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June 2026

# PROLOGUE

You are here on a version of the Introduction to the Quancha Theory that we have shortened so that it can be read completely in about twenty minutes while it takes about twice as much for the longer but much more complete version.

In these two versions we explain to you in a few words of common English some known facts of cosmology, classical physics, Einstein's relativity and quantum physics but without numbers or complex scientific reasoning. And we show that these real but difficult to understand facts could be explained simply by the Quancha theory.
And at the end of your reading you will be able to see and understand how this theory opens the door to the creation of motors that can move a vessel safely in space, faster than light.

If you have some time on your hands or you have distant or approximate knowledge of physics you should start directly with the long version because if you read the long version after the short version you will reread a few chapters almost unchanged twice, so go back to the home page and click:
Introduction to Quancha theory

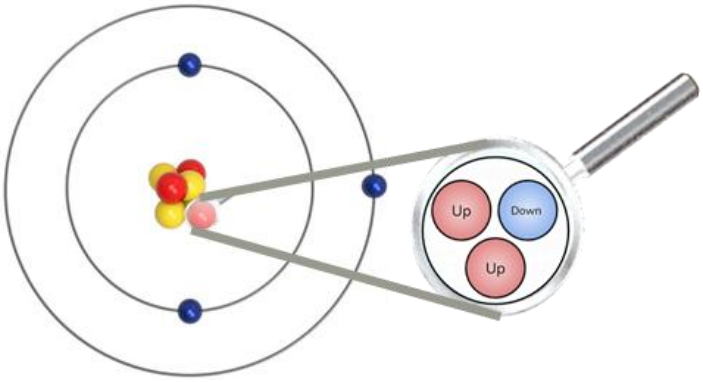
If the words "entropy", "contraction of space-time", "Planck time" and "quantum decoherence" are familiar to you, if you are not put off by a few equations and if you want to discover a new theory that could bring together quantum and relativistic physics without changing them, then welcome to the full version by going back to the home page and clicking: The Quancha Theory.

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# Introduction

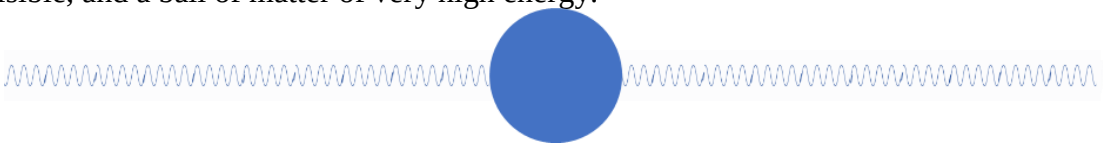
The classic view of the matter around us is that it is made up of atoms, each atom itself being made up of a nucleus around which electrons revolve. Nuclei are themselves made up of protons and neutrons and if we zoom in on a proton or a neutron we can see that they are made up of three quarks.




This model works almost perfectly, but current physics presents at least three major contradictions:

1. There are two theories that work perfectly but are incompatible: relativity, which describes the immense distances of the universe, and quantum physics, which describes tiny particles.
2. In cosmology, the matter we see is not enough to explain the functioning of our universe, we have to add energy and invisible matters that we call dark energy and dark matter.
3. A particle sometimes behaves like a point object and sometimes like a wave, this is called the “particle wave duality” but this name does not explain the phenomenon in any way.

To explain these three points, the simplest way would be to imagine that a particle permanently has both characteristics: an immense wave but of low local energy, therefore invisible, and a ball of matter of very high energy:

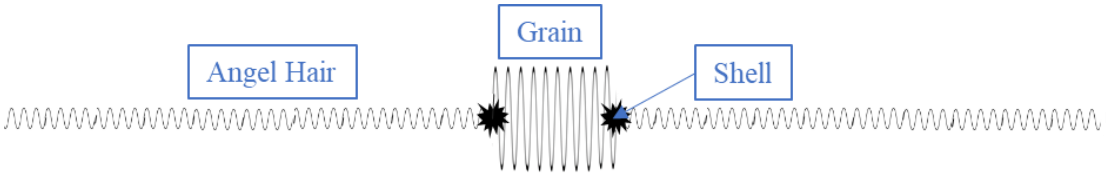


This particle, composed of a compact point material part and an immense wave part that is too weak to be visible, solves the three problems above, but how can we explain this wave coming out of a grain of matter?

If we replace the central ball of matter with a bowl containing energy in the form of a wave, and we assume that this bowl has a slight leak that lets out a tiny bit of its energy, then our model in a one-dimensional representation becomes perfectly understandable:



Let's simplify the diagram a little and give names to these three parts: the centre could be a Grain, the bowl that confines this energy would be a Shell and the wave that escapes would be an Angel Hair by analogy with the "angels' share" that a barrel of cognac or whisky loses.






**This Grain + Shell + Angel Hair model would explain the three main problems of current physics.**
**But for it to be acceptable, it must at least make it possible to find the known results of classical, relativistic and quantum physics.**

**Let's see together if this is indeed the case.**

# The Quancha theory and cosmology.

## A simple physical explanation for dark matter and dark energy.

If our universe were composed only of visible matter, it would not be expanding but contracting, and many of the values observed would not correspond to the calculations. To explain these differences, in 1933 a name was put to the unknown and this invisible matter was called dark matter. Then the energy of which we know nothing but whose effects we can see, we called it dark energy. And, since 1933, we continue to ignore everything about dark matter and dark energy.
In our model, the Grains and Shells have a very high energy density and make up the visible matter. Angel Hair, which has a very low energy density and is therefore almost invisible, constitutes a dark energy that explains dark matter. The numbers that you can find in the full version of the Quancha theory are totally compatible with this hypothesis.

**There is indeed a dark matter that has a dark energy but it is not mysterious: it is the Angel Hair and it is not black but invisible.**

## A simple physical explanation for the period of inflation in the universe.

To explain the remarkable homogeneity of our universe, it is assumed that just after the Big Bang the early universe expanded very rapidly for a very short period of time, and this very short period is called cosmic inflation.

In our model, Angel Hair began to grow at the birth of the universe, but at that time the entire universe could have been encased in a tennis ball. The enormous density and heat of that time kept Angel Hair concentrated around its Grain. As it grew, its expanding force exceeded the force that was compressing it, and it exploded the primordial universe. The numbers that you can find in the full version of the Quancha Theory are totally consistent with this hypothesis.

**Cosmic inflation is the short time that Angel Hair that was compressed suddenly unfurled.**



## The Quancha theory and the four fundamental forces of the universe.

Current physics is based on only four fundamental interactions acting at a distance between them through fields: Newtonian gravity which acts over very long distances, the Coulomb + Lorentz electromagnetic force which acts over a few meters, the strong nuclear force which acts at the scale of an atom and the weak nuclear force which acts at the scale of quarks.

### A simple physical explanation for Newton's force of gravity.

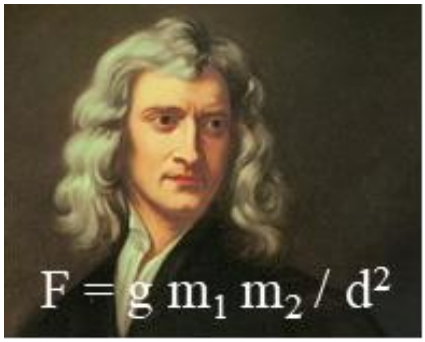
The gravitational force of attraction between two bodies, as calculated by Newton, is a force that is proportional to the masses present but whose value decreases rapidly, as a function of the square of the distance between the bodies.

But, if we observe and calculate gravity, we can't explain it. This is where our model can help: **with our particle model, Newtonian gravity is explained by the contact interaction between the Angel Hair and the Shells.**

As a first approximation, the attraction between two quarks comes from the contact between the Angel Hair of Grain 1 with the Shell of Grain 2, and vice versa. An Angel Hair that encounters a Shell is always locked by it and this locking force is proportional to the energy of the Angel Hair and the Shell and therefore to the energy of the Grains. Since Einstein we have known that energy and mass are equivalent: E=mc2. The force of attraction between two Grains therefore varies in proportion to their masses.



Geometrically, the surface area of the Angel Hair sphere increases as a function of the square of its distance from the Grain, and the energy density of the Angel Hair therefore decreases as a function of the square of its distance from the Grain.

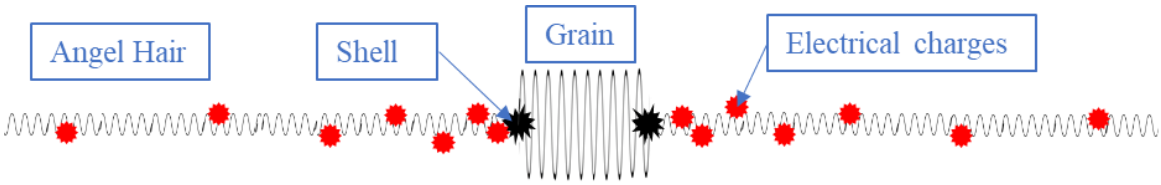



**The results of our particle model bring Newton-like results for gravity**.

## A simple physical explanation for electrostatic force.

The electrostatic force, also called the "Coulomb force", can be stated as follows: "The intensity of the electrostatic force between two electric charges is proportional to the product of the two charges and is inversely proportional to the square of the distance between the two charges. The force is carried by the line passing through the two charges." "

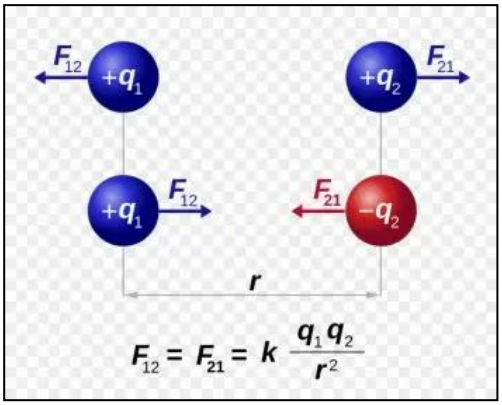
But, if we observe and calculate the electrostatic force, we cannot explain it. This is where our model can help: **the Angel Hair bears, stuck on it, point particles carrying electric charges whose energy is a function of the energy of the Grain**. **The electrostatic force is then due to the contact interaction between Angel Hairs.**




As with gravity, the density of particles and therefore of energy decreases as a function of the square of the distance from its grain, as in the Coulomb equation.

**Our particle model brings similar results to those of Coulomb for the electrostatic force.**





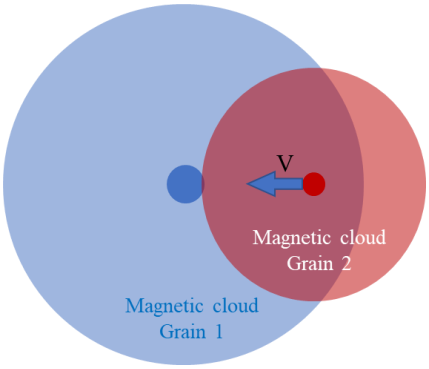

## A Simple Physical Explanation for the Electromagnetic Force

The electromagnetic force has two components: the electrostatic force we have just seen and the magnetic force, known as the Lorentz force, which acts only on charged particles in motion.

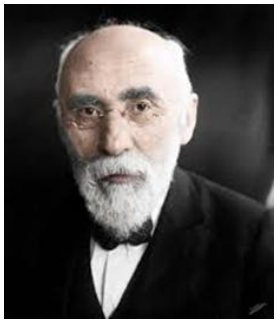
The classical calculation of this Lorentz force says that charged particle A creates a "force field" around it and that the displacement of charged particle B in this field generates a force whose value is similar to Coulomb's law but multiplied by the square of the velocity of B with respect to A. This is the "Lorentz force".

But, if we observe and calculate the electromagnetic force, we can't explain it. This is where our model can help: **the electromagnetic force is due to the contact interaction between Angel Hair.**

The Grains are surrounded by their Angel Hair which carries charged particles with them. These particles create a kind of cloud around each Grain. When two Grains move relative to each other, their magnetic clouds move with them and this creates an interaction comparable to friction between the two clouds.




In fluid mechanics, experiments show that the coefficient of friction between these two clouds is proportional to the square of their velocity. The magnetic force of attraction/repulsion between two Quancha particles is therefore equal to the Lorentz force.



**Our particle model brings results similar to those of Lorentz for the magnetic force**.

**Electrostatic force + magnetic force, in total the results of our particle model bring results similar to the formulas of the electromagnetic force.**

## A simple physical explanation for the strong nuclear interaction.

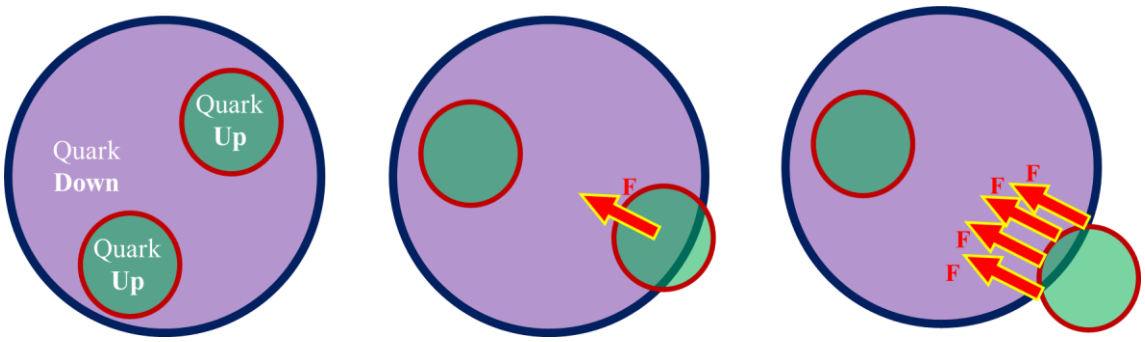
The strong nuclear interaction is the fundamental force that holds quarks together and holds atomic nuclei together. The strong force is characterized by an extremely short range, about the size of an atomic nucleus, and decreases rapidly with distance, making it almost undetectable outside the nucleus. Unlike all other forces of nature, its intensity increases as the distance between quarks increases!

But, if we observe and calculate the electrostatic force, we cannot explain it. This is where our model can help: **the strong nuclear interaction is due to the contact interaction between the Shell and the Grains.**

The usual matter around us is composed of protons and neutrons, which are themselves composed of quarks of two kinds: Down quarks and Up quarks. A Down quark is much larger than an Up quark. Given the difference in size, two Up Quark Grains can take place in the Shell of a Down Quark Grain.

When a Grain Up is inside a Shell Down, it can move almost freely, but if a tenth of an Up comes out of the Shell Down, then a force F calls Up back to the inside of Down.

If two-tenths of Up comes out of the Shell of Down, then two forces F recall Up inside Down, etc. If 8 tenths of Up are exited Down, then 8 forces F call Up back to the inside of Down: the greater the distance between the centres of the Grains, the greater the restoring force.




**Our particle model brings results similar to those of the formulas of the strong nuclear interaction.**

## A simple physical explanation for the weak nuclear interaction.

The weak interaction force acts over a very small distance, ten billionths of a billionth of a metre. It is responsible for radioactivity and fusion in the cores of stars.

But, if we observe and calculate the electrostatic force, we do not explain it. This is where our model can help: **the weak nuclear interaction is due to the contact interaction between Shells.**

In our ordinary experiment, if we approach two points of glue or weld that are not dry, they interact to form one. When they touch each other, they stick very strongly together, and it then becomes exceedingly difficult to separate them, but if they are far apart, even by a very small distance, they do not interact with each other at all. It is this same phenomenon that glues two Shells together.
The thickness of the Shells is equal to the interaction distance of the weak nuclear force.
When two quarks are close enough, their Shells touch and behave like two spots of glue or weld in the macroscopic world.

**Our particle model brings results similar to those of the formulas of the weak nuclear interaction.**

## Our particle model brings results similar to those of the four fundamental forces of the universe.

## But without mysterious actions at a distance, so it's easier to imagine.

## The Quancha theory and special and general relativity.

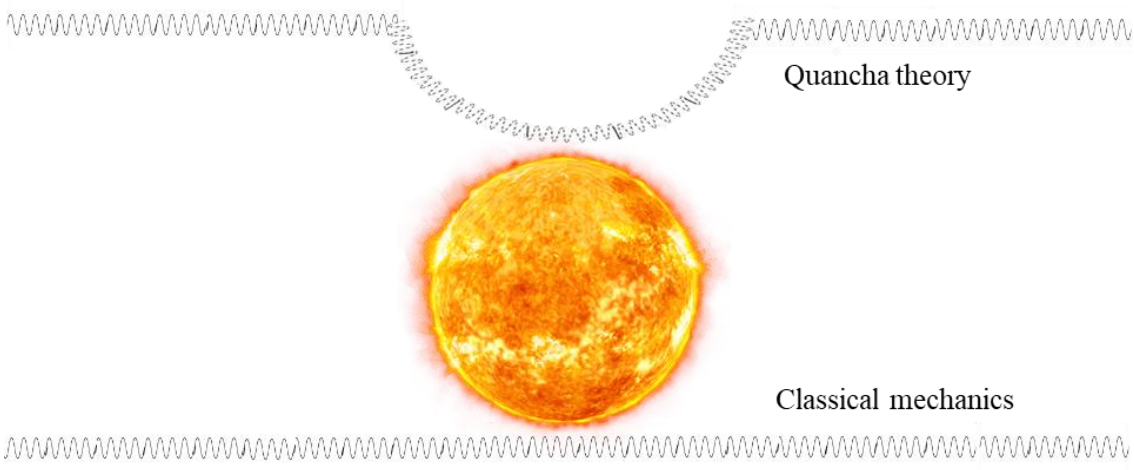
Classical physics is sufficient to allow us to go to the Moon. But, as soon as extreme precision is needed, then relativity becomes an indispensable calculation tool whose exact results are counterintuitive: time and space can contract or deform!

The contraction of time in the vicinity of a mass such as the Earth, for example, is essential to take into account for the operation of GPS. But, if we observe and calculate these distortions of space and time, we cannot explain it. This is where our model can help:

### A simple physical explanation for the curvature of light around a large mass.

If an isolated Angel Hair comes into contact with another isolated Angel Hair, the energies involved are so low that nothing noticeable will happen. But this is no longer the case if an isolated Angel Hair comes into contact with a considerable number of Angel Hairs from the same place, for example if it passes close to our Sun.

Angel Hair is incompressible but it is deformable perpendicular to its direction of progression. An Angel Hair passing close to the Sun will be "pulled" towards the Sun by contact with all the Angel Hairs that comes from it. This force of attraction is perpendicular to its direction of propagation which will no longer be rectilinear but curved towards the Sun.

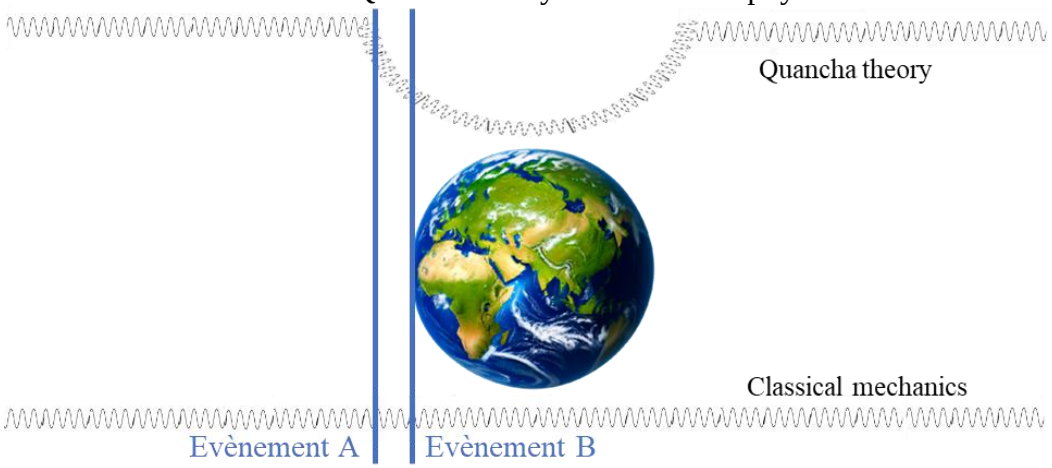



Light and gravity will therefore bend around the large clusters of Angel Hairs. If there are many Angel Hairs, there are also many Grains and, if we come back to the mass of these Grains, the higher the mass of the attractor, the more the electromagnetic waves bend towards it:

**With our particle model light and gravity, space itself curves around a large mass and the greater the mass, the more space curves. What about time?**

The value of the time elapsed between two events is measured by counting the number of beats of an Angel Hair that take place between these two events. In classical mechanics, a wave goes in a straight line, but we have seen that, near a large mass, the Angel Hair does not go in a straight line but describes a curve. Since the curve has more complete sinusoids than

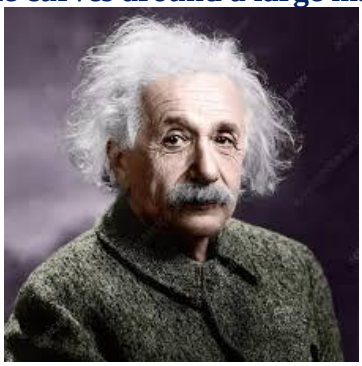
the straight line, the same number of sinusoids and therefore the same time around a large mass will not be measured in Quancha theory as in classical physics.




Where a typical observer measures one meter of straight Angel Hair that passed between the two events A and B, a Quancha observer on a curved Angel Hair will measure more than one meter of Angel Hair.

For the Quancha observer, there will be more beats and therefore more time than for the classical observer between the same two events: time will pass more slowly for the Quancha observer and for the GPS satellite in orbit around the Earth than for the conventional observer.

**Time curves around a large mass.**



**Light, gravity, and time bend around a large mass.**

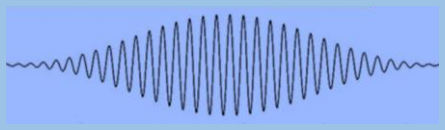
**Our particle model brings results similar to those of Einstein's relativity.**

**But easier to visualize.**

## Quancha theory and quantum physics.

Relativity applies only to large distances and large masses.
On the other hand, quantum physics only applies to the world of particles.

To perform a calculation in quantum physics, we start by replacing the objects of matter with a "wave function" of this form:



Then we do the calculations on the wave functions and at the end of the calculation we give the result a meaning in terms of matter.
In Quancha theory the Grain is already a wave, so we do the same calculations: we just have to remove the two initial and final translations in terms of matter.

Below we will see some exact but surprising results from quantum physics and how our particle model helps explain them simply.

### Schrödinger's cat.

Erwin Schrödinger imagined a thought experiment in which a cat is locked in a box with radioactive uranium and a Geiger counter. If the counter detects a radioactive particle, it will activate a device that will break a vial of poison, which will kill the cat.

Quantum mechanics indicates that, as long as nobody observes the inside of the box, the atom is in a superposition of two states at the same time: intact and disintegrated. So, like the atom, the cat would be both **alive and dead at the same time**, until the opening of the box by an observer which will triggers the choice between the two states. This is incomprehensible for a cat but perfectly accurate and calculable for a particle: it is this principle of superposition that ensures the operation of quantum computers on which all the security of our communications will depend in a few years.

In Quancha theory the change in state of the radioactive particle induces a change in its Angel Hair. With its very high frequency and very low energy, the Angel Hair interacts very little with the matter of the cat's box and therefore passes through it without interaction. The cat is either alive or dead, but not in both states simultaneously because, despite the fact that the box is closed, the state of the radioactive particle is known instantly and permanently by outside observers.



## A simple physical explanation for the tunnelling effect of a particle

To explain this, let's take objects from our daily experience: a bowl and a marble. If you put the marble a little below the rim of the bowl and let it go, it will go down to the bottom of the bowl, go up the other side, go down to the bottom, go up on your side, and so on. It will eventually stop at the bottom of the bowl because it loses energy with the friction.

If we do the same experiment with a particle, we will generally obtain the same result: the particle will go down to the bottom of the bowl of energy, rise to the other side, etc. And, as it loses energy by radiation, it will end up stopping at the bottom of the bowl, at the minimum energy level.
But sometimes we will find it outside the bowl ! It has passed through the wall of the bowl. This is the tunnelling effect, the particle has dug a tunnel in the wall and has come out of the bowl.

This tunnelling effect seems impossible to us, but it is perfectly documented and calculable: it makes all our current electronic products, phones, computers, etc. work.



Maybe you've seen a video of a bridge twisting in all directions under the effect of a troop marching in step or under the effect of the wind? This is called the phenomenon of resonance. This phenomenon also exists for a particle Shell. As long as the particle is at a temperature above absolute zero, the Shell is constantly subjected to vibrations. In some cases, this frequency of vibration will be equal to the resonant frequency of the Shell.
Then the Shell will start to increase the amplitude of its vibrations and increase its energy level enormously. If this particle is enclosed in an energy cage, it will briefly acquire more energy than the cage and come out of it from the top.

This tunnelling effect is what I originally called a "slight leak in the Shell". It applied only to the Grain inside the Shell and is now applied to the Shell itself and therefore to all the particles attached to it.







## A simple physical explanation for quantum decoherence.

When you throw a ball, you always know where it is and how fast it goes.
When we launch a quantum particle, it is everywhere at the same time between its starting point and its end point. This does not mean that we do not know where it is, it is really everywhere at the same time and, even if it comes out of this state and we see it, we cannot know precisely both its speed and its position.

These phenomena are described and explained in the full version of The Quancha Theory, but in this summary we have just seen two phenomena that are already very surprising: Schrödinger's Cat and the tunnelling effect. In the unshortened version of the Introduction to the Quancha Theory, other examples are shown and explained in the same way as here.

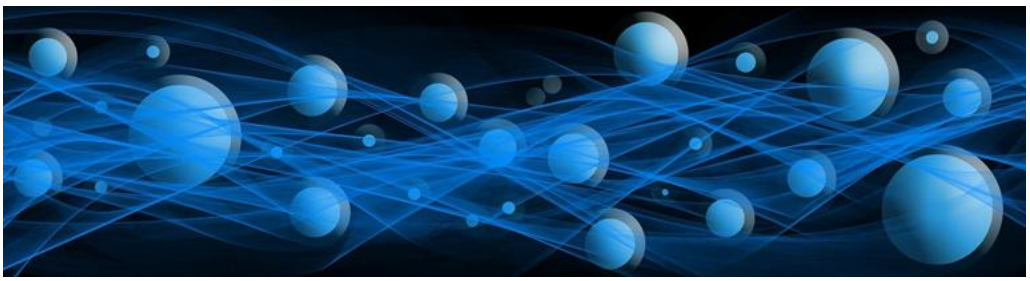
In our daily lives, we never see our objects behave in the incredible way that quantum particles have. Why? Because in our environment, particles are never isolated: there are 60 million billion iron atoms on a pin tip. And this proximity forces the particles to remain in their steady states. This is called "quantum decoherence".

But, if we observe and calculate quantum decoherence, we do not explain it. This is where our model can help: **the decoherence is due to the contact between a mass of Angel Hair and an insulated Shell.**

As soon as there is physical contact between an isolated particle and an Angel Hair, this Angel Hair will absorb some energy from the affected particle. If this number of interactions is large enough, these Angel Hairs will play the same role as a shock absorber and the Shell of the isolated particle will no longer be able to vibrate freely.

The Shell of a particle subjected to a large number of interactions with a cluster of stable particles can no longer vibrate anarchically, but only in the same way as other particles. The close presence of many particles therefore forces an isolated particle to remain in a stable state, which consumes little energy. This is decoherence.

**Quantum decoherence of a particle occurs when it comes into contact with a cluster of stable particles whose Angel Hair dampens the vibrations of its Shell.**



**Our particle model brings results similar to those of quantum physics.**

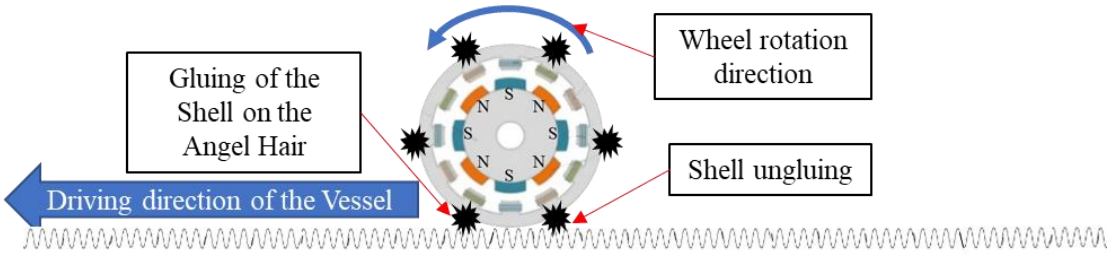
**But easier to visualize.**

## Two practical applications of the Quancha theory: the space engine and the warp engine.

The "void" between the stars is filled only with Angel Hair.
When we will have learned how to easily glue and take off the Shell of an Angel Hair, we will be able to make engines to propel vessels into the void.

### The space engine:

We could make a space engine on the principle of the snow tire, with the Shells acting as studs and the Angel Hair acting as a road. This wheel would be driven by a synchronous motor with permanent magnets.




If the wheel rotates in a vacuum and is mounted on a magnetic bearing without friction, the theoretical speed limit is only related to relativity: the edge of the wheel becomes infinitely heavy as it approaches the speed of light.

This motor therefore allows you to propel yourself into the void while remaining below the speed of light.

### The warp engine:

No part of the wheel can go faster than the speed of light, but if you can create a local distortion on the Angel Hair just upstream of the gluing, there will be a very long length of Angel Hair between each Shell of the wheel. The wheel rotates at a speed below the speed of light, but the length of Angel Hair between the two propulsion studs is much greater than the distance between these studs.

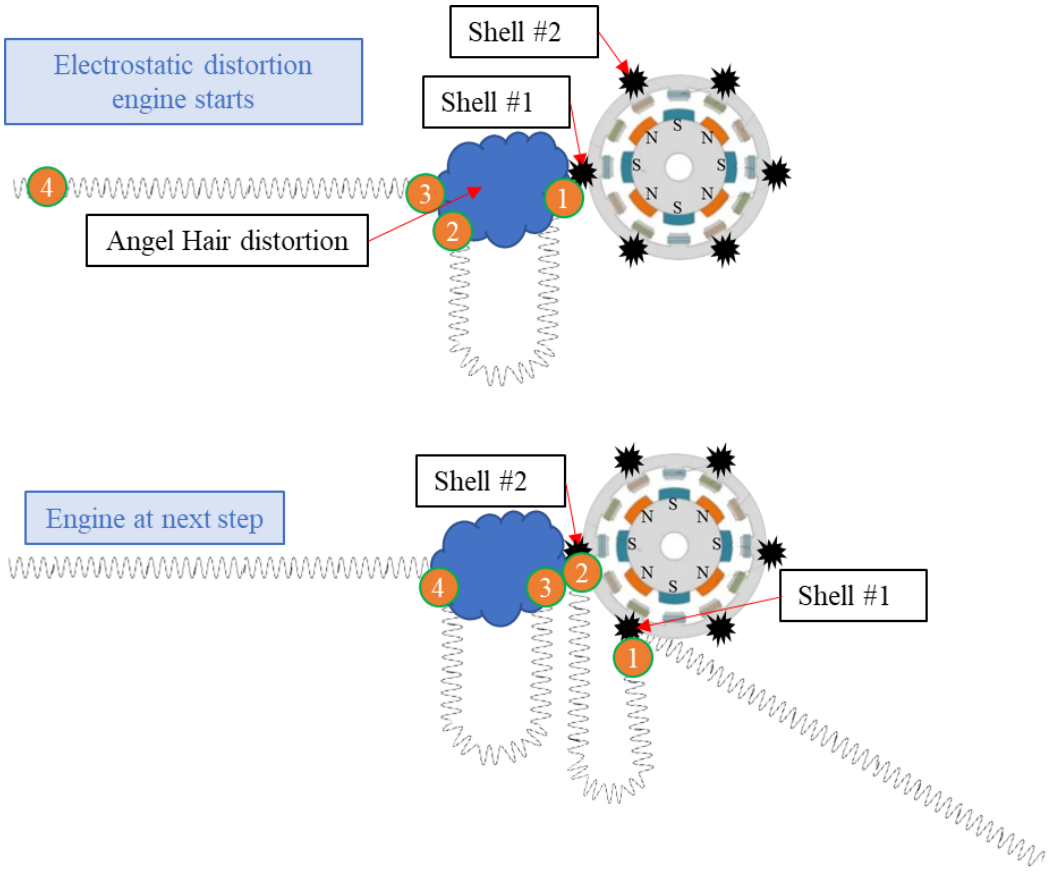
We have seen that Angel Hair bends under the force of gravity but also under the electrostatic force. Gravity is difficult to reproduce but not the electrostatic force.
It would therefore be necessary to create the distortion by using the electrostatic properties of Angel Hair.

If you put enough wheels wide enough at the front of the vessel, all the Angel Hairs that were in front of the vessel will move to the sides, which creates a bubble around the vessel.

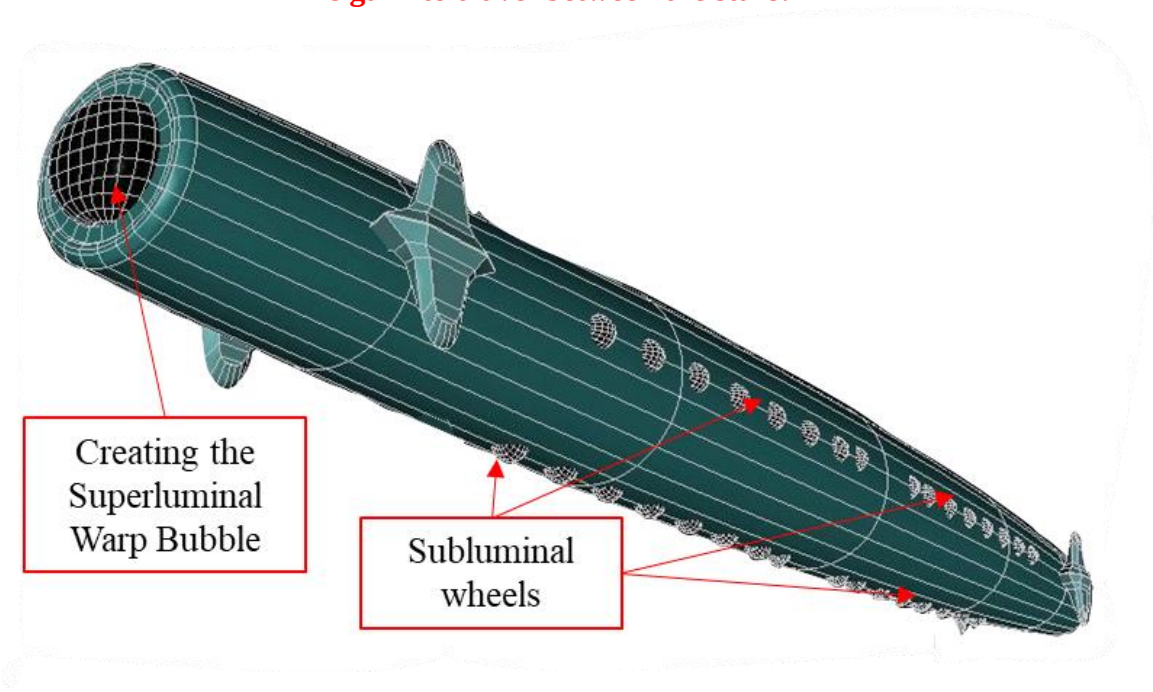
Inside the bubble, the vessel remains stationary in relation to its local space. The passengers do not feel any acceleration or sensation of speed. In this configuration the vessel does not really moves, it takes space in front of it and sends it behind it.

The amount of space sent behind the vessel depends on the warp factor, but there is nothing to prevent this value from being large enough for the space around the vessel to move faster than light.

Here is an electrostatic warp engine at the time of its start-up:




**Here's how you could install these wheeled and electrostatic distortion engines on a "cigar" to travel between the stars:**



## Conclusion

The Quancha theory shows that with a very brief hypothesis that is easy to represent in four dimensions, we can give a simple physical explanation to many phenomena of quantum physics, relativity or cosmology that we know to be exact and that we know perfectly well but that we do not know how to describe or at least not to describe well.

The Quancha theory has not been confronted with the reality of experimentation. In this incomplete state, the Quancha theory leaves questions unaddressed, in particular on waves whose interaction properties and certain characteristics need to be replaced or completed.

The purpose of this Quancha hypothesis is only to provide a simple visual representation of known phenomena in quantum or relativistic physics in the hope that this simple representation can inspire future theoretical and experimental developments.

FECI QUOD POTUI, FECIANT MELIORE POTENTES.

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Initial idea written in Salvador De Bahia in October 2004
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