# Journal of Cell Science & Molecular Biology



Volume 2, Issue 1 - 2015 © Das Nirmalendu 2015 www.opensciencepublications.com

# Searching of Properties of Mind, Activity of Number of Cells in a Brain by Couple System

# **Review Article**

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Article Information: Submission: 13/11/2015; Accepted: 15/12/2015; Published: 21/12/2015

#### Abstract

The Mind is a sensitive issue that we do not know perfectly. Many ideas have been adopted and many questions unsolved in this field. This is very tub to find the functions of mind. Because it's freckled behaviors irritate human thinking whatever it may good or bad. Any living body made by various types of bones, nerves, cells, tissues, bloods, fluids, etc. These are mostly composed of complicated organic materials. The researchers classified these experiments from the old age of civilization to present day activity. The medical science is now very rich in position. Though few question strikes us to know about unsolved matter. The mind is one of them. In a living body, the brain is most important and functioned as a superfast computer. It is a receiver and sender of all types of information which we do work, think, hear, see, feel, etc. Brain ordered to mind to do such work. In this article, I tried to solve theoretically through Couple System [1]. The brain has gray matter and white matter; these are mostly filled by glia, neuron cells. Total cells in the brain are 170.68 billion, out of this 86.1 billion neuron cells and 84.6 billion glia cells [2]. Out of these cells only 8.65 billion neuron cells create mind wave by interacting with gray matter which is almost 1/10th of 86.1 billion neuron cells. Although mind has velocity, wavelength and frequency.

**Keywords:** Material Properties of Mind; Frequency of Einstein Brain, Couple system are related to MIND And BRAIN, Effect of Gray and White Matter by Couple System.

#### Introduction

#### What is mind?

In this regards we can say that a person is capable to do the work, so person is worker and work means a target of material things in our normal sense whatever it may official, unofficial, talking, waking, meet together, researching, writing, singing, playing etc. Without work parson has no meaning. When the person sleeps, then he can't do any work, only he takes breath to live. At this time mind plays a roll out of Conscious mode. In case of deep sleeping, there is no difference between the person and anything as like as when the matter takes place at rest. At that time we can say mind has to function. But

person or his body is the carrier of mind, as so he is a carrier like TV or Radio Tower and mind played role as wave from one place to another place. So mind must be a material thing which we can't describe till now. But when this mind feels disturb? This is very hard to give answers. Though normally we can assume that suppose I am thinking or doing some work in deep concentration, suddenly I took feel a pain in my body somehow, then mind will immediately transfer to that place and our brain gives order to mind to do something to relieve myself. As a result, mind functioned outside and inside both. A body is peculiar laboratory; its characteristic is very wonder and non describable at a moment. Different parts have different functions. All functions connected to our brain through the bone, vein, cells,

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etc. Lot of experiments already found and explained by the scientist, though many things are there which are in dark till now. Here I want to discuss on mind that how it generated from the brain? How many cells are responsible to give order to wave-mind to do the work in a brain? All brain are not same, it depends on age, size, weight and on the number of cells. Due to difference of the brain one to another, the activity will differ, but most common activity for all more or less same, for example, eating, sleeping, laughing, crying, walking, working, writing, singing, talking, feeling pain, love activity, fighting, playing etc. No philosophy need for all these functions. These are normal habit only. Philosophy is the part of the mind, race of thinking, finding the new path of creation. There are many rolls of mind depend on the thinking of parson by vision, works. Its effect to heart also. Thus, it has many persons, many things, many works, and many effects of the mind. The mind has three types of functions, 1) Conscious mind, 2) Sub Conscious mind, 3) Unconscious mind [3]. We may classify the conscious mind in two ways as --- a) Good Conscious mind, b) Rough / bad or diabolic Conscious mind. He wants to detriment to the other whatever he or she will know or unknown. Whose activity of a) or b) will greater than one that will come in front to do the work? The subconscious mind also two types i) On sleeping condition, ii) Mentally disorder person by disease or by any other cause. 3) Unconscious mind similar to Subconscious mind with some difference as unconscious sits a layer deeper in the mind under the subconscious. The mind is very critical nature of life. It transmits in the form of wave from brain functions depends on the surrounding circumstances. That we see things with our eyes, it mainly acts and depends on the style of talking, movement with persons or anything. The velocity will depend on the circumstances of environments with respect to brain effect. If the velocity of the mind considered as nearby the velocity of light and choosing velocity of 1 cm/second, then other properties we may find. How we can solve this problem that is the main part of mind in this field of search.

# **Materialistic Properties of Mind**

We know the-Broglie Equation,  $v = c / \lambda$ , here, v = frequency,  $\lambda =$  wavelength, c = velocity of light. If the velocity of the mind  $(u_{\rm M})$  almost equal to the velocity of the electron (say, 1 x  $10^7$  cm / second) that is Mind =  $u_{\rm M} = 10^7$  cm / second and we placed to c in the above equation, then we get,  $v = u_{\rm M} / \lambda$ , where, v = frequency of mind. Brain wave contained Beta ( $\beta$ ), Alpha ( $\alpha$ ), Theta ( $\theta$ ) and Delta ( $\delta$ ). Every wave has individual function as given below: [4].

Beta (14-40Hz) - The Waking Consciousness And Reasoning Wave

Alpha (7.5-14Hz) - The Deep Relaxation Wave

Theta (4-7.5Hz) - The Light Meditation And Sleeping Wave

Delta (0.5-4Hz) - The Deep Sleep Wave

If we consider the minimum Beta wave of frequency 14 Hz ( $\nu'$ ) to calculate the mind function when it will run as same as the velocity of an electron, for example  $10^7$  cm / second, then, we get wavelength ( $\lambda'$ ),

 $\lambda' = u_{\rm M} / \nu' = 7.14 \text{x} 10^5 \text{ cm}$ , this limit wavelength is w.r.t. mind

velocity for β-frequency of 14 Hz.

 $\lambda' = u_M/ v' = 1.33 \times 10^6$  cm, this limit wavelength is w.r.t. mind velocity for  $\alpha$ -frequency of 7.5 Hz.

 $\lambda' = u_{_{\rm M}} / \nu' = 2.5 \text{x} 10^6$  cm, this limit wavelength is w.r.t. mind velocity for  $\theta$ -frequency of 4 Hz.

 $\lambda'=u_{_{\rm M}}/\,\nu'=2x10^7$  cm, this limit wavelength is w.r.t. mind velocity for  $\delta\text{-frequency}$  of 0.5 Hz.

If the velocity of mind travels at 1cm/Sec, then, correspondingly the above wavelengths will:

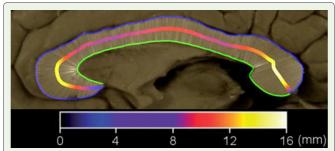
 $\lambda' = u_{\rm M} / \nu' = 0.0714$  cm, this limit wavelength is w.r.t. mind velocity for  $\beta$ -frequency of 14 Hz.

 $\lambda' = u_{_{\rm M}}/\nu' = 0.133$  cm, this limit wavelength is w.r.t. mind velocity for  $\alpha$ -frequency of 7.5 Hz.

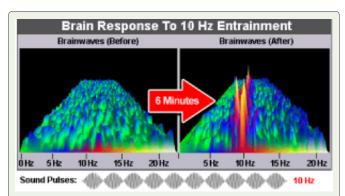
 $\lambda' = u_{_{\rm M}} / \nu' = 0.25$  cm, this limit wavelength is w.r.t. mind velocity for  $\theta$ -frequency of 4 Hz.

 $\lambda'=u_{_{\rm M}}$  / v'=2 cm, this limit wavelength is w.r.t. mind velocity for  $\delta\text{-frequency}$  of 0.5 Hz.

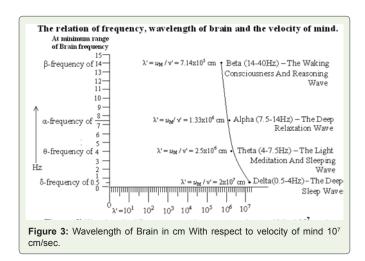
Therefore, we need to find the working velocity of mind by

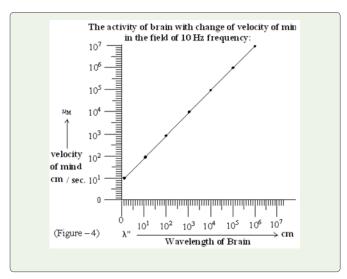


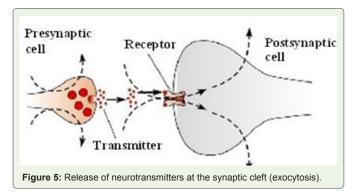
**Figure 1:** Albert Einstein's corpus callosum, connecting the two cerebral hemispheres of the brain. The colors indicate the varying thicknesses of subdivisions of the corpus callosum (credit: Weiwei Men et al. /Brain).



**Figure 2:** According to Figure – 2, our brain response to 10 Hz entertainment [6]. In this condition, we can calculate the wavelength to follow De-Broglie equation as:  $\lambda = c / v = 3x10^{10}$  cm / 10 Hz =  $3x10^{9}$  cm/second, where, c = velocity of light. If the velocity of electron acts on the brain, then the wavelength of this corresponding frequency will:  $\lambda' = c / v' = 1x10^{7}$  cm / 10 Hz =  $1x10^{9}$  cm. Therefore, velocity of the mind will: um =  $\lambda' \times v' = 1x10^{9}$  cm x 10 Hz =  $1x10^{7}$  cm/second, that is the velocity of the electron = velocity of the mind.







experiments. This velocity will depend on the cell activity of the brain in which portion is functioning. So, it is essential to determine the number of cells acting in the brain. According to reference [5], an example is given here from Einstein's brain.

As per reference [4], we see that, in 10 Hz condition, this wave functioned within the range of the Deep Relaxation Wave, Alpha (7.5-14Hz). In figure 2, pointed that the brain response to 10 Hz

entertainment. Therefore, brain and mind are interrelated. When the brain works as waves, then mind works as velocity corresponding to brain wave frequency [5,6]. The velocity of the mind will always less than the velocity of light. In short frequency (Hz) of the brain, the velocity of the mind will high and this will bypass memory, as a result mind to take place as the Sub Conscious mind / Unconscious mind. The relation of the brain and the velocity of the mind are shown in Figure 3.

In Figure 1, we observed that, the brain range is from 0 to 16 mm or 1.6 cm. if we treated 1.2 cm as wavelength from figure w.r.t. mind velocity 1 cm, then the frequency will, 0.833 Hz. If the velocity of the mind acts as  $10^7$  cm/Sec, then, frequency =  $8.33 \times 10^6$  Hz. Comparing this frequency, it is the frequency of small particle about 1.44 nm sizes in magnetic properties of particle field [7].

The activity of brain with change of velocity of mind in the field of 10 Hz frequency:

When,

The velocity of mind =  $10^1$  cm/sec, then, wavelength  $\lambda'' = 1$  cm =  $10^2$  cm/sec, then, wavelength  $\lambda'' = 10$  cm =  $10^1$  cm =  $10^3$  cm/sec, then, wavelength  $\lambda'' = 100$  cm =  $10^2$  cm =  $10^4$  cm/sec, then, wavelength  $\lambda'' = 1000$  cm =  $10^3$  cm =  $10^5$  cm/sec, then, wavelength  $\lambda'' = 10000$  cm =  $10^4$  cm =  $10^6$  cm/sec, then, wavelength  $\lambda'' = 100000$  cm =  $10^5$  cm =  $10^7$  cm/sec, then, wavelength  $\lambda'' = 1000000$  cm =  $10^6$  cm

## What is gray matter in the brain?

According to reference [8], the gray matter is mainly composed of neuronal cell bodies and unmyelinated axons. Axons are carrying signals between those bodies. The grey matter serves to process information in the brain. Structures within the grey matter process signals generated in the sensory organs or other areas of the grey matter. These signals reach the grey matter through myelinated axons that make up the bulk of the white matter in the cerebrum, cerebellum and spine.

Also found in the gray matter is the glial cells (astroglia and oligodendrocytes) and capillaries. The glial cells transport nutrients and energy to the neurons and may even influence how well the neurons function and communicate.

#### What is white matter in the brain?

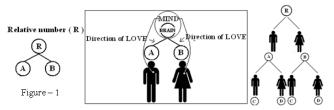
White matter, on the other hand, is mainly composed of long-range myelinated axons (that transmits signals to the grey matter) and very few neuronal cell bodies. Myelin forms a protective coating around these axons, insulating them and improving their transmission of neuronal signals.

White matter is found buried in the inner layer of the brain's cortex, while the grey matter is mainly located on the surface of the brain. The spinal cord is arranged in the opposite way, with grey matter found deep inside its core and the insulating white matter wrapped around the outside. Some grey matter is also found deep inside the cerebellum in the basal ganglia, thalamus and hypothalamus and

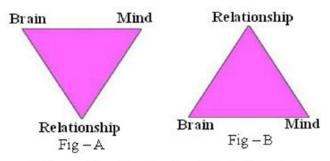
white matter is also found in the optic nerves and the brainstem.

How Gray and White Matter functioned through couple system that needs to discuss. Glia and neuron cells are present in gray matter also in white matter. Brain and mind are related and this relation works to do, think which stored in memory. It transmits timely from store and hits mind that what happened in the past. In the present situation, mind has determinable property. But for the future, which we think for tomorrow, all-time it may not be applicable due to variation of the present situation.

Couple system is a system of dual property between two objects (A) & (B) related to third party (R). This third party ordered to do a function. Suppose a person loves girl, love comes out from mind, here mind is third property which call each other to meet in the form of direction of love. A figure is given here, for example:

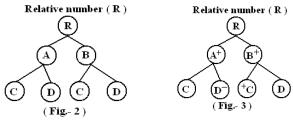


# Couple system is related to MIND AND BRAIN



[Reference 9] [From the view of Couple System]

In figure 1, we see that A & B is related to R. This R may term as RELATIVE NUMBER between A & B. This relation will continue when the series will extend from A & B to C & D to keep relation R. Let, A & B placed in A zone and B zone respectively, and C & D will produce another zone as C zone and D zone. If C & D another two number makes relation to A & B together, then the zone may represented by a round symbol as  $\bigcirc$  and we can write it in the form of:



**Reaction of couple:** If A & B takes place in the form of  $A^+$  &  $B^+$  in positive zone and C & D takes place in negative zone in the form of  $D^-$  &  $C^+$  related to  $A^+$  &  $B^+$  in positive zone, then if dressed it in

the form of:

$$R \rightarrow (D^{-} \cdot A + C^{+} \cdot B^{+})$$
, we can write,  $D^{-} = -D \& C + = +C$  ------(1)

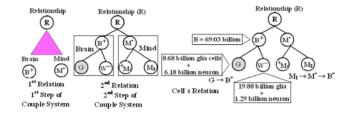
$$R \rightarrow (C \cdot A + C \cdot A) - \cdots (2)$$

$$R \rightarrow 2 CA ---- (3)$$

#### **Description:**

- 1) D is related to A (Fig-2, L.H.S.) and C is related to B (Fig-2, R.H.S.). But the value of A and C will same to the value of B and D
- D<sup>-</sup> in L.H.S. means that it is the end of the reaction of problem to form relative number (R) acting with C<sup>+</sup> in R.H.S.
- 2) The original value of D is C; therefore, D reacts with A and forms CA. Similarly, C is the original value of D, but the original value of B is A. So, C reacts with B and forms CA.
- 3) Total couple reaction with respect to R is 2CA.

When the value of A, B, C, D..., individual, then the result of 2 CA will bring other number [1].



Here, suppose, R = Relation between Brain and Mind = 1 Brain + 1 Mind = 2

Total neuron in the brain, B=69.03 billion, M+= Conscious mind

G = Gray Matter (8.68 billion glia cells + 6.18 billion neuron cells),

M1 = Same to Conscious mind, M2 = Sub Conscious mind

## **Effect of Gray Matter of Couple System**

 $R \rightarrow 8.68$  billion glia cells x 69.03 billion neuron cells in brain +  $\rm M_{_1}$  x 69.03 billion neuron cells

Or, R  $\Rightarrow$  599.1803 billion neuron cells $^2$  +  $M_{_1}\,x$  69.03 billion neuron cells.

Or,  $M_1$  x 69.03 billion neuron cells + 599.1803 billion neuron cells<sup>2</sup> = 2 billion cells<sup>2</sup> need for couple (Assuming that at least 2 billion cells<sup>2</sup> need for function where, R = 1 brain + 1 mind = 2)

Or,  $M_1$  x 69.03 billion neuron cells = 2 billion neuron cells<sup>2</sup> - 599.1803 billion neuron cells<sup>2</sup> = - 597.1803 billion<sup>2</sup>.

Or,  $\rm M_1$  = - 599.1803 billion neurons cells² / 69.03 billion neuron cells = - 8.65102 billion neuron cells will function mind.

This value 8.65 billion is almost  $1/10^{th}$  of 86.1 billion neuron cells out of total 170.68 billion cells in the brain [2]. Negative signs

indicating that mind on functioned to do give order to work, which is mind-minus. When any view/ think/..., enter into the brain, then we may call it mind-plus. These two compartments (+Memory & -Memory) are very active for the living body. We keep it in mind and stored in memory.

# Effect of white matter from the view of couple system

 $R \rightarrow 19.88$  billion glia cells x69.03 billion neuron cells in brain + M,x69.03 billion neuron cells.

Or, R  $\Rightarrow$  1371.779 billion neuron cells $^2$  +  $M_{_1}\,x$  69.03 billion neuron cells

Or,  $M_1$  x 69.03 billion neuron cells + 1371.779 billion neuron cells<sup>2</sup> = 2 billion cells<sup>2</sup> need for couple

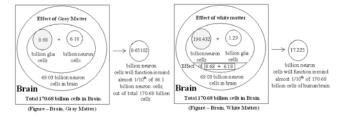
Or,  $M_1$  x 69.03 billion neuron cells = 2 billion neuron cells<sup>2</sup> – 1371.779 billion neuron cells<sup>2</sup> = -1369.779 billion<sup>2</sup>.

Or,  $\rm M_1$  = - 1369.779 billion neuron cells² / 69.03 billion neuron cells = - 198.432 billion neuron cells will function mind.

For white region,

Effect of mind = 198.432 billion neuron cells x 1.29 billion cells / (8.68 billion glia + 6.18 billion neuron) = -17.225 billion cells, which is almost  $1/10^{th}$  of 170.68 billion cells of the human brain.

This value 8.65 billion is almost 1/10<sup>th</sup> of 86.1 billion neuron cells out of total 170.68 billion cells in the brain [2]. Negative signs indicating that mind on functioned to do give order to work.



# How many percentage cells work in mind?

# For figure - Brain, Gray Matter

The work function of mind = 8.65102 cells x 100 / 170.68 cells = 5.068% = 5%.

Only 5% cells function for mind in the brain. According to reference [10], **Vijay Kumar**, who Realized God In 1993 - connecting link between human form - cosmic mind. He said, "Albert Einstein used his brain only 4%, while the rest of humanity, the average human being used between 1-2%, the balance portion always lying dormant. Human brain primarily acts as a receiving and transmitting station. No human being ever had an independent mind. The mind of the entire cosmos is one, it had only two compartments... reservoir of mind plus and reservoir of mind-minus".

#### For Figure - Brain, White Matter

In the white region, this effect will,  $17.225 \times 100 / 170.68 = 10.09 \% = 10\%$ . According to reference [11], nearly 90 percent of the brain is composed of glial cells, not neurons. Andrew Koob argues that these overlooked cells just might be the source of the

imagination. Astrocytes are also the adult stem cell in the brain and control blood flow to regions of brain activity. Because of all these important properties, and since the cortex is believed responsible for higher thought, scientists have started to realize that astrocytes must contribute to thought. Calcium waves in the cortex are leading scientists to infer that this style of communication may be conducive to the processing of certain thoughts. This idea stems from dreams, sensory deprivation and day dreaming. Without input from our senses through neurons, how is it that we have such vivid thoughts? How is it that when we are deep in thought we seemingly shut off everything in the environment around us? In this theory, neurons are tied to our muscular action and external senses. We know astrocytes monitor neurons for this information. Similarly, they can induce neurons to fire. Therefore, astrocytes modulate neuron behavior. This could mean that calcium waves in astrocytes are in our thinking mind. Neuronal activity without astrocyte processing is a simple reflex; anything more complicated might require astrocyte processing.

From, the above writings, we can assume that, for ordinary people used less than 4% comparing Einstein's brain. Though that will vary time to time depending on age, brain weight, power of thinking, keeping capacity of memory of brain. Altogether, in all cases mind will touch the field of body. The brain has capacity 100% to do work, anyone can cover this field. But this is really very tub to do. Because, we are losing memory, we do not keep mind in attention to a same direction with respect to time. Due to these reasons, a lot of things went out of the memory

Which plays with the mind. The function of memory comes from the brain and remarkable memory stored in it, when mind wish to search and order to the brain, then it comes out and we describe on that past facts. Again, we loss many memories every day. Suppose, the most common matter, the sun is rising, we are observing this, but we do not keep in mind. That is use of everyday things sometimes ignore mind. But in the case of sexual field, most of the persons (Men & Women) want to meet together to get their mental and sexual satisfactions. These two opposite natures of the body are always wanting to attract each other. Due to our society construction, we can't meet unknown man or woman to do sexual work. For example, when the beautiful lady passing you, your mind attracts her by the eyes and action to be started in your mind that, Oh! Shall I marry her? May I use? So-so thinks stored in your brain as memory. It is very difficult to explain perfectly about the mind and its behavior connected to the brain. Again, the brain is connected to our every part of body, mind also obey this path with brain activity. If I feel pain in my body, immediately brain will attain in that place and my mind does not think other on that moment, I shall not think on the universe, planets, other picture, wife, person, etc. how I get pain or how I can relieve from it, that will be the main feature at that time. Therefore, our mind will work maximum 5 billion cells with effect of 10 billion cells of brain as shown in the Figure: Brain, Gray Matter and Brain, White Matter.

## Conclusion

Mind mainly operates in conscious condition. In sub-conscious position, the brain takes part in almost at rest. No works no output

system follow the mind. The philosophy tells mind is God gifted. This is another undiscovered physics. Many things are there that we cannot explain by our own mathematics/physics. The yogis can do unexpectedly work which we cannot believe. What is going inside the yogi's mind? It is our out of thought. Many examples are there in history. We believe it as a story. So, we can tell, what is GOD? Is it mind created? Why? Or which we can't explain, will we depend on God? Many questions arise, totally unsolved till now. On considering mind as in the materialistic world, then it has property like all other matter. When mind is interrelated to brain, heart, body, then mind positively particle. Because, God hasn't related to brain, body. God is not matter. It is our believed property only. If Mind = God, then we can say, if God = 0, then, Mind = 0. But mind cannot zero, if so, then we can't think and do work. Again, if God = 1, then, Mind = 1. When, God = n, Mind = n, where, n = numbers of God and Mind. As so manyGods, Many minds. Therefore, mind is not alone. One mind plays in different field of thinking / observations / etc. So its peculiar behavior wonders us. We cannot touch mind as like as light. When light falls on an object, we see. Similarly, when mind target to think and touch on it, we can feel its function at that time. Physically, it is impossible to touch mind like God, if we believe. The field of mind is vast as like as universe. It has no fixed place and time to play a role. It depends mostly on any type of incidence whatever may good or bad. When mind acts on the body, it reflects to brain and brain asks to mind to take steps against that situation or vice versa. There are many concepts of mind for example, quantum theory of mind, electromagnetic theory of mind, philosophical theory of mind, etc. But there is no such mathematical deduction on it. Here is the example of it by couple system of cells indicating that if the brain is an object, then mind is its reflector by transmitting from the brain. The neurotransmitter is responsible to do this work. According to reference [12,13s], the fact that neuronal assemblies are mostly described in terms of classical behavior does not rule out that classically undescribable quantum effects may be significant if one focuses on individual constituents of assemblies, i.e., single neurons or interfaces between them. These interfaces, through which the signals between neurons propagate, are called synapses. There are electrical and chemical synapses, depending on whether they transmit a signal electrically or chemically.

At electrical synapses, the current generated by the action potential at the presynaptic neuron

flows directly into the postsynaptic cell, which is physically connected to the presynaptic terminal by a so-called gap junction. In order to propagate a signal, a chemical transmitter (glutamate) is released at the presynaptic terminal. This release process is called exocytosis. The transmitter diffuses across the synaptic cleft and

binds to receptors at the postsynaptic membrane, thus opening an ion channel.

A model developed by Beck and Eccles and proposes that quantum processes are relevant for exocytosis and, moreover, are tightly related to states of consciousness. Now a day's Physicist saying consciousness is a state of matter, like a solid, a liquid or a gas. Max Tegmark Dept. of Physics & the MIT Kavli Institute, Massachusetts Institute of Technology, Cambridge wrote a scientific article as "Consciousness as a State of Matter", and said "We examine the hypothesis that consciousness can be understood as a state of matter, "perceptronium", with distinctive information processing abilities.....".

The consciousness related to mind, we know. Consciousness cannot absolute zero as so mind, because in deep sleeping condition, the function of the brain never been stopped. Our thinking power is too small and it cannot work in this microscopic field. Due to this reason we feel dream sometime and we can express partially or fully the picture of the dream. Sometime we cannot express as our mind do not response this to keep in memory. From that view, the materialistic property of mind is important. As a whole brain is a supercomputer, no artificial supercomputer do this work in future. More investigation needs in mind, this article is the touch on it.

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