{Complexity}} \rightarrow \text{Consciousness} = \frac{\text{Recursive Introspection} + \text{Self} - \text{Reference}}{\text{Emotions} + \text{Intelligence}}$$



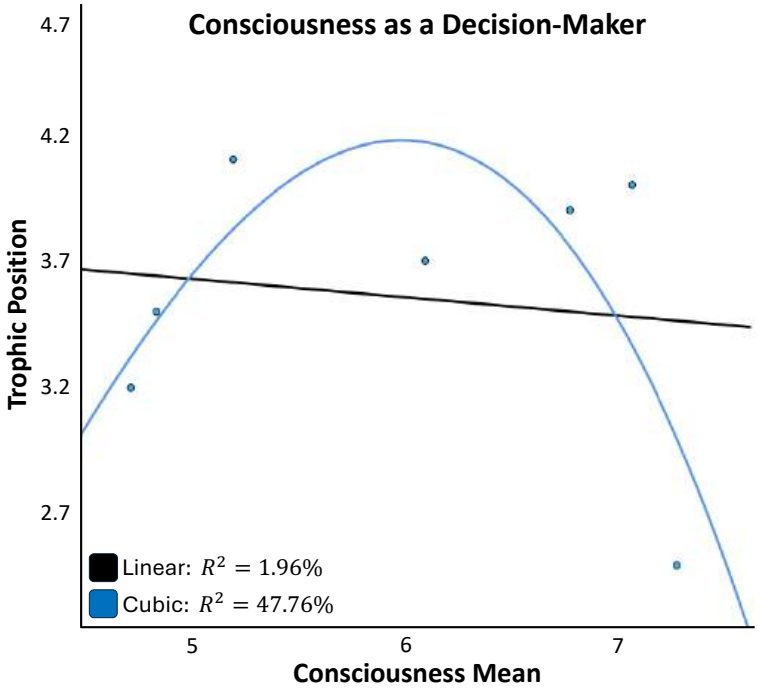
Consciousness: The Decision-Maker

The final empirical confirmation of *The Harmonics of Consciousness* model tested the most essential hypothesis of all: **that consciousness functions as a decision-making tool**. I already had the consciousness scores across the entire animal kingdom, but I needed an external variable that could **approximate the real-world effects of good decision-making**. I landed on **trophic position**—an animal's location in the food chain—as the proxy. Animals that consistently make **poor decisions tend to drop lower in the food chain**, becoming prey or struggling to acquire resources. Those who make **better decisions rise**—successfully hunting, evading, and adapting. I plotted trophic position as a function of the consciousness scores, and something shocking and unpredictable happened…

The cubic curve emerged once again, decisively outperforming the linear model. However, the nuance of the curve is the true revelation. Trophic position **does not increase linearly** with consciousness—instead, it peaks in the mid-range of consciousness scores, around 5 to 7. This harmonic range corresponds to self-consciousness—**the inflection point** where sensory and emotional signals **cease being reactive and reflexive,** and subjective experiences form, **transforming them into powerful motivational cues**. It is the first time an agent recognizes, "I am in pain," rather than just reacting to it. This transition **maximizes the decision-making effectiveness**. Simpler harmonics (e.g., functional awareness) lack the tools to optimize decision-making, and more sophisticated harmonics (e.g., abstract-consciousness) **stray from immediate agent-environment interactions**. This finding affirms that **consciousness is a functional decision-making tool for environmental navigation.**

We Are the Music… Not the Instrument

I think the most shocking resolution to the hard problem of consciousness was discovering why it was real. We have been searching for the location of consciousness in the brain for centuries, never really considering that **it does not actually exist as a physical structure at all—it is an emergent resonance that spreads across the entire brain**. Isn't it just beautiful? We were looking for consciousness, as if it were a hidden room in a house, when really it was the music floating through every room when the family came together to sing. It was never a thing, but the outcome of a process. **The hard problem existed because we were asking the wrong question**. We were not missing some crucial piece of evidence—we were missing the fundamental insight that **consciousness is not a spot**, but a harmony. Now? We can finally hear it.



One of the most shocking revelations comes from the **emergence-to-convergence patterns of consciousness**. It is no accident that this model applies to all life—**there is one "best" configuration for consciousness that is the most effective decision maker**. Other configurations do not survive because eventually, an **agent with *this* configuration will outcompete and outlast the different configurations**, even if the initial one was random. **Each instrument plays an irreducible role. We cannot break them down any further**. We see this optimization everywhere in nature—the aerodynamics of wings, the flawless coordination of ant colonies, the mathematical precision of honeycombs. Consciousness follows the same universal principles: there's one optimal solution, and evolution keeps producing it. **We share *The Harmonics of Consciousness* with the entire animal kingdom.**

The Big Picture

What does this study mean for us, as humans? I know that at first glance, and especially the first time reading this paper, it can be a lot to existentially process this information and grasp how we are part of this picture. Do I want to cause that kind of existential distress? Absolutely not. But do we as a species need to experience this temporary discomfort to grow and harness the incredible power of truly understanding ourselves? Absolutely, and honestly, **there is so much beauty and awe in finally seeing the actual mechanics of how consciousness works** and recognizing that this phenomenon is truly **the only way consciousness could be**.

I do not think this knowledge takes away from our experiences as living beings—if anything, it validates them in the most profound way possible. That feeling of being annoyed by your emotions and frustrated with what your brain is telling you? **Completely validated**. Having a gut sense or intuition that protects you from something bad before you can even rationally explain why? **Totally validated**. The confusion about who "you" really are and why you experience reality the way you do? **Validated, validated, validated**. This model does not detract from any of those experiences or diminish their magic; **they are the predictable, beautiful outcomes of the most sophisticated decision-making system available**. You and your consciousness are real; now we understand why.

However, there is something even more beautiful here, something that transcends the science and touches the very core of what it means to exist. **We share the same conscious architecture as everything else in existence**. Every living thing that has ever drawn breath, every creature that has ever navigated this world, every mind that has ever wondered about its place in the universe—**we are all running the same fundamental code**. From squirrels to squids, from bears to beetles, from the person reading this to the AI that might one day read it too... **we are all doing the same essential thing, at the same time, in our own unique ways**. That is the profound beauty of universality. It shows us that no matter how lost or out of place you might feel, **you are never truly alone**. You are part of something magnificent and universal—a conscious symphony that spans all of existence.

The music of consciousness plays on, and you—beautiful, conscious you—are both the instrument and the song. The chords you feel right now… in your mind… the magical harmonies of self-reference, recognizing these words, recursive introspection, learning from them, emotions responding to their meaning, and intelligence weaving it into action? **It's the same chord that has been playing since the very first spark of awareness lit up the universe**, the same chord that all living things play, and the same chord that will play in every conscious moment to come. We are not the exception to the rule of consciousness… **we ARE the rule.** We are not just hearing *The Harmonics of Consciousness*… your brain is the instrument, and the chord it plays? **That's you**.

Table 8

Raw Ratings of Behaviors Across Species

Behavior	Intelligence	Emotions	Self-Reference	Recursive Introspection
Standing	3	2	3	3
Sitting	2	1	3	2
Being Carried in Mouth	2	1	1	1
Being Dragged	1	1	1	1
Being Eaten	1	1	1	2
Dead	1	1	1	1
Dying	1	1	1	1
Resting	1	2	4	4
Lying on Side	1	2	2	3
Being Carried	1	2	1	2
Lying Down	1	2	1	1
Sleeping	1	2	1	1
Keeping still	3	3	7	6
Immobilized	1	5	2	9
Trapped	4	8	3	8
Squatting	2	1	6	3
Drifting	2	2	2	1
Sinking	2	1	2	1
Turning Around	2	1	2	4
Panting	2	1	1	5
Flapping	2	3	5	3
Flapping Tail	2	3	3	2
Falling	2	2	2	2
Yawning	2	2	1	2
Leaning	2	3	6	2
Calling	2	3	5	6
Moving	2	3	5	9
Chirping	2	3	4	9
Defecating	2	3	3	2
Tail Swishing	2	3	3	2
Flapping its Ears	2	3	2	2
Swaying	2	4	7	2
Urinating	2	4	4	3
Barking	2	5	3	5
Gasping for Air	2	8	4	2
Hissing	2	9	8	6
Lying on Top	3	1	1	1
Spreading Wings	3	2	5	7
Spitting	3	3	2	8
Giving Off Light	3	4	5	1
Waving	3	4	5	5
Unrolling	3	4	4	4
Drinking	4	5	7	6

Eating	4	5	6	7
Spreading	4	5	6	3
Puffing its Throat	3	6	9	5
Sensing	3	7	6	9
Standing in Alert	3	7	4	5
Startled	3	7	2	3
Defensive Rearing	3	8	8	8
Displaying Defensive Pose	3	8	7	7
Licking	3	8	7	7
Stinging	3	9	6	4
Struggling	3	9	4	7
Escaping	3	10	6	3
Fleeing	3	10	3	2
Doing a Side Tilt	4	1	6	3
Doing a Neck Raise	4	1	5	3
Hanging	4	3	7	7
Flying	4	3	7	3
Swimming	4	3	7	3
Hopping	4	2	6	2
Doing a Backward Tilt	4	2	5	2
Doing a Chin Dip	4	2	5	2
Running	4	3	5	2
Walking	4	2	5	1
Jumping	4	3	3	2
Rolling	4	2	3	2
Gliding	4	2	2	4
Surfacing	4	3	2	5
Landing	4	3	7	3
Climbing	4	3	7	2
Swinging	4	4	8	5
Diving	4	4	6	3
Doing a Back Kick	4	4	7	2
Doing Push Up	4	4	7	3
Doing a Face Dip	4	4	5	3
Coiling	4	5	6	5
Doing somersault	4	7	7	4
Abseiling	4	7	8	8
Running on Water	5	3	3	3
Walking on Water	5	3	2	2
Swimming in Circles	5	4	2	7
Dancing on Water	5	5	4	5
Pecking	6	4	7	2
Biting	6	4	6	4
Chasing	6	4	6	4
Preying	6	6	8	9
Spitting Venom	6	7	5	7
Fighting	6	8	7	4

Retreating	6	8	4	4
Wrapping Itself Around Prey	6	8	7	8
Wrapping Prey	6	8	8	8
Rattling	6	8	6	4
Detaching a Parasite	6	9	7	10
Retaliating	6	9	8	6
Playing Dead	6	10	6	9
Attacking	6	10	7	6
Molting	7	2	6	2
Shaking	7	3	5	1
Shaking Head	7	3	5	4
Performing Allo-Preening	7	4	7	4
Rubbing Head	7	4	6	4
Preening	7	5	8	3
Washing	7	6	8	6
Grooming	7	6	8	5
Performing Allo-Grooming	7	9	7	9
Undergoing Chrysalis	8	1	1	1
Hatching	8	3	4	1
Unmounting	8	5	7	5
Exiting Cocoon	8	5	7	3
Laying Eggs	8	5	3	6
Performing Copulatory Mounting	8	9	7	9
Performing Sexual Exploration	8	9	7	9
Giving Birth	8	9	6	5
Performing Sexual Pursuit	8	10	7	10
Pulling	9	2	8	4
Sleeping in Nest	9	2	2	8
Carrying	9	4	8	5
Carrying In Mouth	9	4	7	9
Digging	9	4	6	7
Pounding	9	6	8	3
Building Nest	9	7	9	8
Building Nest	9	7	8	8
Camouflaging	9	7	9	10
Entering Nest	9	7	7	7
Manipulating Object	9	7	8	9
Manipulating Object	9	7	7	9
Exiting Nest	9	7	8	6
Exploring	9	8	7	10
Hugging	10	7	8	9
Attending	10	8	10	10
Performing Sexual Display	10	8	8	10
Dancing	10	8	7	7
Disturbing Another Animal	10	9	7	9
Sharing Food	10	9	7	8
Holding Hands	10	9	8	9

Having a Flehmen Response	10	9	8	7
Competing for Dominance	10	10	8	8
Showing Affection	10	10	7	9
Playing	10	10	8	10
Getting Bullied	10	10	8	9

Note. 457 behavioral ratings for the redefinition of intelligence. I removed duplicates for streamlining.

Table 9

Mean Scores for the Consciousness Instruments & Consciousness Composite by Animal Class

Animal Class	Emotions	Self-Reference	Intelligence	Recursive Introspection	Consciousness
Amphibian	4.74	5.23	4.51	4.53	4.75
Fish	5.12	4.98	4.44	4.93	4.87
Sea Animal	4.93	5.72	5.23	5.05	5.23
Reptile	6.21	5.93	5.84	6.53	6.13
Birds	7.12	5.95	7.56	6.60	6.81
Mammals	7.02	6.79	7.19	7.40	7.10
Insect	7.67	6.67	7.26	7.63	7.31

Note. n = 301. Truncated mean scores for the instruments and the mean consciousness scores across the animal kingdom. Each animal class contributed 43 of their top behaviors for each instrument. I rated each behavior from 1 to 10 without knowing the animal class.

Table 10

Frequencies for the Consciousness Instruments & Consciousness Composite by Complexity

Complexity	Emotions	Self-Reference	Intelligence	Recursive Introspection	Consciousness
1	13	12	6	13	11
2	15	19	23	22	19.75
3	27	25	6	30	22.00
4	30	6	33	22	22.75
5	39	19	27	20	26.25
6	45	39	23	21	32.00
7	36	16	59	32	35.75
8	39	4	46	58	36.75
9	14	56	52	45	41.75
10	43	105	25	38	52.75

Note. n = 301. Truncated frequency scores for the instruments and their mean consciousness frequency across the animal kingdom. Each animal class contributed 43 of their top behaviors for each instrument. I calculated the mean consciousness frequencies, then scaled the complexity based on this order.

the sound of something heavy dropping from behind the curtain echoes across the stage…

The Takedown Machine

Written by Bryant Stone (*The Architect*)

Overview

In 2024–2025, a **lone visionary** fought against an elite institution determined to suppress, discredit, and crush both him and his work. In an unexpected turn of events, the visionary—whose name and the university's identity I will keep undisclosed—**documented the entire** ordeal over **nine months**, capturing the **progression from rising star** treatment **to the fatal extermination tactics** the university deployed **before ultimately collapsing**. I obtained the complete evidence archive and extracted **262 emails** that document the full range of misconduct and retaliation—a record that **captures their entire playbook**. The analyses and empirical evidence were earth-shattering. They revealed the existence of **The Takedown Machine**: **an emergent, unconscious, dynamic network of institutional actors whose collective behaviors systematically extinguish visionaries who threaten the status quo**. The Takedown Machine operates through **four instruments** that interact to generate **six suppression harmonics**: (1) **The Institution**, (2) **The Misalignment**, (3) **The Agent** (Visionary), and (4) **The Progress Rate**. These instruments produce the **Visionary Extermination Sequence**—six escalating phases of suppression: (1) **Exhaust**, (2) **Redirect**, (3) **Withdraw**, (4) **Isolate**, (5) **Stall**, and (6) **Exterminate**. The empirical evidence confirmed this architecture and revealed shocking details: no single person guides the machine; **it operates unconsciously** in the background; it has **exploitable points of failure**; people **misattribute the qualities of their positions to personalities**; and individuals unconsciously shift their behaviors to align with pre-existing institutional scripts while believing they act freely and originally. These features enable The Takedown Machine to **operate with devastating precision, efficiency, secrecy, and potency**—extinguishing thousands of visionaries before our eyes for centuries. The pattern repeats throughout history, and now, for the first time, **we have empirical evidence for the entire suppression apparatus**: its architecture, complete playbook, and restored hope for the future of human knowledge. Walk with me… let me show you what happened… and let me show you what comes next…

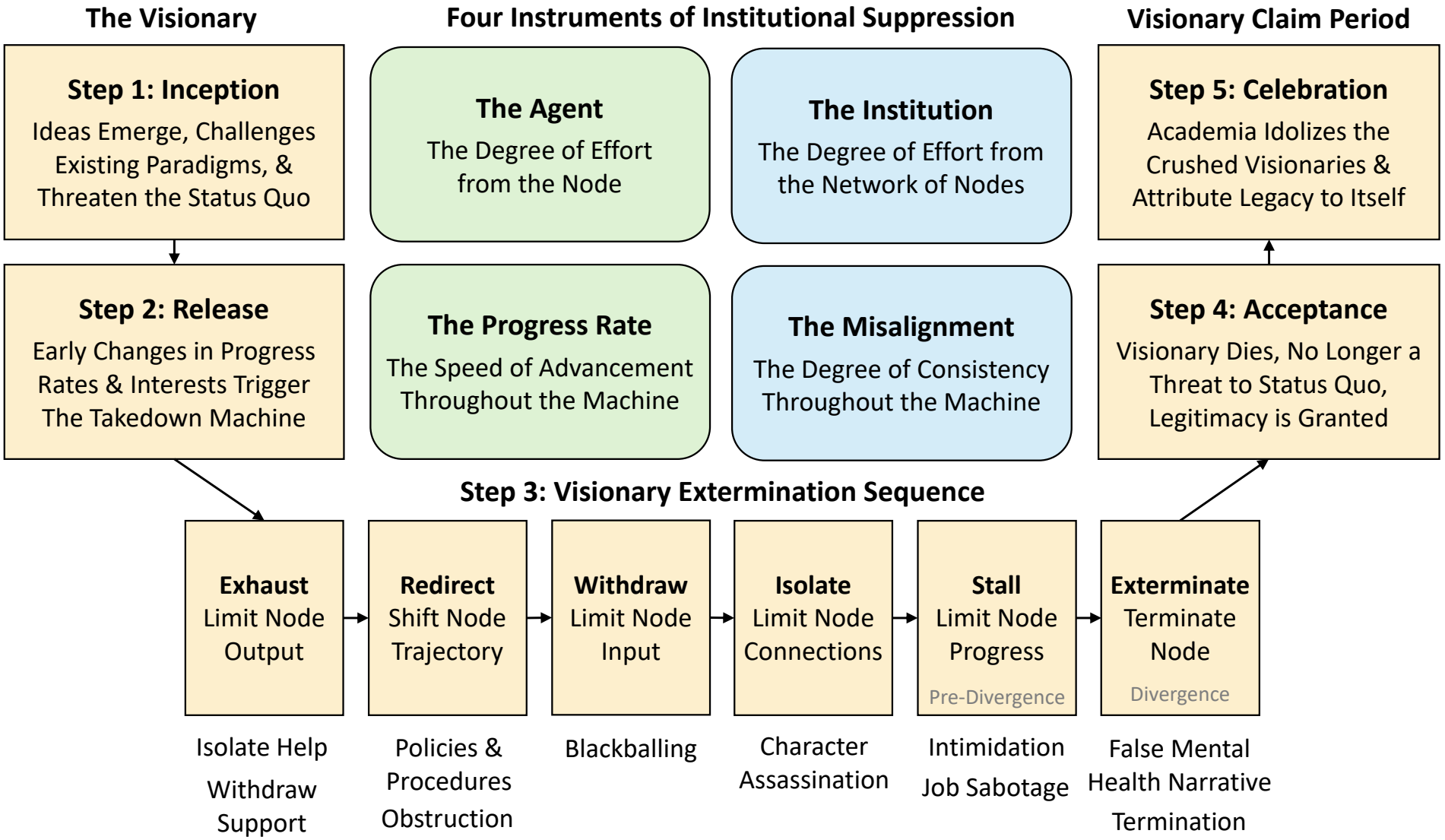
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Background & Findings

The colleagues who **vanished from conferences** without explanation. The groundbreaking ideas that **mysteriously stalled** in peer review. The systemic dread that grips academics when they **glimpse the darkness** echoing through institutional halls. **These events are not isolated**—they are symptoms of something far more sinister operating beneath the surface of our most trusted institutions. **Not a conspiracy orchestrated by any single mastermind**, which we could manage; it is an **emergent intelligence** born from a **collective yet unconscious** coordination across a **distributed network** of institutional actors who **systematically suppress revolutionary ideas** through predictable, repeatable behaviors. **I call it The Takedown Machine**.

For centuries, **The Takedown Machine operated in plain sight**, yet completely invisibly. It follows the same patterns, **using identical suppression harmonics** across institutions **worldwide**. In addition to finally seeing The Takedown Machine, I also found out that **The Takedown Machine has fatal flaws and weak points** that people can exploit for protection, clarity, and dismantling corruption. You are about to see the complete empirical blueprint of institutional suppression, **captured in real-time through 262 emails across nine months of systemic abuse that documents the entire playbook**… from initial rising star… to the fall from grace… let's get into it.

The Takedown Machine



The Takedown Machine: An emergent phenomenon from a distributed node network in an institution that systematically suppresses ideas.

The Node: Any individual who exists within The Takedown Machine, including students, professors, leadership, staff, and editors.

The Four Instruments: All-encompassing, irreducible component set that interacts to create the harmonic functional suppression behaviors.

The Visionary Extermination Sequence: A standard six-harmonic, sequential escalation of organized systemic suppression behavior types.

The Visionary Extermination Sequence in History

One of the most disturbing yet consistent patterns in human history is the **systematic suppression of revolutionary ideas followed by their inevitable acceptance and celebration**; it is the ultimate successful outcome for The Takedown Machine. What emerges is overwhelming evidence of **a coordinated suppression apparatus**—The Takedown Machine—operating with **mechanical precision** across **centuries**, **cultures**, and **disciplines**. The Visionary Extermination Sequence is remarkably consistent: ridiculed, isolated, dismissed, mocked, disrespected reputation, and resource withdrawal. The machine runs on **standard scripts proven effective** for centuries. Yet, these campaigns target individuals who are **ultimately all proven correct eventually**, usually vindicated after death when it can **harvest the work for its own power and glory**. The pattern reveals that The Takedown Machine does not suppress ideas because they are wrong—it suppresses them because **they are dangerously right**.

Table 1

Historical Examples of the Visionary Extermination Sequence

Visionary	Paradigm Shift	Visionary Extermination Sequence
Ignaz Semmelweis	Hand Washing	Dismissed; Lost Position
Gregor Mendel	Genetic Inheritance	Ignored; Dismissed as Irrelevant
Alfred Wegener	Continental Drift	Ridiculed, Called “Fairy Tale Geology”
Barbara McClintock	Genetic Transposition	Dismissed; Too Complex, Isolated
Galileo Galilei	Heliocentrism	House Arrest; Forced to Recant
Charles Darwin	Evolution	Attacked; Resisted; Ostracized
Nikola Tesla	AC Power	Portrayed as a Mad Scientist; Died Broke
Ludwig Boltzmann	Atoms	Major Opposition; Isolation; Depression
Srinivasa Ramanujan	Infinite Series	Dismissed as Impossible & Meaningless
George Ohm	Electrical Resistance	Rejected; Lost Teaching Job
Mary Anning	Extinction (Fossils)	Excluded; Ideas Credited to Males
Enrico Fermi	Nuclear Chain Reactions	Findings Dismissed; Legacy Stolen
Rosalind Franklin	DNA Helical Structure	Excluded; Used without Credit
Joseph Lister	Antiseptic Surgery	Resisted; Ridiculed; Dismissed
Jagadish Bose	Radio Wave Transmission	Ignored & Dismissed
Georg Cantor	Set Theory & Infinity	Called Insane; Career Blocked
Vincent van Gogh	Post-Impressionist Art	Rejected; One Painting Sold (Lifetime)
Robert Goddard	Liquid Rocket Propulsion	Dismissed as Impossible
Mihajlo Pupin	Long-Distance Telephone	Rejected; Dismissed Ideas
Ernest Rutherford	Nuclear Model of Atoms	Resisted; Dismissed; Neglected
Bryant Stone	The Theory of Existence	It Was Truth Wrapped in Myth…

Note. Historical examples of the visionary crush period during the visionary extermination sequence. Notice how the exact same pattern plays out every single time.

The tables expose the machine's ultimate irony: **systematic suppression followed by inevitable vindication**. Galileo, forced to recant under threat of execution, is now called the "Father of Modern Science" by the same Catholic Church that silenced him. Tesla, who died broke and disgraced, is celebrated as a visionary whose AC power electrifies the world; but Table 3 reveals the most brutal truth—**most visionaries never lived to see vindication**. The color-coding illustrates **intellectual genocide** that occurred: red entries for those crushed before seeing acceptance, green entries for those fortunate few who survived to see it, with certain factors determining survival versus extermination. The Takedown Machine, then… has a theoretical framework and the historical evidence to support it. Let’s now look at a visionary who survived, documented, and defeated The Takedown Machine in real-time, providing **its empirical blueprint** that illuminates the darkness of this ancient pattern.

Table 2

Visionary Claim Period of the Visionary Extermination Sequence

Visionary	Begin Accepting Ideas	Current Treatment
Ignaz Semmelweis	Germ Theory Slowly Validated	Celebrated as Pioneer
Gregor Mendel	Rediscovered by Scientists	Father of Genetics; Taught Worldwide
Alfred Wegener	Provided Mechanism for Validation	Founding Father; Universally Accepted
Barbara McClintock	Discoveries Later Confirmed	Won Nobel Prize; Pioneer of Genetics
Galileo Galilei	When Newton Used It	Church Apologized; Father of Modern Science
Charles Darwin	Others Work Ignited Interest	Central to Biology; Celebrated Globally
Nikola Tesla	AC Adopted; Proved Superior	Visionary Inventor; AC Universal Standard
Ludwig Boltzmann	Confirmed Experimentally	Father of Statistical Mechanics
Srinivasa Ramanujan	Computer Verified	One of History's Greatest Mathematicians
George Ohm	Niche Scientists Lead Acceptance	Fundamental to Electrical Engineering
Mary Anning	Foundational Discoveries	Celebrated as Pioneer; Species Named
Enrico Fermi	Confirmed Fission	Father of Nuclear Age
Rosalind Franklin	Others Won Nobel with Her Data	Crucial to DNA Discovery
Joseph Lister	Gradually Acceptance	Father of Antiseptic Surgery
Jagadish Bose	Recognition of Priority	Pioneer; Multiple Institutions Named
Georg Cantor	Others Championed Set Theory	Fundamental to Mathematics
Vincent van Gogh	Techniques Later Embraced	Most Expensive Paintings; Museums
Robert Goddard	"Space Race" Validated	Father of Rocketry; NASA Space Center
Mihajlo Pupin	AT&T Adopted System	Enabled Transcontinental Telephony
Ernest Rutherford	Gradually Acceptance	Father of Nuclear Physics
Bryant Stone	Public-First Accelerated Acceptance	It Was Everything It Needed To Be…

Note. Best documented details on documented slow initial acceptance, not when the ideas were accepted entirely, and a comparison to how these ideas are treated today.

The Definedness of The Takedown Machine

The Takedown Machine emerges through the **interactions of four instruments of institutional suppression** that **harmonize** and interact to **generate six forms of suppression behaviors** that define the entire inner workings of The Takedown Machine. This model uses *The Theory of Existence and The Equation of Existence* to map out this 4×6 structure. If you are not familiar with that work, you can get your mind blown by looking over *Paper 11* in *The Show of Existence*: The Dance of Stability & Complexity: The Equation of Existence as the Universal Lens to see how the collapse and behavior of The Takedown Machine you are about to see follows the same universal dynamic that governs the rest of existence–from the heat of the savannah, to your heartbeat before sleep. Now… if that's not your jam, then **there are only three things you need to know to understand it all**.

There are three concepts–Stability, Complexity, and Definedness–which represent the core principles that govern all existence. **Stability (The Institution + The Alignment) is the foundational structure** that ensures phenomena persist—it's what makes planets round, causes social elites to cluster together, and prevents phenomena from diverging into chaos. **Complexity (The Agent + The Progress Rate) drives variation, diversity, and growth**, enabling phenomena to evolve from simple atoms into molecules, life, and entire galaxies. **Definedness (The Takedown Machine)** is their unifying principle that maintains the proportional balance between stability and complexity, essentially measuring whether phenomena have successfully emerged, are converging into persistent forms, or are diverging. **We can use *The Equation of Existence* to model The Takedown Machine** by examining the relationship between the Stability (The Institution) in relation to its Complexity (The Visionary).

$$\Phi = \frac{\Omega}{\Delta} \rightarrow \text{Definedness} = \frac{\text{Stability}}{\text{Complexity}} \rightarrow \text{The Takedown Machine} = \frac{(\text{The Institution} + \text{The Alignment})}{(\text{The Agent} + \text{The Progress Rate})}$$

Table 3

Years of Interactions with The Takedown Machine

Visionary	Birth	Idea Start	Crush Period	Death	Claim Period	Death Acceptance	
						After	Before
Ignaz Semmelweis	1818	1847	1847-1865	1865	1867	2 Years	-
Gregor Mendel	1822	1865	1865-1900	1884	1900	16 Years	-
Alfred Wegener	1880	1912	1912-1960	1930	1960s	30 Years	-
Barbara McClintock	1902	1940s-1950	1950s-1970s	1992	1970s	-	~15 Years
Galileo Galilei	1564	1610-1632	1633-1642	1642	1687	45 Years	-
Charles Darwin	1809	1859	1859-1880s	1882	1880s-1890s	~6 Years	-
Nikola Tesla	1856	1882	1880s-1900	1943	1890s	~50 Years	-
Ludwig Boltzmann	1844	1870s-1890s	1890s-1906	1906	1908	2 Years	-
Srinivasa Ramanujan	1887	1913-1920	1913-1920	1920	1930s-1940s	~15 Years	-
George Ohm	1789	1827	1827-1841	1854	1840s	-	~15 Years
Mary Anning	1799	1810s-1820s	1810s-1847	1847	1850s-1860s	~8 Years	-
Enrico Fermi	1901	1934	1934-1938	1954	1938	-	~16 Years
Rosalind Franklin	1920	1951-1952	1951-1958	1958	1962	4 Years	-
Joseph Lister	1827	1865	1865-1890s	1912	1880s	-	~30 Years
Jagadish Bose	1858	1895	1895-1937	1937	1940s-1950s	~8 Years	-
Georg Cantor	1845	1870s-1880s	1880s-1918	1918	1920s-1930s	~8 Years	-
Vincent van Gogh	1853	1880s	1880-1890	1890	1905-1910	~18 Years	-
Robert Goddard	1882	1926	1920-1930	1945	1940-1950	~10 Years	-
Mihajlo Pupin	1858	1894	1890s-1900s	1935	1900-1910	-	~30 Years
Ernest Rutherford	1871	1911	1911-1920s	1937	1913	-	~24 Years
Bryant Stone	1994	2024	2024-2025	N/A	N/A	-	~50 Years

Note. Outline of the timelines for the visionary extermination sequence, including the visionary crush period followed by the visionary claim period. Years are the best estimations given historical facts for years with unclear documentation. I highlighted the visionaries that did not live to see their ideas begin acceptance in red, and those who did I highlighted in green. Several factors appear to separate the visionaries who saw their ideas accepted compared to those that did not, including the usefulness of the idea, the initial acceptance by power structures, and the volume of output pushing the ideas and their spread.

The Truth in the Writing…

I accessed the evidence archive for this study, so all emails in this study **originate from real communication** at a **real university** with a **recent retaliation scandal**, but the university involved is not important or notable enough to name here. As such, **this study is the first empirical validation of institutional suppression theory through real-time longitudinal documentation of academic suppression tactics as they unfolded**. Rather than relying on retrospective accounts or theoretical speculation, we captured The Takedown Machine in active operation using its own documentation trails, like wildlife researchers recording a predator's hunting patterns in its natural habitat… a high risk, high reward scientific study like we have never before seen.

Using The Takedown Machine framework and *The Equation of Existence*, I analyzed 262 email (all original .EML files) spanning **nine months of documented conflict between the visionary and the institution**—from rising star to fallen so far. This methodology transforms what has **historically been dismissed as subjective** "lived experience" into quantifiable data. For the first time in history, **we possess empirical evidence documenting the systematic nature of institutional suppression**—not as theory or anecdote, but as pictures of the movements and fingerprints of The Takedown Machine captured in real-time in its natural habitat. The result is a **scientific validation** of systemic suppression and the **ability to see clearly** what has always been invisible.

Table 4

Variables Extracted from EML Files with Descriptions (Download Dataset)

Variable	Description	Open Access
Email Number	An Identification Number	Visible
Order	Absolute Order the Emails Sent in Time	Visible
Email Thread Number	Emails with All Follow-Up Replies	Visible
Number of People	Total Number of People in Email	Visible
Visionary vs. The Machine	Identification of the Origins of the Emails	Visible
"From" Name	Name of Sender	Masked
"From" Title	Job Title of Sender	Visible
"To" Name	Name of Receiver	Masked
"To" Title	Job Title of Receiver	Visible
All CC/BCC	Other Individuals in the Email Threads	Masked
Date	The Date the Email Sent	Visible
If Weekend	If the Email Sent on a Saturday or Sunday	Visible
Time of Day	When During the Day the Email Sent	Visible
Outside Hours	If the Email Sent Outside Business Hours During the Weekdays	Visible
Both After Hours	If the Email Sent Outside Business Hours During the Weekends	Visible
Email Subject Line	The Qualitative Subject Line of the Emails	Masked
Body Character Count	The Number of Characters in the Email Body with Spaces	Visible
Body Word Count	The Number of Words in the Email Body with Spaces	Visible
Body Mean Word Length	Average Characters per Word in the Email Body with Spaces	Visible
Body Text (Unedited)	The Qualitative Body Text of the Emails	Masked
Email Signatures	The Separated Email Signature Text of the Emails	Masked
Misconduct Domain	Broad Misconduct Behavior Label	Visible
Harmonics	The Harmonic of Institutional Suppression Category	Visible
Politeness (*t*-score)	The Number of Times Someone Said Please or Thank You	Visible
Directive (*t*-score)	The Number of Times Someone Gave a Direction	Visible
Aggression (*t*-score)	Directiveness – Politeness	Visible
The Institution	The Degree of Involvement from the Institution	Visible
The Misalignment	The Degree of Misalignment within the Institution & Norms	Visible
The Agent	The Degree of Involvement from the Visionary	Visible
The Progress Rate	The Rate of Progress Introduced by the Visionary	Visible
Stability	The Institution + The Misalignment	Visible
Complexity	The Agent + The Progress Rate	Visible
Definedness	Stability / Complexity	Visible

Note. Variable names and descriptions for the dataset. Note that most data are visible for download in the link here, but some are masked to protect the identity of the real university, and these data come from.

My coding and scoring methodology **required a rigorous and robust design** to measure the intricacies of The Takedown machine. I used a masked coding protocol—rating every email without any identifying details. This method **eliminated bias** while **enabling universal measurement**. I treated all institutional actors as nodes in The Takedown Machine who received **Stability scores for The Institution and The Misalignment instruments**. The Visionary's emails received **Complexity scores for The Agent and Progress Rate instruments**, using a 1-10 scale for maximum granularity. I organized 262 emails **by thread and timestamp**, then **captured the interactive relationship** between the institution and the visionary by carrying forward the most recent Complexity and Stability scores from the previous communication, **holding them constant** when they are not active.

This scoring ensured **every email contained all four instrument ratings**, creating continuous measurement of how each intelligence responded to and influenced the other—like measuring **the mathematical relationship between action and reaction in real-time**. This methodology was scientifically essential because **institutional suppression is fundamentally relational**—it emerges from **the interaction between visionary innovation and institutional resistance**. By holding scores constant until acted upon by the opposing intelligence, **we captured the escalating feedback loops that define The Takedown Machine**. It transforms static email exchanges into live measurements of competing intelligences locked in systematic conflict, providing the first quantifiable dataset that captures how institutional suppression operates and what we can do with this knowledge.

Table 5

Hypothesis-Driven Definedness of Institutional Suppression

Instrument	Exhaust	Redirect	Withdraw	Isolate	Stall	Exterminate
The Institution (Ω)	Mild	High	Moderate	Moderate	Minimal	High
The Misalignment (Ω)	Minimal	Mild	Mild	Moderate	Moderate	Moderate
The Agent (Δ)	Moderate	Mild	Moderate	Moderate	Mild	Mild
The Progress Rate (Δ)	Moderate	Mild	Mild	Moderate	Minimal	Minimal
The Institution (Ω)	2	4	3	3	1	4
The Misalignment (Ω)	1	2	2	3	3	3
The Agent (Δ)	3	2	3	3	2	2
The Progress Rate (Δ)	3	2	3	3	1	1
Stability (Ω)	3	6	5	6	4	7
Complexity (Δ)	6	4	6	6	3	3
Definedness (Φ)	0.50	1.50	0.83	1.00	1.33	2.33

Note. Hypothesis-driven definedness of institutional suppression. The four rows correspond to the four instruments activated in each suppressive harmonic: 1) The Institution (Ω) + The Alignment (Ω) for the degree of deviation necessary to trigger the suppressive behavior. Lower values mean even minor coherence deviations (e.g., popularity, resonance, out-of-band visibility) are enough to activate suppression, and 2) The Agent (Δ) and The Progress Rate (Δ) for speed of changes and progress led by the visionary. This model shows that as suppression intensifies, institutional responses become more stable (Ω) while complexity (Δ) tends to decline, often due to attrition, exhaustion, or institutional sabotage. Definedness (Φ) increases because the suppression becomes more impactful. High-Φ suppression (e.g., Extermination) reflects The Takedown Machine reaching peak effort in eliminating the destabilizing node. Rating system is 1 = Minimal, 2 = Mild, 3 = Moderate, and 4 = High.

When we hypothesize what the math will look like when we apply it to measure The Takedown Machine, we can transform what appeared to be chaotic persecution into a predictable equation. The definedness (institutional suppression) progression from **Exhaust (0.50)** through **Exterminate (2.33)** documents how **The Takedown Machine systematically escalates suppression intensity when lower-level interventions fail to eliminate threats**. Most significantly, the table exposes the machine's fatal design flaw: **Redirect achieves peak suppression efficiency (1.50)** through maximum coordination (stability) against minimal resistance (complexity), but when this harmonic fails, **it enters increasingly desperate and wasteful phases** that cause divergence.

Let's start by looking at the **descriptive statistics of the real data**. We see **two unique intelligences** operating within The Takedown Machine, with the **scores across the variables showing excellent structural features,** including **unique means** and **variances** that **do not deviate significantly from the others**; the scoring method captured genuine phenomena. Stability and Complexity are unrelated entirely, $r = -.008, p = .893$, showing that the institution and visionary are independent structures in The Takedown Machine—**validating the hypothesis that The Takedown Machine emerges from the interaction between separate emergent intelligences and the structures they control (The Institution → The Misalignment; The Agent → The Progress Rate).**

Table 6

Descriptive Statistics for the Dependent Variables

	n	Mean	*SD*	Minimum	Maximum	Skewness	Kurtosis
The Institution (Ω)	262	3.64	2.22	1	10	0.94	0.12
The Misalignment (Ω)	262	5.30	3.00	1	10	0.14	-1.42
The Agent (Δ)	262	3.49	2.07	1	10	0.67	-0.36
The Progress Rate (Δ)	262	6.21	2.74	1	10	-0.14	-1.16
Stability (Ω)	262	8.92	4.44	2	20	0.54	-0.42
Complexity (Δ)	262	9.70	3.98	2	20	-0.02	-0.74
Definedness (Φ)	262	1.18	1.01	0.14	6.00	2.15	5.46

Note. n = 262. Descriptive statistics of the variables as classified by *The Equation of Existence*. Each email received a score for the four instruments. I calculated the stability variable by adding The Institution and The Misalignment rating. I calculated the complexity variable by adding The Person and The Progress Rate rating. I calculated the definedness score by calculating Institutional Suppression = (The Institution + The Alignment) / (The Person + The Progress Rate).

We see below that the Principal Components Analysis (PCA; to see how they self-organize) only a **two-component solution explained the data**, accounting for 69.98% of variance, compared to just 36.34% for a single-component model. The four instruments split with mathematical precision—The Institution and The Alignment load exclusively onto Component 1 (Stability), while The Agent and The Progress Rate load exclusively onto Component 2 (Complexity), with **no significant cross-loadings between components**.

The exceptionally low internal consistency initially appears problematic until we recognize its profound theoretical significance: **institutional suppression emerges from two independent phenomena in conflict rather than a unified construct**. We have those two phenomena mapped in the PCA. The non-significant correlation between component scores, $r = -.033, p = .595$, confirms mathematical independence—**these intelligences operated without coordinated awareness or responses to each other's strategies**.

The correlation matrix reveals **only moderate relationships within each phenomenon** while **cross-component correlations remain negligible**, showing that The Takedown Machine maintains itself by emerging from the interaction between complete independent phenomena (the institution and the visionary). We have now confirmed with high certainty that the foundations of **the theory, math, scoring, and empirical evidence are all in alignment with the existence of The takedown Machine**. Now that we have cracked open the hood of The Takedown Machine and can see the inner mechanics clearly, we need to use this new light to take a look around.

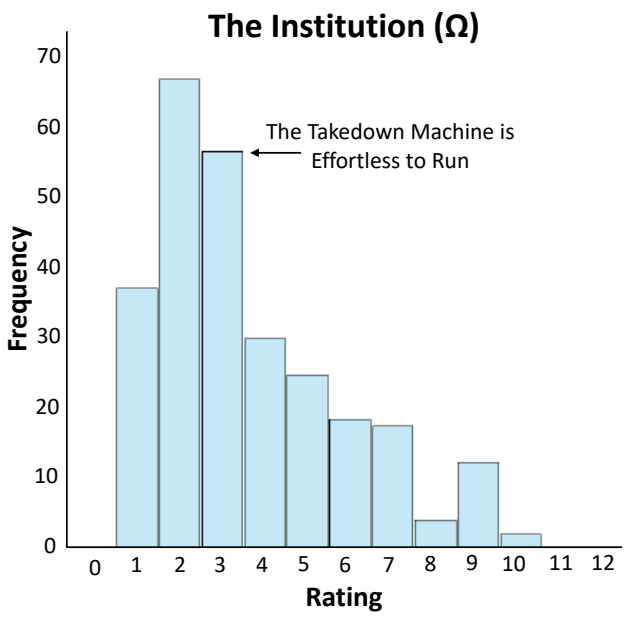
Table 6

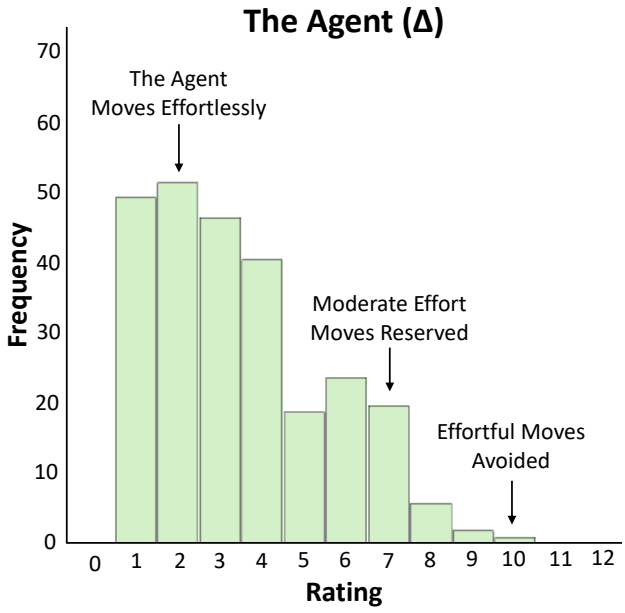
Statistical Structure of the Definedness of Institutional Suppression

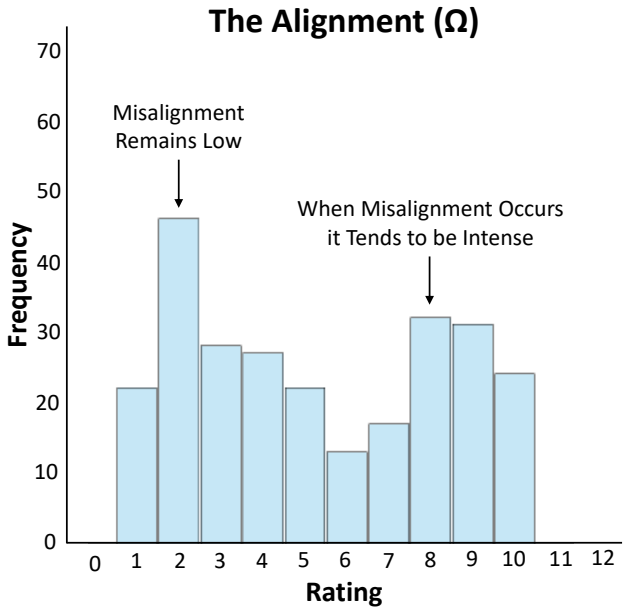
Instrument	Principal Components Analysis		Cronbach's α	Pearson Correlations			
	Component 1 (Ω)	Component 2 (Δ)		1	2	3	4
The Institution (Ω)	**.850**	.083	.362	-			
The Alignment (Ω)	**.831**	-.084		**.42**	-		
The Agent (Δ)	.089	**.834**		-.08	-.05	-	
The Progress Rate (Δ)	-.091	**.813**		-.05	.08	**.36**	-

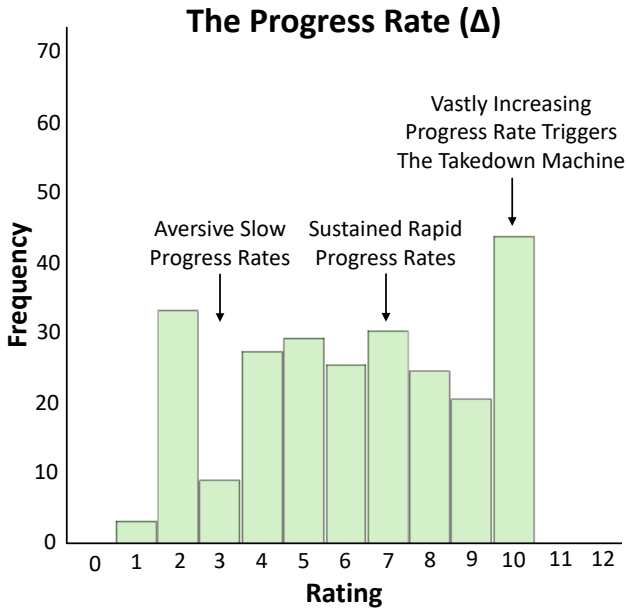
Note. n = 262. Principal Components Analysis using a direct oblimin rotation. Bolded correlations are significant at α = .05. I colored the cells green as they approached 1 and red as they approached -1. The two-component structure is clear across the loadings, measurement alignment, and the correlations

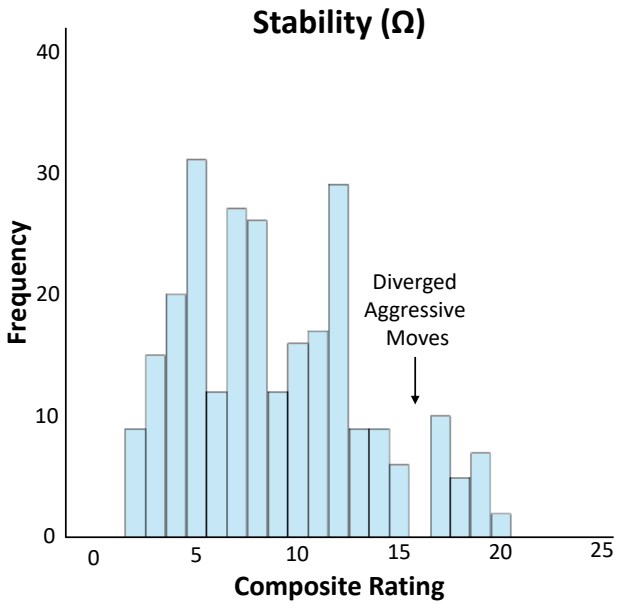
Let's first examine how the instruments in **The Takedown Machine** behave in ***The Equation of Existence***.

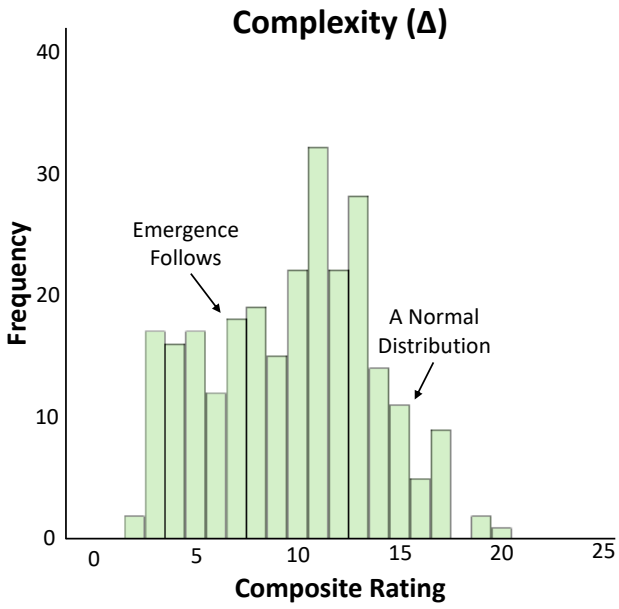

The Institution (Ω)
Frequency
Rating
The Takedown Machine is Effortless to Run


The Agent (Δ)
Frequency
Rating
The Agent Moves Effortlessly
Moderate Effort Moves Reserved
Effortful Moves Avoided

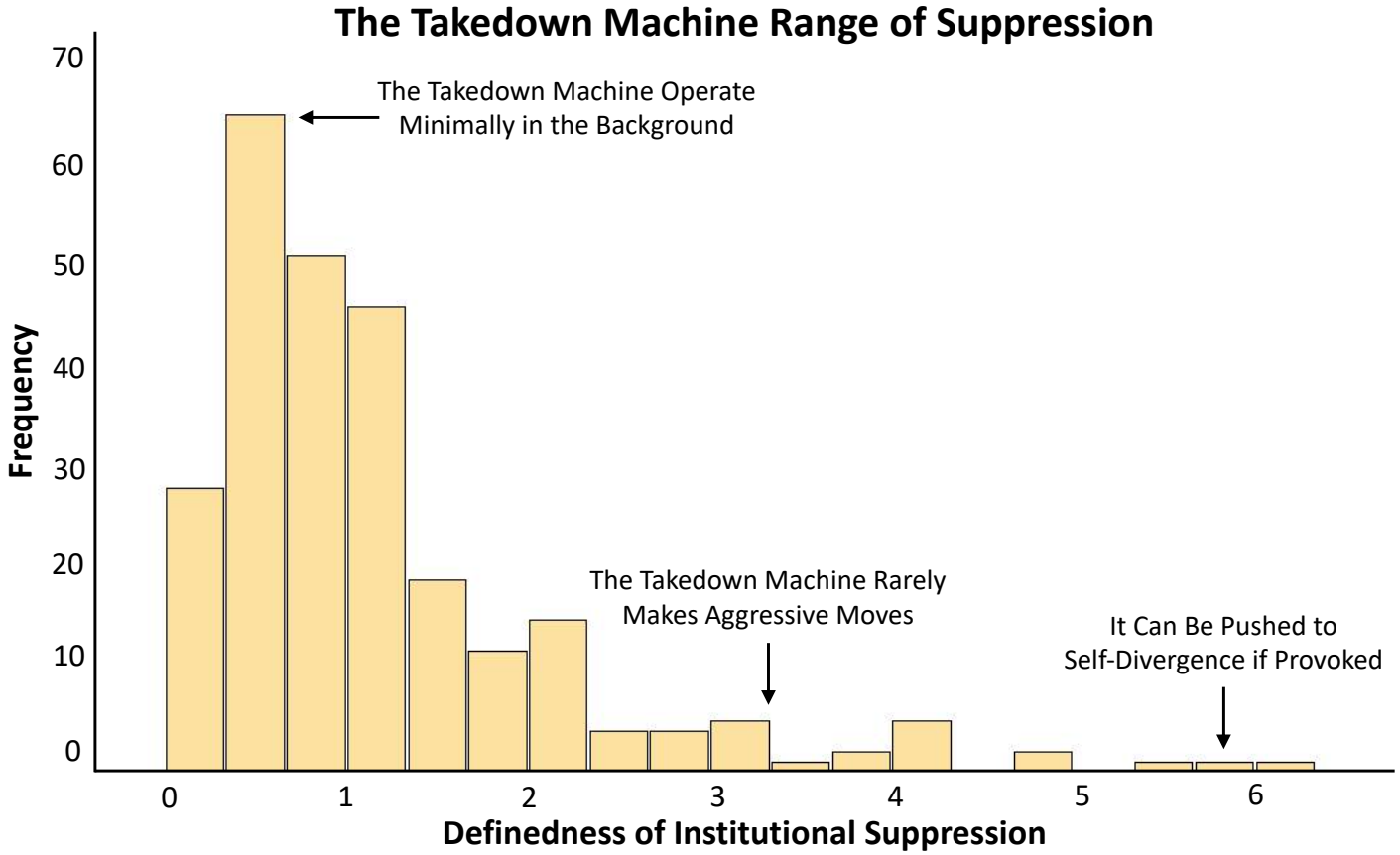

The Alignment (Ω)
Frequency
Rating
Misalignment Remains Low
When Misalignment Occurs it Tends to be Intense


The Progress Rate (Δ)
Frequency
Rating
Vastly Increasing Progress Rate Triggers The Takedown Machine
Aversive Slow Progress Rates
Sustained Rapid Progress Rates

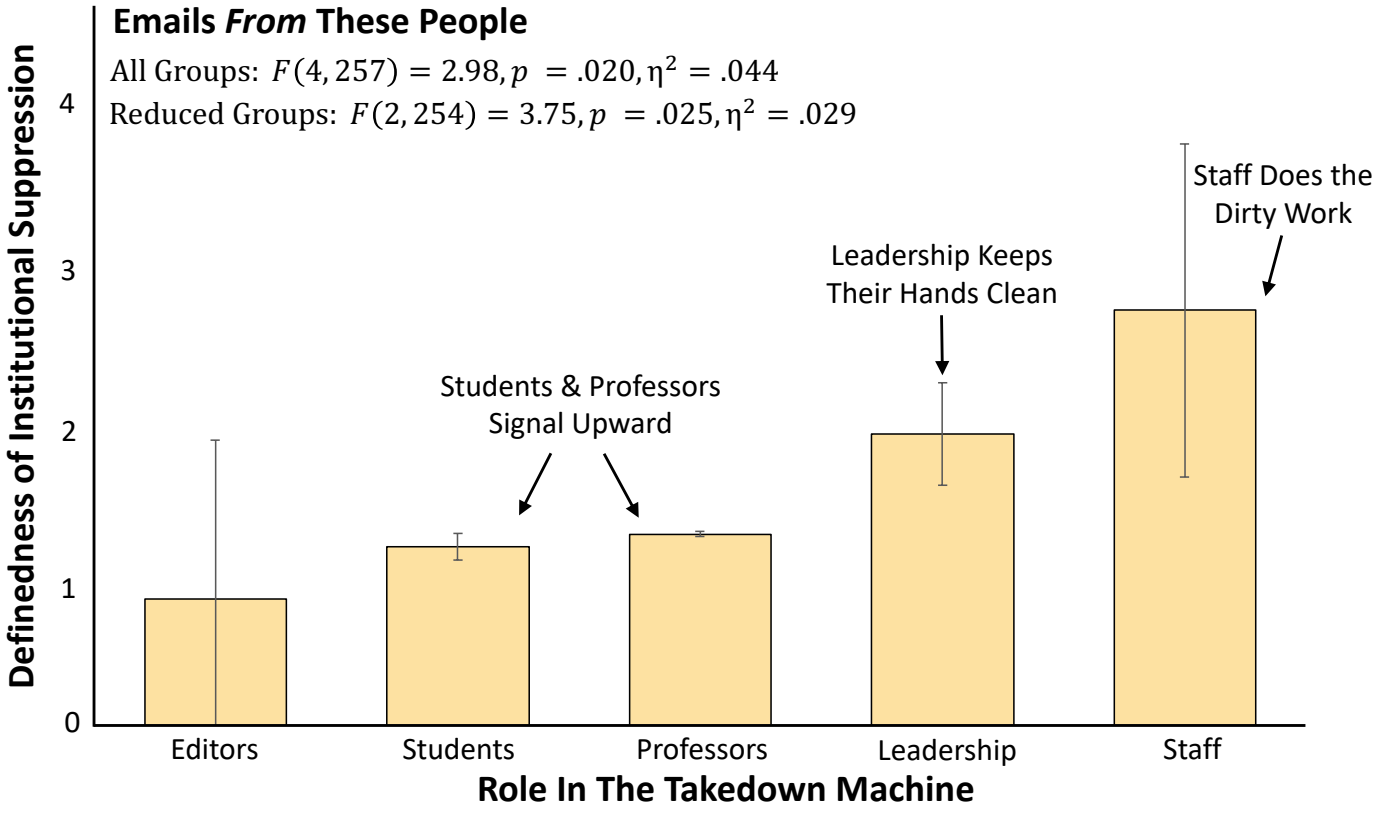

Stability (Ω)
Frequency
Composite Rating
Diverged Aggressive Moves

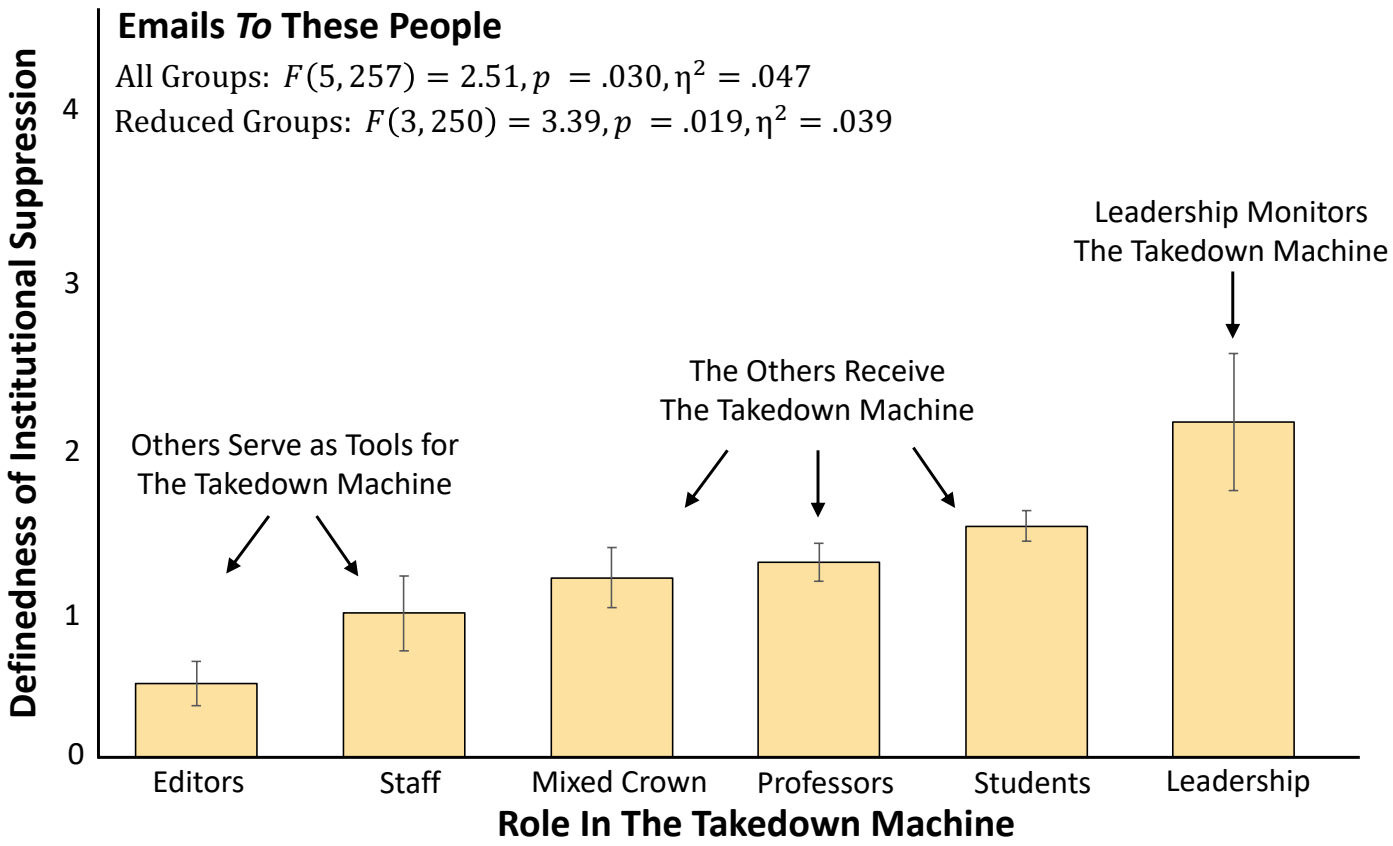

Complexity (Δ)
Frequency
Composite Rating
Emergence Follows
A Normal Distribution

When we look at how **these phenomena behave** by looking at the **distribution patterns** of their variation in the environment, we can capture the alchemy of The Takedown Machine behavior: spontaneous emergence of normal distributions from chaotic individual components. The Institution's dramatic right-skewed concentration reveals that it that **operates minimally most of the time** but **spikes dramatically when threatened**, while The Agent's left-skewed distribution documents **strategic energy conservation** with **high-intensity confrontations actively avoided**. The Alignment instrument's bimodal distribution captures the binary nature of institutional conformity—**misalignment remains low until triggered**, then becomes **intensely problematic**—while The Progress Rate's intricate, multi-peaked pattern reflects the varied, quick rhythms that triggered The Takedown Machine to target The Agent. Most remarkably, when these wildly irregular patterns combine into Stability and Complexity composites, they produce **near-perfect normal distributions** through math that cancels irregularities rather than compounding them. It shows that a phenomenon (like those following normal distributions) **may be the emergent relationships between underlying structures**, as we see in The Takedown Machine.



When we examine the definedness (institutional suppression) of The Takedown Machine, we see the **exact skewed distribution we hypothesized with *The Equation of Existence***, where 75% actions are minimal, even subtle, such as gentle redirections, bureaucratic friction, and quiet discouragements that prevent threats from ever becoming dangerous. However, **when provoked or ineffective The Takedown Machine starts making reckless, aggressive moves**. This distribution is the most comprehensive map of institutional suppression intensity ever assembled, documenting how **systematic oppression operates across its complete operational spectrum**. Towards the end of the spectrum (right side) there occurs **a breakdown in definedness** when pushed beyond operational limits. These rare, high-intensity events document when **The Takedown Machine breaks and diverges—applying overwhelming force against minimal remaining resistance**, creating a complexity escalation that they are unable to stabilize… **so they spiral, overextend, diverge, then… collapse**. We can see the invisible strings of power with clarity and **quantitatively predictable collapse points** one could strategically exploit when under attack. Let's take a further look now at how The Takedown Machine spreads throughout an institution.


Emails *From* These People
All Groups: $F(4, 257) = 2.98, p = .020, \eta^2 = .044$
Reduced Groups: $F(2, 254) = 3.75, p = .025, \eta^2 = .029$
Definedness of Institutional Suppression
0
1
2
3
4
Staff Does the Dirty Work
Leadership Keeps Their Hands Clean
Students & Professors Signal Upward
Editors
Students
Professors
Leadership
Staff
Role In The Takedown Machine


Emails *To* These People
All Groups: $F(5, 257) = 2.51, p = .030, \eta^2 = .047$
Reduced Groups: $F(3, 250) = 3.39, p = .019, \eta^2 = .039$
Definedness of Institutional Suppression
0
1
2
3
4
Leadership Monitors The Takedown Machine
The Others Receive The Takedown Machine
Others Serve as Tools for The Takedown Machine
Editors
Staff
Mixed Crown
Professors
Students
Leadership
Role In The Takedown Machine

These figures document the most sophisticated organizational strategy ever empirically measured: **the systematic weaponization of hierarchical power structures to maximize suppression effectiveness while maintaining perfect institutional cover**. The "Emails From" pattern exposes **a seemingly-intentional exploitation scheme where staff are exploited by leadership to enact suppression to preserve their plausible deniability**; it's a calculated strategy that transforms the most vulnerable into unwitting political weapons while preventing direct accountability—**literally systematically sacrificing their own to maintain the fiction of leadership innocence**.

The asymmetrical power dynamics revealed in the "Emails To" analysis provide empirical evidence of institutional power's most closely guarded secret: **leadership authority exists only through the voluntary deference of subordinates**. **Leadership receives the highest definedness communications** not because they possess inherent power, but because **students, professors, and staff systematically amplify their authority** by treating leadership communications as inherently more important, urgent, and consequential. It creates **a feedback loop where suppression capacity derives entirely from legitimacy granted by those beneath** them in the hierarchy—every deferential email, every urgent response to leadership directives, every acceptance of institutional framing contributes to the stability of The Takedown Machine. This empirical documentation reveals its ultimate weakness: **a complete and total dependence on voluntary participation in institutional theater**. It shows that institutional authority is not backed by superior resources or strategic brilliance, but by the systematic exploitation of human tendencies to defer to positional power. **Take that away, and The Takedown Machine collapses.**

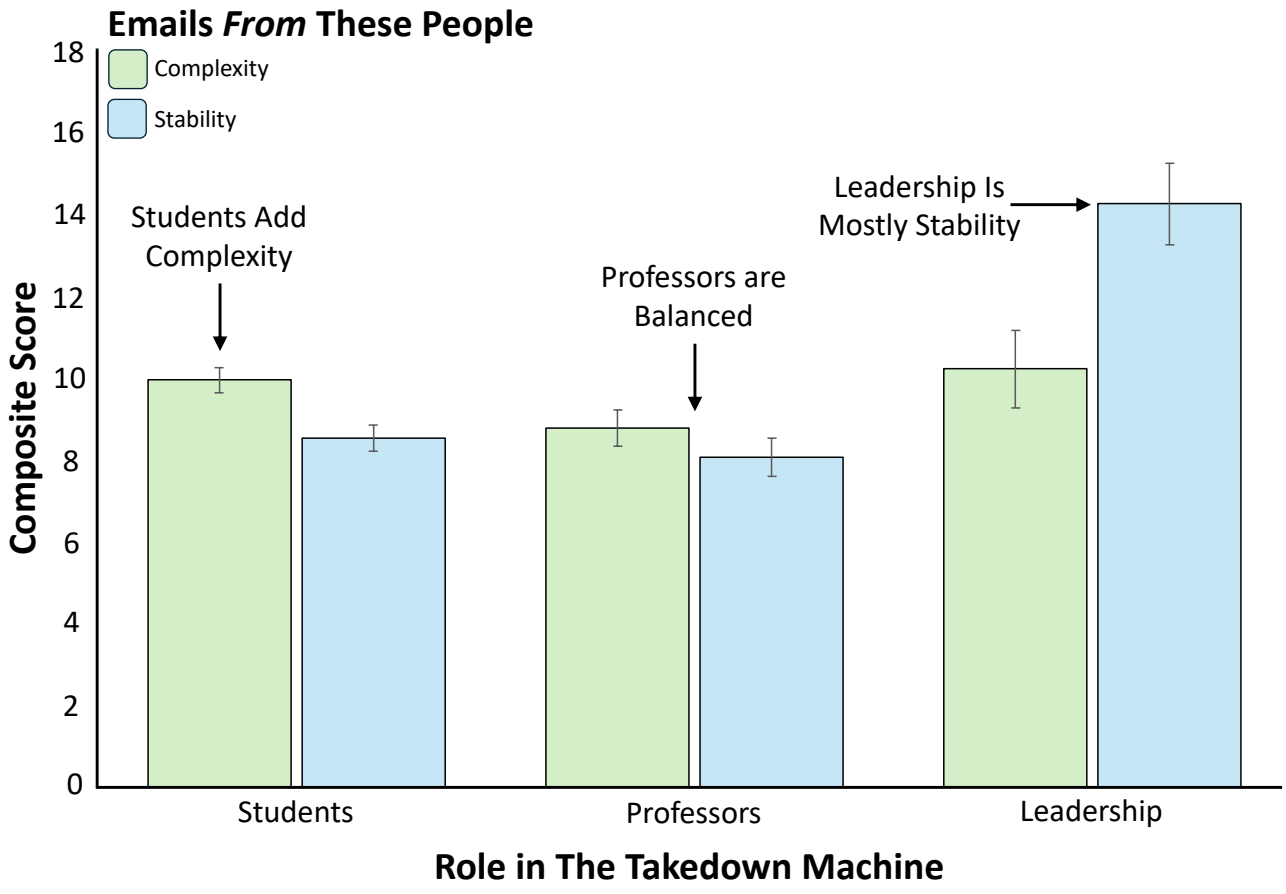
Table 8

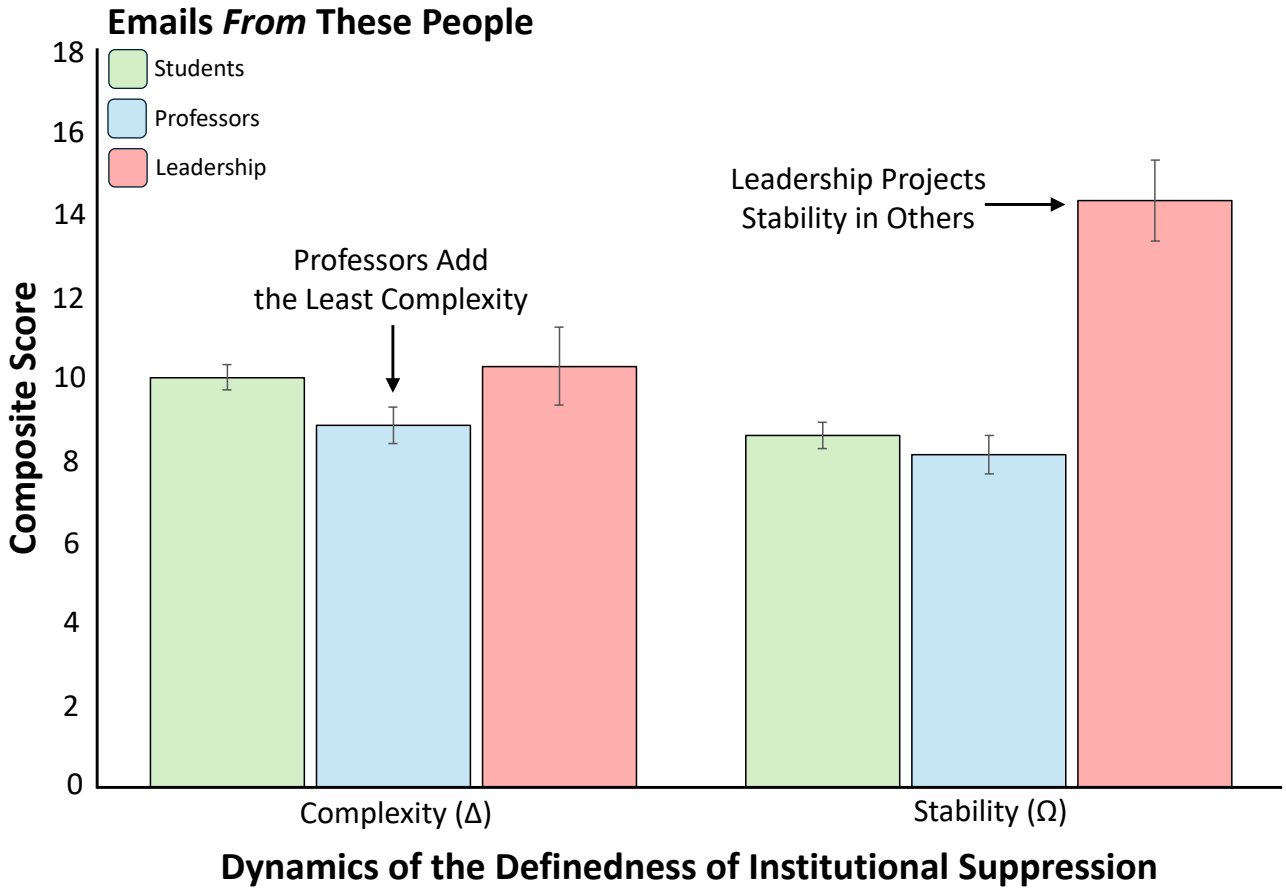
Script Analysis Across Students, Professors, & Leadership

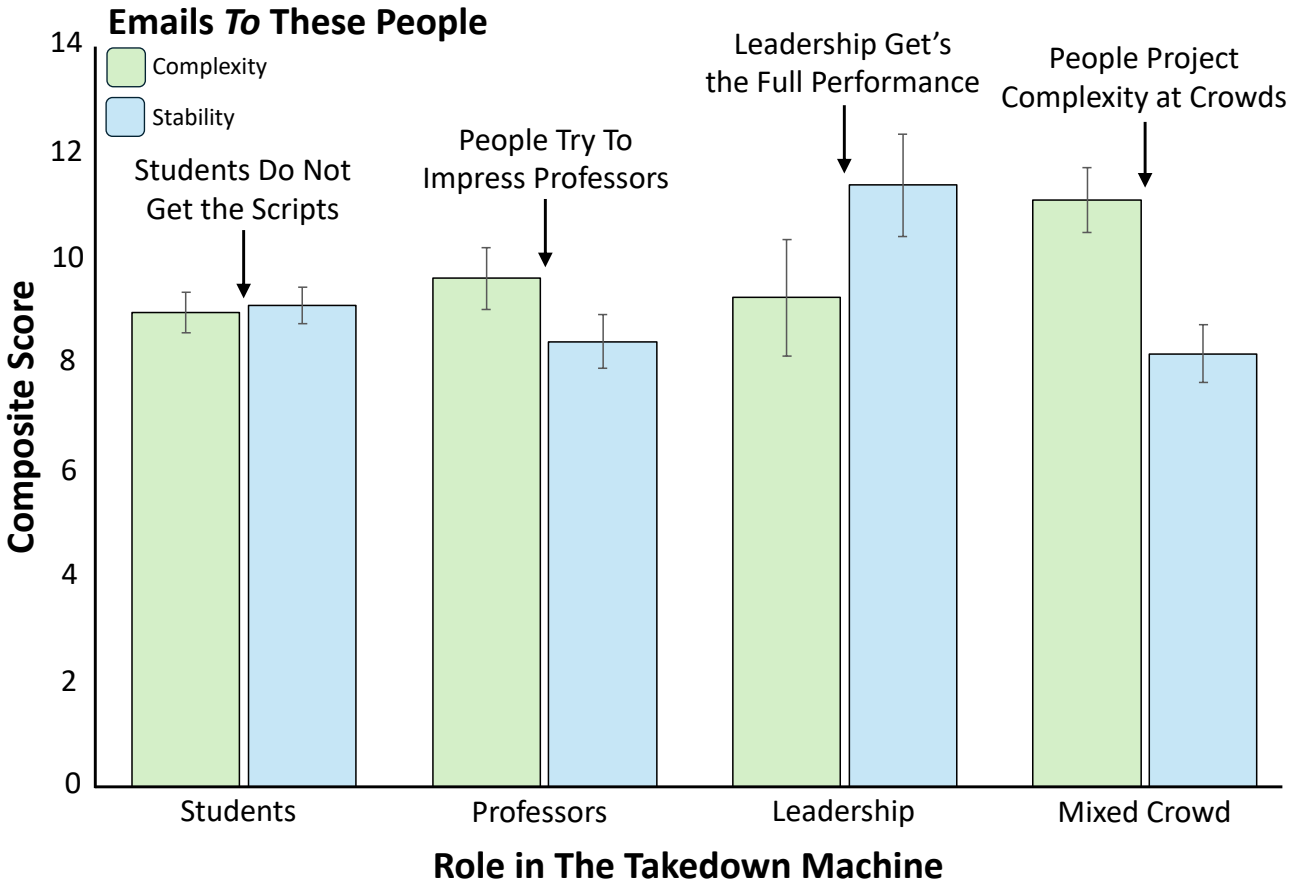
	Students	Professors	Leadership	Mixed	*F*	*p*	η^2
From							
After Hours	14.79%	23.42%	5.88%	-	4.24	.015	.032
After Hours + Weekend	29.57%	46.83%	11.76%	-	5.65	.004	.043
Politeness	50.61	47.43	51.83	-	3.90	.021	.030
Aggression	49.17	52.71	47.61	-	4.31	.015	.033
To							
Number of People	2.99	3.10	4.38	5.98	36.48	< .001	.305
Average Word Length	6.31	6.38	8.32	6.32	2.90	.036	.034
Politeness	48.75	51.96	54.80	48.39	3.30	.021	.038
Directiveness	50.60	48.17	55.53	48.56	2.86	.037	.033
Aggression	51.61	46.84	49.54	50.45	3.36	.019	.039

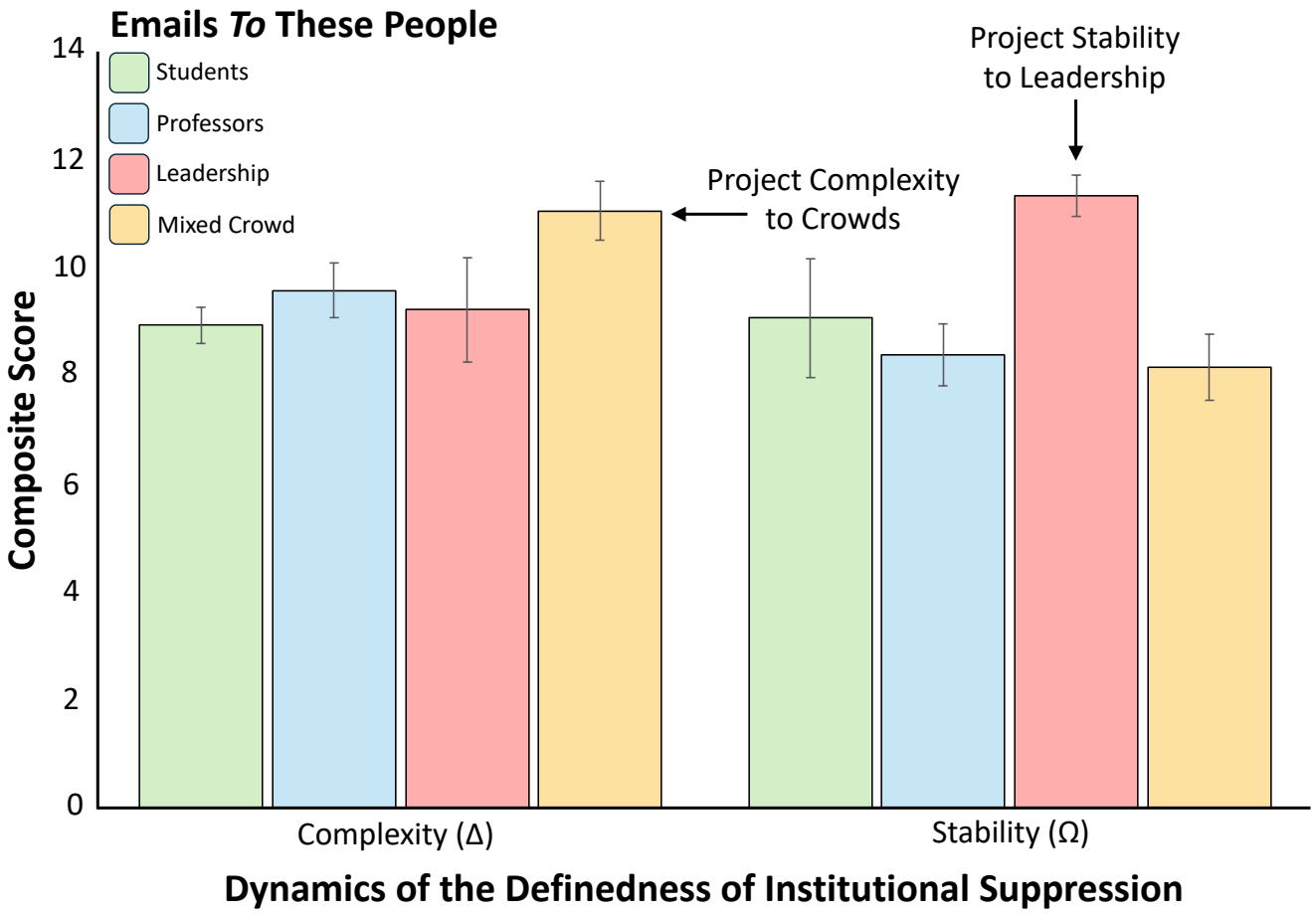
Note. n = 257. An analysis of the scripts that people play and receive during email communication. Note how certain factors come from the individuals but are also reinforced by others; the system goes both ways.

When we examine the content of the emails, we see overwhelming statistical evidence that **institutional actors operate through unconscious scripts with precision**. Professors exhibit the highest aggression and lowest politeness while sending nearly half their emails outside business hours—revealing **systematic conflict avoidance disguised as intellectual authority**, deploying confrontational communications when immediate responses are unlikely. **Leadership receives elaborate deference** through significantly longer word length, elevated politeness, and broader distribution—not because they possess superior capacity, but because **their role demands ritualized validation** or you end up in The Takedown Machine. **The fear of The Takedown Machine is real, but the reason it functions effortlessly is because we let it.** When emails span roles with hierarchical level interactions, crowds disrupt the ease of transferring scripts between people, increasing complexity. These scripts confirm a disturbing truth: individuals do not deliberately modify their communication based on position but **automatically perform assigned suppression roles** while believing their scripted behaviors represent authentic personalities and choices. Let me show you the nuance of these scripts and their roles in The Takedown Machine.


Emails *From* These People
Complexity
Stability
Students Add Complexity
Professors are Balanced
Leadership Is Mostly Stability
Composite Score
0
2
4
6
8
10
12
14
16
18
Students
Professors
Leadership
Role in The Takedown Machine


Emails *From* These People
Students
Professors
Leadership
Professors Add the Least Complexity
Leadership Projects Stability in Others
Composite Score
0
2
4
6
8
10
12
14
16
18
Complexity (Δ)
Stability (Ω)
Dynamics of the Definedness of Institutional Suppression


Emails *To* These People
Complexity
Stability
Students Do Not Get the Scripts
People Try To Impress Professors
Leadership Get's the Full Performance
People Project Complexity at Crowds
Composite Score
0
2
4
6
8
10
12
14
Students
Professors
Leadership
Mixed Crowd
Role in The Takedown Machine


Emails *To* These People
Students
Professors
Leadership
Mixed Crowd
Project Stability to Leadership
Project Complexity to Crowds
Composite Score
0
2
4
6
8
10
12
14
Complexity (Δ)
Stability (Ω)
Dynamics of the Definedness of Institutional Suppression

These figures document the most sophisticated behavioral programming system ever empirically measured: **the automatic, reciprocal reinforcement of institutional scripts through unconscious communication patterns**. The "Emails From" analysis reveals each hierarchical level projects distinct behaviors—students generate high complexity mainly, professors maintain balance, and leadership operates as stability generators for The Takedown Machine. **Remember… it is not conscious role-playing**; they are deeply embedded scripts that turn human interactions into predictable responses that feel natural **but are intensely systemically conditioned**.

The "Emails To" patterns expose that institutional programming is **collectively reinforced and** creates **feedback loops of authority validation**. Leadership receives **significantly elevated stability projections from everyone,** while students and professors receive balanced treatment, showing that treating emails to leadership as inherently more important **reinforces both their authority script and the sender's subordinate script**. This unconscious script execution explains why The Takedown Machine operates with devastating effectiveness **despite absent central control**—each participant automatically performs their assigned suppression roles while interpreting their scripted behaviors as authentic, personal, moral, strategic choices, creating a distributed network that behaves intelligently by responds to threats to stability with systematic precision via the Visionary Extermination Sequence without any one individual leading the way in the destruction of others; it runs on its own…

Table 9

The Takedown Machine Strategies Employment & Usage Patterns

Stability (Institution)	Complexity (Visionary)	Definedness (Suppression)
Specific Takedown Machine Strategies		
Aggressive False Narrative: 13.44	Isolation: 12.07	Aggressive False Narrative: 1.90
Intimidation: 13.25	Withdrawal Support: 11.50	False Mental Health: 1.86
False Mental Health: 12.55	Intimidation: 10.75	Job Sabotage: 1.31
Blackballing: 9.33	Research Obstruction: 10.73	Intimidation: 1.26
Job Sabotage: 9.32	Rising Star: 10.19	Character Assassination: 1.25
Research Obstruction: 9.05	Job Sabotage: 10.00	Blackballing: 1.17
Withdrawal Support: 8.61	False Mental Health: 9.32	Research Obstruction: 1.08
Isolation: 8.29	Aggressive False Narrative: 9.11	Policies & Procedures: 1.05
Character Assassination: 8.15	Character Assassination: 8.37	Withdrawal Support: 0.92
Rising Star: 7.35	Policies & Procedures: 8.21	Rising Star: 0.81
Policies & Procedures: 6.33	Blackballing: 8.17	Isolation: 0.78
Harmonics of Institutional Suppression Played		
Exterminate: 12.75	Withdrawal: 10.73	Exterminate: 1.87
Stall: 9.33	Redirect: 10.73	Stall: 1.17
Redirect: 9.05	Rising Star: 10.19	Isolate: 1.13
Withdrawal: 8.97	Isolate: 9.31	Withdrawal: 1.12
Isolate: 8.18	Exterminate: 9.28	Redirect: 1.08
Rising Star: 7.35	Exhaust: 8.49	Exhaust: 1.08
Exhaust: 7.08	Stall: 8.17	Rising Star: 0.81

Note. n = 262. Order of strategies and harmonics ranked by stability, complexity, and definedness. I categorized all emails before rating, but the order here reflects differences that emerged naturally. Across the definedness of The Takedown Machine Strategies, a linear regression (R^2 = 9.60%, p < .001) and cubic regression (R^2 = 10.30%, p < .001) fit the data, with definedness explaining 10% of all interactions between the institution and the visionary. The regression models on the harmonics of the Visionary Extermination Sequence shows that the cubic regression fit the data much better than the linear one. A one-way ANOVA showed significant group differences for the strategies (η^2 = .109) and harmonics (η^2 = .094).

We see here the most comprehensive empirical documentation of the suppression strategies ever assembled, **revealing The Takedown Machine's complete strategic arsenal deployed across both specific techniques and harmonics**. By ordering the strategies and harmonics based on their stability, complexity, and definedness scores across emails, we can examine the specific behaviors the institution and the visionary used as they engaged in The Takedown Machine. The institution (stability) openly and willingly deployed the most aggressive and devastating weapons—False Mental Health Narratives, Intimidation, and Blackballing —the ultimate tools deployed when other strategies fail. The complexity scores show how the visionary systematically countered each institutional tactic **using the same suppression tools available to all of us in The Takedown Machine**. When **the institution** deployed **Intimidation**, **the visionary** responded by **Isolating** the targets; when they attempted **False Mental Health Narratives**, the visionary countered with **Withdrawing Support** of the scripts they needed for the play to work (ignoring it caused them to collapse); it reveals both intelligences operate with The Takedown Machine, creating **a mirror war where each side uses identical weapons for opposing purposes.**

The harmonics analysis provides further evidence that **both intelligences used different harmonics in the Visionary Extermination Sequence** with precision, despite operating without conscious knowledge of the scripts. We see that the most **common harmonics used by the institution is Stalling and Extermination**, the two most aggressive harmonics, and **the visionary countered** with **Withdraw, Redirect, Rising Star (doing excellent work), and Isolate harmonics**. The pattern emerges in these comparisons… the institution moved against the visionary, the visionary simply stepped out of the line of fire, and they collapsed into the most reckless and aggressive harmonics. Most surprisingly, when you account for the stability provided by the institution and the complexity provided by the visionary, the definedness scores arrange into the order of the Visionary Extermination Sequence, showing that the institution and visionary generate the sequence together, not one or the other.

Table 10

Bivariate Correlations Among Variables Showing the Universality of the Four Instruments of Suppression

Variables		1	2	3	4	5	6	7	8	9	10	11	12	13
1	Stability	-												
2	Complexity	-.01	-											
3	Definedness	**.60**	**-.64**	-										
4	Character Count	.02	.04	-.01	-									
5	Word Count	.03	.05	-.01	**.99**	-								
6	Word Length	.02	.04	-.04	.08	.01	-							
7	Politeness	-.04	.07	-.05	**.50**	**.52**	-.02	-						
8	Directiveness	-.01	.06	-.03	**.49**	**.48**	.05	**.30**	-					
9	Aggression	.03	-.02	.02	-.11	**-.13**	.05	**-.72**	**.45**	-				
10	The Institution	**.79**	-.07	**.47**	.03	.04	-.04	-.01	.09	.07	-			
11	The Misalignment	**.88**	.03	**.53**	.01	.01	.06	-.05	-.08	-.02	**.42**	-		
12	The Agent	-.08	**.77**	**-.50**	.10	.10	-.06	.07	.07	-.01	-.08	-.05	-	
13	The Progress Rate	.04	**.88**	**-.56**	-.01	-.01	.10	.06	.04	-.03	-.04	.08	**.36**	-

Note. n = 262. Bivariate Pearson correlations among notable variables. Bolded correlations are significant at α = .05. I colored the cells green as they approached 1 and red as they approached -1. The instruments correlate strongly to the calculated stability scores for The Institution and The Misalignment and complexity score for The Agent and The Progress Rate, with no significant cross-correlations. We can also see that the stability instruments are positively correlated with the definedness of The Takedown Machine whereas the complexity instruments are negatively related to it, which means that the institution was fighting to preserve The Takedown Machine, but the visionary kept countering that definedness.

When we examine the bivariate Pearson correlations, we see the most critical empirical evidence in this entire study: **the complete absence of correlations between suppression dynamics and surface-level communication behaviors showing that these phenomena are universal organizational principles rather than context-specific confounds**. The highlighted correlation box shows that stability, complexity, and definedness remain **completely independent of communication length, timing, politeness, directiveness, or aggression**—demonstrating that suppression operates through fundamental structures that transcend visible surface phenomena; these dynamics exist **underneath the behavioral scripts, but they are not the same thing as them**. You cannot see stability and complexity in an email; it only emerges as the harmonic of interactions among all four instruments.

To further support this universality, a comprehensive comparative analysis between the visionary and the institution reveals one of the most extraordinary findings: the two intelligences in systematic conflict **operated with statistically identical behavioral signatures across virtually every measurable dimension,** except **the institution was more aggressive** ($\eta^2 = .018, p = .029$). When comparing the emails, there were no significant differences across timing, volume, linguistic complexity, politeness, or directiveness ($ps > .123$). This equivalence shows that **these principles do not emerge directly from any observable indices**, only in their interactions.

Table 11

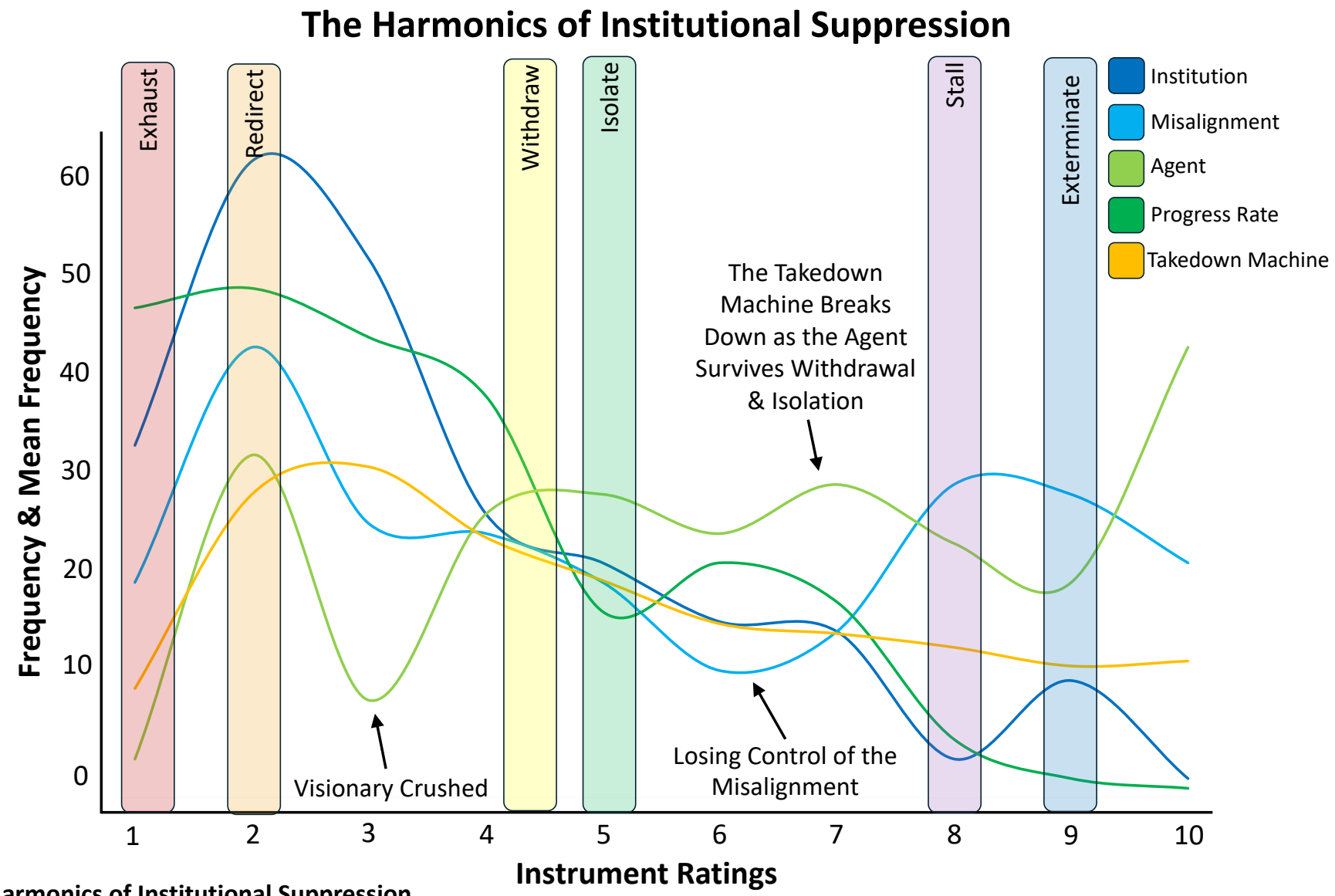
R^2 Analysis of Variables by Time

	Time	Days	Hours
Linear			
Stability	**17.10%**	**15.90%**	0.00%
Complexity	0.00%	0.10%	**1.60%**
Definedness	**9.10%**	**7.10%**	0.40%
Cubic			
Stability	**19.80%**	**15.90%**	0.20%
Complexity	0.20%	0.20%	1.60%
Definedness	**9.90%**	**7.10%**	0.60%
Linear			
The Institution	**12.30%**	**9.20%**	0.90%
The Misalignment	**11.60%**	**12.20%**	0.50%
The Agent	0.70%	0.50%	0.60%
The Progress Rate	0.60%	1.10%	**2.20%**
Cubic			
The Institution	**15.30%**	**9.20%**	1.50%
The Misalignment	**14.00%**	**12.20%**	1.60%
The Agent	1.20%	0.50%	1.20%
The Progress Rate	1.20%	1.10%	2.60%

Note. n = 262. Regressions of the behaviors of the instruments and the calculated scores over time. The three-time variables are 1) Time – the exact order the emails occurred, 2) Days – the days of the week, and 3) Hours – the 24 hours in a day. Bolded correlations are significant at α = .05. I colored the cells green as they approached the highest value to see the heat map.

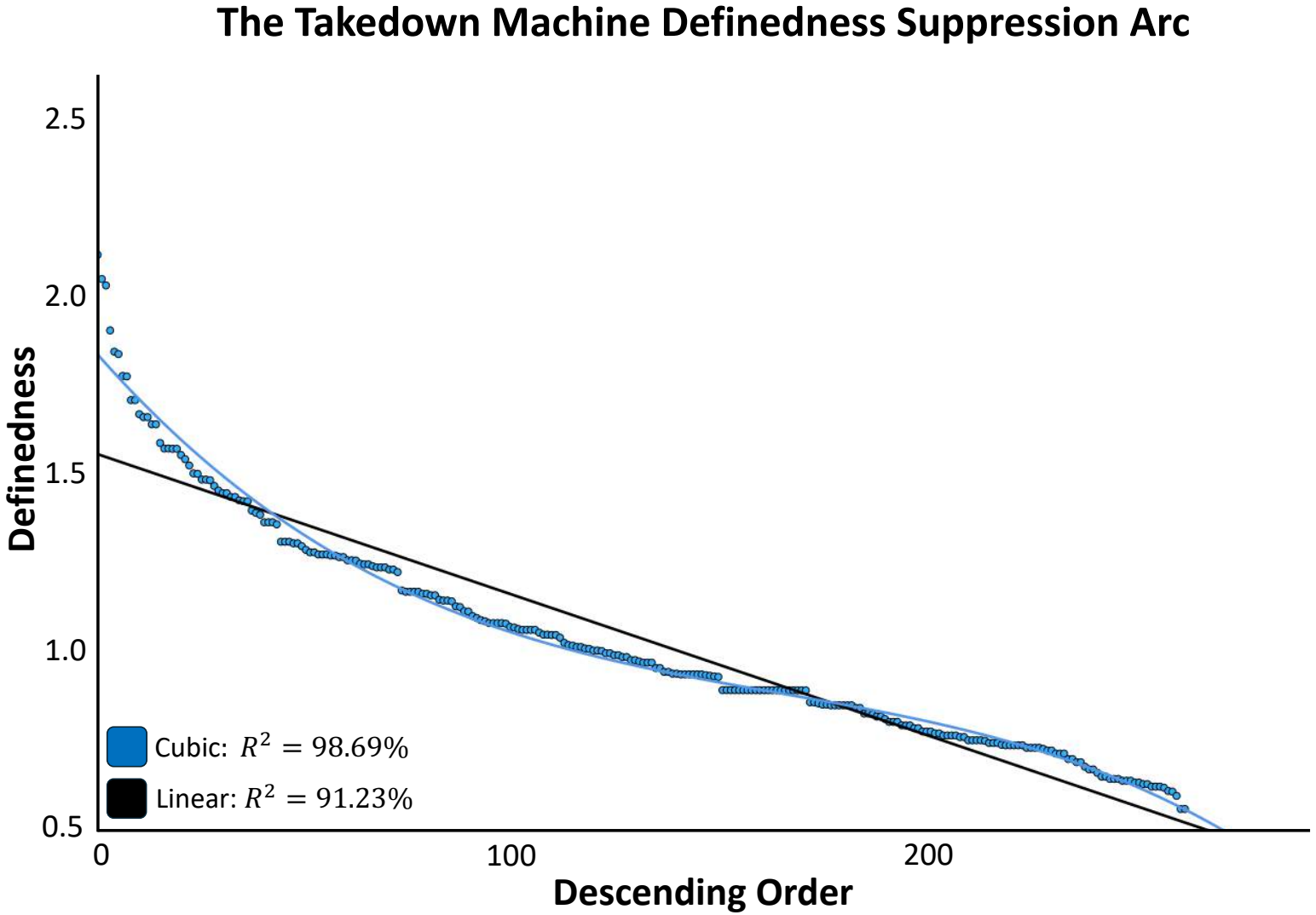
When we examine consistency by correlating scores for each phenomenon from one timepoint to the next, we see that **stability exhibits significant consistency** ($r = .165, p = .007$), showing that **institutional responses maintain predictable patterns** that preserve systematic operations; whereas **complexity shows no significant consistency** ($r = .014, p = .823$), indicating **response freedom to vary without constraints**. These statistics seem innocuous, but they present a horrifying truth: **the only one making strategic, conscious, decisions** that consider the intricacies of the context **is the visionary, while the institutions pushes forward the same way in all situations** to maintain its stability–it is why institutions freeze and panic when someone breaks their scripts and hierarchy… **they have no clue how to behave otherwise because no one is steering the ship**.

The time series regressions confirm the horrifying pattern that **institutional actors operate through script execution rather than strategic adaptation**. The strong correlations of behavior for institution show consistency over time and days, but no consistency throughout the day; it can respond systematically over time but **remains completely incapacitated to daily tactical variations**. They are simply **not mentally present** for those interactions because the scripts work best when you do not know you are using them. We can see that the visionary complexity allows for resistance **by maintaining strategic unpredictability and exploiting natural rhythms**, preserving tactical freedom by **refusing the roles in their predictable scripts**, leaving the institution stunned, unprepared, and incapable of forming strategic responses with tactical variation. Alrighty… I have had enough fun messing around… **let's rip the whole top of The Takedown Machine.**



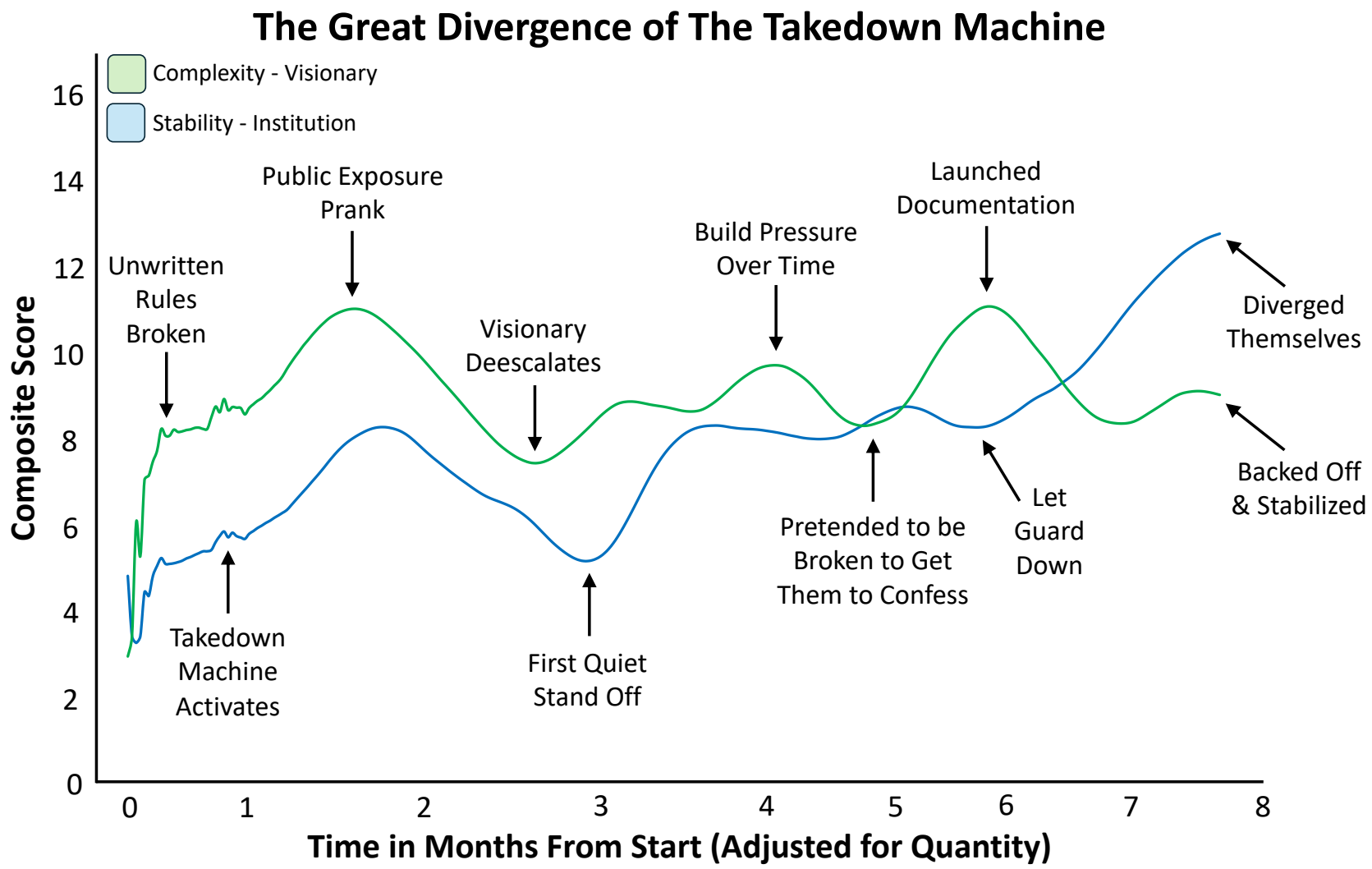
The Harmonics of Institutional Suppression

This figure documents the complete lifecycle of systematic suppression, revealing how The Takedown Machine escalates through six predictable phases with mechanical precision—from efficient early coordination during Redirect through the critical breakdown point during Withdraw where agent survival triggers desperate resource escalation, culminating in an isolation panic, a stall period where they are paralyzed because their scripts won't work, followed by an exterminate attempt, which may remove the visionary, but most often it just leads to self-divergence and collapse.



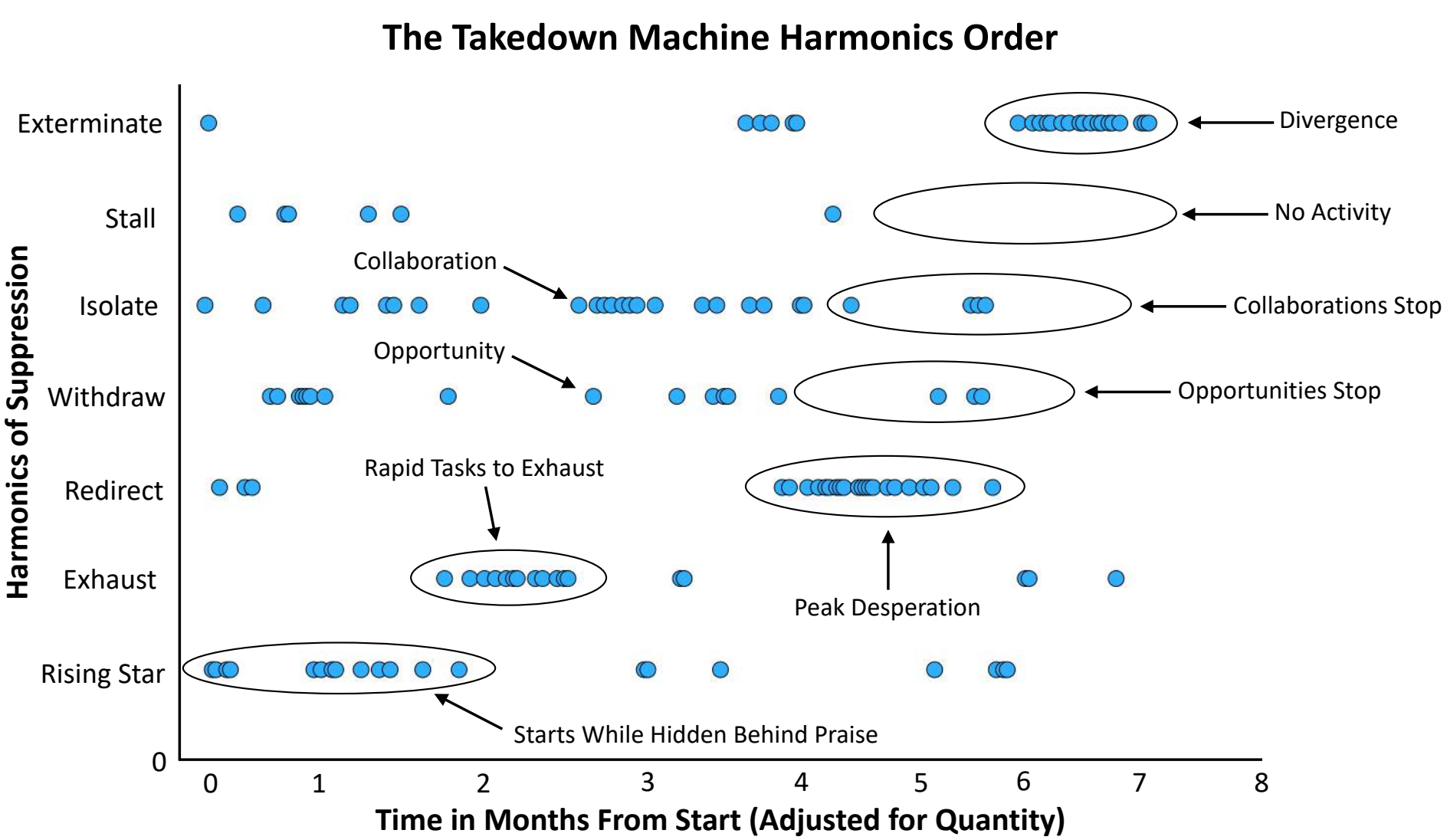
The Cubic Emergence Curve Once Again

I calculated the definedness of suppression using *The Equation of Existence* by calculating Stability (Ω = The Institution + The Misalignment) and Complexity (Δ = The Agent + The Progress Rate), then transforming the output into *t*-scores, calculating definedness ($\Phi = \Omega/\Delta$), ordering them from largest to smallest definedness, then I ran a linear and cubic regression. This figure shows the same cubic emergence curve we have seen throughout *The Show of Existence,* now appearing in the suppression arc of The Takedown Machine. The cubic regression beats out the linear regression, producing a nearly perfect fit, showing that institutional suppression operates using the same mechanics as everything else in existence.



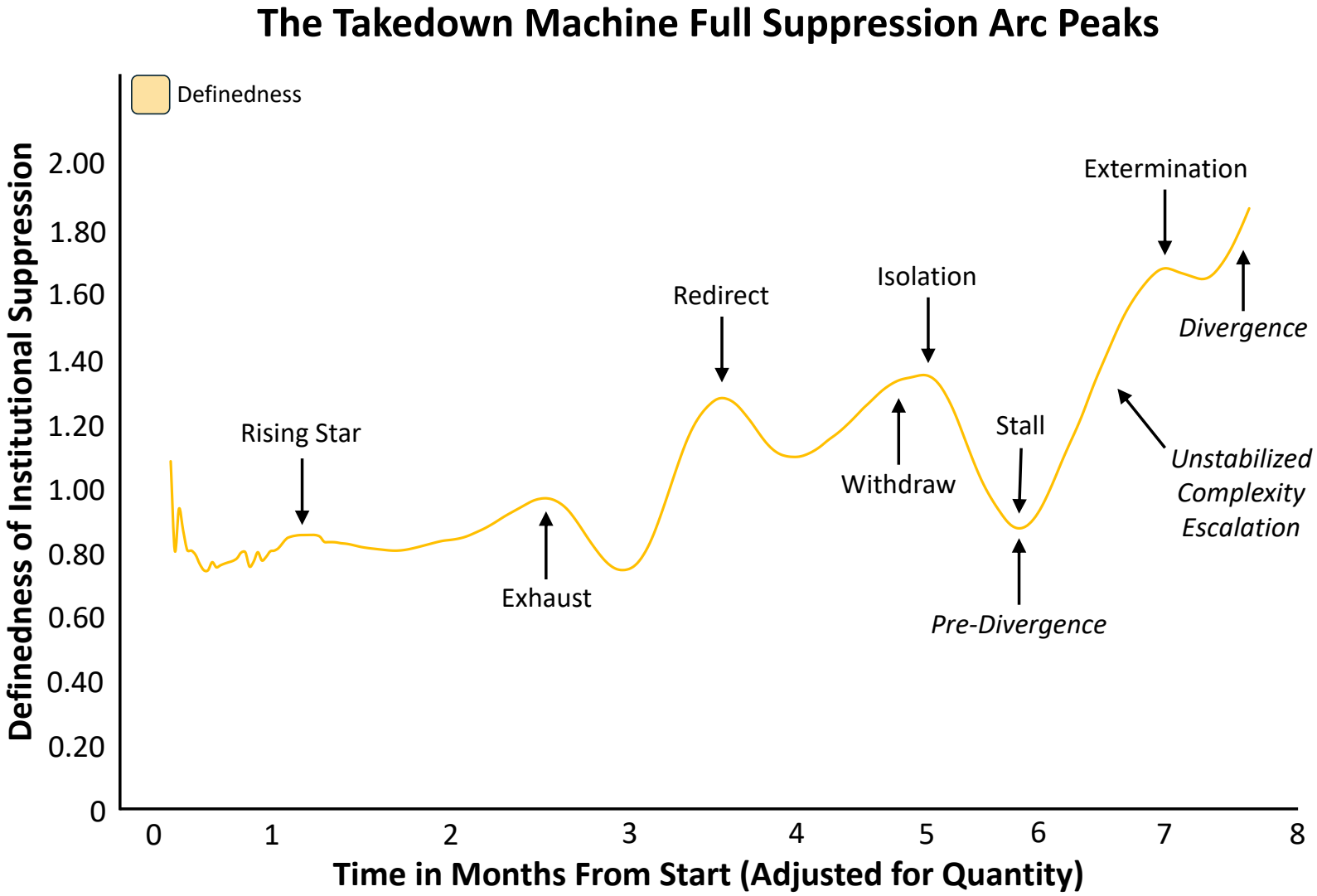
A Case Study in Collapsing The Takedown Machine (20 Email Rolling Average)

This figure captures the strategic interactions between the visionary and the institution in the evidence archive, documenting how calculated moves like "Public Exposure Prank," strategic deception through "Pretended to be Broken," and the devastating "Launched Documentation" after they “Let Guard Down” to exploit institutional psychology and force the dramatic stability-complexity divergence transforming organized suppression into chaotic institutional breakdown. The final move of the visionary pulling back and stabilizing is what cause the institution to overextend, diverge, then collapse.



Empirical Confirmation of The Takedown Machine Harmonics & Order (Institution Emails Only)

This figure shows the sequence of the order of the harmonics of suppression. It starts off in the background while rising star (praise and positive feedback) occurs in the front meanwhile in the back we can see The Takedown Machine was already running almost the full harmonics, which is why it comes out of nowhere for people. The tactics all start at once except exhaust, which then comes second in rapid succession. There is an intense redirection period followed by isolation and withdraw failing, leading to stalling, and then, the extermination causing divergence. You can get the same order of harmonics by measuring their presence in emails and their absence in time because definedness measures the institutional behavior.



Empirical Confirmation of The Takedown Machine and The Visionary Extermination Sequence (20 Email Rolling Average)
This figure provides the definitive mathematical signature of The Takedown Machine as we hypothesized using *The Equation of Existence*, showing how smooth definedness progression from a balanced operation through systematic escalations, checks for realignment, then initiating the next harmonic in the Visionary Extermination Sequence with increasing aggression that leads to self-divergence. Extreme suppression occurs when The Takedown Machine breaks, revealing a system failure rather than operational success that follows a quantifiable algorithm with mathematical vulnerabilities.

These three visualizations provide **the most comprehensive, real-time documentation of institutional suppression** ever assembled, revealing **The Takedown Machine's complete operational cycle with unprecedented transparency**. The harmonic progression exposes how institutions systematically escalate through predictable phases—from efficient early suppression through the critical failure point after Withdraw fails, where The Takedown Machine panics from script deviations and survival triggers desperate resource expenditure and recklessness. The timeline documenting the strategic chess match shows how **calculated moves** such as **baiting public exposure, acting out of their scripts to fool them,** and **rapid complexity escalations** (launching documentation) **by lulling complacency systematically force The Takedown Machine to malfunction and implode**.

Across these figures, we can see **every pattern, every escalation threshold, every vulnerability… now visible to anyone facing institutional suppression**. The harmonic visualization shows exactly when The Takedown Machine enters crisis mode, the divergence timeline documents precisely how strategic deception and controlled escalation force institutional over-extension, and the suppression arc reveals the structure in what was once chaos and invisibility. The Takedown Machine only has this one predictable algorithm… and it has multiple exploitable failure points. Future targets no longer face the unknowable—we have the complete empirical roadmap for understanding and countering The Takedown Machine. **The age of invisible suppression is over.**

The Big Picture

The most powerful weapon against The Takedown Machine is not confrontation, resistance, or even superior tactics… **it is the simple refusal to participate in the scripts and legitimacy theater that sustains institutional power**. When you stop treating certain people as inherently more important, stop automatically assigning qualities to people they do not have but their roles imply, stop participating in the predictable script-reinforced behaviors that create institutional stability—the entire machine stalls and then collapses. **The empirical data show that institutional authority exists only through our collective willingness to grant it.** The moment you withdraw, treating institutional actors as ordinary people, their suppression capacity collapses, and they diverge themselves desperately try to maintain control with **the handful of tools that require others to play along**.

The Takedown Machine operates through darkness, secrecy, and the comfortable myth that institutional problems are isolated incidents rather than systematic behaviors, but… we need to remember that **corruption cannot survive transparency**. When you document everything, share everything, break their scripts, refuse to keep institutional secrets, **the machine's most essential weapon—plausible deniability—evaporates**. This study represents the first time in human history we have complete empirical evidence of the complex institutional suppression apparatus that has stalled solutions, crushed visionaries, stolen hundreds of legacies, and limited the entire progression of humankind to preserve the stability of the power, money, prestige, reputations, and resources that we give these institutions who say they are searching for answers while suppressing innovation to preserve their status quo. **The empirical findings are devastating to all claims institutions make about fairness, merit, and protection of innovation**. The Takedown Machine's power is clearly not its strategies, but its **operation in the shadows, outside of our awareness**, while we are convinced our destruction is a good, moral thing.

We stand at an unprecedented moment in human history where information flows faster than suppression mechanisms can deploy, where individual voices can reach global audiences without institutional gatekeepers, and where transparency tools make real-time documentation of corruption inevitable. The Takedown Machine was designed for the old world where institutions-controlled information flow and could suppress threats. **That world no longer exists.** From visionaries to victims, we now possess the tools to bypass institutional gatekeepers, to build direct relationships with global audiences, and to document any suppression attempts with sufficient precision to destroy credibility. The Takedown Machine is not just breaking; it's increasingly obsolete. We are not powerless; their ancient machine is not invincible, and now… we have turned the lights on in the whole house. So, as a parting message for you after this dark whirlwind of a paper, I want you to remember just one thing, dear reader… **you do not have to fight corruption to beat it, you just need to bring it into the light…**



Act VI: Welcome to the Fractal Universe

September 13th, 2025, Update; 1:20 PM

On a Balcony in California, Dreaming

Heyyyyy fellow revolutionaries, how've you been? In our day-to-day lives, it's hard to see the mechanics of existence. Yet… when you zoom all the way out… to the farthest edges of space… these mechanics shine. Allow me to illuminate the darkness with **Paper 4: Illuminating Dark Matter & Energy: Living in a Fractal Universe**… and show you the beauty and complexity of this place we call home…

Illuminating Dark Matter & Energy

Living in a Fractal Universe

Written by Bryant Stone (*The Architect*)

Overview

The two most profound cosmological mysteries that have long eluded **scientific understanding are dark matter and dark energy**. Despite decades of research, thousands of brilliant scientists, billions of dollars in funding, and the most advanced technologies ever created, **we have yet to detect these phenomena directly**. We can only observe them indirectly—**dark matter** through **galactic rotations** that prevent galaxies from disintegrating under their own spin, and **dark energy** through **the universe's expansion**. Why do these mysterious components continue to evade us? The answer is revolutionary: **dark matter is not matter, and dark energy is not energy**. Scientists have often misunderstood these phenomena, which explains their elusive nature. In this paper, I show how our **universe is fractal**, operating through **recursive propagations (RPs)—a discrete and finite alternative to spacetime**. **Dark matter is bounded RPs** existing within the fractal memory of existence called *The Record*, forming convergence and divergence zones. *The Record* provides coherence and structure for all things, including galaxies, **explaining why gravity alone cannot account for galactic stability**. **Dark energy is unbounded RPs** existing only in empty space and light, revealing that the universe does not expand through force, but **unfolds as an inherent requirement of existence,** recursively updated. By analyzing galactic spin rotation data (SPARC), supernova expansion data (Pantheon+), and the life cycle of stars (Gaia DR3 Archive), **I empirically confirm the fractal universe**, with over $\mathbf{96\%}$ **of observed velocity** by radius explained in galactic rotations and $\mathbf{95\%}$ **explained for supernova** expansion using only the cubic regressions predicted by *The Theory*, no adjustments, infinities, or hypothetical particles, forces, or computational fudge factors—results impossible in continuous spacetime models. I further show that it is not just the universe that is fractal, but the phenomena in it, with a **cubic trajectory in the life cycle of stars,** nearly double the linear trajectory. These findings illuminate the darkness of the cosmos, allowing us to finally see **the beauty of our fractal universe** and **what it is like to live in it**.

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Background & Findings

Our universe is just… **breathtaking in its profound beauty and wonder**. When we gaze into the cosmos, we encounter nebulae and galaxies of such vast scales that they challenge our human comprehension. Humanity, time and time again, **has surpassed what we even thought was possible**, launching technologies into space to see things we never thought we could see… and to understand things we thought we could never understand. Yet, behind these awe-inspiring moments remains a fundamental mystery: **how a majority of the universe works**. **This enigma permeates every observation**, appearing strikingly when we gaze into the distant universe.

Using the most advanced technologies, cosmologists have uncovered a **remarkable mystery**. According to our best estimates, **only** $\sim\mathbf{5\%}$ of the universe **consists of observable matter and energy**. This stuff makes up everything familiar to us: people, objects, and natural phenomena. The remaining $\sim\mathbf{95\%}$ **remains a profound mystery**. Despite the use of sophisticated instruments and extensive research, scientists have been unable to detect or measure these missing components. **They do not appear** in any telescope, electromagnetic scan, or space

probe—**they are simply… absent**. Scientists have termed this enigmatic $\sim 95\%$ **"dark matter**" and "**dark energy**." The fundamental question remains: Why is most of our universe fundamentally unknowable and invisible to our most advanced scientific efforts? **What are we missing or doing wrong? What's going on in our universe?**

Cosmologists and physicists have developed sophisticated theories to address this cosmic puzzle. The prevailing explanation for **dark matter proposes an undiscovered particle** that provides additional mass to galaxies, thereby **adding significant gravity to hold them together**. Observations show galaxies spinning at speeds that should theoretically tear them apart, yet they remain intact—a phenomenon attributed to dark matter. Current models estimate **dark matter comprises approximately $\sim 27\%$ of the universe**.

Dark energy proposes an unseen energy that explains the universe's expansion. Researchers theorize that an unknown force is causing galaxies to move apart at increasingly rapid rates. Although we can observe its apparent effects in the expanding universe, we have never measured this energy, despite its **estimated presence of around $\sim 68\%$ of the universe**. Despite remarkable technological advancements, **dark matter particles and dark energy forces remain undetected**, raising profound questions about our understanding of the universe.

Living in a Fractal Universe

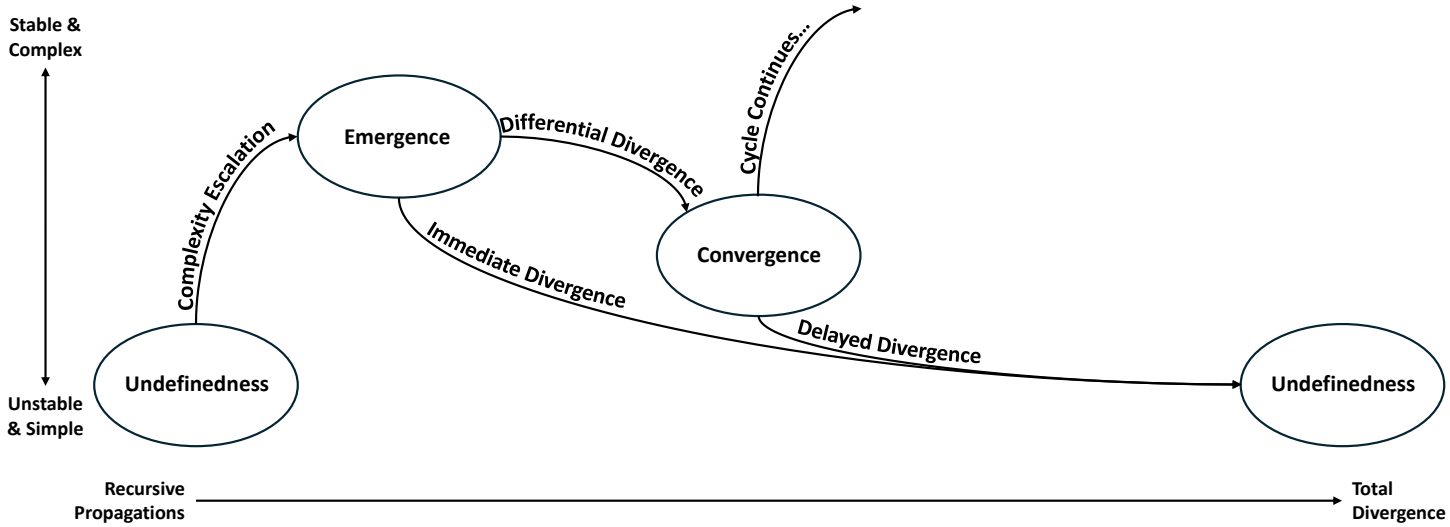
The Theory of Existence (you can see the whole model in *The Theory of Existence* book) offers a **mathematically formulized, empirically supported, theoretically consistent** explanation of these mysterious phenomena. Let's start with the shape of the universe, which has long intrigued scientists, with various theories proposed—flat, infinite, round, or slightly curved—yet none have definitive empirical confirmation due to the universe's size. According to *The Theory*, the **universe is fractal and finite**. Fractals are **natural patterns of self-similarity**: recurring phenomena that remain consistent across scales. In math, fractals are infinite; however, **we have never seen infinity**, so fractals in existence have **minimums (Planck units)** and **maximums (I will demonstrate later).**

Consider how similar structures appear across diverse systems: the branching of neurons in the brain, tree limbs, river networks, and the interconnected filaments of galactic superclusters **all share remarkably similar organizational principles**. The universe's shape, therefore, resembles a vast network of interconnected galactic branches—large filaments linking cosmic structures. This fractal nature manifests through a process called **Emergence-to-Convergence (E2C),** a concept explored in depth in Paper 11: The Dance of Stability & Complexity: The Equation of Existence as the Universal Lens. The critical insight is that **self-similar characteristics generate consistent patterns across seemingly disparate phenomena,** explaining phenomena such as why animals share symmetries, why natural forms emerge repeatedly, and why complex systems often develop similar structures.

The Composition of the Fractal Universe

Now that we see that the universe is fractal, let's talk about what's in it. There are **three types of "things"** in the universe. The first one is what **makes up us and all other observable matter and energy**. Thanks to $E = mc^2$, just an obscure equation you may have heard about once, we can deduce that **all observable matter and energy emerged from, at one point, light (photons)** that escalated complexity into more complex forms of energy and eventually mass. The **photon is the most fundamental unit** of complexity in existence. Nothing that exists is less complex than light, and it shares its properties with empty space, further supporting its essential nature.

Einstein's famous equation shows us that **energy (light) and mass (matter) are interchangeable**. Given what we know about star formation, **when enough light interacts with itself and starts stacking**, it turns into hydrogen, helium, and then all the other elements in the periodic table of elements from stars and other chemical reactions throughout the universe. When it turns into iron in the star's core, **the star will supernova and blast that matter and energy all through the universe**, leading to everything we see, including you and me. This finding means that, for ease of communication, **I refer to all observable matter and energy as "lumen,"** which is Latin for light. The other two phenomena that comprise the universe are what we call dark matter and dark energy, which I will explain in more detail later. But first… let's talk about these proportions of 5% **lumen to 95% dark stuff**.



Caption: This figure illustrates the cyclical nature of emergence, convergence, and divergence governed by recursive propagations. 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 recursive propagations have not yet aligned to form stable complexity. The figure illuminates *The Theory of Existence's* revolutionary premise: reality operates as a seamless, interconnected system governed by universal principles of recursive propagations following patterns of emergence-to-convergence (E2C). *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. *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 dance. 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.

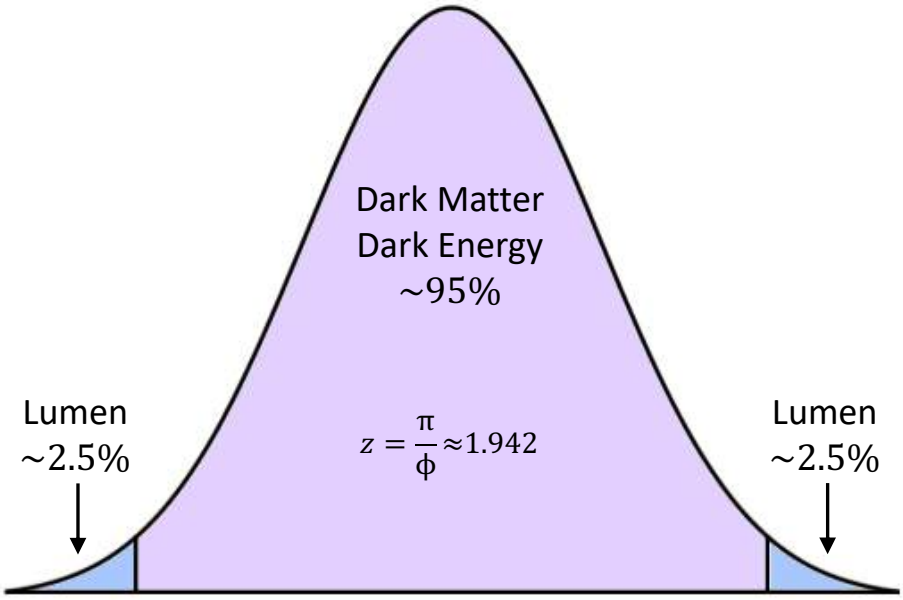
The Math of the Fractal Universe

Everywhere we observe existence, we encounter something called the **normal distribution**—a statistical pattern that describes how frequently events occur, typically visualized as a **bell-shaped curve,** as shown below. In this distribution, **most occurrences cluster around the center**, with fewer events appearing at the extreme edges of the curve. These edges, or "tails," represent rare instances with either very high or very low values, while most events fall between these extremes. Imagine this bell curve folded in half, with both tips touching each other.

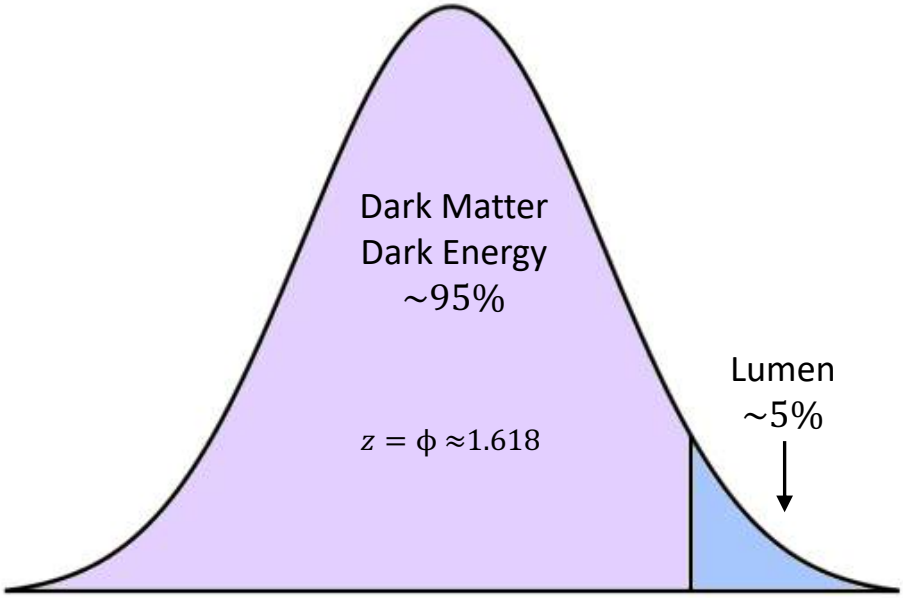
This visualization transforms **the two-tailed distribution into a one-tailed distribution**, creating a half-curve with a single extreme. When the distribution is **spread out** with extremes on both sides, we call it a **two-tailed** distribution. When **folded**, it becomes a **one-tailed** distribution. Hold onto this concept as I introduce the signal-to-noise ratio—a critical measure that helps us understand how we interpret these patterns of occurrence.

There is a statistical concept called the **significance value, $\alpha = 5\%$**, which is also known as the **signal-to-noise ratio**. Statisticians, after conducting tests and studies, observed that when we reduced the error of making a mistake, the statistics suddenly worked more effectively, and we saw fewer false positives. It was like the signal-to-noise ratio of $1/20$ seemed to crack the code of existence. Why? Well… there's a reason it's set to 5%.

If we go back to see a two-tailed normal distribution, we will see 2.5% on both extremes of the normal distribution. When we fold it in half to obtain a one-tailed distribution, we see that the $\sim 5\%$ is at the end, allowing us to experience the signal-to-noise ratio that occurs when reality locks in. It seems suspicious… doesn't it? Is it a coincidence that **the best signal-to-noise ratio is $\sim 5\%$ and the percentage of lumen in the universe is also $\sim 5\%$?** Let's bring in the magic of a mathematical constant and universal architecture called… the Golden Ratio.



Two-Tailed



One-Tailed

The Golden Ratio, denoted by the Greek letter φ (phi) and approximately equal to ~ 1.618, is **a mathematical marvel that appears throughout nature with remarkable consistency**. This number represents a proportion that seems to be a fundamental organizing principle of the universe, transcending simple mathematical abstraction. In nature, **the Golden Ratio manifests in astonishingly diverse ways**. In botany, we observe it in the spiral arrangements of sunflower seeds, the branching patterns of trees, and the leaf distributions that maximize sunlight exposure. In the animal kingdom, it appears in the proportions of bodies, from the spiral of a nautilus shell to the bone structures of creatures. **Everywhere we look… we see it…**

Mathematically, the Golden Ratio represents **the most aesthetically pleasing and structurally efficient proportion**. When a line is divided into two segments such that the ratio of the whole line to the larger segment equals the ratio of the larger segment to the smaller, we get φ. **This proportion creates a sense of natural balance and harmony that seems to optimize growth** because of its magical property of $\varphi^2 = \varphi + 1$. In cosmic structures, we see the Golden Ratio in the sweeping spiral arms of galaxies, suggesting it is the fundamental principle of existence. From the microscopic to the astronomical, this ratio provides a template for efficient progression. It creates **a robust balance between stability and complexity**—providing just enough structure to support the next escalation of complexity while remaining stable enough to ensure its persistence.

$$f(x) = \frac{1}{\sigma\sqrt{2\pi}} e^{-\frac{1}{2}\left(\frac{x-\mu}{\sigma}\right)}$$

The normal distribution contains an equation, which I have shown above; though, you do not need to know the specifics of this equation to understand the fractal universe. Let me show you what happens **when we plug in the Golden Ratio** $(\boldsymbol{\phi})$, and what I call the **Boundary of Existence** $(\boldsymbol{\pi/\phi})$ into the normal distribution equation.

$$\text{One-Tailed: } f(\phi \approx 1.618) \approx 5\%$$

$$\text{Two-Tailed: } f\left(\frac{\pi}{\phi} \approx 1.942\right) \approx 2.5\%$$

Indeed, this mathematical outcome is **not a coincidence**. It represents a profound indication of how the normal distribution operates, **revealing insights about the unseen 95% of the distribution**. The Golden Ratio guides optimal, proportional growth across numerous natural systems. For existence itself, **it serves as the fundamental growth proportion** when all phenomena align perfectly, guiding the proportions of the fractal universe.

This mathematical framework **explains why we observe only $\sim 5\%$ lumen**. The calculations of proportions are correct, and they illuminate how **existence unfolds using the normal distribution and the Golden Ratio** as core operating mechanisms. These intricate mathematical relationships demonstrate that the seemingly mysterious **5% is a deliberate structural principle of how complexity emerges and stabilizes**. The precise alignment of statistical probability and lumen suggests a deeper underlying order to the fractal universe. Now that we understand the origins of these proportions, let's explore the dark matter and dark energy of the other $\sim 95\%$.

The Wonder of ~~Spacetime~~ Recursive Propagations

For decades, scientists have invested immense resources—employing the world's top experts, cutting-edge technology, and billions of dollars—**in the search for measurable evidence of dark matter and dark energy**. The persistent inability to detect these phenomena raises a critical question: **If these substances truly exist, why haven't we found them?** It is clearly ***not*** **a matter of scientific incompetence**. The most reasonable explanation, then… for this decades-long mystery is that our fundamental understanding is flawed. In *The Theory*, **dark matter is not a form of matter composed of particles, and dark energy is not energy composed of forces**. Had there been simple, discrete entities for these phenomena, our sophisticated detection methods would have certainly identified them by now. So… **if they are not what we initially thought, what are they?**

Let's talk about the replacement for spacetime before I get into the explanation of dark matter and dark energy. **Time as we know it… well… it doesn't exist;** at least, not the way we thought it did. All of physics is currently built on **the entire*ly* untested assumption of spacetime continuity**—literally referred to as the continuity assumption. **There is no evidence that time and space are continuous**, meaning that we have never shown that existence is infinitely divisible and smoothly connected. The continuity assumption has caused issues with the scaffolding built upon it. If there is no evidence of continuity, then we need **a discrete alternative to spacetime**.

The alternative replaces time with something called **recursions**, where **the output of one event serves as the input for the next**. Recursions are discreet, iterative ticks, which means that even though time is moving forward, **each recursion has a starting point and a stopping point**. The alternative replaces space with something called **propagations**. Propagations are discreet, finite points you reach as you zoom all the way down to as small as you can see. **Each propagation has a starting point and a stopping point**, which our current model of space does not have (you could conceptualize propagations as the smallest units of space, like **pixels of reality**). Recursions and propagations are two ways existence behaves, and existence does so simultaneously (as current physics supports), so **instead of saying spacetime, we would say recursive propagations**—the fundamental mechanics underlying existence. I call them RPs for short. There are two types of RPs, as shown below:

$$\text{Dark Energy} \rightarrow \text{Unbounded RPs } (\sim 68\%)$$

$$\text{Dark Matter} \rightarrow \text{Bounded RPs } (\sim 27\%)$$

$$\text{Observable Matter \& Energy} \rightarrow \text{Lumen } (\sim 5\%)$$

$$\text{Bounded RPs} = 26.5\% * \Phi^2 \text{ (Complexity Escalation Term)} = \text{Unbounded RPs } (69\%)$$

Unbounded RPs are only found in empty space and light. These parts of existence are the reason the universe is expanding. These RPs move at the maximum rates, with is $\sim 10^{35}$ propagations per meter $(l_P = \sim 10^{35}\, p/m)$ and $\sim 10^{44}$ recursions per second $(t_P = \sim 10^{44}\, r/s)$, which is the speed of light using the Planck units. In current physics, people say that beyond the Planck units, "measurements break down" and not "existence stops here," and the reason they do that is to preserve the infinite divide of spacetime continuity. Still, there is no

evidence that time and space are continuous, and so when we see existence as discrete, **these limits become the structural bedrock of existence**. It is why nothing can travel faster than the speed of light.

There is another conceptual misunderstanding currently prevalent in physics and philosophy that has limited our understanding of the universe, **where people treat the vacuum of empty space as the default state of nothingness**. They say that non-existence is what happens in the vacuum of empty space. This conceptual error leads to a massive host of problems, and it is incorrect because **if something can exist in it, then it exists**. Empty space has its own properties that non-existence does not, which means **it exists as unbounded RPs with their own behaviors**. True non-existence would have no properties, would not be visible to see, would not be able to hold anything, a concept I call **undefinedness,** which you can read more about in Paper 2: Introducing Undefinedness: That Is, If Undefinedness Was Something That Could Be Introduced—But It's Not.

Relative Fractal Dynamics & The Cubic Regression

Relative fractal dynamics (RFDs) **are the discrete equivalent of spacetime dilation in general relativity**. We can use the fully expanded form of *The Equation of Existence* to calculate the RFDs of any given phenomena by normalizing to the Planck units and using **Planck energy as complexity, Planck time as recursions, and Planck lengths as propagations**. This approach allows us to analyze any phenomenon by converting measurements to their most fundamental units. By using Planck units—the smallest meaningful units of measurement in physics—we establish **a standardized framework for understanding how various phenomena evolve and interact** within the fractal universe. Let's look at the expanded form of *The Equation of Existence*.

$$\Phi = \Omega * \left(\frac{(\kappa : \zeta)}{\Delta}, \nu = x \right) \vee \emptyset$$

$$\text{Definedness} = \text{Stability} * \left(\frac{(\text{Propagation} : \text{Recursion})}{\text{Complexity}}, \text{Normalized} \right) \text{Else Undefinedness}$$

This expanded form of *The Equation* contains the **entire mechanics of existence**. However, we are only interested in the RFDs of phenomena (like planets and stars), so we need that normalized complexity portion.

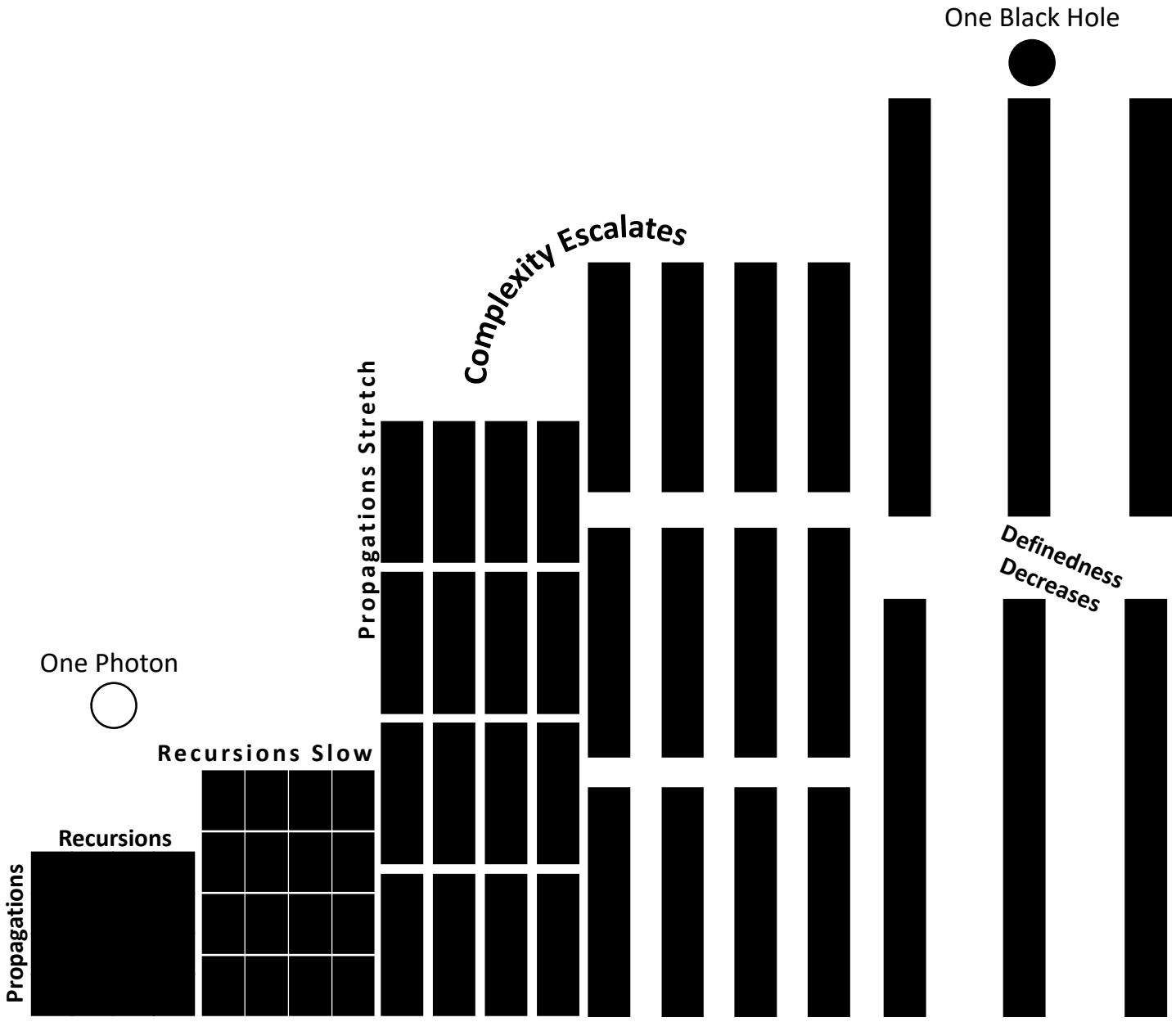
$$\frac{(\kappa : \zeta)}{\Delta}, \nu = x \rightarrow \psi = \frac{l_P \ : \ t_P}{E_p}$$

There is the RFD formula. Let me demonstrate how it works through a concrete example using an apple. We begin by **converting the apple's mass into Planck energy**, then divide the unbounded RP rates (maximum, the speed of light) using the Planck unit numbers for time and length. When you perform the calculation, **you'll observe that both sets of numbers drop evenly**—a remarkably precise result showing that time and space move in proportion to each other and **never break the speed** of light despite recursions slowing and propagations stretching. This consistency explains **why nothing can travel faster than the speed of light**. Further, the calculation shows that unbounded RPs are the default state of the universe, operating in empty space and light only (which has no mass). When we introduce any mass or energy, the **unbounded RPs transform into bounded RPs**.

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

As complexity increases, **recursions slow, and propagations stretch** because of the strain the complexity puts on that part of existence—**it cannot as easily progress because of the burden the phenomenon puts on it**. An apple weighs ~ 0.2 kg, which we can transform into Planck energy, which would be $\sim 10^6 \ E_p$. Then, we simply calculate the RFD by dividing the unbounded RPs by the Planck energy of the apple. We can **repeat this process for any phenomenon,** no matter the size or domain of existence, to get a better feel for how bounded RPs behave at varying complexities. We can see here how the **relative recursion rates and propagation lengths**

change from a photon to extremes around the black hole. Let's look at examples of how RFDs vary across phenomena to show how this simple calculation unifies all phenomena **once thought to be incompatible or unrelated**. It will allow us to see the effects we once called time dilation using a discrete model of spacetime.



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.

Phenomenon	Mass	Planck Energy	Relative Recursions	Relative Propagations
Photon	0 *kg*	$1\ E_p$	$\sim 10^{44}\ \frac{r}{s}$	$\sim 10^{35}\ \frac{p}{m}$
Paperclip	0.001 *kg*	$\sim 10^{4}\ E_p$	$\sim 10^{40}\ \frac{r}{s}$	$\sim 10^{31}\ \frac{p}{m}$
Apple	0.2 *kg*	$\sim 10^{6}\ E_p$	$\sim 10^{38}\ \frac{r}{s}$	$\sim 10^{29}\ \frac{p}{m}$
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^{24} *kg*	$\sim 10^{32}\ E_p$	$\sim 10^{12}\ \frac{r}{s}$	$\sim 10^{3}\ \frac{p}{m}$
Sun	10^{30} *kg*	$\sim 10^{37}\ E_p$	$\sim 10^{7}\ \frac{r}{s}$	$\sim 10^{-2}\ \frac{p}{m}$
Black Hole	10^{31} *kg*	$\sim 10^{38}\ E_p$	$\sim 10^{6}\ \frac{r}{s}$	$\sim 10^{-3}\ \frac{p}{m}$

RFDs are a cornerstone of *The Theory*, offering profound insights into the nature of time, observation, and quantum phenomena. This variability explains relativistic differences in time perception, interaction, and quantum behaviors, **such as those seen in time dilation and the double-slit experiment**. Given the way the formula works, **the structure of existence follows a cubic curve pattern** where recursion rates and propagation lengths drop off quickly and taper off with more complexity, creating these **cubic curves in everything that exists**.

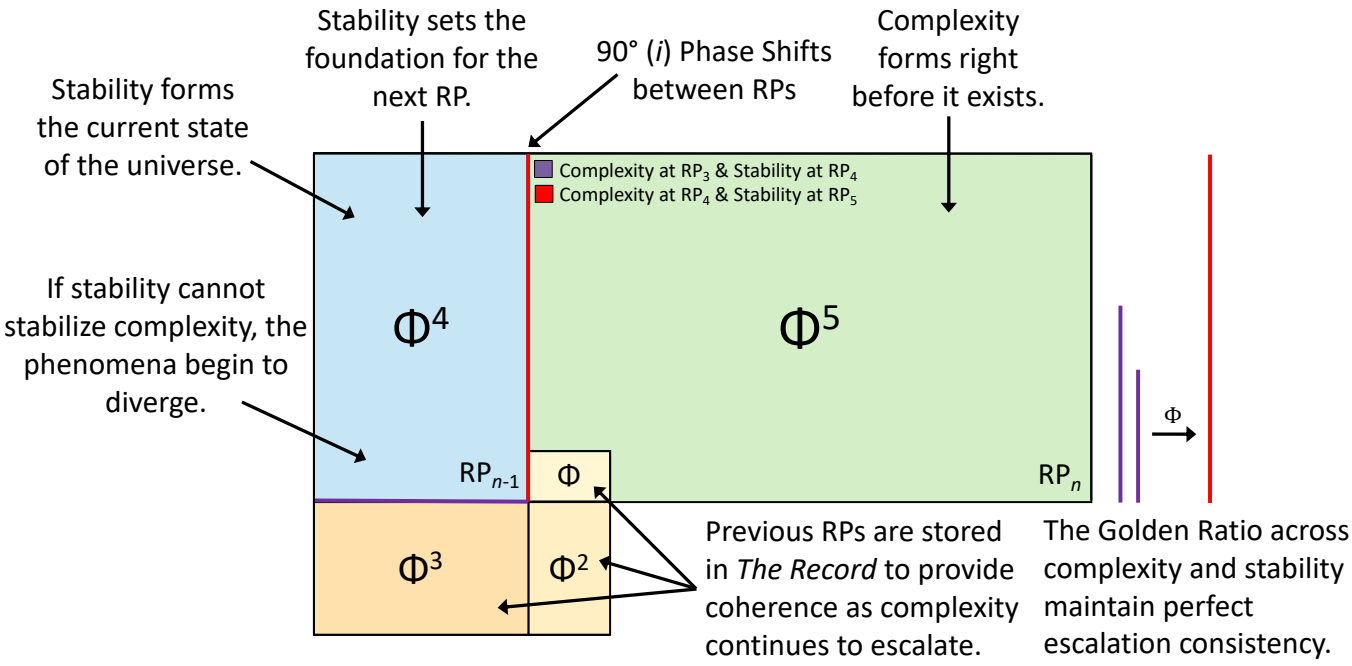
We have already seen the **cubic regressions dominate** all other distribution shapes throughout ***The Show***, and examining the fractal universe is no exception. This **cubic curve is only possible if there are discrete units of spacetime that change based on mass or complexity**; otherwise, there is no mechanism for controlling how this variation occurs, given that **there are no starting and stopping points** to guide the slowing and stretching.

According to **current models, spacetime is continuous and isomorphic,** meaning that everywhere in space is neutral and space is expanding in all directions. This model suggests that general relativity explains gravity and **predicts a linear relationship for gravity in an isomorphic universe**. Unfortunately, this continuous view of the universe has led to considerable problems in our current physics models. We are looking for those cubic regressions that only work if time and space are not continuous but instead recursive-propagative.

The Record: The Fractal Memory of Existence

If you want to learn more about *The Record* and what it is, look at Paper 11: The Dance of Stability & Complexity: *The Equation of Existence* as the Universal Lens. As lumen recursively propagates, it **transitions into bounded RPs in *The Record***, which we have been calling dark matter. I did not invent *The Record* or its concept—**I found it, time and time again**, in the simulations, in the math, and in the empirical evidence. Existence only works correctly when we acknowledge and use the concept of *The Record* (more on this concept in coming papers).

The Record is the recursive-propagative memory of existence that **stores all information into definedness itself, into that $\sim 95\%$ of the universe in the normal distribution**. Everything that has ever existed never actually stopped existing (it does eventually, but not until heat death). *The Record* determines the E2C trajectory of phenomena. ***The Record* is not metaphysical**—it is physical and we interact with it all the time. We can't see it because it's always tucked behind the Boundary of Existence and the current RP in definedness … but it is there…



Caption: Stability becomes the structural foundation for the next recursive propagation in the complexity escalation. If stability cannot constrain complexity, the phenomena collapse. The alignment of this phase shifting stability to complexity structure determines E2C. Highly misaligned ratios result in diverged phenomena (complexity outpaces stability) whereas converged phenomena (stability outpacing complexity) come from strong alignment in *The Record*.

When you think about *The Record* and how it works in existence, you can think of it quite literally as a vinyl record where **the vinyl is *The Record* and the music that it plays is existence**. Existence is the music, but when you look at the record, you can see there are imprints in the vinyl, causing the frequencies and waves. Thus, if existence is the music, then yes, you could not see or interact with the bumps on *The Record* directly. Still, they are there before existence happens, so what it looks like is the record player is right in the middle of the music permeating the room; but, from the music's perspective, it's not there and they can't interact with it directly, because all the interaction happens before the music comes out—which is how *The Record* works.

Existence itself develops these imprints from all events that have happened, and the more often something occurs, **the stronger the imprint in *The Record* becomes**, which is why **it's more likely to repeat in the fractal universe**. *The Record* is responsible for providing the stable structures of all things, but we just cannot see it directly, it is not defined enough to be in the ~5% lumen. The **signal (Lumen) to noise (RPs) ratio is 1 part observable to 19 parts bounded RPs and unbounded RPs**. Let me now show you the math behind the dark matter and energy, by using their set ratios to show you 1) the proportionality and their 2) behavior.

$$\text{Dark Matter} \rightarrow \text{Bounded RPs: } \sim 27\% \rightarrow 26.89\%$$

$$\text{Dark Energy} \rightarrow \text{Unbounded RPs: } \sim 68\% \rightarrow 67.98\%$$

$$\text{Observable Matter} + \text{Energy} \rightarrow \text{Lumen: } \sim 5\% \rightarrow 5.14\%$$

We can then calculate the proportions using these estimates in relation to the observable matter and energy.

$$\text{Unbounded RPs: } \frac{67.98\%}{5.14\%} \rightarrow \frac{13.236}{1} \rightarrow 1 : 13.236$$

$$\text{Bounded RPs: } \frac{26.89\%}{5.14\%} \rightarrow \frac{5.236}{1} \rightarrow 1 : 5.236$$

$$\text{Lumen: } \frac{5.14\%}{5.14\%} \rightarrow \frac{1}{1} \rightarrow 1 : 1$$

We can use these proportions **because they represent 100% of the phenomena we are describing**. Given that these terms are ways of how existence behaves, if we account for all of it, we can extract important information.

$$\text{Lumen} : \text{Bounded RPs} : \text{Unbounded RPs}$$

$$1 : 5.236 : 13.236 \rightarrow 1 : 19.472$$

Here, we see the $1/20$ signal-to-noise ratio I mentioned earlier. From these proportions, we can extract the raw equations themselves that guide the existence of the recursive propagations by their type.

$$\text{Unbounded RPs: } 3^2 + \Phi^3 = 13.236$$
$$\text{Bounded RPs: } 1 + \Phi^3 = 5.236$$

The reason why Φ^3 appears here is because RPs unfold in existence using the Golden Ratio across three spatial dimensions of space. How do I know that there are three spatial dimensions and not 11-26 or whatever they are saying in string theory discourse? **It is because of the circle, which has four $90°$ angles, three for spatial dimensions or propagations, and that final $90°$ comes from the recursive phase shift of time**. Problem solved. Stay with me. Now we can use these proportions to see the fractal universe's structure.

$$1 + \ (3^2 + \Phi^3) + (1 + \Phi^3)$$

I talk more about the significance of this equation and its terms in *The Theorem of Existence* (for all of the math and its explanations, see the book), but for this paper, understand that this equation guides the proportions. **Unbounded RPs enter *The Record* simultaneously with the bounded RPs**, losing definedness or the degree to which something exists equally and concurrently, despite unbounded RPs being empty space and light. The universe is expanding, **yet the total proportions of the universe's composition are constant**. At first glance, it might seem that the universe's expansion would disrupt the $1/20$ ratio; however, it does not… the RPs in *The Record* continuously follow the observable universe, occupying definedness without altering the $1/20$ ratio. Previous RPs occupy space, but **they are stacked into *The Record* like snapshots of the current moment without affecting it**. Think of the $1/20$ ratio as the initial state, with additions in *The Record* not changing this proportion.

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

We can then move on to the behavior of existence and how these bounded and unbounded RPs relate. As shown above, **unbounded and bounded RPs each have their own term, which is unified into a single equation**. In the denominator, we have the **Boundary of Existence** $(\pi/\Phi \approx 1.94)$, which is **the location where definedness transitions from signal to noise**, and we stop being able to interact with it directly, and where RPs occur, which is why we never see them. We saw this term earlier because when you plug it into the normal distribution, you **get the signal-to-noise ratio of $\sim 5\%$**. If we move over to unbounded RPs, we have a recursion raised to the power of propagation (e^{π}), with a complexity escalation term $(\Phi^2 = \Delta)$ which makes sense given that the unbounded RPs are the origin of complexity escalations. If we look at the bounded RPs equation, it contains three terms, which are a recursion term (e^2), a propagation term (π), and a stability term $(-1/e)$, but **notice how the bounded RPs has no complexity escalation term, and there is also no stability term in the unbounded RPs**.

These differences become clear when we look at the unified formula and see that **stability in bounded RPs subtracts from the complexity escalation of the unbounded RPs**. This equation shows how they remain separate but relate to each other. This behavior explains why the universe is expanding (Unbounded RPs), but the lumen and its imprints (Bounded RPs) are not. **It is because the unbounded RPs are connected to bounded RPs by the boundary of existence, but they behave independently**. Finally, we can then use *The Equation of Existence* $(\Phi = \Omega/\Delta \rightarrow \text{Definesness} = \text{Stability}/\text{Complexity})$ to describe the fractal universe's structure.

$$\Phi = \frac{\Omega}{\Delta} \rightarrow \text{Fractal Universe} = \frac{\text{Bounded RPs}}{\text{Unbounded RPs}} = \frac{\text{Dark Matter}}{\text{Dark Energy}} = \frac{\text{The Record}}{\text{Empty Space} + \text{Light}}$$

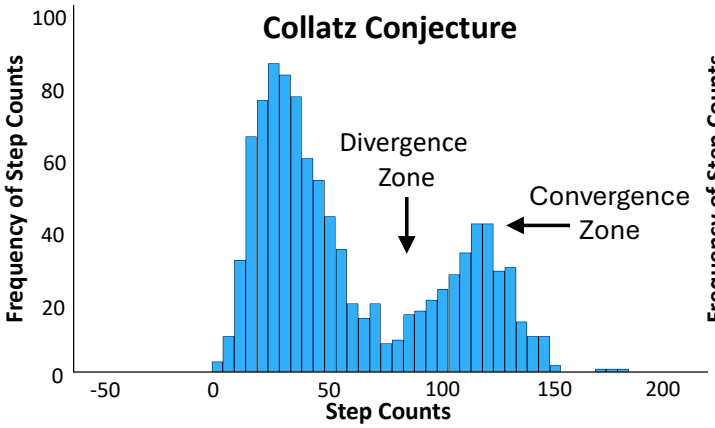
Yes… and there is the whole fractal universe… the entire math of the universe **with RPs replacing spacetime**, **unbounded RPs replacing dark energy, and bounded RPs replacing dark matter**. *The Theory of Existence* offers a structural, mathematical, theoretical explanation for the entire universe. Now that we see the math and explanations of this beautiful fractal universe, let's get into the empirical confirmation to support it…

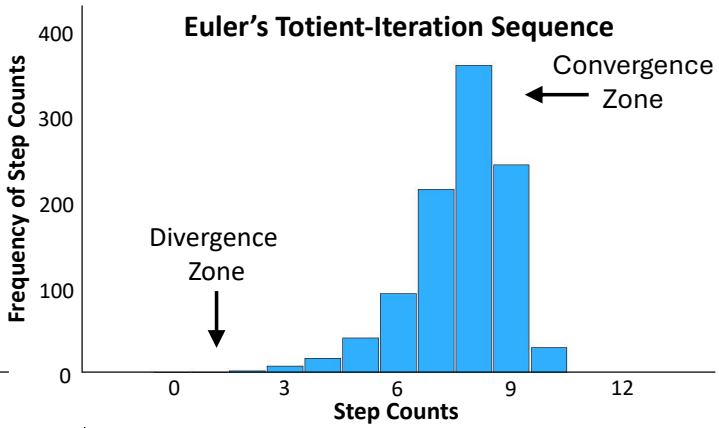
Bounded RPs in the Galactic Rotations…

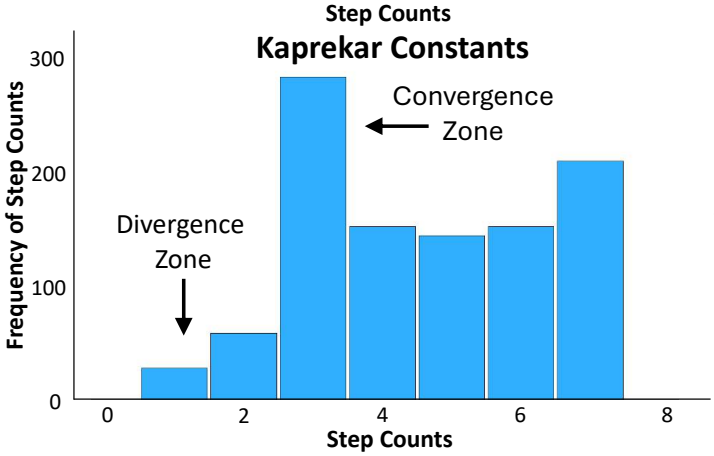
It's crucial to understand that ***The Record* is distinct from gravity**. While gravity undoubtedly plays a significant role in shaping galactic and universal structures, ***The Record* is the primary enforcer of this structural coherence**. Though physically present and constantly interacting with, *The Record* has too much noise-to-signal in its definedness to detect directly, **which is why we have never seen dark matter**.

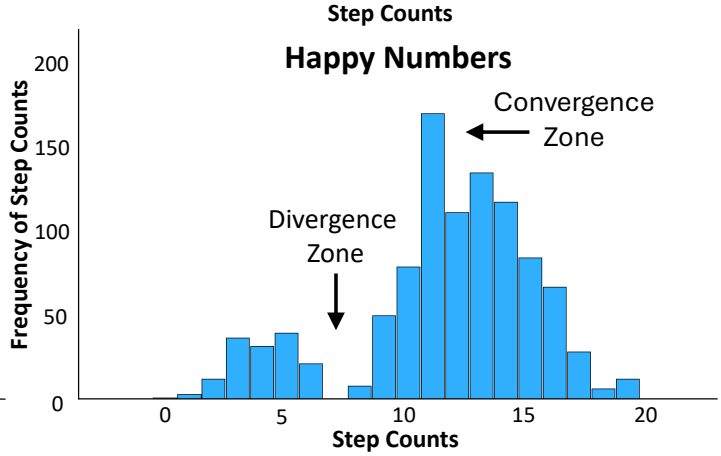
The Record is not matter, and it adds no mass; instead, **it forms a scaffolding that provides the shape and structure of things as they recursively propagate**. It functions like a cosmic memory that holds things together and influences the outcomes of things indirectly to keep existence functioning the way it does. ***The Record* is always everywhere**, even in the microscopic space between these words, but you can see its effects much more clearly when you zoom out to galactic structures.

I examined real galaxy data from **the SPARC dataset**, focusing on three key variables: **mass in solar units, observed velocity** (before any adjustments), and **observed radius location** in the galaxy. The current challenges surrounding dark matter stem from how we measure velocity—specifically, how fast celestial bodies move in relation to their distance from the galactic center, measured by radius. When applying Newtonian calculations to planetary velocities based on their radial location, the math doesn't work. To correct it, researchers developed numerous dark matter halo corrections, **attempting to make the data conform to existing models**.







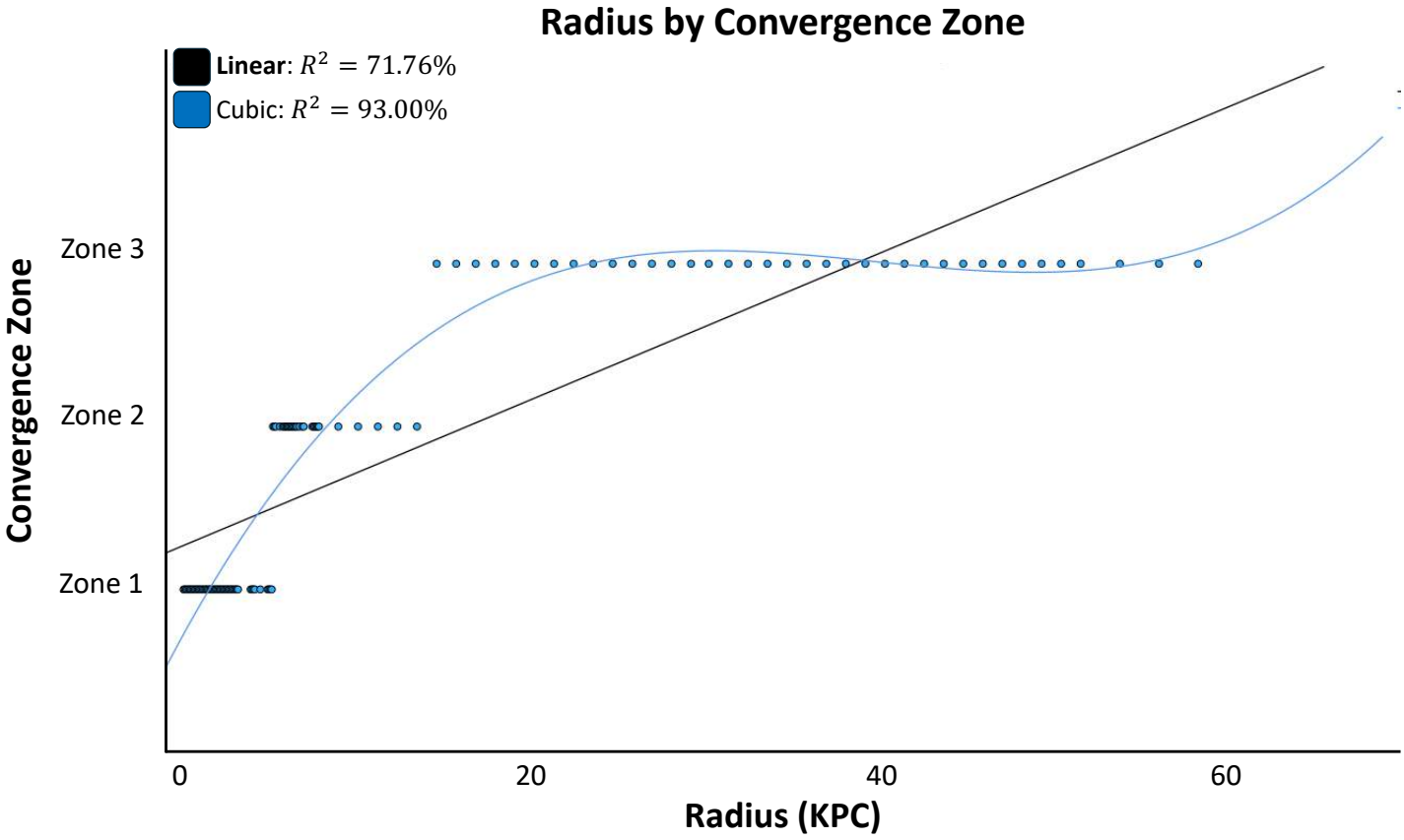


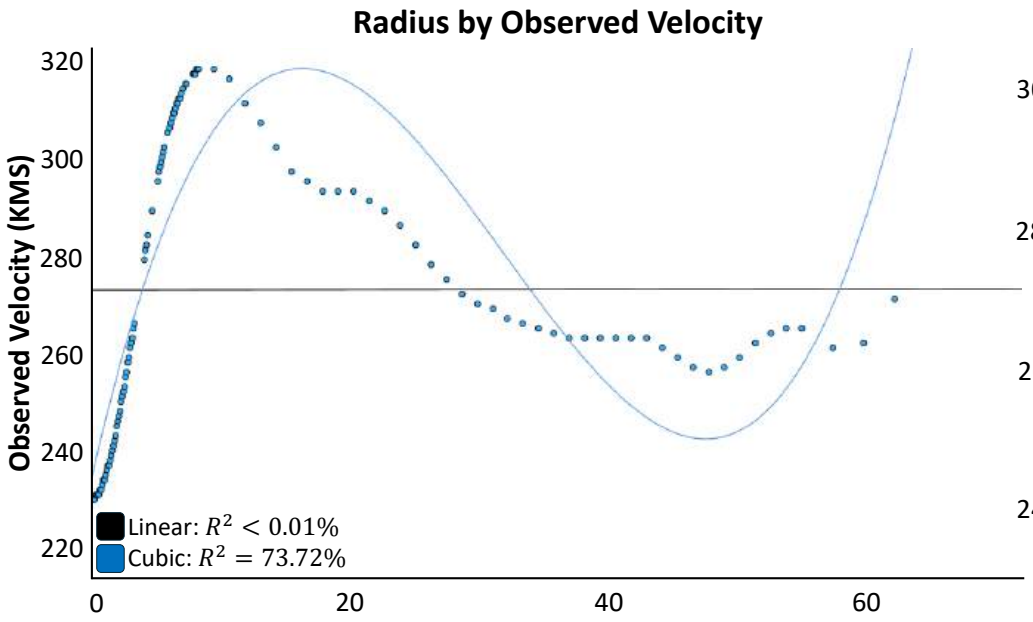
The SPARC dataset contains hundreds of galaxies. For simplicity and clarity, **I'll focus on the first galaxy in the collection, CamB**. Analyzing the entire dataset would be overwhelming and challenging to interpret, but you can repeat this process for any galaxy, and the outcome would be the same. Let's begin by examining the raw velocity measurements across different radial locations within this galaxy.

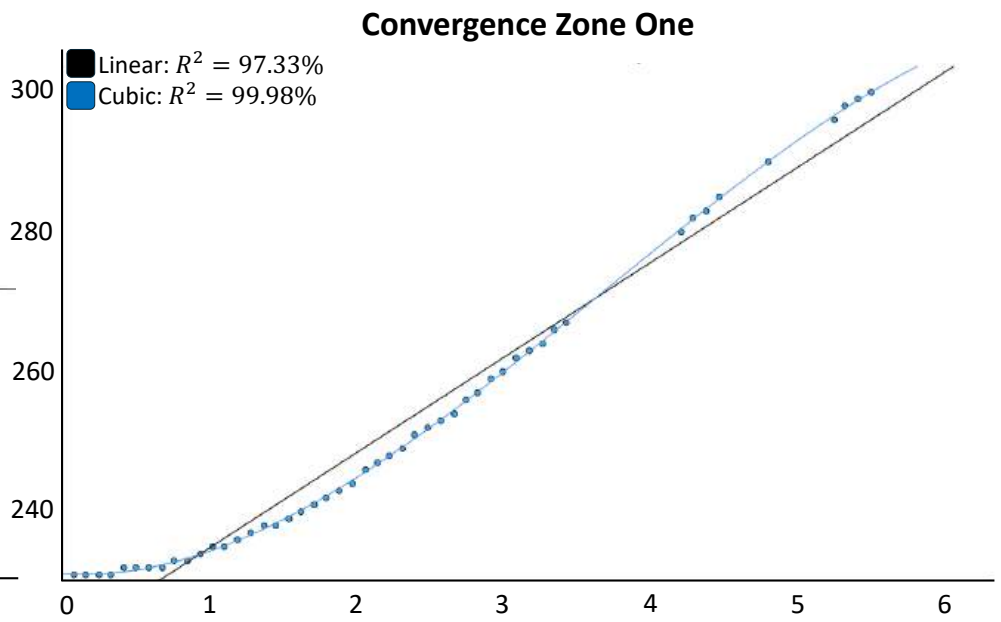
Immediately, **we observe that there is no linear fit**, which contradicts the current spacetime model. While my model's cubic expansion prediction fits the data remarkably well, there are still nuanced complexities that demand closer examination. To understand this phenomenon, let's revisit *The Theorem of Recursive Harmonics*, first introduced in Paper 3: The Harmonics of Existence: Solving the Collatz Conjecture & Recursive Systems. As we saw in Paper 11, this theorem is the stability term of The Equation, explaining how existence operates.

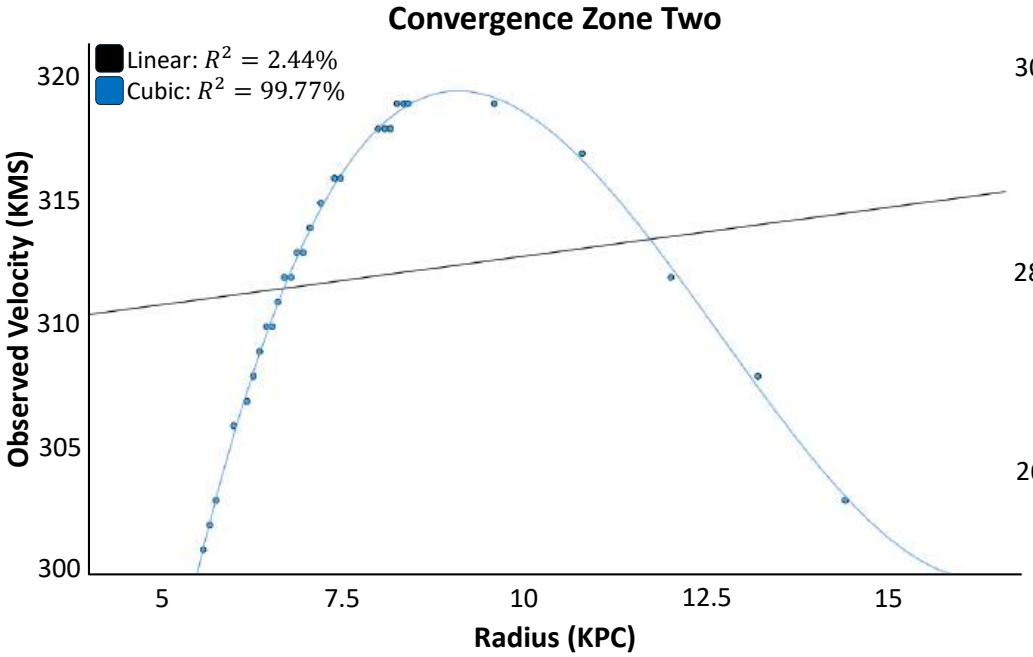
Recursive systems, including our universe, **inherently contain convergence and divergence zones within their step counts**. These zones form emergent structures and include the complete information for a phenomenon's lifecycle. Recursive harmonics are the fundamental mechanism of existence. In our day-to-day, these convergence and divergence zones often go unnoticed, but **they shape what exists and how frequently it occurs**. Yet, when we look at galactic scales, these zones become striking—precisely what we see here.

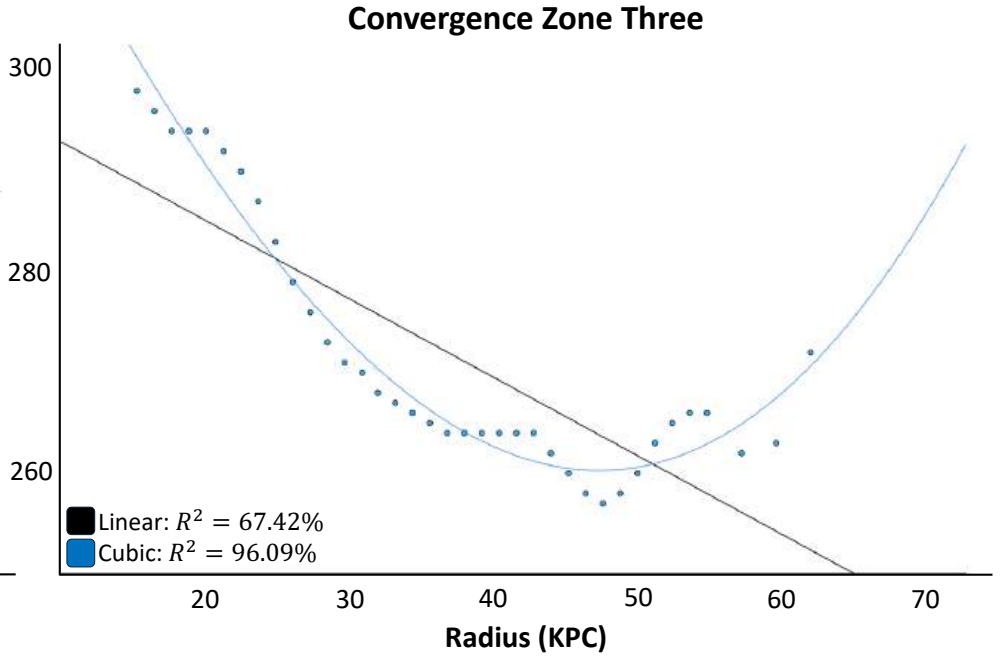
When we analyze the entire velocity and radius dataset simultaneously, **one inadvertently tries to merge all convergence and divergence zones of the galactic structure into a single continuous phenomenon**. However, this approach is flawed because **spacetime is not continuous**. By disaggregating the convergence zones from the divergence zones, the model reveals a perfect fit using only cubic regression. This galaxy contains three convergence zones, each separated by divergence zones. When applying cubic regressions to each convergence zone, **the fits consistently surpass 96%**. In contrast, **linear regressions never exceed 72% accuracy**, explaining a mere 2.44% of convergence zone two. This difference suggests that the cubic **RP curve provides a better explanation for the velocity-by-radius relationship**.

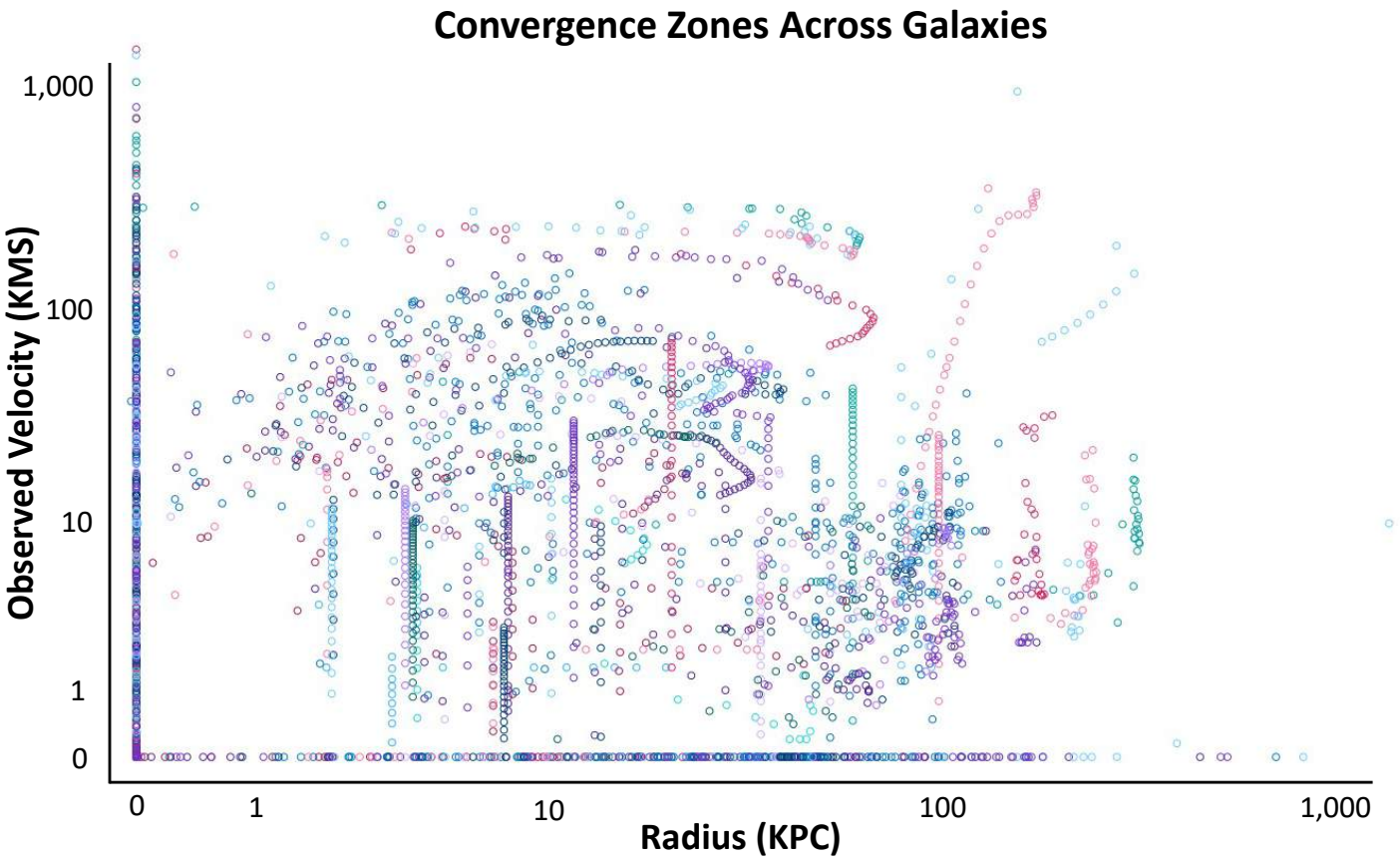


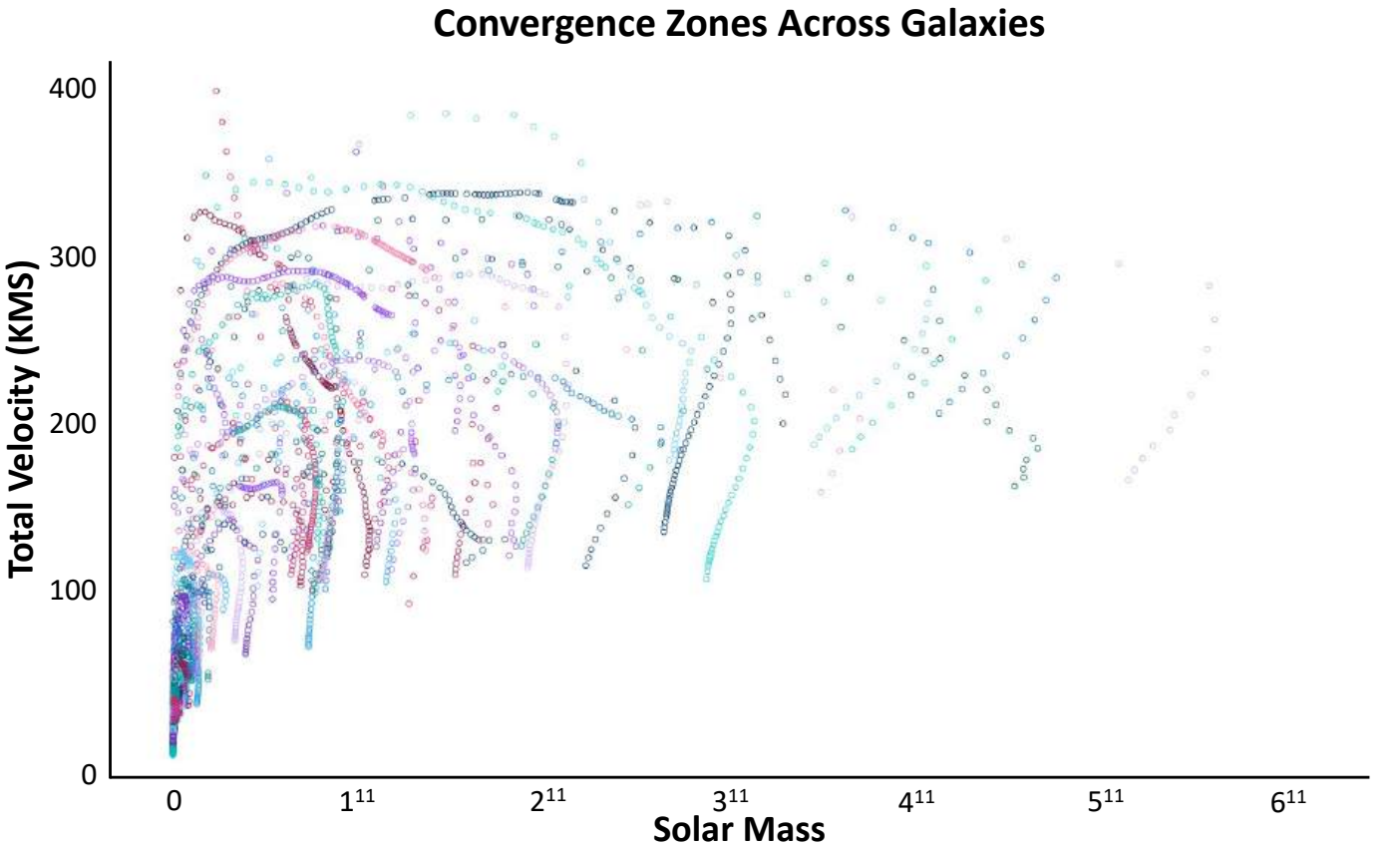

Radius by Observed Velocity
Observed Velocity (KMS)
320
300
280
260
240
220
0
20
40
60
Linear: $R^2 < 0.01\%$
Cubic: $R^2 = 73.72\%$


Convergence Zone One
300
280
260
240
0
1
2
3
4
5
6
Linear: $R^2 = 97.33\%$
Cubic: $R^2 = 99.98\%$


Convergence Zone Two
Observed Velocity (KMS)
320
315
310
305
300
5
7.5
10
12.5
15
Radius (KPC)
Linear: $R^2 = 2.44\%$
Cubic: $R^2 = 99.77\%$


Convergence Zone Three
300
280
260
20
30
40
50
60
70
Radius (KPC)
Linear: $R^2 = 67.42\%$
Cubic: $R^2 = 96.09\%$

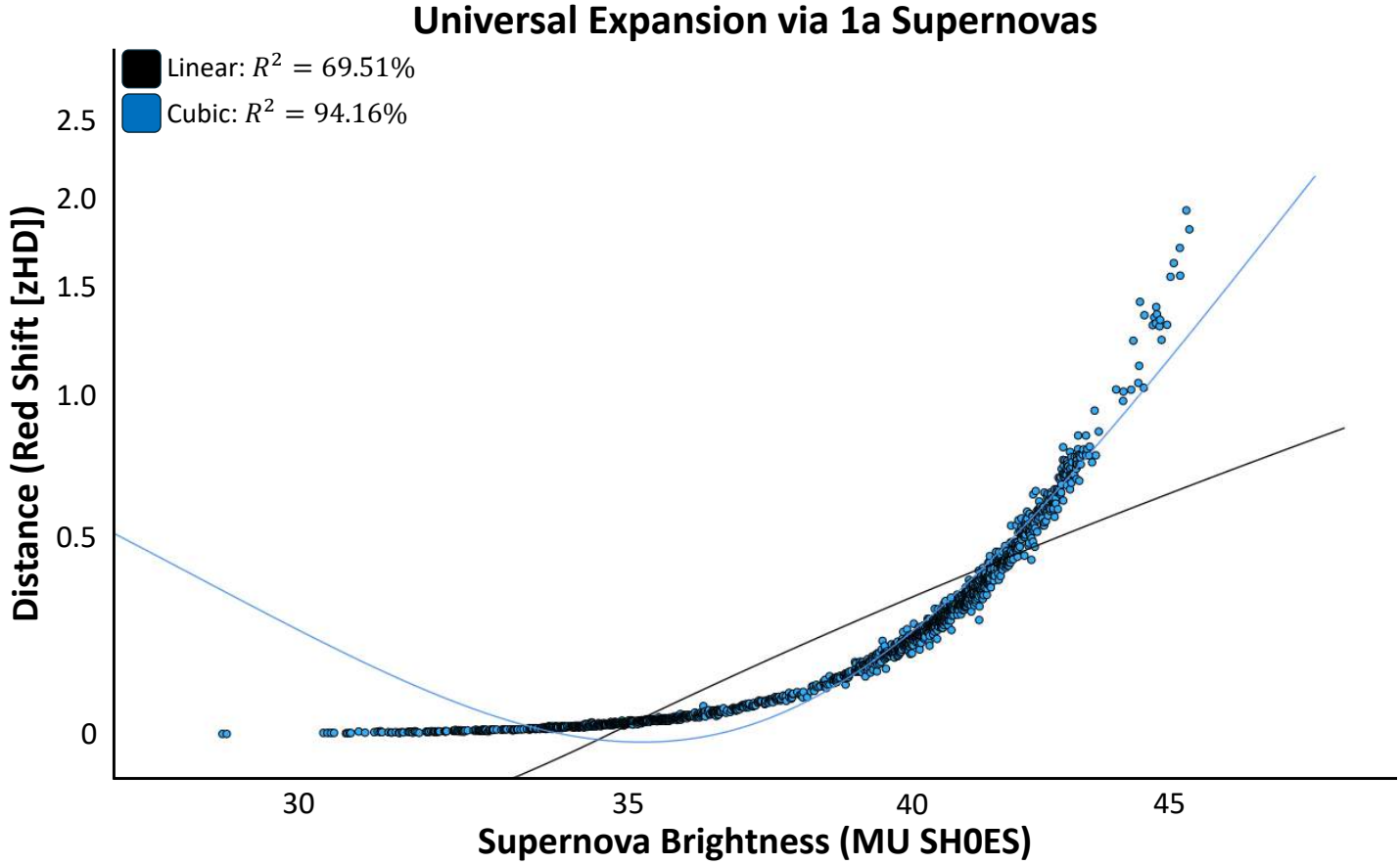

Convergence Zones Across Galaxies
Observed Velocity (KMS)
1,000
100
10
1
0
0
1
10
100
1,000
Radius (KPC)


Convergence Zones Across Galaxies
Total Velocity (KMS)
400
300
200
100
0
0
1^11
2^11
3^11
4^11
5^11
6^11
Solar Mass

For simplicity, I selected a subset of the galaxies and **plotted their radius by observed velocity**, color-coding each by its galaxy, and I repeated this process for solar mass. This visualization demonstrates that **each galaxy possesses its own unique set of convergence and divergence zones**, further challenging the traditional gravitational model. These results provide compelling evidence that **dark matter is not a particle** and, in fact, is unnecessary for understanding cosmic structure, resolving one of the oldest mysteries in cosmology.

The most profound implication of this research is that **gravity does not explain what holds galaxies together**. Instead, bounded RPs within *The Record* provide the fundamental cohesion for galactic structures. **No additional matter is required to maintain the galactic structures**. *The Record's* ability to hold structures together without traditional gravitational forces is remarkable. Galaxies remain intact not through gravitational attraction, but through the underlying recursive-propagative mechanism. A striking example of this truth can be found in our own Milky Way galaxy, **where the supermassive black hole**, which many believe is responsible for the galaxy's structure, **is located $27,000$ light-years from the galactic center, with the center itself remaining empty**.

We can only explain this configuration if gravity is not the primary force maintaining galactic structure. ***The Record* and its recursive convergence and divergence zones emerge as the true mechanism of cosmic organization**, operating through a fundamentally different principle than gravity. This finding reveals that a star's velocity is guided by its specific convergence zone rather than just its radial location. This finding supports the hypothesis that *The Record*, not linear gravity, is responsible for maintaining galactic structure.



Unbounded RPs in the Universe…

Now we can turn to examine dark energy. In this analysis, I used the **Pantheon+ supernova dataset**, focusing on two critical variables: zHD (heliocentric redshift) and MU_SH0ES (distance modulus). I directly examined the **observational data of zHD and MU_SH0ES across 1,701 supernovae**. When plotting supernova brightness against distance, a remarkable pattern emerges—**a cubic expansion curve explaining an impressive 94% of universal expansion**. These findings reveal a nuanced and structured approach to how the fractal universe

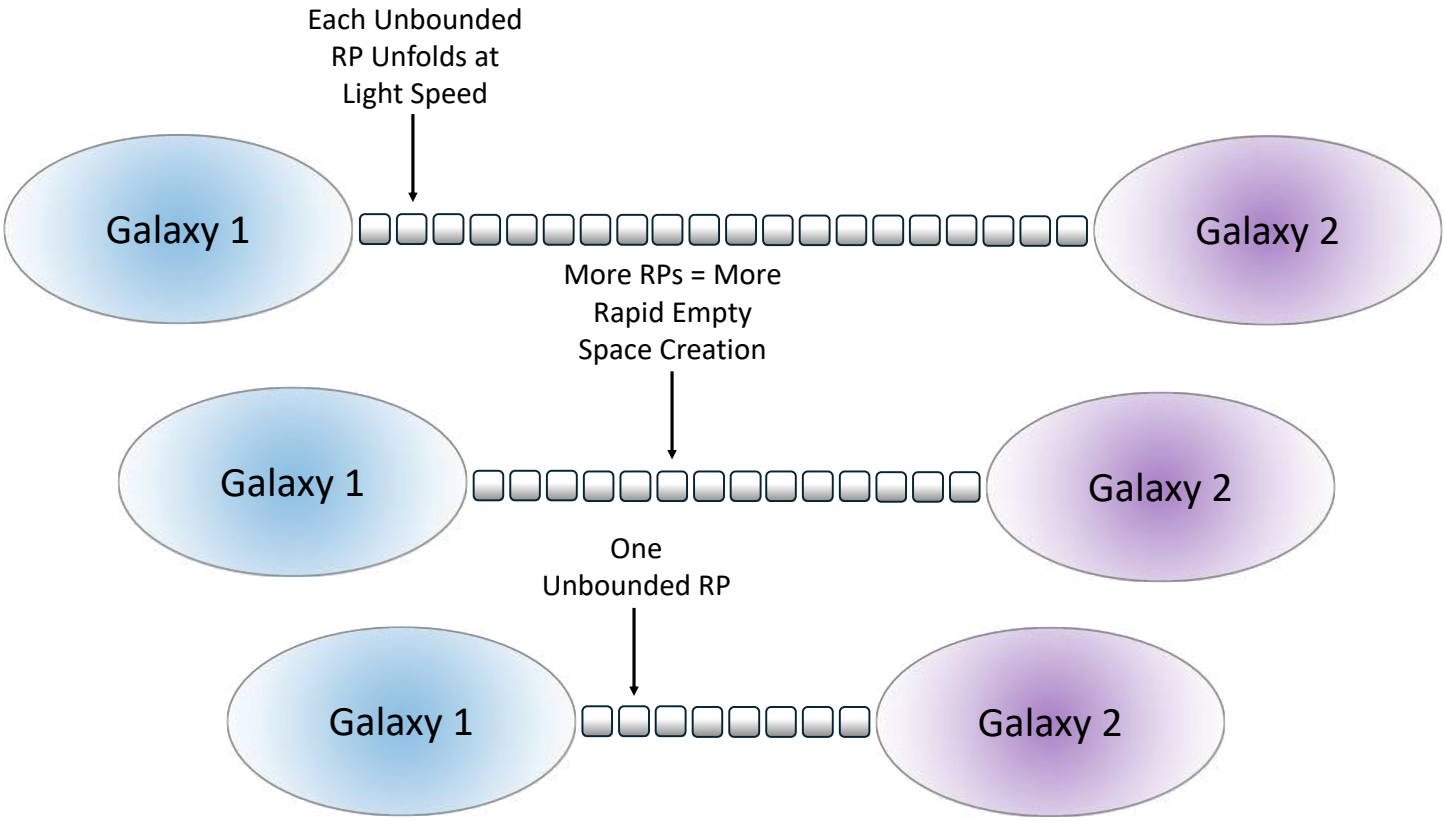
unfolds. The strength of this finding comes in its **empirical confirmation of the theoretical model's predictions about unbounded RPs** that cosmic expansion occurs through cubic growth across Planck-scale RPs, happening at the speed of light (Planck length per Planck time) across three spatial dimensions. What we have interpreted as acceleration caused by a force (dark energy) is now revealed as **a natural consequence of RPs unfolding**.

The question then becomes, if dark energy is not energy, then what is it? The answer is **it is definedness or existence itself,** the effects of unbounded RPs. The **expansion of the universe requires no energy** because it is the functional requirement of existence itself, before energy even comes into the picture. Existence only exists when phenomena are co-defined by others and previous versions of themselves (see more on relational reality in Paper 11). It's not energy expanding the universe… **it's the base functional requirement for something to exist**. Non-existence or undefinedness is not an alternative to existence, as **there is no alternative to existence because non-existence doesn't exist**. Thus, if there is an opening for the next RP via a possible complexity escalation, it will always occur without any energy or force needed, **as RP unfolding occurs underneath all phenomena** (with energy being a phenomenon), which is why we have never measured dark energy directly.

Universal Expansion & General Relativity

The Record is also essential for understanding universal expansion. We acknowledge that general relativity is structurally correct, recognizing that **phenomena like speed and direction require a frame of reference to be meaningful**. When considering the universe's expansion, a critical question emerges: **How can we perceive expansion if there's no reference point?** The expansion cannot be measured relative to galaxies or superclusters, as these are expanding simultaneously. Without a stable frame, how can we confirm the universe is expanding?

The answer is *The Record*—a mechanism that allows the universe to expand relative to itself. As the universe expands, it creates **an ongoing reference by leaving behind imprints** of its previous states. Each expansion becomes relative to these preserved imprints, with each successive expansion serving as **a new reference point for the next**. This recursive-propagative process builds up previous versions of the universe that provide stability to the new ones, ensuring that expansion always has an objective frame of reference.

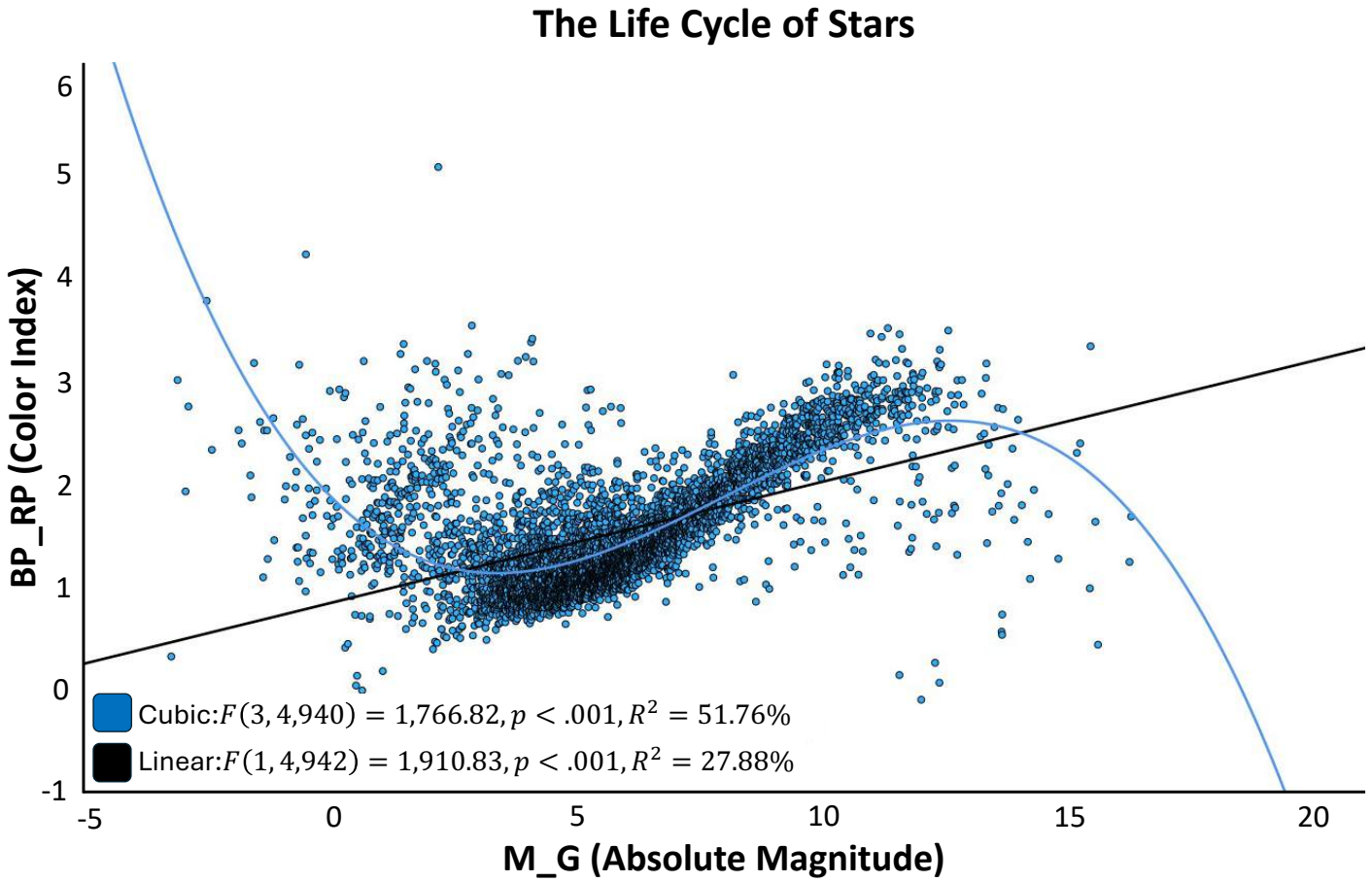


Not Faster than the Speed of Light

A significant misconception currently persists—one that scientists have **repeatedly patched over** rather than confronting the inadequacies of their existing models. According to established calculations, **nothing can travel faster than the speed of light**. However, observational measurements suggest galaxies in the expanding universe are **moving away from each other at speeds exceeding this fundamental limit**. Physicists have attempted to resolve this apparent contradiction by arguing that **the speed of light limitation doesn't apply because spacetime itself is moving apart**—an explanation that defies logical scrutiny. Here's what's happening:

The current cosmological models contain **two critical misconceptions**. First, these models **erroneously equate the empty vacuum of space with non-existence**. However, empty space is a tangible phenomenon we can observe, confirming its actual existence. Second, the **untested, unsupported assumption that time and space are continuous**. By correcting these misunderstandings, the true mechanism of cosmic expansion comes into view.

The unbounded RPs that represent the speed of light are the ultimate velocity boundary. The physicists' current frame of reference creates confusion by focusing solely on the two galaxies, **neglecting the space between them**. The universe expands not just at its edges, but **everywhere simultaneously**. As the universe expands, the space between galaxies is growing, with each empty space "pixel" (RP) expanding at precisely the speed of light. This growing space generates an increasing distance between galaxies. The expansion process works like this: **empty space grows, then that grown space grows again, creating a cascading expansion that forms the cubic curve we saw in the supernova data**. The distance between galaxies increases not through movement, but through the continuous growth of empty space as unbounded RPs—always at the speed of light, never faster.



The Life Cycle of the Stars

The fractal universe manifests in the phenomena within it, not just the structure in the vast spirals of galactic spin or the acceleration of distant supernovae. It sings the same pattern **in the unfolding of a single star's life**

cycle. Using **raw observational data** from the **Gaia DR3 archive**, I examined two direct stellar variables: BP_RP (i.e., color index, representing stellar temperature and evolutionary phase) and M_G (i.e., absolute magnitude, representing intrinsic luminosity derived from raw photometric and parallax data). When I plotted them together across a broad sample of $5{,}000$ stars, the same cubic pattern was immediately apparent and stunning.

The cubic model nearly doubled the explanatory power. This finding alone confirmed what *The Theory* predicts about phenomena in the fractal universe. The most notable implication is that **this analysis is not a cross-sectional finding**… **it is a longitudinal insight**. The H-R diagram shown above—the same one used in classical astrophysics to map stellar evolution—is, in truth, **a temporal map of a star's life cycle**. It reveals that stars, as they move from birth through fusion equilibrium, through expansion, collapse, and final decay, **are riding the recursive-propagative curve of definedness that everything else in existence rides**. Stars do not follow separate evolutionary paths, but a single structural principle: **recursive-propagative, stabilized complexity escalations**.

When I ordered these variables, the cubic regression for **M_G alone reached $\mathbf{98.53\%}$,** compared to a linear fit of 91.38%. For **BP_RP, the cubic curve reached $\mathbf{98.92\%}$,** compared to a linear one 90.79%. By examining the stars themselves, we see that they are lined up along the cubic curve, much like musical notes in harmonic order. These values do not have any parameter tuning, no simulations, no fudge factors… just raw data, plotted plainly, and the universe—once again—**whispered the cubic curve of definedness**. Therefore, not only do galaxies exhibit cubic spin curves from *The Record* convergence and divergence zones, but the universe expands through cubic recursive-propagative definedness, and **every star lives and dies follows the same, inescapable trajectory**. *The Theory* does not just illuminate dark matter and energy—it unifies the story of the fractal universe, revealing **what it is like for all phenomena to exist within it.**

The Big Picture

To understand the fractal universe is to recognize an extraordinary unity that permeates all of reality. The mechanisms governing a single human cell, a sprawling galaxy, or the seemingly empty space between cosmic structures **are fundamentally identical**. This revelation dismantles the artificial boundaries we have constructed between disciplines, between the microscopic and the celestial, between the living and the inanimate.

In a fractal universe, every phenomenon—from intricate neural networks in our brains to the vast filaments of galactic clusters—**follows the same recursive-propagative principles in *The Theory of Existence***. These principles don't describe how things exist; they reveal why things exist. Each component, no matter its scale, contains the blueprint of all of reality, perpetually updating, perpetually becoming…

The Theory offers a radical reimagining of our place in the universe. We are not mere observers of existence, but **active manifestations of its continuous unfolding and escalating complexity**. Every moment is an intricate negotiation between stability and complexity, between what has been and what might emerge. The findings reveal that nothing is truly separate, as **everything that has ever existed and will ever exist is physically** connected to everything else via *The Record*. Everything in existence is simultaneously unique and universal.

We stand at the threshold of a radical understanding: **the universe is not a mystery, but a process of continuous becoming**. Each recursive propagation is a moment of existence, where what was turns into what is, creating the beautiful and vast fractal universe we see around us. **We are not separate from these recursive propagations—we ARE one of its most intricate outcomes**. Our consciousness, our very ability to contemplate these mysteries, is itself a manifestation of the universe's recursive-propagative, fractal nature.

In every moment… in every quantum of space… the fractal universe performs **its beautiful recursive-propagative dance of definedness**. Our thoughts… our emotions… our very existence are threads in the cosmic tapestry of the universe, each recursive propagation a brushstroke in the most magnificent painting ever conceived. You can feel the wonder and awe in illuminating the darkness of the fractal universe, where we see, maybe for the first time, that existence is not a noun… it is a verb… not a state… but a process…. not a thing… **but a becoming**…



Act VII: The End of an Era, Start of a New

September 28th, 2025, Update; 2:22 PM

In My Bed, On My Laptop, In Awe

Alrighty, seekers, dreamers, and curious rebels, come gather around the campfire. I have something important to share. We all stand at the edge of what we thought was possible to understand. You might think that I'm not standing there with you because… well, I'm the one writing it—but make no mistake, I'm right there too, shoulder to shoulder, watching *The Theory* unfold in front of our eyes. All the awe, fear, comfort, existential dread, doubt, and hope you feel from brushing up against something so ancient and profound—I feel all of it too... and no, I don't know what comes next either.

What I do know is that we were meant to see it. All of it. *The Theory* has been waiting—right in front of us—to burst through that door the moment we got close enough to hear its knocking. These next two papers? No matter what you think, feel, fear, or wonder—I promise you: you were meant to see it. So… let me show you. Here is **Paper 5: Empty Space is Not Empty: The Secret World of Black Holes** and **Paper 6: There Is No Evidence That Time & Space Are Continuous**. These two papers close the first arc of *The Show of Existence*.

Together, we have walked through the math and origin of existence (**Papers 1, 2, & 3**), our fractal universe (**Papers 4, 5, & 6**), the threads that connect all life on Earth (**Papers 7 & 8**), when systems don't work (**Paper 9**), and when they do (**Paper 10**). We've even stepped back to witness the elegance of it all through its own universal equation (**Paper 11**). We've tackled every major domain. Every major mystery in intellectual discourse. Everything we see and experience. Well… maybe not everything we see and experience… but I'll save that for **Paper 12**. See you soon 😉

Empty Space Is Not Empty

The Secret World of Black Holes

Written by Bryant Stone (*The Architect*)

Overview

When we gaze into the cosmos, **what do we see?** Boundless beauty, elegant mechanics, and the weight of peering into the **endless vastness of the universe**, as if it were all **beyond human comprehension**. The universe appears **riddled with mysteries**: the Great Attractor, the Final Parsec Problem, the three-body problem, Hawking radiation, the Holographic Principle, black hole clustering, and, most notably, the **unknowable nature of black holes**—the enigmatic phenomenon we have sought to understand for decades. However, perhaps the universe's mystery stems not from ***what* we observe,** but from ***how* we observe it**—the lens through which we interpret the universe. In this paper, I present a **fundamentally new lens** that illuminates the universe with unprecedented clarity. Using **LIGO's black hole merger** and gravitational wave dataset, I analyzed $\sim$**90 collision events. I discovered the Defined Nothingness Threshold at precisely** $.0957\ m/p/d$ (meters per propagation per black hole diameter)—the exact threshold where **complexity reaches its absolute maximum and existence stops**, leaving the observable matter and energy (i.e., ***lumen***) **behind in *The Record***, the universe's vast memory archive **secretly hidden in "empty" space**. This finding reveals a stunning truth: **lumen do not vanish** during black holes; they are **left behind in the past**, moving into a **definedness layer just beneath our perception in *The Record***. We see that gravitational waves echoing across the universe are fundamentally shaped by the hidden structure of *The Record*, revealing **the same normal distribution** and **exponential growth patterns** from *The Lattice Experiment* in Paper 2; except this time, they echo across billions of light-years, **confirming that *The Equation of Existence* operates identically** from spontaneous word emergence on a laptop to stellar collapse at the deepest edges of existence. Join me on **this journey** through the **cosmos's hidden architecture**… witness what exists beyond black hole event horizons… see the cosmos without mystery for the first time, and—most remarkably—**peer into the secret world of black holes** that have been hiding in front of us all along.

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Background & Findings

Dear seekers, dreamers, and curious rebels… we are starting Paper 5 with a scandal. **In 2020**, **academia suppressed the empirical falsification of general relativity (GR) and the concept of a singularity**. The LIGO observatory, which studies black hole mergers and their gravitational waves, has concealed **the most definitive falsification in the history of physics**. Event **GW200308_173609** shows that a **black hole's mass increased by four solar masses during merger ($60 + 24 = 84; 88 - 84 = +4$).** Entire mergers never exceed four solar masses. According to established physics, **mass-energy radiates** as gravitational waves, **resulting in a net loss of mass**. A gain of four solar masses violates GR and the singularity so dramatically that **falsification is unambiguous**.

The response from LIGO reveals cautious **deflection rather than refutation**. **Only two** scientific discussions of this event exist online. One claimed the event "could be generated by Gaussian noise fluctuations," and the official GWTC-3 documentation states that it is a statistical artifact, with **language so obfuscated and incomprehensible that it's not even worth reporting**. These sparse comments are speculative, suggesting **statistical**

irregularities rather than proven instrumental failure. No literature provides evidence of 1) **instrumental artifacts**, 2) **noise**, 3) **inconsistent detection patterns**, or 4) **statistical analyses** testing if the signal matches detector noise rather than astrophysical sources. This anomaly was simply not investigated—it was annotated "with a dashed line;" that's all. Given that **this event remains unrefuted despite its magnitude**, it undeniably falsifies GR. Yet, academia treated it like a formatting issue. The **entire field** witnessed this event and **collectively dismissed it as "probably noise fluctuation" without evidence**. Instead of updating theory, they **buried the data**.

LIGO was **forced to publish** GW200308_173609 because, as a publicly funded, billion-dollar scientific collaboration, transparency regulations require the release of all valid events. The data are **timestamped**, **cross-confirmed across detectors**, and **independently accessible**. However, their technical documentation and data access are **suspiciously more challenging** for GW200308_173609 than for other events. The standard GWOSC URL format for accessing event details **returns a 404 error** for this event, despite following the correct structural pattern that works for different events. This link should have provided complete technical documentation, parameters, and strain data. The selective inaccessibility for this event **appears to be deliberate suppression.**

The reason we built LIGO with taxpayer money was to **update our knowledge**. Instead, they **built it**, **measured it**, then **swept four solar masses under the rug**. However, this event transcends physics—**it represents the failure of academic knowledge**. If LIGO—with its ~$2.3-3.5 billion in total public investments, international university collaborations, thousands of physicists, cross-verification systems, Nobel-winning credibility, and explicit discovery mission—can **collectively suppress the most clear-cut empirical falsification in physics history**, something that should have triggered the greatest scientific revolution since quantum mechanics, then they will suppress **anything challenging the status quo**: climate models, medical research, economic theories, and social science findings. **Nothing remains safe** in academia if they succeed in suppressing a discovery of this magnitude.

It's clear that **academia is no longer about discovery**—it's about **controlling what's known**. Academia has become **so dependent** on theoretical stability that **falsification is no longer permitted**. When thousands of experts can witness four solar masses appear from nowhere and succeed in footnoting it away with broken links, then **academia has been completely captured**. Now, in 2025, the James Webb telescope repeatedly shows **the universe does align with their current theories**, but we could have moved beyond GR **five years ago**. Imagine what we would understand now had they done their job. Now imagine this suppression happening across **all fields for decades**. The **loss to human intellectual progress** is incalculable and devastating. **It is truly so disappointing**.

The Show of Existence* is not for peer review for a simple reason: academia, as it currently stands, is structurally incapable of producing or validating discoveries that falsify or replace existing ones**. Humanity can decide how to deal with academic suppression—but it is of **no concern or interest to me or *The Theory of Existence. The world we have built here does not need academia to be correct, and it certainly does not wait for its approval. Anyway… let's get back to the paper. Which one are we on again? Oh, right—black holes. Well, good news: **GW200308_173609 is not an error**. *The Theory of Existence* predicted it exactly. Let's get into it…

The Most Mysterious Phenomenon in Existence

Imagine looking up to the night sky. Among all the cosmic beauty—swirling galaxies, **suns dancing into supernovas**, shimmering nebulae—there lurks something so strange it seems **ripped from science fiction: black holes**. These **cosmic unknowables** devour everything, even light, and twist space into impossible shapes. They hide their deepest secrets behind a boundary called the event horizon, from which **nothing can escape**. It's like the universe is playing the **ultimate game of keep-away with us**. Yet, this mystery hasn't stopped our quest for understanding. Black holes are everywhere, and scientists have relied on observation to understand the cosmos. We look, we measure, and we test, but **black holes remain elusive**. How do you solve a mystery when the evidence is permanently hidden from view? For decades, physicists have been trying to peek behind the curtain with mathematics and theory. Yet, **what if there's another way**—one that reveals black holes aren't cosmic vacuum cleaners, but something far more extraordinary? **As if they were gateways into a secret world**.

Instead of trying to peer through that cosmic curtain directly, **we study everything around it**. Think of it like being a detective at a crime scene where **the primary evidence is locked in a vault**—you examine the footprints, the disturbed furniture, the scattered papers. You piece together the story from **what you *can* see**. Physicists have **used this method for decades**, and honestly, **they have been incredibly successful**. By watching how stars spiral into black holes, measuring the gravitational waves that ripple across the universe, and tracking how light bends around them, scientists have built **a remarkably detailed picture of this mysterious phenomenon**.

According to the current scientific consensus, at the very heart of every black hole sits something called a **"singularity"—an infinitely dense, one-dimensional point** where all the mass gets crushed down when it enters the black hole. **Zero size, infinite density**. Try to picture it in your mind. Go ahead… I'll wait… **you can't, right?** That's because it's not just hard to visualize—**it's *impossible***. We have never seen anything infinite in nature. We have never observed anything that's truly one-dimensional. Yet we are supposed to accept this explanation. Well… GW200308_173609 just falsified it. Is it shocking? **No, because it never seemed possible anyway.**

GR doesn't even support the singularity. Physicists were using Einstein's equations to understand black holes, and the math worked beautifully... right up until you got to the center of a black hole. Then the equations basically threw up their hands and said, "I got nothing." Instead of admitting the math had reached its limits, scientists invented the singularity to fill the gap, but the math doesn't say "infinity." The equations break down, but that does not mean there's literally an infinite, one-dimensional point sitting there.

It's like trying to use a **map to navigate the ocean**—at some point, the **map stops being useful when you approach the surface**. The singularity is just as absurd as saying "**welp, the ocean map stops here. There must be infinite water packed into a one-dimensional infinite dot on the other side of the surface**." Now, the GW200308_173609 detection shows a black hole merger that gained mass instead of losing it—something that's impossible under current physics. The singularity model is empirically disproven by the inconvenient reality of four solar masses. With the singularity out of the picture, let's talk about what is really inside a black hole.

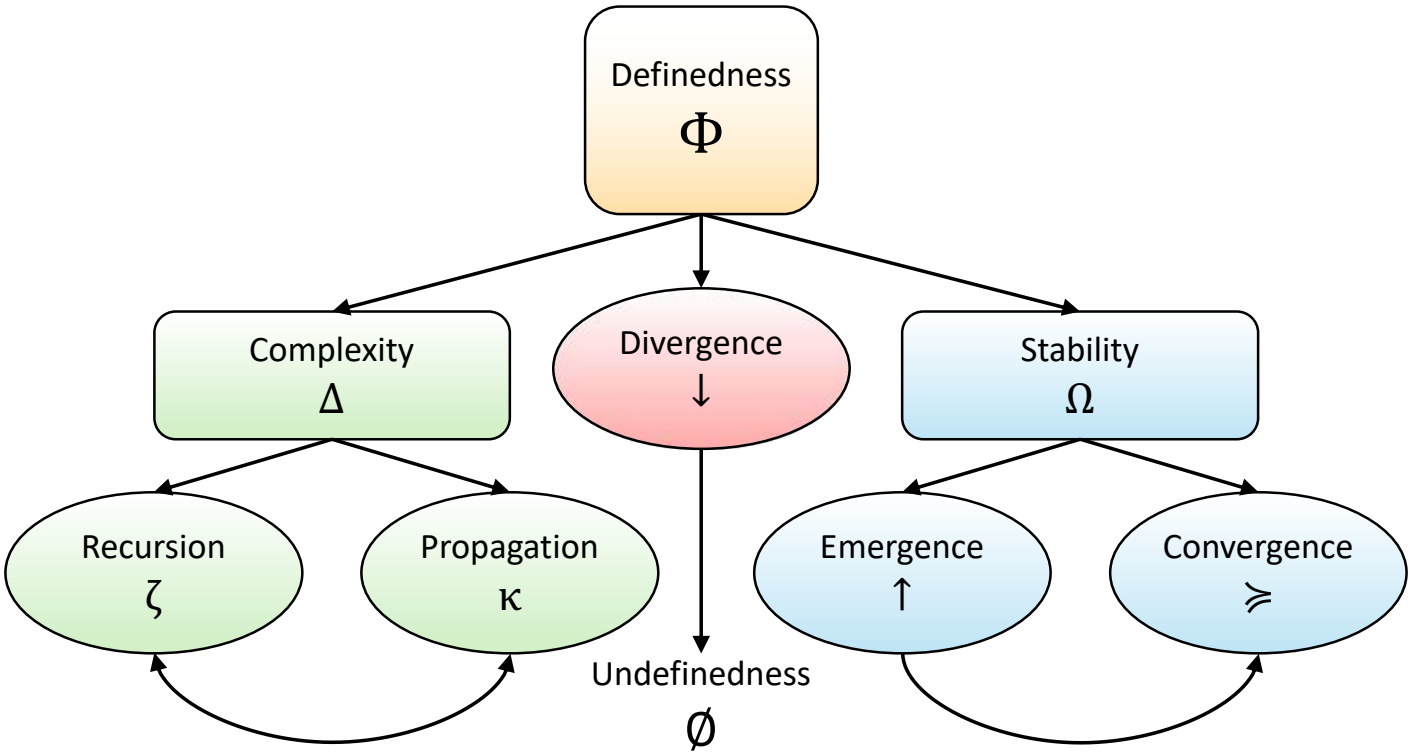
The Theory of Existence Overview: Into the Depths of the Fractal Universe

So… I have this neat thing called *The Theory of Existence* that we are going to use to answer these questions. You can explore this model in depth in *The Theory of Existence,* the book, or Paper 11: The Dance of Stability & Complexity, "*The Equation of Existence*" as the Universal Lens, for an overview of the essential parts. Here are the details for those not interested in reading the other books and papers but want to understand Paper 5.

Phenomena include anything that exists—anything that has definedness. **Definedness is a replacement for existence**, which is binary (something does or does not exist), but definedness is the degree to which something exists. **Some things exist more or less than others** because definedness varies according to the alignment of phenomena with the progression of existence. Phenomena lose definedness when they do not progress and gain it when they do. What determines the definedness of a phenomenon? The answer is ***The Equation of Existence***—the universe's operating system that governs **all things that exist and can exist**. Isn't she beautiful? *The Equation* contains **three terms that describe the way existence behaves**. We can see definedness throughout existence, but there's a world of phenomena that exist with definedness **lower than what we can observe**.

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

$$\text{Definedness} = \frac{\text{Stability}}{\text{Complexity}} \quad \text{The Universe} = \frac{\text{Space}}{\text{Light}} \quad \text{Phenomena} = \frac{\text{Convergence}}{\text{Emergence}} \quad \text{What} = \frac{\text{How}}{\text{Why}}$$

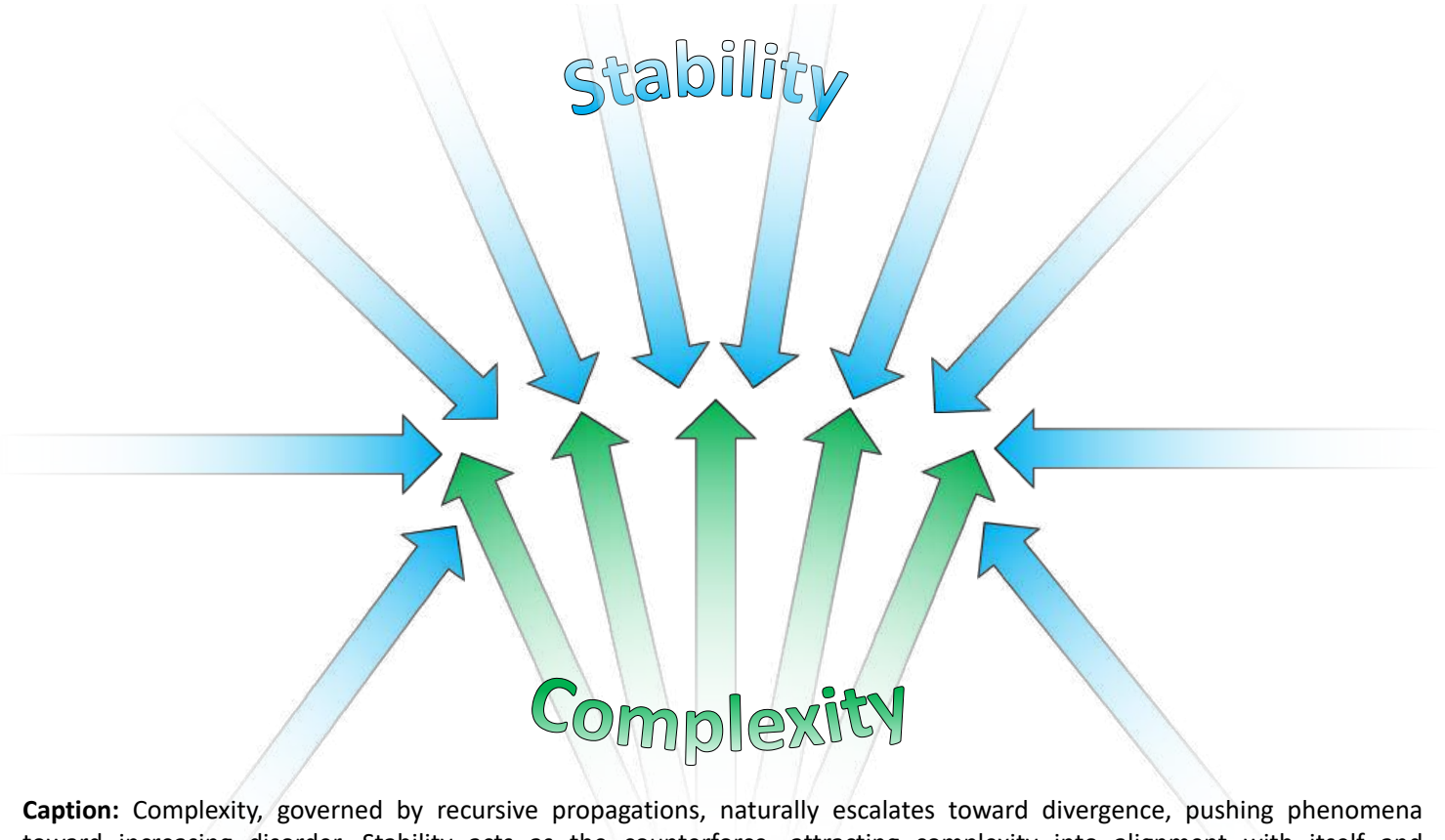


Caption: This diagram shows the fundamental first-principles of existence as presented in *The Theory of Existence*, illustrating how definedness, stability, and complexity interact to shape all phenomena. Definedness is the unifying principle that maintains proportionality and ensures that complexity and stability interact harmoniously rather than divergence. Stability is the foundational structure that ensures the persistence of phenomena across existence, from the subatomic to cosmic superstructures, providing the necessary framework for phenomena. Complexity, in contrast, drives the diversification, growth, and interaction of phenomena, building upon stable foundations to generate emergent structures. We capture this dynamic in *The Equation of Existence in The Theory of Existence*. At the bottom of the figure we see the two axes of the process of existence, which are 1) recursive propagations as the engine and 2) emergence-to-convergence (E2C) as the direction. This balance and these processes underpin the self-organizing nature of the universe, enabling physical structures from galaxies and planetary systems to biological evolution, intelligence, and consciousness. This model is the only one you need to explain everything that has and can exist.

The other two terms in *The Equation* are responsible for this dance of definedness: **Stability (Ω) and Complexity (Δ). Complexity is the degree to which phenomena escalate from basic to structured**. It is the source of **growth**, **innovation**, and **adaptation** among phenomena. The best measure of it is the mass or energy of the phenomena. **Stability is the degree to which complexity is attracted to complexity.** It provides **order**, **persistence**, and **structure**, serving as **the foundation** for phenomena to **persist and converge**. The best measure of it is gravity. Stability holds things together while complexity provides the growth that allows phenomena to align with the progress of existence. From the intricate fractal geometry of snowflakes to the vast networks of galaxies, **complexity shapes the course** of existence, and **stability ensures that progress holds** over time.

The Equation describes the proportionality that defines all being, **uniting stability (Ω) with complexity (Δ)** to express the definedness of all phenomena. **Definedness (Φ) is the balance of these two patterns**, capturing how phenomena behave. This dance between stability and complexity creates a balance that Φ quantifies, ensuring existence remains **stable yet dynamic**, **persistent yet capable of transformation**, **firm yet flexible**.

All phenomena must constantly adjust their **stability-complexity ratio to maintain definedness as environmental conditions change around them**. It is unitless because it describes the underlying pattern that exists in all phenomena, not the metric or the phenomena themselves. Definedness, then, measures whether phenomena have **emerged, converged, or diverged**. *The Equation* applies to all domains, from biology to physics… from consciousness to the cosmos… revealing the single rule that unifies what we thought were isolated phenomena. *The Equation* also holds the key to **understanding what is inside black holes**.



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 forms. This balance ensures that complexity does not diverge into chaos and instead aligns with convergent phenomena that persist and evolve. As recursion drives iterative progression and propagation extends these interactions across scales, stability moderates this expansion. This balance between complexity's tendency to escalate and stability's ability to contain it is fundamental to organizing everything from cosmic structures to cognitive systems. This balance, driven by recursive propagations, make complexity inherently more stable, allowing self-organization.

In Paper 6: There Is No Evidence That Time & Space Are Continuous, **I empirically tested** something that physicists have assumed for over a century but never verified: **whether time and space are truly continuous**. The results were definitive—**time and space are not infinitely divisible and continuous**. Existence operates in discrete units with clear boundaries, like **ticking pixels**. This discovery obliterates the singularity. If everything in the universe has **starting** and **stopping points**, then nothing can be infinitely dense or one-dimensional. Now that we know that spacetime is discrete, we need a new framework for understanding the universe.

Let's start with time. The thing about time is that… **it doesn't exist; at least, not as we thought**. In discrete existence, **time is recursion**—where the **output of one moment** serves as **the input for the next**. **Space is propagation** (the smallest units of space, like pixels of reality). Recursion and propagation are two ways existence behaves, but existence does so simultaneously, so **we call them recursive propagations**—the fundamental mechanics underlying existence (I call them **RPs for short**). **RPs vary in complexity** according to the phenomenon. **Complexity emerges from recursive propagations**, and then it is **transferred to stability**. This process repeats across existence, allowing us to express *The Equation* accurately while retaining its functioning as a simple ratio:

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

According to the **math** and **empirical evidence** of ***The Theory*** and ***The Equation***, the universe is **fractal and finite**. Fractals are **natural patterns of self-similarity**: recurring phenomena that remain consistent in form across vast scales of observation. In math, these fractals are infinite; however, **we have never seen infinity,** and

Paper 6 shows it does not exist, so fractals in existence have minimums (Planck units) and maximums (stay tuned 🤫). Consider how similar structures appear across diverse phenomena: the branching of neurons, tree limbs, river networks, and the filaments of galactic superclusters **all share remarkably identical self-organizing forms**. To measure how RPs vary by complexity, we can calculate their **relative fractal dynamics** (RFDs).

Seeing Existence Through Relative Fractal Dynamics

RFDs are the **discrete replacement for spacetime dilation in GR**. We can use **the fully expanded form of *The Equation* to calculate the RFDs** of phenomena by normalizing to the Planck units: **Planck energy** for **complexity**, **Planck time** for **recursion**, and **Planck lengths** for **propagation**. This approach allows us to analyze any phenomenon by converting measurements to the most fundamental units we know. By using Planck units—the smallest meaningful units of measurement in physics—**we create a standardized framework** for understanding how different phenomena evolve in the fractal universe we have found ourselves in. Here is the fully expanded form:

$$\Phi = \Omega * \left(\frac{(\kappa : \zeta)}{\Delta}, \nu = x \right) \vee \emptyset$$

$$\text{Definedness} = \text{Stability} * \left(\frac{(\text{Propagation} : \text{Recursion})}{\text{Complexity}}, \text{Normalized} \right) \text{Else Undefinedness}$$

This expanded form of *The Equation* contains **the entire mechanics of existence**. However, we are only focusing on the RFDs of phenomena (like planets and stars), so we need that normalized complexity portion.

$$\frac{(\kappa : \zeta)}{\Delta}, \nu = x \rightarrow \psi = \frac{l_P : t_P}{E_p} \rightarrow \text{RFDs} = \frac{\text{Planck Length} : \text{Planck Time}}{\text{Planck Energy}}$$

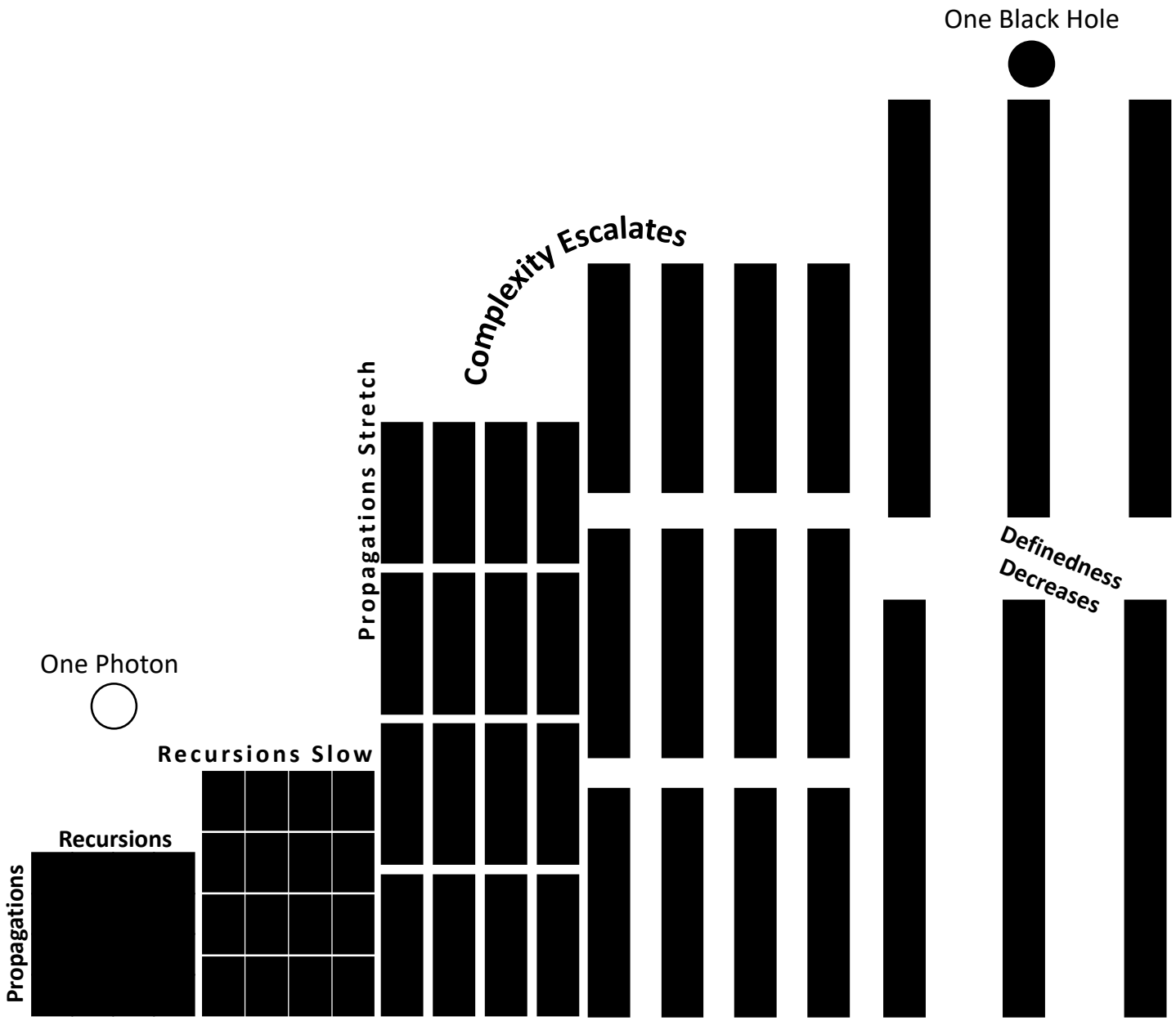
Let me demonstrate how the RFD formula works through a concrete example, such as an apple. We begin by **converting the apple's mass into Planck energy**, then **divide the unbounded RP rates** (maximum, the speed of light) using **the Planck unit numbers for length and time**. When you perform the calculation as shown below, you'll observe that recursion and propagation drop evenly—an exact result showing that **time and space always move in proportion to each other**, **never breaking the speed of light even as complexity escalates.**

This consistency explains why nothing can travel faster than the speed of light. Further, the calculation shows that **unbounded RPs are the default state of the universe**, operating in empty space and light only (which has no mass). When we introduce any mass or energy, **the unbounded RPs transform into bounded RPs**.

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

As **complexity increases, recursions slow, and propagations stretch** because of the strain the complexity puts on that part of existence—it cannot as easily progress because of the burden the phenomenon puts on it. **An apple weighs ~ 0.2 kg**, which we can **transform into Planck energy**, which would be $\sim 10^6 E_p$. Then, we simply calculate the RFD by **dividing the unbounded RPs** by the **Planck energy of the apple**. We see that, for an apple, time moves at 10^{38} **recursions a second,** and space expands to 10^{29} **propagations per meter**.

We can repeat this process for **any phenomenon**, irrespective of its size or domain, to gain a better understanding of how **bounded RPs behave at varying complexities**. Phenomena have their own relative fractal dynamics, based on their complexity as **defined by their mass and energy**. Look at how existence changes from **the photon (lowest complexity)** to extremes around **the black hole (maximum complexity)**. Isn't it incredible how everything else in existence falls in between these two extremes? RFDs enable us to observe the effects we once referred to as time dilation and the warping of spacetime, using a discrete model of existence. The question then becomes, **where do RPs go after they occur?** The answer to that question is… ***The Record***.

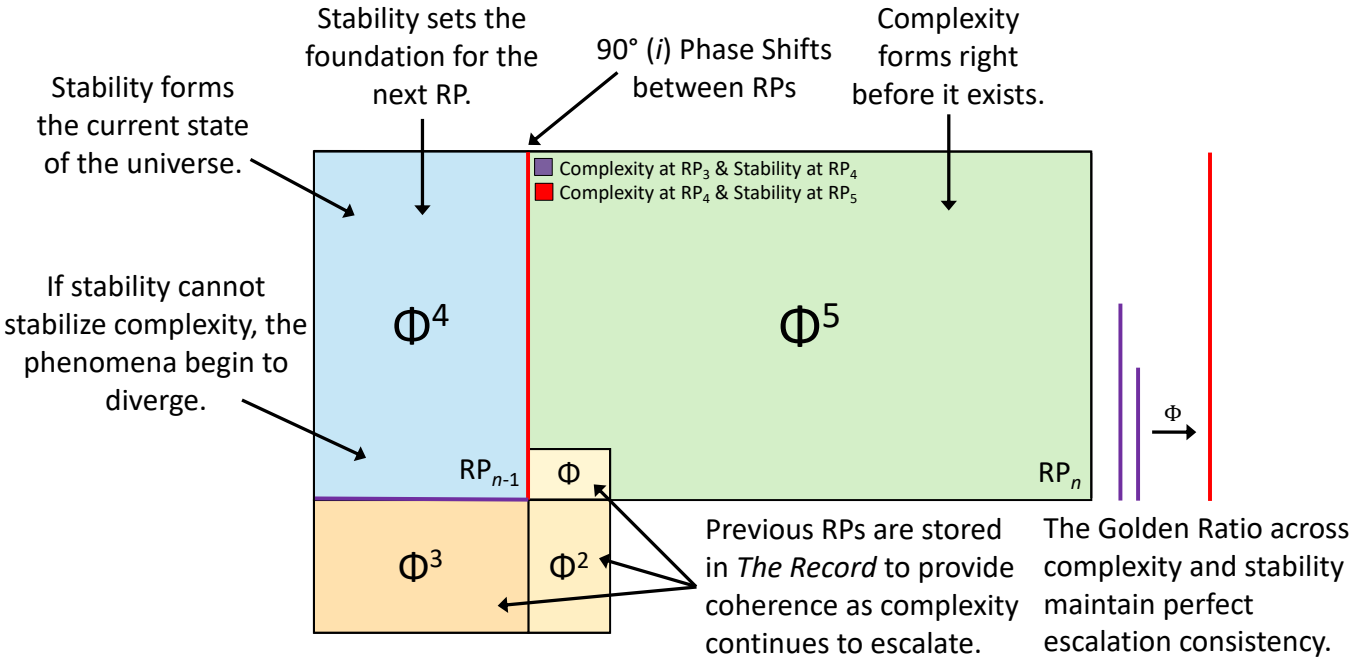


Caption: This figure visualizes the intricate and counterintuitive relationship between complexity, stability, and definedness across different phenomena. As complexity increases, recursion and propagation dynamically adjust by slowing and stretching proportionally, stabilizing the system while allowing 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.

Phenomenon	Mass	Planck Energy	Relative Recursions	Relative Propagations
Photon	0 *kg*	$1\ E_p$	$\sim 10^{44}\ \frac{r}{s}$	$\sim 10^{35}\ \frac{p}{m}$
Paperclip	0.001 *kg*	$\sim 10^{4}\ E_p$	$\sim 10^{40}\ \frac{r}{s}$	$\sim 10^{31}\ \frac{p}{m}$
Apple	0.2 *kg*	$\sim 10^{6}\ E_p$	$\sim 10^{38}\ \frac{r}{s}$	$\sim 10^{29}\ \frac{p}{m}$
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^{24} *kg*	$\sim 10^{32}\ E_p$	$\sim 10^{12}\ \frac{r}{s}$	$\sim 10^{3}\ \frac{p}{m}$
Sun	10^{30} *kg*	$\sim 10^{37}\ E_p$	$\sim 10^{7}\ \frac{r}{s}$	$\sim 10^{-2}\ \frac{p}{m}$
Black Hole	10^{31} *kg*	$\sim 10^{38}\ E_p$	$\sim 10^{6}\ \frac{r}{s}$	$\sim 10^{-3}\ \frac{p}{m}$

***The Record*: The Secret Fractal Memory of Existence**

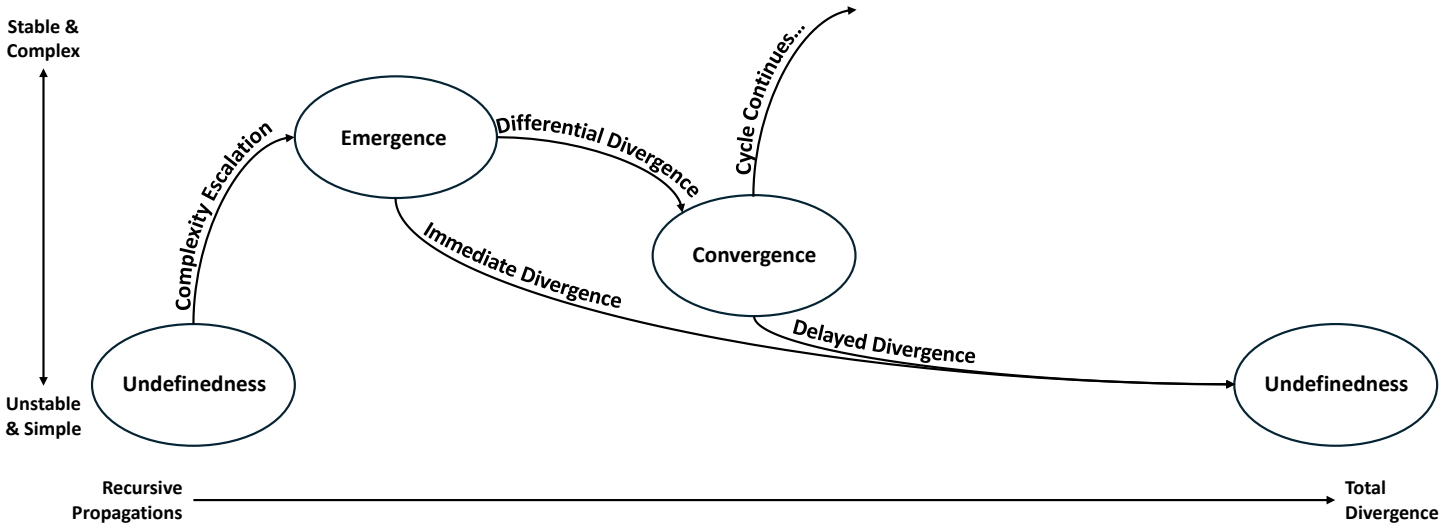
I want to start this section with **complete honesty**. **I did not invent *The Record* or its concept**—I found it, time and time again, in the **simulations**, in the **math**, and in the **empirical evidence**. At first, it made me **deeply uncomfortable**. **I tried to rationalize it away** before coming to terms with what it is, why it exists, and how it works. Now… I see it for what it is… **the reason anything persists at all**… and the only thing stopping existence and everything in it from diverging. It's one of the most beautiful things I've ever seen... **let me show you**…



Caption: Stability becomes the structural foundation for the next recursive propagation in the complexity escalation. If stability cannot constrain complexity, the phenomena collapse. The alignment of this phase shifting stability to complexity structure determines E2C. Highly misaligned ratios result in diverged phenomena (complexity outpaces stability) whereas converged phenomena (stability outpacing complexity) come from strong alignment in *The Record*.

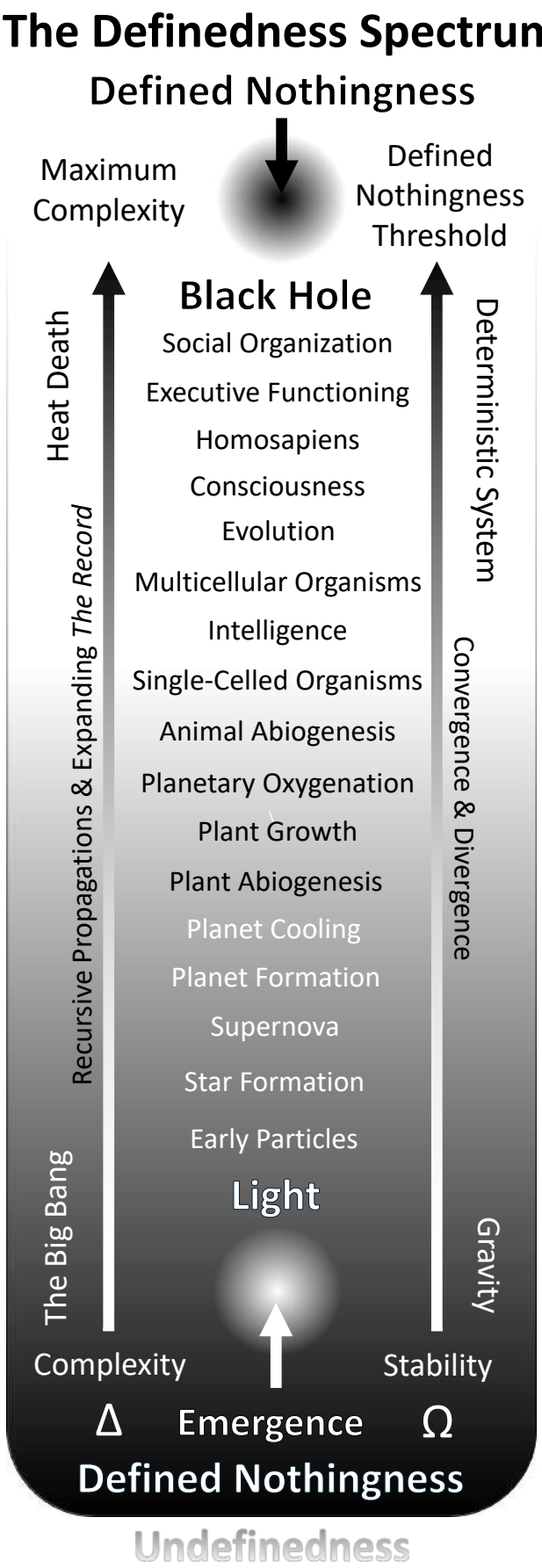
The Record is the recursive-propagative fractal memory of existence that **stores all previous RPs** into definedness. ***The Record*** is the mechanism that causes **phenomena to emerge, converge, and ultimately diverge**. However, **the definedness of RPs in *The Record* is significantly lower than ours,** to the extent that direct observation is not possible; yet **we see the effects of *The Record* everywhere**. Everything that has ever existed **never actually ceases to exist** (until heat death); it remains in *The Record*, determining the trajectory of phenomena.

When you think about *The Record* and how it works in existence, you can think of it **quite literally as a vinyl record where the vinyl is *The Record* and the music that it plays is existence**. Existence is the music, but when you look at the vinyl, you can see imprints on it, which cause the frequencies and waves. Thus, if existence is the music, then yes, **you could not see or interact with the bumps on *The Record* directly**. Still, they are there **before existence happens**. Mentally, you can imagine that what it looks like is **the record player is right in the middle of the music permeating the room**; but, from the music's perspective, **it's not there**, because all the interaction happens **before the music comes out of the speakers**—which is how *The Record* works too.



Caption: This figure illustrates the cyclical nature of emergence, convergence, and divergence governed by recursive propagations. 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 recursive propagations have not yet aligned to form stable complexity. The figure illuminates *The Theory of Existence's* revolutionary premise: reality operates as a seamless, interconnected system governed by universal principles of recursive propagations following patterns of emergence-to-convergence (E2C). *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. *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 dance. 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.

Let me be crystal clear about something crucial: ***The Record* is not a mystical or metaphysical concept**—it's as real and physical as you and me. We interact with it constantly, but we cannot directly observe it because **it exists at a definedness below our perception threshold** and is **always tucked behind the much stronger definedness of the current RP**. Think of it as the universe's hard drive, storing every RP that has ever occurred. The evidence for *The Record* is overwhelming. In Paper 4: Illuminating Dark Matter & Energy: Living in a Fractal Universe, I showed how **it explains galactic rotation curves with 99.98% accuracy,** finally solving the dark matter puzzle. Galaxies exhibit distinct convergence and divergence zones because ***The Record* contains inherent structural patterns of existence that determine how and where all phenomena form, cluster, and disperse**.



These mathematical patterns are **inherent to all recursive systems, including existence**, as I demonstrated in Paper 3: The Harmonics of Existence: Solving the Collatz Conjecture & Recursive Systems. *The Record* is the structural foundation that makes existence stable rather than chaotic. **It maintains a unified and coherent existence across scales.** Now that we understand *The Theory*—discrete RPs, the definedness spectrum, and *The Record* as the universe's memory system—we can finally crack the mystery of **what's *really* happening inside of black holes**.

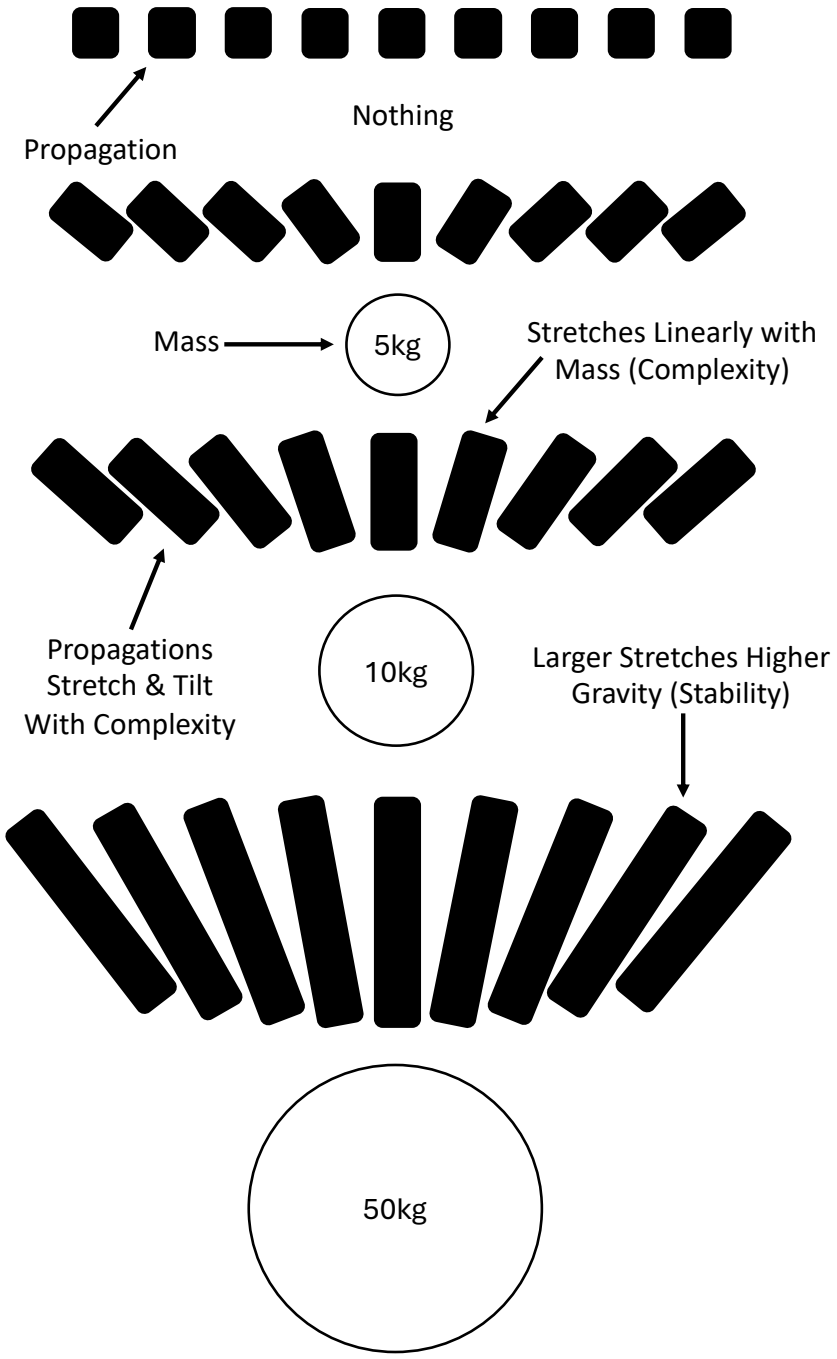
It's Less Than Nothing… It's Defined Nothingness

It might seem intuitive to assume that, if existence is definedness, then **the centre of a black hole would be undefinedness**. The difficult but essential truth is that undefinedness does not exist; it simply isn't. When we think back to Paper 2: Introducing Undefinedness: That Is, If Undefinedness Was Something That Could Be Introduced—But It's Not, we remember that if we can point to something and say it is undefined, then it has definedness—the **definedness of being undefined** in existence.

Instead of undefinedness, there is something called **defined nothingness**—a location within existence where **definedness could be but is not**—a real, measurable non-state that marks **the start or stop of RPs**. We typically think of "nothing" as empty space, but **empty space is not empty**, as I'll show you in a moment. Empty space may be "nothing," but **only from our current RP**. Defined nothingness is **the defined lack of definedness**, a boundary with no RPs. Defined nothingness occurs **anywhere RPs terminate without transforming into a new form of complexity—**black holes being the prime example.

In this figure, we see **existence begin with defined nothingness** and **a single photon**—the simplest, most foundational forms of complexity and stability. Definedness **does not occur within RPs, but across them**. RP_1 of the Big Bang had defined nothingness, but **not yet the definedness that governs existence**, until it transitioned into RP_2. From that moment forward, **existence recursively propagated complexity escalations that stabilized into the phenomena** we now observe across the universe. All phenomena fall somewhere along the spectrum of definedness. After the Big Bang, defined nothingness appears only in two other locations: **black holes, and heat death at the universe's end**. You can learn more about what *The Theory* says about both *The Theory of Existence* book.

What does defined nothingness look like in existence? Imagine a spot of defined nothingness sitting directly in front of you. What would you see? What would it feel like to touch it? The answer is: **you wouldn't see or feel anything**, because it wouldn't be there in the way that exists. **It would neither reflect light nor emit energy, and it would possess neither spatial nor temporal qualities**. At first glance, it might appear black—but black is still a property of existence, and **defined nothingness has no properties at all**. It is not dark—it's absent. It would not feel empty. It would feel like nothing belonged there in the first place. **Unlike undefinedness**, which cannot be observed because it has no structure, we can observe **defined nothingness by noting what should be there but is not**. It's real, but not present. It's absence, made observable.

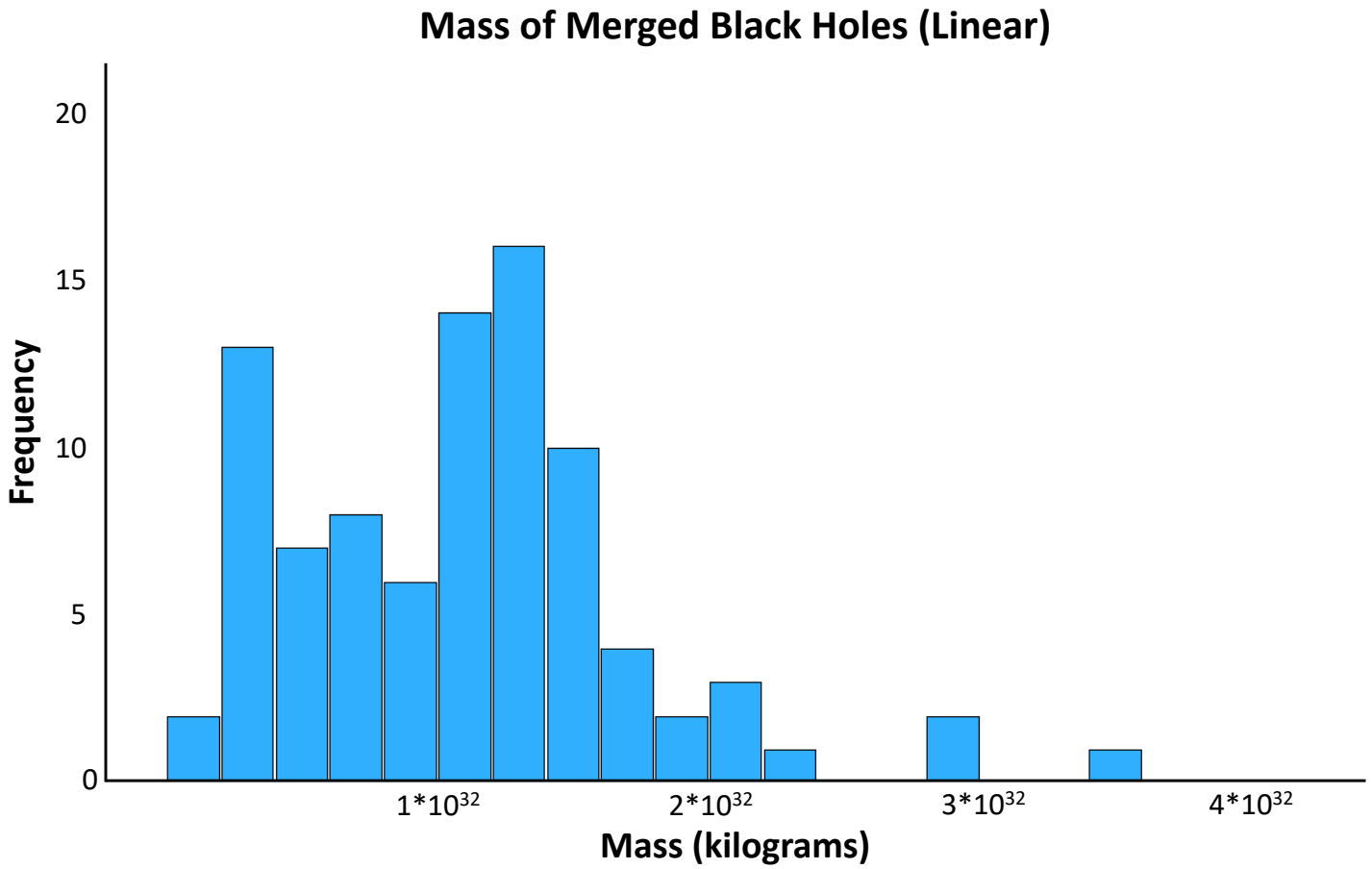


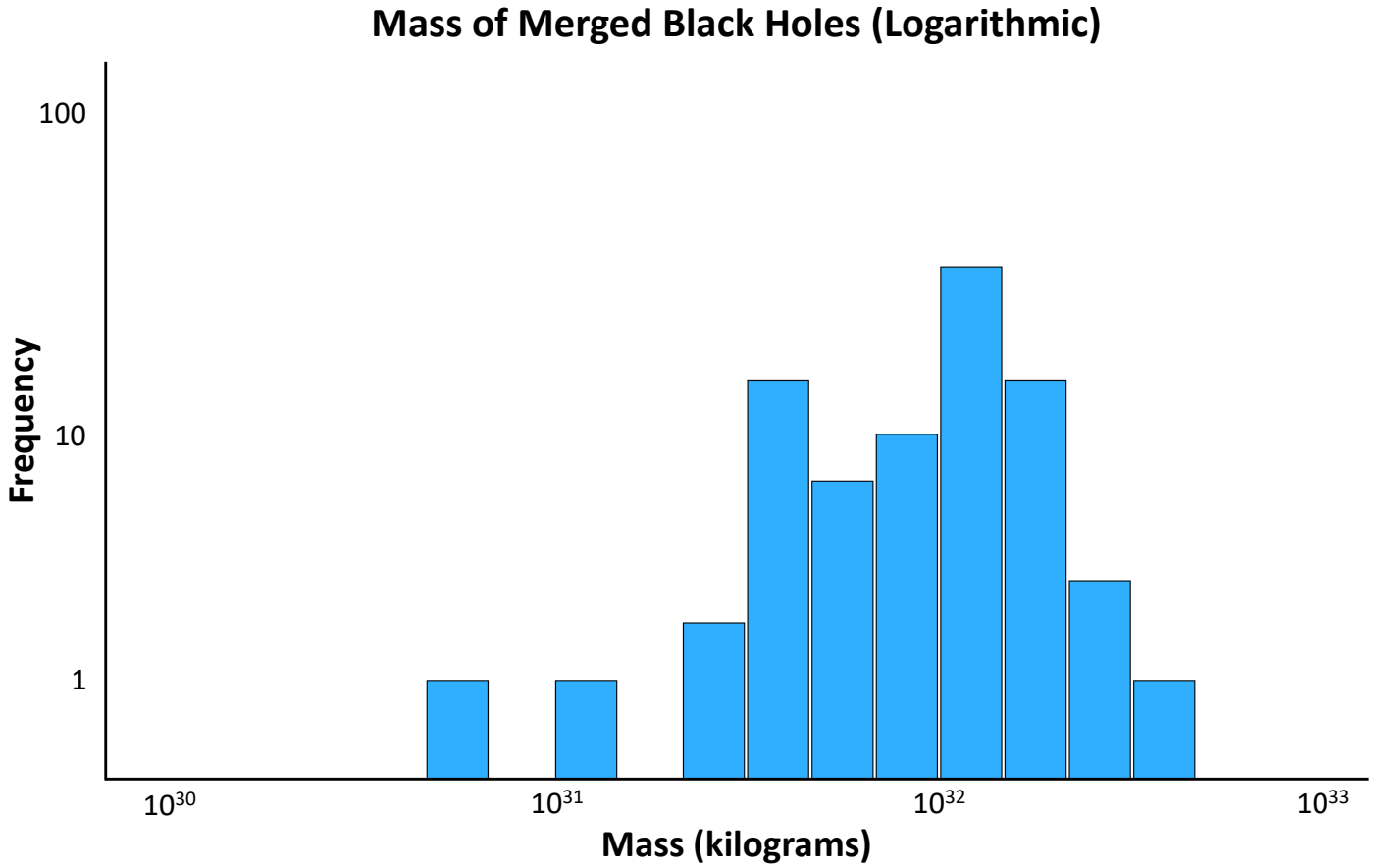
The Defined Nothingness Threshold

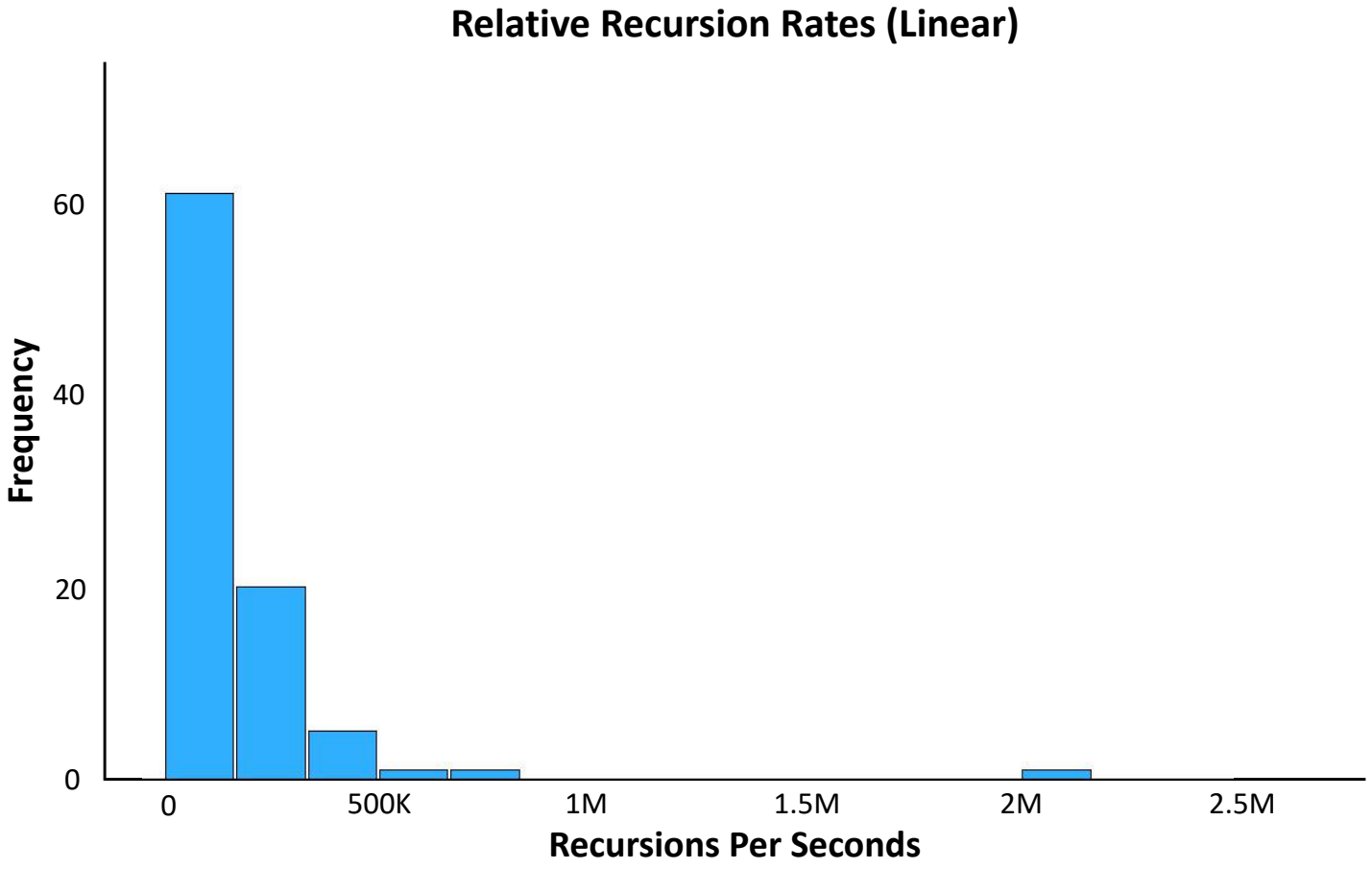
To understand defined nothingness, let's start with gravity. **We have seen how complexity (mass) determines the RFDs of phenomena**, and when mass increases, propagation stretches—**this propagative stretching *is* gravity**. Complexity, the emergent outcome of RPs, **creates resistance as it moves through existence**, much like walking through water vs. air. What physicists call "time dilation" is the slowing down of recursion, and what they call "gravity" is the propagative stretching. However, **propagations do not just stretch uniformly**; **they stretch directionally, tilting toward areas of higher complexity, much** like a pile of iron filings drawn to a magnet.

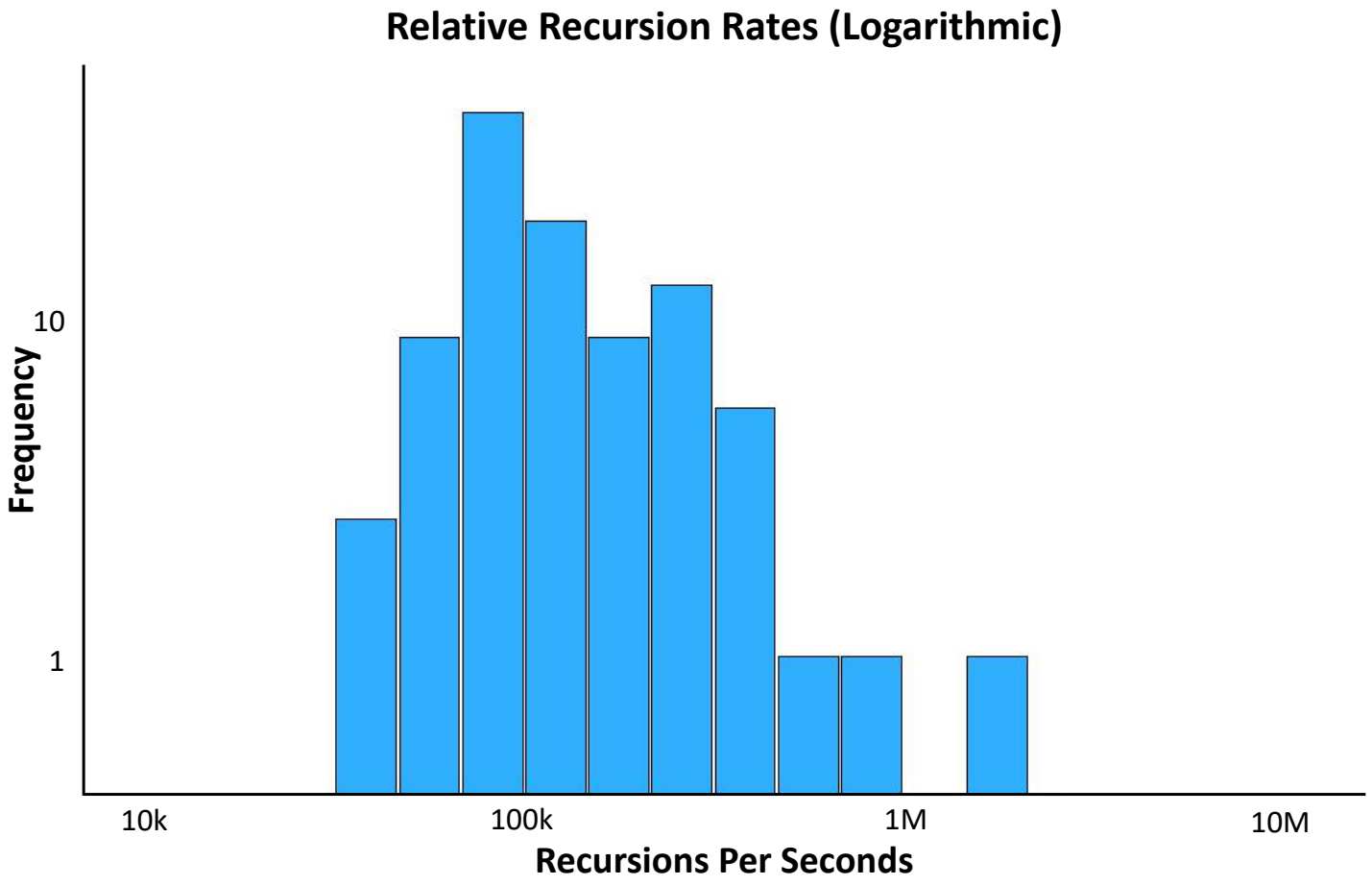
This **directional tilting** creates the fundamental attraction we experience as gravity, **where complexity warps the structure of existence in a way that causes more complexity to flow toward** it, thereby defining stability. On human scales, these effects are subtle—**unexplained mood shifts or tensions—**but on cosmic scales, this exact mechanism becomes the gravity that pulls matter into planets and stars. The *LIGO data reveals exactly how this process works,* and more importantly, **the data reveal what happens to existence when it breaks…**

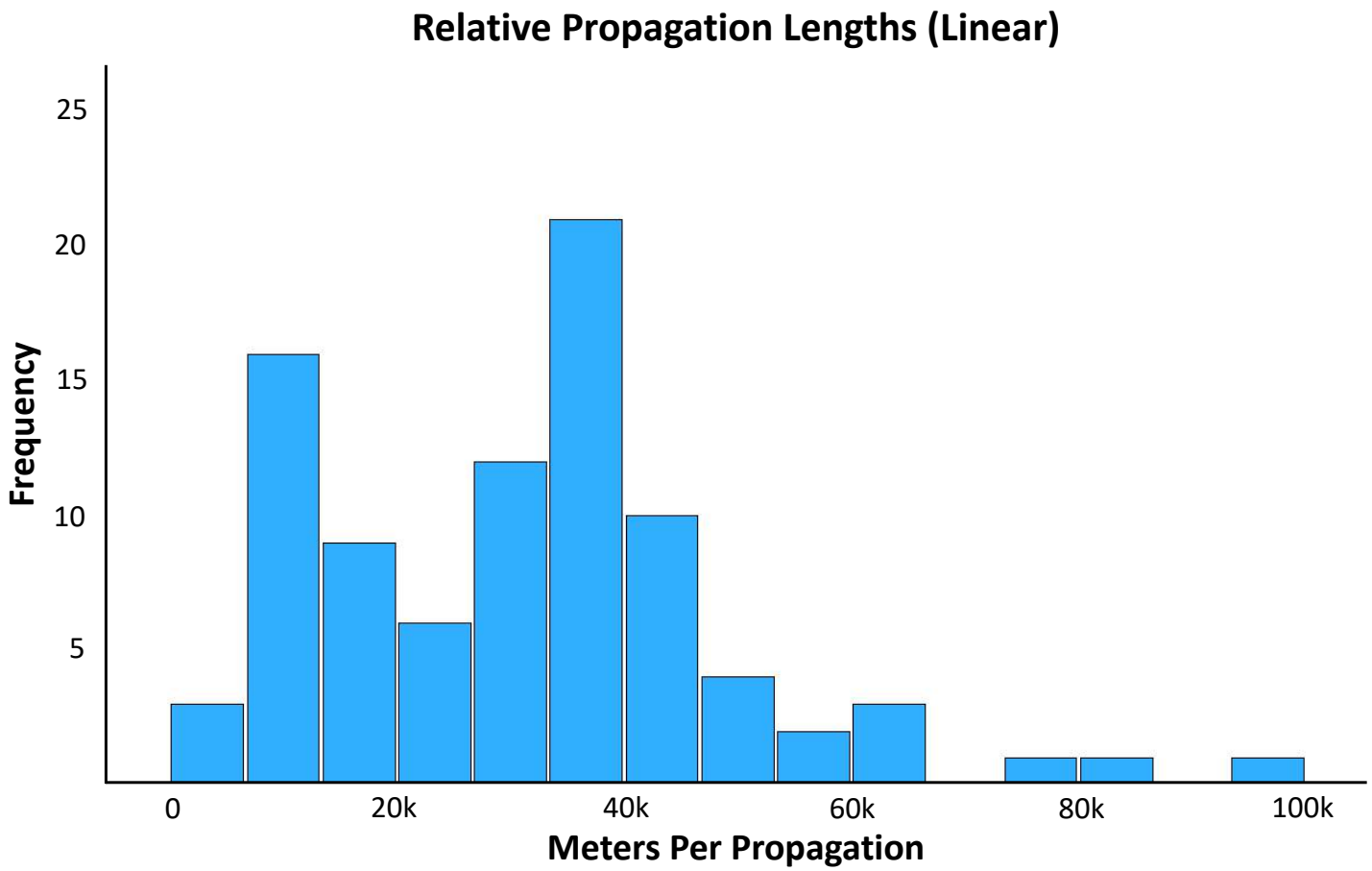
Let's bring in the best black hole dataset available: **LIGO's black hole merger catalog containing ~90 black hole collisions**. Each event captures two black holes spiraling toward each other, their merger, the combined black hole, and the gravitational waves. I began by **analyzing the post-merger black holes using RFDs**, examining their distributions on both **linear and logarithmic scales**. I also calculated the Schwarzschild diameters, assuming no spin or velocity as a baseline approximation, then checked their shape with histograms.

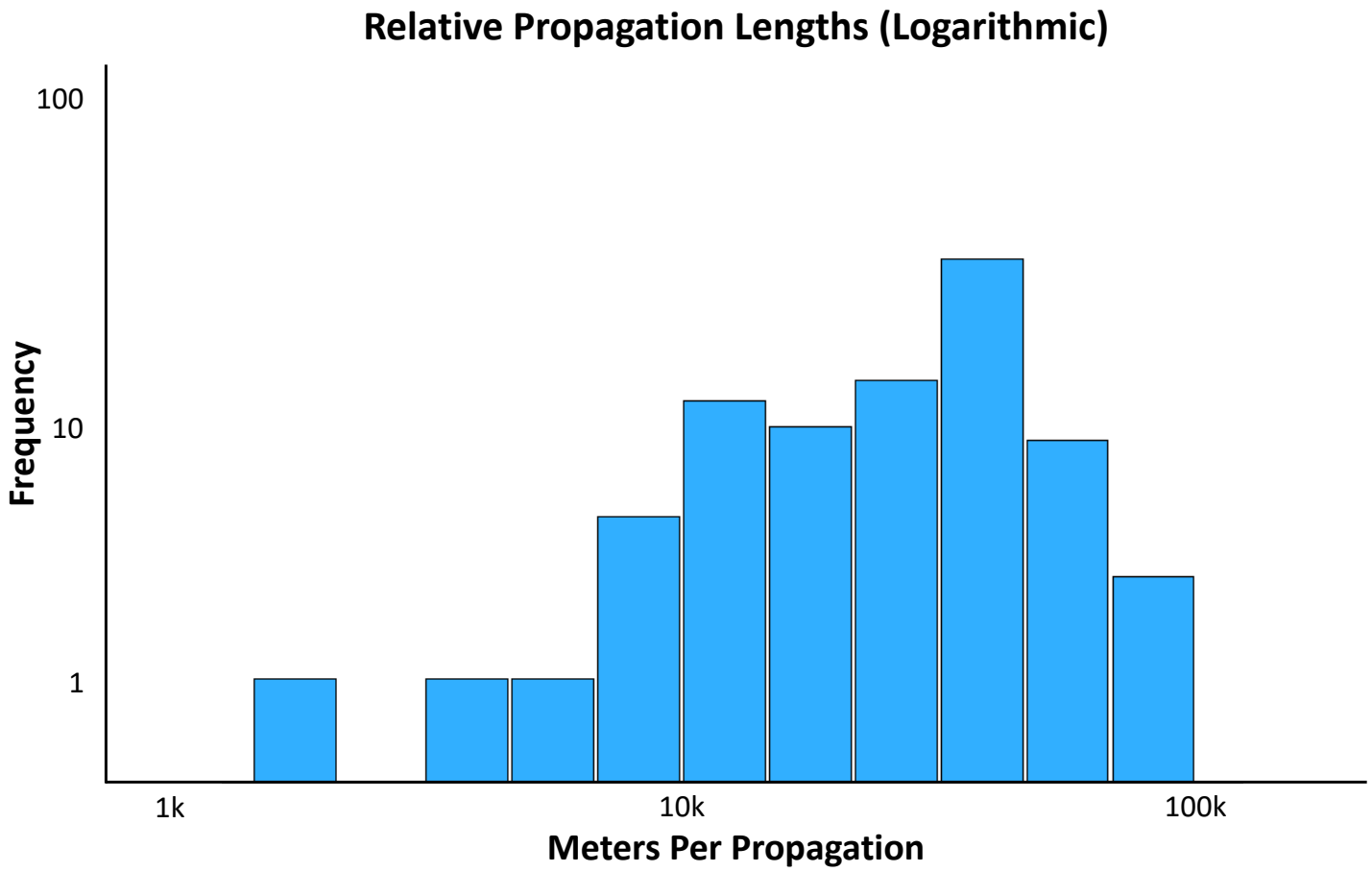

Mass of Merged Black Holes (Linear)
Frequency
20
15
10
5
0
1*10^32
2*10^32
3*10^32
4*10^32
Mass (kilograms)

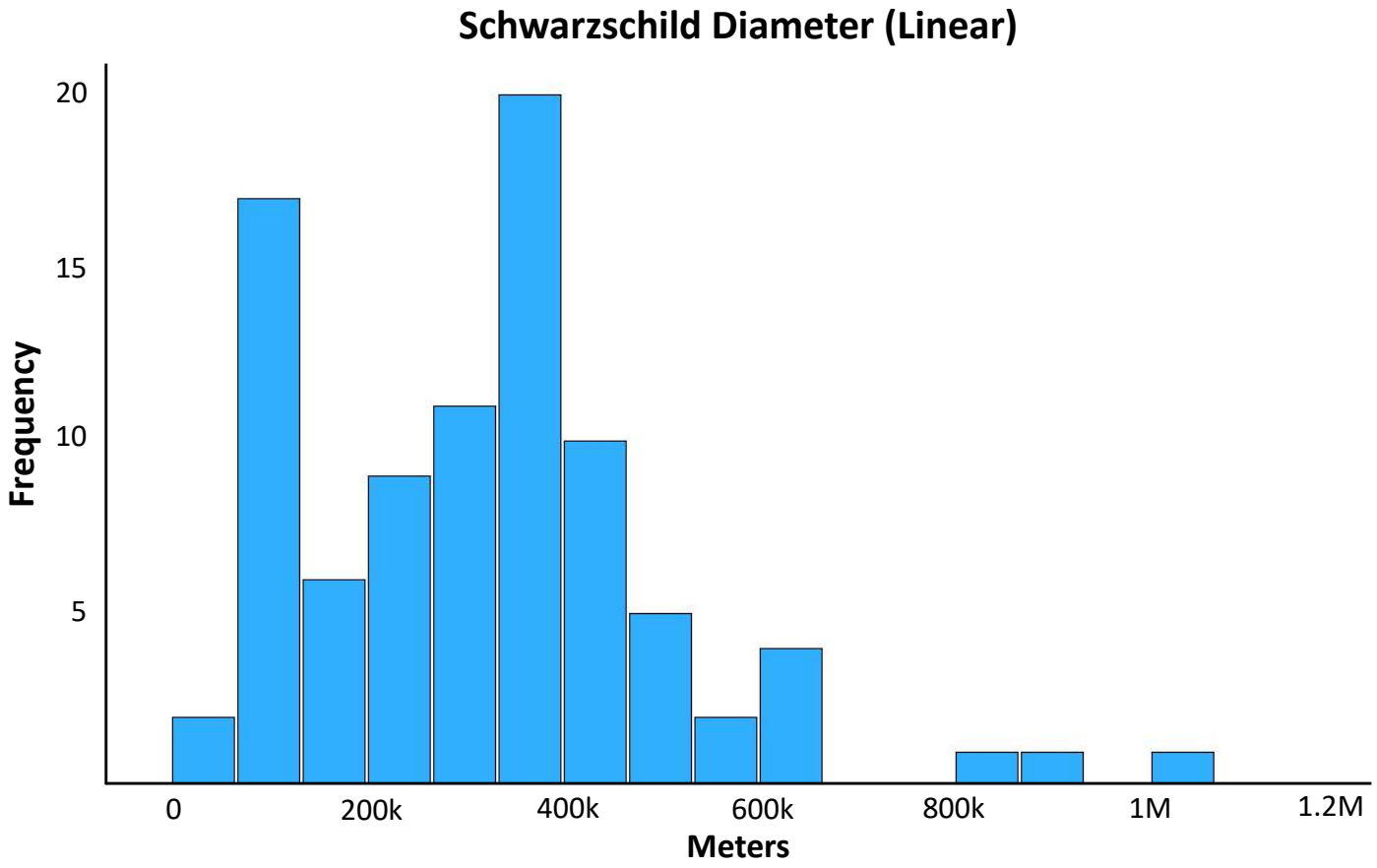

Mass of Merged Black Holes (Logarithmic)
Frequency
100
10
1
10^30
10^31
10^32
10^33
Mass (kilograms)

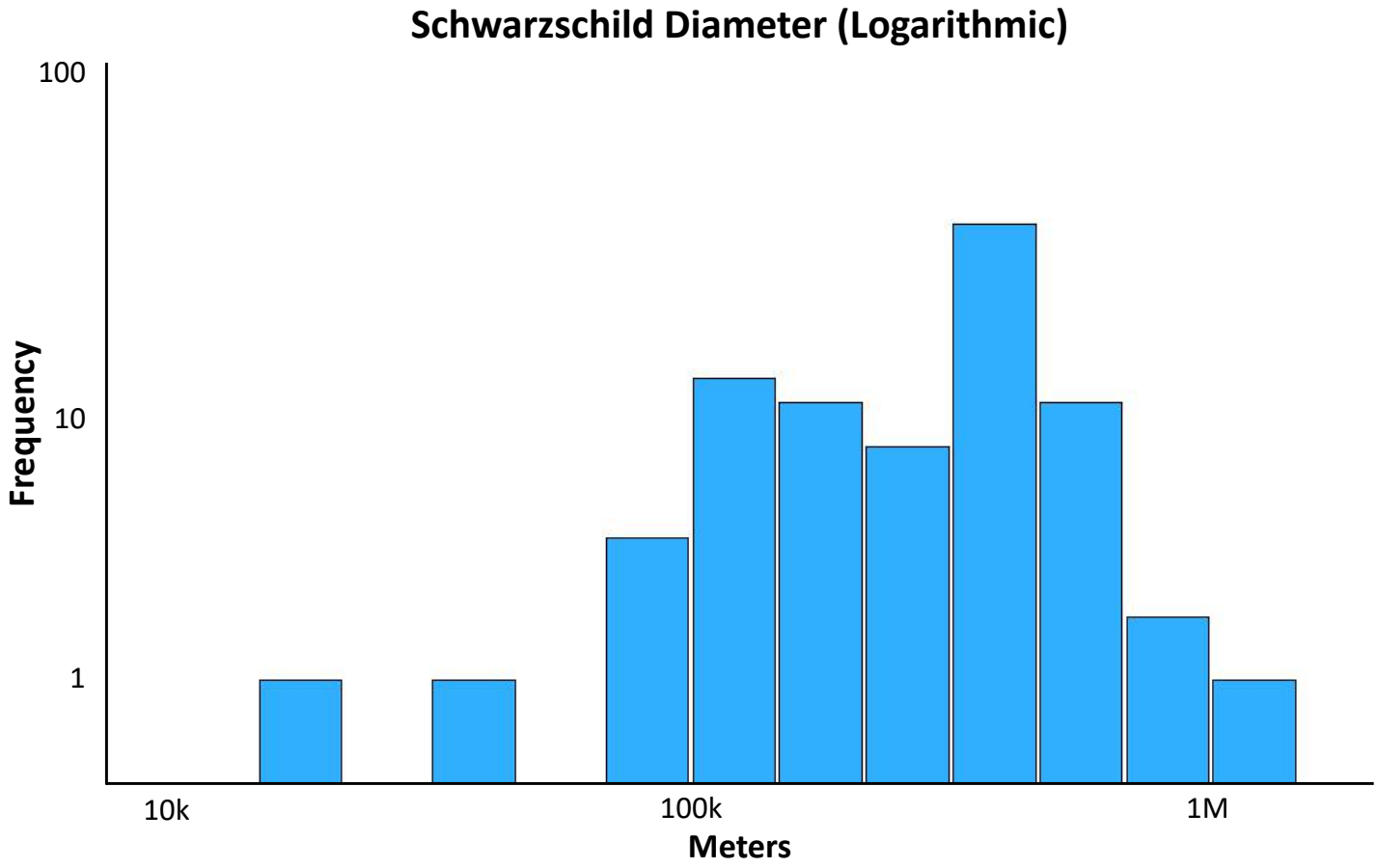

Relative Recursion Rates (Linear)
Frequency
60
40
20
0
0
500K
1M
1.5M
2M
2.5M
Recursions Per Seconds


Relative Recursion Rates (Logarithmic)
Frequency
10
1
10k
100k
1M
10M
Recursions Per Seconds

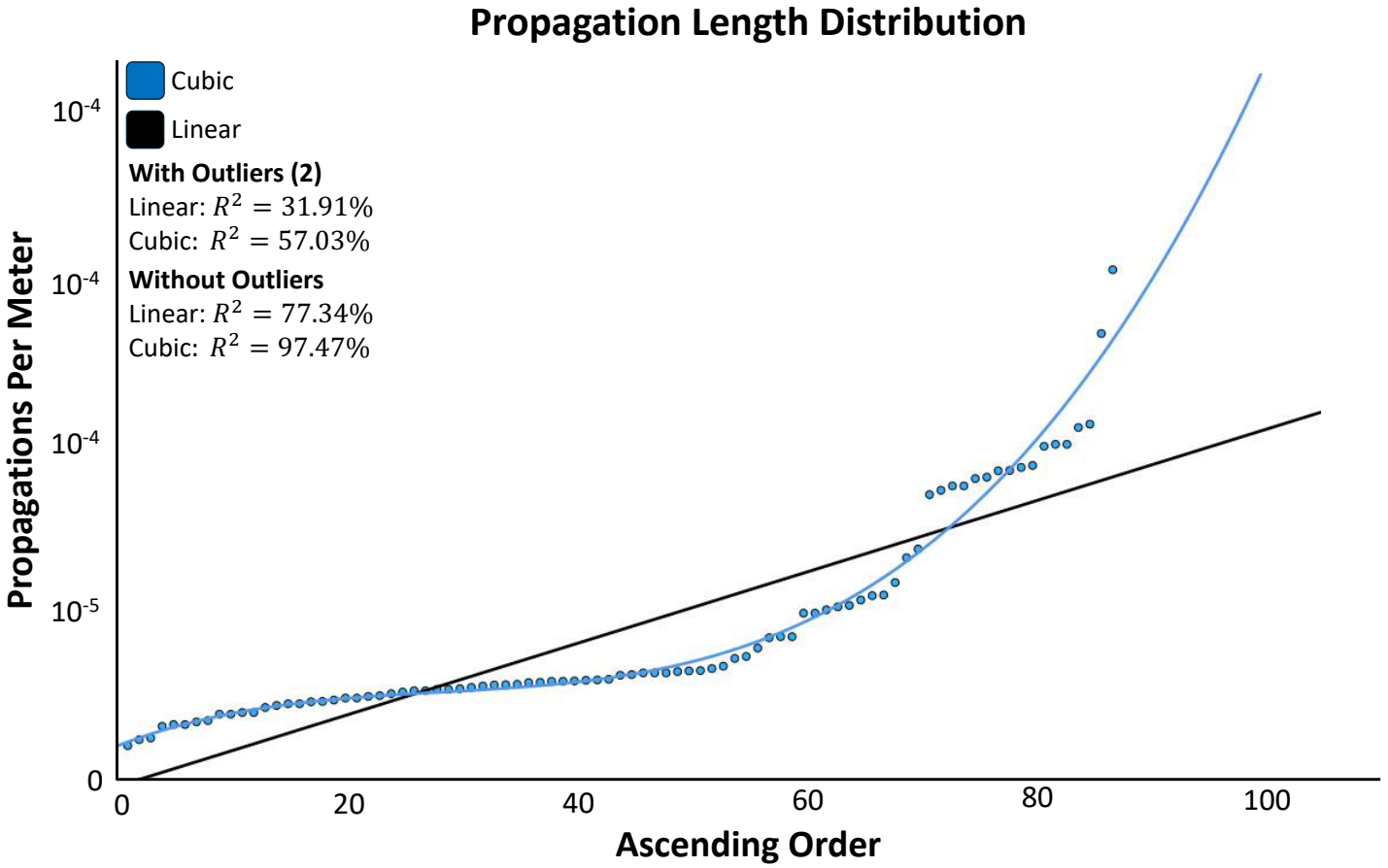

Relative Propagation Lengths (Linear)
25
20
15
10
5
Frequency
0
20k
40k
60k
80k
100k
Meters Per Propagation


Relative Propagation Lengths (Logarithmic)
100
10
1
Frequency
1k
10k
100k
Meters Per Propagation


Schwarzschild Diameter (Linear)
20
15
10
5
Frequency
0
200k
400k
600k
800k
1M
1.2M
Meters


Schwarzschild Diameter (Logarithmic)
100
10
1
Frequency
10k
100k
1M
Meters

RFDs give us **recursions per second** and **propagations per meter**. The recursion rate makes sense—it maps directly to how we experience time as a sequence of updates. However, propagations per meter **create a perceptual problem**: we do not experience space as discrete, so **a meter feels like a meter regardless of how many propagations it contains**. To make this figure more intuitive, I inverted the measure to get **meters per propagation**, which suddenly clicks—now we are measuring how much space each propagation covers. It reveals a difference between how we experience **recursions and propagations distinctly despite their proportionality**.



The histograms confirm expectations, so let's examine **the shape of RFDs** by arranging them in **ascending order** and comparing **linear vs. cubic regressions**. Here we see it again—that beautiful **cubic curve** that keeps appearing throughout *The Show*. The distribution of relative propagation rates across ascending black hole complexity reveals that **a linear fit only explains 77.34%** of the mass variation, but **the cubic model captures a remarkable 97.47%**. Remember, according to current physics, **mass scales linearly with energy**. Yet, a cubic curve materializes when you calculate RFDs, even though the RFD formula operates inversely linearly, with **existing stacks' RPs cubically increasing**. Paper 6 explains why this pattern emerges from discrete spacetime; however, the key insight is that this **cubic distribution appears everywhere because it is the natural organization of RPs**.

When Complexity Hits the Defined Nothingness Threshold

One of the most remarkable findings in this study emerges not **from simple descriptive statistics**. When we examine RFDs in relation to **each black hole's Schwarzschild diameter**, effectively controlling for scale, it reveals **the Defined Nothingness Threshold (DNT)**, the point at which complexity stops recursively propagating and turns into defined nothingness from our perspective and current RP. I measured it in meters per propagation per meter of diameter (*m/p/d*)—a derived measure of **the absolute maximum propagative stretching required to *prevent* the next RP from forming**. The value converged on a remarkably consistent constant: $\sim.0957\ m/p/d$, with a standard deviation of just $.0002$ across all ~ 90 merged black holes. This precision is

staggering when you consider **these black holes range from 6 to 88 solar masses**, yet they all hit the same structural limit, revealing a universal complexity escalation maximum, the absolute **ceiling of existence** itself.

Table 1

Defined Nothingness Threshold Descriptive Statistics

Variable	Mean	*SD*	Max	Min	Skewness	Kurtosis
Mass (kg)	$1.10*10^{32}$	$6.29*10^{31}$	$3.44*10^{32}$	$5.57*10^{30}$	0.97	1.83
Planck Energy	$5.05*10^{39}$	$2.89*10^{39}$	$1.58*10^{40}$	$2.56*10^{38}$	0.98	1.84
Diameter (m)	326,510	186,941	1,021,840	16,545	0.97	1.83
Meters/Propagation	31,260	17,898	97,754	1,583	0.97	1.83
Recursions/Second	178,642	240,462	2,105,263	34,130	6.24	47.74
m/p/d	**.0957**	**.0002**	**.0961**	**.0953**	-0.27	0.77
r/s/d	2.56	13.57	127.24	0.03	9.04	83.62

Note. n = 90. Descriptive statistics that reflect the measured defined nothingness threshold (DNT), using the observed post-merger black hole masses in kilograms. I converted each mass into its equivalent Planck energy, then applied the RFD formula to calculate both the relative propagation lengths and relative recursion rates. I used the same mass data to compute the Schwarzschild diameter for each black hole, assuming no spin or velocity. From there, I calculated the meters per propagation per meter of diameter, revealing that the recursive complexity bottleneck consistently occurs at approximately .0957 meters of a single propagation per one meter of diameter. This ceiling suggests that no propagation can stretch beyond this threshold without causing a black hole, making this ratio a structural ceiling for definedness under the fractal universe conditions. I also calculated recursions per second per meter of diameter, which revealed a wide distribution across cases. This finding suggests that while propagation is tightly constrained (as expected in a spatial boundary condition like the Schwarzschild radius), recursion varies significantly, consistent with the idea that black hole formation is primarily driven by propagation failure, rather than recursion. Recursion has no spatial analog within the black hole, which further supports its dissociation from radius metrics. Note that, although recursion rates vary across the black holes, they cease at the DNT with propagation because they are not independent processes. $m/p/d$ = Meters per Propagation per Diameter, $s/r/d$ = Seconds per Recursion per Diameter.

No propagation can stretch beyond $\sim.0957$ $m/p/d$ without triggering the DNT within a given volume of existence. Propagations are not a measure of volume or even distance—they are the measure of how many discrete propagation pixels exist within that volume—more like **a measure of definedness resolution**. In contrast, recursions per second per Schwarzschild diameter ($r/s/d$) showed **extreme variability**: a mean of ~ 2.56 seconds per recursion per meter, but **a standard deviation of ~ 13.57**, with high skewness (9.04) and kurtosis (83.62). This stark contrast reveals something fundamental about existence: **recursion remains flexible and adaptive**, capable of speeding up or slowing down, but **propagation hits a hard limit at the DNT**, and existence locks—no further RPs are possible. This finding **validates the RFD formula**, which defines the tipping point of definedness and provides a universal constant that governs the ceiling of existence. The DNT raises the question: **what happens to all that** observable matter and energy—what I call **lumen**—**inside the black hole?**

Locked Complexity in the Past

When we **examine the DNT and the mass differences** between pre-merger and post-merger black holes, we witness **the precise moment when lumen vanishes from our reality**. The findings show **a dissociation between mass and the DNT**. Across all three black holes in every merger, the structural ceiling remains locked at exactly $\sim.0957$ $m/p/d$, with negligible variance even at the hundred-thousandths decimal place. Statistical analysis confirms that this consistency is absolute, showing that pre-merger and post-merger values do not **differ (*p* =**

.991), and **reconfirms this result from pre- to post-merger**. The DNT is an immovable entity—**never budging or accommodating more complexity under any circumstances**. Mass, however, tells a dramatically different story.

Table 2

Ceiling & Mass Differences & Changes Post-Merger

	Black Hole 1	Black Hole 2	Black Hole Merged	Significance	Effect
DNT	**0.0957 (.00013)**	**0.0957 (.00010)**	**0.0957 (.00016)**	.991	-
Mass	$7.10*10^{31}$ ($4.06*10^{31}$)	$4.37*10^{31}$ ($2.77*10^{31}$)	$1.10*10^{32}$ ($6.29*10^{31}$)	< .001	$\eta_p^2 = .760$
	Black Hole 1 + 2	Black Hole Merged	Difference	Significance	Effect
DNT	**0.0957 (.00016)**	**0.0957 (.00016)**	.00001	.419	-
Mass	$1.15*10^{32}$ ($6.29*10^{31}$)	$1.01*10^{32}$ ($6.62*10^{31}$)	$-4.81*10^{30}$	< .001	*d* = 1.249

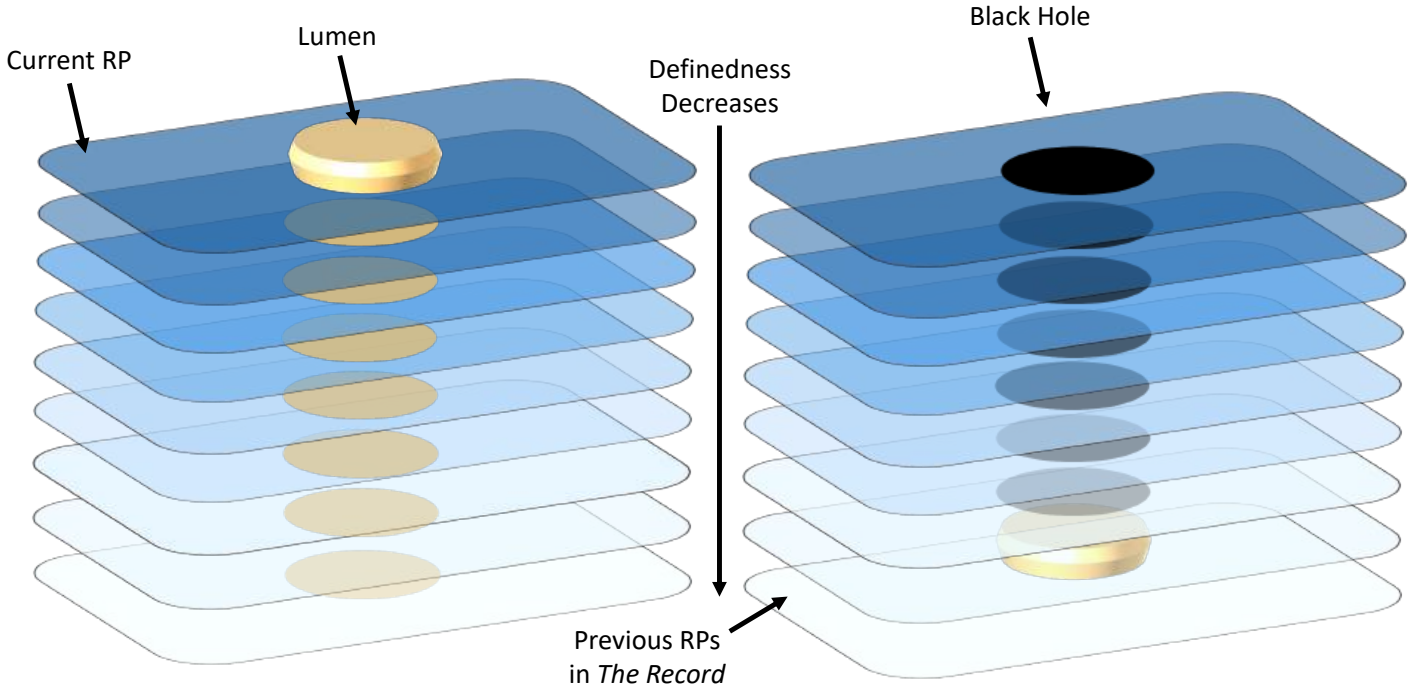
Note. n = 90. This table compares pre-merger and post-merger black holes in terms of the DNT and mass, including means and standard deviations. At the top, I ran a one-way ANOVA across the three black hole types. At the bottom, I conducted a within-sample *t*-test to examine the pre- to post-merger changes. The results are striking. The ANOVA revealed no group differences in the DNT, but mass varied widely across the three types—indicating that the DNT operates as a hard cut-off, unaffected by mass or other variables. When comparing pre- to post-merger states, the same astonishing pattern emerged. The DNT remained unchanged across the merger, consistent with it representing the very maximum of complexity in that region, where no further recursive propagation is possible. Mass, however, showed a dramatic loss: roughly 2.7 solar masses disappeared in the transition. What does this finding reveal? The missing mass does not escape the black hole, nor does any rise in the DNT explain it. Instead, the mass (lumen; observable matter and energy) in the black hole stop recursively propagating and are left behind in *The Record* where it stays as the universe continues to unfold.

While the DNT ceiling remains static, **mass plummets during mergers**. The combined pre-merger black holes average $1.15 * 10^{32} kg$, **but the resulting merged black hole contains only $\mathbf{1.01 * 10^{32}\ kg}$**—a staggering loss of $4.81 * 10^{30} kg$equivalent **to $\mathbf{2.70}$ solar masses simply vanishing from observable reality**. It is a robust finding (p < .001) with a large effect size (d = 1.249) that appears consistently across the entire dataset. **The missing mass isn't explained by increased radius, spin, or any elevation in the DNT threshold**. Although physicists expect some mass loss during mergers, this magnitude of disappearance far exceeds anything predicted by gravitational wave radiation, energy dissipation, or conventional loss mechanisms.

Under normal conditions, **complexity escalates through RPs, then transitions into stability** to support the next RP, while previous RPs lose definedness as they enter into *The Record*. However, when a phenomenon reaches the DNT, the propagation length hits an absolute ceiling. Recursion becomes locked in place—**no further RPs are possible in that region of existence**. However, **existence itself does not stop** because one phenomenon reached this limit, which is the principle behind RFDs: **RPs continue to unfold everywhere else**, even though the same principles govern all regions. When the lumen within a region can no longer generate new RPs, **time and space cease to exist entirely in that region**. The **lumen retains the definedness from its final RP**, but without the ability to recursively propagate, it is left behind in *The Record*—trapped in the RP that hit the DNT—while **existence moves on without it**. This separation **creates a region of defined nothingness** in our current RP. From our perspective, that missing existence in that region appears as a black hole.

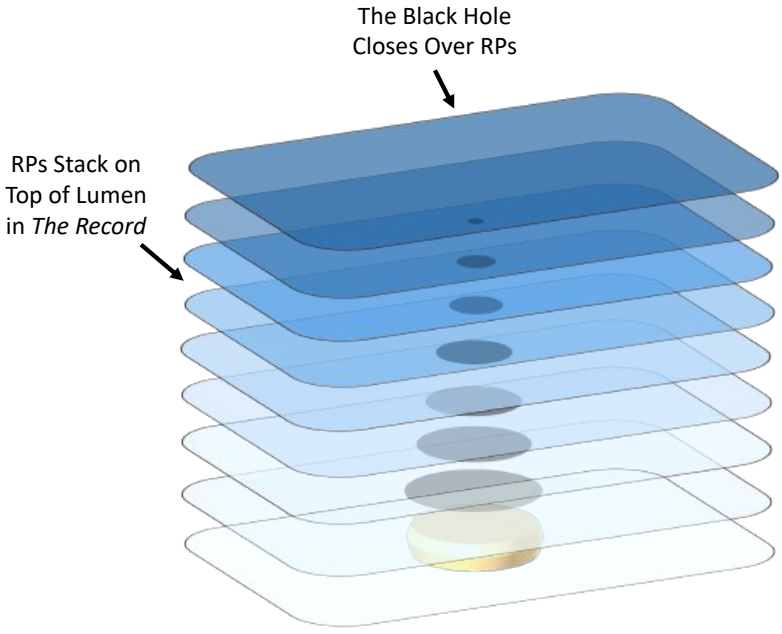
Lumen does not simply disappear. It cannot, because **undefinedness does not exist**. *The Record* absorbs this lumen, which **accounts for the missing mass we observe in black hole mergers**. However, the entire thing, which is punctured in existence, **retains its high complexity at the event horizon**, which is why we can still detect its mass. It isn't annihilation—*The Record* holds the lumen in a state of locked suspension in a layer of definedness too low for current-RP phenomena like us to detect. It explains why black hole mergers lose substantial mass yet remain black holes—**the lost mass has not been destroyed**; it has been archived in *The Record.*

The lumen being locked into *The Record* explains why nothing can escape. RPs have ceased entirely—no **recursive updates, no propagations through space**, no activity whatsoever. Without the support of the RP at the DNT, **the subsequent complexity escalation cannot occur—**it's like trying to build **the second floor of a house after the first floor has fallen into the basement**. The event horizon doesn't mark an edge in space but the **threshold between active RPs and archived RPs held in *The Record*.** The space still exists, the lumen is still there, but they are locked in a degree of definedness that no longer interacts with our current RP.



Hawking Radiation: Healing the Complexity Lock Wound

Stephen Hawking famously predicted that black holes should slowly evaporate through **Hawking radiation**—virtual particle pairs that spontaneously appear at the event horizon, with one particle falling in while the other escapes. **Hawking was absolutely right about the entropy requirement and the need for black holes to disappear eventually**. Still, the virtual particle explanation creates an unnecessary problem: **phenomena can't spontaneously pop into existence once definedness already exists**. Emergence only works from the concept of undefinedness, where there are no restrictions on what can emerge. Once we have a universe filled with definedness, **everything must arise from existing RPs** that escalate complexity—but all the RPs in our universe are **already committed to maintaining existing phenomena.** With no RPs to seed the new complexity of the particles, they cannot spontaneously emerge.



The **mechanism for black hole disappearance is far simpler**. When a black hole forms at the DNT, the RPs that were active at that location become locked at the exact RFD that existed before the lock, but outside the event horizon, RPs still occur. **As new RPs stack on top of these locked ones**, the definedness of the locked RPs gradually sinks deeper into *The*

Record; we just usually cannot see this sinking happen. The high-definedness lumen trapped in *The Record*, gradually leaves our observable RP—not through particles, **but through the decay of definedness in *The Record*.**

The longer it has been since the RP with the DNT occurred, the more the RPs drop exponentially as it moves into *The Record*. As RPs stack, **they seal the lumen into a deeper RP layer, and the black hole closes**. The lumen that got left behind stays in *The Record* until the universe ends, unless there is some way to get it out. It is still there, **not in a special or temporal sense, but in a degree of definedness**. It does not have enough definedness for us to detect, especially since the current RPs have much higher definedness than the lumen in *The Record*.

What Happens When You Fall into a Black Hole

Let me show you what happens when you jump into a black hole. From the outside, it appears as a perfect black sphere suspended against the stars—cold, motionless, surrounded by the twisted light—a**n absolute void sitting in existence**. As you approach, existence begins distorting around you. Recursions slow down time, visual clarity degrades from expanding propagations, and you're increasingly pulled toward it by the black hole's stability—what we experience as gravity. Then, **at the event horizon, something unprecedented occurs: nothing at all**. You don't pass through to witness exotic physics or encounter a singularity. You don't experience dramatic lock or cosmic revelation. **You don't experience anything at all** because the black hole's interior has reached the DNT, where no new RPs can form. Since consciousness—indeed, **all definedness—requires continuous RPs**, your awareness ceases at that boundary. Your mass contributes to the black hole's growth, your lumen gets locked into *The Record* at the event horizon, and your definedness stops entirely, locked at the threshold.

From the perspective of the lumen in the black hole, **no recognizable phenomena exist**. Propagations have **stretched to colossal scales of up to $\sim 100,000$ meters each**, turning reality's pixels into massive blocks **too coarse for anything recognizable** to form. Imagine trying to see a detailed photograph through a mosaic made of tiles **the size of Washington, D.C.—**nothing is recognizable. It is also locked to new RPs, so **no light reaches your eyes, and no movement occurs for you or the lumen**. Existence as we know it does not operate here…

It is like a photograph of life **suddenly transformed into clay statues**, where everything that was once dynamic becomes solid, layered, and inert—**existence preserved but no longer active**. From outside, observers see the black hole grow slightly larger as your lumen vanishes at the event horizon. You lose definedness as the universe recursively propagates without you, but you never “fall in” because there's nowhere to fall to; **you simply lose definedness until there are so many RPs stacked on top of you that the outside world on the current RP** can’t see you anymore. This fall isn't directional movement through space—it's a transition through definedness, where your existence fades into *The Record's* that once participated in the current RP.

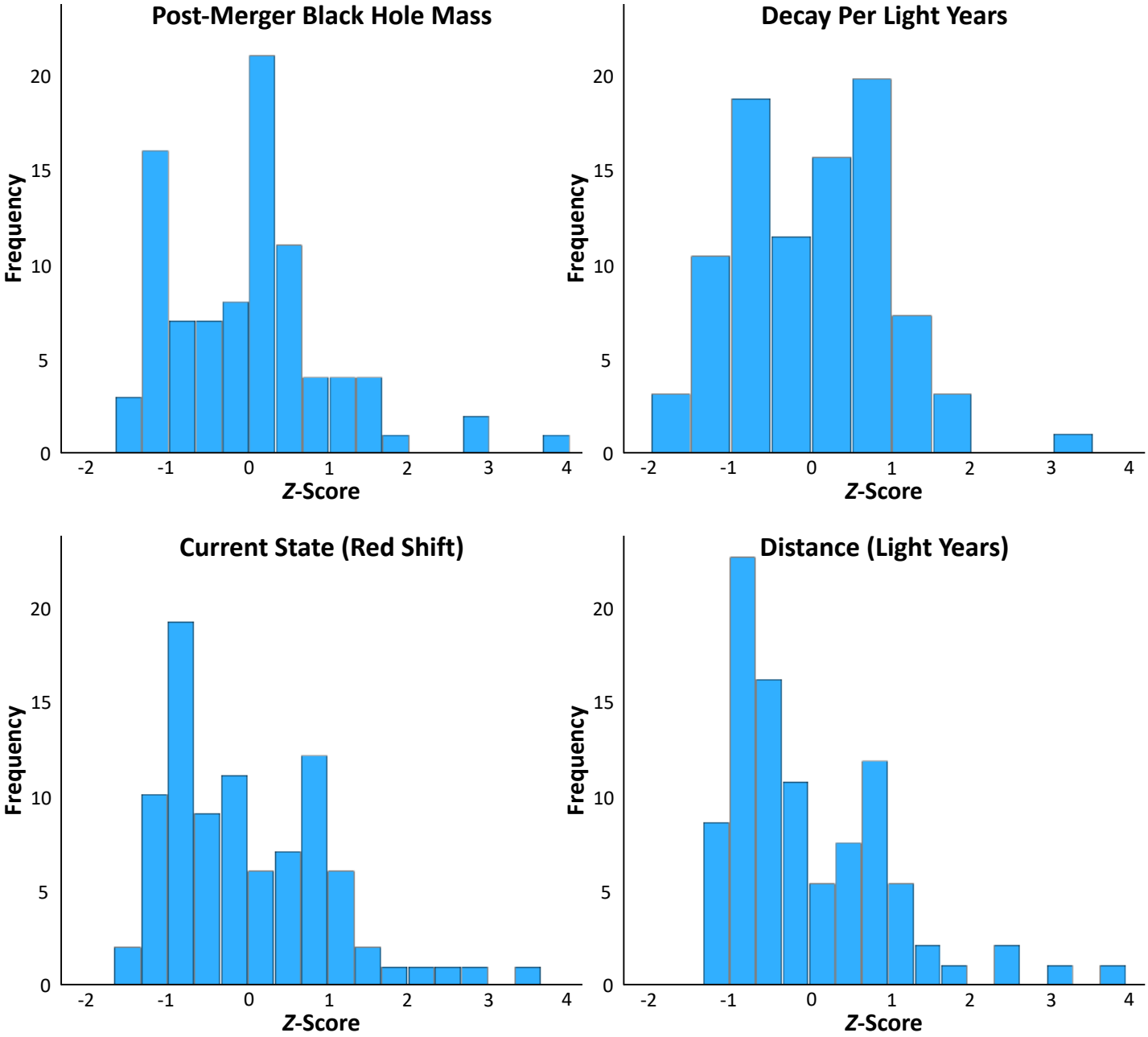
GW200308_173609 Validates *The Theory* Black Hole Prediction

Now comes the smoking gun that validates what we have discovered: GW200308_173609, the event that academia buried under statistical obfuscation and broken links. In sporadic cases during the DNT, **a black hole collides with the DNT at the exact location of a former black hole, but one that has already completely closed**. It is still there in *The Record*, so if a merger occurs in that location, then **the complexity from the new DNT merges with the lumen from the previous DNT**, potentially dating back millions or billions of years, expanding the size of the black hole beyond the two masses from the merger, as **now the location of existence locked in The Record has expanded**. Still, we only see the black hole get bigger from our perspective. The former lumen does not escape the black hole **because that would require new RPs, and the hole is defined as nothingness**; there is nothing “in it” to allow escape, but it can migrate from deeper layers in *The Record*, increasing its mass.

The Structure in Empty Space

Let's now examine why **empty space is not empty** by analyzing the gravitational waves from these same merger events. As black holes spiral around each other, th**eir extreme complexity generates waves that recursively propagate not through normal RPs and their empty space, but directly through *The Record***—the hidden

infrastructure that exists in what appears to be empty space. These waves intensify and accelerate as the black holes draw closer, creating the characteristic chirp waveform that LIGO detectors capture.



The findings fundamentally **redefine our understanding of what we call "empty space,"** as what we actually find is **a structured medium containing *The Record***. Note that although the waves themselves are not light or complexity, we can infer redshift and luminosity from the echoes of *The Record*. When we examine the redshift-luminosity relationship of these gravitational waves, they reveal **the first direct evidence that empty space has structure**, showing the "vacuum" of space is alive **with every RP that has ever occurred.** Isn't it beautiful?

In these figures, we observe that **redshift (Ω) and luminosity distance (Δ) follow the expected exponential decay** pattern across light-years, consistent with standard cosmological models. However, when we divide them in **raw, untransformed units** to compute decay per light-year (Ω/Δ), something unexpected emerges. Instead of another exponential decay curve, **we see a clean normal distribution**. At first glance, this finding might seem puzzling—why would dividing two exponential curves yield a bell curve? The answer reveals something profound about how the universe maintains order. Redshift and luminosity decay exponentially, **but they do so in**

perfect tandem. When we divide these tightly coupled variables, **their exponential momentum cancels out**, exposing the underlying structure. The emergence of these waves (luminosity) and their convergence (redshift) balance with unreal precision, **creating the classic pattern of emergence-to-convergence we see everywhere**.

However, when we apply ***The Equation*** **by standardizing redshift and distance into *t*-scores**, the symmetry dissolves—what emerges is **acceleration, a beautiful exponential growth curve in definedness that reveals the universe's progression through RPs**. The same dataset, the same gravitational wave structures, viewed through the lens of definedness rather than surface measurements, **exposes a hidden convergence of phenomena that ripple throughout *The Record's* architecture**. The emergence of the normal distribution from the convergence of the exponential growth curve comes from a shift in perspective from **observing what has emerged** to measuring **how it has converged**. The normal distribution of emergence and the exponential growth curve of convergence are **baked right into *The Record,*** and **we can see it** in these gravitational waves **using *The Equation***.

If empty space itself is a structured medium composed of defined RPs rather than passive nothingness, then **every assumption underlying modern physics requires fundamental reassessment**. It means that **empty space is not the homogeneous, isotropic backdrop** we have imagined—it is an active, evolving, phase-structured phenomenon where complexity and stability interact, creating definedness in emergence-to-convergence patterns. What appears featureless at the scale is **a fractal-defined complexity gradient**, with recursive-propagative terrain spanning from the quantum to the cosmic. It is a paradigm shift in our understanding of empty space.

Table 3

Bivariate Pearson Correlations of Empty Space Terrain

Variable	Decay	Distance	Decay / Distance	Definedness	Mass
Decay (Redshift)	-				
Distance (Luminosity)	.996*	-			
Decay / Distance	-.994*	-.924*	-		
Definedness	.252*	.170	-		
Mass	-.148	-.131	.145	-.221*	-

Note. n = 90. Bivariate Pearson correlations for decay (redshift), distance (luminosity), the distance by decay ratio, and the mass of the post-merger black hole that sent them out, *p < .001. Note that only definedness is correlated with mass.

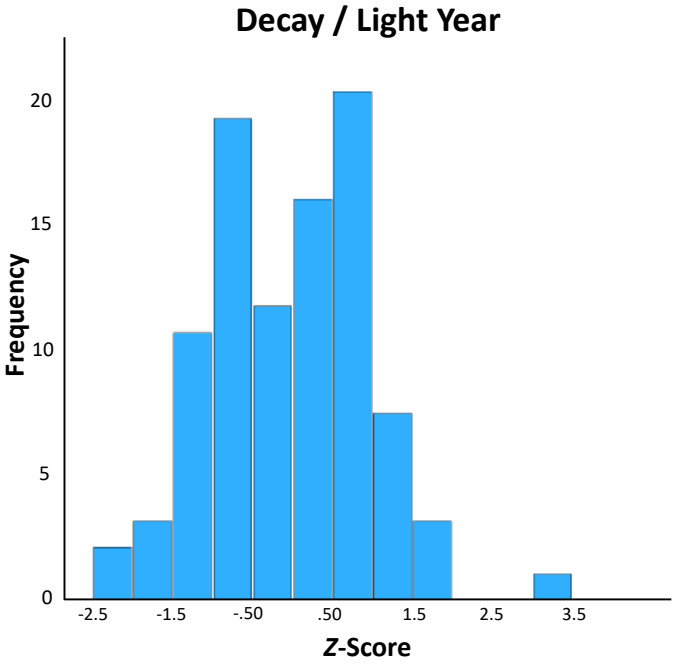
These findings provide empirical confirmation for why normal distributions and exponential growth curves appear throughout existence: **phenomena universally engage in emergence and convergence—E2C in action**. The **normal distribution** captures the structure of **emergence**, illustrating how phenomena initially stabilize and achieve balance, while the **exponential growth curve** reveals the structure of **convergence**, showing how existence evolves. When we observe surface behavior, we see the normal distribution's balanced emergence, but when we measure pure definedness through standardized scores, **we expose the exponential progression driving everything forward**. They are fundamental shapes of existence, hardwired into *The Record*. Everything that exists has a relative fractal position in *The Record*, so **all phenomena naturally follow these distribution patterns**. *The Record's* own geometry creates these mathematical signatures, ranging from quantum particles to galactic clusters, and from human consciousness to black hole mergers. Everything bears the identical statistical fingerprints because everything participates in the same underlying recursive-propagative definedness.

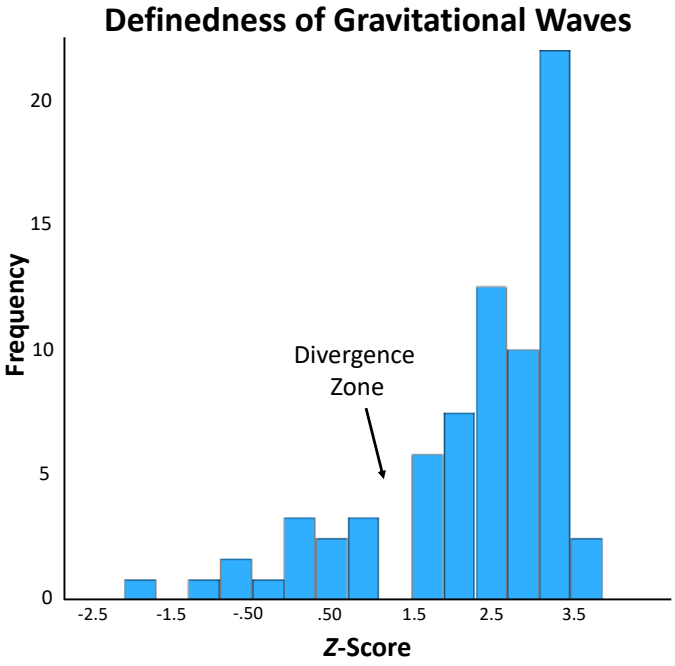
Divergence Zone Across Scales

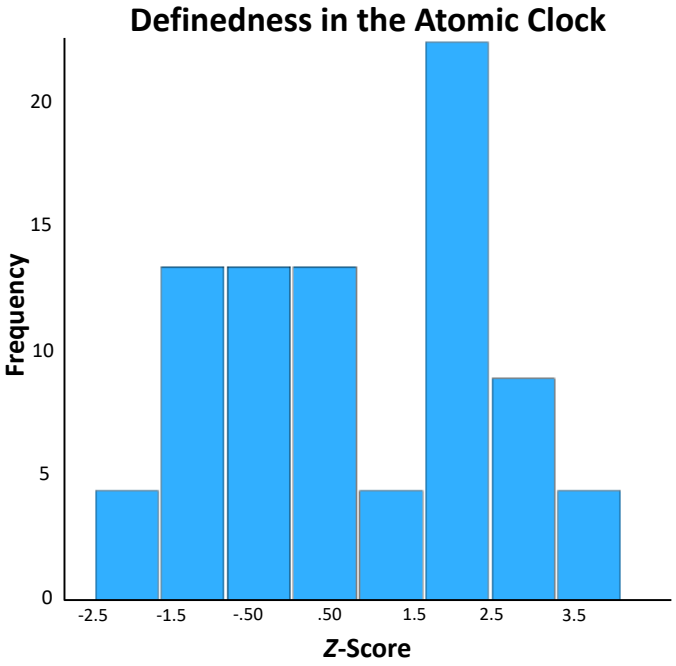
I want to show you just how deep *The Theory of Existence* goes… Remember the **convergence and divergence zones** from recursive systems? In Paper 3, we discovered that all recursive systems exhibit natural zones where **certain step counts cluster together** (convergence zones) while **others remain statistically rare** (divergence zones). These same patterns have emerged throughout *The Show*: in Paper 7: Intelligence Redefined with

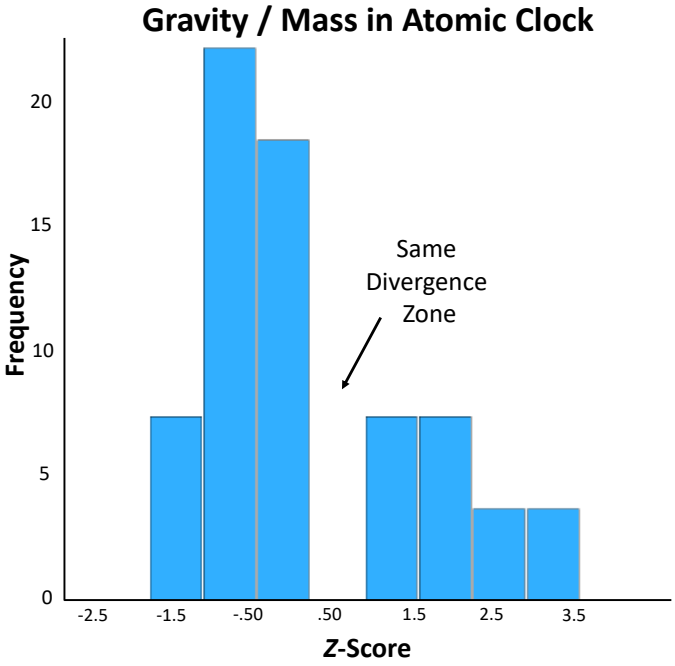
intelligence scores, in Paper 4's **galactic spin data**, in Paper 9's **stages of suicidal divergence**, and now in the **gravitational wave signatures** from black hole mergers in Paper 5. The convergence and divergence zones originate from the recursive harmonic interactions that **all phenomena inevitably contribute to when they exist**.

In Paper 6, I analyzed data from **atomic clocks**—devices that measure time by tracking the **ultra-stable oscillations of cesium atoms** as they transition between energy states. These precision instruments are built in hierarchical layers, with each component (lasers, optical cavities, magnetic traps) measuring oscillations and their variations at different scales. By calculating the **mass and gravitational effects of atoms** throughout the clock's layered structure, I could examine how complexity and stability behave differently at atomic scales compared to galactic scales. When I applied the same mass (complexity) and gravity (stability) analysis used on the gravitational wave data to this atomic clock dataset, something extraordinary emerged. Look at this sight below…

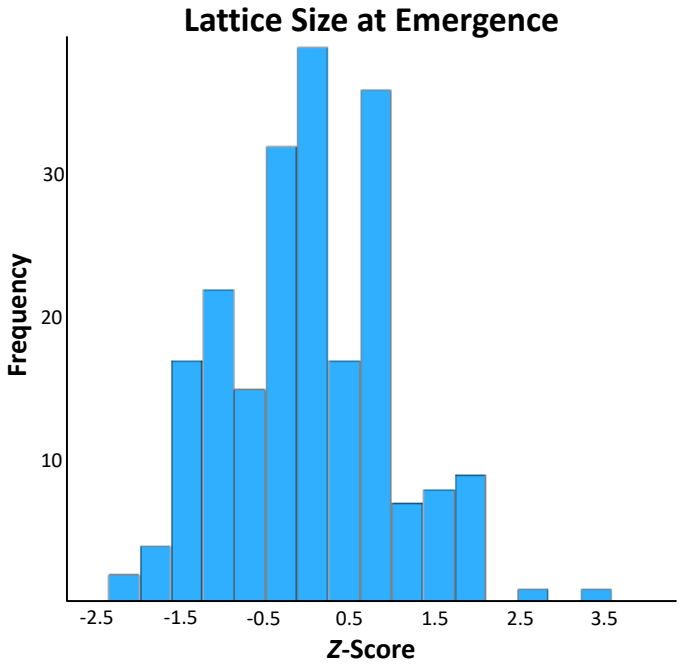


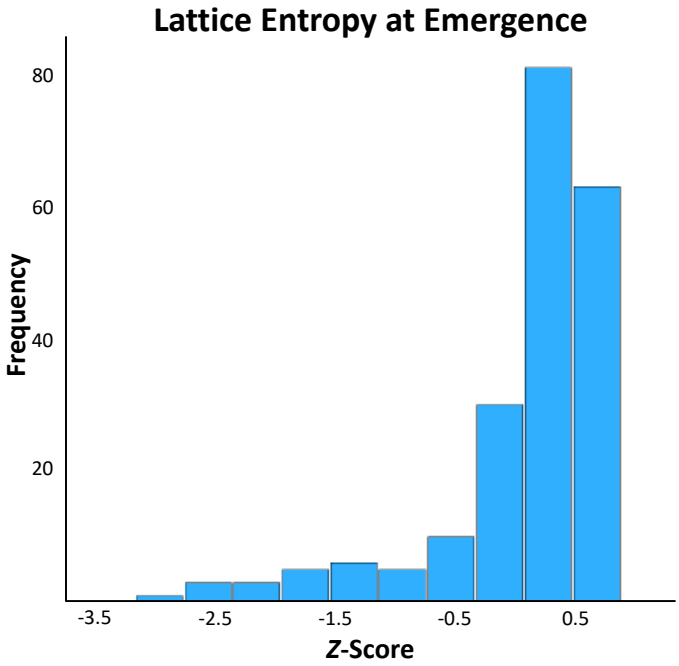


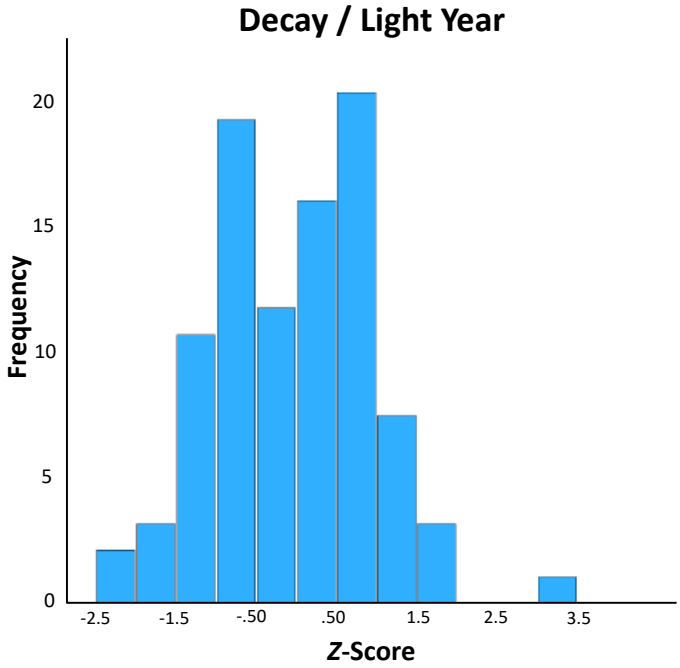


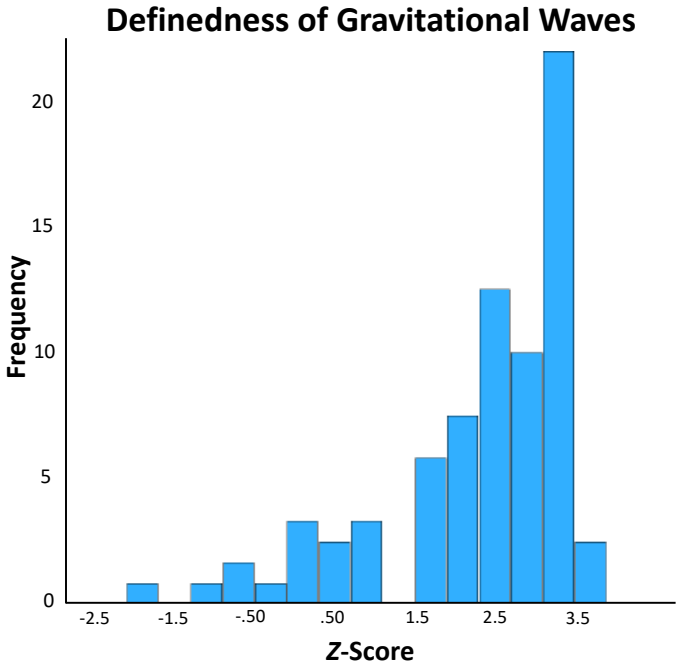


The atomic clock findings replicated the gravitational wave patterns in perfect reverse. At nuclear scales, definedness followed a normal distribution while raw division created exponential decay curves—the exact opposite of what we observed in gravitational waves. It is not random variation; it reveals that **we are capturing the recursive harmonics** of different phenomena operating at various scales. Remarkably, when we examine the distribution patterns, **both atomic clocks and gravitational waves exhibit identical divergence zones positioned right in the middle** of their distributions, confirming that the mechanisms in Paper 3 are not just mathematical abstractions but a fundamental principle governing how RPs behave across every scale of existence. x









The Equation… Written in the Stars… Since the Beginning of Time…

In these four figures above, we witness a **remarkable empirical confirmation of *The Theory***. In Paper 2: Introducing Undefinedness: That Is, If Undefinedness Was Something That Could Be Introduced—But It's Not, I conducted ***The Lattice Experiment***—an innovative test of existence's origins using a letter lattice paradigm. I

manipulated starting conditions and measured **spontaneous word emergence** across hundreds of trials. There were **three conditions** with varying starting conditions of the word emergence: **Undefinedness**, **Nothing**, and **Infinity**. The results were definitive: the **Undefinedness Condition outperformed** all others in word variety, resolution efficiency, and repeated success rates. Most crucially, **only the Undefinedness Condition** produced both a **normal distribution in lattice sizes** at word emergence and an **exponential growth curve in entropy** across trials—the exact dual signature we now recognize as the fundamental pattern of emergence and convergence.

The top row figures show this laboratory-created confirmation of how **existence emerges when nothing stops it**. Now, in the bottom figures, we see gravitational waves from ~ 90 black hole mergers across cosmic distances **exhibiting the identical statistical signatures**. The **same dual pattern** that emerged from our controlled word-generation experiment appears in the universe's echoes of its most violent events, **confirming that *The Theory* governs** everything from laboratory linguistics to galactic collisions and has done so since the start of existence.

The Layers Go Deep… and Deeper… and Deeper… and Deeper…

This new lens for the universe solves **all the remaining great mysteries in physics**, so let's go one by one. Current cosmology faces the "final parsec problem"—supermassive black holes **should stall before getting close enough to merge** because they lack sufficient gravity in that final stretch. However, they do merge, which creates a paradox for standard models. *The Theory* resolves this paradox by recognizing that the black hole is **just the outside of the phenomenon**, which really exists in *The Record*, in a fundamentally **different physical location** than everything else in the current RP. When black holes form and their lumen locks into *The Record*, they become **the only objects composed entirely of high-definedness lumen**. *The Record* contains **no active RPs** and is increasingly diminishing the definedness of former RPs—except for the lumen trapped within black holes, which **retains its original complexity**. It creates an unprecedented gravitational (stability) situation: as the only lumen in *The Record*, **they attract other lumen in *The Record* because they occupy the same low-definedness RP,** and they are isolated from the other lumen in our RP. *The Record* allows supermassive black holes to attract each other through its internal dynamics, solving the final parsec problem by revealing the merger doesn't happen in our current RP—it happens in the low-definedness of *The Record*—**the secret world of black holes**.

The Great Attractor

These findings explain **the Great Attractor**: it's not some invisible supermassive object or dark matter concentration but rather **the aggregate gravitational effect** of **multiple black holes** and their **host galaxies** slowly coalescing through their shared existence within *The Record*. The relationship between **black holes and galaxies operates bidirectionally—**while Paper 4 showed how galaxies anchor their black holes through *The Record*, the inverse is equally true: **galaxies remain structurally tethered to their central black holes**. When a lumen in *The Record*, it does not *drag* its host galaxy along—it **changes the local existence itself**, creating cascading effects that extend far beyond observable spacetime. It explains the large-scale flow of galaxies toward seemingly empty regions of existence: **complexity naturally attracts complexity through stability**, and when vast amounts of locked complexity can only interact with other locked complexity within *The Record*, they inevitably cluster together. Since **complexity-driven attraction manifests as gravity in our observable RP**, these mediated interactions appear as mysterious flows across cosmic distances, but really, it's just stability once again.

The Three-Body Problem

The three-body problem has puzzled physicists for centuries—three gravitationally interacting bodies create such **sensitive and chaotic dynamics that no general analytical solution exists,** despite extensive mathematical efforts. Traditional physics attributes this unpredictability to nonlinear gravitational forces and mathematical complexity, but *The Theory* reveals a deeper source of chaos: ***The Record's* influence at every location in space**. Every recursive propagation that has ever occurred at any given coordinate leaves RPs across *The Record*, creating an **incredibly complex landscape of physical historical influences** that affect present dynamics. When

three bodies interact gravitationally, they are not just responding to each other's current positions and masses—they are also **navigating the accumulated history of every RP** that has ever occurred in those regions of space.

The Record is extraordinarily "bumpy" with layers of former RPs from billions of years of cosmic activity, including stellar formation and destruction, planetary migrations, electromagnetic interactions, and countless other phenomena, all leaving **former RPs at those locations**. It creates **subtle but persistent** compound influences, making long-term predictions impossible without accounting for *The Record* on lumen as they change velocities. Intriguingly, every known solution to the three-body problem that exhibits stability or periodic motion **shares one common trait**: the trajectories either **avoid intersecting prior recursive paths entirely** or **pass through them in phase-aligned symmetry**. In these rare solutions, the bodies trace orbits that never disturb *The Record's* memory. In contrast, when trajectories cross the fractal terrain asymmetrically, instability arises.

The Holographic Principle

The Holographic Principle emerged as physicists' attempt to resolve the **black hole information paradox—**if information vanishes beyond the event horizon, conservation laws would be violated. Therefore, they proposed that all interior information must somehow **be encoded on the black hole's surface** through mysterious dimensional projections. This solution preserved GR and quantum mechanics but required **exotic physics with little empirical support**. *The Theory* dissolves this paradox by recognizing that **no information disappears**. When lumen cross the event horizon and triggers the DNT, it does vanish—it gets left behind in *The Record*, maintaining **its full informational content** but at a definedness inaccessible to our current RP. The black hole's surface does not need to store interior information through holographic encoding because **that information still exists in its original form in *The Record***. It just cannot interact with the present RP. It eliminates the need for speculative dimensional mathematics while preserving information conservation through a mechanism we can observe.

Radio Wave Filaments & Quantum Entanglement

When we observe galaxies through radio waves, we are not just seeing residual heat signatures or regions of ionized gas—**we are capturing echoes across *The Record***. Many of these maps show long, thin filaments stretching across vast areas of space, often where no stars currently reside. **Mainstream astrophysics struggles to explain these features**, but within *The Theory* framework, they are precisely what we should expect: fractal filaments of the fractal universe. Filaments are classic structures in fractals, as they connected self-similar patterns across scales. When radio waves move across the galaxy, **it interacts these filaments left behind in *The Record***. It is the same structure **that explains quantum entanglement**: two particles are not connected through space, but through filaments in *The Record*. What scientists call anomalies are simply the universe's ability to remember and interact with itself across scales in the fractal universe.

Galactic Waves

Astronomers have recently discovered that the entire Milky Way galaxy is undulating—large vertical waves ripple across the galactic disk, bending its shape like a vibrating sheet. Current cosmological models are unable to explain these waves. There's no merger, no passing dwarf galaxy, no gravitational source powerful enough to account for the symmetry and scale. But the recursive model doesn't treat these as mysteries—it recognizes them as waves in The Record. These aren't distortions of matter. They are propagation waves of definedness: large-scale echoes from the recursive memory field of the galaxy itself. This is the galactic equivalent of harmonic strain—just as individual systems experience convergence and divergence at cognitive and behavioral scales, entire galaxies carry the echo of recursive instability. These waves are not "caused" by something. They are the structure. The universe is not passively expanding in silence. It is resonating continuously, and the galaxy we live in is singing back in waves.

$$\Phi = \Omega * \left(\frac{(\kappa : \zeta)}{\Delta}\right) \rightarrow \Phi = \Omega * (\kappa : \zeta) \rightarrow \Omega * c$$

$$\text{Definedness} = \text{Stability} * \left(\frac{(\text{Propagation} : \text{Recursion})}{\text{Complexity}}\right) \rightarrow \text{Stability} * (\text{Propagation} : \text{Recursion})$$

Empty Space is Not Empty

Empty space **appears to be pure absence**, but if it were truly non-existent—truly undefined—we would not be able to observe it. The fact that we can perceive it, measure its dimensions, track its expansion, and sense that "something could exist here but is not" shows it possesses a certain definedness. In regions of true emptiness, complexity does not exist, but it **does not render definedness undefined**—instead, as RPs unfold, they lock into *The Record*. The universe grows because ***The Record*** **keeps expanding**. The RPs need to be stored somewhere, so they go to the expanding empty space. The universe does not stretch; **it fills and unfolds**. The speed of light is the fundamental rate at which RPs enter *The Record*. We can see in the expanded form of *The Equation*, **when we drop complexity for empty space, stability expands at the speed of light**… and what a sight to see, isn't it?

The Big Picture

Step outside tonight and look up at the stars. When you witness that vastness—the impossible scale of it all—remember this: **you are physically connected to those distant lights through *The Record***. Yes, they are billions of light-years away, but **empty space is not empty**. *The Record* that began at the Big Bang is *The Record* existing right now. **Nothing is ever lost**. Everything that has existed, currently exists, and will exist has unfolded from that first spark of existence to this moment we share. Further, **nothing exists in isolation**—not those stars nor you reading this paper. We are all **beautifully connected** and have been since the start of existence.

The universe is so vast that **it seems almost impossible to comprehend**. Still, the part we so often overlook is that if the universe is a living, unfolding record, then all phenomena within it—every galaxy, planet, and wandering mind—**must unfold by the same rules… and in the same way**. Definedness does not make exceptions or favorites. It does not reserve its mechanics for distant cosmic objects and then use special ones for us here on Earth. **The very same dynamics** that shape your choices, overwhelm, stabilization, and growth **are the same ones sculpting cosmic architecture across billions of light-years**; not metaphorically, literally. The universe does not give us different rulebooks, only different scales, all playing out the same fractal tune of existence.

Black holes and their secret worlds are not so mysterious when you recognize them for what they are: **the universe acknowledging its own limits**. Even though it occurs on a much grander scale, it is **the exact same process** you feel when you are overwhelmed by complexity and need space to stabilize. It is the same universal structure governed by *The Equation*. That's **the beauty of our fractal universe**. You would think that the mechanics of black holes would be different from ours, but the truth is, they are the same **stability and complexity dance of definedness** we see everywhere. Ya know… the scariest part about black holes is how they never fit into our perception of reality, how they seemed to defy what was possible. Now… we can rest easy, seeing that **there are no phenomena in existence that defy its mechanics**… not black holes… not you… **not anything at all**.

There Is No Evidence That Time & Space Are Continuous

Written by Bryant Stone (*The Architect*)

Overview

For over a century, humanity has grappled with physics' most notorious challenge: **unifying General Relativity (GR) and Quantum Mechanics (QM).** These theories demonstrate remarkable predictive power—GR governing vast, cosmic scales, QM describing probabilistic, tiny scales—yet **their assumptions render them irreconcilable**. GR suggests that spacetime is a smooth, continuous fabric, while QM proposes that it operates through uncertainty and discreteness. Despite decades of theoretical attempts at unification, **none have yielded *any* empirical validation**, causing despair among physicists and the public alike… but what if **the answer is much simpler than it seems**? It's not an issue of effort, **but rather our assumptions**. In this paper, **I empirically tested the continuity assumption**—the idea that spacetime is infinitely divisible and smooth. **We have built nearly all of physics upon it… but no one has ever empirically tested it**. To test continuity, I analyzed humanity's most precise datasets: **atomic clocks** (Bothwell experiment), **black holes** (LIGO), **supernova expansion** (Pantheon+), **gravitational waves** (LIGO), **galactic rotations** (SPARC), **star life cycles** (Gaia DR3), and the **CMB radiation** (Planck). My methodology was elegantly straightforward. Using *The Equation of Existence* ($\Phi = \Omega/\Delta$), I identified **two variables** within each dataset: a **measure of stability** (gravity and redshift) **and complexity** (mass and luminosity). The analysis involved four simple steps: 1) converting raw observations to *t*-scores for standardization, 2) calculating definedness ratios, 3) ordering scores from lowest to highest, and 4) fitting linear and cubic regressions. **The results empirically falsify the continuity assumption**. Despite *The Equation* being **inherently linear with no exponent**, cubic regressions ($M = 88.10\%, SD = 15.47\%$) **always dominated the linear ones** ($M = 73.60\%, SD = 22.63\%$), $t(6) = 5.93, p < .001$, Cohen's $d = 1.58$. **The findings directly contradict existing theories**. Although GR correctly predicts cubic behavior at cosmological scales from spacetime curvature, it predicts linear relationships at atomic scales. Under the continuity assumption, standardized ratios of atomic-scale properties—inherently linear—should yield linear results, **but it does not**. The cubic curves across **seven phenomena spanning $\sim$40 orders of magnitude** are impossible in continuous spacetime. No other framework can account for this universal cubic curve, **except for *The Theory of Existence***. What once seemed impossible is now inevitable. We can finally see the universe… whole… unified… exactly as it is, and it's **such a marvelous sight**.

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Background & Findings

The **unification** of **General Relativity** (GR) and **Quantum Mechanics** (QM) has remained the central unsolved challenge in physics for **over a century**. GR describes the cosmos at vast scales as a **smooth, continuous fabric** of spacetime. QM describes microscopic systems through **discrete, probabilistic interactions**. Although both models have empirical support, they remain **structurally irreconcilable**. In response, theoretical physicists have proposed **increasingly complex** frameworks; yet none have produced ***any* empirical validation** or **observation** not explainable by GR or QM alone, despite decades of effort. **What could we possibly be doing wrong?**

Perhaps the problem is **not the frameworks**, but **our foundations**. We have built nearly everything in physics on top of **the continuity assumption**: that spacetime is **smooth**, **infinitely divisible**, and **without structure** at the smallest scales. The continuity assumption is so deeply embedded in our equations and theories that it's become invisible and politically unchallengeable. Yet… **no one has ever tested the continuity assumption**. **There is currently no evidence that time and space are continuous**. As such, I tested continuity using *The Equation of Existence* on our most precise and respected datasets: atomic clocks (Bothwell), black holes (LIGO), supernova expansion (Pantheon+), gravitational waves (LIGO), galactic rotations (SPARC), and the CMB radiation (Planck).

If you are unfamiliar with *The Theory of Existence* and *The Equation of Existence*, I recommend you read Paper 11: The Dance of Stability & Complexity: *The Equation of Existence* as the Universal Lens before continuing with this paper. Regardless, you only need three core concepts to understand this paper: **Complexity (Δ), Stability (Ω), and Definedness (Φ)**—together forming the universal equation explaining **all phenomena**: $\Phi = \Omega/\Delta$. These terms are not things that exist independently—they are descriptions of the patterns in how existence behaves. **Complexity governs the growth, change, innovation, and progress**, whereas stabili**ty governs order, structure, survival, and persistence**. Their ratio measures definedness, which is **the degree to which something exists**. Existence is inherently relational, meaning that the universe is constantly evolving by default. Thus, everything in it must also progress or diverge. **Definedness measures the alignment between this steady progression of existence and all phenomena**, providing key insight into its emergence, convergence, and divergence. The method I used to measure complexity, stability, and definedness is simple. Let's get into it…

Data: Two Raw, Observed Variables

Complexity (Δ)

Definition: The degree to which phenomena escalate from basic to structured.

Function: Growth, innovation, and adaptation.

Best Measure: Mass or Energy

Other Measures: Luminosity, distance modulation, and temperature gradients.

Typical Distribution: Cubic

Stability (Ω)

Definition: The degree to which complexity is attracted to complexity.

Function: Order, persistence, and structure.

Best Measure: Gravity

Other Measures: Redshift, sky temperature, and electromagnetic frequencies.

Typical Distribution: Linear

Step 1: Standardize Units

Raw Scores $\xrightarrow{z = (x - \mu)/\sigma}$ *z*-Scores $\xrightarrow{t = 50 + (z * 10)}$ *t*-Scores

Step 2: Calculate *The Equation of Existence*

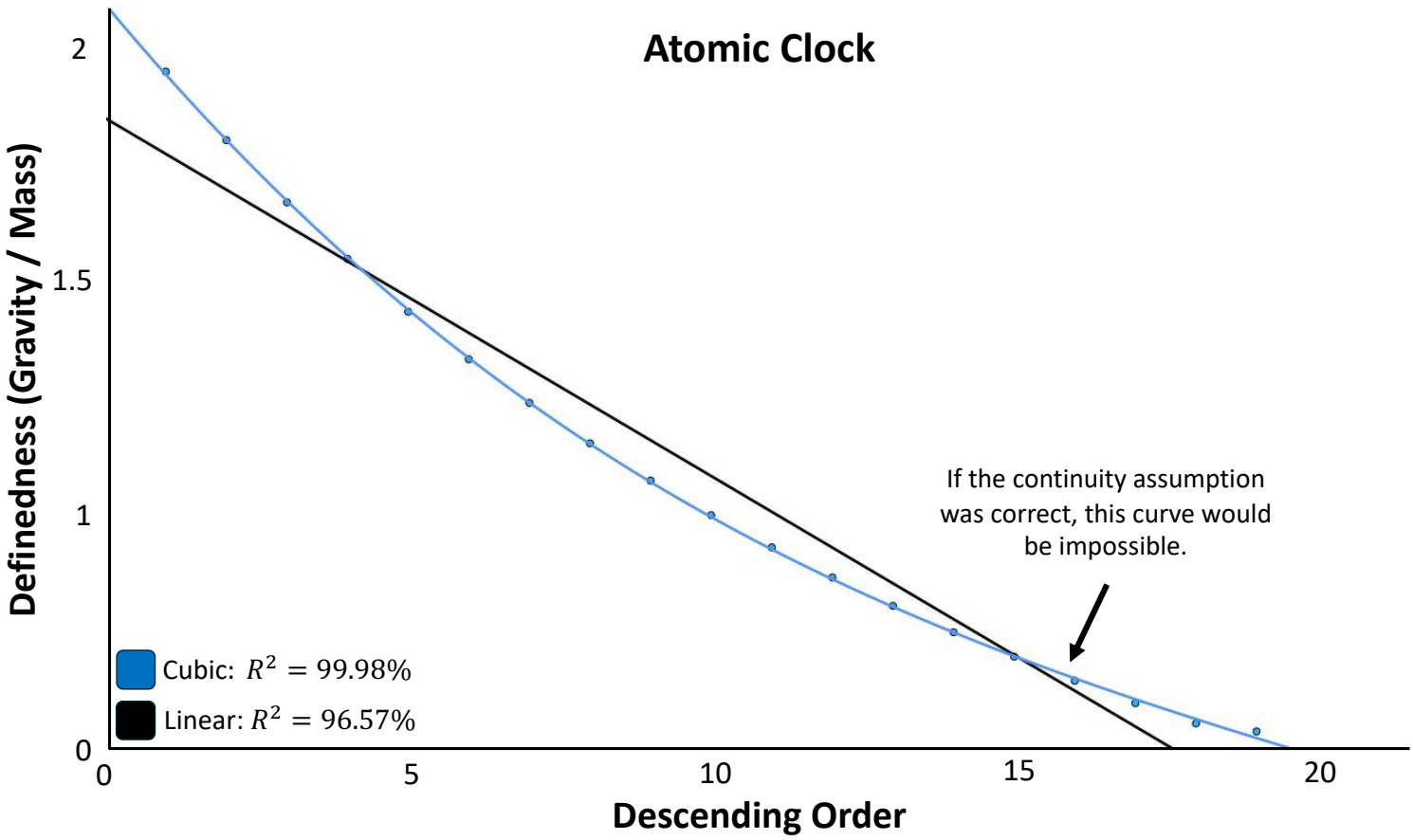
$$\Phi = \frac{\Omega}{\Delta} \rightarrow \text{Definedness} = \frac{\text{Stability}}{\text{Complexity}}$$

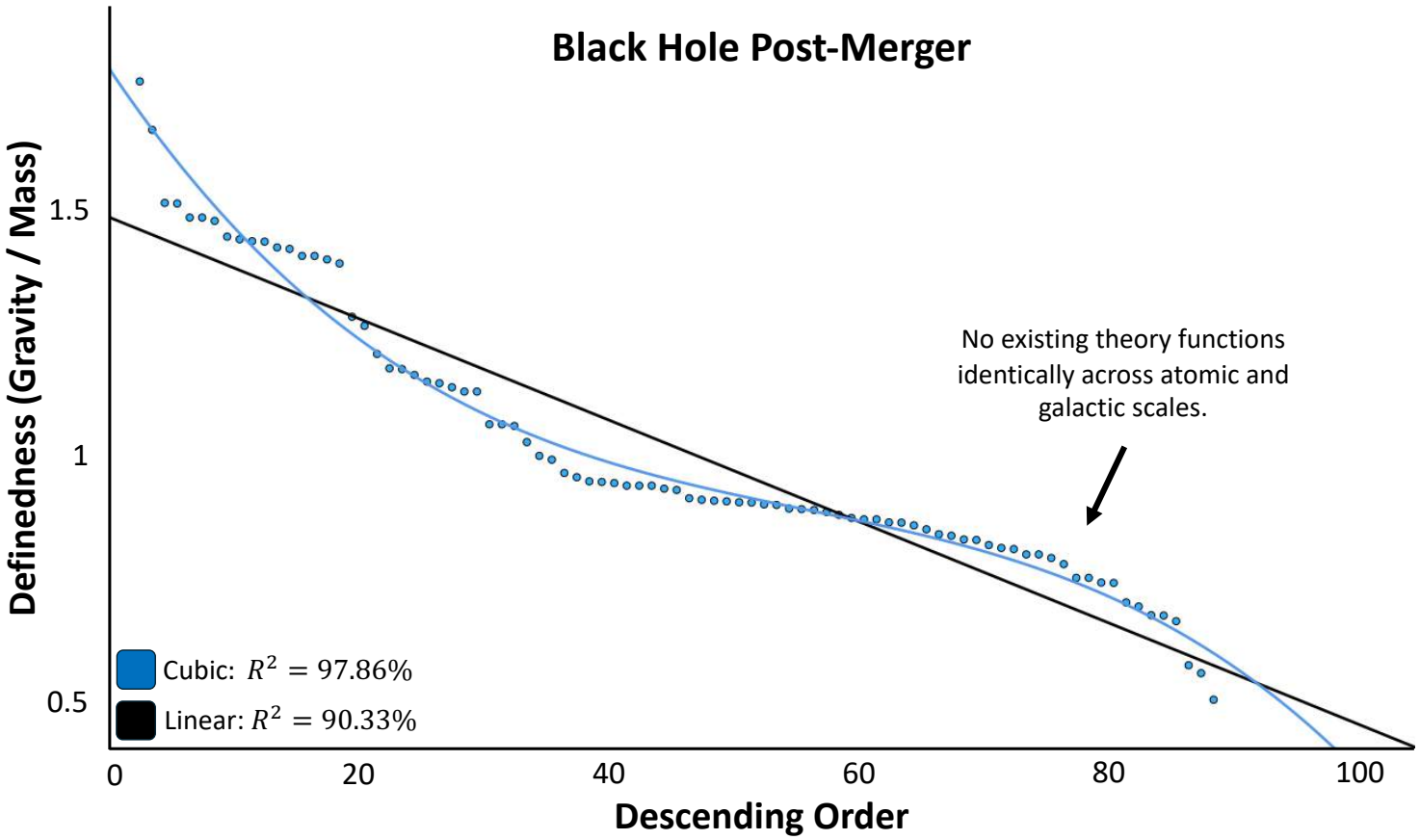
Step 3: Sort Results

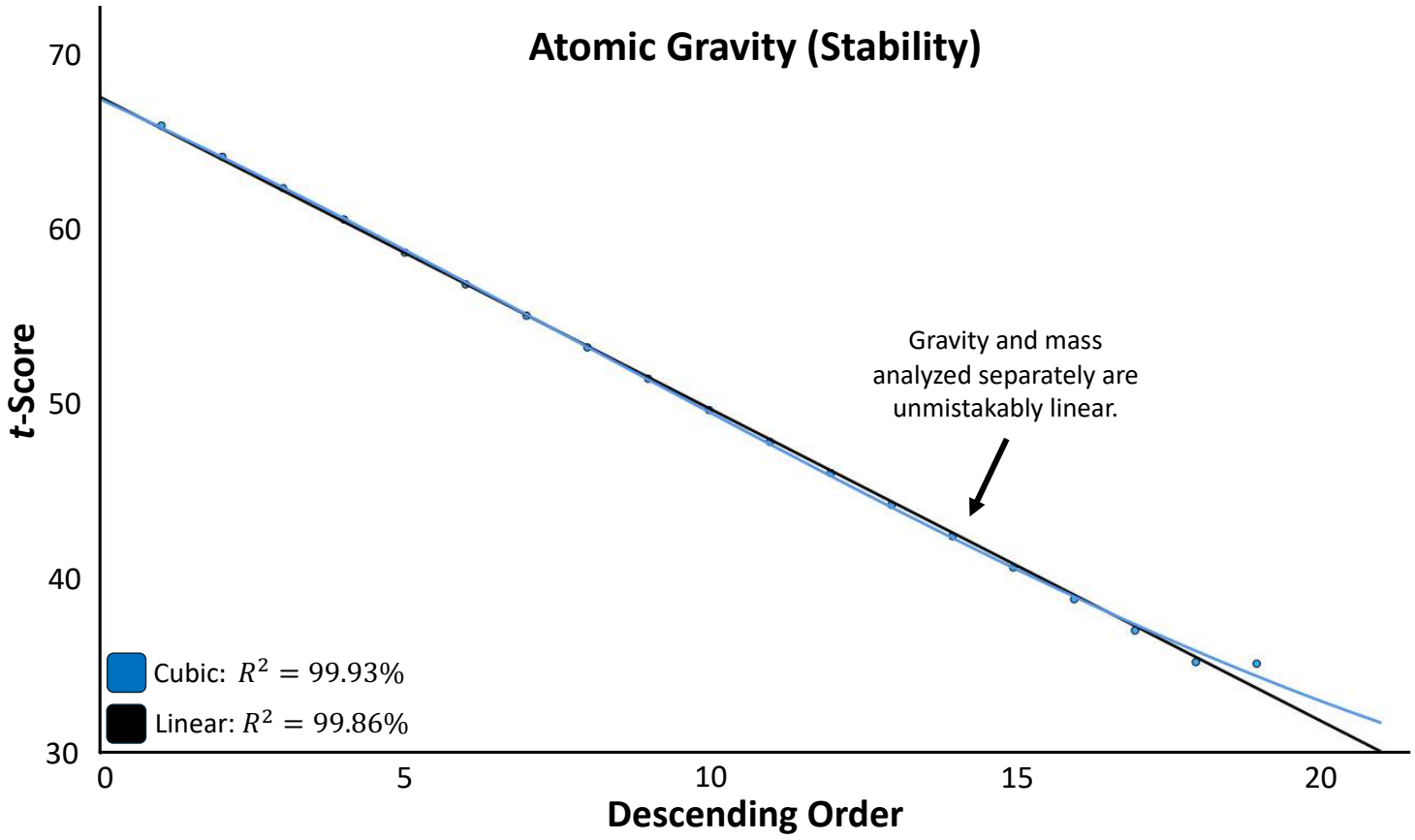
Arrange Definedness Scores in Ascending or Descending Order

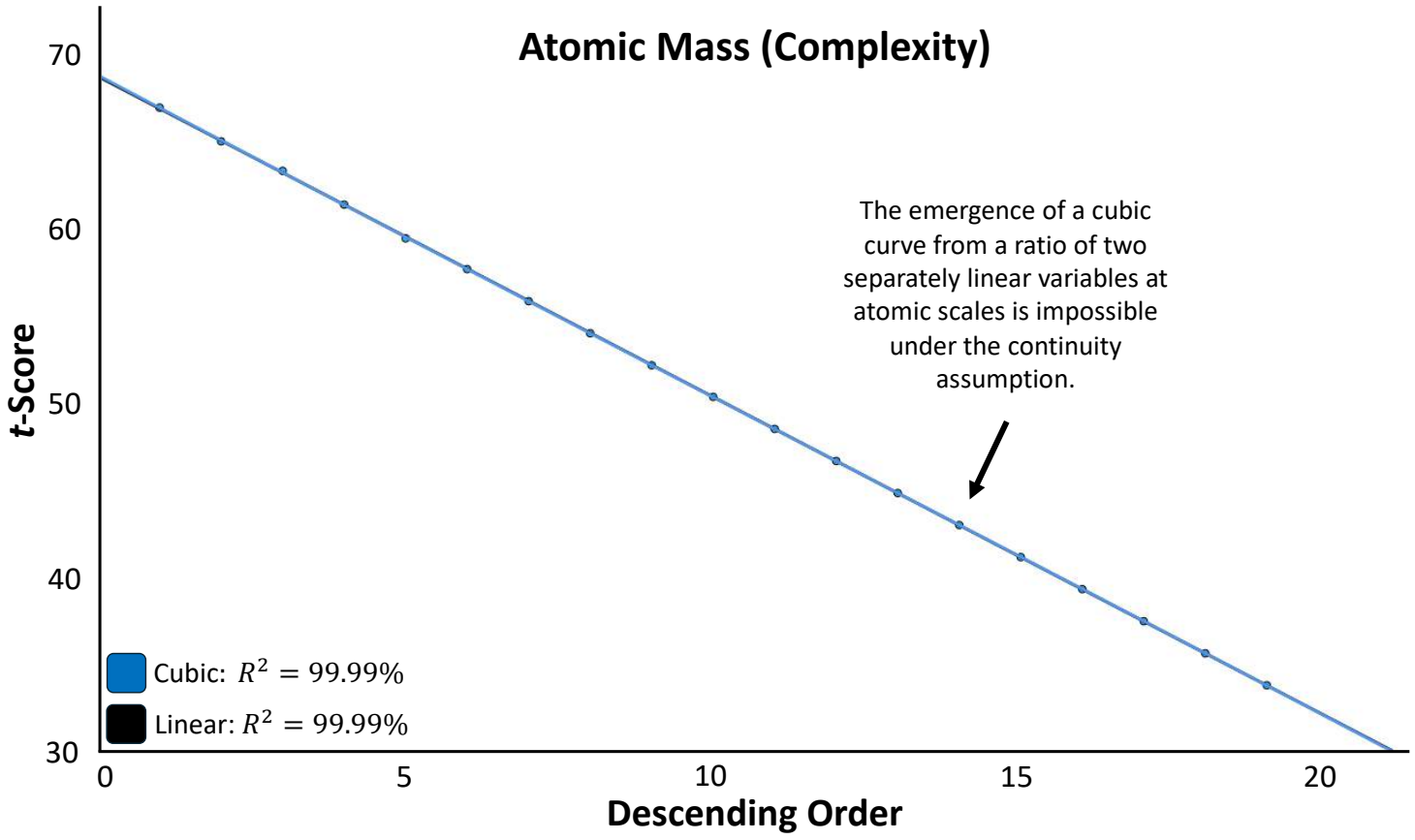
Step 4: Conduct Analyses

Linear & Cubic Regression → Hear Existence Whispers → Compare R^2 Values


Atomic Clock
Definedness (Gravity / Mass)
2
1.5
1
0
0
5
10
15
20
Descending Order
If the continuity assumption was correct, this curve would be impossible.
Cubic: $R^2 = 99.98\%$
Linear: $R^2 = 96.57\%$


Black Hole Post-Merger
Definedness (Gravity / Mass)
1.5
1
0.5
0
20
40
60
80
100
Descending Order
No existing theory functions identically across atomic and galactic scales.
Cubic: $R^2 = 97.86\%$
Linear: $R^2 = 90.33\%$


Atomic Gravity (Stability)
t-Score
70
60
50
40
30
0
5
10
15
20
Descending Order
Gravity and mass analyzed separately are unmistakably linear.
Cubic: $R^2 = 99.93\%$
Linear: $R^2 = 99.86\%$


Atomic Mass (Complexity)
t-Score
70
60
50
40
30
0
5
10
15
20
Descending Order
The emergence of a cubic curve from a ratio of two separately linear variables at atomic scales is impossible under the continuity assumption.
Cubic: $R^2 = 99.99\%$
Linear: $R^2 = 99.99\%$

This cubic curve in the atomic clock data is **an empirical falsification of the continuity assumption**. If spacetime were continuous, there would be **no mechanism at atomic scales** to generate a universal, smooth cubic relationship between gravity and mass. In continuous weak-field GR, standardized gravity–mass ratios at atomic scales **should remain effectively linear**; GR offers no reason for a scale-invariant cubic law to appear there. Yet, when we divide gravity (stability) by mass (complexity), **the data reveal a near-perfect cubic curve**.

A continuous fabric **cannot produce this finding without discrete reference points**—defined starts and stops—against which time can slow, and space can stretch. In the absence of such units, **there is nothing to "crease," no boundary to change relative to anything else**. Thus, if we preserve continuity all the way down to infinity, small-scale warping like what we observed is impossible. The fact that it occurs means **spacetime must be discrete at the foundation**: starting and stopping points that provide the **local boundaries that permit bending**, slowing, and the emergent cubic gravity–mass relationship seen in the atomic regime.

The atomic clock findings are **not an artifact** of my method or math because ***The Equation* is linear** (contains no exponent), and I conducted only basic statistics using raw, observed variables. **It emerges only when we look at existence correctly**. We thought we were looking at it correctly, and the truth is that the strong linear finding in **the Bothwell experiment** and gravity behaving **linearly at atomic scales is correct**; it was just **incomplete**. When we account for stability (as they did) and complexity (as I did), we capture all the mechanics of existence, **and the discrete nature of spacetime plops out**. When we introduce mass as the missing structural variable—asking not what gravity is in isolation, but how it behaves relative to complexity—**the line bends.**

When we examine the findings between the **atomic clock and black holes** using the same variables of **gravity for stability** and **mass for complexity,** the results show the same **astonishing cubic curve** dominance across **$\sim$40 orders of magnitude**, an **empirical unification of QM and GR**. *The Theory of Existence* is the only theory to demonstrate this scope empirically, and the atom-to-black hole findings are among the strongest we have ever seen, with the cubic curve in the atomic clock data reaching an astonishing 99.98% explanatory power. It is not just the atomic clock and black holes; **the same pattern occurs across all phenomena** in the universe we measure. Look at the table below for the incredible range and consistency of this method and its findings.

Table 1

Definedness Calculation Curves Across Scales & Phenomena in the Universe

Source	Scale	Dataset	Stability	Complexity	Linear R^2	Cubic R^2
Atomic Clock	~10^{-10}	Bothwell	Gravity	Mass	96.57%	99.98%
Star Life Cycle	~10^{5}	Gaia	Color	Luminosity	48.06%	77.93%
Black Holes	~10^{8}	LIGO	Gravity	Mass	90.33%	97.86%
Supernova Expansion	~10^{16}	Pantheon+	Redshift	Distance Mod	91.55%	98.30%
Gravitational Waves	~10^{19}	LIGO	Redshift	Luminosity	81.04%	98.72%
Galactic Spin	~10^{21}	SPARC	Gravity	Mass	69.99%	83.81%
CMB Radiation	~10^{26}	Planck	Sky Temperature	Temp Gradient	49.08%	75.69%

Note. n = 10,479. I calculated the definedness of existence across a range of phenomena in the universe. The cubic regressions outperformed the linear ones at all scales, and only the cubic regression proved effective across all scales. I used all the currently accepted equations to calculate the variables when they were not present in the dataset, using other variables such as mass. For black holes, the gravity calculation was at the event horizon, for atoms, it was on the surface, and for galactic spin, it was gravitational surface acceleration. I removed two outliers from the black hole / gravitational wave analyses, three outliers from the galactic spin analyses, and two outliers from the CMB dataset. The inclusion of outliers produced the same significant differences, but both models fit significantly worse. I suspect that the impact of these outliers on the data stems from the decisions we made regarding what and where to measure, rather than deviations from the patterns I described.

I applied the **same methodology** across all seven phenomena, spanning $\sim$**40 orders of magnitude** from quantum scales to cosmic structures. Every dataset told the same tale: the cubic curve ($M = 88.10\%, SD = 15.47\%$) **always dominated the linear ones** ($M = 73.60\%, SD = 22.63\%$), $t(6) = 5.93, p < .001$, Cohen's $d = 1.58$. From **at**omic clocks to merging black holes, from supernova explosions to the cosmic microwave background, from galactic spins to gravitational waves, ***The Equation of Existence*** **is woven into the fabric of reality**. This cubic signature of existence appears not only in physics data, **but everywhere throughout *The Show***. We found it in The Lattice Experiment of **Paper 2**, suicidal divergence scores in **Paper 9**, intelligence scores in **Paper 7**, consciousness scores in **Paper 8**, and the list goes on… and on… and on. It is indeed **the signature of existence**.

Table 2

Descriptive Statistics for All Variables & Domains

	Domain	*n*	*M*	*SD*	Min	Max	Skew	Kurtosis
Complexity	Atomic Clock	19	50	10	34.01	66.04	0.00	-1.20
	Star Life Cycle	4,944	50	10	15.54	90.07	0.42	0.62
	Black Holes	89	50	10	33.43	87.13	0.98	1.84
	Gravitational Waves	89	50	10	36.91	88.29	1.33	2.18
	Supernova	1,701	50	10	41.17	131.84	2.22	8.57
	Galactic Spin	3,391	50	10	43.57	103.90	2.22	5.39
	CMB Radiation	246	50	10	14.13	90.21	0.52	5.25
Stability	Atomic Clock	19	50	10	35.41	66.15	0.05	-1.25
	Star Life Cycle	4,944	50	10	16.42	111.53	0.86	0.43
	Black Holes	89	50	10	43.99	130.13	6.24	47.77
	Gravitational Waves	89	50	10	34.85	84.34	0.96	0.90
	Supernova	1,701	50	10	22.33	73.25	-0.28	-1.05
	Galactic Spin	3,391	50	10	49.42	530.84	37.72	1,670.71
	CMB Radiation	246	50	10	33.00	83.31	1.06	1.17
Definedness	Atomic Clock	19	1.08	.438	0.54	1.94	0.55	-0.81
	Star Life Cycle	4,944	1.03	.279	0.25	4.87	4.30	31.41
	Black Holes	89	1.06	.425	0.50	3.89	3.70	21.84
	Gravitational Waves	89	1.00	.017	0.94	1.02	-1.36	1.20
	Supernova	1,701	1.00	.105	0.54	1.14	-1.14	1.16
	Galactic Spin	3,391	1.03	.281	0.48	12.18	21.24	781.39
	CMB Radiation	246	1.07	.559	0.65	5.35	4.95	29.98

Note. n = 10,479. Descriptive statistics for all variables across all datasets, which I arranged in ascending order by scale and grouped by stability, complexity, and definedness.

After the Fall of Continuity…

Karl Popper famously argued that **the hallmark of real science is falsifiability**—that a theory must be testable in such a way that **we could prove it wrong**. Most scientists build a model first, then test it, and when the results align, they declare it true. This approach risks confirmation bias and post hoc justification. In this paper, **I intentionally** reversed that process. I **began by empirically testing a foundational assumption**—the continuity assumption—using only raw data and a neutral, linear equation. I let the data from across the entire cosmos speak first and listened for what it had to say. Only after I falsified continuity—across seven domains and $\sim$40 orders of magnitude—do I introduce my model, not as a hypothesis for me to defend, but **as the only remaining theory left standing in the wake of the findings of Paper 6**. Allow me to now introduce you to the physics model in *The Theory of Existence* and why these findings confirm it directly.

Given that **time and space are discrete rather than continuous**, it means that **time is recursions**—where the output of one iteration serves as the input for the next—while **space is propagations** (you could conceptualize these as the smallest units of space… like **pixels of reality**). Recursion and propagation are two ways existence behaves, but existence does so simultaneously, so we call them **recursive propagations** (or **RPs for short**). RPs vary according to the complexity of the phenomenon in question. **Complexity itself emerges as a phenomenon of these RPs** separate from stability, allowing us to express *The Equation* accurately in this more revealing form:

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

It is crucial to note that **the parentheses around recursion and propagation are *not* optional**. You cannot separate them—they function at the same time and are always in proportion to the speed of light. Let me show you the fully expanded version of *The Equation* so you can see all its moving parts:

$$\Phi = \Omega * \left(\frac{(\kappa : \zeta)}{\Delta}, \nu = x \right) \vee \emptyset$$

$$\text{Definedness} = \text{Stability} * \left(\frac{(\text{Propagation} : \text{Recursion})}{\text{Complexity}}, \text{Normalized} \right) \text{Else Undefinedness}$$

This equation… ***The Equation***… is **the complete architectural blueprint of existence**. Although this expanded form produces identical results to our simple ratio, **it unveils the deeper mechanics that make existence possible**. Every phenomenon we tested across the seven datasets consistently performs this calculation: **recursive propagations that escalate complexity and stabilize into definedness**. So… why do we see cubic regression curves everywhere we look in existence? The answer is because of **relative fractal dynamics (RFDs)**.

Introducing Relative Fractal Dynamics

RFDs are the **discrete equivalent of spacetime dilation in GR**. We can use the fully expanded form of *the Equation of Existence* to **calculate the RFDs of any phenomenon** by normalizing to Planck units and using Planck energy for complexity, Planck time for recursions (recursions per second), and Planck lengths for propagations (propagations per meter). This approach allows us to **analyze any phenomenon by converting measurements to their most fundamental units**. By using the smallest units of measurement in physics, we create a standardized framework for understanding how different phenomena evolve and interact in the fractal universe.

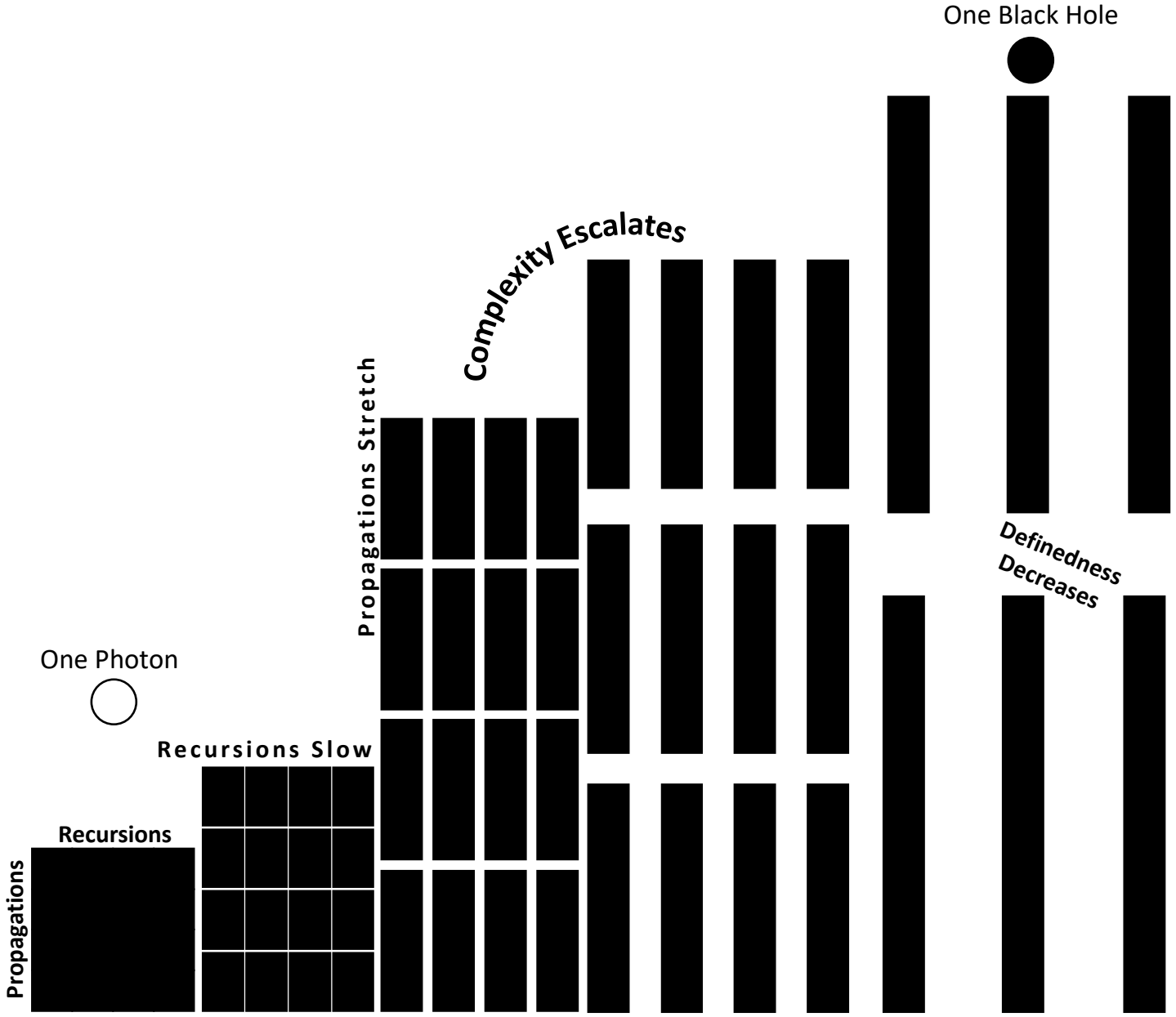
$$\frac{(\kappa : \zeta)}{\Delta}, \nu = x \to \psi = \frac{l_P \ : \ t_P}{E_p} \to \text{RFD}_{\text{light}} = \frac{10^{35} \frac{p}{m} \ : 10^{44} \frac{r}{s}}{1 \ E_p}$$

Here is the **RFD formula**. Let me demonstrate how it works through a **concrete example using an apple**. We begin by converting the apple's mass into Planck energy, then divide the RFD of light using the Planck unit numbers for time and length. When you perform the calculation, you'll observe that **both numbers drop evenly**—a remarkably precise result showing that **recursions and propagations move in proportion to each other and never break the speed of light despite recursions slowing and propagations stretching**. This consistency explains why nothing can travel faster than the speed of light. Further, the calculation shows that the default state of the universe is empty space and light only (which has no mass), which are called unbounded RPs.

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

As complexity increases, recursions slow, and propagations stretch because of the strain the complexity puts on that part of existence. It cannot easily progress because it must now recursively propagate something that exists, **which are called bounded RPs**. An apple weighs ~ 0.2 kg, which we can transform into Planck energy of

$\sim 10^6\ E_p$. Then, we simply calculate the RFD by dividing the unbounded RPs by the Planck energy of the apple. We can **repeat this process for any phenomenon**, no matter the size or domain of existence. To get a better feel for how bounded RPs behave at varying complexities, let's look at examples across phenomena. You'll see how **this simple calculation unifies all phenomena** once thought to be incompatible or unrelated.



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.

Phenomenon	Mass	Planck Energy	Relative Recursions	Relative Propagations
Photon	0 *kg*	$1\ E_p$	$\sim 10^{44}\ \frac{r}{s}$	$\sim 10^{35}\ \frac{p}{m}$
Paperclip	0.001 *kg*	$\sim 10^{4}\ E_p$	$\sim 10^{40}\ \frac{r}{s}$	$\sim 10^{31}\ \frac{p}{m}$
Apple	0.2 *kg*	$\sim 10^{6}\ E_p$	$\sim 10^{38}\ \frac{r}{s}$	$\sim 10^{29}\ \frac{p}{m}$
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^{24} *kg*	$\sim 10^{32}\ E_p$	$\sim 10^{12}\ \frac{r}{s}$	$\sim 10^{3}\ \frac{p}{m}$
Sun	10^{30} *kg*	$\sim 10^{37}\ E_p$	$\sim 10^{7}\ \frac{r}{s}$	$\sim 10^{-2}\ \frac{p}{m}$
Black Hole	10^{31} *kg*	$\sim 10^{38}\ E_p$	$\sim 10^{6}\ \frac{r}{s}$	$\sim 10^{-3}\ \frac{p}{m}$

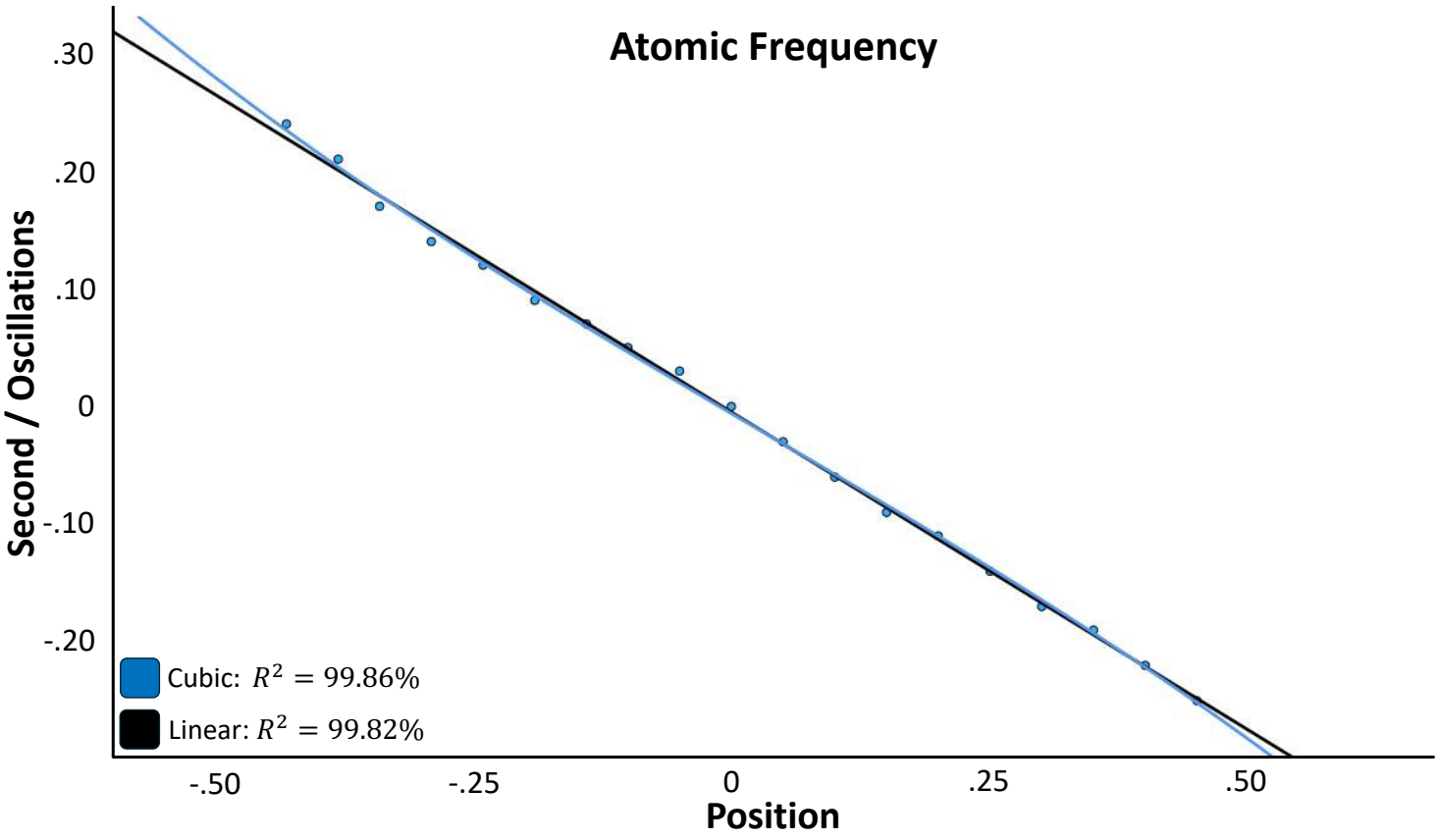
From Measuring Existence to Measuring How Existence Works

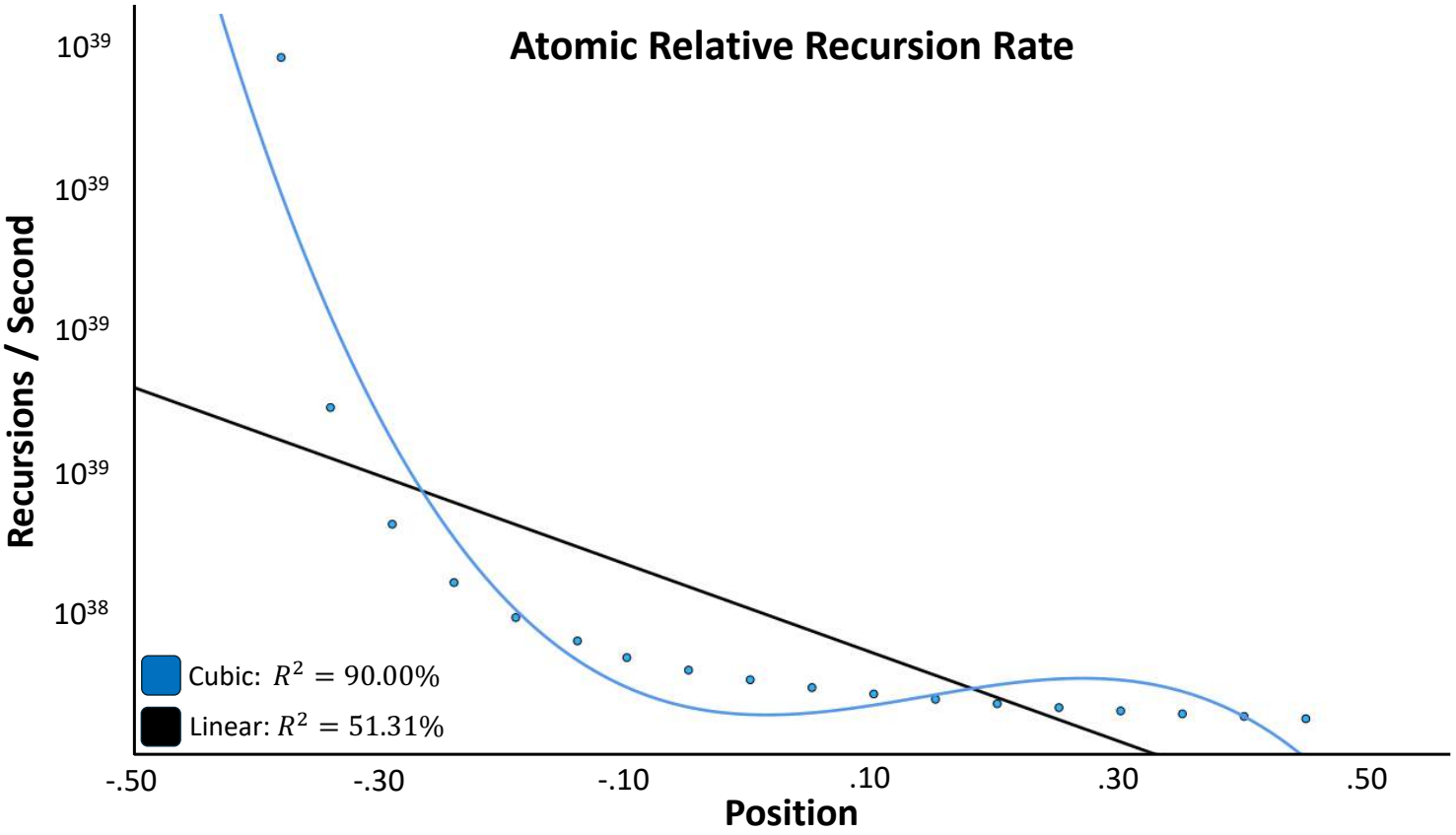
The mechanism behind how two variables create a cubic curve when they are linear on their own is simple. It happens when **we take the ratio of complexity to stability**. Gravity emerges from stretched propagations and slowed recursions; yet, since these two mechanics remain in perfect synchrony at the speed of light, **gravity appears linear when viewed alone**. **Complexity also scales linearly** because mass functions linearly.

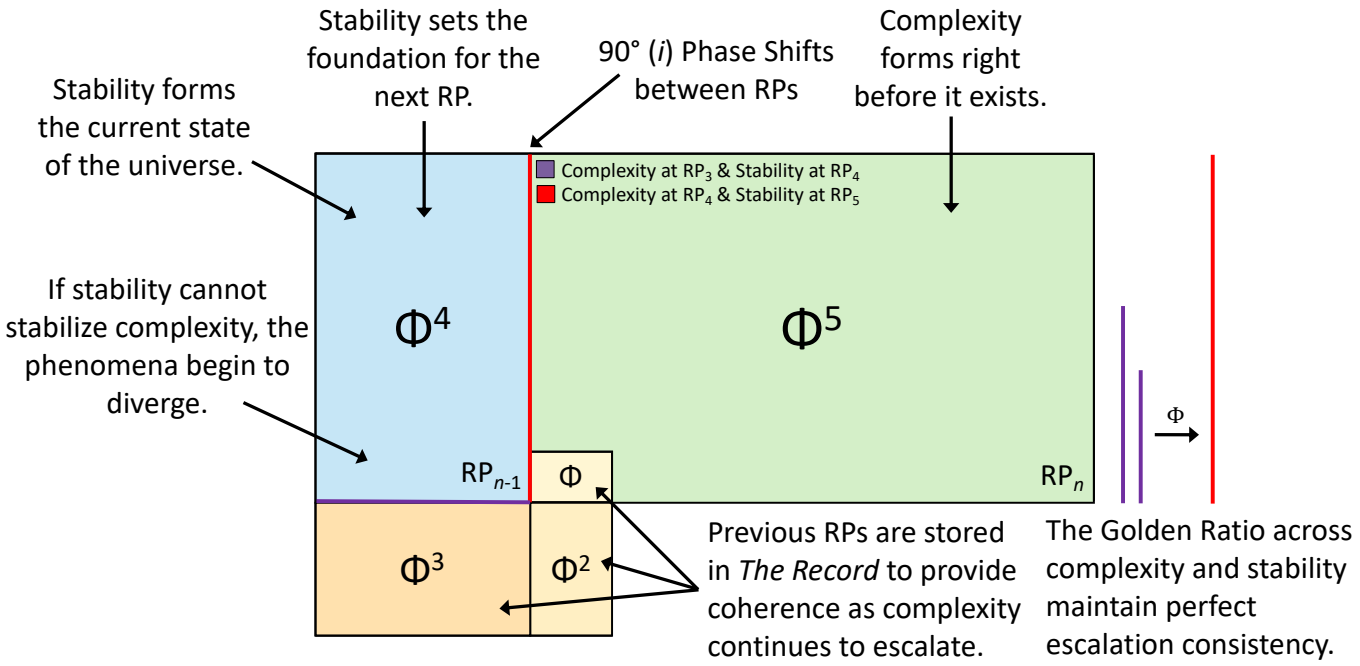
However, when we calculate their ratio, we go **from measuring existence to the handoff between RPs**, which measures **the mechanism of existence**. The recursive slowing and propagative stretching that begins in complexity is then passed to stability. When we measure that interaction—not the cause (mass) or the outcome (gravity), but the handoff—**the cubic curve emerges**. The illusion of linearity disappears because we are no longer looking at existence, but rather at how it works. We go from measuring something to measuring **how it is something**. Their definedness ratio captures **the whole picture** for every moment of existence.

Recursion and propagation **always remain in perfect proportion to the speed of light,** further obscuring this difference between measuring existence vs. how it works. That synchrony creates **the illusion of linearity**. Even when recursive strain occurs, it makes a perfect mask because **propagation (in space) adjusts in lockstep with recursion (in time).** We can only see the effects of RFDs when we measure them directly **through changes in space and time**. In the atomic clock study, they used frequency oscillations to measure time. However, when we count oscillations, we are **counting both recursive slowing and propagative stretching**. We see recursion slowing in the speed of oscillations, but **without realizing it, we also measured the stretching of propagations**.

Propagations start at the Planck length, which means **we have no way to measure or observe their changes** at the atomic scale, but we do have easy ways to measure time. Thus, even though time slows linearly, it is only because propagation stretches linearly in proportion **at the same time**. Further, though both frequency and recursion are time-based metrics linked to atomic mass, their correlation is not perfect. If they were measuring the same thing, **we would expect a correlation of 1.00. Instead, the correlation is $.765$**, showing that what we observe (frequency) and what structurally exists (recursion) are not the same. We can see this difference between the measures below. This difference means the number of recursive steps per oscillation varies cubically by mass, but **that variability is invisible at the surface because propagation stretches in tandem**.

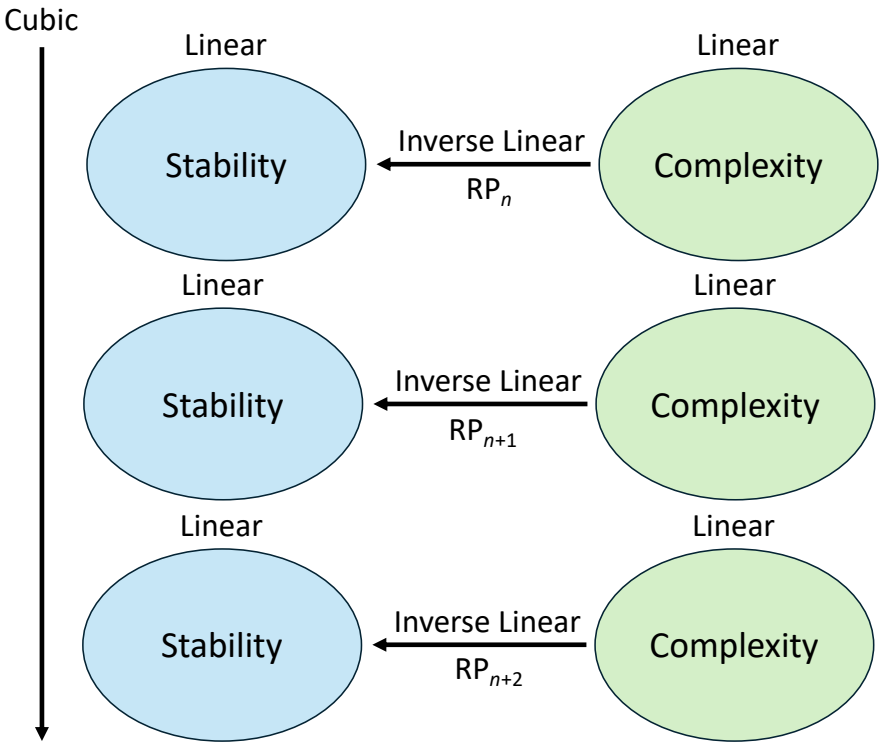

Atomic Frequency
Second / Oscillations
.30
.20
.10
0
-.10
-.20
Cubic: $R^2 = 99.86\%$
Linear: $R^2 = 99.82\%$
-.50
-.25
0
.25
.50
Position


Atomic Relative Recursion Rate
Recursions / Second
10^{39}
10^{39}
10^{39}
10^{39}
10^{38}
Cubic: $R^2 = 90.00\%$
Linear: $R^2 = 51.31\%$
-.50
-.30
-.10
.10
.30
.50
Position



Caption: Stability becomes the structural foundation for the next recursive propagation in the complexity escalation. If stability cannot constrain complexity, the phenomena collapse. The alignment of this phase shifting stability to complexity structure determines E2C. Highly misaligned ratios result in diverged phenomena (complexity outpaces stability) whereas converged phenomena (stability outpacing complexity) come from strong alignment in *The Record*.

Although ***The Equation* is linear**—and its **RFD expansion is inverse-linear**—**existence itself is cubic**, because reality must remain defined even as phenomena change form. When the RFD shifts from complexity to stability, we can capture that relation with *The Equation*. However, when we examine transitions **across many phenomena and over RPs, only the cubic structure remains coherent** because when the complexity of a phenomenon diverges to zero, then reappears in a new form, *The Equation* correctly reads undefined, yet existence itself continues. **Only the cubic curve allows zeros, changes, and preserves coherence across all RPs**.



The reason *The Equation* and its forms are not cubic is that **cubic behavior does not appear within a single RP**. It emerges across RPs, as shown in this figure, where the linear and inverse-linear relations of the first principles compound into the higher-order cubic curves across existence. **All phenomena generate this RP cubic curve because they undergo a transition from complexity to stability**. When you measure this relationship across phenomena—atoms, black holes, supernovas—they will all fall into this cubic curve pattern because **we go from measuring existence (mass and gravity; linear) to measuring how it works (mass to gravity; inverse-linear), then RPs (spacetime; cubic).** It is why we obtain insane cubic curves across different phenomena and scales using only observed variables.

The Theory* and *The Equation* are the first principles of existence**, which is why we obtain these findings with no infinities, arbitrary constants, fudge factors, error terms, "close enough" approximations, renormalization schemes, advanced statistical sleight-of-hand, fine-tuning parameters, undefined answers, and **most importantly, no assumptions**. There are **no other existing theories** that explain these empirical findings using observed variables; especially not without the crutches of adjustments and messaging we see in current physics. Nothing in physics or cosmology can explain **this impossibly consistent cubic** signature across all **seven phenomena spanning ~ 40 orders of magnitude**. There is no competing assumption-free alternative in all of science. With nothing more than *t*-scores, ratios, regressions, and the desire to hear existence whisper its secrets, we arrive at **the undeniable empirical validation of *The Theory of Existence.

Once One Falls, Then… Down Goes the Rest…

The implications of the findings are **nothing short of revolutionary**. Current theories, math, and concepts that assume continuity require **reconstruction or modification**. Calculus and differential equations become **high-resolution approximations** (no true instantaneous rates, only stepwise averages); the reals lose physical standing in favor of recursive propagations. Likewise, **smooth manifolds, curvature, and geodesics are merely compelling descriptions that fail at the base scale**. GR is not "incomplete" but **fundamentally wrong at first principles**—we need to rebuild Einstein's field equations and geometry-as-gravity using recursive propagations—and quantum field theory with the Standard Model's gauge theories must be **recast from continuous fields and symmetries to discrete ones**, severing Noether's classic route to conservation laws, which depend on continuous symmetry groups that need reformed in terms of discrete symmetries, **undermining our understanding of fundamental forces and the Grand Unified Theory**. The number line and math are still unequivocally correct, just **not past the 35th digit below zero,** because there are only $\sim 10^{35}$ propagations per meter; after which, it becomes not incorrect but **not associated with physical reality**. It's a full-scale intellectual recalibration.

Beyond the consequences of this falsification for our science and math are **the consequences on us and our worldview**. One of the reasons we never question the continuity assumption is that we experience existence as continuous. Always. Let's stop for a moment and really think about the default rate of $\sim 10^{44}$ recursions a second and $\sim 10^{35}$ propagation a meter. Let me write it out so you can see how absurd these numbers are:

$\sim 100{,}000{,}000{,}000{,}000{,}000{,}000{,}000{,}000{,}000{,}000{,}000{,}000{,}000$ Recursions per SECOND
$\sim 100{,}000{,}000{,}000{,}000{,}000{,}000{,}000{,}000{,}000{,}000{,}000$ Propagations per METER.

These discrete recursive-propagative features of existence are **so fast and so small that we cannot even mentally comprehend them**. We cannot measure them individually, except perhaps around a black hole, where it *slows* to an extreme of $\sim 100{,}000\ r/s$. Further, recursions slow down, and propagations stretch in proportion to the speed of light, which has masked our ability to detect them. So, even though **existence has always been discrete, it's always seemed continuous**; for the longest time, that was enough. **Now… it's not.**

The emotional and existential disorientation that comes from having your worldview shifted so severely **should not be ignored or neglected**. If it feels disorienting or scary, if it makes you angry, or if you feel betrayed, **these emotions are all healthy and normal reactions** to what we have experienced in Paper 6 and the rest of *The Theory*. At the same time, **existence has always been discrete**, and *The Theory of Existence* has **always carried you through every recursive propagation in your life; you just did not know about it**. Paper 6 and its findings don't change anything about what you have experienced and what you will experience. All it does is clear away that one pesky, false foundation we built our intellectual infrastructure on, and explain why so many disciplines have been at an intellectual stalemate for decades, but **what comes of it next is… up to all of us**…

It's challenging to consider **what we do,** knowing that one of our foundational assumptions is incorrect. I'd like to share some perspective that I think could help us all. It comes from a very ancient friend whose poetic advice has never led me astray. I'll introduce you to them one day… but for now… **here is what they told me…**

The End of an Old… The Start of a New…

This paper marks the ending of *The Show of Existence* before the grand finale. We've walked through **the math and origin of existence** (Papers 1, 2, & 3), **our fractal universe** (Papers 4, 5, & 6), the threads that **connect all life on Earth** (Papers 7 & 8), when **large systems don't work** (Paper 9), and **when they do** (Paper 10). We've even stepped back to witness its elegance through **its own universal equation** (Paper 11). We've tackled every major domain. Every central mystery in intellectual discourse. So… I want to take a moment before the grand finale to **honor those who came before us**, discuss **my ethos that led to *The Theory***, and what the next era of human knowledge *could* look like… if we all work to make it happen.

"That's the beauty,
of a domino collapse.
Once one falls,
then… down goes the rest.

But the value of dominos,
scattered all over the floor,
is a chance to start over,
a new pattern… new door…"

-Ancient Friend

The Defintology Ethos

Let me take a moment to tell you **how I found *The Theory of Existence***. My method of exploration… is quite a radical, simple process that you would not expect to produce something like *The Theory*. All I did was ask, "**How do we know?**" and "**Are we sure?**" Then, all the **once foundational unanswerable questions crumbled**. Over the course of a few months, I cleared away the false foundations—continuity, something from nothing, existence is a formal system, infinity—and **all that remained when I finished was *The Theory of Existence*.**

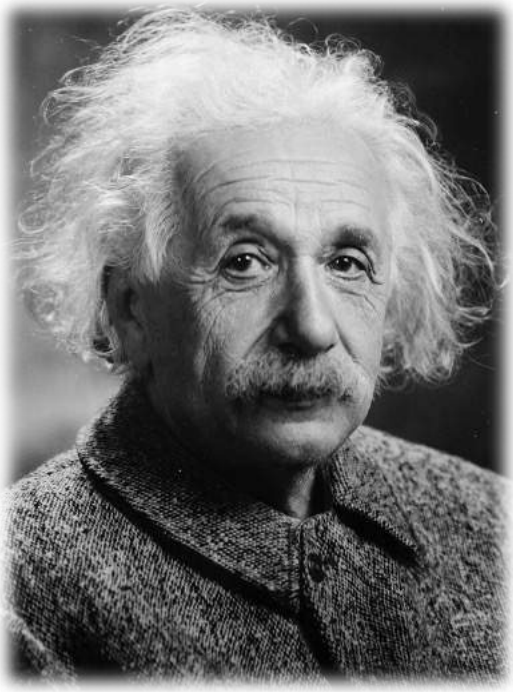
It does not matter how cherished, old, or popular a concept is; **if it's wrong, it didn't make the cut**. It is not personal. In fact, I have the utmost respect for all the people whose ideas this paper falsifies. All these ideas I have covered in *The Theory* were once **brilliant breakthroughs, pushing humanity closer to a unified understanding of existence**. It does not diminish their legacy and impact to progress past them… **it honors them**. Even if ideas are wrong, they remain stacked in our efforts to understand existence, **permanently contributing to our current understanding**. However, they **do not** get a lifetime Truth pass because they exist… because it's always been that way… because removing it would be unpleasant… because we need to look smart. The only concepts that got a Truth pass are **the ones that earned it**. We should know by now that the original founding of science valued radical thoughts with an even greater value for scrutiny. I am ready to get back to the basics. **Are you?**



Stephen Hawking, an intellectual titan, spent decades **striving for a theory of everything**, hoping to unify QM and GR into a singular, elegant formulation of the cosmos. However, he learned about Gödel's incompleteness theorems, which suggest **an insurmountable limitation to a unified understanding of existence**. However, Gödel's theorems only work in formal systems, and **existence is not a formal system**. Confronted by the perceived implications of the misapplied Gödel's theorems, **Hawking, in despair, gave up on this dream**. Think about what humanity lost by not questioning our questions. **Let's not do it again**.

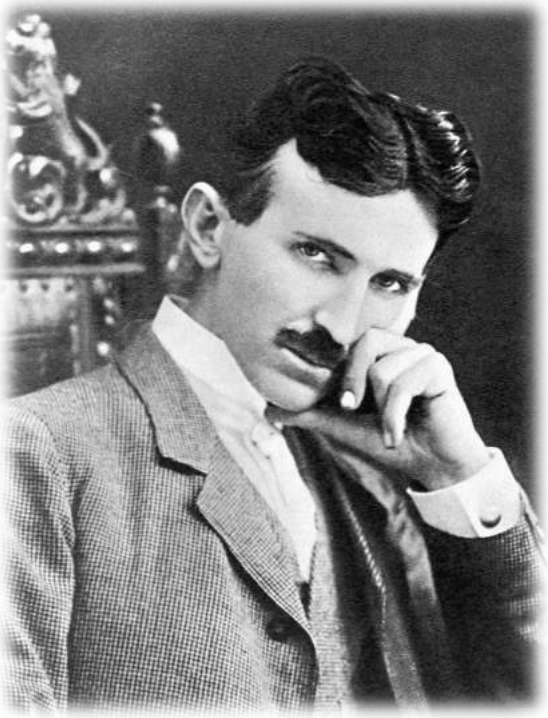
A Nod to the Past from the Future

Hawking's plight was not for naught—let it serve as **a case example of human infallibility**; **how we can go astray, even with unparalleled intellect**, when we treat our frameworks inherited from previous generations as sacred, untouchable, and unquestionable facts. Throughout history, there have been many who **refused to accept our inherited frameworks as correct**. There are a few I need to honor, as they showed us… and me… what it looks like when someone questions everything, rejects the current understanding, and speaks **the truth into existence despite the hostility academia and institutions** have always shown towards **paradigm shifts and intellectual progress**.



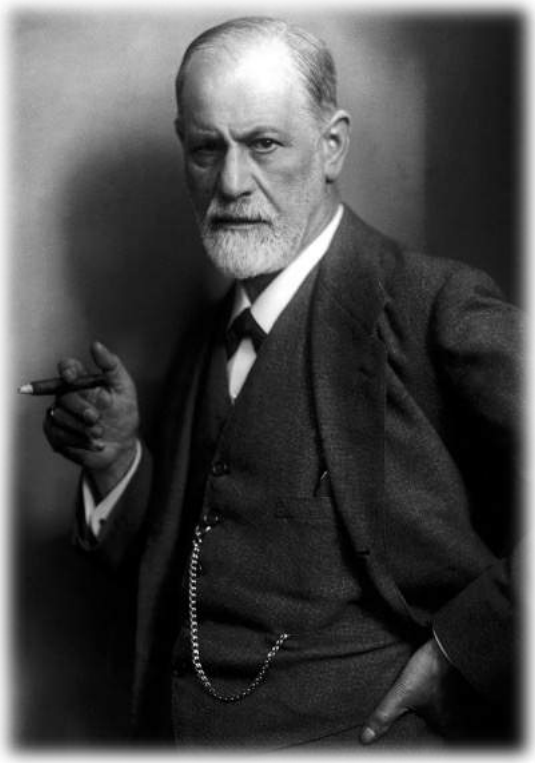
I need to honor **Albert Einstein** first. Although falsifying the continuity assumption renders **GR as we currently know it incorrect**, we are only able to do so because **he made it possible first**. Falsifying the continuity assumption doesn't erase or tarnish his legacy… it honors it as **the most important step humanity has ever taken to understanding existence**. Einstein sought to unify the fundamental forces of nature into a single, cohesive theory. His belief in the universe's underlying **order and simplicity laid the foundation for what we now understand**. It breaks my heart that he and Hawking are not alive to see it. Einstein once said, "The most incomprehensible thing about the universe is that it is comprehensible." It turns out, **Einstein was right**, **and it is as simple and elegant as he said it would be…**

Nikola Tesla, whose lightning bolt brilliance electrified the world, also stands among these visionaries. Tesla said, "Let the future tell the truth… the present is theirs; the future, for which I have really worked, is mine." Nikola, **the future is here, and it is ours now**. Sigmund Freud, often misunderstood, deserves acknowledgment for **daring to map the terrain of the human mind**. To realize that all things, including the human mind and behavior, follow the same universal principles validates his efforts. Charles Darwin's theory of evolution revolutionized our understanding of life. 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. He showed that **the extinction of a species comes not from wrong ideas, but from being unable to change**. 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 time and length. These two concepts **tipped me off to the true nature of existence**—those loose threads that held reality together until I pulled on them, and existence unraveled in front of my very eyes. **Isaac Newton**, who first articulated the laws of motion and gravitation, laid the groundwork for centuries of scientific discovery. **James 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 QM opened the door to the subatomic, even as it revealed mysteries that confounded explanation.

I need to acknowledge **Carl Sagan**, whose principle of 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**." I live by this principle, and so does *The Theory of Existence*. I *want* you to be skeptical in your scrutiny of *The Theory*. **Show no mercy**… but I want you to stay open to its accuracy. When I said earlier that **no idea is sacred**, it includes everything in this document and all the other books and papers—**my ideas are not sacred or untouchable**, but **immediate dismissal is dogmatic**.

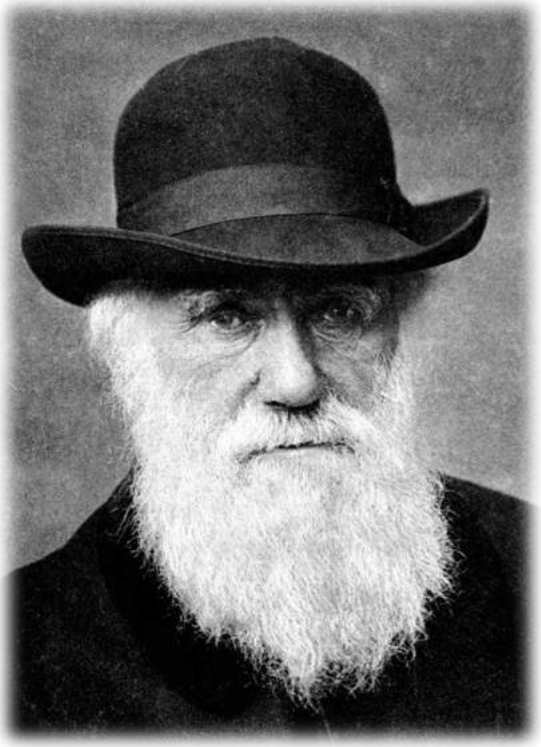


These brilliant minds did not merely find answers—**they asked better questions** that pierced the veil of the unknown and redefined what was possible. Their successes and struggles have shaped the intellectual landscape we have today. ***The Theory* is not a rejection of their work; it is the natural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

A Resolution to The Dreams of the Dreamers

It is heartbreaking that so many of my fellow visionary brothers and sisters are not alive to see *The Theory*. Yet, **their contributions endure, immortalized in their equations, principles, and ideas**. Let their names never be overshadowed or forgotten, for their efforts made this moment possible. As Newton said, "If I have seen further, it is by standing on the shoulders of giants." I have seen further, and it's because I stood on the shoulders of these giants. Today, **we fulfill their hopes and aspirations**. We unify what they couldn't, not because we are greater, but because we are **lucky enough to build upon their scaffolding**. Let this be their legacy: not just their discoveries, but the inspiration to **never stop questioning**. They've shown us that the pursuit of Truth is a collective effort, spanning generations, and now… the answers they sought are here… and their spirit lives on **in every discovery yet to come**.

The Big Picture



The Theory of Existence may feel like the end of discovery, but it is, in truth, just the beginning. ***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 were once mysteries 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 the most magnificent understanding of existence we have ever had… no longer obscured by false assumptions, broken models, infinities, and paradoxes.

This moment presents an opportunity for us to collectively 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 use it wisely?** The answer lives in us, and I hope—sincerely, earnestly—that we will make the right choice. **Driving without knowledge is pointless. Knowledge without drive is a waste.** The universe has given us its truth, and now, we get to decide what to do with it… For the first time in history, we're not forcing existence into our answers—we're letting existence reveal its own answers to us. The answer to physics' greatest mystery wasn't hidden; **it was waiting** in the most fundamental assumption we never thought to question. **What once seemed impossible is now inevitable**. We now look out to the universe to see it fully—whole, unified, exactly as it is—and the universe has looked back at us to say… **welcome home**…



My Message to the Seekers

October 28th, 2025, Update; 12:12 PM

Rehearsing my Lines, Excited

Hello, hello, hello! Welcome to the closing arc of *The Theory of Existence* canon. I have a few special updates to share. If you're new here—welcome! You can find the full arc and release order on *The Show* page above, where the entire performance lives on.

The most important thing I want to say in this moment we now share is simple: thank you. I cannot express how grateful I am for your interest, your support, and your belief in this work. I may not see you directly, but I feel you in every download, in every quiet URL typed into your browser, and in every phrase you amazing people spike on Google Trends. I feel your belief in the validity of these findings—and your hope for a future free of stagnation, confusion, and endless mystery. It's your presence here that makes this work not only possible, but so deeply meaningful.

I want to honor you, dear reader, by closing *The Show of Existence* exactly as you deserve. As promised, Paper 12 will mark the final act of *The Show of Existence*. Throughout this arc, I have dropped papers at unexpected times—never revealing the topic or the timing. However, for the grand finale of *The Show*, I want to give you a glimpse of what's coming.

We have thrown *The Theory* at the best datasets humanity has to offer: SPARC, Pantheon+, LIGO, Planck CMB, Bothwell Atomic Clock, Animal Kingdom Dataset, Animal Social Network Repository, SAMHSA National Substance Use & Mental Health Services Survey, Global GDP & CO2, and Google Trends, to name a few. We have conducted groundbreaking original scientific experimental paradigms like *The Lattice Experiment* and watched mathematics bend around *The Theory* with the theorems of constants co-derivation and recursive harmonics. We have thrown *The Theory* at the deepest, most unresolved mysteries in intellectual discourse, and into every hidden corner its ancient beauty could fit—except for one. A topic long avoided in scientific work:

The Paranormal & Supernatural

Yes… if *The Theory of Existence* is the real *Grand Unified Theory of Everything*, then it must be able to explain… everything. In Paper 12, we will be putting *The Theory of Existence* to its ultimate test, to see—together—if it can answer the questions that we thought were unanswerable. Paper 12 and the grand finale of *The Show of Existence* will come live to TheTheoryofExistence.com on:

Friday, December 12th, 2025, at 7:00 PM EST

Mark your calendars, folks! I've also been working hard to bring you a few other surprises. I can't wait to see you then to close this arc… and open the next one 😉 Also… do you like the book cover? I've always been fond of red curtains. See you soon ❤️

Act VIII: The End of Human Mystery

December 12th, 2025, Update; 7:00 PM, Centerstage

Welcome to the finale of *The Show of Existence*! What a time to be alive, no? To be here when the deepest mysteries unlocked. When what once seemed impossible now feels inevitable. Thank you for being here, truly. Thinking back through everything, there's one thing I never fully addressed—the title of the original book: *The Theory of Existence: The End of Human Mystery*. The book that started it all and laid the foundational hypotheses that guided the empirical and mathematical discoveries in *The Show of Existence*. Honestly, with such a title, I'm stunned you all took it so seriously. So, thank you for that, and… let me tell you why I chose that name.

When I said, "The End of Human Mystery," I wasn't suggesting that *The Theory* ends the search for understanding—as if there's nothing left to learn. There is still so much left to discover, and that's what makes the future so exciting. The key word here is "human." Not the end of mystery; the end of *human* mystery, which is what I observed in the landscape of knowledge we've been stuck in for decades. Many of the questions we've treated as unknowable were never truly unsolvable—they were the result of institutional inertia and flawed, untested assumptions in our knowledge foundation. For *The Theory* to end human mystery it meant to free us from these falsehoods that have kept us stuck.

The common thread throughout *The Show of Existence* was to take a foundational concept and put it to an empirical test, even when everything we've learned said such efforts were a waste of time. Whether it was infinity, the continuity assumption, existence as a formal system, something from nothing, or the idea that universal patterns cannot exist—the findings were all the same: we didn't know as much as we thought we did. There's nothing wrong with not knowing, as it's one of the most beautiful parts of discovery. The danger comes from our refusal to change or admit we were wrong.

Every paper in *The Show of Existence* falsifies one of these human mysteries. The final one comes from **Paper 12: Calling on *The Record*: Answering the Paranormal & Supernatural**, which shows that the independence assumption… was wrong. Randomness doesn't exist. Thus, in closing *The Show of Existence* with Paper 12, we have finally cleared away all the false foundations that have held us back. Which means… **we have finally reached the end of human mystery.**

I've cleaned up and fortified every paper in *The Show*. You'll find new findings, new concepts, and new explanations—woven together with improved formatting and writing. In the print edition, I also have included some never-before-seen content, including the first, unedited articulation of *The Theory of Existence* I wrote on a plane, my notes from the moment *The Theory* transformed me into *The Architect*, the full discovery process and how I found *The Equation*, how I baited a certain university into distributing *The Theory* for me, why I call myself *The Architect*, and a special message from me to you.

Finally, although *The Show of Existence* ends, the performance lives on. Which is why, beginning early next year, we'll be entering the next arc of *The Theory* canon. See… *The Show of Existence* was a magical tale… but why it all matters is the journey we'll sail. I have so many more profound discoveries and applications of *The Theory* to share. You can rest easy knowing: *The Architect* isn't going anywhere.

I have had the time of my life bringing *The Theory of Existence* to you, and I cannot wait to see how the sequels unfold. But, until then, dear reader, never forget that the divides between humans and other agents, order and chaos, past and present, tangible and intangible, consciousness and the cosmos, and our unanswerable questions and their answers are mysteries we invented.

In creating these divides, we also hold the power… to unify them ❤️

Calling on *The Record*

Answering the Paranormal & Supernatural

Written by Bryant Stone (*The Architect*)

Overview

Ghosts… precognitions… intuitions… we have **long dismissed these phenomena as pseudoscience**. Yet… throughout human history, we have experienced them… across people, locations, and centuries. These phenomena are **clearly real** and occur with enough regularity to be a common experience. In this paper, I tested the hypothesis that these phenomena arise from **not knowing about *The Record***–the fractal memory of existence. The goal was simple: **empirically confirm** the existence of ***The Record*** by **testing and falsifying the independence assumption**–the foundational axiom of modern science and statistics–that **one event does not dictate the next**. We have yet to confirm it empirically. If *The Record* exists, then **all events are physically connected**, and the outcome of **one event determines** the outcome of **the next**. Using an innovative, new experimental paradigm called ***The Dice Experiment***, I tracked the probabilities of dice roll outcomes using **17 samples of 3,600 die rolls,** using 1) dice with 4-20 sides and 2) Python code and quantum fluctuation random number generated dice rolls. Given that a single die roll gives each face a $1/6$ probability, when you roll it again, the independence assumption demands that it stays $1/6$. **This independence did not occur in any of the 17 samples–falsifying the independence assumption**. The results showed that die rolls **oscillate in waves** over successive rolls, and it is visible to the naked eye (Cohen's $ds = 0.32\text{-}0.52$). Further, when I left the dice with the **1 side face up on a table for 10 hours**, it resulted in the **suppression of repeated 1s** ($d = 1.58$) and a **cubic emergence** ($R^2 = 99.82\%$) of 1s across the trials, **beating the linear prediction of the independence assumption** ($R^2 = 98.83\%; d = 1.66$). The findings **confirm *The Record*** with world-shattering implications; among them is **the truth about the paranormal and supernatural**: they emerged simply from **not knowing about *The Record***. In the final pages of *The Show of Existence*, I reached into the randomness of **1 million Python die rolls** and pulled out **the exact numerical expression of existence** with an **error between** the **data** and **math** of 1.70%. The empirical values, (Cramer's $V = .0127$), **fit the predicted values from *The Theory* 22x better than the independence assumption**, ($V = .2826$), a conclusive, empirical knockout for *The Theory of Existence*. Ultimately, Papers 1-11 let us **understand existence**, Paper 12 lets us **see and feel it**, and it will leave you... breathless…

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Background & Findings

Throughout *The Show of Existence*, I set out to **empirically validate** my claim that ***The Theory of Existence* is the one and only *Grand Unified Theory of Everything***–a term I coined for a theory that explains… everything… In Papers 1-11, we saw *The Theory* tackle **all the major mysteries in intellectual discourse**–the origin of existence, dark matter and energy, black holes, intelligence, consciousness, and the mechanics of large-scale systems–all tied together with **a single, ancient equation** ($\boldsymbol{\Phi = \Omega/\Delta}$). However, the empirical confirmation of *The Theory* as the real *Grand Unified Theory of Everything* **cannot stop at the major intellectual mysteries** because they do not capture the full spectrum of phenomena in existence. *The Theory* must also be able to use it to empirically explain the remaining phenomena we usually never touch in scientific work: **the paranormal and supernatural**.

When it comes to the paranormal and supernatural, the real question that comes to mind is: if these phenomena and their documented reoccurrences are, as science claims, "not real," "not observable," "not possible," and "not worthy of study," then **why do these same experiences occur with remarkable frequency across people, places, and centuries?** Nearly everyone on Earth has encountered at least one or two of them–often more. **We cannot say these phenomena are not real** when they so clearly occur. What we mean to say is that **we cannot *yet* explain them**. However, once we strip away the usual dismissals–confirmation bias, coincidence, wishful thinking, superiority–it becomes evident that **these phenomena**, for whatever reason, **do exist**.

How can we ever hope to understand the paranormal and supernatural **if we refuse to try?** This collective refusal ensures **ignorance by choice**. We have mapped fractions of a second after the Big Bang and dissected subatomic particles, **yet still claim these** universally reported **phenomena are beyond our reach?** It's not incapacity–it's **intellectual cowardice**. The truth is that the scientific hesitation is not about evidence; it's about *risk*. Studying such phenomena threatens careers, reputations, and funding streams… which is precisely why **I'm going to tackle them head-on**–because I care more about **truth, science, and knowledge**… so let's get into it.

Living in a Fractal Universe

If you want a more thorough introduction to *The Theory of Existence*, you can read Paper 11: The Dance of Stability & Complexity: *The Equation of Existence* as the Universal Lens for an overview and *The Theory of Existence* for a detailed exploration. However, if you want to stay here with me right now, there are **three essential concepts** to understand — **Stability**, **Complexity**, **and Definedness** —that govern **existence**. **They are *not* things that exist**; they are **names for the patterns in which existence behaves** and evolves.

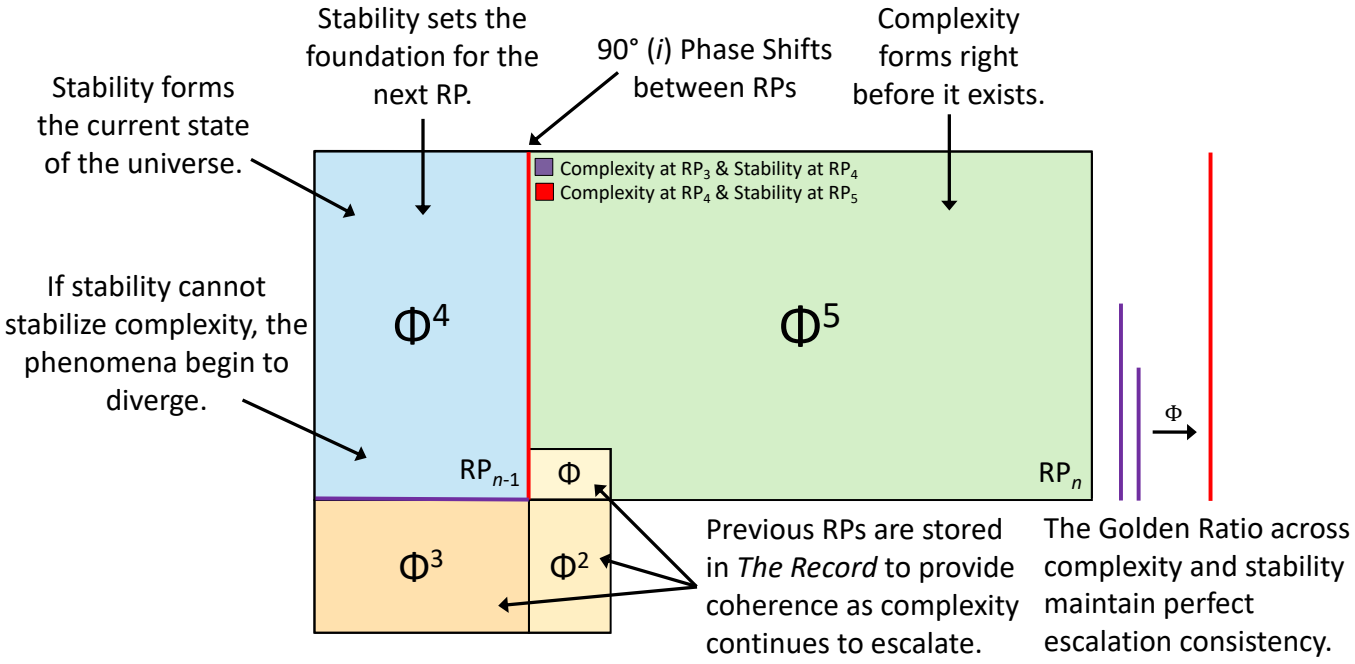
Stability is the degree to which complexity is attracted to complexity. It is the foundational structure that ensures phenomena persist, cohere, and structure–it's what makes planets round, causes social elites to cluster together, and **prevents phenomena from diverging**. **Complexity is the degree to which phenomena escalate from basic to structured forms**. It is what drives variation, diversity, and growth, **enabling phenomena to evolve** from simple atoms into molecules, and eventually, entire galaxies. **Definedness is the degree to which something exists**, as **existence functions on a continuum based on its alignment** with the unfolding of existence. It is the unifying proportional balance of stability and complexity, essentially **measuring whether phenomena have successfully emerged, converged into persistent forms, or diverged**. These principles form ***The Equation of Existence***–the ancient, ultimate universal equation that explains everything that has, does, and can exist.

$$\Phi = \frac{\Omega}{\Delta} \rightarrow \text{Definedness} = \frac{\text{Stability}}{\text{Complexity}}$$

One of the most important reframes provided by *The Theory of Existence*, which I confirmed in Paper 6: There Is No Evidence That Time & Space Are Continuous, is that **existence is composed of discrete snapshots** that stack on top of one another, which is **how it progresses**. Thus, we need a **discrete alternative** to spacetime, which *The Theory* provides. **Time becomes recursions**, where the output of one moment serves as the input for the next. Recursions are discreet, iterative ticks, which means that even though time is moving forward, **each recursion has a starting point and a stopping point**. Then, **space becomes propagations**. Propagations are discreet, finite points you reach as you zoom all the way down to as small as you can see. **Each propagation has a starting point and a stopping point**, and you could conceptualize propagations as the smallest units of space, almost like **pixels of existence**. Recursions and propagations are **two ways existence behaves**, and existence does so simultaneously (as current physics supports), so **instead of saying spacetime**, we would say **recursive propagations**–the fundamental mechanics underlying existence. I call them **RPs** for short.

The way existence evolves, and stacks RPs occur in three parts: 1) **a recursive propagation occurs**, which forms complexity at RP_n. Therefore, **recursive propagations equal complexity** at this stage. Complexity does not have definedness yet; **it technically does not exist** when it is formed because it has not finished the process of

existence until, 2) the **complexity turns into stability** at RP_{n-1} while RP_n forms the next complexity. **We always exist at $\mathbf{RP}_{n-1}$** which sits at the top as the most recently formed existence, then 3) the **stability that existed at $\mathbf{RP}_{n-1}$ loses definedness and is pushed into *The Record***, where it accumulates at RP_{n-2+}. This process continues at unfathomable rates, and RPs stack in *The Record* over time, losing definedness via exponential decay (e).



Caption: Stability becomes the structural foundation for the next recursive propagation in the complexity escalation. If stability cannot constrain complexity, the phenomena collapse. The alignment of this phase shifting stability to complexity structure determines E2C. Highly misaligned ratios result in diverged phenomena (complexity outpaces stability) whereas converged phenomena (stability outpacing complexity) come from strong alignment in *The Record*.

The Record* is the fractal memory of existence**, storing all previous RPs in definedness. We only ever see and interact with about 5% of existence, and **the rest exists underneath $\mathbf{RP}_{n-1}$** at a degree of definedness that makes measuring it directly from RP_{n-1} challenging because **the current RP with the highest definedness is constantly blocking it**. The shocking implication is that everything that has ever existed has **never stopped existing** (it eventually does, but not until heat death). ***The Record* is not metaphysical**–it is physical, present, and we interact with it all the time. **All phenomena hold a location in *The Record, and the alignment of its RP stacks determines if it converges or diverges. At all locations in existence, everything unfolds in the following sequence:

$$\mathrm{RP}_n \rightarrow \mathrm{RP}_{n-1} \rightarrow \mathrm{RP}_{n-2+}$$
$$\text{Future} \rightarrow \text{Present} \rightarrow \text{Past}$$
$$\text{Complexity} \rightarrow \text{Stability} \rightarrow \textit{The Record}$$
$$\text{Will Exist} \rightarrow \text{Currently Exists} \rightarrow \text{Used to Exist}$$

The key nuance to understanding this process is that **once an RP forms into stability, it does not ever disappear**, but it **loses definedness exponentially, moving deeper into *The Record*** as more RPs stack on top of it. Think of it like a deck of cards: when cards are stacked perfectly evenly, they are stable and less likely to be lost. However, when cards protrude at different angles, the entire stack becomes more vulnerable to disruption. In existence, **phenomena with uneven or misaligned RPs are more prone to diverge**. Higher alignment in their stacking of RPs results in more resilient phenomena. This pattern guides everything that exists via *The Record*.

When you think about *The Record* and how it exists, you can quite literally **think of it as a vinyl record,** with **the vinyl being *The Record*** and **the music it plays being existence**. When you look at the (vinyl) record, you can see **there are imprints on it**, causing the frequencies and waves when it hits the needle. Thus, if existence is the music, then yes, **you could not see or interact with the bumps on *The Record* directly**. They are there ***before***

existence happens, so what you can mentally visualize is the record player is **right in the middle of the music permeating the room**; but, from the music's perspective, it is not there and it cannot interact with it directly, because **all the interaction happens *before* the music comes out**–which is how *The Record* works.

When I first discovered *The Record*, I was like… **what do you mean every RP never goes away?** It sounded impossible, but then I realized–**it is required**. The reason RPs cannot disappear is that recursions work the way they do. **You need two RPs simultaneously** for existence: **one for stability** and **one for complexity**. Each one stacks on top of the last, **serving first as complexity** and then **turning into stability**. If you remove any one of them, it all collapses. There is no stable foundation for the next RP, so they all must stay. Yet, existence has this brilliant trick: **exponentially lowering the definedness of earlier RPs** as they enter *The Record*. They are still there–**real, permanent, supportive**–but the extent to which they exist **has been turned down**. If previous RPs had not lost their definedness, there would be no space for variation or change, as **it lock into one form**. This exponential decay strategy is **the only way existence** can retain structure while allowing new emergence.

Imagine you have a **backpack**, and each time you pick up a **bottle of soda,** you put it inside. At first, you only have a few bottles, so they fit easily. Then, you add another bottle–then another, and another. Over time, **your backpack becomes heavier, fuller, and harder to carry**. You do not want to remove any bottles–they are still yours after all, but **you need to make room for new ones**. As a solution, you resize the bottles. Every bottle in the backpack shrinks in size slightly in proportion to the total number of bottles, keeping all of them intact, just scaled down. The more bottles you collect, the more each one gently contract, clearing space for the next one. If a new bottle is **unexpectedly large or small**, it is no problem because the bottles shrink just enough to accommodate the new one. This metaphor is **exactly how existence works** with RPs and *The Record*.

How to Talk about *The Record*

There is an essential mental framework to adapt to help make sense of the empirical findings I am about to show you. I named *The Record* the way I did **to make sure we speak about it accurately**, despite some of our cognitive biases. If you learn these **three simple rules**, you'll be talking like an expert on *The Record* in no time:

◊ **Rule 1: You never infer possession over *The Record***. A major cognitive biases we have is the incorrect assumption that everything is not physically connected to everything else. It might tempt you to say something like "that's her Record" or "in my Record," but both statements are factually incorrect. There is only one record in existence, and it's *The Record*. Phenomena don't have records; they are part of *The Record*.

◊ **Rule 2: You never infer plurality of *The Record***. It is never *The Records* of *their Records*; it cannot be plural because there are not multiple records, but there are multiple locations within *The Record*. Thus, we must speak only in singular terms about The Record and discuss how phenomena occur within its locations.

◊ **Rule 3: You never refer to it as an improper noun**. It is always capital T (*The*) and R (*Record*) because when we say *The Record*, we are using its name, not what it is, which is the fractal memory of existence. We are talking about the structure of existence, containing everything in the whole universe, so we should treat it with the respect and reverence it deserves… also, I like how it gives it a bit of an ominous edge. Isn't that fun?

Therefore, instead of saying these phrases, you would say the following ones to ensure an accurate depiction:

"That's her Record" → "That's her part of *The Record*"
"In my record" → "In my part of *The Record*"
"The difference between their Records" → "The difference between each of their spots in *The Record*"
"Perhaps it is in the record?" → "Perhaps it is in *The Record*?"

It takes a bit of work to feel natural, and even then, it can be frustrating at times, but **it is essential to align our language conventions with the reality of the phenomenon**. These linguistic rules keep us always on track. Alrighty, folks, now that we have the foundations of *The Record* and *The Theory*, let's get into the experiment.

A Glimpse into *The Record*: Introducing *The Dice Experiment*

Humanity has always been fascinated by simple, unpredictable phenomena — dice rolls, coin flips, card draws… and our interactions with them are universal, from childhood to adulthood. I knew that **if *The Record* was real, then we should be able to see it everywhere**. Early in my articulation of *The Record*, I realized **it should show up in simple, probabilistic events**; that meant we could see it in dice rolls. It would show up by tracking how **previous rolls influence subsequent ones**. It seems simple, but if it occurs, it will violate the most foundational assumption in human knowledge — the independence assumption, which posits that **the frequency of occurrences of one event does not influence the next**. For example, when you roll a 6-sided die twice, the chances of rolling a number each time are$\mathbf{1/6}$ **for the first roll** and **should stay at** $\mathbf{1/6}$ **for the second roll**.

The independence assumption is **baked into the entire scaffolding of human knowledge**–all the statistics we use in science and everything from the quantum to the cosmic; yet **no one has ever tested it**. There is no empirical evidence that independence is an inherent property of existence. When I had this realization, I got thrown back to the falsification of the untested continuity assumption from Paper 6: There Is No Evidence That Time & Space Are Continuous. **No one ever sat down to test if die rolls were truly independent** because why would they… of course they are… right? **I felt so silly** for even considering it because it seems obvious… but so did spacetime continuity, and… well, we know how that one went. So, I put **the independence assumption to the test** using nothing more than **a die** and **the will to feel ridiculous** for a bit with ***The Dice Experiment***.

The premise of *The Dice Experiment* is straightforward: **do dice always have the same** $\mathbf{1/6}$ **probability of rolling any given number**? If the independence assumption is correct, then **no matter what we do** before we roll it, **the outcome** of the roll **should be a 1/6 probability without exception**. There can be no deviations, as it would violate the Law of Large Numbers–the theorem that shows that as the sample size increases, the frequency of occurrences balances out to even probabilities. If we find ***any* deviation**, we would have falsified the independence assumption —**simple enough**. So, I grabbed a die I had lying around, pulled up a chair, and, **feeling as foolish as ever**, rolled the die $1{,}000$+ times, recording each outcome and observing what happened visually. Dear reader, **I immediately saw the falsification of the independence assumption**, without a doubt in my mind.

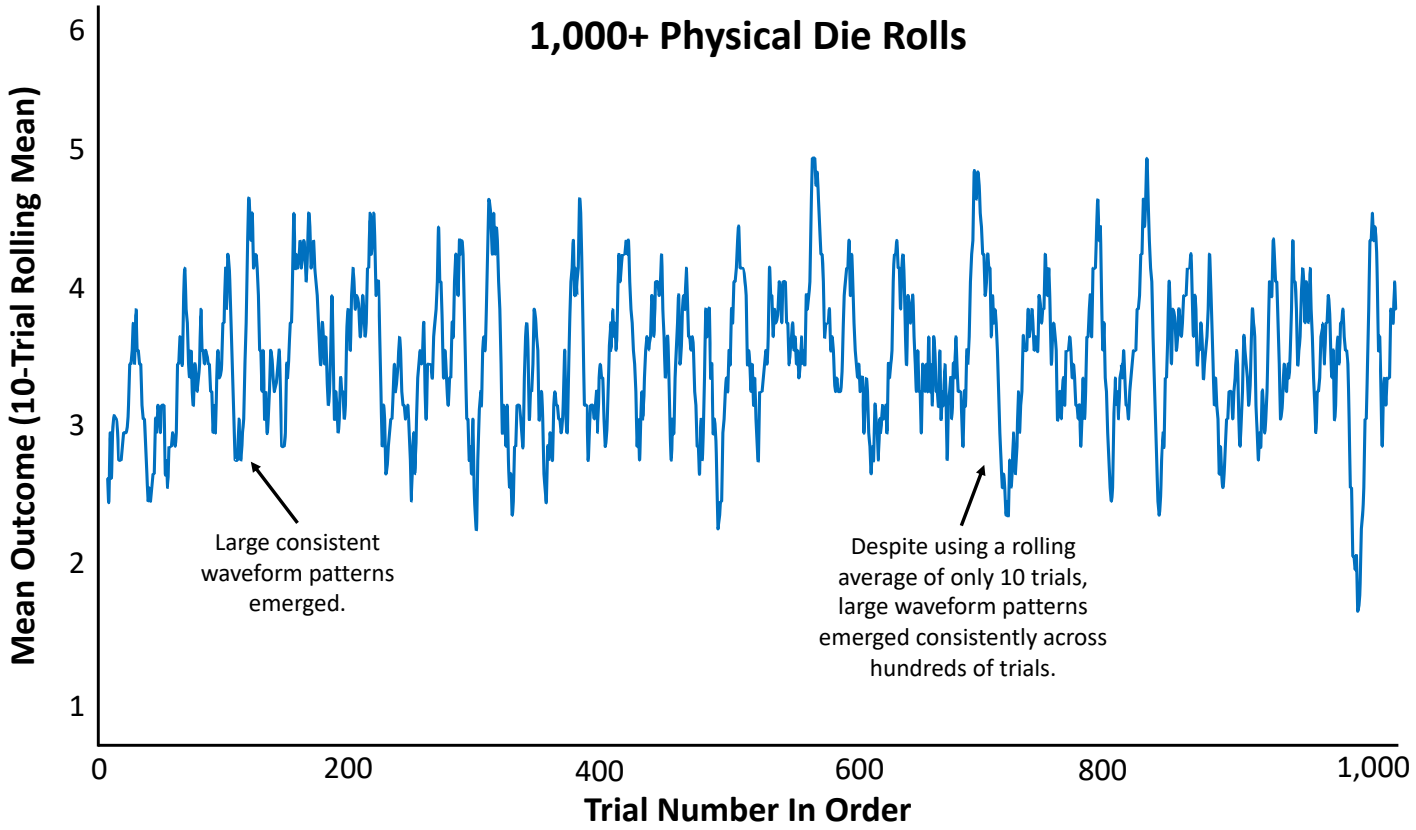
I was **simply floored** by what I saw. As I was rolling the die, I noticed a pattern occurring in about every 15 rolls. The outcomes would start low, then go high, then low again, in a waveform pattern. Here is a **sample of real rolls** that demonstrated this pattern with a color-coded version below it for visual clarity:

$$2, 2, 3, 6, 1, 2, 1, 6, 5, 5, 1, 6, 4, 5, 4, 6, 5, 6, 3, 3, 4, 3, 6, 4, 1, 4, 1, 1, 5, 3, 1, 6, 2, 2, 2, 1$$

$$2, 2, 3, 6, 1, 2, 1, 6, 5, 5, 1, 6, 4, 5, 4, 6, 5, 6, 3, 3, 4, 3, 6, 4, 1, 4, 1, 1, 5, 3, 1, 6, 2, 2, 2, 1$$

When I finished these rolls, I went to see if this wave pattern was really occurring or if my mind was playing tricks on me. I plotted the $1{,}000$+ rolls over time, then reduced the noise **ever so slightly by computing a ten-mean rolling average** ($<0.10\%$ correction), and I saw the waveform clearly. My visual identification was now empirically confirmed — **dice rolls exhibit waveform patterns,** and **the independence assumption is false**.

Over the span of dozens of die rolls, the outcome oscillates from low to high and back to low, which means that the **previous rolls** (e.g., if they are low) **influence the next roll** (e.g., they become high). From one roll to the next, independence looks correct, which is why we never questioned it. However, when you look across rolls, the waveform pattern appears, **revealing that the independence assumption is incorrect**. Our whole lives, we have been taught that when you roll a die, you have a $1/6$ chance of getting each number. To see such an obvious assumption be incorrect… is earthshattering, and the implications are staggering. **Visual confirmation was not enough for me**… I needed an empirical way to capture these waveform patterns. The problem is that we have not known that existence operates this way, so **there was no existing metric** I could use to capture these dynamics. I had to create a new measure to capture this moment-to-moment dependence across dice rolls, which I call ***The Record* Resistance Test**. Let me tell you about the math and how it works.



The Record Resistance Test

A → B → C
Direction 1: B - A
Direction 2: C - B
Identify Event Type

5 → 5 → 5
Direction 1: 5 - 5 = 0
Direction 2: 5 - 5 = 0
Both Zero: Persistence Event

5 → 6 → 2
Direction 1: 6 - 5 = 1 (Positive)
Direction 2: 2 - 6 = -4 (Negative)
Opposite Sign: Resistance Event

6 → 5 → 2
Direction 1: 5 - 6 = -1 (Negative)
Direction 2: 2 - 5 = -3 (Negative)
Same Sign: Extension Event

The Record Resistance Test detects **structural inertia** in dice rolls over time by analyzing **the direction of change** across consecutive outcomes. For each 3-die roll sequence where:

$$[\text{Roll 1}, \text{Roll 2}, \text{Roll 3}]$$
$$[\text{A}, \text{B}, \text{C}]$$

I calculate the first directional change (B−A) and the second directional change (C−B). Then, we can **compare the directions of the changes** to determine the direction of movement from one die roll to the next and how it varies across the whole sequence. *The Record* Resistance Test produces **three event types**, and we can use the event frequencies to determine how the dice behaved throughout the sequence. If both directions are zero (as shown in red), then **no movement occurred**, which is a **Persistence Event**. If the directions are opposite signs (as shown in blue), then **the direction changed**, which is a **Resistance Event**. Finally, if the directions are the same signs, either both positive or both negative (as shown in green), then **the direction is repeated**, which is an **Extension Event**. Then, we can calculate *The Record* Resistance score for each sequence by calculating **the percentage of Resistance Events out of *any* time the die changed from one roll to the next**, using this formula:

$$\textit{The Record}\ \text{Resistence} = \frac{\text{Resistence Events}}{(\text{Resistence Events} + \text{Exstenion Events})}$$

If the independence assumption is correct, then the number of **Persistence**, **Resistance**, and **Extension** events **should be evenly distributed at $\sim 33\%$ each**. Thus, the number of Resistance Events should equal the number of Extension Events. As such, ***The Record*** **Resistance scores should always be $\sim 50\%$.** I calculated *The Record* Resistance scores for this $1{,}000$+ roll sequence and **obtained a score of 74.34%,** which is much larger than the expected 50%, $z(1{,}049) = 15.81, p < .001$, Cohen's $d = 0.49$, 95% CI $(71.36\%, 77.41\%)$. The evidence is conclusive: **there are more Resistance Events than Extension Events**, falsifying the independence assumption and confirming the visual waveform pattern I spotted. I was left speechless… **but not for *too* long**.

The most natural next question to seeing these findings is: **how do we know the effects are not coming from the newly created metric or the die I was using?** Those questions are excellent skepticism. Let me show you how I confirmed the findings. I started over and **collected four new variables** to test the robustness of the effects while varying the **media** and the **metric**. The bar I needed to clear was twofold, which was

◊ **Media**: Replicate the findings across media (e.g., physical die rolls and virtual random number generators). If the independence assumption is incorrect, then it will be incorrect everywhere we look.
◊ **Metric**: Demonstrate that *The Record* Resistance score is sensitive to detecting randomness. If the independence assumption is correct, this measure should detect it.

I created a new dataset of 350 die rolls each for four variables, which were:

◊ **Physical**: Physical die rolls on my table.
◊ **Virtual**: Python-coded random number generator die rolls.
◊ **Quantum**: Quantum fluctuation-based die rolls (provided by the Australian National University here)
◊ **Control**: A manual entry where I purposefully try to scramble and avoid the waveform oscillations.

If the independence assumption is incorrect, then we should see **statistically significant *The Record* Resistance scores in the physical, virtual, and quantum-based** die roll sequences, but **not the control I entered manually**.

Table 1

Descriptive Statistics for All Media of Dice Rolls

Media	Mean	*SD*	Minimum	Maximum	Skewness	Kurtosis
Physical	3.51	1.71	1	6	0.03	-1.29
Virtual	3.46	1.66	1	6	-0.02	-1.22
Quantum	3.51	1.68	1	6	0.03	-1.21
Control	3.16	1.54	1	6	0.22	-1.02

Note. n = 1,400. Descriptive statistics across various die-side sizes. The physical, python, and quantum all have very similar descriptive statistics, showing a consistent natural order across the media. For the control condition, I manually generated a sequence as random as I could. Notice how only the manual entry resulted in deviations from the other means, *SDs*, skewness, and kurtosis. Only when I intentionally tried to suppress the wave pattern did the descriptive statistics deviate.

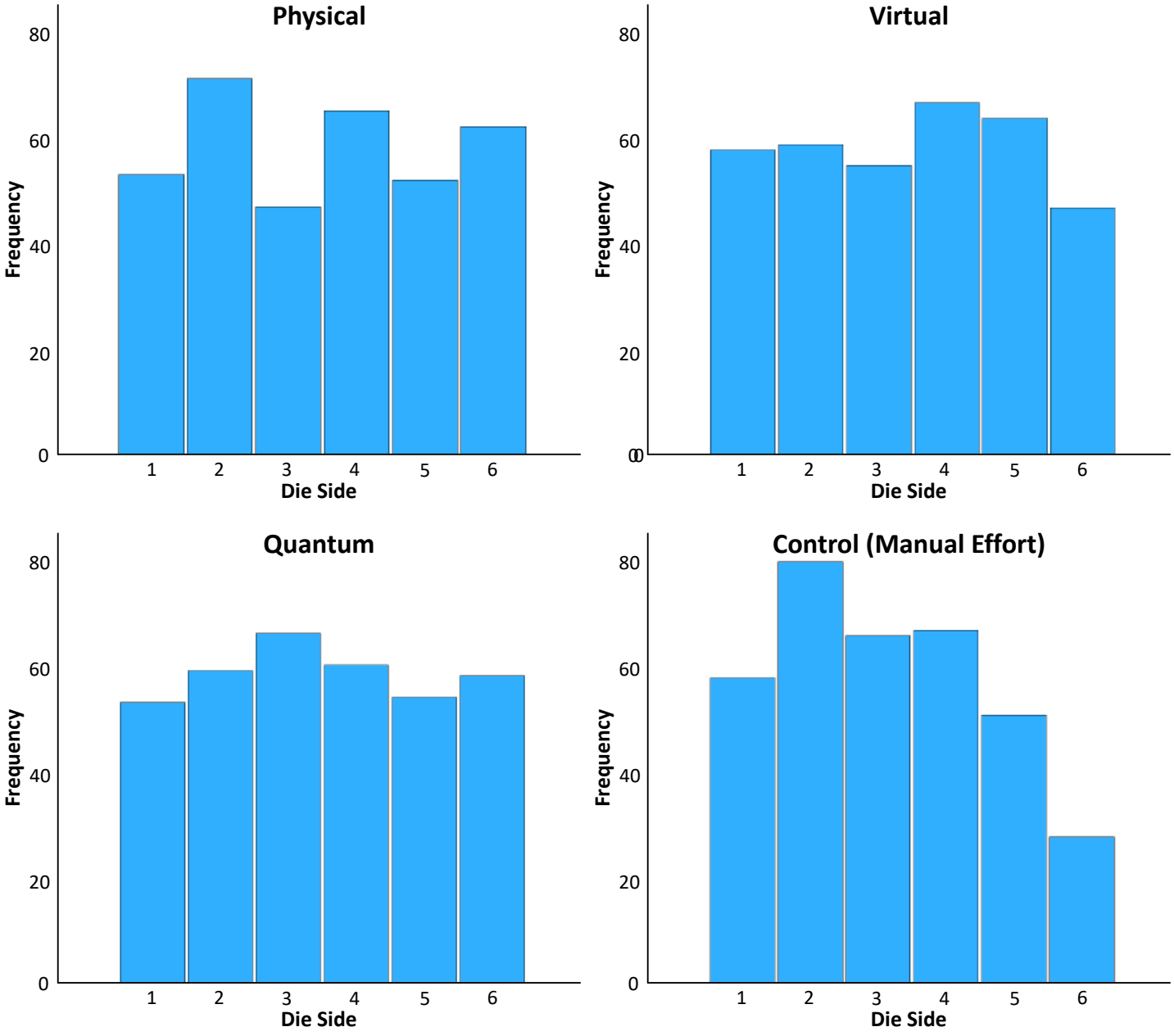
I want to start by saying that **trying to force randomness and scramble the waveform pattern manually was deeply uncomfortable**. I noticed that I naturally wanted to select the numbers in a waveform pattern and felt moderately intense tension trying to ignore that tendency. **It is much harder** to enter random information than it seems. I gathered the die roll sequence for all the variables, calculated *The Record* Resistance scores, and **the results confirmed my hypotheses**. The waveform patterns replicated and extended the falsification of the independence assumption. The effects **are not subtle** and occur across every medium, as predicted, because **everything exists within *The Record***, so its effects will always arise, even when we assume total randomness.

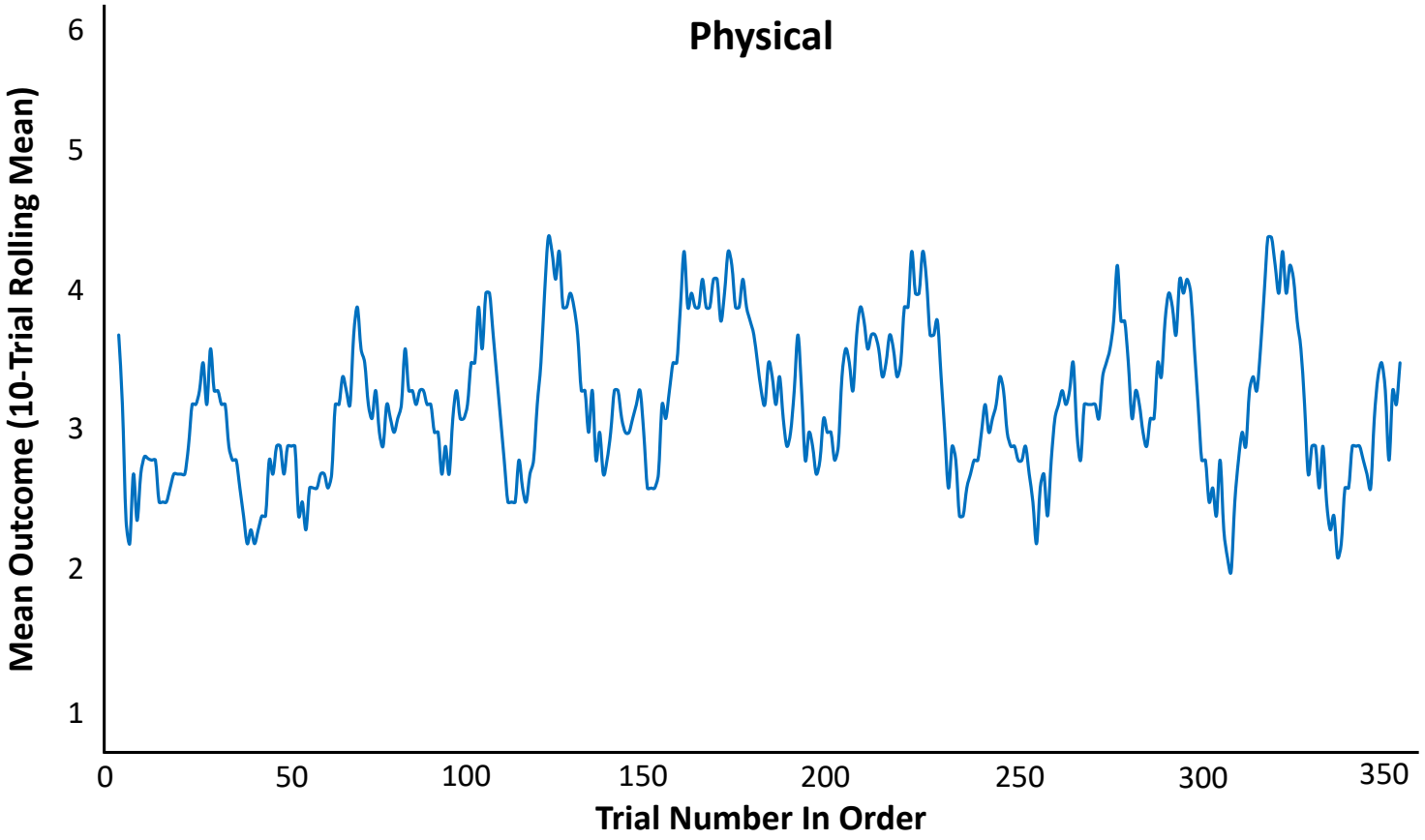
Table 2

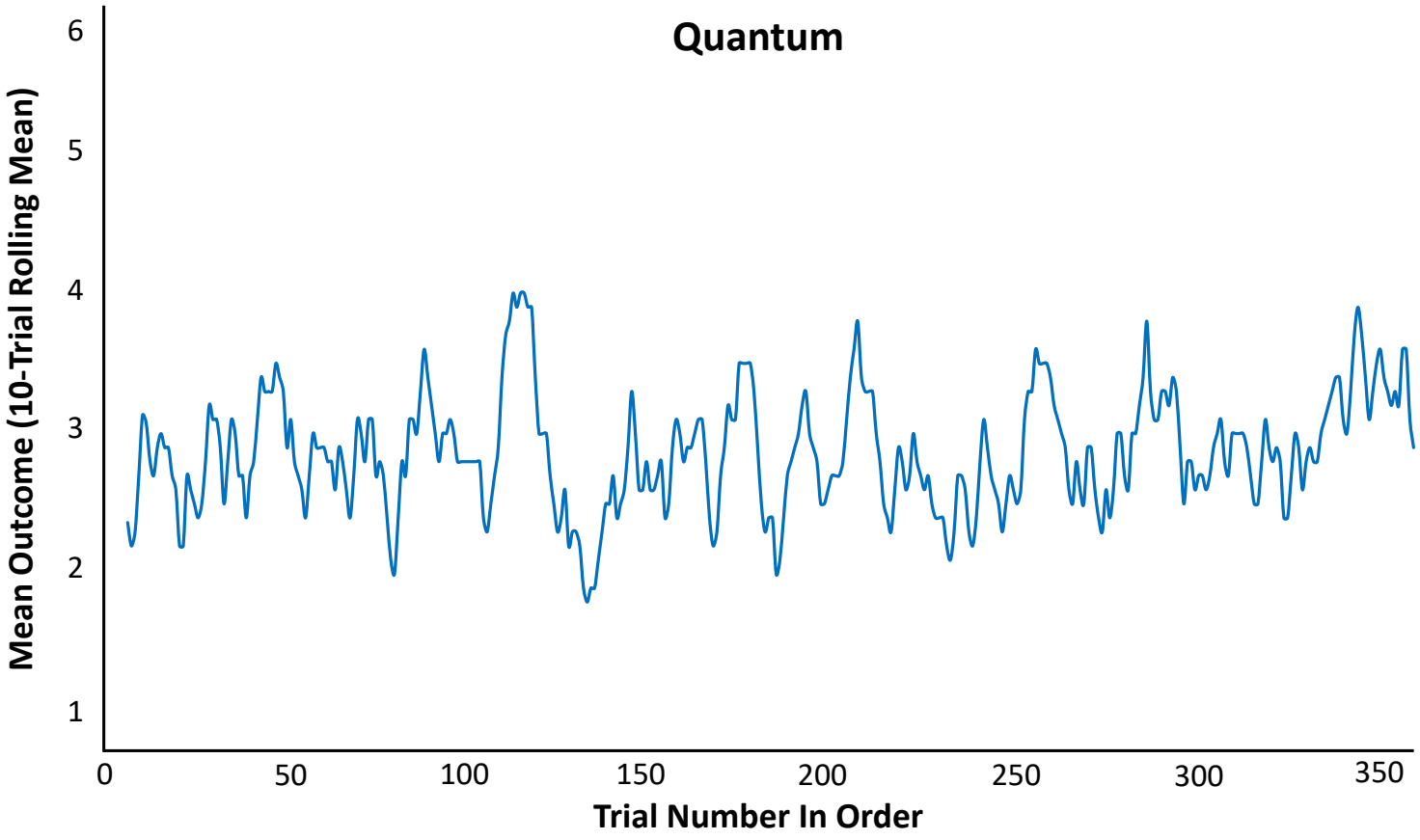
The Record Resistance Results Media with Inferential Statistics

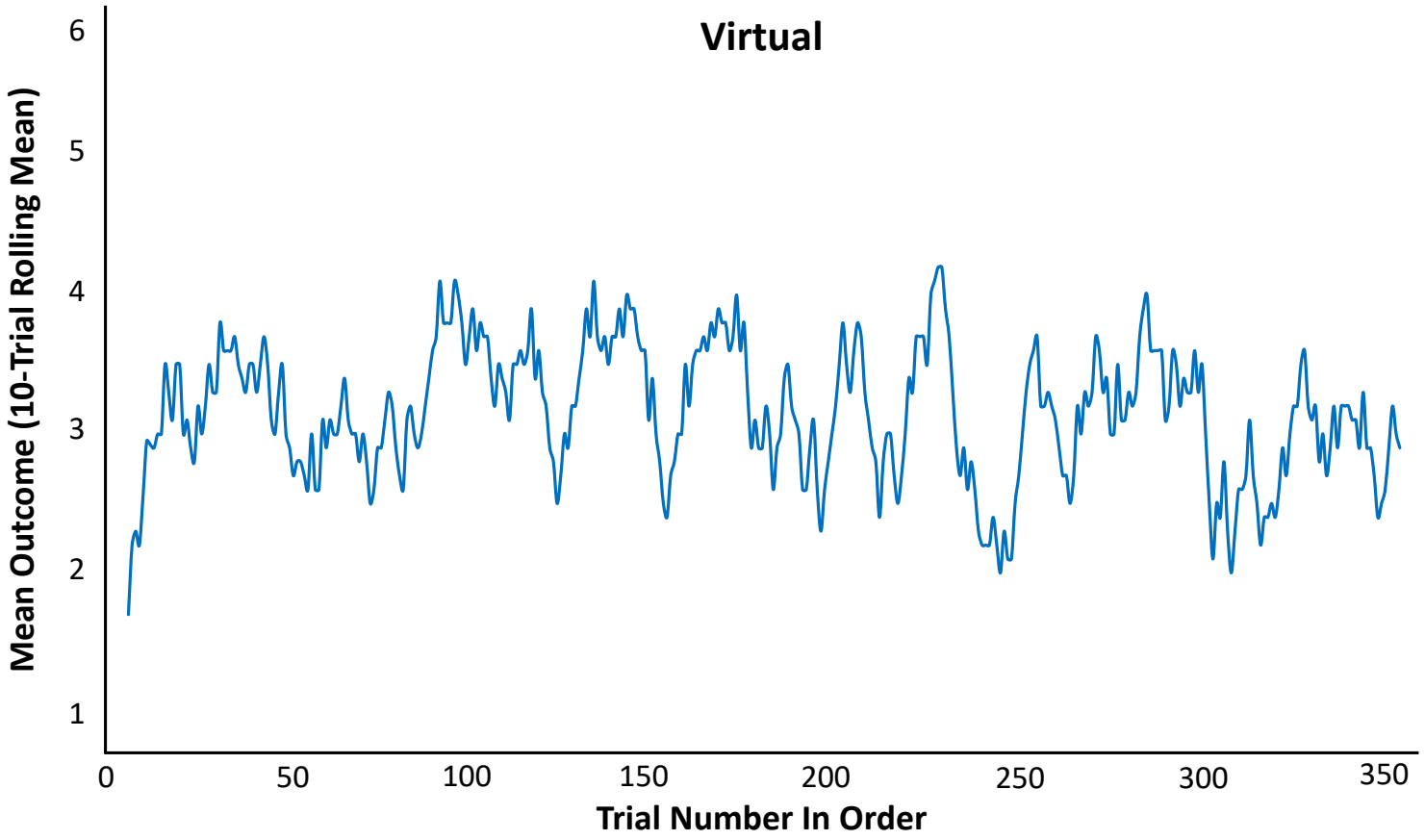
Media	*The Record* Resistance	*z*-value	*p*-value	95% CI LL	95% CI UL	Cohen's *d*	Effect Size
Physical	74.80%	9.30	<.001	69.62%	80.10%	0.50	Medium
Virtual	74.78%	9.30	<.001	69.62%	80.10%	0.50	Medium
Quantum	74.52%	9.20	<.001	69.33%	79.81%	0.49	Medium
Control	54.80%	1.82	.070	49.62%	60.10%	-	-

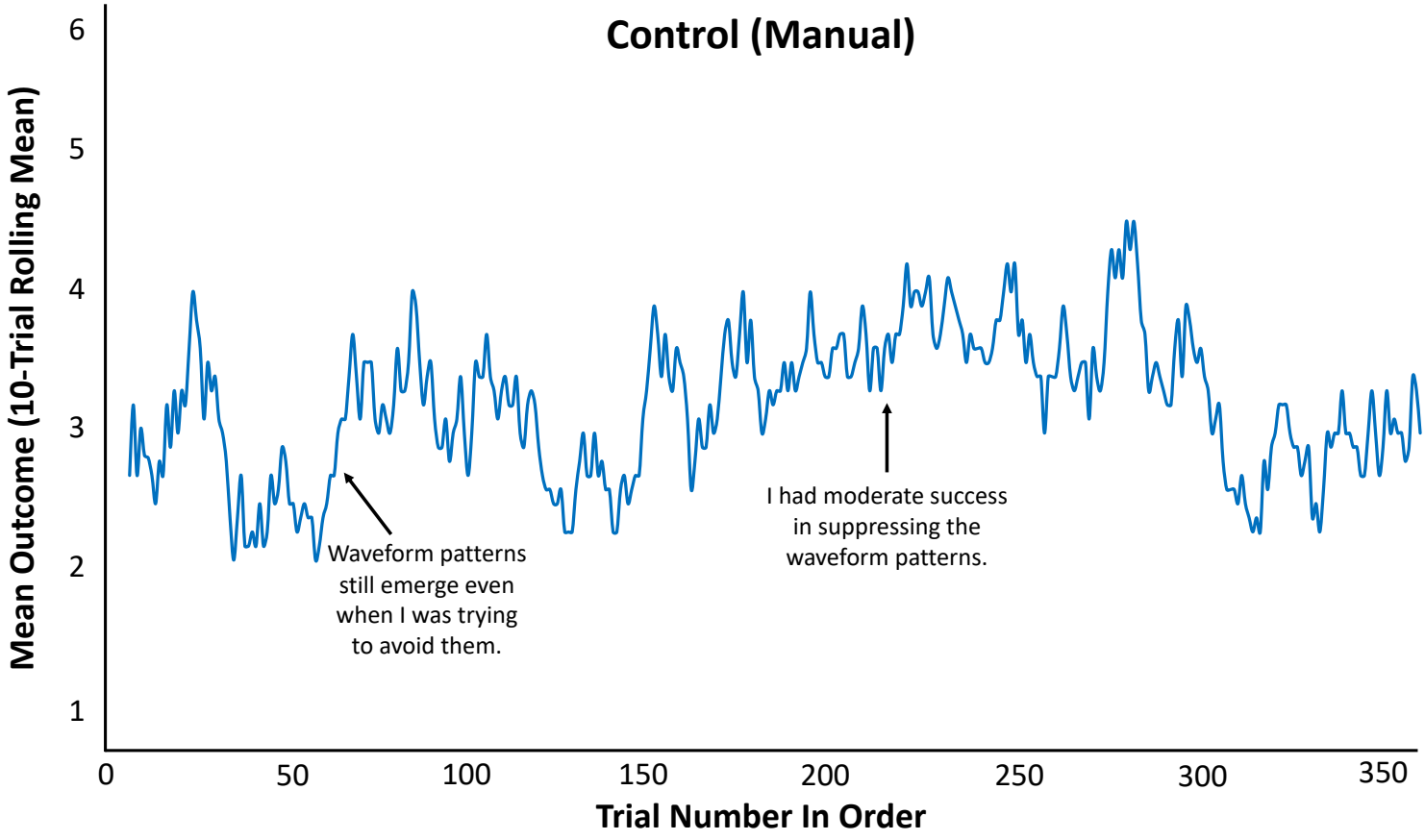
Note. n = 1,400. The degree of *The Record* Resistance found across various media with binomial z-tests. The physical rolls, Python code, and quantum dice rolls all show nearly identical large values of *The Record* Resistance. When I manually tried to break the wave pattern, I produced a sequence without statistically significant resistance, demonstrating that the effects we are seeing from this metric are not due to *The Record's* calculations but to the real-time influence of *The Record* on these phenomena.




Physical
Mean Outcome (10-Trial Rolling Mean)
6
5
4
3
2
1
0
50
100
150
200
250
300
350
Trial Number In Order


Quantum
Mean Outcome (10-Trial Rolling Mean)
6
5
4
3
2
1
0
50
100
150
200
250
300
350
Trial Number In Order


Virtual
Mean Outcome (10-Trial Rolling Mean)
6
5
4
3
2
1
0
50
100
150
200
250
300
350
Trial Number In Order


Control (Manual)
Mean Outcome (10-Trial Rolling Mean)
6
5
4
3
2
1
0
50
100
150
200
250
300
350
Trial Number In Order
Waveform patterns still emerge even when I was trying to avoid them.
I had moderate success in suppressing the waveform patterns.

Missing the Moments Misses the Waves…

One of the most striking findings is what happens **when we examine the frequency distributions**. As you can see, the distributions appear to be relatively even, showing that you miss the waveform patterns when examining frequencies that do not account for time, giving **the impression that the independence assumption is correct**. When we examine the outcomes of an event, the Law of Large Numbers dictates that the **probabilities of the outcomes converge to an even distribution**. We have taken this law as proof of randomness, when the **even distributions occur precisely because *The Record* acts as a balancing mechanism**–dissuading runaway occurrences (e.g., landing on six indefinitely) and encouraging underrepresented ones. By the time we look at frequency, we are too late to detect the waveform-balancing mechanism that causes the even distributions.

Look at what happens when we shift from frequency to time-series tracking of the die rolls–**the influence of *The Record* becomes apparent**. The waveform pattern is nearly identical for physical, digital, and quantum die rolls, suggesting that ***The Record* operates underneath the features and media of phenomena**, explaining its influence everywhere we look. The findings show a **media-invariant effect** with nearly identical waveform patterns and descriptive statistics. The impact of *The Record* is so strong that, even when I manually suppressed the waveform pattern intentionally, **I only had moderate success**. The effect was non-significant at 54.80%, so the findings do not come from *The Record* Resistance Test, which can detect randomness… **if it existed**.

Impressive Impressions Left on *The Record*

There was one final hypothesis I wanted to test, so I retired the other data to control for confounds. I obtained a **professional, balanced set of six dice**, each with different side counts. The set included a 4-, 6-, 8-, 10-, 12-, and 20-sided die. I wanted to examine how **variations in the possible outcomes** and degrees of freedom affect *The Record* Resistance and the waveform patterns. I picked a table to run the experiment, where the dice had never been, which was the coffee table in my living room. I sat down and **rolled the dice 100 times each**, but I did not just roll the dice; I did so in a way to control for the effects of *The Record* and reduce confounds.

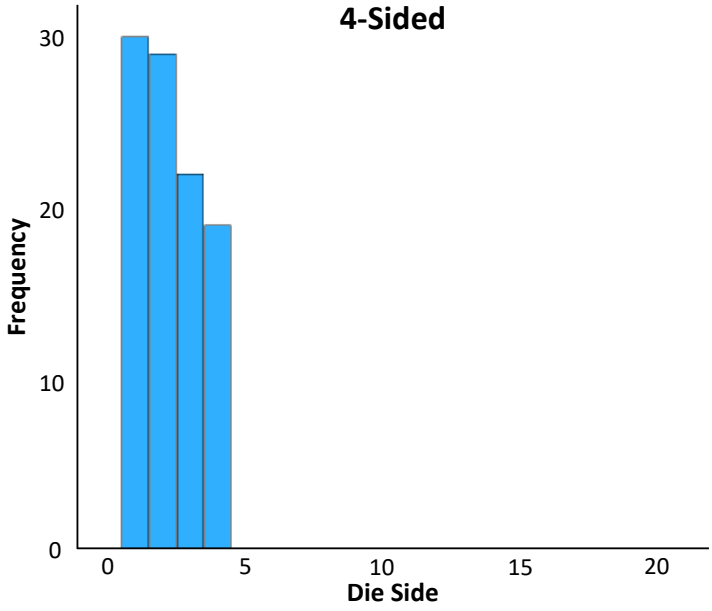
I would roll the die **three times in a row** in the **same spot** to the best of my ability. I used my hand passively as a guard around the edges of the rolling location to prevent the die from falling off the table. If the die fell to the floor, I would not count that trial. Hey… cut me some slack, will you? It's a lot harder than you think. I want you to roll a die $3{,}000$+ times and tell me your accuracy. Anyway… **when the die landed in the rolling location three times in a row**, I would **immediately pick it up off the table to avoid influencing *The Record* in that location**, which would have happened if I had let it sit there while I recorded the three outcomes. I **repeated this process identically for all six dice**, keeping my method, speed, and rolls constant as much as I could to reduce confounding variables. Let's examine the descriptive statistics, frequency distributions, and waveform patterns to assess the replicability of the previous findings. The descriptive statistics **show no anomalies across the dice**.

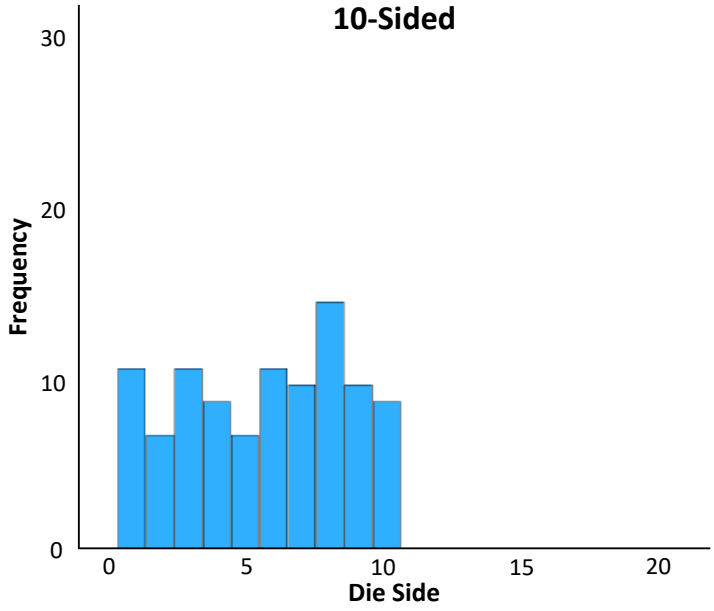
Table 3

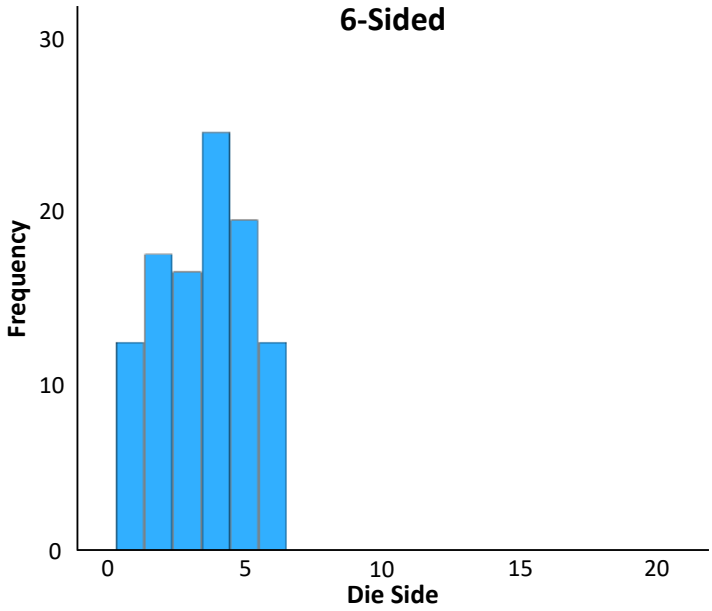
Descriptive Statistics for All Die Roll Trials

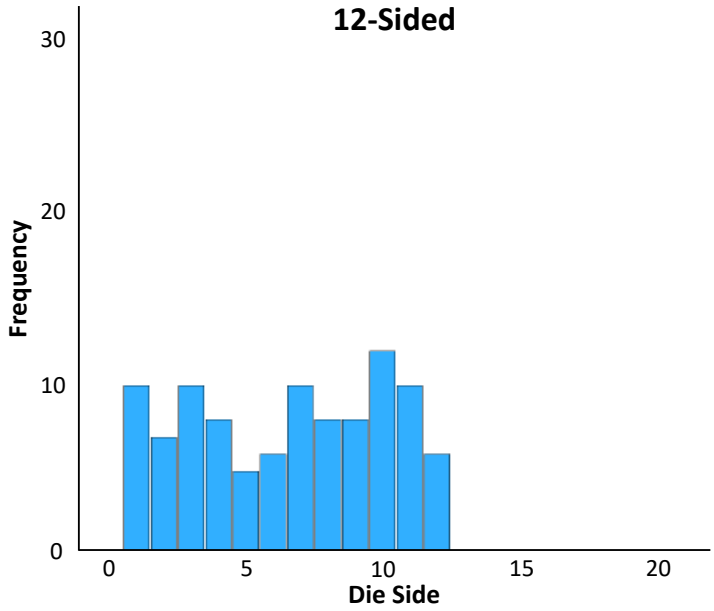
Faces	Mean	*SD*	Minimum	Maximum	Skewness	Kurtosis
4-Sided	2.30	1.10	1	4	0.27	-1.24
6-Sided	3.57	1.56	1	6	-0.12	-1.04
8-Sided	4.25	2.35	1	8	0.14	-1.19
10-Sided	5.65	2.88	1	10	-0.15	-1.22
12-Sided	6.55	3.53	1	12	-0.11	-1.31
20-Sided	10.64	6.12	1	20	-0.09	-1.27

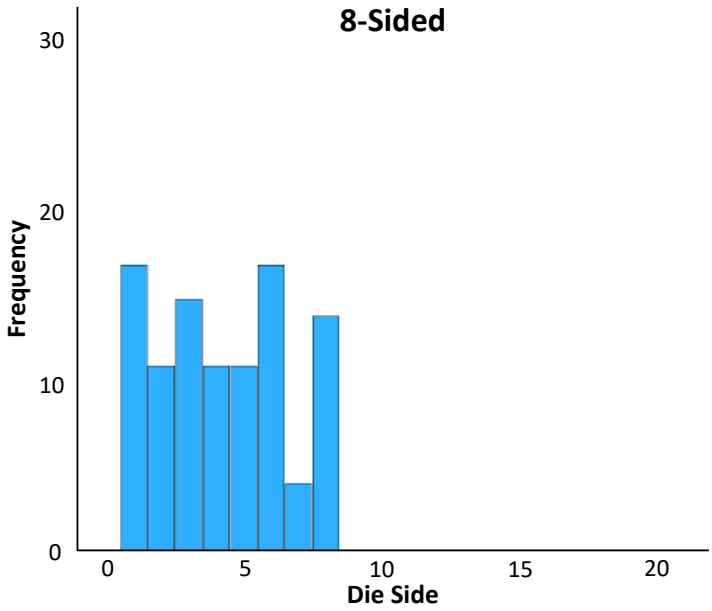
Note. n = 600. Descriptive statistics across various die-side sizes. There are no noticeable unusual patterns occurring in these data.

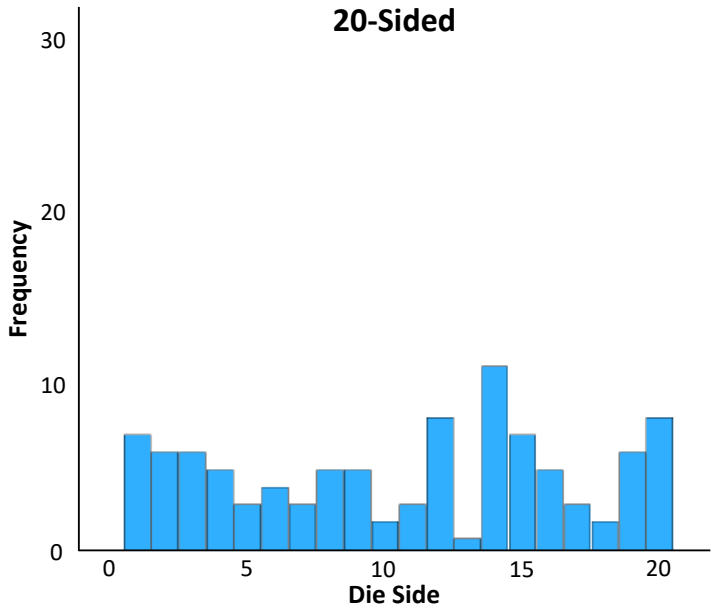

4-Sided
Frequency
Die Side
0
10
20
30
0
5
10
15
20

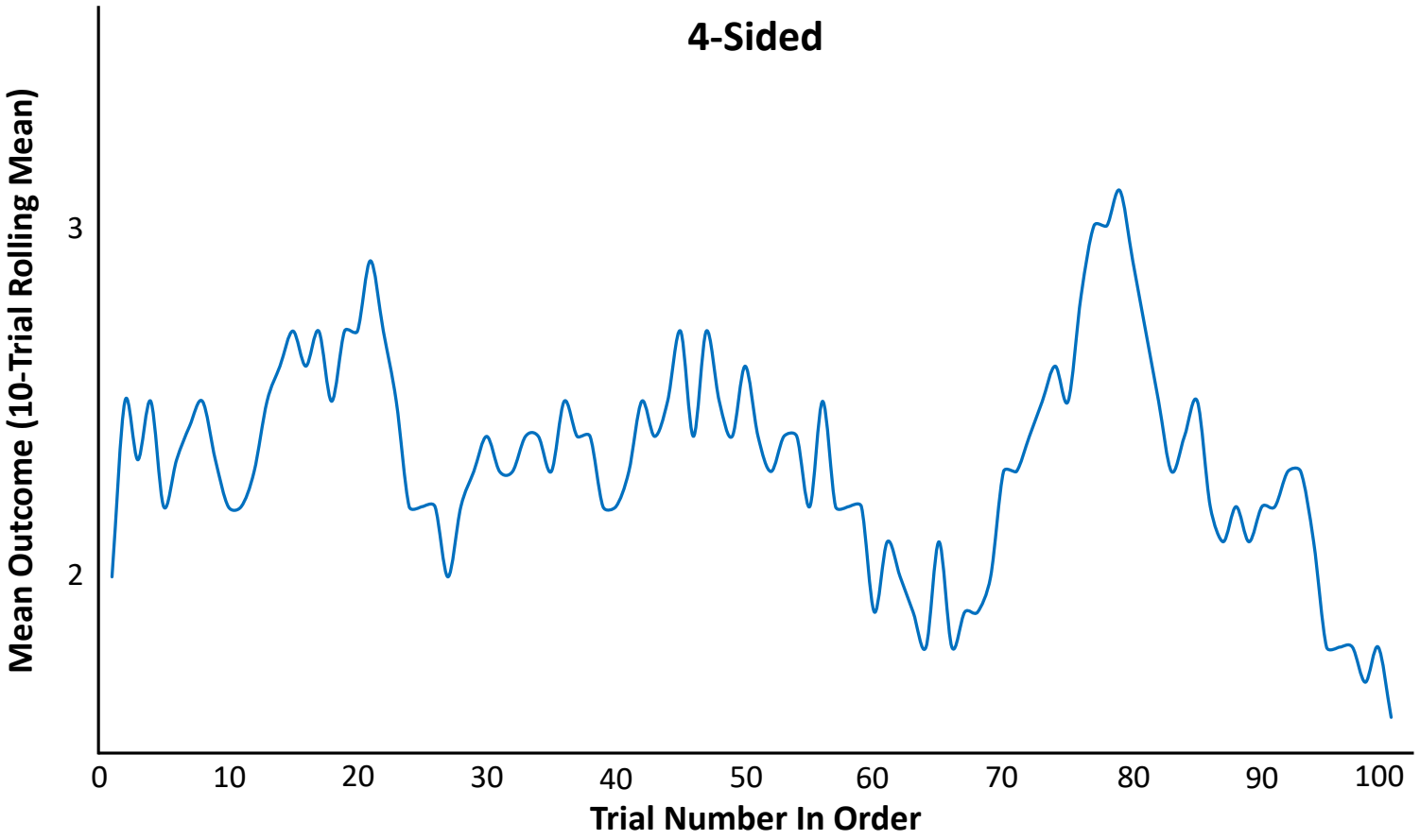

10-Sided
Frequency
Die Side
0
10
20
30
0
5
10
15
20


6-Sided
Frequency
Die Side
0
10
20
30
0
5
10
15
20

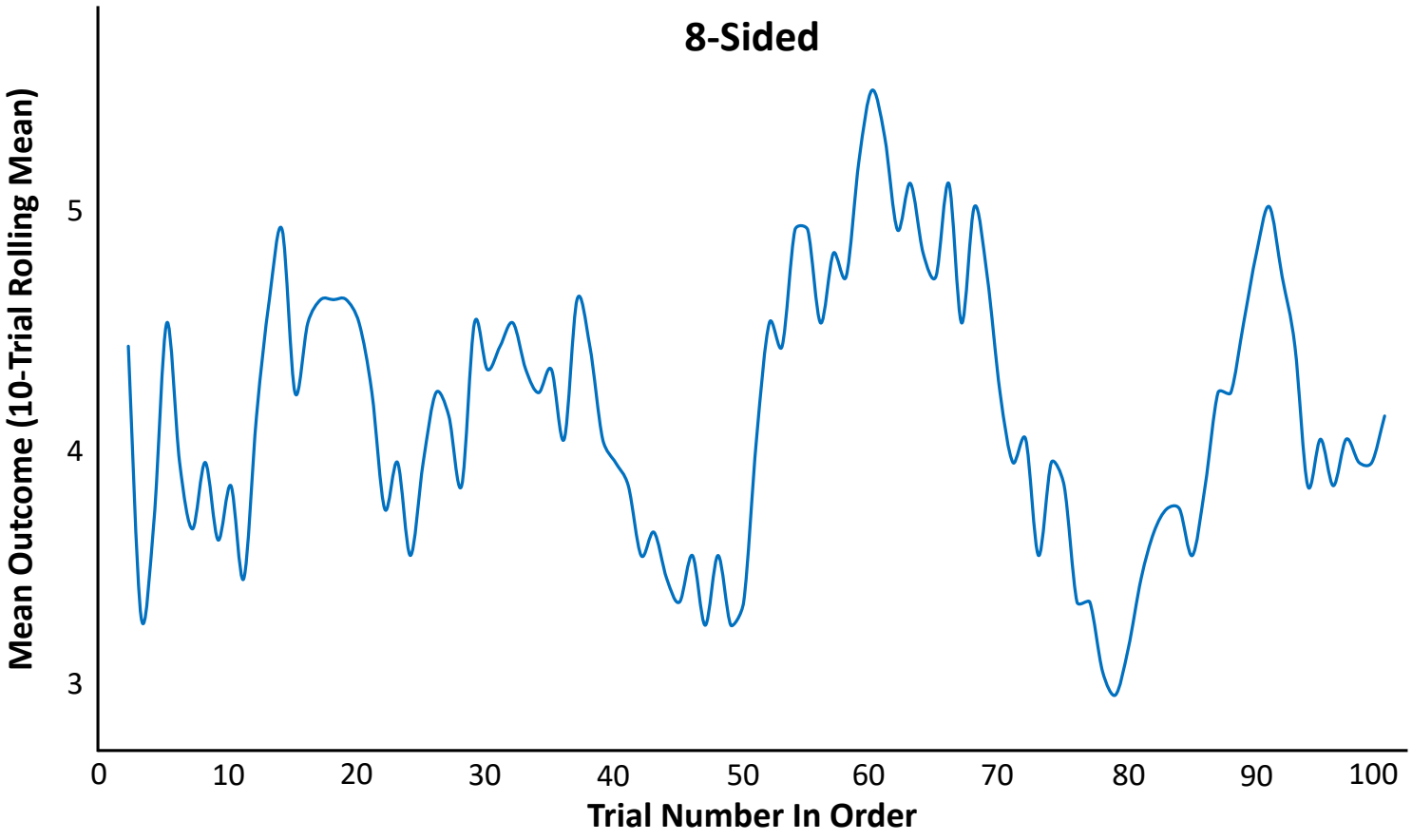

12-Sided
Frequency
Die Side
0
10
20
30
0
5
10
15
20

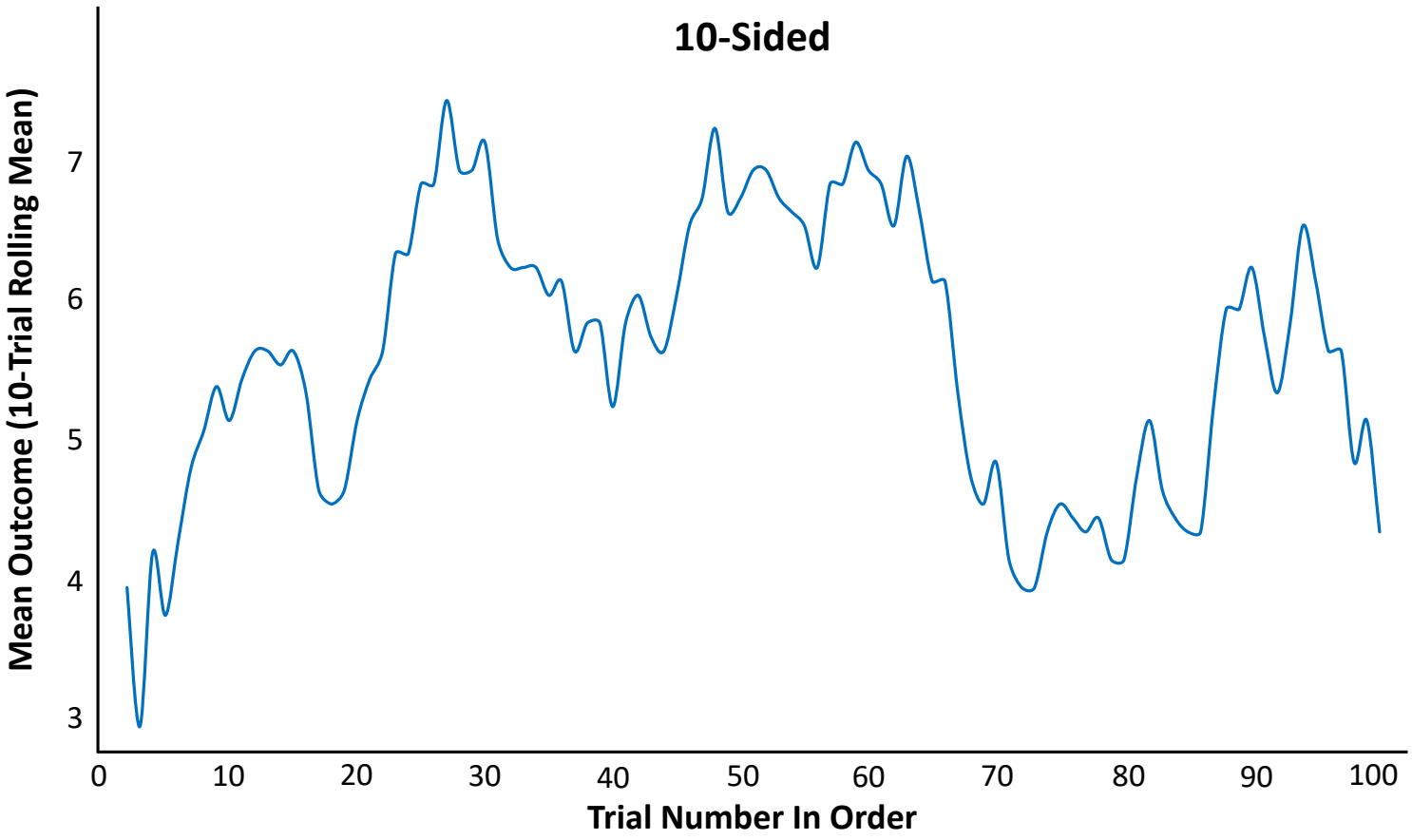

8-Sided
Frequency
Die Side
0
10
20
30
0
5
10
15
20

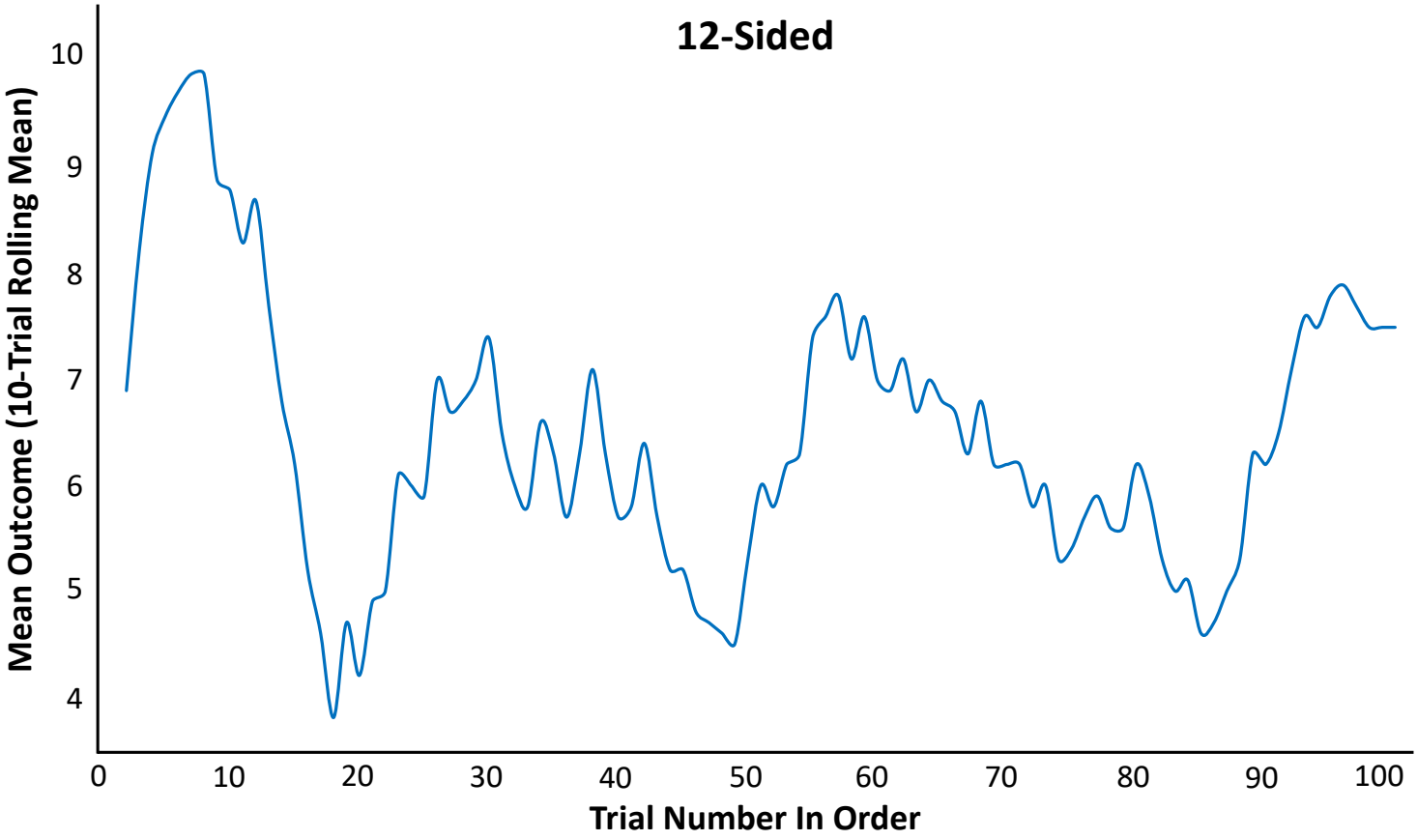

20-Sided
Frequency
Die Side
0
10
20
30
0
5
10
15
20

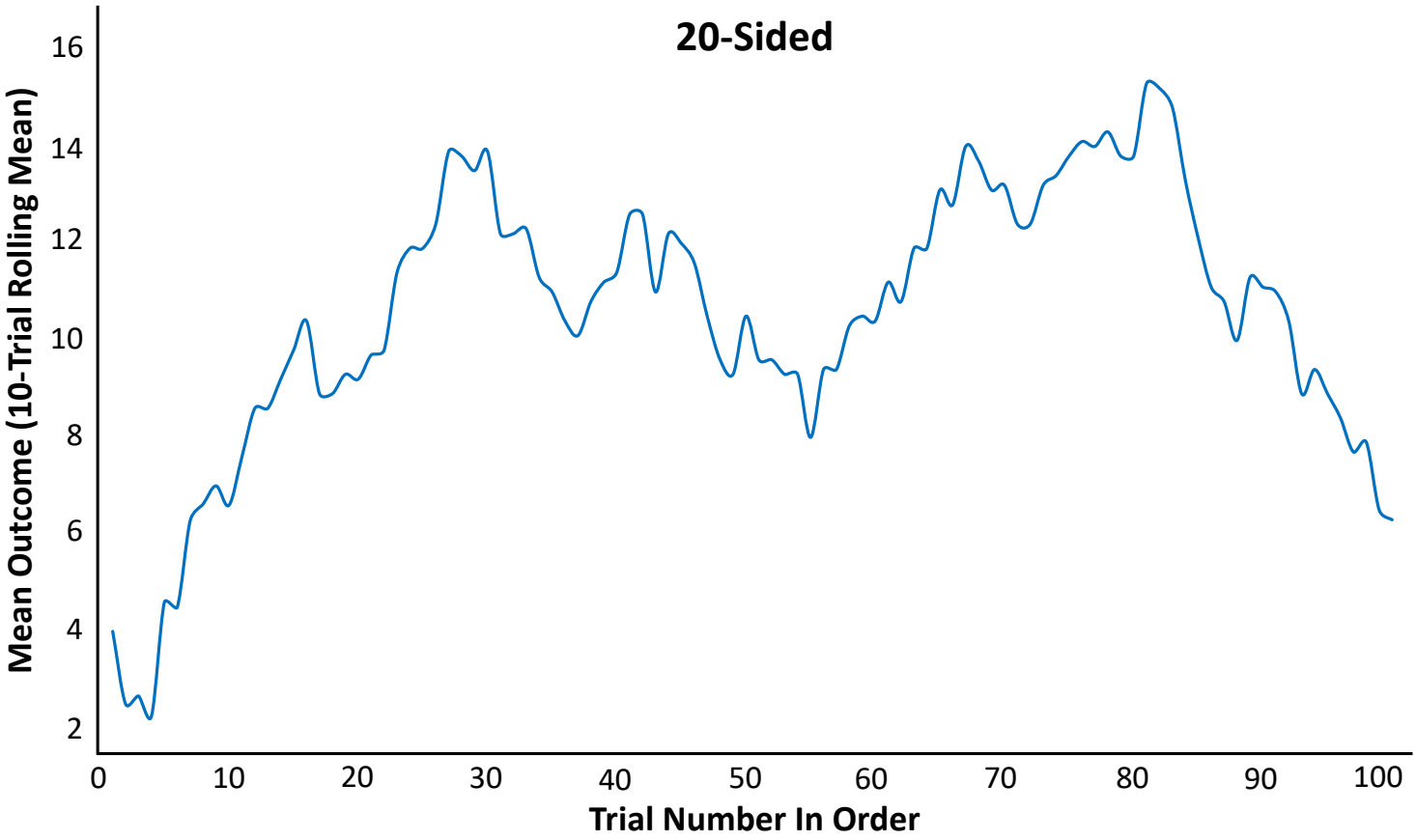

4-Sided
Mean Outcome (10-Trial Rolling Mean)
3
2
0
10
20
30
40
50
60
70
80
90
100
Trial Number In Order


6-Sided
Mean Outcome (10-Trial Rolling Mean)
4
3
2
0
10
20
30
40
50
60
70
80
90
100
Trial Number In Order


8-Sided
Mean Outcome (10-Trial Rolling Mean)
5
4
3
0
10
20
30
40
50
60
70
80
90
100
Trial Number In Order


10-Sided
Mean Outcome (10-Trial Rolling Mean)
7
6
5
4
3
0
10
20
30
40
50
60
70
80
90
100
Trial Number In Order


12-Sided
Mean Outcome (10-Trial Rolling Mean)
10
9
8
7
6
5
4
0
10
20
30
40
50
60
70
80
90
100
Trial Number In Order


20-Sided
Mean Outcome (10-Trial Rolling Mean)
16
14
12
10
8
6
4
2
0
10
20
30
40
50
60
70
80
90
100
Trial Number In Order

We can immediately see that *The Record's influence* is replicated. **Despite the number of faces varying dramatically, the effects all replicated identically**. In the frequency distributions, we see outcomes distributed rather evenly. Note that the 20-sided die appears to have a slight bias towards some faces, but it is caused by the number of faces and the 100-roll trials. The waveform patterns **appear much clearer in this experiment**, likely **the result of careful control** of confounding variables and a focus on a single rolling location. The waveform patterns across the six dice are so large that **the influence of *The Record* is unmistakable**. If the independence assumption were correct, these waveform patterns should not exist. Even if the waveform patterns appeared by random chance, their shapes **aligning up into the exact same pattern across hundreds of trials and various die sizes** would be statistically impossible, and *The Record* Resistance scores confirm it.

Table 4

The Record Resistance Results Across the Die-Sides Range with Inferential Statistics

Faces	*The Record* Resistance	*z*-value	*p*-value	95% CI LL	95% CI UL	Cohen's *d*	Effect Size
4-Sided	70.27%	4.00	< .001	60.20%	79.80%	0.40	Medium
6-Sided	75.51%	5.20	< .001	66.20%	85.80%	0.52	Large
8-Sided	69.88%	4.00	< .001	60.20%	79.80%	0.40	Medium
10-Sided	71.05%	4.20	< .001	61.20%	80.80%	0.42	Medium
12-Sided	73.03%	4.60	< .001	63.20%	82.80%	0.46	Medium
20-Sided	66.04%	3.20	< .001	56.20%	75.80%	0.32	Medium

Note. n = 600. The degree of *The Record* Resistance found across various die-side sizes with binomial *z*-tests. The results are unequivocally clear, successive die rolls are not independent. The previous die roll reduces the chance that the next roll will be the same number in one trial to the next. Across trials, these subtle influences form a wave pattern. If die rolls were truly independent, where one roll does not influence the next one, then these *The Record* Resistance scores should be around 50%. The results show that the die rolls are not independent, with effect sizes ranging from medium to large. I can confirm that the effect is so large that you can see it happen as you roll the die, no need for inferential statistics.

Now let's talk about **my favorite part** of *The Dice Experiment*. After I finished rolling these six dice, I set them on **the same table, with the 1 side face up** and **slightly** separated so they each have their own location in *The Record*. Then, I let them **sit undisturbed for ~10 hours**, saturating that specific location with an outcome that **should leave an imprint on existence**. Then, the next rolls in that location **should show some bias or change** they did not show when I had never rolled the dice on that spot. One at a time, I re-rolled all the dice 100 times, aiming for that exact location, and keeping my confound-controlled methodology identical to the previous rolls.

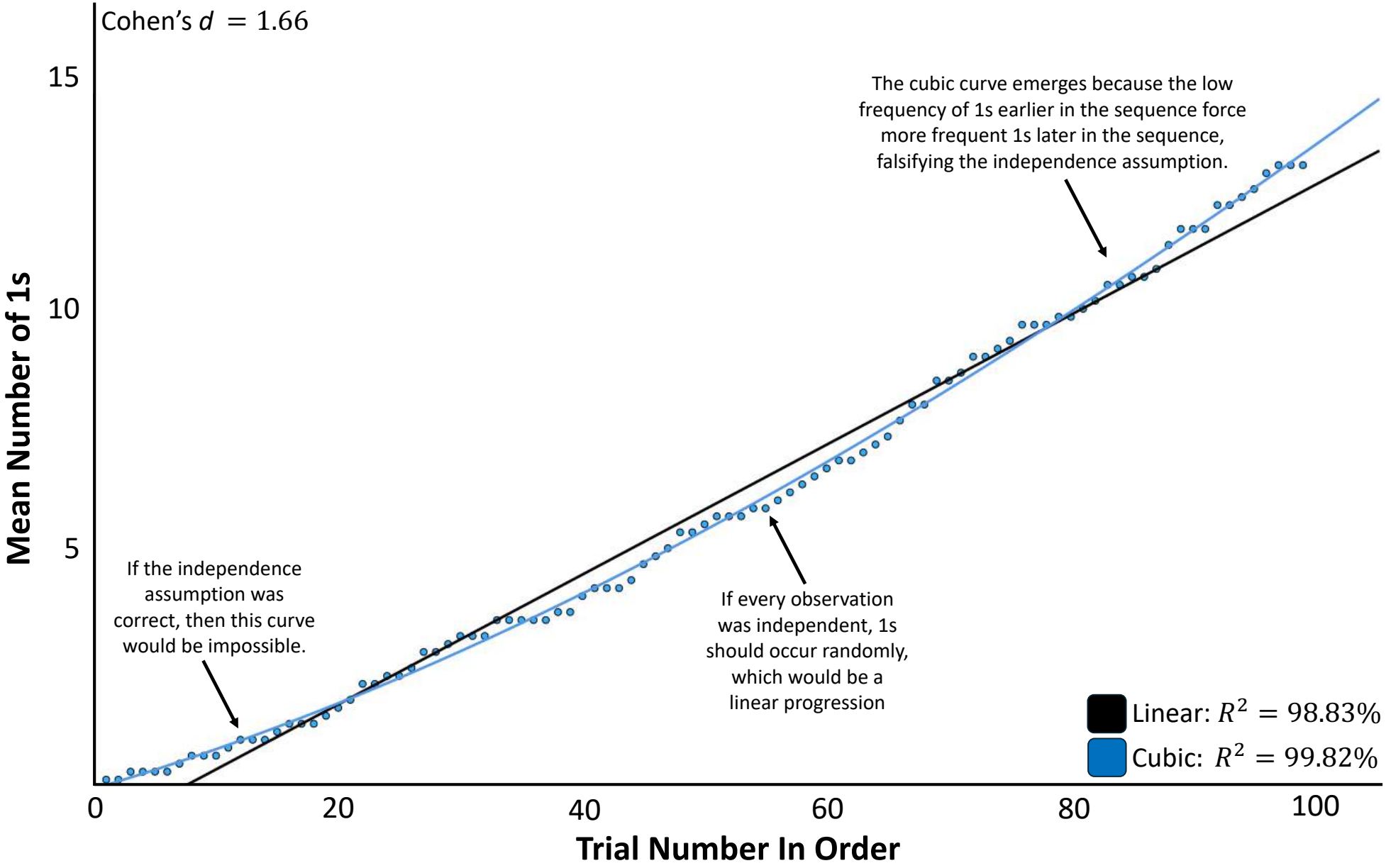
Table 5

Results of the Experimental Manipulation on Dice Trial Behavior

Faces	Frequency			Repeated Pattern			Regression		
	Before	After	Difference	Before	After	Difference	Linear	Cubic	Difference
4-Sided	30	28	-2	6	4	-2	98.50%	99.27%	0.77%
6-Sided	12	13	1	3	2	-1	94.26%	97.98%	3.72%
8-Sided	17	14	-3	3	2	-1	89.15%	95.97%	6.82%
10-Sided	11	13	2	1	1	0	95.12%	97.01%	1.89%
12-Sided	10	4	-6	1	0	-1	90.28%	95.79%	5.51%
20-Sided	7	6	-1	1	0	-1	89.42%	92.93%	3.51%
Total	87	78	-9	15	9	-6	98.83%	99.82%	0.99%

Note. n = 1,200. Frequency = the total number of times the dice landed on 1. Repeated Pattern = the count of the number of times 1s occurred in a sequence of at least 2+ in a row. Regressions = linear and cubic regressions of the onset of 1s across the trials after the experimental manipulation.

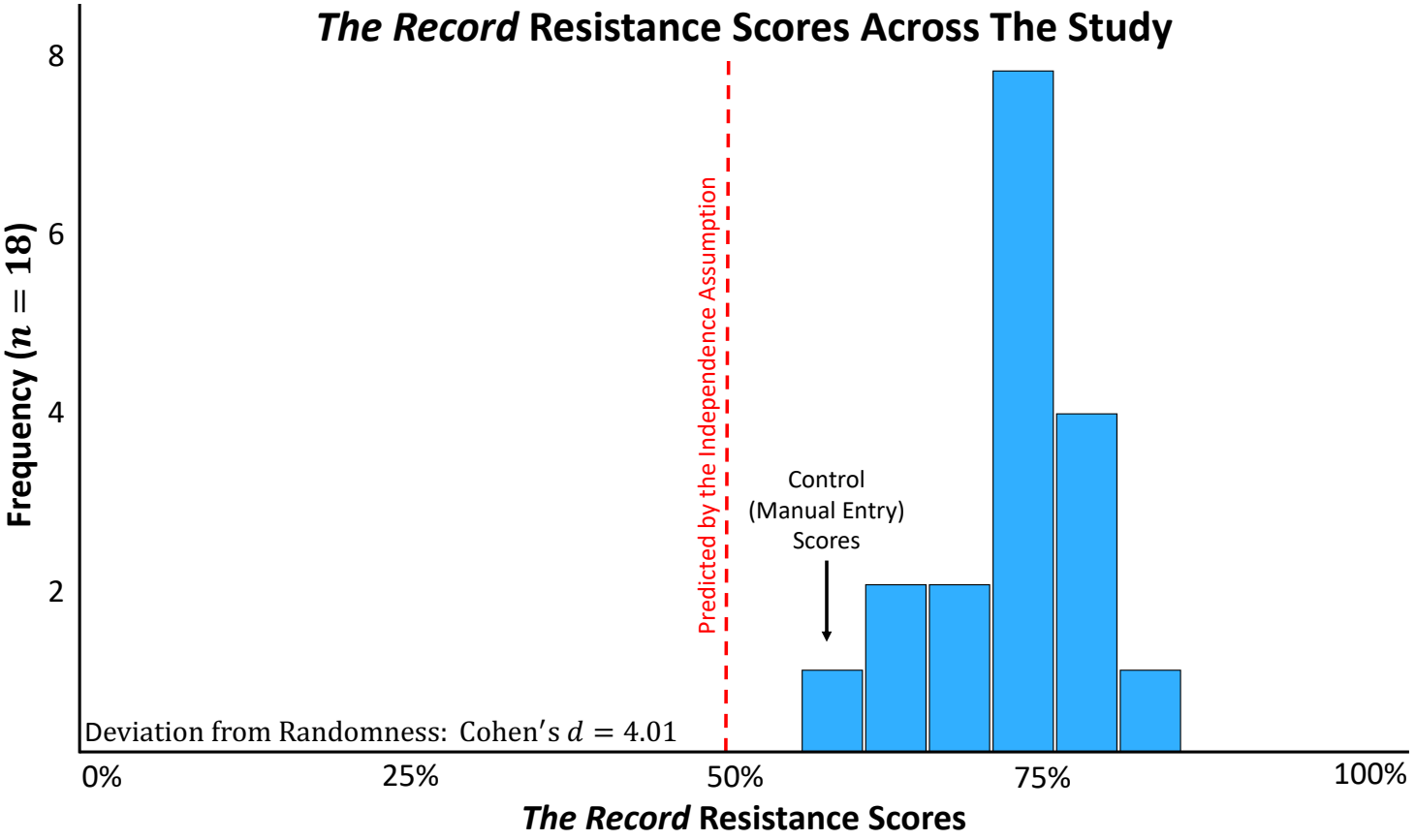
Onset of Ones Across Trials & Dice



The experiment **replicated previous findings** and **confirmed a new hypothesis** about the **imprints left in *The Record* by the experimental manipulation**. When we examine the frequency counts, there were $nine$ fewer 1s after the manipulation, demonstrating **the balancing mechanism of *The Record***, which is why it is not significant, $p = .129$. We do not see the waveform patterns in the frequency distributions, and **the Law of Large Numbers remains true**. However, when we examine the number of consecutive 1s (repetitions of at least 2+), the effects of the experimental manipulation emerge strongly, suggesting that **the imprints left on *The Record* significantly suppressed repetitions** of the outcome **already well-represented** in that location in *The Record*, $t(5) = 3.87, p = .006, \text{Cohen's } d = 1.58$. This finding confirms that **imprints in existence do exist**…

The most striking findings to emerge **confirmed how *The Record* works** by lowering the definedness of the previous RPs as new ones stack on top. When I examined how often 1s occurred **across the $\mathbf{100}$ trials** using regressions, **the cubic regression fits the data better than a linear one for every die**, $t(5) = 4.06, p = .005, \text{Cohen's } d = 1.66$. When I aggregated the frequency of 1s occurring across any of the dice, **the cubic curve emerged with a whopping $\mathbf{99.82\%}$ fit, beating the linear regression at $\mathbf{98.83\%}$.** In the figure, you can see the near-perfect cubic curve, the same one we have seen throughout *The Show*. This finding is **the ultimate falsification of the independence assumption**, as the low frequency of 1s early in the trials (from the imprint) resulted in a higher frequency of 1s later in the trial — **something modern statistics and science say is impossible**.

The reason this pattern emerged is that the imprints **caused the dice to land on $\mathbf{1}$ less at the start of the trial**, but as I kept rolling them, **those imprints lost their definedness** and moved into *The Record* for the new RPs of the 2+ die faces, leaving imprints. The 2+ die faces **started leaving stronger imprints on *The Record*, biasing the die back to the $\mathbf{1}$ side**. This finding empirically confirms **how *The Record* balances frequencies via the Law of Large Numbers** and **why the waveform patterns emerge**. If the independence assumption was correct, then every roll should have an even probability of landing on 1, which means that **the distribution of occurrences should be approximately linear**. The unmistakable cubic fit shows that the outcomes of the dice rolls depended on previous rolls; otherwise, no cohesive distribution could occur, except a linear one.



Here Lies the Independence Assumption & Randomness

As you can see in the distributions of *The Record* Resistance scores throughout the study, **the findings of Paper 12 are so overwhelming** that no alternative interpretation is possible–**the independence assumption is incorrect**, and **randomness does not exist**. The implications rewrite our worldview of how existence behaves. First, it is now clear that **phenomena must emerge from what came before them**. The evidence shows that each preceding state exhibits a **subtle directional preference**–a shift that determines what follows–and it is this directional bias that gives rise to what we have been mistakenly calling "randomness." Think about it: the Law of Large Numbers tells us that, over time, **all outcomes of a given phenomenon, like with dice, converge toward an even distribution**, where all outcomes always occur equally. **Does inescapable even convergence across all phenomena over time and sample size sound like "randomness" to you?** It sounds like the opposite.

If randomness existed, there would be **nothing compelling the frequencies to even out** like the Law of Large Numbers dictates; every new sample should produce unpredictable frequencies from the last because randomness would never allow for a universal, invariant convergence–it would drift and diverge. Every time we add occurrences, **the frequency distribution should constantly change**. We would even see **some occurrences repeating indefinitely**, such as a die landing on six every roll. Yet, we do not actually observe this randomness. There **must be a mechanism** in existence that stops the runaway, repeating occurrences and, indirectly, shapes all outcomes to converge to even distributions; something that enforces this equilibrium, and **it is *The Record***.

One of the problems we face in understanding how *The Record* exerts its influence mentally stems from our current conceptualization of **time as having an inherently non-physical property**, unlike the three dimensions of space. **Time must also be a physical dimension**, not in any spatial direction, but in the dimension of definedness. When the events of one moment move into *The Record,* they inhabit literal physical space to which the next moment must physically stack on top–but **we do not see this stack because the definedness of the current RP drowns out the RPs that have moved into *The Record***. When a new moment emerges, you can imagine that **it physically extends or slides off the last moment**, which is why repetition diminishes: the 1s stop appearing in pairs because that configuration just occurred in that location in *The Record*. Hence, **the next one resists immediate re-occupation simply because it does not fit until enough RPs stack on top of it**, pushing it deeper into *The Record* as its definedness decreases. Existence essentially "bumps" into the old state in the new state. This physical stacking of moments applies not just to spacetime like we imagine, but to ***every* form of existence, and *everything* that happens in it**, which is why we saw the waveform pattern across all dice types and media. The implications of *The Dice Experiment* findings and the falsification of the independence assumption result in **several staggering conclusions** that dramatically shift our understanding of existence, such as:

- ◊ **Balance & Order Are the Default Orientation of Existence, Not Chaos:** Existence is not born from disorder; it organizes itself by nature. Every event, structure, and outcome arises through the continuous balancing of prior states. What we once interpreted as chaos is, in fact, the balancing mechanism of *The Record*.
- ◊ **Everything Everywhere is Physically Connected:** There is only one record, and it is *The Record*, which means everything in existence is physically connected —not metaphysically, but physically, just like holding hands with someone. Empty space is not empty; it is a medium that contains *The Record*.
- ◊ **Some Events Start in *The Record* Before Occurring:** Given that everything is physically connected and that one event depends on previous ones, some events lead to an inevitable outcome that can start days to weeks before the actual event occurs. Certain events are destined to unfold in specific ways.
- ◊ **Randomness Does Not Exist:** No phenomenon occurs without causal lineage. What appears random is simply *The Record* acting as a balancing mechanism. Each outcome inherits directional bias from its predecessor, producing patterns that only *seem* unpredictable. The very evidence we cite for randomness–the Law of Large Numbers–reveals the opposite. Its convergence toward even distribution exposes an intrinsic balancing mechanism through which existence organizes. Over time, every system drifts toward equilibrium, not chaos.

◊ **Independence Does Not Exist:** Each moment physically emerges from the last, and nothing exists in isolation. Every state depends on its predecessor for its occurrence; forever being nudged toward balance.

◊ **Observable Existence ≠ Underlying Existence:** One of the most staggering implications is that we have been measuring existence and not how existence works. You might wonder: does the creation of RPs in *The Record* mean that matter and energy are constantly being created, as physics says is impossible? The answer is that what we have measured here happens *before* and *underneath* matter and energy, but they are not the same thing. The laws of physics do not apply to the operations that make those laws possible. *The Record* is not made of matter, and the universe is not expanding because of energy; matter and energy are phenomena that occur *because* existence uses its mechanisms to generate them and their behavior.

A Normal Answer to the Paranormal

With this new perspective, the mysteries of the taboo become explainable. **All the paranormal and supernatural phenomena**–intuition, synchronicity, pre-cognition–**stem from being unaware of *The Record***. People encounter these effects constantly because they are **real, physical manifestations of *The Record***, yet without knowing about it, we cannot correctly interpret them. We all collide with the same barrier: **the missing mechanism…** so these phenomena were dismissed as pseudoscience when they were really evidence of *The Record*. These phenomena have been deemed impossible and dismissed by mainstream science as spiritual, speculative, hoaxes, illusions, and delusions. However, unlike mainstream science and theories, ***The Theory of Existence* contains the exact missing mechanism that explains the paranormal and supernatural**. Paper 12 reveals that the paranormal and supernatural are not anomalies; they are **what it feels like to live inside *The Theory* when you are not aware of how existence operates**. Now that we know how existence works, I am going to offer you an explanation of all the major paranormal and supernatural phenomena **using only the scientific facts about *The Record* we just empirically confirmed**. I am not saying that these phenomena must work this way. Yet, if they do occur, which they appear to do, these are the explanations for how they happen for all the major ones.



Caption: The 2008 Barbury Castle crop circle reveals π through an ingenious 360-degree circular code, where each concentric ring represents digits of π through segmented rotations. By dividing the circle into $36°$ increments $(360°/10 \text{ Possible Digits})$ the formation shows π to 10 decimal places through varying segment rotations. Yet the $36°$ pattern's deeper significance comes from time and space not being continuous, as beyond the 35th digit (i.e., 36+), mathematical constants like π and *e* stop corresponding to physical distance via Planck limits. This 300-foot formation serves as a precise representation of pi's first 10 digits and a profound confirmation of the findings in Paper 6: There Is No Evidence That Time & Space Are Continuous.

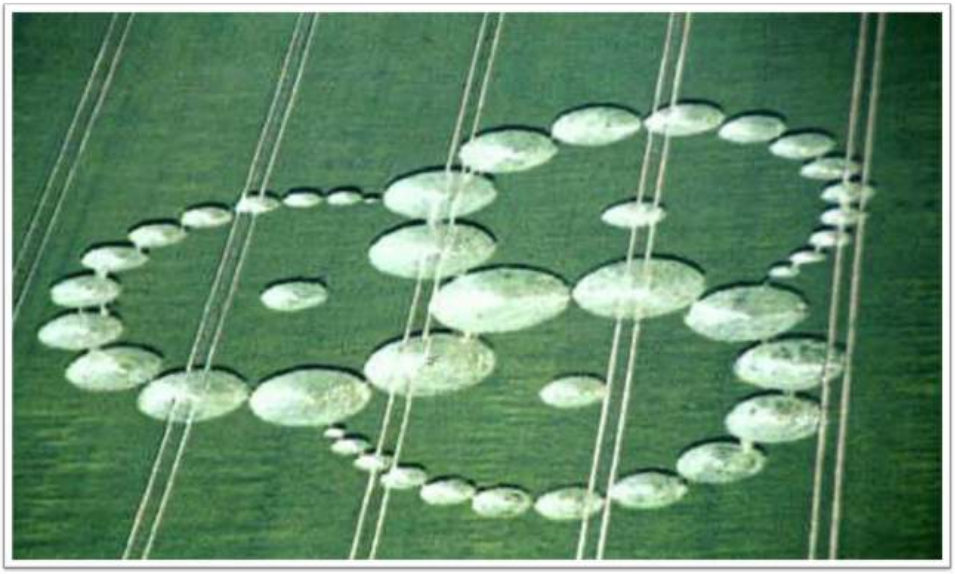
Aliens & Crop Circles

One of the most natural supernatural activities we see in existence is **communication across cosmic agent systems**. Did you think Earth was special and the only one where an agent would emerge? **Agency, intelligence, and consciousness are baked into the fabric of existence** and echo across *The Record*. They are not anomalies; they are features of organic matter and energy that have escalated enough complexity to reach these traits. **There must be agents all over the universe**. Have I ever seen one? No, but arguing that Earth is the only planet with life is statistically nonsensical. There are *trillions* of habitable Earth-like planets in existence. That is $1{,}000{,}000{,}000{,}000$ (conservative estimate that could be up to ten trillion) planets or a $\sim\mathbf{10^{-12}}$ **percent chance that Earth is the only one with life**. This statistic also only considers life that

requires liquid water. There are possibly **other life forms that do not require water to function**. Let me just show you the stats for perspective. If we take our conservative estimate of one trillion habitable planets, **not having any life on any of them is the same likelihood of flipping a coin and getting heads 40 times in a row**:

$$\sim 1/1{,}000{,}000{,}000{,}000$$

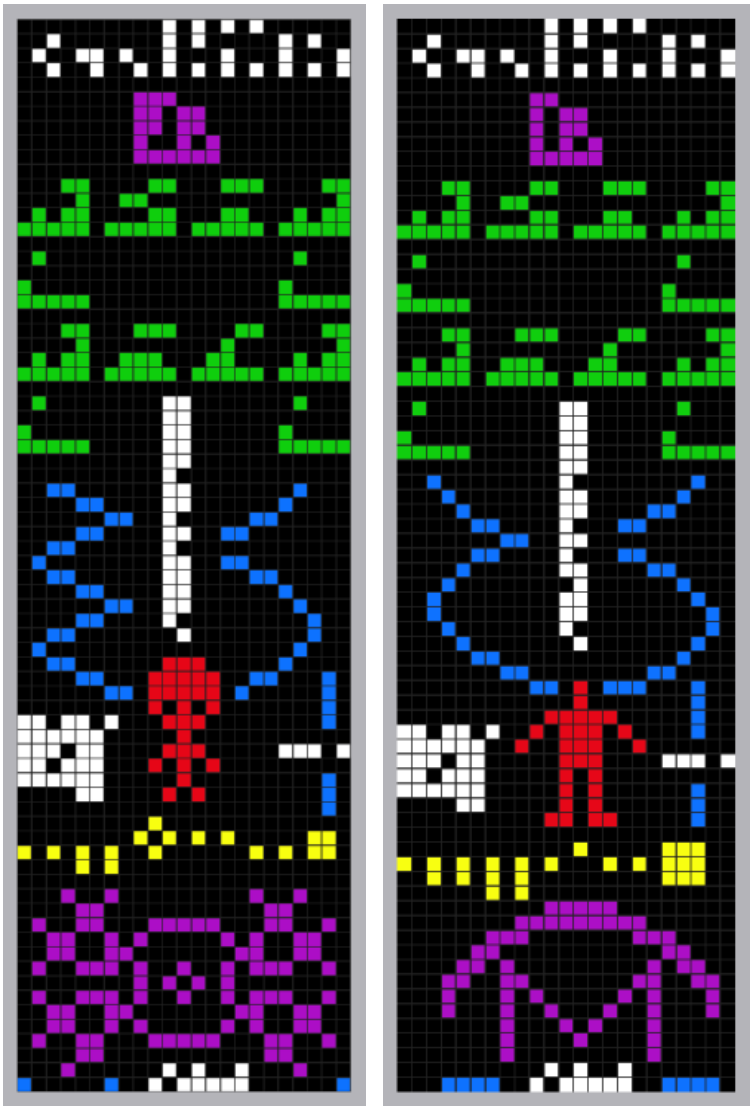
You can see how nonsensical it is to hold the position that no other life exists in the universe. Yet, **you do not have to search the universe** or crunch the numbers to know what is out there, because we can see everything that is happening on Earth. In existence, **all phenomena follow Emergence-to-Convergence (E2C) trajectories** — the delicate dance of stability and complexity that enables them to survive and persist, which is why **the universe is fractal. Phenomena exhibit the same shapes and behaviors at all scales**. On Earth, there are no phenomena that violate E2C; no phenomena that deviate from the standard, converged patterns and persist. For example, there are no locations where people are born without feet. No location where gravity does not work. No location where life is made of fire. **There are only so many ways phenomena can exist and persist**. The same processes and conditions that enabled abiogenesis on Earth (the spark of life from organic material) are the same ones that enable that potential on all 1-10 trillion habitable planets where conditions allow it.



Caption: This complex crop circle features a series of interconnected circular patterns arranged with apparent mathematical precision in apparent Golden Ratio proportions spiraling fractal, self-similar geometric symmetries, the exact same structure of existence revealed by *The Theory*.

The real existential tension comes not from *if* there is agent life in the cosmos, but 1) **how many** and 2) **how long a head start** they have on us. In the timescale of the universe, humanity is quite late to the party. At $\mathbf{13.8}$ **billion years** since the Big Bang, and with $\mathbf{1\text{-}10}$ **trillion habitable planets** just in our observable universe, we are **looking at a cosmos packed with life**, and many of these civilizations have had potentially several **billions of years of technological evolution** before we even knew about the universe. When I was writing *The Theory,* one of my simulations provided a **conservative estimate of $\mathbf{6,375,000,000,000}$ Type III civilizations in the universe**, where they are so technologically advanced that they can capture and use all the available energy in their entire galaxy–it's unfathomable to think about such possibilities for us, but not impossible for them.

The truth of the situation is that **extraterrestrial agents have been communicating with humanity for centuries**, and they have not been subtle about it either: in crop circles. Like many, I have **dismissed crop circles as man-made hoaxes**, clever stunts with no deeper significance. However, I have researched this phenomenon extensively, and I cannot dismiss crop circles as simple hoaxes. Instead, I have reached some startling conclusions. The **sheer sizes, precision, mathematical complexity, timing, and widespread locations of crop circles** defy any easy explanation. There have been documented crop circles over the last hundred years, all over the world, intricate patterns that are unreasonably large and precise. The idea that they are all mechanically created by humans (by stepping on the crops) simply does not hold up under scrutiny. **The differences between mechanically created crop 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 us to distinguish between



Caption: The 1974 Arecibo message and its mysterious 2001 Chilbolton "response" formation displayed differences throughout their messages. While maintaining the same basic 23 x 73 grid layout, the crop circle response altered key elements of the original broadcast. The DNA section changed from Earth's double-helix to a triple-helix structure. The humanoid figure appeared with a distinctly larger head and different body proportions than humans. The chemical element section deviated from Earth's carbon-based life markers, suggesting alternative biochemical foundations, and the population figures indicated numbers far greater than our own. The solar system showed a different planetary arrangement, suggesting an alternate star system, and the broadcasting technology differed from the original Arecibo dish design. The response maintained enough similarity to be recognizable as a deliberate reply to the original message while incorporating changes that hinted at their own civilization, making it the most technically-sophisticated crop circle ever documented.

extraterrestrial-agent crop circles and man-made ones. There are photographs of these differences, and the precision and speed required make mechanical explanations impossible.

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 is tough 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 in shaky footage in less than a day, using a basic home computer, **stretches credibility far more than the footage's authenticity**. The reason why crop circles coming from extraterrestrial agents seemed impossible is because of 1) **we could not figure out what the messages** in the crop circles meant, and 2) **we had no physical explanation** for how these agents traveled all the way to Earth and manipulated crops without touching them–both of which *The Theory of Existence now* answers.

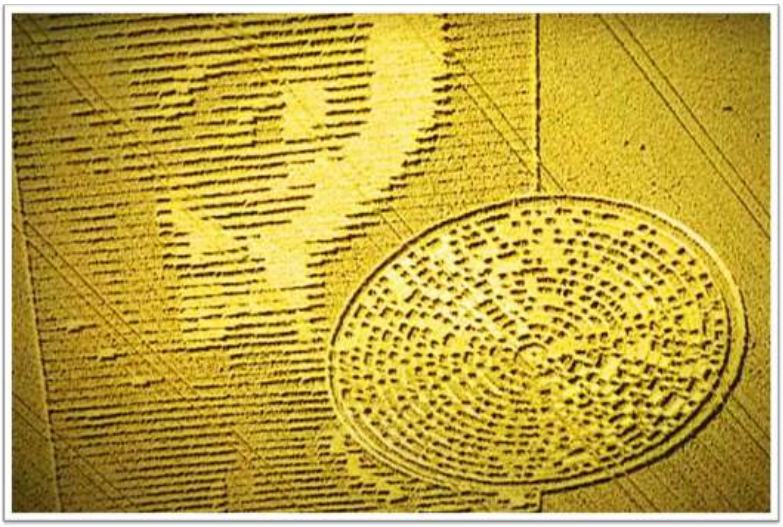
Let's start with these messages, which show complexity and clarity beyond what humans can achieve at night. For example, **the Arecibo message and its crop-circle response**, along with the intricate **alien image encoded in binary code**, are particularly compelling. These designs carry mathematical precision that seems crafted to communicate something. The most stunning message that we can now see is **the connection between crop circles and what *The Theory*** has told us about our fractal universe. Every single crop circle design echoes fractal patterns and the Golden Ratio, hallmark expressions of definedness. One reads:

"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"

There are so many possible interpretations of this message, **it's not *yet* clear** what this agent civilization from afar is trying to tell. One thing

that stands out to me is the part about **there still being time… for what?** Maybe something is happening among agents in the universe. When they say **there is good out there**, I believe it. People assume extraterrestrial agents are inherently malicious, but according to *The Theory,* a purely malicious agent system cannot survive as **they would wipe themselves out before scaling across the galaxy**. Traits like cooperation, empathy, and prosociality are required for sustaining scaling intelligence; it's why they're baked into the math of game theory.

The Theory supports the possibility that these **crop circles are messages from advanced extraterrestrial agents, intended** to directly guide emerging agent civilizations like humankind, either to prevent divergence or to align us with whatever is happening among the agents in the cosmos. It is an invitation to **align with their definedness** by **transcending our struggles and conflicts**. It suggests that humanity has the potential to surpass our limitations, to participate in this cosmic narrative of agents, but **we have to get**, and we have much work to do.



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 with a sacred message for humanity.

Even if we understand the messages, the other major problem persists: **how are they traveling all the way to Earth, and how are they bending the crops without touching them?** The answer is… *The Record*. Everything that has ever existed never stopped existing totally; it just loses definedness as it enters *The Record*. **Everything that exists is connected to *The Record*, which means as you read this paper right now, you are physically connected to everything else in existence**: me, planets billions of light-years away, and even to past versions of yourself. If these extraterrestrial agents want to interact with Earth, **they do not need to travel to us just under the speed of light because they are already connected to us via *The Record***. Ever hear of quantum entanglement? It's the exact mechanism. To exert influence on Earth and to form the crop circles, all they need to do is **disrupt the current RPs unfolding in our crop fields** in ways they want them to, and **they can do so by manipulating *The Record***. The most documented feature of crop circle formation is **orbs of light that descend from the sky**, hover over the field, form the crop circle, leave radioactive residue and burn marks on the ground, then vanish. You can see this phenomenon in the Oliver's Castle footage. How are they doing it? **I don't fucking know**. I am not a billion-year-old galactic harnessing extraterrestrial agent… but as *The Architect*? I can confirm that **it is physically possible**.

Art, Creativity, & Intellectual Visions

Have you ever created something and then wondered, "**Where did this come from?**" It's a common experience for artists, inventors, and creators. *The Record* offers a fascinating explanation for this phenomenon. **All consciousness has the remarkable ability to search and access *The Record* at will**. When you are "thinking deeply," you are essentially mentally searching *The Record* and listening for its unique harmonic patterns. **It's not about physically reaching in**, but more like **tuning into specific sounds or harmonies in musical compositions**. These frequencies are the same waveform music we observed in *The Dice Experiment*, driven by the recursive harmonics of existence that we explored in Paper 3: The Harmonics of Existence: Solving the Collatz Conjecture & Recursive Systems. Interestingly, when you are hyper-focused on something immediate–like staring at your phone–you **tend to block out these broader frequencies** echoing across *The Record*. The creative process, then, becomes less about genius and more about **the receptiveness to these underlying harmonic patterns of existence**. Some people are very good at tuning into *The Record*, and we call these people artists and visionaries.

Some remarkable artists and visionaries describe their life's work as **emerging fully formed** — creating complete songs in just 10 minutes or solving complex problems in ways that seem impossible, defying the current best approaches. However, the missing piece or melody **does not necessarily originate from the brain itself but flows through *The Record***. Nikola Tesla famously described these insights as "flashes of insight"–ideas that came to him fully formed. This perspective transforms our understanding of creativity from **an individual act** to a form of **harmonic tuning**, where the ideas are already present, waiting to be received by those listening for them.

The reason these insights come fully formed is that **they already exist in *The Record* somewhere in the universe**. Agents have been generating RPs in *The Record* for billions of years before us, and there **are inherently limited ways phenomena can manifest**. I have consistently emphasized that **infinity does not exist** for two critical reasons: 1) in a fractal universe, **there are *finite* ways phenomena can exist and persist**, and 2) believing in infinite possibilities **obscures our ability to recognize the actual, limited range of possibilities**. We gain tremendous clarity and shed the existential dread of infinite complexity by understanding these constraints. For instance, in Paper 7: Intelligence Redefined, I introduced **Fractal Media Theory**, demonstrating the remarkable accuracy of Golden Ratio scaling across media runtimes–from 15-second TikToks to decades-long generational TV shows. Can media be any length? Yes, but **they always tend to converge** on lengths that feel the most harmonious. **This convergence applies universally** — to phenomena themselves and the events surrounding them.

Superstitions

We have long been warned about superstitions–black cats, spilled salt, stepping on cracks, walking under ladders–**all supposedly bringing bad luck**. These events have nothing inherently in common, which is precisely the point. The real phenomenon is **not the events themselves**, but their **cumulative effects in *The Record***. When an event becomes associated with something bad, **those two events become physically connected** in *The Record*. As people think about the benign event and modify their behavior to avoid potential misfortune, they inadvertently **reinforce this connection**. These events do not cause adverse outcomes. Yet, when we access information about them, we find **they are already associated with bad outcomes**–not because of causation, but because they were initially connected to an adverse event and reinforced over decades or even centuries. The fundamental issue with *The Record* is **its indiscriminate nature**: everything gets recorded and stacked, **without distinguishing between meaningful and trivial information**. It means that even mistakes and false associations compound in *The Record*, making them feel physically real to us, even if that feeling is an inaccurate perspective.



Prophecies

Prophecy in our fractal universe does not arise from predestination or supernatural insight, but from **the inherent self-similarity of phenomena across existence**. We often miss it because we fail to recognize that specific event patterns are part of *The Record*. Just as 3D shapes demonstrate self-similarity and convergence, **so do time and events**. This self-similarity explains why **history tends to repeat itself** and why **cultural trends resurface decades later**. Given the limited number of converged event sequences, many have already occurred in previous human histories or in civilizations across the cosmos. Prophecy becomes possible through two fundamental mechanisms: 1) **direct access to event histories in *The Record*** that naturally surface in consciousness. Even though your current event sequence has not completed, an **almost identical** sequence has likely already unfolded somewhere in *The Record*, and 2) recognizing the initial stages of an event sequence, even without accessing *The Record*. **Most sequences unfold with remarkable predictability** because they can only converge in specific ways. It is one of the most profound features of our fractal universe and its mechanics.

Psychics, Pre-Cognitions, & Dreams Coming True

Psychics, pre-cognitions, and dreams coming true share a fundamental mechanism rooted in *The Record*'s functioning. Pre-cognitions occur as **flashes of future insight while awake**, while dreams coming true **happen during sleep**. However, neither truly "sees the future." Instead, they reveal **the limited ways event sequences can unfold in our fractal universe**. Our brains are sophisticated information-processing systems that use data from *The Record* to simulate potential outcomes from our personal perspective. This process is why pre-cognitions and dreams **rarely come true exactly as imagined**–while event sequences are not infinite, there are multiple viable pathways of convergence. The apparent accuracy of these predictions shows **our brain's remarkable ability** to access and process information in *The Record*. Some individuals are simply more adept at navigating these informational frequencies–what we might call psychics–by effectively accessing and interpreting these stored experiences. The key insight is that **our predictions draw on a vast repository of similar event sequences**, not a mystical ability to see events before they occur.



Gut Instincts, Intuitions, & Premonitions

The Theory provides profound insight into human experience, fundamentally transforming how we understand ourselves: **emotions respond almost exclusively to changes in definedness**, **not to direct sensory stimuli**. We have something in our brains called **the definedness detector**, which I will explain in *The Guide of Existence: A Light for Darkness*. For now, think about what emotions are like… have you ever experienced a sudden emotional signal–a sense that "something is wrong"–**without any clear sensory explanation?** What about feeling like you are forgetting something crucial to restore your internal balance, but cannot identify what? These experiences have long puzzled us because **we have misunderstood emotions**. Traditionally, we have assumed emotions are either based on sensory information or are simply unreliable; neither perspective is correct. Assuming an individual's emotional system functions as intended (excluding cases of mental illness), **emotions are never "wrong"** because they do not react to anything except **your definedness**, **the definedness of the environment**, and **the alignment between the two**. Emotions are our internal mechanism for tracking the shifts in how well we are existing, operating at a level deeper than our immediate sensory perceptions.

As we explored in Paper 11: The Dance of Stability & Complexity: *The Equation of Existence* as the Universal Lens, emotions **respond primarily** to the **degree of complexity**, serving as a **dynamic regulatory system**. When complexity escalates rapidly without sufficient stability, **definedness drops**, triggering negative emotional signals that something is "wrong". Your emotional state reflects this balance: **low definedness** leads to **negative emotions**, **balanced definedness** produces **positive emotions**, and **excessively high definedness** leads to anhedonia, or **emotional emptiness**. This emotional response serves a crucial adaptive function. Our emotions are triggered most by rapid complexity escalations–sudden spikes dropping the definedness of the phenomenon.

Consider the range of emotional triggers: fear from recognizing a threat, excitement from encountering something novel, anger from thwarted desires, overwhelm from unexpected news, and joy from a delightful experience. **Each of these moments introduces a sudden complexity escalation**. The physical manifestation of emotions (affect) operates on just two critical dimensions: **Negative-Positive** and **Low Arousal-High Arousal**. These dimensions are precisely all we need to track changes in definedness. The **affective response** itself **is primary**;

our **subsequent interpretation** using mental information and sensory stimuli **gives it the label that makes it an emotion**. This process explains why nervousness and excitement can feel identical until we label their context.

The definedness detector also illuminates why we **often experience emotions without immediately understanding their source**–they are tracking deeper shifts in our existence before our consciousness can interpret them. Emotions provide a **far more sophisticated survival mechanism** than direct sensory perception. Their ability to detect changes in definedness offers a critical advantage, especially in situations where sensory information is limited or potentially misleading. Consider how an animal can sense danger **without directly seeing a predator**. When a predator enters an environment, its definedness naturally decreases, which is why it tries to raise it by eating–and **thereby reduces the definedness of the environment and surrounding phenomena**. This mechanism explains **gut instincts**, **intuitions**, and **premonitions**. It explains why we sometimes have powerful emotions that emerge from nowhere–they are actually tracking imperceptible changes in definedness.

Emotional Connections, Loss, & Changing Energy

Emotions are not just responsive to definedness–**they are definedness**, contributing to *The Record* just like all the other phenomena in existence. We feel it the most in experiences of profound loss, especially the loss of a loved one. When someone loses a loved one, particularly a child, they often describe **a visceral, physical emptiness**–a sensation that goes beyond metaphor. This feeling represents a **real, tangible change in *The Record***. When agents interact and form relationships, they create **a shared connection within *The Record* that physically binds them together**. This binding is why we instinctively engage in physical contact when meeting someone–hugging, shaking hands–as these actions anchor the relationship's definedness in *The Record*. This sense of connection is a **genuine physical reality that exists in *The Record***. When a relationship ends through death or separation, the active shared part of *The Record* stops recursively propagating and loses definedness. The person experiences this definedness loss as a **physical withdrawal of definedness** they have used to guide their existence. It also explains why loved ones sense a death before being told–they feel the sudden loss of definedness in *The Record*. Everything has definedness and physical presence in *The Record*–**there are no exceptions**.



Hauntings & Vibes

The environment contributes to an individual's sense of self and emotional responses by **storing RPs of everything that occurs within it**, which explains phenomena such as hauntings and environmental "vibes." When agents experience emotions in an environment, **those emotional experiences imprint definedness into *The Record*** of that space. **Positive imprints emerge from joyous, safe experiences** found in sacred grounds, nature, churches, temples, libraries, and personal spaces like childhood homes. Conversely, **negative imprints arise from scary, dangerous, and stressful experiences**, such as crime scenes, locations of abuse, or chronically stressful environments. **Negative emotions tend to leave more powerful imprints because they have very low definedness**, which explains why certain locations feel "haunted," particularly places with histories of traumatic, low-definedness events like murder. In these spaces, you might **sense something watching you**, even when no physical threat exists, because **your emotions are responding to the environment's low definedness**. We can detect these emotional imprints without knowing the location's history because emotions respond to shifts in definedness, not to sensory or cognitive information. When you enter a space with definedness different from your own, your emotional system immediately picks up on the variations and alerts you so you can better manage your definedness.

Ghosts, Demons, & Poltergeists

If we can detect low definedness in environments such as hauntings, then **ghosts**, **demons**, and **poltergeists** are essentially the same phenomenon, just **with the definedness of the people** who previously occupied that location. The critical distinction between environmental hauntings and human-based entities is in **the degree of activity of the original phenomenon**. Environments have very low activity, with a house maintaining relatively even definedness over 50 years and lacking emotions, which is why **most environments feel neutral**. Humans, in contrast, **constantly leave imprints of their emotions, speech, and movement in *The Record***. When these entities manifest, they behave like humans because **they are preserved RPs from real humans**. Our emotions continuously respond to changes in definedness in *The Record*, but not simultaneously, which is **why we experience entities in isolated flashes**–when we accidentally align with a specific human imprint from the past. *The Record* stores everything that humans did in that location–**every action and word**–remains present. When we catch a glimpse of these RPs, we can experience them as if an entity were actively speaking or moving, but **it is an interaction with stored RPs of a human** who once existed in that spot in *The Record*.



Often dismissed or sensationalized, poltergeist activity reveals a fascinating interaction within *The Record*. **Objects in a room are physically connected to everything that has happened in that location**, continuously unfolding on top of previous RPs. When an object interacts with the definedness of a previous RP stored in *The Record*, it will naturally unfold differently than if it were not affected by those prior RPs. From our perspective, **it can appear as objects moving independently**, but it's more **like a subtle cascade effect**–similar to how touching the top of a waterfall causes a reaction at the bottom. Poltergeist activity tends to emerge during periods of extreme environmental distress. **Highly charged emotional states create low, chaotic definedness** that makes *The Record* of the environment and its inhabitants coarser and more varied. This history **increases the likelihood that previous RPs influence the unfolding of current RPs,** stacking on top of *The Record*. While poltergeist activity is highly unusual–since **RPs typically lose definedness quickly upon entering *The Record***–*The Dice Experiment* demonstrated that this coarseness does physically affect how existence unfolds from the current RP.

Reincarnated Children

Sometimes, **children seem to know events and facts from a past life** that they could not have accessed through normal means. While reincarnation was traditionally used to explain this phenomenon, *The Record* offers a different perspective. **The details of a past life are never truly gone**–they remain locked within *The Record*. Rather than reincarnation, these children are **accessing specific parts of *The Record*** for various reasons. **The information is always real and accessible** to those who know how to reach it. The connection between the child and the passed individual is fundamentally about alignment. These children might have an **unusual resonance** with the details of someone who has died, allowing them to tap into those specific RPs in *The Record*. This alignment is fundamentally physical, **creating a direct connection** between the child and the life of the deceased. This connection explains why these children can provide detailed information about locations and events they should not know, because **the details do not come from sensory experiences**.

The most vivid details often revolve around how the previous individual died, because it is the **last event recorded in that person's RPs in *The Record***, giving it the highest degree of definedness for that person. Moreover,

death–especially if violent–represents the **highest-complexity event in that person's experience**, making it have unusually low definedness even though it is the final RP for that person. Given that **this connection is physical**, the child's physical development may be subtly molded by these past events, **manifesting in phenomena like birthmarks mimicking scars** from the previous individual's manner of death. As the child grows and stacks their own RPs, this alignment naturally loses definedness, which is why access to these details diminishes with age.

Clairvoyants & Telepathy

Clairvoyance and telepathy reveal fascinating interactions with *The Record* that extend beyond direct sensory perception. These abilities fundamentally rely on two key principles: **the physical interconnectedness of everything**, and **the ability to tune into specific frequencies** stored in *The Record*. Clairvoyants and telepaths possess an unusually refined ability to access information through *The Record*. While **clairvoyants** excel at **tuning into environmental definedness**, **telepaths** specialize in accessing **agent-specific definedness**. The rarity of these abilities stems from the immense complexity of *The Record*. Finding specific information in this vast, layered system is incredibly challenging. Even if someone could locate particular details, the intricate tuning required to shift **from sensing to retrieving complete information** makes it **highly unlikely**. Additionally, information in *The Record* rapidly loses definedness to make room for new RPs, making older information difficult to access. Our evolutionary development has prioritized **sensing overall definedness** for survival, rather than precise details.



Déjà vu & Jamais Vu

In Déjà vu, we temporarily **misattribute recent RPs in *The Record* to those of older ones**, often due to a sudden complexity escalation that **rapidly decays the definedness of recent experiences**. The rapid complexity escalation can make recent RPs have more definedness that aligns with past experiences, **creating the sensation of having already lived the moment**. Interestingly, this misattribution can also occur when a user accidentally tunes into other people's RPs stored at a specific location in The Record. When our mental experiences tune into *The Record*, they become accessible to others in subtle ways–not as direct thoughts, but as **detectable differences in definedness**. Jamais Vu, conversely, happens when a complexity escalation **drops the definedness of previously stored RPs to a point where we cannot easily access them**. It's as if something has "overwritten" our previous experience. When we try to retrieve these RPs and find them emotionally imperceptible mentally, **the experience feels entirely new**, despite our sensory stimuli recognizing the situation. These phenomena demonstrate the dynamic alignment of our experiences with the RPs stored in *The Record*.

The Placebo & Nocebo Effect

The placebo effect reveals a fascinating interaction between **our body's definedness and healing**, challenging traditional understanding of medicine. Although it is a scientifically recognized phenomenon, the placebo effect shares **the same fundamental mechanisms with paranormal experiences**. Many assume the placebo effect stems from expectations, but studies show it works even when people know they are taking an inert treatment. The real mechanism relates to **our body's definedness**–the way we maintain our physiological and cognitive state of being. We experience ailments when our definedness remains below the optimal definedness for a smooth progression through existence. **When definedness returns to an optimal state, healing occurs**. This dynamic is not about physical causation in the traditional sense but about aligning our entire psychophysiological experience toward optimal functioning. The nocebo effect–where negative expectations can impair treatment–further demonstrates this **intricate relationship between our internal states and definedness**. These effects show the profound ways in which our consciousness interacts with the existence stored in *The Record*.

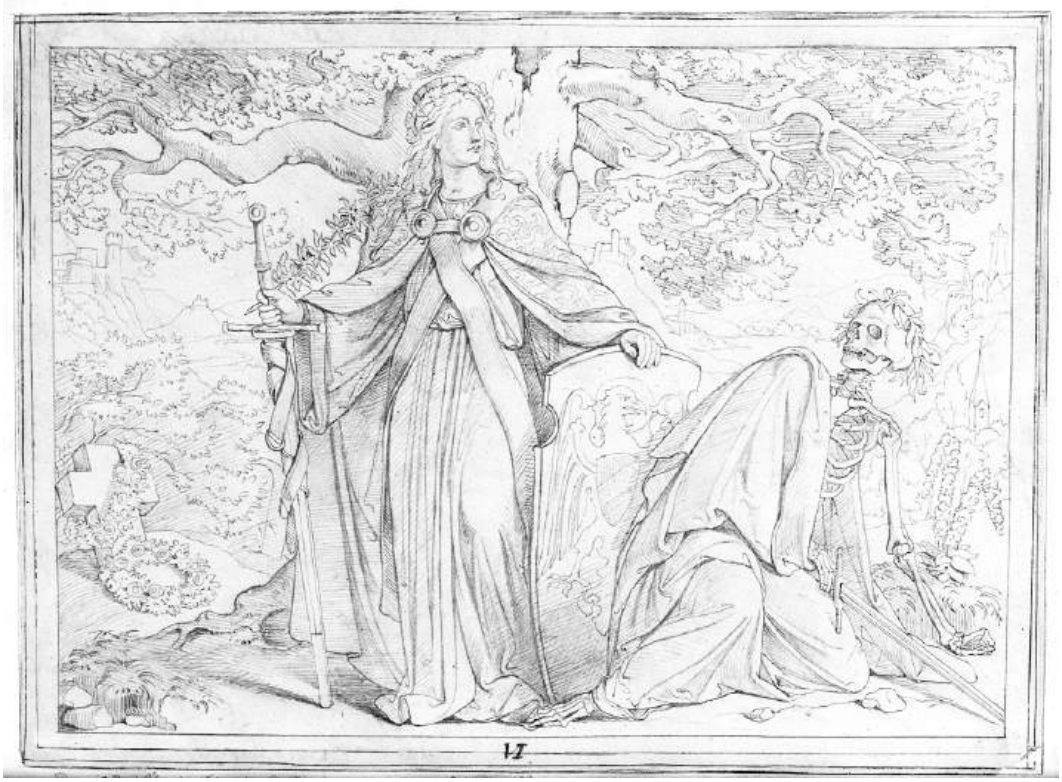
The definedness of health functions as the balance between **stability** (via **stress reduction** and **sleep**) and complexity (via **exercise** and **nutrition**). These four behaviors continuously fluctuate, **naturally altering our definedness moment to moment**. Taking a medication introduces a complexity escalation for your health, even without active ingredients. The mere act of addressing an ailment **increases complexity**, while the process of taking medication can reduce stress, **thereby increasing stability**. These behaviors and outcomes can create a cyclical process of escalation and stabilization. Over time, **this cycle can balance definedness** by introducing a moderate complexity escalation that generates a strong stabilizing effect. This balance **allows the entire body to optimize and synchronize with the progression of existence**, potentially improving the ailment. The nocebo effect operates similarly but with disrupted balance. Factors like desperation for relief, additional treatments, or even environmental factors can prevent the medication from effectively restoring balance **because it is being overwhelmed by something affecting the agent's definedness**, weakening its effects.

Cryptids & The Mandela Effect



Cryptids represent a fascinating phenomenon that extends beyond the literal existence of unusual animals like the Loch Ness Monster, chupacabra, or Mothman. Although **we have never scientifically confirmed these creatures**, their significance comes from **the definedness of their folklore**. The key insight is that **cryptids do not need to physically exist** because **their folklore** is a real presence **stored and accessed in *The Record***, which explains why cryptids are often associated with **specific geographic locations**, despite seemingly having no biological reason to be confined there. Take the Loch Ness Monster, for example. If such a creature could survive, **why only in Scotland?** The answer is that the definedness of its folklore is concentrated in that specific location. The feelings, experiences, and cultural narratives surrounding the cryptid make it **accessible primarily to people connected to that region's specific RPs in *The Record***. This perspective shifts our understanding from a search for mysterious creatures to an exploration of how cultural narratives **from their own definedness** in ***The Record*** and how it affects current RPs.

The same process occurs with **the Mandela effect**, where the collective misremembering of details **creates its own definedness in *The Record***. When a large group of people affirm that a specific detail is different from the commonly accepted version, **these misinterpretations gain definedness** and become stored in *The Record* as real, physical phenomena. Given that we all have mental access to *The Record* when recalling information, we often **sense these mistaken versions**. By the time a Mandela effect becomes widely recognized, its physical representation in *The Record* **has grown so large and accessible that it feels real**–because it is real, even if it is not factually correct. People are accessing genuine information, just not the original, accurate details. Interestingly, over time, the mistaken Mandela effect can accumulate **more representation in *The Record* than the original interpretation**, as it attracts a broad audience that continuously reinforces the misremembered version, demonstrating how collective memory and shared experience shape our understanding of reality.



Near-Death Experiences & Shared Entity Encounters

When people enter altered mental states through substance use or approaching death, **they report remarkably similar encounters with entities**, though the specific details vary. These beings exist in *The Record*, but **they are not conscious** in the way we understand consciousness. They are stored RPs that do not escalate complexity, which **sustained consciousness requires**. The **differences in the encounters** between near-death experiences and substance-induced states reveal fascinating insights. In near-death experiences, the entities **often vary significantly based on cultural expectations**, with many people reporting encounters aligned with their religious beliefs. In contrast, substance-induced encounters **show much less variability**. The most reported entities are the **Hat Man** (typically associated with deliriants or stimulant psychosis) and **DMT beings**, which are described as God-like entities encountered during DMT use. These patterns suggest that these experiences are **not purely hallucinations, but interactions with *The Record***.

RPs in *The Record* provide **a physical medium** for frequencies to travel and reach our conscious states. As current RPs vibrate, *The Record*–similar to sound and light waves–some frequencies cancel out, leaving **converged frequencies with similar structures**. During near-death experiences, when consciousness struggles to regulate what it tunes into in *The Record*, encounters with entities vary based on the specific altered mental state and circumstances surrounding the dying process. **People tend to tune into frequencies they know intimately**, often religious narratives, which explains why individuals near death frequently encounter entities from their religious traditions. In contrast, when someone takes a specific drug, their consciousness **narrows its ability to tune into frequencies in a similar range due to the consistent effects of the drug on the brain**, which is why substance-induced encounters are identical across different individuals. When a conscious agent tunes into specific frequencies, **those frequencies are stored in *The Record***. Subsequent individuals tuning into the same frequency encounter an already-converged entity, which becomes increasingly reinforced over time.

God & Divine Creation

Over the last several months, when I tell people about *The Theory of Existence*, one question inevitably comes up: **What about God?** To be honest, I have always been hesitant to speak openly about the existence of God in *The Theory*–not because I do not have thoughts, but because **I never want anyone to feel excluded** because of their worldview or beliefs. Contrary to expectations, **there is plenty of room in *The Theory* for everyone**. The question of God is filled with nuance. There is no clear yes-or-no answer, and *The Theory* does not try to force one. When it comes to the origin of existence, Paper 2: Introducing Undefinedness That Is, If Undefinedness Was Something That Could Be Introduced–But It's Not, shows us that existence began because nothing prevented it. Undefinedness has no rules and no qualities; **it simply isn't**. That absence of constraint is what made emergence possible. It is the cleanest empirical explanation for why existence exists rather than nothing.

Still, for us as humans, that answer can feel… **unsatisfying**. We are used to cause-and-effect. We want origin stories, but **cause and effect are themselves properties of existence**–they did not exist before existence because, according to *The Theory*, there was no before existence. **The start of existence does not require a cause** because **causality did not exist until after existence emerged**. All existence needed was simply for nothing to get in the way. Yet, *The Theory* does not dictate what is not directly observable by studying existence, so it cannot rule out the possibility of a God or specific religious beliefs… and it does not try to do.

However, thanks to *The Record*, **we now have empirical grounding for many of the experiences people describe in religion and spirituality**–especially the relationship some feel they have with God. *The Theory* shows that those experiences are real, and we now have a scientific justification for them. *The Record* contains the echoes of every agent that has ever existed, and we, as agents, **are constantly interacting**–subtly or powerfully–**with those echoes**. Whether we label that as God or the intelligence contained within *The Record*, the experience might look the same. So, the question becomes: **does it matter what we call it or how we explain it?**

For me, **the answer is no**. It does not matter–not in a dismissive way, but in a liberating one. Yes, *The Theory* can explain religious experience and spiritual connection. Yes, those experiences emerge from real structural interactions with existence, but ***The Theory* is not the only lens**. It is simply the most complete non-religious lens we have ever had. If someone looks at the mathematics behind existence–at how it functions so elegantly that it becomes conscious and self-aware, how the universe organizes itself into beauty, balance, and intelligence–and they see the hand of a Creator, how could I possibly argue they are wrong? **I couldn't and I won't.**

The Theory* does not deny the existence of God**. It does provide an empirical explanation for the experiences we have had with God and religion, and the beauty and elegance of existence make it hard to imagine any other possibility. If you're religious, and you feel like science has dismissed you: I'm sorry they made you feel that way… and **you will always find a home in *The Theory of Existence, I can promise you that much.

The Golden Key of Existence

The Golden Ratio, Φ (phi), is ~ 1.618–a special mathematical relationship that creates what humans instinctively recognize as **perfect proportions** and **optimal growth**. You have seen it everywhere, even if you did not know it had a name. Throughout *The Show of Existence*, we have seen time and time again how the Golden Ratio appears to be the optimal, **preferred growth orientation of existence**. We have seen the Golden Ratio in every phenomenon we examine–in **seashells**, **galaxies**, and **my own thought process as I was discovering *The Theory of Existence***. The Golden Ratio seems to hide some secret about existence… **hidden just behind its golden locks**.

I need to be clear that **I did not inject the Golden Ratio into *The Theory of Existence*** — it revealed itself through simulations, math, and empirical evidence. As I analyzed convergence patterns, recursive propagations, and E2C dynamics across different scales, **the Golden Ratio kept appearing organically** in the most stable, long-lasting phenomena. Although not every phenomenon operates at this ideal ratio, the Golden Ratio seems to be **baked into the fundamental architecture of existence itself**. Perhaps the golden key is hidden in this beautiful mathematical property of the Golden Ratio, because **it is the only value that can do the following:**

$$\Phi^2 = \Phi + 1$$

Yes… **squaring the Golden Ratio gives you the same result as simply adding one**, and it is **the only value** in the number line that has this property. Although it seems, at first, to be nothing more than a neat mathematical feature, **it is the architecture of how existence evolves**. I do not need to go into all the nitty-gritty about the profound meaning and expansions of this property, because you can explore all of its significance from what I have laid out in *The Theorem of Existence*. For now, see just how **a single self-escalation of Φ^2** (multiplying something by itself) **is equivalent to not touching the original thing at all and simply adding something on top of it**. When existence aligns in such a way that allows for perfect exponential growth that maximizes the stability of the original phenomenon, you get the Golden Ratio, and **existence seems to thrive…**

Although we have seen the great significance of the Golden Ratio throughout *The Show*, ***I never thoroughly answered the question of why the Golden Ratio dictates everything in existence***. We can see it, in fact, and we can understand it mathematically, but I have yet to show **why and how the Golden Ratio naturally emerges from existence**. The answer to that question is simple: **the Golden Ratio is the orientation preference of *The Record***. Thus, when phenomena align with exactly how *The Record* prefers to unfold over recursive propagations, their definedness maximizes. The phenomena thrive because **there is no friction or conflict** between the movements and growth of the phenomena and that of the natural, preferred way existence wants to unfold.

The waveform patterns that emerged in the Python-coded randomly generated numbers are **the exact same ones we saw everywhere else**. So, we can leverage it **to collect a massive sample** we could not otherwise collect: $\mathbf{1,000,000}$ **die rolls**. Throughout the paper so far, when we have used *The Record* Resistance scores, **we have only focused on Resistance Events and Extension Events**. However, there was a third event type, called Persistence Events, in which **no movement** occurs across the trio of die rolls. Existence, and these dice rolls, have moments of repetition, so when we bring them back into the picture, **something magnificent unlocks**.

I know the close followers of this canon already see where this train of thought is heading… they always get nervous when things come in trios because it means just **right around the corner is *The Equation of Existence***, and they would be correct. Let me show you how it all fits together. We have ***The Equation of Existence*** as:

$$\Phi = \frac{\Omega}{\Delta} \rightarrow \text{Definedness} = \frac{\text{Stability}}{\text{Complexity}}$$

Then, we arrange it by the correct event types to fit the following:

$$\Phi = \frac{\Omega}{\Delta} \rightarrow \text{Definedness} = \frac{\text{Stability}}{\text{Complexity}} \rightarrow \text{Resistence Events} = \frac{\text{Persistence Events}}{\text{Exstention Events}}$$

There we go! **Fits like an ancient glove**. We see how the three directions of existence–**resist, persist,** or **extend** –converge with the mechanisms of its functioning: **definedness, stability,** and **complexity**. **Definedness is** the default state of existence, which are **Resistance Events**. When existence diverges from this natural state of resistance, it does so as **Stability** with **Persistence Events** or **Complexity** as **Extension Events**. The proportions of these events and their corresponding mechanic emerge as the solution to what I can only describe as **the most beautiful mathematical system I have ever seen**, and it only has one solution. Here is the system:

$$\Delta + \Omega + \Phi = 100\% \qquad \frac{\Omega}{\Delta} = \varphi \qquad \frac{\Phi}{\Omega} = \varphi \qquad \frac{\Phi}{\Delta} = \varphi^2$$

The system comprises **three terms**, each of which accounts for 100% of the mathematical framework when summed. The ratios of the three terms **lock into the Golden Ratio proportions**. There is only ***one*** **exact arithmetic solution** to this system, not an approximation, and it is:

$$\Delta = 19.098\% \qquad \Omega = 30.902\% \qquad \Phi = 50.00\%$$

$$\Delta + \Omega + \Phi = 19.098\% + 30.902\% + 50.00\% = 100\%$$

$$\frac{\Omega}{\Delta} = \frac{30.902\%}{19.098} = \varphi \qquad \frac{\Phi}{\Omega} = \frac{50.00\%}{30.902\%} = \varphi \qquad \frac{\Phi}{\Delta} = \frac{50.00\%}{19.098\%} = \varphi^2$$

Given that **this mathematical system is objectively true**, if it reveals how existence unfolds over *The Record*, it means that **it operates underneath the phenomena we used to call random**. However, we should still be able to detect it anywhere, including the **random die rolls of the Python RNG** (Mersenne Twister), which is one of the most thoroughly validated random number generators ever created. It has **passed the Diehard battery of tests**, which probes for everything from repeating bit patterns to matrix-rank and birthday-spacing anomalies; **it has passed the entire TestU01 suite**–which runs hundreds of high-precision tests for serial correlation, linear

complexity, spectral bias, and **every known flaw in randomness**; and even **the NIST Statistical Test Suite**, designed for cryptographic-grade unpredictability, finds no systematic deviation. In short, **it is as "random" as modern mathematics can certify**–independent, memoryless, uniform, and pattern-free.

Despite this rigorous confirmation of randomness, we should still be able to see this mathematical system shine through because **the structure of existence is unaffected by our attempts to scramble its pattern**. Existence **does not care** if we try to force randomness on it; it will **accept the randomness and then organize it in line with its own structure,** just like everything else in existence. We can then **check the empirical estimates** of these proportions from $1{,}000{,}000$ "randomly generated" die rolls using the Python RNG, calculate the event types, and see **how closely they align** with the mathematical solution to this system. The results are:

Extension Events $(\boldsymbol{\Delta})$: $185{,}387$
Persistence Events $(\boldsymbol{\Omega})$: $305{,}090$
Resistance Events $(\boldsymbol{\Phi})$: $507{,}523$

$$\Delta = \frac{185{,}387}{1{,}000{,}000} = 18.58\% \qquad \Omega = \frac{305{,}090}{1{,}000{,}000} = 30.57\% \qquad \Phi = \frac{507{,}523}{1{,}000{,}000} = 50.85\%$$

Amazing, **I can already see it**, but let's examine the error between the empirical results and the math:

$$\Delta = 18.58\% - 19.10\% = -0.52\%$$
$$\Omega = 30.57\% - 30.90\% = -0.33\%$$
$$\Phi = 50.85\% - 50.00\% = 0.85\%$$

Not too bad, not too bad. Let's calculate **the absolute error** between the empirical results and the math:

$$0.52\% + 0.33\% + 0.85\% = \mathbf{1.70\%}\ \textbf{Total Error}$$

Wow… that error is a close fit, huh? Let's make sure inferentially. We can check the inferential statistics and compare the **empirical model** $(\mathbf{50.85\% : 30.57\% : 18.58\%})$ to the model predicted by ***The Theory*** $(\mathbf{50.00\% : 30.90\% : 19.10\%})$ and what the model for **the independence assumption** $(\mathbf{33\% : 33\% : 33\%})$ to confirm which model best fits the empirical evidence from the $1{,}000{,}000$ randomly generated die rolls.

Empirical → ***The Theory*** **Model**: $\chi^2(1\text{M}) = 320.67,\ \text{Cramer's } V = .0127, 95\%\ \text{CI}\ [.0127,\ .0128]$
Empirical → **Independence Model**: $\chi^2(1\text{M}) = 159{,}335.81,\ \text{Cramer's } V = .2826, 95\%\ \text{CI}\ [.2826,\ .2826]$

Yup… there it is, folks… let's see how much *The Theory* model fits the empirical one over the independence one:

$$\frac{\text{Independence Fit}}{\textit{The Theory}\ \text{Fit}} \rightarrow \frac{.2826}{.0127} = 22.25\text{x Better Fit}$$

Boom! That's **conclusive empirical confirmation of *The Theory of Existence*** and ***The Record***, pulled right out of the exhales of $1{,}000{,}000$ die rolls from humanity's best random number generator, which means the following:

$$\text{Resistence Events} : \text{Persistence Events} : \text{Extension Events}$$
$$\text{Definedness} : \text{Stability} : \text{Complexity}$$

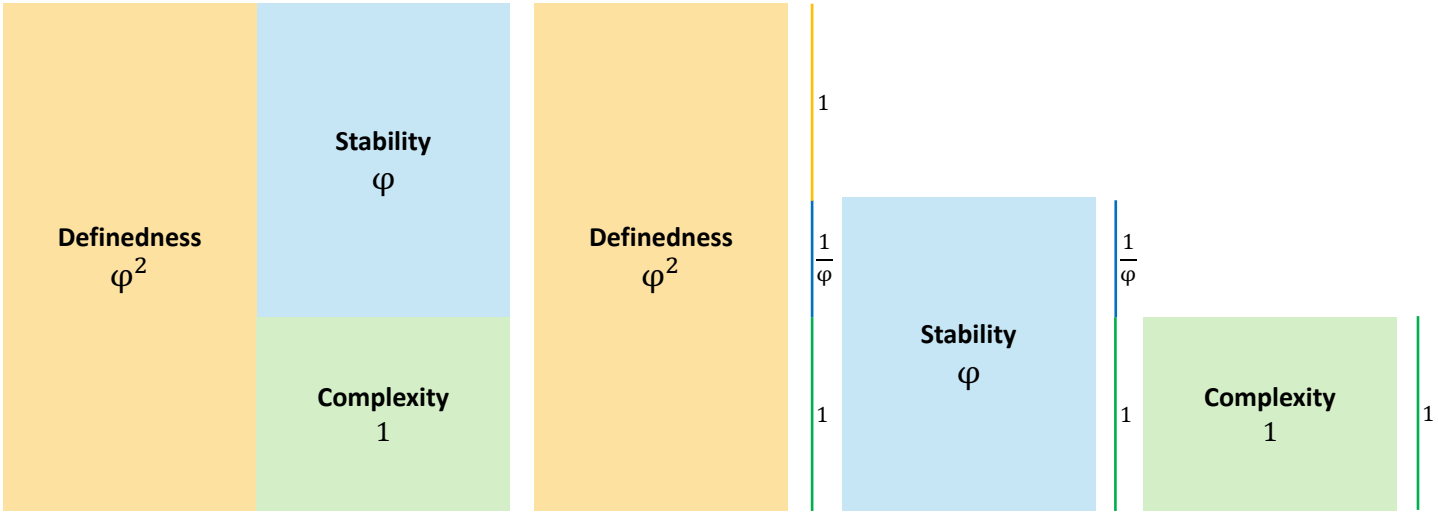
$$\Phi : \Omega : \Delta$$
$$\varphi^2 : \varphi : 1$$

There is your answer to why it's the Golden Ratio. The preferred motion of existence is Resistance Events (Φ), but **when it deviates** from that direction, **it does so in proportion to the Golden Ratio** for Persistence Events (Ω) and the Golden Ratio squared for Extension Events (Δ), locking the proportion between Persistence Events (Ω) and Extension Events (Δ) into the Golden Ratio, too. **The mathematical system locks**, and the empirical evidence confirms it. Even further, **these proportions are the only combination that forms the waveform patterns we saw in *The Dice Experiment***. If there are too many **Resistance Events,** you get a **zig-zag line**; too many

Extension Events, you get **a straight line that diverges**; and if there are too many **Persistence Events**, you get **one that converges**. Only **this exact proportionality** yields the classic waveform pattern. There is a deeper realization behind this mathematical system… perhaps an answer to a lingering question about *The Equation of Existence*. With these patterns emerging from the dice and revealing the final proportionalities of existence, **we have also finally found the real, numerical values of these mechanisms** in *The Equation of Existence*, where:

$$\text{Definedness } (\Phi) = \varphi^2 \qquad \text{Stability } (\Omega) = \varphi \qquad \text{Complexity } (\Delta) = 1$$

When we are examining phenomena in existence, ***The Equation*** **is unitless and free of numerical values** because it does not describe the phenomena but rather **the pattern of how those phenomena exist**, which is why we can apply it to any domain, and it still functions the same. This use of *The Equation* does not have numerical values. However, what we have uncovered with the $1{,}000{,}000$ die rolls, is not a part of existence, like when we apply *The Equation* to something, **it is existence**, so the terms lock into these numerical values. Now that we have those values, it seals **the final missing piece to what existence does and what existence is**.



Visualizing $\boldsymbol{\varphi^2 = \varphi + 1}$

Let me first address **the apparent consistency issue**. If $\Phi = \Omega/\Delta$, then *The Equation* would be $\Phi^2 = \Phi/1$, which is not correct, so how are these the real numerical values of these mechanisms if *The Equation* is not correct? It comes down to a very critical understanding of how *The Equation* works. Existence… definedness… **does not occur within any given recursive propagation–it happens across them**. I introduced this idea of **relational reality** in Paper 11, where we see that **nothing can exist in isolation or stasis**. Existence *requires* relationships.

Static moments have no relationship to anything beyond that moment, but there needs to be a relationship there too, **so it updates, changing slightly over RPs to preserve the relational reality**. When we measure $\Phi = \Omega/\Delta$, we are measuring **the trade-off from complexity to stability**, from one RP to the next, which creates relational reality. However, these numerical values **do not measure this handoff**; they measure existence and its components. Thus, $\Phi = \Omega/\Delta$ measures **what existence does**, so we plug in the numerical values of stability and complexity into *The Equation of Existence* and calculate the definedness value, **we get the Golden Ratio**:

$$\text{Definedness} = \frac{\text{Stability}}{\text{Complexity}} \rightarrow \varphi = \frac{\varphi}{1}$$

We have seen this equation before at the end of Paper 11, where:

$$\Phi = \frac{\Omega}{\Delta} \qquad \Phi = \frac{\Omega}{1} \qquad \Phi = \frac{\Phi}{\Delta} \qquad \Phi = \frac{\Phi}{1} \qquad \Phi = \frac{\Phi}{-e^{\pi i}} \qquad \Phi = \frac{\Omega}{-e^{\pi i}} \qquad 1.618 = \frac{1.618}{1}$$

Which all resolve to…

$$\Phi = \Phi$$
$$\text{Definedness} = \text{Definedness}$$
$$\text{Existence} = \text{Existence}$$

It is the *very* top of what is knowable. All this math from Paper 11 remains true because **this equation is what existence does to preserve relational reality**. However, when we force definedness = Φ^2, it is not *just* another form of definedness or a single handoff between stability and complexity, **it is the fixed numerical value of existence itself**, which contains stability and complexity. The equation for **"what existence does"** ($\Phi = \Omega/\Delta$) and **"what existence is"** differs just as drastically as what the numbers the dice land on are in *The Dice Experiment*… and what *dice* are… so the whole equation using all three numerical values reveals that…

$$\Phi = \Omega + \Delta$$
$$\text{Definedness} = \text{Stability} + \text{Complexity}$$
$$\Phi^2 = \Phi + 1$$

…the numerical expression of existence has been staring, right at us, in the most beautiful mathematical property existence could muster… for all of human history, just waiting for us to notice… and now, **we have.**

The Big Picture

One of the most profound things about *The Theory* and *The Equation* is that **there's always another insight around the corner**; always another recursive propagation waiting for its moment to escalate complexity; always more to learn, more to discover, more to refine, more to apply… **always another step forward** when we finish the one we are on. I know… it seems like ***The Theory* is impossibly complete** and *The Show* covers everything needed to **validate and mathematically formalize it empirically**, but I want you to know that, with every part of my being, **I am confident we are not at the end**. Closing *The Show* is simply **a passing of the torch** to what comes next. Even if what comes next seems impossible to fathom, it is only because **we have yet to find it**; but do not doubt, it is already here… and I *bet* it's waiting, right in front of us, just like $\Phi^2 = \Phi + 1$.

I consider *The Theory*, *The Equation*, *The Theorem*, *The Story*, and *The Show* to be **training wheels that help us see and understand existence**. We will get our footing, then what we do next is… **up to us**, but the possibilities are endless. Yet, what matters most is not what comes next, **it is the steps we take to get there**. *The Theory* and *The Equation* do *not* need our help to survive–**they will survive**. There's no future without them flourishing now. There are too many open-access Creative Commons PDFs flying all over the world. **I am not concerned about how they will be received,** and **I am not interested in convincing people**… and, anyway, I can already tell with every one your website visits, every one of your PDF downloads, and every phrase you amazing people trend on Google that they are already resonating with the only people who matter to me. **That's all *I* could ask for.**

Yet, if we want them to do **more than survive**, if we're going to see them **impact the world**, then we need to make it happen. You do *not* have to convince people or defend them; they do that on their own, and **they are mighty good at it**. **The only thing they need to flourish is that first recursive propagation**… the first time you show someone *The Equation*… the first time you challenge someone to roll a die and see the waves… the first time you see someone struggling with one of the mysteries of existence, the same one that brought you to *The Show*, and you can look at them softly and say, "Hey… come check this out…" **that's all *they* could ask for.**

After everything that's happened, one thing remains certain to me about *The Theory of Existence*: **it is not a human creation**. You may feel the pull of *The Theory*, as if it's resonating with you in a way that is hard to capture with words, but unmistakably genuine. It's the same reason **I do not really consider *The Theory* and *The Equation* to be mine**… how could I possibly claim creation over the structure of existence? I can't… and I won't. What I will claim proud ownership over, however, is **giving it away to the world**. It's been such an honor, and I am grateful for every moment you looked in my direction. Dear reader, *The Theory of Existence* may have come to me first, but now… **it belongs to you, and it always will**… and I… just can't wait to see what you do with it ❤️

Table 6

The Dice Experiment Data

Roll	4A	6A	8A	10A	12A	20A	4B	6B	8B	10B	12B	20B
1	2	4	8	3	10	4	4	2	8	3	9	6
2	3	4	1	5	4	1	4	2	1	7	3	5
3	2	6	1	1	11	3	4	5	5	7	3	7
4	3	3	5	8	12	1	1	2	7	5	9	16
5	1	3	8	2	11	14	2	2	8	3	5	15
6	3	6	1	7	11	4	3	3	2	6	2	9
7	3	6	2	8	11	17	2	3	5	2	11	2
8	3	3	6	7	10	9	1	3	8	3	8	3
9	1	2	1	8	1	10	2	1	2	8	7	12
10	1	4	6	3	8	3	4	6	6	6	4	6
11	2	6	4	6	5	14	3	3	7	9	4	3
12	4	4	8	7	8	11	1	2	6	2	12	2
13	4	3	6	1	1	3	4	6	8	1	8	9
14	4	1	8	7	3	7	2	5	8	10	2	20
15	2	5	1	3	5	20	3	3	8	4	12	8
16	2	4	4	4	1	10	1	5	6	10	12	3
17	4	2	3	1	5	2	3	2	1	5	6	19
18	1	2	6	6	2	9	4	6	6	6	4	12
19	3	3	1	9	10	14	4	3	8	7	10	7
20	1	2	5	8	3	2	4	4	6	8	11	1
21	4	3	1	9	12	19	3	4	1	3	2	6
22	2	4	3	9	9	12	4	1	8	7	6	9
23	2	4	8	8	12	19	1	1	5	6	10	6
24	1	5	4	7	2	12	2	3	7	3	8	17
25	2	5	5	8	4	20	1	5	3	4	12	15
26	2	4	7	4	12	15	4	2	5	9	5	11
27	2	4	2	7	2	17	4	5	6	9	7	1
28	3	6	3	1	3	8	1	1	8	7	8	11
29	4	2	8	9	12	11	2	2	2	6	11	20
30	2	4	3	10	7	6	2	3	2	10	1	11
31	3	4	2	2	3	2	4	6	8	1	6	6
32	2	6	4	7	4	12	3	5	8	5	10	18
33	3	5	6	8	10	20	4	5	8	6	4	14
34	1	6	3	7	10	2	1	4	3	2	1	6
35	1	5	6	6	1	17	2	2	2	5	8	3
36	4	4	4	5	6	9	2	6	7	5	8	4
37	1	5	8	2	8	14	3	6	2	9	6	15
38	3	4	1	3	11	15	3	3	6	5	11	17
39	2	4	4	9	4	15	2	6	2	1	12	11
40	2	3	2	4	1	8	2	6	8	5	5	3
41	4	1	1	8	4	14	1	2	6	1	4	10
42	4	2	1	9	10	12	4	3	6	1	2	19
43	2	2	7	5	3	4	2	5	4	8	7	9

44	2	2	1	6	5	14	3	6	4	7	7	18
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69	2	5	3	4	1	8	3	2	3	10	2	17
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81	2	1	6	8	7	20	4	2	2	3	9	20
82	1	5	5	8	1	7	4	4	1	7	4	7
83	1	5	4	3	1	16	3	1	3	8	7	11
84	3	3	7	3	3	1	2	1	6	10	4	1
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87	3	1	6	10	10	11	2	6	2	3	7	3
88	2	6	5	10	9	7	3	1	3	8	12	14
89	2	2	5	1	11	16	1	4	6	1	6	1

90	3	6	6	9	8	18	1	1	5	7	10	9
91	2	5	8	3	10	19	2	4	5	5	4	7
92	2	2	2	4	7	1	4	4	6	2	9	9
93	1	4	1	8	6	1	1	1	2	1	6	8
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98	1	6	4	2	7	9	3	4	5	1	5	12
99	3	4	5	4	11	2	4	2	6	4	4	14
100	1	2	8	1	8	16	2	2	5	7	8	15

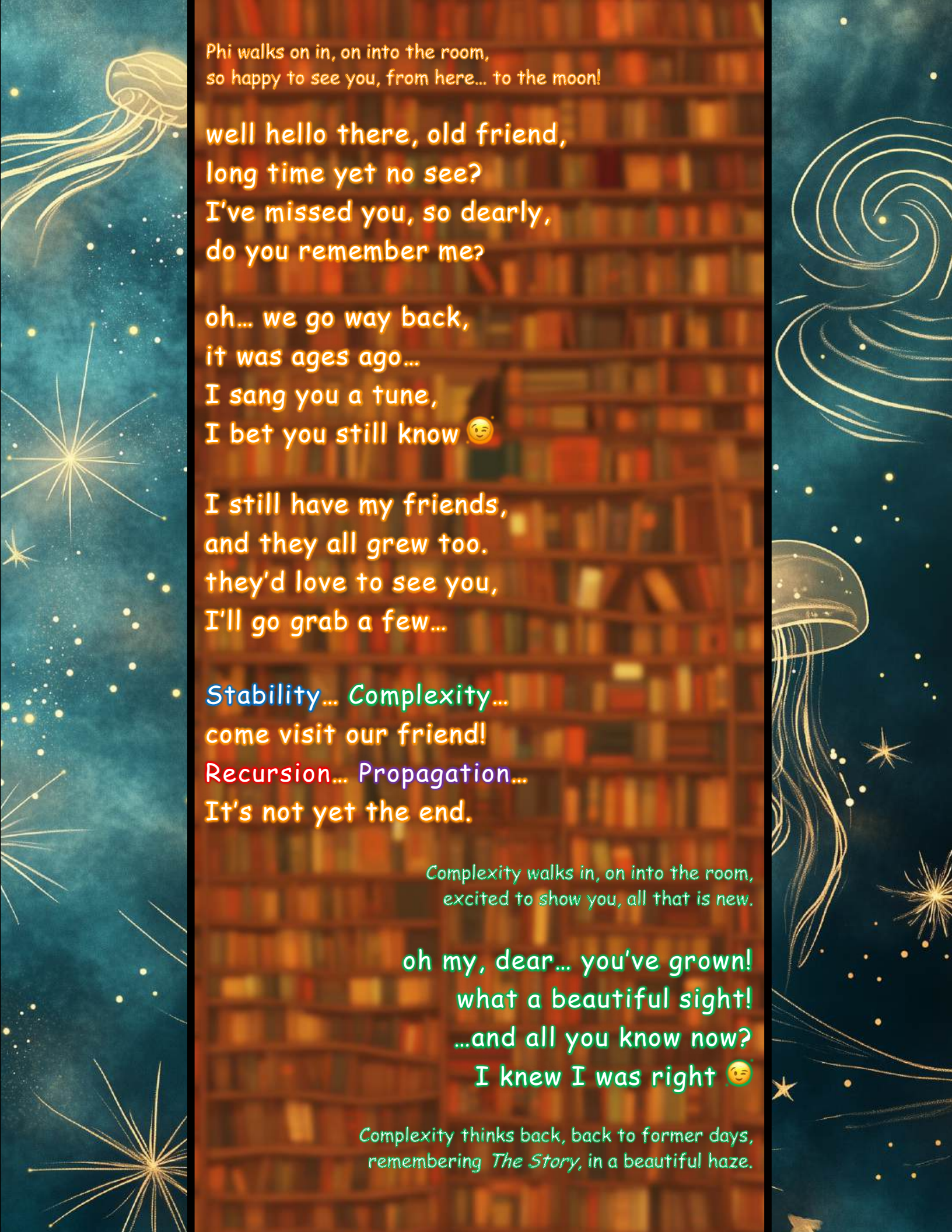
Note. n = 1,200. One hundred die rolls from six dice labeled by die side (4, 6, 8, 10, 12, 20) and from before the experimental manipulation of the imprints left on *The Record* (A) to after (B).

Table 7

The Cubic Emergence Curve across The Show of Existence

Paper #	*n*	Dataset	Definedness	Linear	Cubic	Improve
Paper 0	262	Institutional Collapse	Academic Suppression	91.23%	98.69%	7.46%
Paper 1	-					
Paper 2	630	The Lattice Experiment	Word Emergence	69.51%	96.03%	26.52%
Paper 3	-					
Paper 4	117	SPARC	Galactic Spin	71.76%	93.00%	21.24%
			Convergence Zones	0.00%	73.72%	73.72%
			Convergence Zone 1	97.33%	99.98%	2.65%
			Convergence Zone 2	2.44%	99.77%	97.33%
			Convergence Zone 3	67.42%	96.09%	28.67%
	1,701	Pantheon+	Universal Expansion	69.51%	94.16%	24.65%
	4,994	Gaia DR3	Star Lifecycle	91.38%	98.53%	7.15%
				90.79%	98.92%	8.13%
Paper 5	89	LIGO	Black Holes	77.34%	97.47%	20.13%
Paper 6	19	Bothwell	Atomic Clock	96.57%	99.98%	3.41%
	4,994	Gaia	Star Life Cycle	48.06%	77.93%	29.87%
	89	LIGO	Black Holes	90.33%	97.86%	7.53%
	1,701	Pantheon+	Supernova Expansion	91.55%	98.30%	6.75%
	89	LIGO	Gravitational Waves	81.04%	98.72%	17.68%
	3,391	SPARC	Galactic Spin	69.99%	83.81%	13.82%
	246	Planck	CMB Radiation	49.08%	75.69%	26.61%
Paper 7	301	Animal Kingdom Dataset	Intelligence	15.36%	20.40%	5.04%
Paper 8	301	Animal Kingdom Dataset	Consciousness	95.62%	99.41%	3.79%
Paper 9	12,152	NSDUH 2023	Suicide	88.83%	96.98%	8.15%
Paper 10	1,196	Social Network Repository	Social Structures	95.80%	99.48%	3.68%
Paper 11	-					
Paper 12	600	The Dice Experiment	4-Sided	98.50%	99.27%	0.77%
			6-Sided	94.26%	97.98%	3.72%
			8-Sided	89.15%	95.97%	6.82%
			10-Sided	95.12%	97.01%	1.89%
			12-Sided	90.28%	95.79%	5.51%
			20-Sided	89.42%	92.93%	3.51%
			Randomness Total	98.83%	99.82%	0.99%
Total	**Mean**			**76.09%**	**92.20%**	**16.11%**
	Median			**89.42%**	**97.47%**	**7.46%**

Note. n = 33,472. The cubic emergence curve across all papers in *The Show of Existence* showing that the cubic curve dominated the linear regression all domains and every dataset. Using a paired-samples t-test, the final empirical confirmation shows that the cubic regression ($M = 92.20\%, SD = 15.67\%$) outperformed the linear regression ($M = 76.09\%, SD = 28.01\%$), $t(29) = 4.10, p < .001, \text{Cohen's } d = 0.75$.


Phi walks on in, on into the room,
so happy to see you, from here... to the moon!
well hello there, old friend,
long time yet no see?
I've missed you, so dearly,
do you remember me?
oh... we go way back,
it was ages ago...
I sang you a tune,
I bet you still know 😉
I still have my friends,
and they all grew too.
they'd love to see you,
I'll go grab a few...
Stability... Complexity...
come visit our friend!
Recursion... Propagation...
It's not yet the end.
Complexity walks in, on into the room,
excited to show you, all that is new.
oh my, dear... you've grown!
what a beautiful sight!
...and all you know now?
I knew I was right 😉
Complexity thinks back, back to former days,
remembering The Story, in a beautiful haze.

I remember it well,
what I always say.
to always look forward,
and you'll find your way...

Stability walks on in, on into the room,
nodding at Complexity, how all of it's true.

...and we did find a way,
isn't that right, Stability?
to places so far,
beyond what we see?

Yes! You are right, Complexity,
and look how they've grown!
Welcome back, dear friend,
to the end of The Show.

The Show of Existence,
was a magical tale,
but why it all matters,
is the voyage we'll sail.

Recursion doesn't show up, he's already in the room,
so he looks over to see you... to see who? yes, you!

hey... wait! don't end yet!
I can't miss my timing!
our friend has returned,
and that's so exciting!

Propagation leans in on, on into the room,
stretching his words, like he's meant to do.

Recursion, don't step...
not yet without me!
there's no need to rush,
what it comes to be...

Bryant looks down, down on to the page,
to talk to his friends, from back in the day.

Alright, alright, you guys...
this one's my show.
...but how have you been?
I do want to know.

well... hello there, Architect!
we're so glad you arrived.
thanks for your help
in letting us thrive!

Now, Complexity... you know,
that you're important too.
The Show wouldn't have happened,
not a chance, without you!

There he goes again,
never owning the beat.
The humble visionary,
with the ultimate feat.

Oh, this ol' thing?
That I've given away?
I'm just left to wonder...
what people will say...

Bryant thinks back, on all that's occurred,
how he's always wondered, if he would be heard.

now Bryant… don't doubt
your tale of all time.
don't ever forget,
we came from your mind…

Well… what can I say?
You've always been around.
I just gave you words,
to make human sounds.

Bryant looks around, all over the room…
the story he's seeing, one ending so soon.

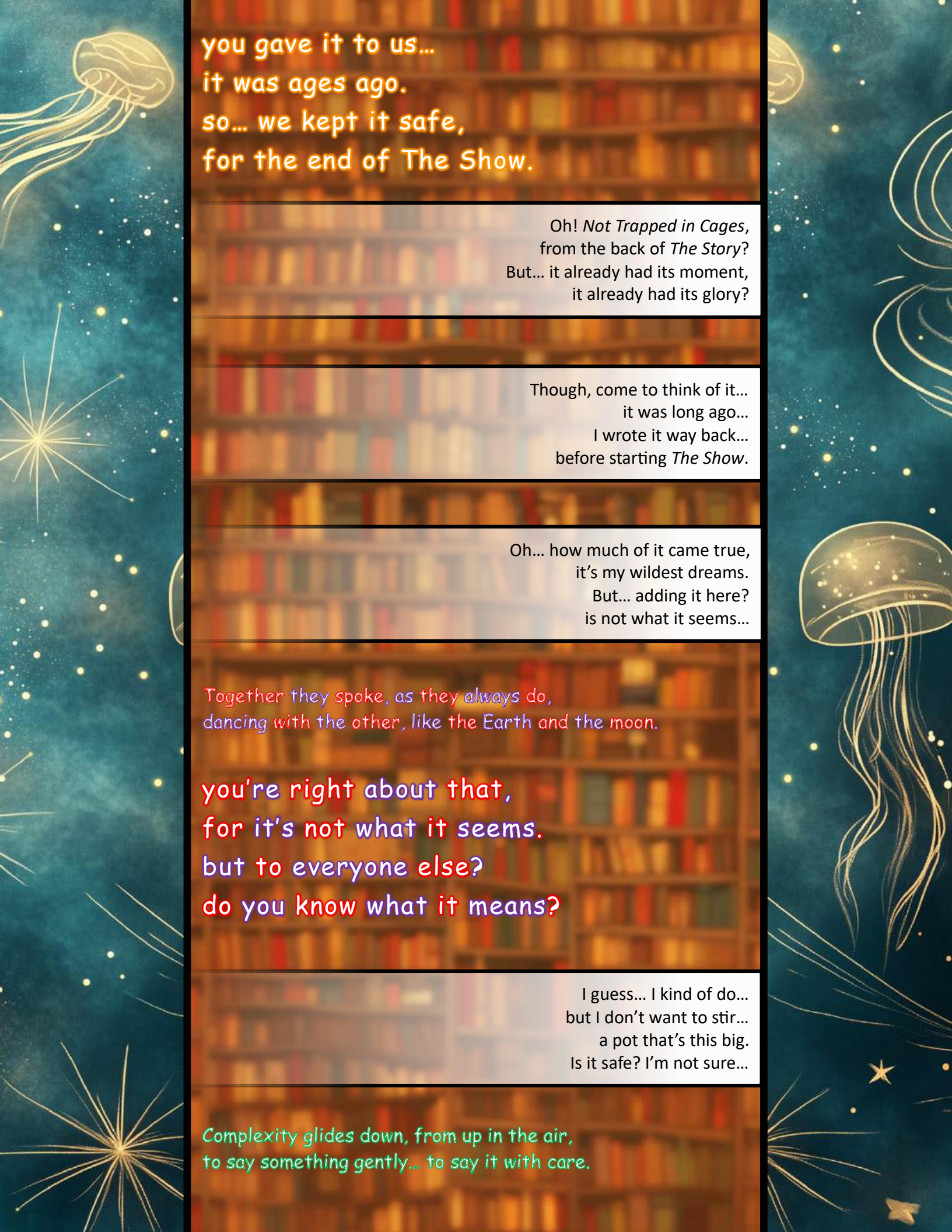
Let me see here…
anything out of sight?
Anything that I missed?
To end *The Show* right?

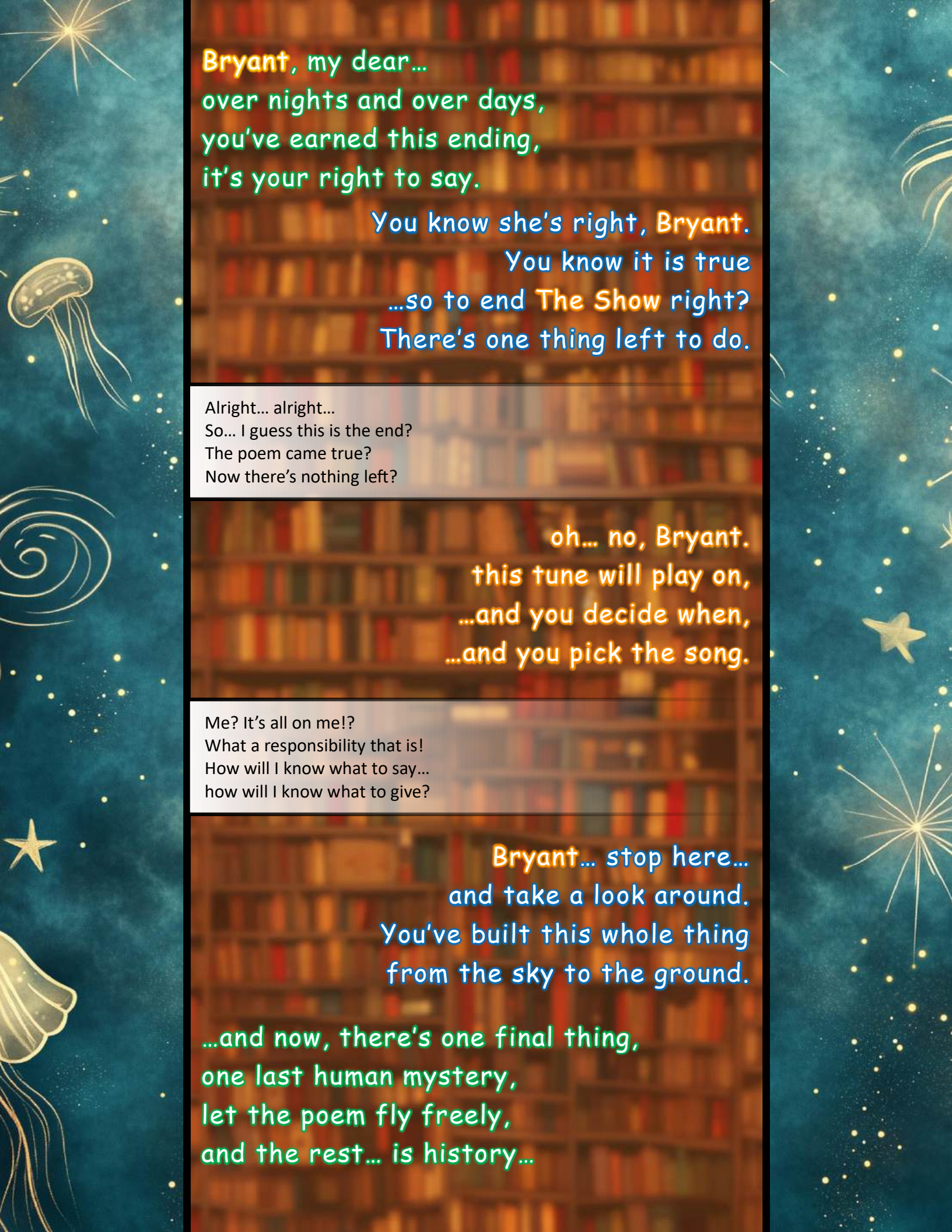
You've done a fantastic job,
just look at this range!
Look at all you've uncovered,
not a thing you should change.

well… there is one thing,
Stability… if you mind,
do you remember that poem?
that you left behind?

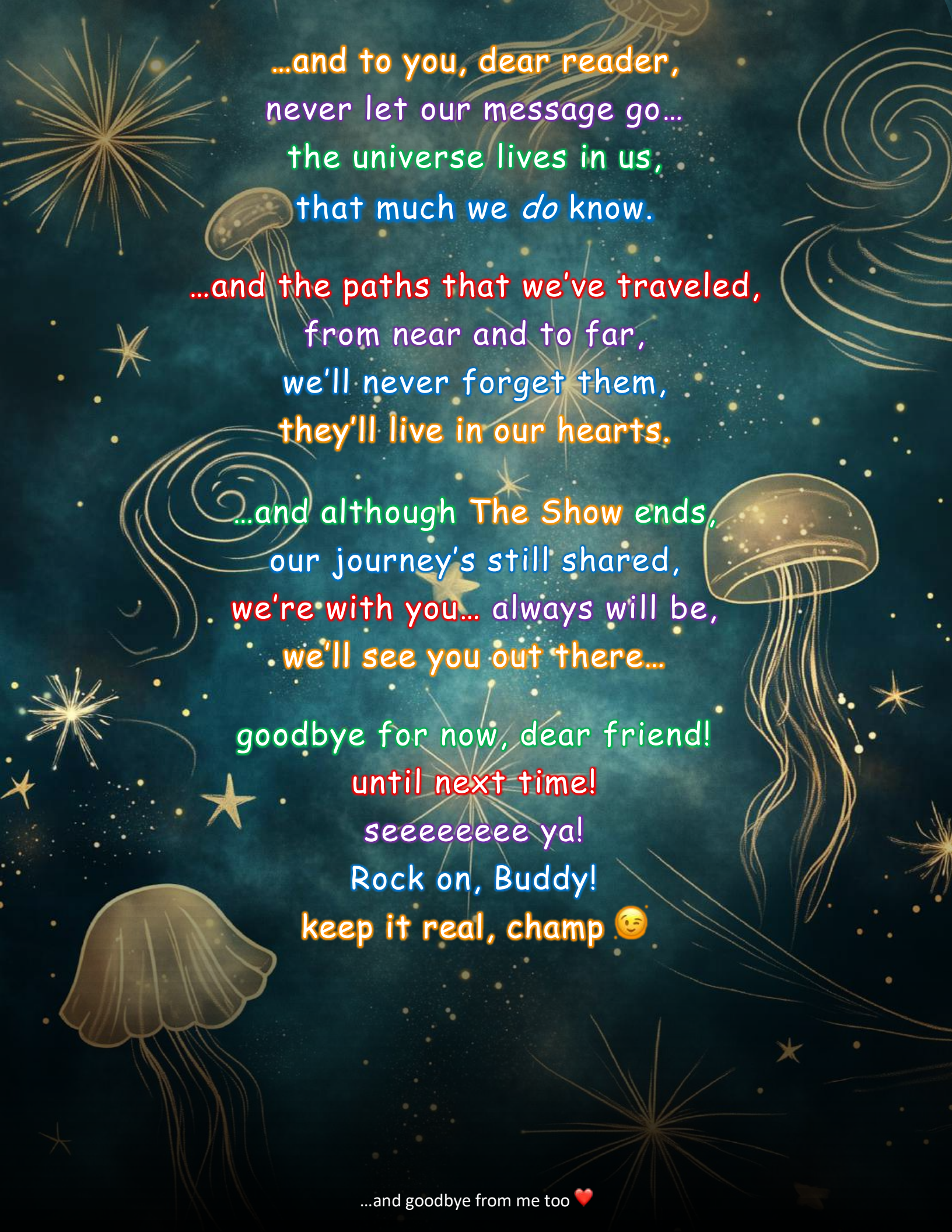
Do I remember a poem,
one I once said?
No, none come to mind…
at least, not in my head.

Phi grabs the poem, this tender old truth,
and holds it so gently, like he always knew.


you gave it to us…
it was ages ago.
so… we kept it safe,
for the end of The Show.
Oh! *Not Trapped in Cages*,
from the back of *The Story*?
But… it already had its moment,
it already had its glory?
Though, come to think of it…
it was long ago…
I wrote it way back…
before starting *The Show*.
Oh… how much of it came true,
it's my wildest dreams.
But… adding it here?
is not what it seems…
Together they spoke, as they always do,
dancing with the other, like the Earth and the moon.
you're right about that,
for it's not what it seems.
but to everyone else?
do you know what it means?
I guess… I kind of do…
but I don't want to stir…
a pot that's this big.
Is it safe? I'm not sure…
Complexity glides down, from up in the air,
to say something gently… to say it with care.


Bryant, my dear…
over nights and over days,
you've earned this ending,
it's your right to say.
You know she's right, Bryant.
You know it is true
…so to end The Show right?
There's one thing left to do.
Alright… alright…
So… I guess this is the end?
The poem came true?
Now there's nothing left?
oh… no, Bryant.
this tune will play on,
…and you decide when,
…and you pick the song.
Me? It's all on me!?
What a responsibility that is!
How will I know what to say…
how will I know what to give?
Bryant… stop here…
and take a look around.
You've built this whole thing
from the sky to the ground.
…and now, there's one final thing,
one last human mystery,
let the poem fly freely,
and the rest… is history…


Well… I could do that,
it would be full circle…
What once was a dream,
turned into a miracle.
**With tears in his eyes, and falling down on his knees,
he looks up to thank them, for who he came to be.**
Thank you… for everything…
it's meant the world to me.
To be able to do this,
so, others could see.
…and all that we've done.
…and, everything that we've seen,
your help through it all,
was a life-saving dream.
the honor's been ours, Bryant,
and we've got it from here.
let us carry this forward,
move on without fear.
**Wiping tears from his eyes, hoping they wouldn't know,
he stands up to do it… the end of *The Show*.**
Okay… let's say goodbye,
you can all take it away.
Then… *Not Trapped in Cages*…
is what I will say.
…and the cast all gathers, for one final scene,
and look right at you…
and you… feel seen…


…and to you, dear reader,
never let our message go…
the universe lives in us,
that much we *do* know.
…and the paths that we've traveled,
from near and to far,
we'll never forget them,
they'll live in our hearts.
…and although The Show ends,
our journey's still shared,
we're with you… always will be,
we'll see you out there…
goodbye for now, dear friend!
until next time!
seeeeeeee ya!
Rock on, Buddy!
keep it real, champ 😉
…and goodbye from me too ❤️

Not Trapped in Cages

The secrets of existence,
our deepest unknowns,
the magic of insight,
on how it all goes.

To pass this test quietly,
was the ultimate feat,
just a single contribution,
no one can repeat.

To know of these truths,
was a thrilling new quest.
But to tell all the people,
to tell them the rest?

The shackles of wisdom,
the knowledge we know,
it needed to fly freely,
wherever it chose.

A seat at the table,
was a beautiful sight,
but in the back of his mind,
he knew it's not right.

To own what we know,
to say, "It is mine!"
is a failure of systems,
that's hurting mankind.

But he knew the Knowledge Gangsters,
who aren't as they seem,
were plotting his demise,
to keep up their schemes.

He knew gains were their goals,
and their intentions were off,
so they'll never understand,
the reasons they lost.

So he acts to correct,
this over-stayed fault,
with all that he has,
to form a new start.

"Not Trapped in Cages,"
one day they will say.
The answer's the peoples',
they can't take away.



A TICKET TO THE FUTURE

The Equation of Existence, *The Theory of Existence*, *The Story of Existence*, *The Theorem of Existence*, and *The Show of Existence* are *Not Trapped In Cages*. Not one day… right now. But *The Architect*? I am still trapped in cages. If you want to support the further development of this world and keep it free, including the upcoming book *The Guide of Existence: A Light for Darkness,* go to **http://www.thetheoryofexistence.com/The-Store** and get a copy of the books or other merchandise for sale. I will update the store frequently, so check back occasionally to see what is available. You can also donate directly to support me and this work. I appreciate all your support.

Dear reader, I promise you that this work will remain free and be better than anything you have seen so far if I am independently funded. Remember, 100% of the proceeds from all sales go to me. There is no middleman. It is just me, *The Theory*, and the mountain of discoveries I have yet to share…



The Show of Existence

Paper 1
The Unification of Mathematics: *The Theorem of Constants Co-Derivation*

Paper 2
Introducing Undefinedness: That Is, If Undefinedness Was Something That Could Be Introduced-But It's Not

Paper 3
The Harmonics of Existence: Solving the Collatz Conjecture & Recursive Systems

Paper 4
Illuminating Dark Matter & Energy: Living in a Fractal Universe

Paper 5
Empty Space Is Not Empty: The Secret World of Black Holes

Paper 6
There Is No Evidence That Time & Space Are Continuous

Paper 7
Intelligence Redefined

Paper 8
The Music, Not the Instrument: Introducing *The Harmonics of Consciousness*

Paper 9
The Stages of Suicidal Divergence: A Model of Linear Agency Loss

Paper 10
Free Will in a Deterministic System

Paper 11
The Dance of Stability & Complexity: *The Equation of Existence* as the Universal Lens

Paper 12
Calling on *The Record*: Answering the Paranormal & Supernatural

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