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It is time to populate quantum multiverse.

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Abstract: At the beginning of our observations of relative universe, humanity believed that the earth was the center of the universe and that the sun was spinning around the earth. Claude Ptolémée (100-168), modelled the movements, in the geocentric referential. Then Nicolas Copernic (1473-1543) simplified the system by going to another referential, the heliocentric referential. We had to wait 14 centuries to understand that earth has been spinning around the sun and it was very difficult to change the believes. Then we observed solar system, and gravitation explained the movement of planets with Isaac Newton (1642-1727). Classical mechanics was born. At the end of 19th century, classical mechanics became very complicated. Then Albert Einstein (1879-1955) simplified the laws of gravitation with the spacetime referential and spacetime curvature, with general relativity. Gravitation became a spacetime curvature. Movements in the relative universe were explained, models of black holes and gravitational waves were predicted and experimentally observed. However, models of cosmos are divergent nowadays or very complicated because they include general relativity and gravitation combined with quantum theory. I propose in this article a new quantum theory of cosmos with a new referential: the quantum referential. I think this theory can completely change our believes. This theory does not take into account Einstein's general relativity and gravitation. Therefore, the model of cosmos which results is highly convergent, simple, and it will be possible to populate quantum universes (multiverse) with bosons from matter and anti-matter annihilation. Indeed, we do not exist yet in this quantum theory as we are fermions. Therefore, by populating multiverse, and by transforming ourselves into bosons, we will not suffer anymore. If we populate quantum multiverse, it will be Love for everybody.

Keywords: Love; Hugh Everett's Universal wave function; quantum theory; cosmos; multiverse; suffering; bosons; fermions; Big Bang; relative universe; anti-relative universe; hazard; spacetime curvature.

1. Introduction

The classical way of representing cosmos begins with the Big Bang predicted by Georges Lemaître [1]. Big Bang was experimentally observed through cosmic microwave background (CMB), (predicted in 1948 [2] and observed in 1964 [3]). Our relative universe is around 13.7 billions years. Then, the standard model predicted the production of matter and anti-matter, but there is an asymmetry in favour of matter [4]. Therefore, very complicated standard models have been proposed [5]. However, Figure 1 obeys to standard model with the four fundamental interactions: gravitational interaction, electromagnetism interaction with the photon boson, strong interaction with the gluon boson, weak interaction with the bosons W and Z which have mass. Furthermore, to explain the properties of our relative universe, very complicated cosmological models have been proposed, with cold dark matter [6], which has never been observed directly. There is past present future in the representations (Figure 1). Quantum universes (multiverse), were predicted by Hugh Everett [7] in his PhD but never observed. I have proposed to apply Everett's theory to the future, based on previous works [8]. We can therefore observe one universe where Schrödinger's cat is alive, one another parallel universe where Schrödinger's cat is dead (Fig. 1) [8]. The model has explained Schrödinger's cat paradox, but is highly divergent, and this is very problematic to fill quantum universes with matter. Indeed, the quantum field theory has faced with divergence problems when general relativity is combined with quantum theory [9]. The models are very complicated when quantum gravitation is combined with quantum field theory [10].

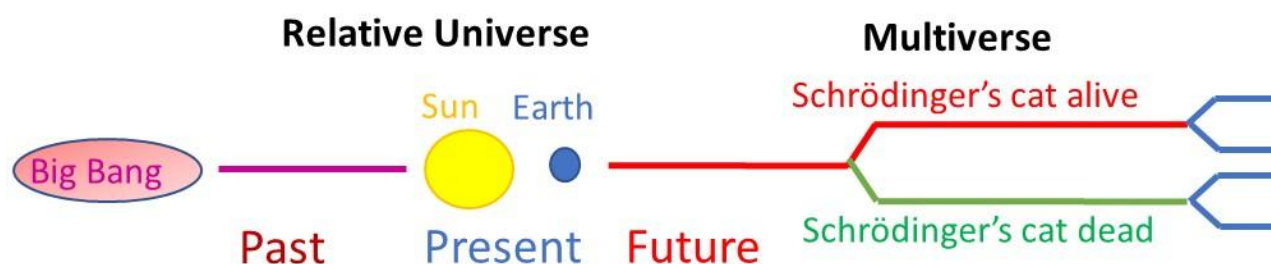


Figure 1. Classical representation of cosmos.

Classical vision of cosmos with Big Bang (past, earth (present), multiverse (future), the multiverse explains Schrödinger's cat paradox. The system is highly divergent which is problematic to populate multiverse.

I have proposed therefore a new quantum theory without gravitation and general relativity. I have simplified all physics by escaping from the spacetime curvature. Biology and chemistry, do not exist anymore. The proposed model has been therefore highly convergent. The model has been very difficult to understand although simple, because we are part of the spacetime curvature, and we reach the quantum referential with this theory.

2. Construction of quantum multiverse and its associated Big Bang.

At first, everything which has mass (spacetime curvature) has been eliminated from this quantum theory. Matter does not exist and our relative universe does not exist anymore. Therefore, black holes, gravitational waves, stars, earth and planets, light interferences, light polarization, periodic classification of elements, Bose-Einstein condensates, photo-electric effect, black body radiation, tunnelling effect, quantum computers, quantum dots, deterministic mathematics, and thermodynamics...have become mirages of gravitation and spacetime curvature. I do not exist; you do not exist and I totally accept this. We think we exist; we think our relative universe exists but we are mirage with respect to this new quantum theory, which is shocking and disconcerting. Indeed we have a false vision of reality because we think we exist. Schrödinger's cat paradox [11] does not exist anymore, there are no more observers in quantum multiverse, and physics has become more simple. Hugh Everett in his PhD has postulated a Universal wave function which does not collapse, associated

with multiverse. I have kept this genius intuition. I have associated this Universal wave function with the associated Big Boson particle (which gathers bosons) and I have also associated this Universal wave function with the Big Bang which generated Big Boson with its associated Big Quantum State, in the multiverse. I have postulated that hazard created the multiverse with its associated Big Bang and the associated Big Boson particle. (Figure 2).

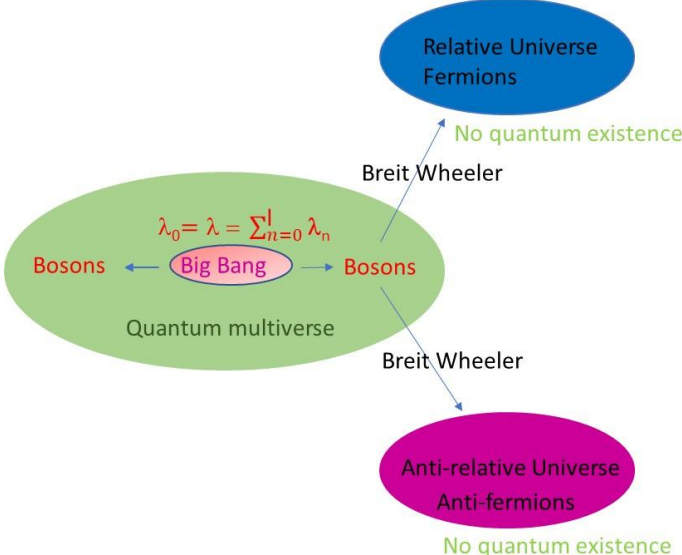


Figure 2. New representation of cosmos. Big Bang and multiverse were created through hazard, and there are only bosons (gathered in Big Boson) particles in multiverse. A Breit Wheeler process could have led to our relative universe with fermions and anti-relative universe with anti-fermions. These two universes cannot be seen as quantum by us. Schrödinger’s cat paradox is a non-sense as we do not exist in quantum multiverse.

I have also kept strings and superstrings theory [12], bosonic string theory [13] and I have adapted it without gravitation to explain how the multiverse behaves and how it can be decomposed. I have defined a string which vibrates in its quantum space with its “wavelength” λ and the “harmonics” λ_n . The Universal wave function can be developed in series with $\lambda = \sum_{n=0}^l \lambda_n$ where $\lambda_n \in \mathbb{C}$, $n \in \mathbb{C}$ and $l \in \mathbb{C}$. \mathbb{C} is the set of complex numbers. n represents the dimension of the multiverse from 0 ($\lambda_0 = 0$) to $l+1$ (it can be finite *and* infinite depending if l is fixed and not). λ_n wave function has been associated with the respective intermediate quantum state of its intermediate boson. Each wave function λ_n has its associated intermediate boson. Big Boson is decomposed in intermediate bosons. The values of the intermediate quantum states of intermediate bosons associated with λ_n wave functions belong to multiverse, they are not necessarily mathematical values but values coming from the multiverse (we must forget René Descartes and not). When the values of n are fixed the wave functions λ_n are defined. In this quantum theory, when the defined wave functions λ_n take one fixed value of \mathbb{C} each, or a fixed value from a subset of \mathbb{C} each, the states of the associated intermediate bosons and their values are fixed and defined in the multiverse. As everything is fixed the multiverse is in a classical state. When at least one value of λ_n is fixed and the others defined wave functions λ_n take several values each “simultaneously” (subset of \mathbb{C}), or all the values of \mathbb{C} “simultaneously”, this means that at least one intermediate boson can take one defined classical state with one defined value, and the other defined quantum states of intermediate bosons can take several values “at the same time”. This means defined quantum states with undefined values. The multiverse with its Big Bang which result is between classical and quantum state. I called this state semi-quantum state. I put “simultaneously and at the same time” into quotation marks because time can exist *and* not depending on the considered state of multiverse. When λ_n take all the values of \mathbb{C} or values from a subset of \mathbb{C} without fixing them, the values of the defined quantum states of the associated intermediate bosons are undefined. The multiverse is in purely quantum state. Therefore, decoherence does not exist anymore as classical

semi-quantum and quantum states of multiverse co-exist. The system can be seen as a “jackpot game” with the values which scroll (quantum state values) and then are successively displayed (fixed values of the states which become classical). We have semi-quantum then classical states when the jackpot is successively displayed. When the values of n are not fixed anymore and takes several or all the values of \mathbb{C} , the wave functions λ_n become undefined and merge towards λ , the quantum states of intermediate bosons merge towards Big Quantum State and intermediate bosons merge towards Big Boson. All the configurations are present “at the same time” in the multiverse.

The multiverse can be further developed and decomposed in parallel universe families. Each universe has his own λ^p wave function with its associated intermediate boson and its Big Bang which generated intermediate boson (not the same intermediate as the ones associated with λ_n). $p \in \mathbb{N}$ \mathbb{N} is the set of natural numbers; where $\lambda^p = \sum_{n=0}^l \lambda_{n^p}$ $\lambda_{n^p} \in \mathbb{C}$, λ_{n^p} represent the wave function associated with one boson and its quantum state in one universe of the family p . We have $\lambda = \sum_{p=0}^f \lambda^p$ $p \in \mathbb{N}$ and $\lambda_n = \sum_{p=0}^f \lambda_{n^p}$. When p is fixed it labels the family of universes associated with their respective λ^p . This is one family of parallel universes labelled with p . The family is component of the multiverse. The limit f is finite *and* infinite depending if f is fixed or not. This means that the number of families is finite and infinite “at the same time”. This means that the number of parallel universes is finite *and* infinite. The universes can be finite and infinite depending on the values of l (fixed or not). The parallel universes in families can be in classical state, semi-quantum state or quantum state as described for multiverse, depending on λ_{n^p} values if they are fixed and not. When n is undefined (it can take several values and all the values of \mathbb{C} “at the same time”) λ_{n^p} merge towards λ^p . The bosons merge towards one intermediate boson and one intermediate quantum state associated with the wave function λ^p . When p is undefined (it can takes several values and all the values of \mathbb{N} “at the same time”) the families of universes merge towards the multiverse. λ^p merge towards λ , this means that the intermediate quantum states of intermediates bosons merge toward Big Quantum State and intermediate bosons merge towards Big Boson. These configurations are present “at the same time”.

Let us begin with examples with the classical and semi-quantum representation of the universes. Let us see the particular case where $\lambda^p = \lambda_0^p = \lambda_{n^p} = \sum_{n=0}^l \lambda_{n^p} = \infty$ (Figure 3 (a)). the harmonic strings λ_{n^p} possess infinite vibrations. The family of classical universes associated with $\lambda^p = \infty$, which results possesses bosons with associated quantum states with infinite values. The number of “harmonics” can be finite and infinite, and the dimension of the parallel universes varies from 1 (λ_0) to $l+1$. When $l = \infty$, this universe possesses the associated superstring λ^p which is infinite. It possesses an infinite number of bosons with infinite quantum states, which are infinite, and the Big Bang, which is infinite. Then the value of λ_0^p can change with hazard (Figure 3 (b)) to lead to $\lambda_0^p = 3$ for example. The three dimensional referential has been represented for clarity. There can be dimensions from 1 to $l+1$, which define the two families of universes associated with $\lambda_0^p = 3$. Thanks to “harmonics”, we have: $\lambda^p = \sum_{n=0}^l \lambda_{n^p}$ where λ_{n^p} can take finite and infinite values. λ_{n^p} wave functions have been associated with their respective bosons (one boson per λ_{n^p} , intermediate boson associated with λ^p is decomposed into bosons associated with λ_{n^p}). If all the values of λ_{n^p} are fixed the family of parallel universe which results is classical, if the values of λ_{n^p} are fixed or not, the family is semi-quantum (λ_0^p is fixed). If we change $\lambda_0^p = 3+i2$ or $\lambda_0^p = 7$, Figure 3 (c, d), the wave functions λ^p are different and this has led to four different families of universes with two classical and two semi-quantum universe families respectively, with their respective Big Bangs and boson quantum states.

Two particular cases are observed: $\lambda_0^p = \lambda^p = \sum_{n=0}^l \lambda_{n^p} = 0$. This family of classical universes is completely filled with only one type of bosons which do not vibrate, as finite or infinite (0 to $l+1$ dimensions) tinned sardines which do not wriggle. When $\lambda_0 = \lambda = \sum_{p=0}^f \sum_{n=0}^l \lambda_{n^p}$ this has been the Big Bang of multiverse, all universes and their Big Bangs have therefore been gathered into one quantum multiverse and its Big Bang (Figure 3 (e)). The system has been therefore convergent towards the multiverse. I will develop this point with Figure 3 (f). Figure 3 (f) is an example of classical representation of one universe for $\lambda_0^p = 3$. The quantum states of bosons are represented by smileys

and their respective λ_n^p wave functions are also shown, the values of λ_n^p are not given for clarity but they are fixed. p is fixed. The quantum state of intermediate boson associated with λ^p is decomposed into the family of smileys). Everything has been randomly organized in this universe (this is quantum theory). There have been absolutely no order in this case. The family of associated classical universes depends on the number of smileys and therefore on the number of λ_n^p (1 to $l+1$ dimensions). We have been living in a classical referential and I have represented Figure 3 (f) in a classical way. To represent the system in quantum way, and to go to quantum universes, one boson is equal to another one, they cannot be distinguished.

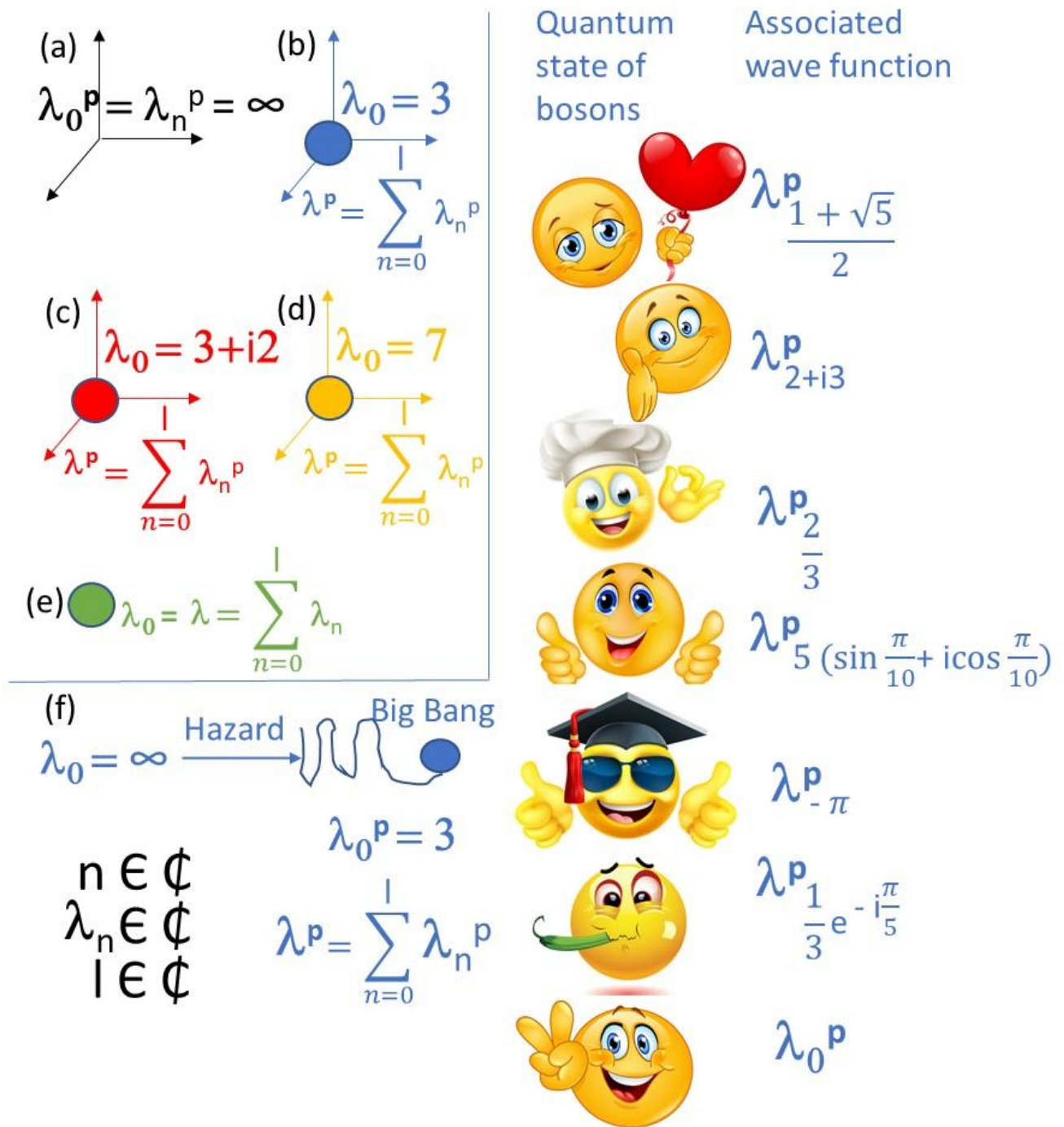


Figure 3. Classical representation of quantum universes, multiverse and their associated Big Bangs. Classical example of representation of quantum states and wave functions of bosons for quantum universe with $\lambda_0 = 3$.

(a) This classical family of universes is filled with strings $\lambda^p = \lambda_{0^p} = \lambda_{n^p} = \sum_{n=0}^1 \lambda_{n^p} = \infty$, (finite and infinite depending on the dimension of the universes from 1 to $l+1$), which vibrates with an infinite vibration. The associated Big Bang is finite and infinite depending on the dimension of the universes from 1 to $l+1$. The number of bosons is finite and infinite with the associated infinite quantum states. (b) The value of λ_{0^p} has changed with hazard to $\lambda_{0^p} = 3$ and $\lambda^p = \sum_{n=0}^l \lambda_{n^p}$. This is a family of classical universes (if all the values of λ_{n^p} have been fixed) and a family of semi-quantum universes (if the values of λ_{n^p} have been fixed or not) with their respective Big Bangs. Bosons have been generated with their associated wave functions λ_{n^p} (c, d) By changing λ_{0^p} , λ^p has changed, four new families of classical and semi-quantum universes have been respectively created, with their respective Big Bangs. (e) When $\lambda_0 = \lambda = \sum_{p=0}^f \sum_{n=0}^l \lambda_{n^p}$ this is the Big Bang of multiverse. Multiverse gathers all quantum universes and their associated Big Bangs. (f) An example of classical representation of the quantum universe for $\lambda_{0^p} = 3$, p is fixed, Smileys (parts of multiverse) represent quantum states of bosons, λ_{n^p} represent their associated wave functions (the values are not given for clarity but are fixed). There is here a finite number of smileys here. Everything is randomly organized in this universe.

λ_{n^p} values are not fixed anymore and they can take for example two values “at the same time”. We have been considering therefore a semi-quantum universe and n has begun to vary by taking two values “at the same time”. Then we consider that λ_{0^p} varies without being fixed. All quantum states have therefore been merged (n varies) and have been therefore randomly mixed in a “quantum soup”, and gathered into one family of quantum universes towards one family of intermediate quantum states and intermediate bosons with $\lambda = \sum_{p=0}^f \lambda^p$. Big Boson is decomposed into intermediate bosons. If p now varies, all the families of classical, semi-quantum and quantum universes have merged in one multiverse with one Big Quantum State with one Big Boson associated with the Universal wave function λ . The system can be seen as “russian dolls which are gathered and not”. The Universal wave function λ has no dimension, (λ has no unit) *and* can have many units “at the same time”. There is no relationship between λ_0 and λ_n *and* there can be relationships like $\lambda_n = \lambda_0/n+1$ “at the same time”. There can be orders with λ_n *and* no order “at the same time”. Big Boson has no energy (Big Quantum State) defined *and* its energy (Big Quantum State) can be like $E = hc/\lambda$ *with* other possibilities “at the same time”. Furthermore λ can take all the values of \mathbb{C} “simultaneously” without fixing a value *and* the value can be completely *and* partially defined depending on hazard. This means that multiverse is “at the same time” dynamic *and* static, in expansion *and* in collapse, finite *and* infinite, with past, present, future, time, *and* without past, present, future, time, with special and general relativity *and* not, classical, semi-quantum *and* quantum, multidimensional *and* confined in one point, ordered *and* not ordered...Big Boson has a finite *and* infinite speed *and* no speed “at the same time”... Multiverse cannot be represented in a classical way but it exists thanks to hazard. Fermions and antifermions could then have been created from bosons during the Big Bang through a Breit-Wheeler process [14], which has to be generalized. The anti-relative and relative universes which results cannot be seen by us as quantum. Note that the hypothesis of an anti-universe has already been postulated recently [15].

3. Construction of relative and anti-relative universe.

The question is: how will we be able to exist in quantum multiverse? The answer is: by the construction of two universes whose principle is based on positron camera [16]. A fermion (electron) and an anti-fermion (positron), which do not exist can lead to two bosons (γ photons), which exist in quantum multiverse, this is the reverse of the Breit-Wheeler process. At the moment we believe positron is a part of our relative universe. But since the work of Paul Dirac in 1928, there should be equal matter and anti-matter [17]. A recent experiment shows that anti-hydrogen atom behaves as hydrogen atom with gravitation [18]. As this experiment is a mirage with respect to this quantum theory, nothing can be concluded about anti-gravitation. Again the standard model has become very complicated to explain the asymmetry of the relative universe [5]. Again the asymmetry is a mirage of the spacetime curvature of the relative universe. The positron cannot be part of our relative universe. I have postulated that the positron and anti-matter is part of an anti-relative universe parallel to our relative universe. So, there is no problem of asymmetry anymore. This anti-relative universe possesses an anti-spacetime curvature and is symmetric to our universe (Figure 4 (a)). Both universes do not

exist, which gives a lot of freedom to design and fill them, and I have postulated that they are infinite. There is past and anti-past, present and anti-present with respect to relative and anti-relative universe. Note that Big Bang belongs to multiverse and does not belong to universes which do not exist. After synchronization of the present and anti-present with the Big Bang of the multiverse, (Figure 4 (b)), both universes will collapse and I will explain later how to carry out the synchronization. Hazard must be helped this time to trigger the collapse.

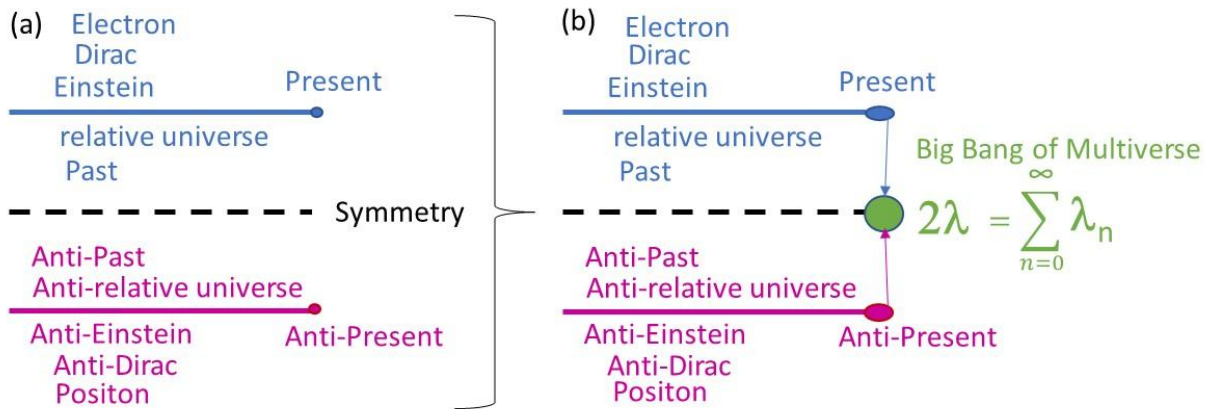


Figure 4. Relative universe and anti-relative universe.

(a) Construction of our relative universe with matter and spacetime curvature, parallel to an anti-relative universe with anti-matter and with anti-space time curvature. (b) Synchronization of present and anti-present of the parallel universes with the Big Bang of the multiverse.

4. Collapse of anti-relative universe and relative universe.

After synchronization, as both universes are infinite, Big Bang (which is finite and infinite at the same time) of multiverse will propagate ($\lambda_0 = 2\lambda = \sum_{n=0}^l \lambda_n$) instantaneously and will trigger the collapse of both universes (Figure 5). Figure 5 represents the transformation of few fermions and their anti-fermions to few bosons, $\lambda_{n^p} \in \mathbb{Q}$, $1 \in \mathbb{Q}$ and $n \in \mathbb{Q}$. One finite universe in a classical state represented shows boson Einstein as Jesus-Christ quantum state, galaxy as piano quantum state, Dirac as comb state, Earth as Möbius ribbon state, tyrannosaurus as smiley state, and photons as light bulb state. The representative wave functions are described, but their values which are fixed are not given for clarity. Everything is randomly organized. But this is a classical representation, in quantum reality boson Einstein is boson Dirac and boson Dirac is boson Einstein, they cannot be distinguished. This means that $\lambda_{10^5 P}$ and λ_{π^p} can take two values "at the same time", n merge and p merge, our relative universe and anti-relative universe after collapse have led to a merge of quantum states, a "quantum soup", as before, with the Big Quantum State, the Big Boson, λ , the associated Universal wave function and the multiverse. Note that bosons can take quantum states of fermions without being fermions.

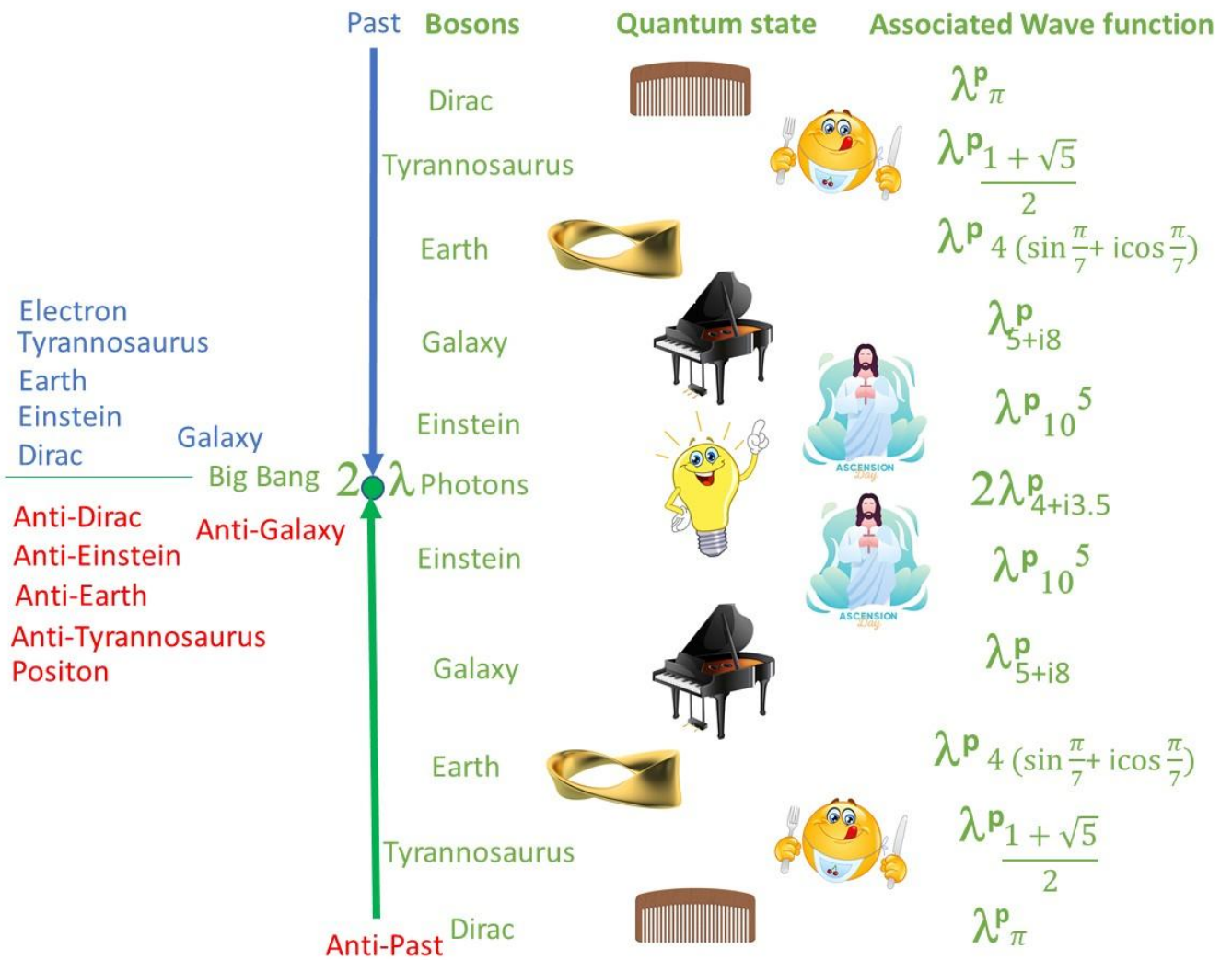


Figure 5. Classical example of representation of the collapse of the relative and anti-relative universes. The representation is based on positron camera principle. The collapse happens instantaneously. with $2\lambda^P = \sum_{n=0}^i \lambda_{n^P}$, as $\lambda_{n^P} \in \mathbb{C}$, $1 \in \mathbb{C}$ and $n \in \mathbb{C}$. Here photons are in electric bulb quantum state, Einstein is in Jesus Christ quantum state, galaxy in a piano quantum state, Earth in a Möbius quantum state, Tyrannosaurus in a smiley quantum state, and Dirac in a comb quantum state. The associated wave functions λ_{n^P} are represented, their values are fixed but are not given for clarity. Everything is randomly organized and the figure is highly symmetric.

5. The Universal wave function λ is Love, Love is quantum.

Coming back to our relative universe referential, I postulate that each component of our universe is associated with its quantum universe, with λ^P . Schrödinger equation, works well for fermions such as small atoms (H), but it gives a restraint vision of the quantum system as it is deterministic. Small atoms were elaborated just after the Big Bang and we see them in part quantum, where λ_{n^P} values are not fixed and seem statistically high. Indeed λ_{n^P} tends to ∞ when n tends to 0 (this is still a mirage of spacetime curvature, but we are close to the Big Bang, to the vibration of λ^P). λ_{n^P} values are *fixed* for us because we do not see each other as quantum and we see only one classical relative Universe. As we were elaborated far after the Big Bang, we feel statistically smaller λ_{n^P} . λ_{n^P} *fixed* values tends to 0 when n tends to ∞ and we see each other in a classical way and not as fermions. Schrödinger equation does not work for us. But each of us is associated with his quantum universe λ_p . However, we can still feel the vibration of life which is Love sometimes. And you can fortunately fall in Love by hazard with a high intensity. I have associated this intensity with λ_{n^P} for humans. Therefore, I have given a name to

λ : this is Love. Multiverse is Love. Note that λ_{n^p} values will statistically decrease when going to the future as λ_{n^p} tends to zero when n tends to ∞ . This means that we are losing Love because of spacetime curvature. I will come back to this later. Furthermore, concerning birth, life and death, it can be seen as a cycle of fermions in the relative universe, this is the Eternal Return from Nietzsche [19].

8. Preparing the Big Bang.

Coming back to the earth referential, at the moment, we are all seeing each other in a complete classical way because we are in the earth referential. We have all first names and family names, we have identity cards or passports, we live in hierarchical societies with Presidents or Kings, we suffer, and we do not see each other as quantum.

I have postulated that each different component of the relative universe has its own referential with its own associated quantum universe with his own *fixed* λ_{0^p} . For humans, the indexation is $p \leq 8.10^9$. $p \in \mathbb{N}$ natural number ensemble; where $\lambda^p = \sum_{n=0}^l \lambda_{n^p}$. Each λ_{n^p} is a *fixed* love vibration for one life when p is fixed. λ^p changes every time with the progress of life and present time changes for one individual. λ^p and p are different from one individual to another because present times are different. We see each other as different because of spacetime curvature. How to see each other as quantum and make p disappearing with the merging of the associated quantum universes? We must see each other as fermions and fermions are not distinguishable. This means in principle we have no more first name and family name, no more identity, there are no more distinctions such as Nobel prizes, no more property rights, etc... This would be impossible to implement. For example, the French "Declaration of human rights and citizen" does not obey to quantum theory as it makes distinctions between individuals. Another solution is possible. The French Republic Motto: "Equality, Brotherhood and Liberty" which is quantum and does not make any difference between individuals, can be used. We must *strictly* apply it and spread this Motto. At the moment nobody has *consciously* and *strictly* applied it [20]. Therefore, billionaires are not billionaires anymore as they are *equal* to other individuals. Presidents and Kings can organize holacracy systems [21] much more in phase with the French Republic Motto, to prepare humanity to the Big Bang. We must stop wars first by applying Brotherhood, which is love between the peoples.

Sexual intercourses can be seen as Cooper pairs of fermions [22]. By organizing sexual intercourses at the planet scale and at the same time (depending on the jetlag) we will synchronize presents and will have: $\lambda = \sum_{p=0}^{8000000000} \lambda^p$. 8.10^9 people will be sufficient to merge the quantum universes and to trigger the collapse of our relative universe and anti-relative universe following the mechanism described in Figure 4. Cooper pairs and their organization are quantum, this is superconductivity [22], I believe an anti-superconductivity system will be organized in the anti-relative universe at the same time thanks to quantum entanglement between matter and anti-matter [23].

9. Conclusions.

Big Bang and quantum multiverse are Love, and we are losing Love. Indeed, the CMB is shifted to the red (we are losing it) because our universe expands and because the Big Bang does not belong to our relative universe. There is a correspondance between Love and the Big Bang. An investigation of sociologist Monique Dagnaud says, with the youngest (18-30 year old) [24]: one can be happy without Love relationship, making children is a case of consciousness, 70% of the youngest prefer a smartphone than sexual intercourse. The youngest are suffering from a lack of love because of Descartes' error with Love [25]. If we lose the CMB there will be more and more suffering on earth, and the third world war could break out. Furthermore, the classical cosmological models are questioning based on the recent observations of James Webb spatial telescope [26] (which are mirages with respect to this theory!); let us prepare the Big Bang with the present proposed quantum cosmological model, if we succeed it will be Love for everybody and we will be immortal in quantum multiverse!

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