

New Science and Unification Thought

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Development of Modern Science

1. Newton Dynamics

It can be said that modern science began with Newton Dynamics. It is a wonderful theoretical system based on mathematical differential equations which reveals the movement laws of all bodies. Because of his splendid success, Newton's method penetrated into every field of natural sciences. In the modern science beginning with Newton Dynamics, the basic recognition of reality of bodies is a particle. Every body can be divided into final particles, called atoms; that is, every body is composed by several atoms which can not be further divided. The fluid matter such as air and water is also composed moving particles. This cognition is Democritus atomism, and conventional common sense of human is also based on this recognition of reality.

2. Electro-magnetic Wave

In the 19th century, Faraday and Maxwell founded electro-magnetic theories. It is based on the concept of field. Light wave, electric wave, X-ray and Gamma-ray, all such waves are the same electro-magnetic waves transmitted into the space, with only different wave lengths or frequencies of vibration. The recognition of wave in a field does not come out from the atomics of Democritus. Sound wave is transmitted in to the field of air, and earthquake wave is

transmitted in the field of earth crust. Wave propagation needs such medium bodies. But electro-magnetic wave propagates in the vacant space. Are there anything in the space? At that time physicists assumed that the space is full of ether. But ether cannot be recognized by any physical experiments. That is, ether is non-observable existence.

3. Elementary Particles

On the other hand chemical or radio active atom analysis went into the search of the extreme particle of materials. It reveals the structure of atoms. An atom is composed of the kernel and electrons circulating around its kernel. Further the atomic kernel is composed of a proton and a neutron. Thus at the beginning of the 20th century, it is considered that the extreme particles are electron, proton, neutron and photon which is a unit when the light is considered as particles. These 4 kinds of particles were called as elementary particles.

Quantum mechanics revealed that these elementary particles showed very curious properties which cannot be utterly considered by our common sense or Democritus's atomism. An elementary particle is a particle and, at the same time, a wave. For example, we say "the electron circulates around its kernel", and we can say, at the same time, "the electron is a stationary wave around the kernel". Of course the electron wave is the same kind of wave as the above mentioned electro-magnetic wave whose medium is the space. And an elementary particle exists at two different places at the same time. For example a free emitted electron goes through two separated parallel slits at the same time, which means that the electron exists at two different places at the same time. These properties of elementary particles completely upsets the recognition of Democritus's atomism about the reality of bodies.

Later H. Yukawa found a new elementary particle, called meson, which is the cause of the force connecting the proton and the neutron in the atomic kernel. Since then, new elementary particles have been found one after another. Nowadays there are more than several hundreds kinds of elementary particles, many of which are very unstable ones generated by collisions of other elementary particles in an accelerating furnace. Thus elementary particles can be no longer considered as "elementary," fundamental nor final particles.

4. Quarks

Soon it is found that if such many elementary particles are classified by their electric charges and spins, then there exist highly regularities, and if we assume the existence of 3 kinds of new imaginary particles then most elementary particles can be considered to be composed of appropriate combinations of the 3 kinds of imaginary particles. These 3 kind of imaginary particles are called as "quarks" Since then physicists eagerly try to ascertain the existence of quarks by experiments, but all their efforts have been in vain. That is, "quark" is still only an illusion.

The New Science or Newage Science

5. What is "New Science"

The above mentioned methodology of physics is a typical model of modern sciences. This is extended to many other sciences; chemistry, biology, medicine and psychology. The essence of this methodology is such that. Only facts observed by experiments or propositions derived from such facts by logical reasoning are recognized as truth. They deny such assertions as revelations from God. By this methodology sciences have been making many successes for human lives. But they can successfully treat only materials and energies. They have no such power for matters related with human minds or consciousness.

On the contrary the new science (or newage science) treats human consciousness more or less. Of course conventional psychology treat human consciousness or minds, but it tries to treat them by information processing within brains based on modern science methodology. By such methodology we cannot reveal more essential movement of human mind such as "love", "joyfulness", "yearning", or "belief"

Unification Thought explains that a human being is a being combining physical body and spiritual body. And human consciousness or mind belong to the latter. New science's recognition of human mind is very near to that of Unification Thought. New science talks about not only human minds but also the mind of universe. The latter is the one called universal original power by Unification Thought, and is almost equal to "Qi" with which Chinese or Japanese are very familiar. In India "Qi" is called as "Plana", and it may resemble "idea" by Platon (later we discuss about "Qi" in detail). In originators of the new

science there are many Western physicists like D. Bohm or F. Capra. But their view point of congtions is very near Eastern or religious cognitions. While Unification Thought aims to unify Western and Eastern world and science and reigion, the new science will found theoretical faces of Unification Thought.

6. Bootstrap Theory

Modern physicists know well that an elementary particle shows the property of wave by quantum mechanics and that its mass is not invariant and it might disappear or change into energy by the formula, $E=MC^2$, of Einstein's relativity theory. Nevertheless the idea of Democritus's atomism still remains in their recognition of reality of a bdo. It is shown in their attitude to be searching eagerly the existence of the final particles, quarks. But very recently G.Chew developed bootstrap theory in which real existence of a body is considered to be only a process of energy changes in the space. By experiments in an accelerator, many elementary particles are created and annihilated in collision processes. These reaction processes are represented by a kind of networks or webs, which are analyzed mathematically by S-matrix.

This is a brief of bootstrap theory, where they not recognize the existence of any final particles, and completely upset the recognition of Democritus's atomism. They think that the reality of existence, the being like a body, is actually a process of energy changes.

F. Capra insists that the recognition in bootstrap theory is very close to that of Eastern or religious thought like "Zen." In Zen they often say "Quh." Its superficial meaning is "vacant" or "empty", but its profound meaning is "the being full of energies". Bootstrap theory is developed from modern science, but it is already a kind of new science.

7. Holomovement of D. Bohm

Another advocate of new science, D.Bohm insists that the foundation of reality is the "holomovement" D. Bohm said that the existence of a body is an abstract of the holomovement, and actual existence is the holomovement. The concept of the holomovement is very difficult to be understood, but it is close to the concept of "Quh" in Zen, or the Universal Original Power of Unification Thought. They all think that the space of the universe is not vacant but is the being full of energies and moving actively. It can be said that holomovement is the space of universe itself.

D. Bohm explains it by a concrete analogy. There are two cylinders set concentrically. We fill up liquid with high viscosity, like glycerin, between the two cylinders. Put a drip of ink into the liquid, and turn round the outside cylinder very slowly. Then the drip of ink is stretched out to a very fine string. Soon it becomes too thin to be recognized by naked eyes. Then turn the outside cylinder inversely, and the very thin string of ink appears to be seen. And suddenly we see the drip of ink when the cylinder returns to the original position. In this model the circulating movement of the liquid corresponds to holomovement and the drip of ink concentrated to be seen corresponds to the reality of a body. But at the next instance the drip is folded into the liquid and disappears. Such a being is the existence of a body and it can be said to be a process or an abstract of the true reality, holomovement, says D. Bohm. Thus existing bodies are all folded into holomovement. And further, human consciousness or minds themselves are also folded into holomovement.

8. Holographic Model

Holography is a kind of technique of photography, and was invented in 1947 by Denis Gavaoa, who had the Nobel prize by it. Ordinary photograph is a direct image of the body reflected by lens. In holography the direct lights from the body and its reflecting ray by mirror shine the film at the same time. So the film records the interference results of the two kind of rays. This is the process of recording.

Next we set the film and the mirror on the same place, and shine the film by light, then we can see the 3-dimensional image of the body, this is the reproducing process. Ordinary the laser ray is used in holography in order to have clear images through interference. The holographic film has the information of the figure of the body, but even if we see the film itself, we cannot recognize any image of the body. We see the interference results on the film. Mathematically speaking, this is a kind of *Fourier transform* of the body. Fourier transformation is often used for analyzing the vibration or oscillation phenomena. For example the time function $f(t)$ of the strength of an earthquake wave is analyzed by Fourier function, then the transformation result is the function $F(w)$ of oscillation frequency w .

In short, Fourier transformation transforms the time function $f(t)$ to the frequency function $F(w)$. that is, our view point of variations in time axis is changed to the view point of variations in frequency axis. Fourier transform has its inverse transform. So if we have the

information of $F(w)$ on frequency axis, then we can know the original function $f(t)$ by the inverse transformation. In holography the axis to be transformed is not a time axis but space axes. However, they often call the results of transformation as the function in the frequency axis. That is, we see the information of the function in frequency axis on the holography films.

A remarkable feature of holography film is such that. Removing a half (or even 90%) of the film, we can have the image of the body from the rest part of the film by reproducing process. Of course the image is rather vaguer than that from the complete film. Some new scientists extend the holographic model to a highly abstract world, and insist the following statement. Behind the reality of our world, there exists another world. The former is called *explicit system* and the latter *implicit system*. and the latter is Fourier transform of the former. The whole information the explicit system is folded into the implicit system by the transform.

On the contrary if we have the information of implicit system then we know the information of explicit system by the *inverse transformation*. This is the mechanism of prophecy or predication. And then new scientist K.H.Pribram, who is a cerebral physiologist recognized that a memory in the brain is not stored in a part of the brain network, but is scattered to all over the brain. And he insists that brains structure of memory is holographic and explain various unsolved problems on brain physiology by his model.

The Concept of "Qi"

9. What is "Qi"

Since ancient time Chinese and Japanese have been very familiar with "Qi." But unfortunately we can not translate "Qi." to any appropriate word of English or other western languages. There are many words or phrases including Qi in Japanes. (In Japanese Qi is written as "Ki" in Roman letter); Kichigai (=disordered Qi) means "mad", Genki (=proper Qi) means "spirit with courage" and "Ki ga chillsai" (=small Qi) means "be timed" etc.

All these words represent the states of human mind or consciousness. But it is remarkable that the letter Qi is also used in the words, such as Kisho (= weather), Denki (= electricity), and Jiki (=magnet) etc. These words represent the atmospheric being with no relation of human consciousness. It means that ancient Japanese or

chinese knew the essential being in human mind to be the same one as the being in universal atmosphere, and they named it as "Qi." Thus Qi is the being filled in the whole universe or the whole space, and at the same time it is filled in the minds of our human being.

Qi is an essential factor in Chinese medicine. The doctors of Chinese Medicine constructed the detailed map of flow route of Qi in human body, which is called as "keiraku meridian." And the main intersection points of these routes are called as "keiketsu" or "tsubo". The doctors of Chinese medicine cure various disease by stimulating keiketsu with pins or tiny burning grass. By this method Chinese medicine has been had many successful examples in its whole history. But keiraku or tsubo have no corresponding anatomic substances. These are the beings without substances, and of course not observed by any scientific measurements, nevertheless do actually work. Qi itself cannot be observed by any conventional scientific measurement. But I hear that some specific machine, called MRA (magnetic resonance analyzer), might be sensible for the Qi.

10. The Essential Feature of Qi

Then, what is essential feature of Qi? I think that Qi is a wave motion. The characteristics of wave are wave length, frequencies, amplitude and figure of wave. And waves propagate in some medium. What is the medium of Qi wave. It may be the space of universe. As I mentioned above, the space is the medium of electro-magnetic wave, such as radio wave, light, X-ray and Gamma-ray. That is Qi is the same kind of wave as electro-magnetic wave, but its wave length is very short. This may be in Plank scale, that is, less than $1/10^{33}$ cm. As you know, the wave length is reciprocally proportional to its frequency. So frequency of Qi is very high, so it has high energy.

In Japanese or Chinese, there are special kind of expert, called "Qi-koshi" considered to be to have transcendental super powers. Qi-koshi cures a disease by only holding his hand over the diseased part, like Jesus Christ. He can blow off a person by mesmerizing with yell. How can he do such things? I think, the Qi in him becomes to be resonated with the Qi in the space. In vibration theory resonance phenomenon is very important. Any structured body has its proper frequency. And if external vibration with the same frequency as its proper frequency is given to the body, it is resonated with the external vibration and begins to shake violently.

For example, if the frequency of the earthquake wave coincides with the proper frequency of a building then the building is resonated

with the earthquake and vibrates violently to be destroyed. The building completely absorbs the energy of vibration of earth crust by the resonance. Here I mentioned "coincide", but precisely speaking, the condition of resonance is "simple integral ratio of the frequency. In music harmony is a kind of resonance phenomenon. Harmony of one octave corresponds to 2 times of frequency, and 5th interval consonant to $3/2$ times."

Now we can see why a Qikoshi has such a high energy and can cure diseases. The proper frequency of his Qi coincides with or has simple integral ratio to the frequency of the Qi in the universal space. So his Qi makes resonance with the universal Qi and high energies of the universal Qi are given to him. The vast energies are filled in the space. But ordinary persons cannot use them, because their proper frequencies do not coincide with that of the universal Qi.

11. Training of Qi

I mentioned in the last section that a Qikoshi has proper frequency coinciding with that of the universal Qi. Of course persons with high spirits, like Jesus Christ or Buddha, must have such proper frequencies of Qi. The proper frequency of a building is fixed forever. But that of human Qi can be changed by the control of minds. The training in Buddhism or Zen are a kind of controls of Qi. In Unification Thought it is said that a spiritual body is brought up by prays and conducts giving loves to others. These all make the proper frequency of human Qi change to be similar to that of universal Qi.

These are more technical training method of Qi in "Qiko" which is a kind of discipline of training of Qi and very near to "Yogi". One of them is called "Shoshuten" (meaning "small heavenly circulation") in which one circulates his Qi in his body by the special physical conditions, breathing and meditation. The other is called "Daishuten" (meaning "great heavenly circulation") in which one takes Qi from the universal space into his body. "Taikyokuken" is a kind of Daishuten. This is very popular in China. In early morning you can see many Chinese doing taikyokuken in parks or such open spaces.

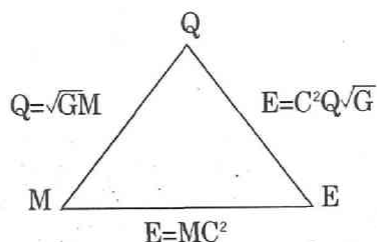
12. Mathematics of Qi

Qi is a wave and exists all over the universe and also in human minds. S. Inomata, who is a Japanese physics engineer, is a radical new scientist. He states that the quantity unit of Qi is same as electricity, and represent it by Q , then we have the relation. $Q = \sqrt{GM}$

where M is the quantity of mass and G is the constant of universal gravity ($G=10^{-7}/1.5[m-L^3T^{-2}]c.g.s. \text{ unit}$).

As you know, mass and energy have the relation $E=MC^2$ which is famous Einstein formula ($C=3 \times 10^{10}[LT^{-1}]c.g.s. \text{ unit}$)

From above two formulas we have the formula relating Q_i and energy $E=C^2Q_i\sqrt{G}$. So mass(M), energy(E), and $Q_i(Q)$, these 3 quantity have inter-connective relation shown below. This is one of important conclusions of his theories.



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The Philosophical Foundation for the Family-System in the Confucianism and Unification Thought - in order to Create a New Family Culture in the Age of the Global Village

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The presupposition of the philosophical location of cosmos and the contentment of human life are to recognize the essence and existence both of cosmos and of human being. The deeper presupposition lies, however, in the inter-relationship between cosmos and man, and between man and man. The traditional Chinese Confucian philosophy and modern Unification Thought seems to me to possess these two presuppositions in full sense.

I-king (The Book of Change)¹⁾ is the fundamental origin of both the Confucianism and Unification Thought. The Confucians explain the I-kings philosophy in its practical function of concrete human life. The Unificationists combine the I-kings thought with Christian belief. The Confucianists show their domestic private wisdom in the ethical milieu on the one hand, while the Unificationists their universal and global one in the religious position on the other hand.

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In the Confucian philosophy the two complimentary but not contrary elements of I-king, *Yin* and *Yang* show the location of cosmos in its essential contents. The elements *Yin* and *Yang* generate the whole universe through their two essential changes, combinatin and separation, In I-king the two elements *Yin* and *Yang* seem to be eternal, but have the same origin from Tao, which is at the same time the archaic principle of change of all things. Both the