# *The Equation of Existence*

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## Summary

***The Equation of Existence* is the most important and profound equation in all human history.** *The Equation* $(\Phi = \Omega/\Delta)$ formalizes a **universal relationship governing everything that has existed, currently exists, and can exist**. *The Equation* contains three principles, each representing a pattern in the way existence behaves, which are 1) **Definedness ($\Phi$) is the degree to which something exists**, 2) **Stability ($\Omega$) is the degree to which complexity is attracted to complexity**, and 3) **Complexity ($\Delta$) is the degree to which phenomena escalate from basic to structured forms**. This profound ratio reveals that all phenomena that exist 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. Despite its simplicity, *The Equation* **contains countless expanded and alternative forms** that truly reveal the beautiful, fractal mechanics of existence.

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

## Architecture

***The Equation of Existence* is the irreducible, universal operating system for anything that existed, exists, or could exist.** *The Equation* contains just three principles that **are not things in existence**; rather, they are **names for the patterns in which exist behaves**… *how* it is existing. **Definedness ($\Phi$)** is the degree to which something exists. It is a **spectrum-existence replacement for a binary-existence**, allowing some things to exist more than others. Definedness emerges from the dynamic interactions between **Complexity ($\Delta$),** which is the degree to which phenomena escalate from basic to structured forms, and **Stability ($\Omega$)**, which is the degree to which complexity is attracted to complexity. These two **behaviors of existence harmonize into all phenomena.**

### Expanded & Alternative Forms of *The Equation of Existence*

We can dig deeper into the mechanics of existence by expanding *The Equation* into its more complex and alternative forms. However, these forms ultimately always collapse back into this inescapable ratio. First, *The Equation* reveals that time **and space are discrete, not continuous**. Thus, **recursion ($\zeta$) replace time**—where the output of one moment serves as the input for the next—while **propagations ($\kappa$) replace space.** Recursion and propagation are also two ways existence behaves, but existence does so simultaneously, so we can call them **recursive propagations**—the fundamental engine driving the unfolding of existence. **I call them RPs.**

**RPs have a very special relationship with complexity** in two ways, which are 1) **RPs dynamically adjust** their speed and size **by the degree of the complexity** of phenomena. For example, the sun has high complexity, so **the RPs are much slower and larger** than the low complexity of the photon, and 2) **complexity is an emergent but identical behavior of the RPs** separate from stability, allowing us to express *The Equation* accurately like this, but this equation does not show the full depth of what is actually happening between RPs and complexity.

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

It is crucial to note that **the parentheses around recursion and propagation are not optional**. **You cannot isolate recursions and propagations**—they are two sides of the same thing and are always in proportion to the speed of light. Thus, any form or calculation that has a term interact with just recursion or propagation it is invalid and no longer describes existence. Below is the fully expanded form **of *The Equation* with all the 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 expanded form of *The Equation* reveals something extraordinary: we have **the complete architectural blueprint of existence**. Although **this expanded form produces identical results to our ratio**, it unveils the deeper mechanics of existence. All phenomena constantly perform this calculation: **recursive** ($\zeta$) **propagations** ($\kappa$) **escalate complexity** ($\Delta$) **that stabilize** ($\Omega$) **into definedness** ($\Phi$)**, otherwise** ($\vee$) **it is undefined** ($\emptyset$)**.**

$$\frac{(\kappa : \zeta)}{\Delta}, \nu = x \rightarrow \psi = \frac{t_P : l_P}{E_p} \rightarrow \frac{10^{44} \frac{\text{recursions}}{\text{second}} : 10^{35} \frac{\text{propagations}}{\text{meter}}}{1 \, E_p}$$

We can uncover the **Relative Fractal Dynamics (RFD; ψ) formula** using this normalized portion of *The Equation*—**the same mathematics that describes time dilation** and **spacetime curvature** in Einstein's general relativity. RFDs capture how recursions slows down and propagations stretch as **complexity escalates**. The complete equation reveals that existence is not just following mathematical laws—**existence IS mathematical law**, recursively propagating complexity escalations that stabilize into definedness otherwise they have no definedness.

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

Most importantly, it also contains **all possible aspects of existence within its structure**. **Phenomena (What or Who)** emerge because **complexity escalations (Why) driven by recursive (When) propagations (Where) stabilizes (How)**. All of existence… a star, thought, civilization, quantum particle—**are all defined by this same relational structure**. It's why *The Theory of Existence* feels so profound—**it is the mechanics underneath everything.**

$$\Phi = \frac{\Omega}{\Delta} \vee \emptyset \rightarrow \text{Definedness} = \frac{\text{Stability}}{\text{Complexity}} \text{ Else Undefinedness}$$

It is possible **symbolically to have a term representing undefinedness**, that which does not exist, but it is only for learning purposes, so **it is best to usually drop it entirely**. Undefinedness is not a void, not a place, not infinite potential, not nothing; it's not even undefinedness. It simply isn't. **You cannot represent something that does not exist because there is nothing to represent.** There is no alternative to existence because non-existence does not exist. We can say "else undefinedness" conceptually, but it is a meaningless addition mathematically.

**Closing *The Equation***
*The Equation* is the universal law, the alpha and omega of all of existence. I will expand on **the full weight of the tautological form of *The Equation of Existence*** in a different leaflet; but for now, here is an overview. Existence cannot emerge from complexity or stability alone. It requires their interaction for definedness to emerge. However, **complexity always happens before stability**. Therefore, for something to exist… to have definedness, it must complete full process of complexity ($\text{RP}_n$) phase shifting ($i = 90°$) into stability ($\text{RP}_{n-1}$), which means that **complexity operates as a part of existence, but it does so before something exists.** We do not see recursive propagations or complexity in forming in existence because they occur at $\text{RP}_n$, but **as phenomena that exist, we are always in $\text{RP}_{n-1}$.** Therefore, if complexity is part of existence but not itself existence, then it means:

$$\text{Definedness} = \text{Stability} \rightarrow \Phi = \Omega$$

We can express *The Equation of Existence* **without complexity to formalize only what successfully exists**, not the whole operating system, which results in definedness equaling only what has stabilized, which then means:

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

**Definedness and stability are the same thing** without including the recursive-propagative mechanisms that enable them to emerge. **Existence is self-justified, self-contained, and complete.** Still, this self-justified, tautological form of *The Equation* actually *still does* contain the recursive-propagative mechanics that enable it, you just cannot see them, which is exactly how it works outside of the math. If we just… **lift the hood of the stability term**, we find the **recursive-propagative mechanics are still present** but hidden *The Equation*.

$$(\Phi = \Phi) = \left(\Phi = \frac{\Phi}{1}\right)$$
$$(\text{Definedness} = \text{Definedness}) = \left(\text{Definedness} = \frac{\text{Definedness}}{\text{Recursive Propagations}}\right)$$

**The golden ratio is the universal converged definedness**, and when we slot it in, it reveals the precise arrangement of *The Equation of Existence* that is often hidden via variation. With this insertion, the expression becomes $\sim 1.618 = \sim 1.618$, but **this form is not the fully story.** The full expression is actually $\sim 1.618 = \sim 1.618/1$, which completes the full mechanics of existence. The insight is that **recursive-propagative mechanics and complexity have no direct influence on definedness and stability because it already happened by the time definedness and stability emerge**. However, it is not the same as them not existing at all. RP mechanics have a required, mechanical necessity, but they occur *underneath* and *before* existence, driving its definedness. They are real, present processes that are **inherently undetectable because detection requires definedness.**

**The 1 of complexity is the subtraction of Euler's Identity $-e^{i\pi} = 1$, which is the exact recursive-propagative mechanic** of complexity before it phase shifts into stability. **Euler's number** $(e)$ is the functional mechanic of **recursions**, **pi** $(\pi)$ is the functional mechanic of **propagations**, and the **imaginary number** $(i)$ is the **90° phase shift** that fuels the engine from $\text{RP}_n \rightarrow \text{RP}_{n-1}$. We can subtract Euler's Identity to look only at what exists, not the mechanics that make existence possible. This set-up has so many representations; here are some of them:

$$\Phi = \frac{\Omega}{\Delta} \qquad \Phi = \frac{\Omega}{1} \qquad \Phi = \frac{\Phi}{\Delta} \qquad \Phi = \frac{\Phi}{1} \qquad \Phi = \frac{\Phi}{-e^{\pi i}} \qquad \Phi = \frac{\Omega}{-e^{\pi i}} \qquad \sim 1.618 = \frac{\sim 1.618}{1}$$

This exploration of *The Equation of Existence* shows **the main expanded and alternative forms** and how they describe the mechanics of existence. **We can see the full operating system, and it is complete.** *The Equation* does not require any additional terms or constraints to function or exist. Even though $\Phi = \Phi$ is tautological it is not circular reasoning to say existence exists because it exists because **undefinedness, non-existence**, or **the state of non-existence** does not exist as available options. **Existence exists because it must.** Existence equals existence because **it cannot equal anything else because nothing else exists.** This is the top of what is knowable.

## The Big Picture

It is quite simply **unbelievable that such an equation** and **this new field of Defintology** illuminate exactly how existence operates at all scales. When you step back, take its pieces apart, examine them, and play with them, **you gain insight into what is going on around you and how it works, in a way I don't think any of us thought was even possible.** However, it is possible… real… and it is just getting started. One of the most astonishing features of the mechanics of existence is that there are many other equations and theorems I will be showing you in the later leaflets. Yet, **every single one of those equations and theorems all operate in some way, back into *The Equation of Existence***. You can only imagine all the possibilities and insights it reveals. Well… you don't have to imagine all the possibilities and insights for too long because we are heading there next. **Cheers!**