



THE FURTHER EXPLANATION OF QUANTUM ENTANGLEMENT

Jun S. Huang, Jiamin M. Huang, Qing Zou
Suqian College, 399 South Huanghe Road, Jiangsu 223800, China
1st E-mail: steadhuang@ujs.edu.cn
2nd E-mail: moran@genieview.com
3rd E-mail: qing.zou@genieview.com

ABSTRACT

Albert Einstein discovered that, two particles originated from the same source, when the state of one changes, that of the other will change at the same time, no matter how far they are apart from each other. This phenomenon violates the special theory of relativity that was originated by himself. Later on he extended special relativity to general relativity, hoping to solve this problem, but with little success. In this paper, we are trying to elaborate more about our space central view of the phenomenon, we then relate it to more broad understanding of social and culture stories such as crime rate cycle, meditation power, super nature spiritual stories from ancient mausoleums around the world. We name it Super Natural Relativity.

Indexing terms/Keywords

Quantum, Space, Complex, Time, Spiritual.

Academic Discipline And Sub-Disciplines

Physics; Relativity;

SUBJECT CLASSIFICATION

United State Library of Congress Classification: QC6 .E5

TYPE (METHOD/APPROACH)

Thought-Experimental; Literary Survey

Council for Innovative Research

Peer Review Research Publishing System

Journal: JOURNAL OF ADVANCES IN PHYSICS

Vol.8, No.2

www.cirjap.com, japeditor@gmail.com



INTRODUCTION

In quantum physics, after two spin particles coupling with each other for a while, disturbing one of them would affect the spin of another one, even if they are far away from each other. This phenomenon is called the quantum entanglement. And its effects have been demonstrated with photons, electrons, molecules, and even diamonds, like those making iPhone crystal cover. Quantum entanglement breaks the speed limit and contradicts relativity theorem. We introduced following five axioms to remove the contradiction:

1. $U \rightarrow M \& E$: World is made up of material and its associated energy.
2. $M + E \rightarrow S$: Material movement (self-spin etc.) with its energy brings us the space.
3. $DS \rightarrow I$: Material has different state (spiritual) in the space made by themselves.
4. $DI \rightarrow T$: The relatively changing of the state brings us the time.
5. $M \times S_1 \times S_2 = E \times T_1 \times T_2$: The material, space and energy, time hold the super complex conservation.

Einstein's special theory of relativity and general relativity united the indivisible internal connection between space and time or material and energy. But he didn't realize that *there is an indivisible connection between the space and the material itself*, and thus he assumed that the same physical theorem would apply to any direction, left hand or right hand. In our view, the universe is not symmetrical, and if at one direction the speed of light is a limitation, on the other direction, it may not be true. Black hole (if it exists), said is tossing out planets' debris at the faster than speed of light perpendicular to the surface, where the speed light is a limit or event horizon is located.

For example, we also believe that the difference between strong interaction and weak interaction among the quarks is not because they are exchanging the gluons, it is the difference between the strong space and the weak space that caged the gluons or bosons in their own respected worlds. The same argument is true for photons and graviton (if there is any), it is the electromagnetic space and gravitation space that caged and hold them together, not the other way around. By exchanging the gravitons will never create gravitation, the universe is just too big to be an exchangeable "soccer ball" field; and certainly, it can still be a happy family, silently tensed together by the space that is created by the limited material, cascadedly spinning around in an almost flat disk shape of our universe.

In another sociology analogy: you like your friend, that's why you talk to your friend; not because you talk to your friend, that's why you like your friend; you may hate him/her after you talked! Based on above axioms, arguments and straight forward mathematics proof procedure [1], we further propose the following 2-D extension of Einstein's 1-D speed formula [2]:

$$S' = \frac{S - V \times T}{\sqrt{1 - \frac{V \times \bar{V}}{C \times C}}} \quad \text{..... Equation (1)}$$

Where S' is a complex number representing the position in observer space, S is a complex number representing the position in object space. V is the complex number representing the object speed, T is the complex number representing the object time, C is the complex number representing the object speed limit. The major difference here is that the time is more than one dimension, and thus it can move on one direction really fast and stopped completely on the other direction, or vice versa.

We emphasize that the connection between the space and the material is the essence of the world, it is the meaning of philosophy's existence. Our universe has limited mass, and thus limited space, outside of which, there is nothing, not even space. And the space, in this sense, is also the energy field said by the master of ancient and modern meditation [3] or the fortune-teller of metaphysics. These super nature people like Arthur Findlay or Robert Lanza might be walking on another time dimension, could be Complex one or even Fractal one, in order to foresee their predicted future, some time very accurate!

Finally, it could be the reason of "what you did would always come back to you" emphasized by the five religions (Buddhism, Taoism, Islam, Papistry and Christianity), when you had wrong doing, you damaged the space you are in, and thus the bad things will after you. In previous paper [4] we interpreted the quantum entanglement phenomenon with the above mentioned five element model: thing, energy, space, information, time, we proved it with thought experiments based on existed well-known physical lab reports. In this paper, we extend the explanation with more exotic social stories.

BLAME MOON FOR THE CRIME RATE SURGE

After particles contacting to each other for a short period, they may be coupling successfully and quantum entanglement occurs, or failed. Whether quantum entanglement occurs or not is decided by many factors, but the key factor is whether the space is relatively pure or not, closed or open. If it is pure, and closed, then the answer is certainly yes. In our theory, a closed pure space may have stopped time. A person without any social activities lives in a closed pure space, will develop mental illness such as Major Depressive Disorder (MDD) easily, since the normal time axis is messed up badly. The quickest cure for MDD is the interactions with your family member under a psychologist guidance.



For the particles which are involved with quantum entanglement, when something disturbs one of them, another one would certainly be affected, because they are in the same space made together by themselves. And when we disturb one of them, we disturb the other. Although the particles may be separated by a long distance between each other, the changing of their state synchronizes.

You know what they say: All living things depend on the sun for their growth. The photon from the sun made space of our solar system, when the sun turns dark, is the time of solar system to die. And when the electron quits the revolution work, the gold could turn into the rock. Further more, the full and the wane of the moon have been statistically confirmed to be connected to the crime rate up and down on the earth [5], this can be seen as the particles of moon and earth are entangling. Just like the earth is in sun's space, moon is in earth's space. What we can do, blame moon for the surging of the crime rate, or put more police force on street when it is a full moon day. Next we will go over three more stories to expend our point of view.

APPLE OF NEWTON OR EMPEROR

A thought hit Newton when he saw the apple hits the ground, then he said: I'm not willing to explain hard to people that no matter from the credo of prescience or calculation, the earth turns around the sun is common phenomenon caused by Gravity. It's simple for everyone since Adam and Eve in Bible, since the fallen of that apple.

A famous story says that Newton stumbled in his law of Gravity by a fallen apple. In the year 1666 he retired from Cambridge to live with his mother. Whilst he was pensively meandering in a garden it came into his thought that the power of gravity, brought an apple from a tree to the ground, was not limited to a certain distance from earth, but that this power must extend much further than was usually thought. Why not as high as the Moon said he to himself and if so, that must influence her motion and perhaps retain her in her orbit.

Problem is not about the existence of Gravity, is about if it can extend to this far and still maintain the moon in her orbit. Newton found that the period of moon orbit is perfectly fitted with the truth if make the force reducing with the square of distance. He suggested that the same force lead to other orbit movement and named it Gravity. We can not debate over the square law he found, it proves that the world indeed is in 2-D format, as we believed. However, we do want to find the source of gravitation, which will be explained more in next story. Talking about 2-D format, let's take a look at the apple left behind by the emperor.

When archaeologist opened a jar of fruit from the tomb of a Chinese Han dynasty emperor, the just picked-up-like-fresh fruit turned into carbon, while he fetched out his smart phone for photo. We note that when jar is open, the closed space is open, the frozen time suddenly started to flow. In Newton's theory, the apple couldn't stay fresh many thousand years, the time is independent of space. In the theory of relativity, time is not independent of space, but still, the apple couldn't stay fresh that long, unless the jar was traveling at speed of light, rather than sleeping still with the Han emperor in his graveyard. Our definition of time is made by changing of space's state, so that it can be fast, be slow, be two-dimensional or be perfectly local. A famous Chinese meditation practitioner Mr. Peng Zu lived 800 ancient years, he must know how to maneuver the time axis, we wish Google can conquer the 500 years' life-span project!

We can explain a lot by this complex time theory, lots of cancer patients stay alive for longer time than what doctor predicted, because they might move on another time dimension. The same reason that a special mushroom called Fomes Japonica picked up from pure high rock cliff (not the one grown in the messed up basement lab) can extend a person's life span, because of that they bring you additional dimension of the time to spend with.

Chinese Qigong master Dr Xin Yan [6] said that the basic principle of meditation practice is: when you and universe is connected, you will gain energy from everywhere, he practiced meditation all his life by following the Kung Fu master and Buddhist abbot Mr. Deng Hai of Shaolin Temple in his early years. Here connected means for both space and time.

GRAVITY IS THE TENSION OF SPACE

Although the description of Gravity from Newton is perfect for lots of applications, but still, it has two theorems that have been proven totally wrong. There's no evidence shows that the medium of gravity could be detected. Newton feels really not satisfied with the superluminal [7] phenomenon of the gravity. Our explanation is that the gravity is the state or special large scale tension of the space itself.

First of all, Newton's theory need to define that gravity can propagated without time. Given the classical assumptions of the nature of space and time before the development of General Relativity, a significant propagation delay in gravity leads to unstable planetary and stellar orbits. However, this conflict with Einstein's special relativity directly, because special relativity defined the limit of speed is light speed in vacuum, in which signal could be delivered. We don't think that the Gravity could be propagated instantaneously, because space can't be extended instantaneously. Gravity is just the tension state when space gets extended, when matters get moved around. No matter, no space, and no gravity.

Einstein's limit of speed should only be apply to material itself, but not to the space and state of it. For example, the group velocity of light wave is a state of photon but not photon itself. It's faster than the speed of light. It's like the shadow of a car moving on freeway runs faster than the car itself. For the same reason, a photon can only go through one slit, but its associated space can pass more than one slits, showing off its wavy behavior.

Secondly, Newton's Theory does not fully explain the precession of the perihelion of the orbits of the planets, especially of planet Mercury, which was detected long after the time of Newton. There is a 43-arcsecond per century discrepancy between the Newtonian calculation, which arises only from the gravitational attractions from the other planets. We can get



much predictable measured value with Einstein's general relativity, but still not coincide exactly. To reach the exactly matching results, we need to consider the space densities, which are totally different between perihelion and aphelion, then we are in position to explain that the precession gets slow down a lot due to the diverse space orientation and thicker density, when it is closer to the sun. In common Chinese legendary word: one year on earth is only a day in heaven.

The predicted angular deflection of light rays by gravity that is calculated by Newton's Theory is only one-half of the deflection that is actually observed by astronomers. Calculations using General Relativity are in much closer agreement with the observations, but still not the same. To make it same, Black hole is needed to patch up the gap. General Relativity allows space transform but limit the speed of everything. In Spiral galaxy the orbiting of stars around their centers seems to strongly disobey the Newton's law of universal gravitation, much like above mentioned precession in solar system near the sun. In our opinion, gravity or inertia are both the attribute of space. There's no gravity without space, not to talk about inertia. Space is not a material, but made by material, it is not preexisted, and it is uneven. The above gap is closed by the unevenness. Further more, the electron moves around the space created by the nucleus. Moon moves around the space created by the earth, and so on so forth. If we consider the universe as a reference system, we actually can't get back to the same spot with the same density and the same orientation we were in yesterday, because everything is moving, the space is also unidirectional, just like the time.

While Newton was able to formulate his law of gravity in his monumental work, he was uncomfortable with the notion of "action at a distance" which his equations implied. Newton used to say that: *"I have not yet been able to discover the cause of these properties of gravity from phenomena, I believe, no man who has in philosophic matters a competent faculty of thinking could ever fall into it."* He never gave the reason why the force exists. In other situation, he used movement to explain why things affected by different force. But in this situation, he couldn't tell where the gravity comes from with actual experiments.

Even though Einstein's suggestion could explain the effect of gravity in the action on the photons better, he couldn't put a reason for this ability in his theory either. In Einstein's equation, *matter tells space how to curve, and space tells matter how to move.* Einstein's thought is totally different from Newton's world, but it still can not answer the simplest question: "who owns the gravity?". However at least, he realized the fact that space will distort because of material. And we march forward one more step: *material makes the space*, and changes with it, not just tells the space how to distort, has a complete ownership of it. This kind of multi-dimensional changes make the multi-dimensional time. If space changes in a direction, then time marches in the same way.

Newton's hope could be realized if scientists could find the reason that why gravity occurs. For Newton's hope and based on Einstein's discovery, we simply attribute the reason why gravity occurs to space itself. There's no gravity when two particles coincide in one geometry origin (the gravity cancels out with each other in any direction), or they were extremely far away from each other as the space of them have been broken. So far, we have shown that our space thought is more close to Einstein than Newton, next we will show that our thought could viewed other way around as well.

CAT OF SCHRODINGER OR PHARAOH

Schrödinger's cat is a thought experiment, sometimes described as a paradox, devised by Austrian physicist Erwin Schrödinger in 1935. It illustrates what he saw as the problem of the Copenhagen interpretation of quantum mechanics applied to everyday objects. The scenario presents a cat that may be considered as being simultaneously both alive and dead, this state being tied to an earlier random event.

Schrödinger intended his thought experiment as a discussion of the EPR article, named after its authors Einstein, Podolsky, and Rosen. The EPR article highlighted the strange nature of quantum superpositions, in which a quantum system such as an atom or photon can exist as a combination of multiple states corresponding to different possible outcomes. The prevailing theory, called the Copenhagen interpretation, said that a quantum system remained in this superposition until it interacted with, or was observed by, the external world, at which time the superposition collapses into one or another of the possible definite states. The EPR experiment showed that a system with multiple particles separated by large distances could be in such a superposition as well.

Schrödinger and Einstein exchanged letters about Einstein's EPR article, in the course of which Einstein pointed out that the state of an unstable keg of gunpowder will, after a while, contain a superposition of both exploded and unexploded states. In our theory, we do not see the superposition state as a legitimate logic, atom or photon is in their only one state, which we do not know, when we trying to observe it, our space disturbed its space, and thus may change its state, in this sense, we are more close to the classic Newton theory, than the modern quantum theory formed more-or-less under the pressure of being-afraid-alone social behavior.

To further illustrate, Schrödinger described how one could, in principle, create a superposition in a large scale system by making it dependent on a quantum particle that was in a superposition. He proposed a scenario with a cat in a sealed box, wherein the cat's life or death depended on the state of a radioactive atom, whether it had decayed and emitted radiation or not. According to Schrödinger, the Copenhagen interpretation implies that the cat remains both alive and dead until the box is opened. Schrödinger did not wish to promote the idea of dead-and-alive cats as a serious possibility; on the contrary, he intended the example to illustrate the absurdity of the existing view of quantum mechanics. However, since Schrödinger's time, other interpretations of the mathematics of quantum mechanics have been advanced by physicists, some of which regard the "alive and dead" cat superposition as quite real. We would rather stay classic, believing that the way electron circles the nucleus is no difference from the moon circles the earth.



Although we consider superposition as one of the loopholes of the advanced physical theory; on the spiritual side, we can accept some super nature story about another kind of cat. The story goes like this. There is a cat, which belongs to Egypt pharaoh, she has protected her master's soul in the pyramid for thousand years, she then bit the scientist on the thigh, who opened the pyramid, finished her mission and died right on the spot. To the faithful cat, the thousand years passed by, just like an afternoon nap, because we believe she lived in her own space and time, which is closed and never had communication with outside's space and time, much like Schrödinger's cat in the box. This haunting story can be summarized by following statements in our super natural framework:

1. There was a cat in a closed haunted pyramid mausoleum.
2. The cat lives in her own space with her master's soul in the tomb.
3. She lives in her own imaginary time axis, which is perpendicular to our real time axis.
4. The time inside the grave didn't flow for her as she didn't move with external world.
5. She rushed out when the door opened and the space-time re-connected (collapsed then).
6. The real time axis flew a thousand year at that moment.

The flaw of the quantum mechanics is the ignorance of the difference between the cat's time and the observer's time, so the superposition state exists, and at one point collapse is needed to merge the two time scales. In our frame work, the time is two dimensional [8], this way, the cat could be alive in T_1 time frame, and be dead on T_2 time frame, at one point collapsing is not needed, but switching of direction may be. As the cat in pyramid didn't die (maybe the spiritual of pharaoh protected the cat, or maybe the cat protected the spiritual of pharaoh, who knows!), but she can't be staying alive too long after the door is opened, when the time starts to tick back on to the real axis again, cat immediately realized she should be dead long times ago. The base of this is to recognize the difference between matters, say, pharaoh's cat is different from your cat, and her space or time are both controlled by the pharaoh's mausoleum. We have discussed enough for the past, let's we move on to the future.

The fortune teller theory based on Chinese five elements theory or the Indian meditation myths based on super nature medical theory are all come down to "harmony between the entire universe and the individual human body", every direction and each astronomical phenomenon happened at different times brings you different fortune for future. As the famous saying, the history may repeat, but will never be the same.

Whoever does the meditation exercise for a while or up to black-belt level may have the experience of telepathy, that could be a realization of quantum entanglement between human brains. If two persons have the same original material in their bodies, the quantum entanglement could happen between them and they will feel the change from each other, like many famous twin experiences for deadly crashes like 911. In another word, their brains may be synchronized in the imaginary dimension of time by spiritual activities. Taking meal and drinking liquor together is the fast way to get close to each other. Alcohol molecules could easily go through the blood-brain-barrier and get into brain, this add the probability of quantum entanglement and the spiritual synchronization. The quality of alcohol depends on the amount of entangled molecules in it, which in turn depends on how long the liquor molecules stayed together, maybe this is why the long preserved liquor (like those excellent liquor from the Han's tomb, not the apple) is much expensive than the short brewed one.

CONCLUSIONS

Believing or not, we arrived at our super natural relativity from the ancient five elements theory: fire is energy, fire creates dust, dust is space, dust creates gold, gold is spiritual, gold creates water, water is time, water creates wood, wood is material, wood creates fire, and the loop closed. Our super natural relativity is about the infinite circle among material, space, spiritual, time and the energy, in addition, we emphasize the connection between material and space, and we think the time is a complex vector rather than a simple scale.

Some of the super nature reablement practices stretch our imagination, for example, Dr. Xin Yan mentioned above is able to change the property of a glass of water, and use it to cure strange diseases. The human or most animal has two side of brains, in many meta-brain experiments [9], scientists have proven many times, when the right brain and left brain are cut and separated completely, the brain can still function as if they are still connected. This proves that space does transfer the powerful information. Space is not the material, but it is the undetachable shadow of the material.

The space of a cat, an apple, a moon or a criminal will affect everything around it, things can be entangled, quantum phenomenon is connected with sociology [10] from beginning.

ACKNOWLEDGMENTS

This work was partially supported by CCTEG Changzhou Research Institute grant 2014.010, the Suqian Excellence Expert Allowance 2013.18.14.5.9.2, GenieView subsidiary M2M Technology 2014.331.7.49 Project and Nanjing Hanwei Group research grant 2014.023. Our thanks to the Guang Qian Lu who has contributed towards early development of the theory.



REFERENCES

- [1] Beck, Matthias, Geoghegan, Ross, *The Art of Proof: Basic Training for Deeper Mathematics*, New York: Springer, 2010.
- [2] Aleks Kleyn, "Lorentz Transformation and General Covariance Principle", <http://arxiv.org/abs/0803.3276v1>, March 2008.
- [3] Koong Liang Huang, Chin Tsang Yang, Wei Kai Chao, "A Scientific Review of Cross-Domain Researches for Qi - A Preliminary Holistic Life Study of Multiphase Structures Combining Body, Mind, and Spirit", *Journal of Traditional Chinese Internal Medicine*, Vol.9, No.1., 2011.
- [4] Jun Steed Huang, Jiamin Moran Huang, Guang Qian Lu, "An Interpretation of Quantum Entanglement and the Nature of the Universe", Atlantis Press, *Advances in Social Science, Education and Humanities Research*, ICSS, 2014.
- [5] C. P. Thakur and D. Sharma, "Full Moon and Crime", *British Medical Journal (Clin. Res. Ed.)*; Vol. 289(6460): pp.1789–1791, Dec 22, 1984.
- [6] Xin Yan, F. Lu, H. Jiang, X. Wu, W. Cao, Z. Xia, H. Shen, J. Wang, M. Dao, H. Lin and R. Zhu, "Certain Physical Manifestation and Effects of External Qi of Yan Xin Life Science Technology", *Journal of Scientific Exploration*, Vol. 16, No. 3, pp. 381–411, 2002.
- [7] G.Feninbergt, "Possibility of Faster-Than-Light Particles", *Physical Review*, 1967.
- [8] J. W. Moffat, "Bimetric Relativity and the Opera Neutrino Experiment", *High Energy Physics - Phenomenology*, arXiv, 2011.
- [9] Thomas G. Schumann, "Direction Dependent EPR's Entanglement and the Metabrain", David Publishing, *Philosophy Study*, Vol. 2, No. 4, 251-256, April 2012.
- [10] Raoul Nakhmanson, "Quantum mechanics as a sociology of matter", Theses for IC QT RF 2, Växiö 2003.

About the Authors

Jun is a distinguished professor, Qing is pursuing his Master in Mathematics, Jiamin is pursuing her Bachelor of Science.