

Five Principles of the Universe and the Correlations of Wu's Pairs and Force of Creation to String Theory and Unified Field Theory

Edward T. H. Wu

Abstract: *Yangton and Yington Theory is a theory of a Yangton and Yington circulating particle pairs (Wu's Pairs) with a build-in inter-attractive force (Force of Creation) as the fundamental building blocks of the universe. Although Yangton and Yington Theory is only a hypothetical theory, the whole concepts are developed logically based on the Five Principles of the Universe. In this paper, these principles are discussed in detail. Also, String Theory is explained by the string force and string structures built upon Wu's Pairs. Unified Field Theory, on the other hand is interpreted by the subatomic structures and their corresponding force, one of the four basic forces, induced from Force of Creation.*

Keywords: Wu's Pairs, Yangton and Yington, Force of Creation, Subatomic Particles, String Theory, Four Basic Forces, Unified Field Theory, General Relativity, Quantum Field Theory, Quantum Gravity

Date of Submission: 14-07-2018

Date of acceptance: 31-07-2018

I. Introduction

Everything should start from simple form rather than a complex one. Taking more than a dozen subatomic particles such as quarks and leptons as the building blocks of the universe is impossible. It is totally against our experience and common sense. Therefore, it is my belief, instead, something simple such as photons should be the basic building blocks of all the matter in the universe.

Although taking photons as the building blocks of the universe sounds like a crazy idea, ask yourself why we can find photons everywhere in the universe such as that in the thermal radiation, nuclear reaction, particle collision, and even in the early stages of the Big Bang explosion. If indeed that the photons are the building blocks of all matter, then what the photon structure is and how they glue themselves together to form a variety of subatomic particles become a big challenge to all scientists.

To solve this problem, I proposed a new particle "Wu's Pairs", a Yangton and Yington circulating particle pairs, as the building blocks of all matter. Based on this idea, a photon is nothing but a free Wu's Pair flying in the space escaped from a substance.

1. Yangton and Yington Theory – A Theory of Everything

Yangton and Yington Theory [1] is a hypothetical theory based on Yangton and Yington circulating particle pairs (Wu's Pairs) with a build-in inter-attractive force (Force of Creation) that is proposed as the fundamental building blocks of the universe. The theory explains the formation of all subatomic particles and the correlations between space, time, energy and matter [2] [3].

2. Five Principles of the Universe – A Theory of Creation

It is assumed that a Wu's Pair containing two super fine antiparticles Yangton and Yington circulating in an orbit with an inter-attractive Force of Creation is generated from Nothing. Although it is a theory, the whole concept was developed based on the following Five Principles of the Universe with a series of systematic logical thinking:

1. There was Nothing in the universe in the beginning.
2. Nothing to Something must be a reversible process.
3. The Something must be a pair of Antiparticles with an inter-attractive force such that they can attract and destroy each other.
4. From Something to permanent matter, there must be an external energy to cause a constant circulation motion between the two Antiparticles so as to avoid them from recombination and destruction.
5. Eventually the whole universe will end and go back to Nothing.

More specifically, the above Five Principles can be described as follows:

The 1st principle:

“There was Nothing in the universe in the beginning”. This is the result of logical thinking. Otherwise, if the universe started from Something then one will always ask where that Something came from.

The 2nd principle:

“Nothing to Something must be a reversible process”. This is also a result of logical thinking. Common sense tells us that everything that has a beginning must have an end. The question is how it ends? And how long it takes to end? Would it make more sense just to reverse the initial process from Something back to Nothing? Simply because that Nothing already existed and also the reverse could happen instantly at an equilibrium condition. Therefore, I believe that Nothing to Something must be a reversible process.

The 3rd principle:

“The Something must be a pair of Antiparticles with an inter-attractive force such that they can attract and destroy each other”. As a result of logical thinking, the only possibility that Something can go back to Nothing is that the Something must have a built-in self destruction mechanism such as a pair of Antiparticles, Yangton and Yington Pair, with an inter-attractive Force of Creation for the enforcement of self destruction.

The 4th Principle:

“From Something to permanent matter, there must be an external energy to cause a circulation motion between the two Antiparticles so as to avoid recombination and destruction”. A circulation motion between two particles can be produced by two opposite motions against a vertical force. Since Force of Creation is the vertical force between the two Antiparticles, and the external force could be provided by Big Bang explosion, this principle is very well supported by the Big Bang Theory.

The 5th Principle:

“Eventually the whole universe will end and go back to Nothing”. By logical thinking, the universe can only be ended with Nothing. Otherwise, it will become a never ending story. Only going back to Nothing can stop this paradox.

3. Yangton and Yington – The Basic Particles

It is proposed that Yangton and Yington is a pair of super fine Antiparticles that can only be produced together with inter-attractive Force of Creation simultaneously from an empty space named as “Nothing”. This Yangton and Yington Pair with Force of Creation known as “Something” can recombine and destroy each other so that Something can go back to Nothing. Both Yangton and Yington are the fundamental particles of the universe. They can be used to form Something (Fig. 1) and Wu's Pair (Fig. 2). Something is only a temporary particle, but Wu's Pair is a permanent particle which is the building block of all matter such as photons, quarks, electrons, positrons, neutrons, protons and Dark Matters, etc.

Instead of solid particles, Yangton and Yington can also be considered as two tiny Energy Whirlpools (Energy Particles) with opposite spin up (Yangton) and spin down (Yington) directions generated by the energy released from the Big Bang explosion.

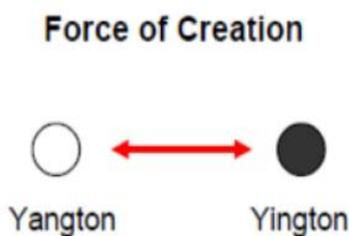
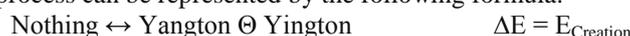


Fig. 1 Something - a Yangton and Yington pair with Force of Creation.

4. Force of Creation – The Fundamental Force

Yangton and Yington must coexist with an inter-attraction force named “Force of Creation” (Fig. 1), such that recombination and destruction can be enforced and Something will go back to Nothing. Therefore, the reaction of this reversible process can be represented by the following formula:



Where “ Θ ” represents Force of Creation, “Yangton Θ Yington” represents Something and E_{Creation} is Energy of Creation.

The inter-attractive Force of Creation between Yangton and Yington is the fundamental force in the universe, which can be used to generate String Force for the formation of elementary subatomic particles such as quarks, leptons, gluons and bosons; as well as the Four Basic Forces including gravitational force, electromagnetic force, weak force and strong force for the formation of composite subatomic particles such as proton, neutron and nucleus.

5. Big Bang – How the Universe Started?

About 13.8 billion years ago, there was nothing – no space, time, energy or matter, which is known as “None”. Then a Big Bang [4] exploded. Immediately, space was created and energy was released from a single point known as “Singularity” [5]. Energy released from Big Bang explosion was used to generate Yangton and Yington Pairs with inter-attractive Force of Creation and subsequently drive them into a circulating motion. This circulating motion could prevent the recombination and destruction of the Yangton and Yington Pairs such that Something couldn't go back to Nothing and thus a permanent Wu's Pairs could be formed.

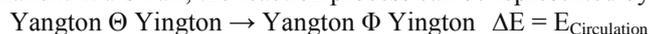
6. Circulation – How Matter Become Permanent?

The energy released from the Big Bang explosion could drive Yangton and Yington particles into a circulating motion. This circulating motion not only prevents the attraction and destruction between Yangton and Yington particles, but it also makes them alive and in operation.

Circulation can also be found commonly in our cosmos such as that electron circulating the nucleus, moons circulating planets, planets circulating stars, stars circulating the galaxies, etc. Therefore, circulation is the key to making a matter permanent.

7. Wu's Pair – The Building Block of the Universe

When Something became a permanent matter, a Yangton and Yington circulating pair with inter-attractive Force of Creation named as “Wu's Pair” was formed. These Wu's Pairs are the fundamental building blocks (God's Particles) of all matter such as photons, quarks, electrons, positrons, neutrons, protons, etc. From Something to a permanent Wu's Pair, the reaction process can be represented by the following formula:



Where “Yangton Θ Yington” represents Something – a temporary Yangton and Yington pair. “Yangton Φ Yington” represents Wu's Pair – a permanent Yangton and Yington circulating pair. $E_{\text{Circulation}}$ is the circulation energy including potential and kinetic energies that is contributed by the Big Bang explosion.

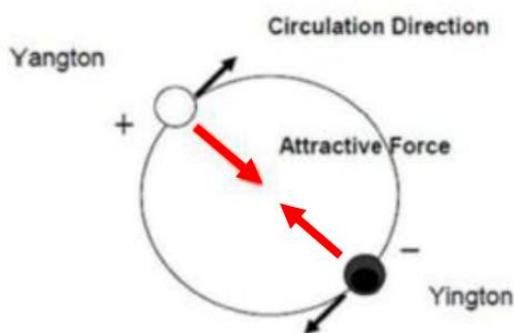


Fig. 2 Wu's Pair - a Yangton and Yington circulating pair.

8. Photon – A Free Wu's Pair

When Wu's Pair is released from a substance, it becomes a free particle known as “Photon” traveling in space at a constant speed 3×10^8 m/s observed at the light source. The reaction process can be represented by the following formula:



Where “Yangton Φ Yington” is Wu's Pair and $h\nu$ is photon's kinetic energy.

9. String Theory

Since general relativity [6] and quantum field theory [7] are not compatible, physicists suggested that all matter, instead of a point structure, must have a linear structure with 10 dimensions like Calabi-Yau manifold (Fig. 3). This is known as the “String Theory” [8].

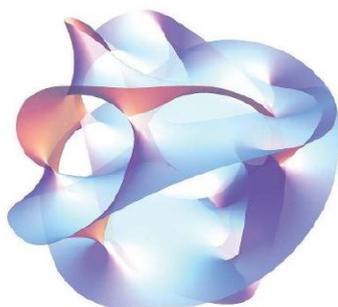


Fig. 3 A cross section of a quintic Calabi-Yau manifold.

Could String Theory be true? The answer is yes and only if all the subatomic particles have a linear structure. Physicists have absolutely no idea what the structures of quarks and photon are, even with their state-of-the-art LHC [9]. However, based on the Yangton and Yington Theory, that all subatomic particles should have a string structure is not only very possible, but also quite obvious.

Wu's Pair is a pair of Yangton and Yington particles circulating in an orbit held by the inter-attractive Force of Creation between the two particles. When two Wu's Pairs come together with the same circulation direction, there is an interaction, which I call "String Force", that one Wu's Pair will stack up on top of the other one at a locked-in position where Yangton of the first Wu's Pair is lined up to the Yington of the second one, such that a string or ring structure of Wu's Pairs can be formed (Fig. 4), which matches very well with the String Theory.

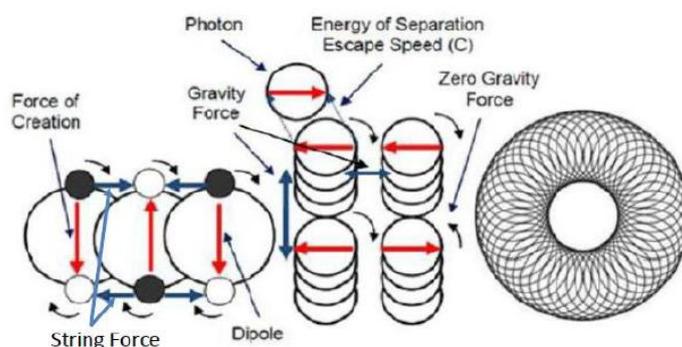


Fig. 4 Wu's Pairs stack up in a preferred direction by string force to form string and ring structures.

10. Unified Field Theory

According to Yangton and Yington Theory, Force of Creation, the inter-attractive force between Yangton and Yington Pairs is the fundamental force of the universe. Elementary subatomic particles are composed of Wu's Pairs with string force generated from Force of Creation. Composite subatomic particles are made of elementary subatomic particles with four basic forces induced from Force of Creation. In other words, subject to the structures, all matter in the universe can be structured by elementary and composite subatomic particles with four basic forces based on Force of Creation. This is known as "Unified Field Theory" [10]. For example, based on Force of Creation, gravitational force can be created between two Graviton particles, electromagnetic force can be generated between electrons and protons, weak force can be formed between neutrons and positrons, and strong force can be produced between two neutrons, also between a neutron and a proton [2].

In the past century, physicists have tried to develop a quantum field theory based on a mathematical model to unify four basic forces. So far, there has been a good success on electromagnetic force, weak force and strong force, except the quantum gravity theory [11] for the gravitational force due to the incompatibility between general relativity and quantum field theory. However, based on Wu's Pairs and Yangton and Yington Theory, four basic forces and unified field theory can be easily realized by a simple physical model.

II. Conclusion

Wu's Pairs and Yangton and Yington Theory are the building blocks and the foundations of the universe which explains the formations of the Subatomic Particles and the correlations between Subatomic Particles, String Theory and Unified Field Theory. Five Principles of the Universe are proposed as the foundation of Wu's Pairs and Yangton and Yington Theory. In addition, String Theory is explained by the string structures built upon Wu's Pairs. Also, Unified Field Theory is interpreted by the subatomic structures and their corresponding force, one of the four basic forces, induced from Force of Creation.

References

- [1]. Edward T. H. Wu, "Yangton and Yington—A Hypothetical Theory of Everything", Science Journal of Physics, Volume 2015, Article ID sjp-242, 6 Pages, 2015, doi: 10.7237/sjp/242.
- [2]. Edward T. H. Wu. "Subatomic Particle Structures and Unified Field Theory Based on Yangton and Yington Hypothetical Theory". American Journal of Modern Physics. Vol. 4, No. 4, 2015, pp. 165-171. doi: 10.11648/j.ajmp.20150404.13.
- [3]. Edward T. H. Wu. "Time, Space, Gravity and Spacetime Based on Yangton & Yington Theory, and Spacetime Shrinkage Versus Universe Expansion". American Journal of Modern Physics. Vol. 5, No. 4, 2016, pp. 58-64. doi: 10.11648/j.ajmp.20160504.13.
- [4]. "Big-bang model". Encyclopedia Britannica. Retrieved 11February 2015.
- [5]. Claes Uggla (2006). "Spacetime Singularities". Einstein Online. 2 (1002).
- [6]. Einstein, Albert (1920). "On the Idea of Time in Physics". *Relativity: The Special and General Theory*. Henri Holt. ISBN 1-58734-092-5. And also in sections 9–12.
- [7]. Zee, Anthony (2010). *Quantum Field Theory in a Nutshell* (2nd ed.). Princeton University Press. ISBN 978-0691140346.
- [8]. Polchinski, Joseph (1998). *String Theory*, Cambridge University Press ISBN 0521672295.
- [9]. Highfield, Roger. "Large Hadron Collider: Thirteen ways to change the world". *The Daily Telegraph*. London. Retrieved 2008-10-10.
- [10]. Beyond Art: A Third Culture page 199. Compare Uniform field theory.
- [11]. Rovelli Carlo (2008). "Quantum gravity". *Scholarpedia*. 3 (5): 7117. Bibcode:2008SchpJ...3.7117R. doi:10.4249/scholarpedia.7117.

Edward T. H. Wu" Five Principles of the Universe and the Correlations of Wu's Pairs and Force of Creation to String Theory and Unified Field Theory." *IOSR Journal of Applied Physics (IOSR-JAP)* , vol. 10, no. 4, 2018, pp. 17-21