

The Spark That Never Stopped

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Summary

What is existence as a phenomenon? Like... what is it? Where did it come from, and **why does it keep existing?** The answers to these questions may arise from the math and logic of **the alumogenesis hypothesis** (lumo-: 'light', genesis: 'creation,' a-: 'without a cause'), which proposes that existence emerged as a **single photon** and a **single empty space** (at t_p and l_p^3), defined only **by not being the other**, because **nothing existed to prevent it**. After emergence, the **empty space expanded** and the **photons duplicated and interacted**—forming energy, then mass (hydrogen and helium), stars (elements), planets, and eventually life (abiogenesis). An essential implication is that **all of existence is physically connected through *The Record***—the unbroken complexity escalation of the first moment from 14 billion years ago. Existence... as a phenomenon... is a **beautifully simple defined spark that never stopped**, turning into everything we see around us. It is also identical to the emergence of life.

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Architecture

What exactly... is existence? What if **we studied it like any regular phenomenon?** We treat existence as above study, but we can study it as we would any other phenomenon. So, the first question becomes... **where did it come from?** Then, we run into a problem: **we weren't around to measure it**. We missed the boat by like... 14 billion years. *The Theory of Existence* proposes an origin, but it is a hypothesis grounded in mathematics and current knowledge. **It does not qualify as a theory because it has no empirical evidence...** that's just how it goes, folks. It is called **the alumogenesis hypothesis** (lumo-: 'light', genesis: 'creation,' a-: 'without a cause'). The Big Bang model begins $\sim 10^{-44}$ seconds after emergence, corresponding to **one Planck time (t_p)**. Physics says they can't "go back farther" because measurement breaks down, but it's really because the time from the "real start" to the Planck time is the whole emergence; **there was no previous step... it was the spark of existence**.

Just One Empty Space, then Light Followed Suit

Existence contains just two things: **1) stuff and 2) not-stuff**. "Stuff" is things like rocks, me, you, grapes, **my cat that wishes I would snuggle her**, and "not-stuff" is everything else, like the vacuum of empty space. **Everything is either stuff or not stuff**. It's easy to understand how "not-stuff" is the one thing, but how is all "stuff," all things one another? It turns out, **our hero Einstein** already told us. Einstein showed that $E = mc^2$, called the **mass-energy equivalence**. It is objectively true and demonstrates that **energy and mass are the same thing**. So, all the "stuff" in existence is a form of mass (matter) or energy. Yet, the deeper insight is that **energy preceded mass** because it requires more energy to form mass (the speed of light squared is huge). If energy turns into mass, what turned into energy? **We can trace it all back to... a single photon—the simplest phenomenon possible**. Anything less than a photon is empty space.

When we center light in his equation, we see the reason it is c^2 is because **mass-energy only emerges from the interactions among photons**. When we try to solve the equation using a single photon (1 Planck energy; no mass), **the equation is undefined** because **energy-mass does not come from a single photon**. However, at look

$$c^2 = \frac{E}{m} \rightarrow c^2 \neq \frac{1 E_p}{0 m_p} = \emptyset$$

$$c^2 = \frac{E}{m} \rightarrow c^2 = \frac{2 E_p}{?} \rightarrow \frac{2 E_p}{\sim 2.22 \times 10^{-17} kg} = \frac{2 E_p}{\sim 1 m_p}$$

what happens when we add another photon (2 Planck energies). We see that **as soon as two photons interact, mass-energy forms**, and we get the emergence of just over the Planck mass. Thus, all the “stuff” came from light, and it unfolded like this:

Photon → Energy (Photons) → Mass (Hydrogen & Helium) → Stars (Elements) → Planets → Life

This process is why I refer to **observable matter and energy as lumen** across *The Theory* canon. Therefore, **the universe is made up of empty space (not-stuff) and lumen (stuff)**. Now... let’s go all the way back to that Planck time of emergence to see what happened. Existence did not exist, which means **nothing existed to prevent** the spontaneous emergence of existence. **Causation is a property of existence**, so it cannot exist before existence, which means **existence cannot have a cause** (I know, I know... a very unsatisfying answer). Then, **it sparked** at t_p long and l_p^3 wide, just **one photon** and **one empty space** that existed only **because they were not the other**.

$$e^{\pi i} + 1 = 0 \rightarrow \zeta^{(\kappa)i} + \Omega = \Phi$$

A Spark of Existence, The First Thing in View

The math of the Big Bang has been

Recursion^(Propogation) Phase Shift + Stability = Defined Nothingness

hidden in plain sight in the most beautiful identity: **Euler’s Identity**. Each term is a first principle of existence. On the left, we have RPs where **e** is **recursive exponential growth**, **π** is the **propagation across space**, and **i** is the **phase shift between RPs**. We also observe that **stability is 1**, but why? At any RP_n , recursive propagations are complexity: $\zeta^{(\kappa)i} = e^{\pi i} = \Delta$. The **photon is complexity** and the **empty space is stability**. At RP_1 they canceled out to 0 because 1) **they co-define** only by not being the other and 2) **definedness did not exist** yet because it **requires the phase shift** from complexity to stability. Which means Euler’s Identity at RP_1 shows that:

$$\Delta + \Omega = \Phi \rightarrow -1 + 1 = 0 \rightarrow 1 \text{ Photon} + 1 \text{ Empty Space} = \text{Defined Nothingness}$$

Even though there is no existence at RP_1 , and the equation **shows definedness is at 0**. However, it is not undefinedness (\emptyset) because **undefinedness does not exist; it simply isn’t**. It is something called **defined nothingness**, which is a form of definedness where existence could be but isn’t: **0 ≠ Undefinedness but 0 = Defined Nothingness**, which is what is in black holes. Only after the phase shift at RP_2 do the **photon and empty space form a relationship**, instead of being defined by just not being the other. **RP₂ was the birth of The Equation**.

This co-definedness at RP_2 **determined the fate of existence**... just a moment in flight that ignited **relational reality**—an existence that emerges exclusively from relationships to other things (**Propagations; 3D Space**) and itself (**Recursions; Time**); revealed by the four 90° angles of a circle: **one for each dimension of 3D space (270°)**, and other **for a phase shift (i)** between recursive propagations (RPs; 3D Space + Time → 270° + 90° = 360°).

For existence to succeed, **the ratio between the photon and empty space had to be exactly the golden ratio**, otherwise: 1) too much empty space would prevent the complex-

$$\text{If Definedness} = \Phi \rightarrow \frac{\Omega}{\Delta} = \frac{\text{Empty Space}}{\text{Light}} = \frac{\text{Stability}}{\text{Complexity}}$$

If Definedness > Φ → Ω > Δ = Empty Space > Light → Stagnation

If Definedness < Φ → Ω < Δ = Empty Space < Light → Divergence

ity escalation to RP_2 , **stagnating existence** or 2) too much photon would overpower the empty space and prevent RP_2 from stabilizing, **diverging existence**. However, their relationship *did* form Φ, and existence flourished.

The numerical expression of existence is Φ^2 , and it first emerged when RP_1 phase shifted into RP_2 , **the -1 at Δ_{RP_1} phase shifted by +Φ², the emergence of existence, turning Ω_{RP_2} to Φ and Δ_{RP_2} phase shifted to 1**, giving us the exact numerical expression of existence: $\Delta + \Omega = \Phi \rightarrow 1 + \Phi = \Phi^2$. Even though RP_1 happened first, it was not existence yet; it was defined nothingness. **Only at RP_2 did the whole frame of existence set** and

definedness emerged across the RP_{2+} . From that moment 14 billion years ago, to the moment you read this sentence, **the only thing that has changed is the quantity of RPs, and arrangement of photons and empty**

$$\begin{aligned} [\Delta_{RP_1} + \Omega_{RP_1} = \Phi_{RP_1}] &= [-1 + 1 = 0] \\ [\Delta_{RP_1} \rightarrow \Omega_{RP_2}] &= [-1 \rightarrow (+\Phi^2) = \Phi] \ \& \ [\Delta_{RP_2} \rightarrow 1] \\ [\Delta_{RP_2} + \Omega_{RP_2} = \Phi_{RP_2}] &= [1 + \Phi = \Phi^2] \end{aligned}$$

space. Over time, empty space expanded and photons duplicated and interacted to form mass-energy, and the rest is **mostly the standard Big Bang model.**

Just a Moment in Flight

So... **why does existence persist?** What is *causing* the progression of existence? It is true that existence emerged because nothing prevented it, but **it also continues because nothing can prevent it because nothing else exists.** Existence emerged without a cause, then causation took over at RP_{2+} and **it is causation driving existence** since then, not a separate cause. Paper 12, showed that **the independence assumption is false**, which means that **everything must come directly from what preceded it.** When the photon and empty space co-defined, everything that follows is a direct descendant of RP_2 .

This causal chain from RP_2 to now applies to all existence, including stationary objects and empty space, as they too must progress through time, requiring constant emergence. It is why **everything is physically connected via *The Record*.** If something exists, including empty space, it is connected to everything else **through the shared medium of existing.** *The Record* started at RP_2 14 billion years ago and **recursively propagated stabilized complexity escalations** to this moment with me now. In this sense, you can see existence as **a spark that never stopped**, becoming the whole universe... and everything in it... **and that is existence as a phenomenon.**

The future is not defined because it does not yet exist, but nothing prevents it from eventually existing. **Without constraints, existence continues, and the future eventually emerges.** Therefore, existence will continue if it meets **the minimum requirement of co-definedness between at least two photons.** However, **it will not last forever** because infinity is impossible. The alumogenesis hypothesis suggests that **heat death will be the end of the universe**, where **all lumen break down into photons**, and those photons spread so far apart from the expanding universe that they can no longer co-define with others. Once this co-definedness breaks, existence loses its definedness and... **ceases to exist.**

$$RP_1: \Delta + \Omega = \Phi \rightarrow \text{Energy} + \text{Organic Materials} = 0 \text{ (No Life)}$$

It Sparked, and It Grew!

The alumogenesis hypothesis not only describes the origin of existence, **but also the fractal emergence mechanism of everything.** We simply replace the photon with

$$RP_2: \Phi = \frac{\Omega}{\Delta} \rightarrow \frac{\text{Organic Materials}}{\text{Energy}} = \text{Life} > 0$$

$$RP_3: \Phi = \frac{\Omega}{\Delta} \rightarrow \frac{\text{More Organic Materials}}{\text{More Energy}} = \text{Life Grew \& Evolved}$$

thermonuclear or electromagnetic energy and the empty space with organic materials to observe **life emerge through abiogenesis.** The energy from early-Earth environments allowed the complexity of these organic, nonliving molecules to stabilize into structures characteristic of life, such as bilipid layers. The organic materials aligned into **stable, life-supporting structures (Ω)** via the **energy source (Δ)** exactly like how **energy (Ω)** forms in empty space from the interaction between **two photons (Δ)**. Look at the math, **the spark that lit up the Big Bang is the same one that lit up life on Earth.** It's why the origin proposal of *The Theory of Existence* is the alumogenesis hypothesis... and its sister is the abiogenesis hypothesis... **the two sparks that never stopped.**

The Big Picture

The sparks that never stopped, huh? It never stopped at the spark of existence... it never stopped at the spark of life, and **it continues to exist because nothing can prevent it**, so **it just keeeeeeps oooooonn going.** It's so beautiful, right? It is one thing to understand the self-similar, fractal nature of the universe, but to recognize this **identical spark across the emergence of existence and the emergence of life...** it simply leaves you breathless. But... don't lose too much breath yet, dear reader. This one was just Leaflet 4. Now we gotta do Leaflets 5-9. If Leaflet 4 showed you what existence is as a phenomenon, these next ones show you all its mechanics.