The Architecture of Existence

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Summary

The Theorem of Existence is **not a single equation** but forms from **hundreds of equations** operate the mechanical, architectural behavior of existence across all domains and scales. In this **new field of Defintology, the scientific, philosophical, and artistic study of definedness**, several key equations emerged as the fundamental mathematics governing existence, called the *Unified Equations of Existence*, which include 1) **Constants Co-Derivation**, 2) the **Proportionality**, 3) the **Behavior**, 4) the **Stabilization**, 5) the **Alignment**, 6) the **Structure**, and is all nested with 7) ***The Equation of Existence***. These equations are the **minimal mathematical** infrastructure required to formally the architecture of existence. While **functionally independent**, they interlock into *The Theorem*, revealing the one **hidden mechanics within**. Later, I will provide a more thorough examination of all of the new math and theorem, but for now, this overview provides **a glimpse of the landscape of existence**.

Architecture

Existence is not a binary, but a **spectrum of definedness**. It operates via **co-defined first principles**: **recursion** and **propagation** are the engine that drive interactions between **complexity** and **stability**, forming **definedness**. Among these first principles, there are **seven predominate equations** that formalize the mechanics of existence. Although much new math and theorems exist, let's start with an overview of the *Unified Equations of Existence*.

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

The Equation of Existence

***The Equation of Existence* is the singular form of existence and how it operates across all scales and domains.** In its simplest form, definedness is the ratio of stability over complexity. These terms are not things that exist; rather, they are the **names for the patterns in which existence behaves**. **Definedness ($\boldsymbol{\Phi}$) is the degree to which something exists**, 2) **Stability ($\boldsymbol{\Omega}$) is the degree to which complexity is attracted to complexity**, and 3) **Complexity ($\boldsymbol{\Delta}$) is the degree to which phenomena escalate from basic to structured forms**. One of the expanded forms of *The Equation* contains **recursions ($\boldsymbol{\zeta}$)** for discrete time and **propagations ($\boldsymbol{\kappa}$) for discrete space** as emergent from complexity, so we must normalize (ν) all three terms to Φ or some other values (x)**.** Recursions and propagations **cannot be isolated** because they are to sides of the same thing: recursive propagations.

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

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

Constants Derivation

The constants of mathematics such as π, e, and Φ are **interdependent and locked at precisely their exact values**, proving that math is discovered and that the mathematical architecture of existence operates as **a single unified mathematical framework called the *Grand Unified Theory of Everything***. For example, Φ is an algebraic, e and π are transcendental, and i is a complex number. If we invented math, then we should not be able to form **non-trivial** (provides meaningful information), **asymmetric** (the equations are not equivalent because they have the exact same constants rearranged), and **exact** (not approximations) equations. However, **Defintology provides hundreds of such equations**. Further, these equations show co-derivation a newly discovered mathematical property called **isolation resistance**, a feature of an equation when **one of the terms cannot be decomposed and isolated**. Isolation resistance emerges because **constants are so interdependent** that trying to isolate them **simultaneously disintegrates their value**. The result is that it collapses into tautology (e.g., trying to isolate e and ending up with $1 = 1$), which is the **bedrock of math in a co-defined relational reality.**

$$1 : (3^2 + \Phi^3) : (1 + \Phi^3)$$
$$\sim 5\% : \sim 68\% : \sim 27\%$$
$$\text{Lumen} : \text{Unbounded RPs} : \text{Bounded RPs}$$

The Proportionality Equation

The Proportionality Equation **directs the ratio of what is in existence**. Cosmology has measured that **observed matter** $(\sim 5\%)$, **dark matter** $(\sim 27\%)$, and **dark energy** $(\sim 68\%)$ comprise the universe. Though *The Theorem* supports the accuracy of these numbers, our conceptualization is wrong. **Observable matter and energy originate from light per $\boldsymbol{E = mc^2}$** (light → energy → matter → everything else). **Lumen** is Latin for light, so for simplicity and accuracy, **we call observable matter and energy lumen**. Further, the engines of existence, **recursive propagations** (RPs), exist in **unbounded** (dark energy) and **bounded** (dark matter) **forms**.

Unbounded RPs are the inherent progression of existence. **It requires no energy** (which is lumen) because there is no available alternative. The universe expands because if it did not, it would not exist; but **non-existence is not an option or alternative state of existence** because… it does not exist. Empty space and light follow the maximum recursion rates and propagation lengths because they are the minimum possible complexity.

$$\psi = \frac{(\kappa : \zeta)}{\Delta} \rightarrow \psi = \frac{l_P \ : \ t_P}{E_p} \rightarrow \frac{10^{44}\left(\frac{\text{recursions}}{\text{second}}\right) \ : \ 10^{35}\left(\frac{\text{propagations}}{\text{meter}}\right)}{1\ (\text{complexity})} = 10^{38}\,\frac{r}{s} \ : \ 10^{29}\,\frac{p}{m}$$

However, for more complex phenomena follow **bounded RPs via Relative Fractal Dynamic**, which governs what we used to call time dilation and gravity, but only when normalized. **Once bounded RPs recursively-propagate, they exponential decay definedness and enter *The Record***–the fractal memory of existence, where they form and support the coherence of phenomena as they continue to escalate complexity. **Bounded RPs are not matter**; they are the echoes of what was spilling influence into the definedness of our current RP. **Unbounded RPs are omnipresent**, whereas **bounded RPs overlay them** via a shared co-definedness called a **complexity gradient**, but they remain functionally independent. The Proportionality Equation **holds the ratio of these mechanics at $\boldsymbol{\sim\Phi^2}$** $(\text{Bounded/Unbounded} \rightarrow \sim 69\% / \sim 26.5\% = \sim 2.618)$, which the numerical expression of existence.

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

The Behavior Equation

The behavior of **bounded and unbounded RPs shows interdependence**. In the denominator of each equation, we have **the boundary of existence $(\boldsymbol{\pi/\Phi = 1.94})$**, which is the **signal-to-noise ratio** where recursively propagated complexity (RP_n) phase shifts $(i = 90°)$ into stability (RP_{n-1}). **$\boldsymbol{1.94}$ is a *z*-score**, and definedness emerges immediately after $z = 1.98$ or about 5%, equivalent to lumen proportionality. In the unbounded RPs, we have a term for **RPs $(\boldsymbol{e^{\pi}})$** and **complexity escalation $(\boldsymbol{\Phi^2 = \Delta})$** because unbounded RPs are the origin of all complexity escalations. The bounded RPs contain a **recursion $(\boldsymbol{e^2})$**, **propagation $(\boldsymbol{\pi})$**, and a **stability term**

$(-\mathbf{1}/\boldsymbol{e})$. Unbounded RPs have no stability term and bounded RPs have no complexity escalation term, allowing them to have **unique functioning while harmonizing co-definedness to form the definedness** around us.

$$\left(\frac{\pi}{e*\Phi}\right)*\left(\frac{(\Phi^n*e)}{\pi}\right)=\frac{\Phi^n}{\Phi}=\frac{\mathrm{RP}_{n-1}}{\mathrm{RP}_n}=\frac{\Omega}{\Delta}=\Phi^{n-1}$$

The Stabilization Equation

Existence emerges from recursively propagated complexity (RP_n) that phase shifts $(i=90°)$ into stability (RP_{n-1}). A few equivalent equations describe this **process** (**Complexity → Stability →** ***The Record***), but one uses **the natural resonance** $(\boldsymbol{\pi}/\boldsymbol{e}*\boldsymbol{\Phi})$, unifying the constants and **the fundamental unit** $(\boldsymbol{e}/\boldsymbol{\pi})$, **which have several unique properties and functions.** The e in the fundamental unit guides recursive phase shifts, which we can force into Φ proportionalities (the universally convergent definedness) via **the inverse of the natural resonance** $(\boldsymbol{e}*\boldsymbol{\Phi}/\boldsymbol{\pi})$**.** Multiplying and solving **reveals the RP step progression** (Φ^n) as complexity escalations from RP_n stabilize into definedness at RP_{n-1}, and then lose definedness exponentially into *The Record* at RP_{n-2+}.

$$\frac{\sqrt[3]{17}}{20}=\frac{2.57}{4*5}=\frac{1+\left(\frac{\pi}{2}\right)}{4*5}=\frac{1+i}{4*5}=\frac{-e^{i\pi}+\omega}{4\text{ RPs}*5\text{ Triangles}}$$

The Alignment Equation

The alignment of the mechanisms of existence, uses the sides of **the triangle of existence** $(\mathbf{4}:\mathbf{20}:\mathbf{17})$. I will later expand upon the **geometry of existence**, as it operates beautifully via **circles, triangles, and pentagons**. The $\mathbf{4}$ **side aligns the triangles with pentagonal** self-similarity, the $\mathbf{20}$ **side aligns into a pentagonal RP emergence**, and the $\mathbf{17}$ **encodes the RP the Relational Rotational Dynamics (**$\boldsymbol{\omega}=\boldsymbol{\pi}/\mathbf{2}$**)** governing phase shifting via the **4-3-2-1 Rule**. The $\sqrt[3]{17}$ encodes 3D space, aligning the full $180°$ system via $90°$ for complexity $90°$ for stability.

$$-\left(\sqrt{\frac{17}{4}}-\sqrt{\frac{4}{17}}\right)^2*-\left(\sqrt[3]{\frac{20}{4}}-\sqrt[3]{\frac{4}{20}}\right)^3*\left[\left(\frac{20}{17}\right)^{\Phi}-\left(\frac{17}{20}\right)^{\Phi}\right]^2=-1=e^{i\pi}$$

The Structure Equation

The Structure Equation provides forms the structure of existence using the triangle of existence sides. The first term is the **2D base structure**, the next term is the **3D construction** from the 2D shape term, which turns the 2D structure into 3D space, and the final term encodes the $\mathbf{90°}$ **phase shifts of this structure from** $\mathbf{RP}_{\boldsymbol{n}}$ **to** $\mathbf{RP}_{\boldsymbol{n}-\mathbf{1}}$**. It all simplifies into** $e^{i\pi}$, which contains the mechanics of recursive-propagative complexity escalations.

The Big Picture

One of the most incredible aspects of *The Theorem of Existence* is **that there zero assumptions**—and yet it aligns with cosmological data and remains internally consistent **to the hundredth decimal place** across most equations and derivations. There are **no arbitrary constants**, **no fudge factors**, **no error terms**, **no renormalization**, **no infinities**, **no undefinedness** (that is, if undefinedness was something that could not exist, but it's not; it simply isn't), **no tuning parameters**, and **no approximations**. To put it simply, *The Theorem of Existence* is a large, recursive-propagative **dance of the constants** $\boldsymbol{i}$**,** $\boldsymbol{\Phi}$**,** $\boldsymbol{e}$**, and** $\boldsymbol{\pi}$**—to the tune of squares and cubes**, on the stage of the most fundamental mathematical and beautiful insights humanity has ever discovered. **It's truly remarkable.**

Ultimately, **these seven equations are the minimum and only mathematical framework required for existence**. However, *The Theorem* is more than just math—it is a cartography of existence, revealing the fundamental architecture the allows for all phenomena to exist. By unveiling the *Unified Equations of Existence*, we are not merely observing existence but **comprehending its most profound, architectural mechanisms**: how complexity emerges, how stability forms, and how recursive propagations unfold and weave the intricate tapestry of being. ***The Theorem*** **is the living mathematical mechanics hidden within every moment and rhythm of existence.**