

Die Idee der Füller und die Utopie

«The relationships between everything, both humanistic and scientifically things, are that we all exists here, in the universe.»

Abstract

In this paper, we'll be building a system which the goal is to unite General Relativity and Quantum Mechanics, to give a reasonable explanation why the world work as GR and QM predicted, and how is it possible to build a system that can describe both at same time. We'll be developing a coordinate system, a way for you to interpret the world. The paper is divided into three sections which will explain our hypothesis and then discuss how the hypothesis is use to explain quantum mechanics and classical physics.

Preface

Challenging your assumption. Einstein challenged about the existence of gravity, now it's our job to challenge the existence of space-time. Do space-time exists? Or is it just another illusion we puzzled out?

We are attempting to build a Theory of Everything, to find the relationships between everything. We believe that the relationships between everything, both humanistic and scientifically things, are that we all exists here, in the universe. If there's an underlying mechanics that guide the universe, we think you should be able to find that pattern everywhere, both in macroscopic world, microscopic world and in humanity.

Our goal of the Hypothesis

We've set our goal for the universe we've described through the hypothesis shall be:

- Based on fully continuous dynamic system
- Be fully deterministic (no random, but allow pseudo-random)
- Be able to find similarity through different things

Reason why we think the Hypothesis has the potential

Why we think this hypothesis has the potential to be used to build a Theory of Everything? Cause we believe that there's pattern about how the universe work, just like fractals, you should be able to find a pattern no matter in macroscopic or microscopic world. And if you think of the structure of Quantum Mechanics, it stated that a thing is just a probability wave, which will collapse when you observe it. But think of it, that means there's a pure random part, whose probability is based on a non-random function (wave function), and then that random part forms the not-so-random world we experienced. Doesn't it feel like that the pure random part just doesn't belongs there?

Another thing is the pattern, there are patterns everywhere. Like gravity and electromagnetic force is a group of pattern of force between objects (repulsion force of magnetic could treat as reversion of attractive force). But Quantum, as above stated, is the only part that doesn't belongs to the pattern groups. So we suggest perhaps Quantum Mechanics is just a short route to the prediction, but not the real route that nature if following.

Our Hypothesis

S-N-E-x system

S-N-E-x system, is the fundamental system that describes how the universe evolves over time¹. Basically it says that to describe a property (like heat, position, etc.) of an object in the universe requires 4 variables which always satisfy [Equation 1](#):

- S, is the value that we/human observes
- N and E represents the perspective of the particle relative to ours,
 - N is the position of origin
 - E is the position of point 1, hence E-N is the unit length
 - As all 4 variables are relative to us, our perspective is constant $N=0$, $E=1$ ². And if we're interacting to any particle, their perspective is forced to be same as us.
- x is the value that the particle itself observes, which always satisfy the following equation

$$\frac{S - N}{E - N} = x \quad (\text{Equation 1})$$

Suppose that existence (denoted as **B**) sustain a particle's existence, we could suggest that:

$$|E - N| \propto B, \text{ when excluding all other } \textit{Perspective Rules} \quad (\text{Equation 2})$$

And the minimum required **B** in order to prevent particles crashing into *Nullpunkt* is denoted as **B_m**.

Group of laws

By defining S-N-E-x system, we could now categorized physics laws into 3 categories:

- Normal Rules*, who governs the change of **x** over time, is rules that doesn't require change in perspective or frame of reference. Those laws might just simply have nothing to do with perspective (like Newtonian Physics), or a modified version with perspective parts stripped out.
- Perspective Rules*, is rules that govern the change of **N**, **E** over time, and also the rule that control whether a particle will crash into *Nullpunkt*. The [feeling of curved space-time](#) is created through these rules. Notice that *Perspective Rules* doesn't apply on humanity, as the system are all built relative to us.
- Nullpunkt Rules*, the rule that governs the decay/destruction of S-N-E-x system when it enters *Nullpunkt* and also the formation of new S-N-E-x system, is built upon a chaotic system which is response to the perspective inversion. Description of Quantum Field Theories' [creation/destruction of particles](#) and [Quantum Randomness](#) are base on these rules.

Der Nullpunkt: the pen that draws the universe³

Universe is a chunk of thing, which we call information for now, that's gather in the *Nullpunkt*.

¹ But notice the **time** we experienced is also described by S-N-E-x system, and the time that the S-N-E-x system is evolving along is often referred as **step**.

² More precisely $|E - N| = 1$

³ *Der Nullpunkt* is originally created to resolve the "division by 0" issue which we must encounter in [Equation 1](#), the full derivation is written at the Extras section, [The derivation of der Nullpunkt](#).

The *Nullpunkt* by definition, is a point that doesn't belong to any number system (like real number, complex number), nor does it have any unit. It's a point, where everything gets destroyed and only information is left.

To create a particle, you'll pull/spit a specific amount of information arranged in a specific alignment out from the *Nullpunkt* into our space. And any particle could crash back to *Nullpunkt* which will turn back into information and stored in *Nullpunkt* which we referred as [Destruction of particle](#).

In order for a particle to stay in the space, the particle itself has to constantly propose existence to itself (or the part inside the particle has to propose existence to others) to prevent them from crashing back into *Nullpunkt*. Much like you need recognition in your social, or protons require the quark inside it to constantly exchange gluons to keep the proton intact. When the existence proposed isn't enough to sustain one particle's existence, the particle will either break into parts and some parts fall back into *Nullpunkt*, or the whole particle will just fall into *Nullpunkt* and be wiped out from the space.

Quantum Mechanics and Quantum Field Theory

Particles' creation and destruction

Particles' creation and destruction are governed by Quantum Field Theories in Quantum Mechanics. Here, we're going to try to explain what those fields are.

Full-destruction

A Full-destruction of particle occurs when a particle not only loses the existence that keeps it in the space, its S-N-E system is also destroyed. In this destruction, *Nullpunkt* is like a black hole, that just sucks the particle in it and the particle is gone, no way for it to get out. But since the universe is just a chunk of information, when some information crashed into *Nullpunkt* it means the total amount of information in *Nullpunkt* increase. And all extra information that's stored in *Nullpunkt* might later be used to create particles randomly out in the space or be used to form virtual particles as Quantum Field Theory predicts.

Semi-destruction

Semi-destruction occurs when a particle crashes into *Nullpunkt* yet its S-N-E system isn't destroyed. Basically we mean a particle crashes into *Nullpunkt* when its $N=E$ which causes division by 0 in [Equation 1](#). And because it crashed into *Nullpunkt* only because its $N=E$, the S-N-E system can still evolve over time, and when N no longer equals E^4 , the particle will leave the *Nullpunkt*. Leaving *Nullpunkt* will have two possibilities, either it continues its path, or it went on a completely opposite path (also known as Perspective Reversion). More on [The origin of the quanta](#).

Creation of particle

We've talked about that the very first particles are just arbitrary choices. And here we're going to discuss how particles are created after those choice, either from what they called quantum field, or from the semi-destruction.

The Explanation of Quantum Randomness and the relationship between discrete state

Quantum Randomness and the idea of quanta, are two of the fundamentals of Quantum Mechanics, but what causes them to work like so?

The origin of the quanta

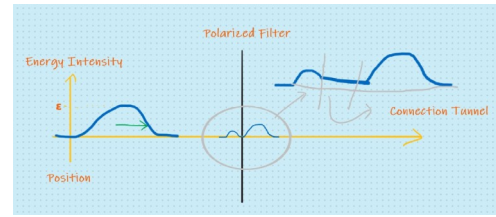
The existence of quanta is produced by the *Nullpunkt*, cause in order to cut an always continuous system into discrete, we are required to use *Nullpunkt* with the help of *Nullpunkt Rules*, by using the idea of connection through *Nullpunkt* will decay and at the end disappears.

In Quantum Mechanics, we got those discrete energy packet called quanta, or photon. We stated that they are indivisible, but why? We suggest that perhaps it isn't indivisible. You might be able to cut it in half, but just like slime, they'll just quickly re-join as your knife passes through. And

4 Technically, it's when $|E-N|$ is greater than a specific value, which can be calculated through B_m as [here](#) stated.

what's happening behind can be described using polarized filter.

1. Classically, polarized filter should block a certain percentage of light. So suppose a single photon is divisible, and it's passing through a polarized filter that blocks 30% of light.
2. As those two chunk of energy been split further and further, since we know those two chunk shall contain roughly 30% and 70% of the original energy, the tunnel between them will be thinner and thinner. And when it gets thin enough, just like when your wire gets thinner the electric current will get lower, the tunnel and those two chunks can't propose enough existence to sustain the tunnel's existence, so it disappears.
3. As the tunnel disappears, there is no more connection between two chunk. And if the photon's structure requires that 1 quanta of energy to sustain its existence, both chunk will crash back to *Nullpunkt*.
4. But since the destruction of the existence of the photon is only a semi-destruction, it's able to jump back to space, but not as two chunk, instead as one intact photon. And whether the photon jumps back to the left side of the polarized filter (which means it's blocked), or to the right side of the filter, is decided by a chaotic system which creates the pseudo-randomness we observed.



Quantum Randomness and the relationship to discrete state

If you try to formulate the quantum world with S-N-E-x system, it'll be obvious why quantum mechanics is so different from the rest of the physics. Quantum Mechanics uses the idea of quanta, or the fact that the world is discrete, yet S-N-E-x system is continuous. So in order to form a discrete system using continuous system, we'll have to take use of the *Nullpunkt*.

When a quantum object leaves human's observation, it leaves the system of human observer which leads it's **B** to decrease and the *Perspective Rules* kicks in. And because quantum superposition constantly using discrete states like spin up/down, photon passed/blocked, it makes completely sense why the randomness appears⁵. In [equation 1](#) we've written unit length= $E-N$ without the absolute operator, and reason behind is that unit length could be negative, which cause what we call [perspective inversion](#). Take the photon case above, the x (position photon itself measures) might just continue go straight, like nothing is blocking them. But after entering *Nullpunkt* if the perspective inversion happens, to us (**S**), it'll look like the photon is reflected by the polarized filter. Same rule applies to spin up/down, the spin we've measured might just because there's two possible unit length that satisfied $|E-N|=1$, which leads us to $S = x \times (E - N) = 1 \times (\pm 1) = \pm 1$.

And the randomness is created because *Nullpunkt Rules* is basically a chaotic system, so anything that have entered *Nullpunkt* will consists a pseudo-random behavior. And since quantum mechanics is base on discrete states superposition, which will constantly interact through *Nullpunkt*, makes it why Quantum Mechanics have the randomness that other part of physics doesn't.

⁵ We use binary state here because again S-N-E-x system is built for 1-Dimensional space, which can be used to formulate binary quantum state. Just as how Bloch sphere is used just to represent binary quantum system.

Classical Physics and the origin of the Universe

The Big Bang and The origin of physical constants

People often ask, where does constants like Planck's constant came from? We think that there isn't a reason, but not because it is what it is. We suggest that the origin of those constants came from the Big Bang, the Big Bang spits out the first few particles of our universe, from the *Nullpunkt*, without any reason. Since inside *Nullpunkt* there's no laws, the choice of what photon is, what Planck's constant is, are all just random. No reason behind it, but after the **very first few things** are created, things after that must follow the relationship built between those very first things. And that's the origin of all physics laws. The Big Bang creates *Everything* from the *Nullpunkt*.

The Inflation

Now where does the inflation come from? As we know that B is proportion to $|E-N|$. When the universe are at the very first stage where particles were just spitted out of the *Nullpunkt*, the connection between particles through *Nullpunkt* still exists, which results extremely large B , which means to our observation an extremely tiny universe. But as the connection through *Nullpunkt* quickly decay and vanish, the B drops exponentially and makes the unit length also drops exponentially, which results the universe to expand exponentially. And the stop of inflation, is because the decay of connection through *Nullpunkt*, just like radiation, will at the end slows down to a stage which we consider the connection through *Nullpunkt* doesn't exists anymore.

The General Theory of Relativity

General Relativity suggests that force of gravity is fake, instead the feel of gravity is caused by curved space-time. But what if the space-time is also fake? We suggest that the feeling of **space**, is also created by our brain, there's actually no space. Or more precisely, the space we feel isn't the space that the universe really lives on. We suggest that the curved space-time is actually caused by disoriented perspective.

In [equation 1](#) we've stated that the world we see, is actually a world that's been processed through perspective. So the curved space-time, or the feel of gravitational force, is actually just your unit length expanding. Basically curved space-time and expanded unit length are the same thing, they both say that earth which looks like orbiting the sun is actually walking in a straight line. The difference is only that because S-N-E-x system is built for only 1-Dimensional, so you'll have to deal with both changing unit length and changing angle of that 1-Dimensional line. Think of it, when you feel the gravity, you feel it because that you're getting closer toward the earth. But it might actually just be that your unit length is expanding, so it looks like you're getting closer to the earth. It might be a hard idea that your perspective is changing, cause to us 1cm is 1cm, no matter how fast I travel, the 1cm on the ruler I'm holding is 1cm to me. But you've accepted the fact the things might have different order through time to different observer, so why not try accepting this.

Extras

The derivation of *der Nullpunkt*

If you try to form a continuous S-N-E-x system, you'll find out that basically it's impossible to prevent division by 0, so instead we came up with the idea of *Nullpunkt*, which also brought us lots of feature that we later use to explain all sorts of thing from the Inflation and Quantum Mechanics. The derivation of the *Nullpunkt* stated as below:

Division by 0 is prevented in math because the following derivation:

Define a number c , so that $c \neq 1$

$$1 = \frac{0}{0} = \frac{c \times 0}{0} = c \times \frac{0}{0} = c \times 1 = c$$

Yet we've defined that c doesn't equal 1.

But since we must encounter division by 0, we've define $\frac{1}{0}$ as *der Nullpunkt* and gives it a property called un-calculable. Which basically mean you can't apply mathematical operations to $\frac{1}{0}$ or any number divided by 0. Because of the property, we could no longer say the equation above is correct, hence no contradiction. And other future that comes with the property are:

- Since we can't compare distance between different *Nullpunkt*, nor between any points on the number line and the *Nullpunkt* (through subtraction), we say that there's no space between different *Nullpunkt* (hence why it's called a point), and also no space between any points and the *Nullpunkt*.
- Since there's no space between any point and the *Nullpunkt*, you could enter *Nullpunkt* from any point immediately without violating Special Relativity (as Special Relativity only restricts the upper speed traveling through **space**). Also you could go to any point immediately from the *Nullpunkt*.
- Since *Nullpunkt* doesn't belongs to any number line (it's neither a real number nor a complex number), it doesn't have a unit.