

# The Quantum Cosmology Inverse Theory

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## Abstract

This theory postulates an inverse way to look at what is large and what is small. When we talk about quantum mechanics we automatically presume that things are smaller at this level. What this theory proposes is that as we drill down into the quantum level we are actually moving towards the infinitely large. As we get down to the atomic and sub-atomic levels things begin to get very strange. Particles pop in and out of existence. They seem to be in more than one place at the same time. They seem to interact by means of entanglement, more famously known as “spooky interaction at a distance”, so named by Albert Einstein. My theory explains why things are so strange “down there”. As we zoom into the sub-atomic levels and beyond we begin to approach the Inverse, a realm where space and time does not exist, and more importantly where the laws of nature or physics do not apply. This Inverse connects everything as we know it; atoms, molecules, matter, stars, galaxies, etc. The Inverse has no physical properties, no energy, nothing we can measure. It is however the originating point of all Universes. It has no beginning or end. It has always been and always will be. Time is of no consequence.

## I. Introduction

The Big Bang Theory is widely accepted today by most scientists and scholars as the start of our Universe approximately 13.8 billion years ago. It is also widely accepted that the Big Bang originated from a Singularity or singular point in space, which is a difficult concept to grasp. We now also know that the Universe is expanding at an accelerated rate, attributed to the forces of Dark Energy driving the Universe apart. Not long ago it was thought that the expansion of the Universe was slowing down and due to gravitational forces would eventually collapse into itself, once again becoming a Singularity. There is also a lot of talk and speculation in modern times regarding the existence of multiple Universes, also known as the Multiverse. Another very interesting and mysterious phenomenon in our Universe is the existence of Black Holes. Much speculation and many theories have been put forward regarding Black Holes and what lies beyond them. My Quantum Cosmology Inverse Theory attempts to provide a plausible explanation of how our Universe was formed, why there may be other Universes, where all these Universes originate from, and what lies on the other side of Black Holes. It also addresses the possibility of other realms beyond the physical and the existence of an all-encompassing intelligence and/or information store. Due to the far-reaching speculations of this theory it can also be called the elusive “Theory of Everything”.

## II. Think Different

Ironically, one of the biggest challenges scientists face is everything they have learned thus far. Knowledge is power, but can also act as an impediment if used to try and explain that which has not yet been discovered. Math and mathematical equations are powerful tools when trying to make sense of the Universe as we know it. The problem is that these concepts do not seem to hold true as we approach the quantum level.

Mathematical logic starts falling apart. There is a reason for this. A distinct separation exists between the physical Universe as we know it and the infinite timeless Inverse. The Inverse is not around everything. It is “inside” everything. Thus the name Inverse, and not Outverse or Outerverse. Giving such a seemingly bizarre concept a name is purely for reference purposes. How do you even begin to describe or name something that cannot be seen, touched, felt or measured? To us it may seem as nothingness, but it is everything. Many scientists theorize that the Universe was created from nothing, or perhaps a small “ripple” in the fabric of space, or some refer to membranes.

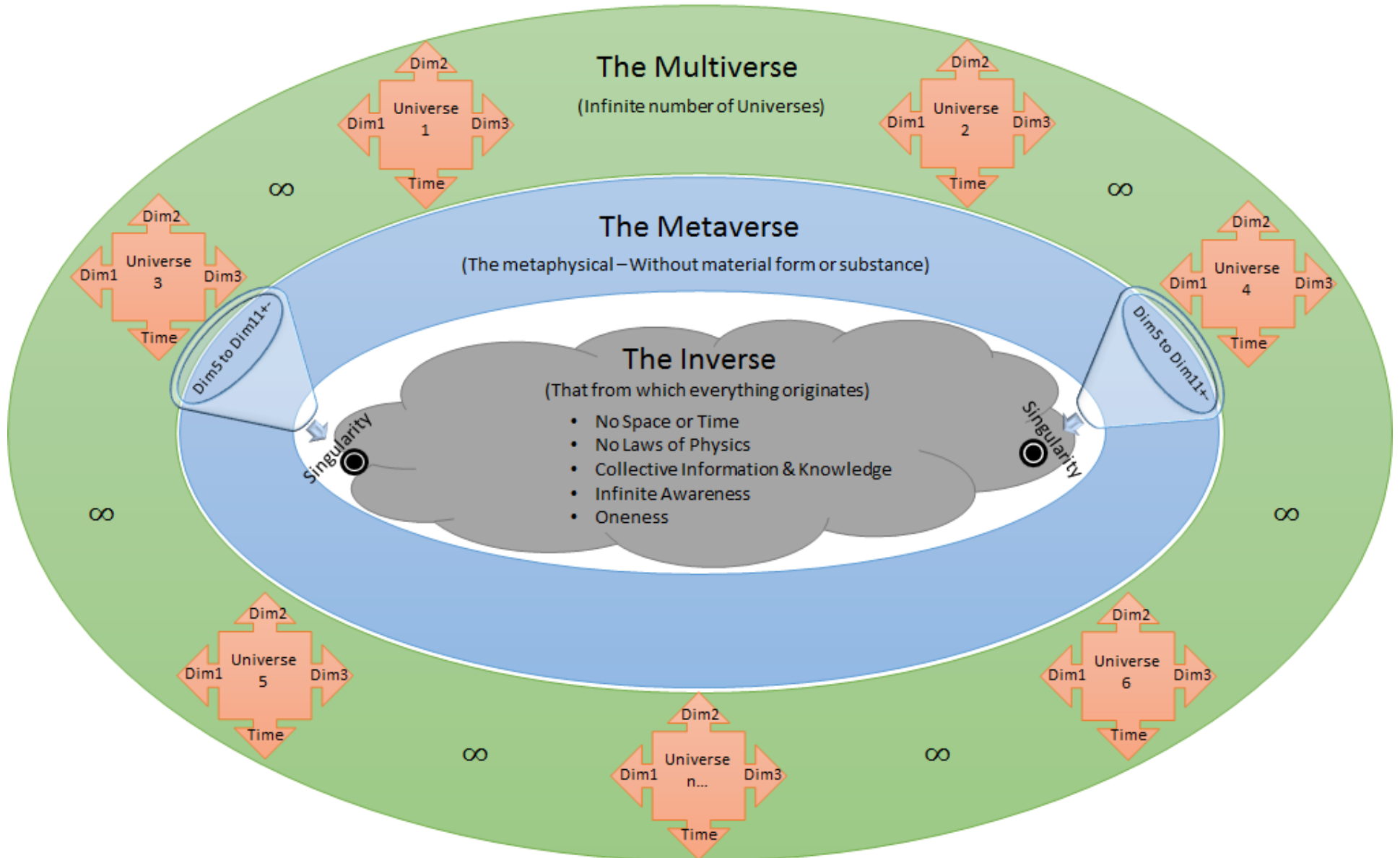
We are so used to looking at things in an orderly and logical way. If there are multiple Universes and these Universes stem from the Inverse then surely these would “surround” the Inverse. Furthermore, if they are not scattered around the Inverse then surely they have to be inside the Inverse. This is where one has to think different. The Inverse is everywhere, and yet for us living in this Universe it must seem to be somewhere else. Something can only be somewhere when it has a reference point. However, you cannot point to the Inverse. It is everywhere in all Universes, or to be more precise, connected to everything in all Universes. Just for argument’s sake, let’s say you could “travel” to the Inverse you would be able to pop out anywhere in this or another Universe at any given point in time. This would make time travel possible, and also make possible traveling billions of light years in an instant.

## III. Diagram

A popular saying is that “A picture paints a thousand words”. The diagram below is an attempt to schematically present the Inverse referred to in this paper. In the diagram it is drawn in the middle, surrounded by two other layers, the Metaverse and the Multiverse. Collectively these three “layers” make up the Omniverse, which can also be referred to as Everything.

Using names to describe these concepts are extremely difficult, as is trying to represent them in a diagram. From the diagram it may seem as though they are clearly marked by borders, and that there are three “layers”. Unfortunately it is impossible to “draw” concepts that are outside the scope of our 3-dimensional Universe. The schematic is purely an attempt to try and visually represent these concepts. It is important to note that these three “layers” are really entangled or intermingled. There are no clear-cut boundary conditions through which one can “step” to exit one layer and enter another layer. When studying the diagram please keep these limitations in mind.

# The Omniverse (Everything)



## **IV. Black Holes**

The idea of a Black Hole was first discussed by John Michell as early as 1783 in a letter he wrote to Henry Cavendish of the Royal Society. In 1796 Pierre-Simon Laplace promoted the same idea, which he called “dark stars”. The first use of the term "Black Hole" was by journalist Ann Ewing in her article "'Black Holes' in Space", dated 18 January 1964. John Wheeler used the term "Black Hole" at a lecture in 1967, leading some to credit him with coining the phrase. After Wheeler's use of the term, it was quickly adopted in general use. There are many theories about exactly what Black Holes are. Two terms that are synonymous with the modern understanding of Black Holes are the Event Horizon and the Singularity. The Event Horizon is a boundary in spacetime through which matter and light can only pass towards the mass of the black hole. Nothing, not even light, can escape from inside the Event Horizon. In the next section I will discuss the most mysterious concept that is at the heart of understanding the cross-over from our, or any other Universe, into the Inverse.

## **V. The Singularity**

How is it possible for the entire Universe to collapse into one single point, called the Singularity? It must be one of the most difficult concepts to grasp. Also how could the entire Universe have come into existence from a Singularity? This brings me to the one explanation that will make this concept understandable. Once you understand the Inverse it all starts to make sense. The Singularity is the cross-over point between our, and other, physical Universes into the Inverse. On the other side of the Singularity is the infinite Inverse. Refer to the diagram above to try and visualize the cross-over into the Inverse. Again, please bear in mind that it is not as clear-cut as it is represented in the diagram. There is a slow transition towards the Inverse. As you approach the Inverse the laws of physics start breaking down. Things start getting “strange” down there, or out there, or in there. It is hard to describe the “there”, because at that point it is not a place in the true sense of the word. It is a transition layer, for the lack of a better word, where the strangest concept to understand comes into play. There really is no single Singularity, but an infinite number of Singularities. Despite this sounding like an oxymoron, it only seems by visual observation that all the light and matter are sucked into *the* Singularity. In fact, each particle and wave collapses inwards into itself, until it enters the Inverse, at which point it is no longer part of spacetime as we know it. At this point it is one with the Inverse. Thus, what we perceive as the Singularity is not that at all. It is an optical illusion, again for the lack of a better term.

## **VI. The Big Bang Theory**

Popular belief today is that our Universe came into existence approximately 13.8 billion years ago from a singular point (Singularity) and expanded rapidly at an unimaginable rate, far greater than the speed of light. Because of this seemingly big explosion scientists refer to it as the Big Bang.

I propose that the Universe did come into existence almost instantly by originating from an almost infinite number of singular points. The matter that came into existence in that short period of time makes up all the matter that exists in our Universe today. In the beginning this matter, or rather quantum particles, were in disarray and disorganized, resembling a soup of sub-atomic particles and energy. Tremendous forces were at work during the birth of our Universe, including Gravity and Dark Energy. Gravity, or more specifically the Strong Force, was responsible for sub-atomic particles like quarks, leptons, neutrinos, bosons, perhaps gravitons, and many others that are discovered each year, to “clump” together to form atoms (electrons, protons and neutrons) and light particles called photons. Some sub-atomic particles may have formed Dark Matter, which we think exists, but have no proof of yet. Dark Energy became the force that caused the continuous expansion of our Universe. It was there at the very beginning, and to this day is driving the Universe apart. The reason the expansion is accelerating is because the gravitational pull of celestial bodies are getting weaker as they move further and further apart. Because there is a lot more Dark Energy in the Universe than gravitational forces it stands to reason that the expansion will continue to accelerate.

The Universe did not spring forth from a single point in space, but rather from an astronomical number of single points in a vast area or region of spacetime. However large this region was, it was still a measurable area that instantly started expanding from the very second the Universe was born. From our vantage point today, and from what we can observe 13.8 billion years later, it seems that it all started from one single point, where I propose that it really started from one spherical region in space from an almost infinite number of points. How big that initial area was is open for speculation. Suffice to say that it was large enough to contain or fit all the matter, energy and light that exists in our Universe today, and that existed at the very beginning of our Universe’s time. It stands to reason that the Universe must have been extremely dense at the very beginning, with very little or no unoccupied space at that time.

An interesting idea to entertain is that Dark Energy and Dark Matter may be “seeping” in from the Inverse as our Universe is expanding, to fill in the gaps so to speak. We know that there is really no such thing as “empty” space. Every inch of our Universe is occupied by “something”. What that something is, is a mystery. Perhaps it is Dark Matter, or Dark Energy, or something that remains undiscovered. Whatever it is, it is highly likely that these particles, matter or energy originate from the Inverse.

## **VII. Multiple Universes**

There has been much speculation about the existence of multiple Universes, or at least one other parallel Universe that co-exists with our Universe. A popular theory is that these Universes all occupy the same space and that they are separated by a “membrane”. The belief that these alternate Universes do exist is not as far-fetched as it may seem. The Quantum Cosmology Inverse Theory strongly suggests that not only are other Universes possible, but that these alternate Universes are infinite in number. As to the nature of

each Universe, this is an open unanswered question that is open to speculation. This is where one's imagination can truly be stretched to its limits. These Universes may all obey the same laws of nature and physics, or they may all be entirely different, or they may share some of the laws with slight deviations. It may be nature's way of testing different scenarios or permutations to learn from them and to then create new "improved" Universes from the lessons learnt. There may be Universes that are so odd that we can't even imagine how different or "weird" they are. As to whether there are copies or duplicates of each one of us in other Universes can also only be speculated about. Perhaps the existence of other versions of ourselves might help explain why we experience déjà vu. Perhaps when we dream we temporarily cross over to other Universes to see through the eyes of our other selves, despite the fact that some dreams are very odd or strange. But remember that other Universes may be very odd or strange, which would explain such dreams.

Each Universe is a spacetime manifestation that originates from the Inverse. What causes a Universe to manifest is a mystery. There may be many reasons and explanations. Perhaps it is a ripple, glitch, spike or a mere accident. But then again, it could be a carefully orchestrated event by the collective knowledge or intelligence of the Inverse. All we know for sure is that for whatever reason at the very least our Universe came into existence at some point in time, approximately 13.8 billion years ago.

### **VIII. The Metaverse**

Metaphysical means without material form or substance. In the context of this paper Metaverse represents the mysterious possible "place" or "state" where the soul exists while not in a physical body. It is a highly speculative subject and religious in its very nature. It is not the goal of this paper to discuss religion and whether the soul, ghosts, angels, purgatory, heaven or hell exists. For the sake of allowing for such a possibility it is necessary to at least address this issue. Let's for argument's sake postulate that such a "place" or "state" exists, and then try to fit it into the model of the Omniverse. On the diagram above it represents a "layer" between the Inverse and the Multiverse. It may seem as though it separates these two concepts, but it is neither here nor there. To draw the Metaverse is impossible. It does not have a shape or borders. The Metaverse in the diagram is an abstract representation. The concept of time may very well not apply to the Metaverse. Dimensions as we know them might also not apply here. Because of the aforementioned two attributes the Metaverse seems to have a lot more in common with the Inverse than the Multiverse. One can then argue that perhaps it is part of the Inverse.

### **IX. Quantum Mechanics**

The key to understanding the Quantum Cosmology Inverse Theory is to delve into the strange world of Quantum Mechanics. This is arguably the most complex and controversial theory ever developed by scientists. To this day there are many interpretations and disagreements regarding this subject matter, such as the quantum field

theory, string theory, speculative quantum gravity theory, and many others. The purpose of this paper is not to try and determine which one of the many quantum theories has the most merit, but rather to point out the strange behavior of atomic and sub-atomic particles at the quantum level. Scientists generally agree that things do not seem to make sense down there. Experiments have shown that until a measurement is made, many particles can act as though they are in more than one place at once. You can never be certain of both the location and the speed of a particle at the same time. Schrodinger's cat is a famous thought experiment illustrating the seemingly paradoxical nature of quantum theory and how observation makes such a difference, almost forcing the universe to choose a particular path. At small enough scale something called quantum foam exists, where spacetime is a seething mass. Sometimes particles can pop into existence, borrowing energy from the universe, and then they disappear again almost straight away. Quantum Tunnelling seems to allow a particle to burrow through a barrier that it should not be able to get out of, due to the relative energies involved. These listed are just a few of the strange behaviors exhibited by particles at the quantum level.

As scientists “discover” new sub-atomic particles, consisting of smaller particles, one cannot help but wonder at which point we will discover the smallest possible particle, the one building block of all particles. Is there even such a particle? If we someday discover this tiniest of particles, how do we know for sure that it does not consist of even smaller particles? How do you observe anything at this level? We are talking levels smaller than light or waves itself. In order to observe at this level we need something like light or a wave to bounce back so we can interpret the existence of such a particle, which inherently poses a dilemma.

I am proposing, however, that there is no such thing as the smallest building block of particles. There is a cross-over between the Inverse and our, and other Universes. Think of it as the Inverse “bleeding” into our Universe. The lowest building blocks of particles are very “spooky”. They seem to pop in and out of existence. What is even stranger is that they are “shared” by many sub-atomic particles. One of these “spooky” particles may be shared by millions, billions, trillions, or countless sub-atomic particles, which could explain entanglement.

There is a zone between our physical Universe and the Inverse where things are extremely “fuzzy”. Things are neither here nor there. The one moment it is there, and then it is not there. It is at this level where time and space itself starts breaking down. In the Inverse there is no concept of time nor space. In our Universe time and space does exist. There has to be a faded transition between the two realms. Rather than being a hard border line, it is rather a strange fuzzy transitional layer where time and space starts breaking down, or starts coming into existence, depending on perspective. Having said that, we, in our current form, will never be able to enter the Inverse. The only way to do so would be for each sub-atomic particle in our bodies to implode inwards towards the Inverse until nothing of our physical bodies remain. Once “inside” the Inverse you won't be able to re-materialize because space and time does not exist there. You will also

become one with the Inverse, losing the concept of self-awareness or existing as a single being.

At some point, deep down, all the particles in our Universe are connected to the Inverse. This could truly be called the Singularity, the one place where the entire Universe comes together. Having said that, it is not really a single point, because at this level it is tied to the infinite Inverse, and space and time has already collapsed.

The Inverse has created a perfect barricade between itself and the infinite number of Universes. The only way back into the Inverse is a complete collapse of a Universe. From the Inverse springs a Universe, until it is finally re-united with its off-spring billions of years later, becoming one again. And as far as the Inverse is concerned no time has passed at all.

## **X. Conclusion**

To conclude this paper I wish to address those age old questions: Why are we here? Why does the Universe exist? What is the meaning of it all? Although I cannot prove it by any means I strongly suspect that our Universe, and each one of our lives, are truly intermingled with Everything for a specific vital purpose. It is hard to grasp, but in order for the Omniverse to exist it has to be created somehow, despite the fact that it has always existed and always will exist. It is like an infinite loop that forms an endless circle, consisting of every tiny particle, entity and Universe. A circle has no beginning or end. It loops around. There is no future or past. The future has already happened, and the past still has to happen, and vice versa. And yet, everything is happening at once! An infinite number of Universes are existing right now, and have already “collapsed” back into the Inverse. Time is only linear in spacetime. The concept of yesterday, today and tomorrow does not exist, except in a physical Universe. We just happen to be aware of it right now, in our brief, but necessary moment in time.