

# The Origin, Essence and Attributes of consciousness

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**Abstract:** It has a long history for the exploration of the origin and essence of human consciousness with different definitions and explanations in various fields such as philosophy, medicine, sociology, biology, and psychology. However, all of them had not been recognized so far. The main reason is that the complexity of consciousness leads to the inability of various fields to understand its essence fully, reasonably, and comprehensively, and there are still significant differences for it, and which have become an eternal mystery. So, it is necessary to delve deeper into it.

Here we show that this article concludes that the origin of consciousness comes from natural matter, the essence of consciousness is material information, the ability of consciousness is the degree to which the complexity and orderliness of material information are utilized, and consciousness has the attributes of congenital, materiality, systematicness, complexity, dynamics, difference, and selfness according to the analysis, summary and induction of knowledge from various disciplines.

**Keywords:** Material information, Complexity, Orderliness, Energy, Brain Active State (BAS), Attributes.

## 1 Introduction

The concept of consciousness comes from the Latin word *Consciencia* (English: consciousness), which means cognition and generally refers to advanced neural activity. The consciousness is now adopted by many disciplines, but each discipline has different understandings and interpretations for it, such as philosophy, biology, medicine, and psychology and so on.

The definitions of several different areas are excerpted below.

- Definition of Idealism

The ancient Greek philosopher Plato believed that consciousness originates from the soul, such as reason, will, and emotions. The phenomenon of consciousness is an attribute of the soul. The soul is the initial thing that existed before the form and can dominate the movement of the form. It lived in the world of ideas before the formation of humanity.

- Definition of Materialism

The human mind's reflection of the objective material world is also the sum of various psychological processes such as sensation and thinking.

- Definition of Psychological

The understanding of consciousness in the field of psychology can be broadly and narrowly defined.

The broad concept of consciousness refers to the brain's reflection of the objective world. Its definition is the same as the content of Materialism.

The narrow concept of consciousness refers to the degree to which people perceive and pay attention to the outside world and themselves.

- Definition of Biological

Human consciousness arises from the brain. It is composed of brain, cerebellum, thalamus, hypothalamus, and basal ganglia. It can transmit and analyze all kinds of sensory information such as vision, hearing, touch, smell, and taste as samples through brain neurons step by step, synthesize thalamus into thalamus and send it to brain contact area, so that the brain can produce awareness, that is human consciousness.

To interpret it as reasonably, fully, and comprehensively as possible, this paper analyzes, summarizes, and summarizes the knowledge of various disciplines, and draws the conclusion of the origin, definition, essence, and attributes of consciousness.

## 2 The Origin of Consciousness

The origin of consciousness starts from the birth of the universe, then produces inorganic and organic substances, and finally evolves to living organisms, until the birth of humanity. It can be inferred from the entire deductive cycle for the origin and essence of consciousness.

## 2.1 Production of Inorganic Substances

Based on evidence from astrophysics such as hydrogen abundance in the universe, cosmic background radiation and interstellar redshift, it is shown that the universe was created by a singularity (zero point) with immense energy after the Big Bang about 13.8 billion years ago, and resulting in everything in the universe, such as various substances, forces (energy), time, and space etc. The first substances formed are elemental substances such as hydrogen and helium etc., and then form various inorganic substances such as elemental substances and compounds etc. undergo processes such as nuclear fusion, fission, galaxy explosions, and neutron mergers etc.

Around 4.5 billion years ago, the solar system began to emerge, and become the main substances were inorganic substances such as elemental and compound substances on earth.

All of which had certain material information about the existence of matter. For example, various particle distributions, sizes, sorting, velocity, mass, energy, intensity, sound, and electromagnetic fields and so on. The material information determines their distribution and ranking characteristics, type, and properties of the substance under the supporting of energy.

Although material information is not material and does not occupy space, it requires material as a carrier to transmit under energy to support. For example:

- Hydrogen nucleus (Hn): composed of one neutron (n) and proton (p), which are strongly combined to form one hydrogen nucleus (Hn), i.e.  $1Hn=1n+1p$ .
- Hydrogen atom (H): composed of one hydrogen nucleus (Hn) and one electron (e), combined by electromagnetic force to form one hydrogen atom (H), i.e.  $1H=1Hn+1e$ .
- Hydrogen molecule (H<sub>2</sub>): composed of one hydrogen atom (H) and another hydrogen atom (H), forming an H<sub>2</sub> molecule through covalent bonding, i.e.  $1H_2=1H+1H$ .
- Sodium chloride molecule (NaCl): It is composed of one sodium ion (Na<sup>+</sup>) and one chloride ion Cl<sup>-</sup>, which combine through ionic bonds to form a NaCl molecule, i.e.,  $1NaCl=1Na^++1Cl^-$ .
- The solar system is composed of 8 major planets, ranked from the inside out as Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune. The mass of the Sun accounts for 99.86% of the total mass of the galaxy, and its gravity controls the movement of eight major planets.
- And so on.

In the micro world, the material information in various substances, such as quantity, charge, distribution, mass, ranking and force (energy), determines the types of these substances, such as hydrogen nucleus Hn, hydrogen atom H, hydrogen molecule H<sub>2</sub> and sodium chloride molecule NaCl. The different material information determines different types of substances and their properties.

In the macro world, the same applies to the solar system, which is composed of eight sorted planets, space, and material information such as one sun.

In addition, the material information in these substances can only exist under the action of force (energy). For example, Hydrogen atoms (H) are generated by the electromagnetic force between the hydrogen nucleus (Hn) and electrons (e); Hydrogen (H<sub>2</sub>) are generated by covalent bonding between two hydrogen atoms (H); Sodium chloride (NaCl) compounds are produced by the action of ionic bonds between sodium cations (Na<sup>+</sup>) and chloride anions Cl<sup>-</sup>; The solar system is generated by pulling eight planets under the influence of gravity, and so on.

Because the essence of force (electromagnetic force, covalent bonding, ionic bonding, and gravity, etc.) is energy, different forces (energy) determine the distribution and order of material information in these substances, and energy is the root of determining the material information and their order.

The ancient Greek mathematician and philosopher Pythagoras (580-500 BC) once said, "All things are of number," and the term "number" refers to material information, which can be understood as "all things are material information."

In short, material information is a state in which matter exists in a distributed and sorted manner under energy support. So, the types and properties of substances are determined by their material information.

This stage implemented the process from 0 (energy) to 1 (inorganic matter).

## 2.2 Production of Organic Matter

About 3.8 billion years ago, inorganic substances on Earth formed more complex organic compounds through physical and chemical processes under the influence of environmental factors such as sunlight, lightning, water, and oxygen, such as phosphoric acid, ribose, deoxyribose, and bases. Then, ribonucleotides and deoxyribonucleotides were synthesized, and the natural world epic evolved the genetic material deoxyribonucleic acid (DNA) and ribonucleic acid (RNA). RNA is an organic molecule that can self-replicate, gradually combines with other substances to form more complex substances, ultimately forming single-celled organisms. This process is considered crucial for the transition of life systems.

With genetic material, it can be passed down from generation to generation, and giving rise to the embryonic form of low-level life and becoming a milestone in the evolution of the biological world. The key is the genetic information in genetic material, that is material information. For example, different structural RNAs such as messenger RNA (mRNA), ribosomal RNA (rRNA), transporter RNA (tRNA), small nuclear RNA (snRNA), microRNA (miRNA), long chain noncoding RNA (lncRNA), small interfering RNA (siRNA), siRNA, circular RNA (circRNA), etc. obviously, it determines the different structures, types, and functions of RNA from the quantity, type, and order of different substances in the different RNAs. Then, the different material information determines the different structure, type, and function of RNA.

It can also be seen from this that the evolution process of this stage on Earth is a process of material information from simple to complex and its degree of order from low to high.

This stage implemented the process from 1 (inorganic matter) to 2 (organic matter).

### **2.3 Birth of Life**

About 3.5 billion years ago, due to the production of new substances such as proteins, sugars, fibers, phospholipids, and enzymes, as well as trace elements such as Na and K that already exist on Earth, the stable cells were gradually synthesized through continuous arrangement and combination under certain conditions (such as volcanic eruptions), and then forming single celled life forms. At this point, although they respond to external changes, single celled organisms cannot yet be recognized as conscious with only forming some instincts in the process of evolution to adapt to the needs of the environment.

For example, their cilia oscillation and chemical reactions. These reactions are achieved through the internal signaling system of paramecium including a series of proteins and ion channels, which transmit information within the cell and regulate the cell's ability to seek benefits and avoid harm. Although current scientific theories are not yet sufficient to fully explain its principles, this process involves signals, conduction, molecules, ions, physical and chemical reactions etc. Obviously, this process must be completed by material information (signals, molecules, ions, chemical and physical reactions, etc.) and energy (thermal energy, mechanical energy, electrical and chemical energy, etc.) to complete these reactions. It is generated by the material information in its body supported by energy for the function of a single cell to seek benefits and avoid harm.

Subsequently, some jellyfish organisms have begun to exhibit peptidergic cells that are very close to neurons possessing functions such as sensing, transmission, processing, and response etc. With the continuous evolution of organisms, the nervous system gradually emerged from polyhedral cells, flatworms, fish, and animals such as monkeys and apes.

The evolutionary process of the nervous system is from dispersion to concentration, and forming a relay station for transmitting information, where nerve cells gather into ganglia and nerve fibers gather into bundles. Several ganglia in the front of the animal body fuse together to form the "brain".

Among them, neurons are the foundation of brain operation, and their structure is composed of cell bodies, for example: dendrites, axons, synapses, and nerve endings etc. The component information themselves are material information, and each unit is composed of some basic substances, and its structure is also composed of the basic substance information.

Different neuronal connections and interactions generate different functional blocks, such as visual function, memory function, and computational function etc. The connections and interactions of these functional blocks generate the conscious system of animals.

Anyway, it is the process of material information from complex to more complex and degree of order from high to higher from organic matter to organisms.

This stage implemented the process from 2 (inorganic substances) to 3 (living organisms).

### **2.4 Birth of Humans**

About 3 million years ago, due to various reasons (changes in geographical conditions), people began to leave primitive forests and enter plains. They continuously participate in human specific social activities such as hunting, labor, cooperation, life, communication, and learning to survive. These advanced and complex activities constantly stimulate and update the material information in their brain. In addition, it was accelerated for digestion and nutrient absorption from food changes from raw omnivores to cooked meat. Driven by the principle of "survival of the fittest" and genetic mutations, the basic capacity of the brain is expanded and resulting in an increase in the complexity of the brain's basic structure (material information). In addition, it has led to the upgrading and replacement of their brain functions with the increase in the order of material information in various functional areas of the brain (for example: the birth of language etc.) and ultimately formed the modern human consciousness system.

The essence of this evolutionary process is the increase in complexity and orderliness of material information in the brain, that is the change of material information. The information includes the number, structure, electromagnetic field,

voltage, current, signal, distribution, sorting, and transmission of neurons in the brain, as well as various forms of physical and chemical reactions including their static and dynamic.

The ancient Chinese philosopher Laozi once said, "Nothing (0) generates being, being generates TAO, TAO generates 1, 1 generates 2, 2 generates 3, 3 generates all things." This "nothing (0)" represents energy, "Tao" represents principles, and "all things" represent various living organisms. Obviously, this process is a process of continuous complexity and orderliness of material information.

This stage is the process in which the material information goes from more complex to the most complex and from higher to the highest degree of order in human brain.

This stage implemented the process from 3 (living organisms) to all things (humans).

### 3 Definition of Consciousness

According to the introduction of the evolution process of consciousness, consciousness is the process of complicating and ordering material information supported by energy and gradually forming various functions of living organisms.

It completed the journey from 0 to human consciousness. Therefore, the following definition of "consciousness" can be derived: ***consciousness is a network active state formed by the material information under the support of energy in human brain.*** Abbreviated as Brain Active State (BAS).

Operating principle: It involves inputting information from both internal and external sources into BAS for processing (such as induction, encoding, storage, calculation, extraction, transmission, and perception etc.), and then outputting the processed information to various organs in the human body to directing their activities with the support of energy.

Further explanation as follows:

#### 3.1 Material Information

Material information is the state formed by the sorting, distribution, and combination of various substances. This state consists of various forms including static and dynamic, for example: material distribution, quantity, sorting, electromagnetic field, voltage, current, signal, and physical and chemical reactions etc.

The material information itself does not have energy in the human brain, but it has a certain degree of complexity and order with the material information formed due to innate and acquired development in BAS, which is the result of directing various human behaviors under the support of energy. The impact of this result can be understood as the energy of material information because the degree of this result depends on the complexity and orderliness of material information in BAS.

The meaning of "**orderliness**" mentioned in this article is **the degree of logicity, rationality, and effectiveness of material information operation in BAS.**

In fact, the degree of human development depends entirely on the degree of material information utilization, that is that the higher the complexity and orderliness of information utilization, the higher the degree of human social development.

#### 3.2 Energy

Mainly referring to heat, etc. During aerobic respiration, oxygen is inhaled from the lungs and enters the bloodstream through capillaries. It combines with hemoglobin in red blood cells to form oxygenated hemoglobin, which transports oxygen to the necessary tissues and organs. Oxygen is then separated from hemoglobin and sent to various parts of the body through physical reactions (diffusion), producing energy adenosine triphosphate (ATP).

Without the input of energy and oxygen, the BAS composed of neurons will lose its vitality and enter the state of brain death. Therefore, people need to eat and breathe to provide energy for the brain. This is because all sports need energy. Without energy, there will be no movement, no movement momentum and activity, and no consciousness. Even the brain needs energy when it is empty (a newborn baby) and dormant (sleeping or sitting), just to maintain the minimum energy because they still have certain activity.

#### 3.3 Active State

Active state: a state of activity that occurs after energy excitation of a substance (including an electromagnetic field etc.). It contains three characteristics: exciting, activity, and state.

From a spatial perspective, BAS can be divided into three types: unit active states, functional active states, and system active states.

it can be divided into childhood, adolescence, adulthood state if differentiated by age; it can be divided into dormant state, stable state, and dynamic state if differentiated by day.

#### 3.4 Input Information

Input information comes from external and internal perception organs. There are many classification methods for it, which can generally be divided into three categories based on the location of the sensory organs and the source of the

stimuli received: first, external receptors: distributed in the skin, mucous membranes, visual and auditory organs, receiving stimuli from the external environment, such as touch, pressure, cutting, temperature, light and sound, etc.; The second is the internal receptors: distributed in viscera, blood vessels and brain etc., receiving stimuli applied to these organs, such as pressure, osmotic pressure, temperature, ion and compound concentrations and active spillover information stored in the brain, etc. The internal sensors also contain mutual input between various functional regions in BAS, such as memories after information extraction in brain memory blocks; The third is proprioceptive receptors: distributed in muscles, tendons, joints, and inner ear position receptors, receiving stimuli generated during body movement and balance.

Such as color vision. The light reflected by an external object enters the human eye. The light passes through the cornea and enters the pupil and is focused on the retina after being bent (refracted) through the cornea and lens. More than 1 million photoreceptor cells on the retina convert light into electrical pulses, which are transmitted to BAS along the optic nerve. After processing (such as compilation and transmission), it forms image perception to generate vision, and stores the information. The optical and electrical signals here refer to input information and so on.

### **3.5 Output Information**

BAS is the center that processes input information (such as encoding, computing, storing, and extracting etc.), and outputs into other organs in the human body to promote their activity with the support of energy and transmission by the nervous system. For example: perception and reactions, perception including various sensations such as pain, soreness, and pleasure etc.; Reactions including various human activities such as language, behavior, and sleepwalking etc.

### **3.6 Various Functions**

Various functions: the BAS has the function of outputting information after processing the input information (coding, storage, memory, search, motion, space, vision, balance, analysis, calculation, coordination, and transmission, etc.).

BAS are composed of the most basic unit activation states, which do not interfere with each other but are interrelated and interact with each other, ultimately forming a powerful and complex brain system BAS.

### **3.7 Network**

In BAS, material information (including electromagnetic fields) and energy in the brain are linked, mainly through the nervous system. The transmission speed of nerve fibers is 250 kilometers per hour, and the fastest speed is about 100 meters per second. The fastest reaction time for people to the outside world is 0.001 seconds. But from receiving information (various organs) to processing (various substances in neurons), and then sending out information, the reaction time of people is about 0.1 seconds. Of course, different conditions such as congenital inheritance and acquired practice will lead to different reaction degrees, and it is also possible to differ by an order of magnitude. These transmissions are completed by neurons. In the whole process, a group of neurons form a functional block (such as storage function and visual function and so on), and the connection and function between the functional blocks ultimately form the network system activated state (BAS).

## **4 Attributes of Consciousness**

According to the definition and essence of BAS, we can draw the conclusion that consciousness has congenital, materiality, systematicness, complexity, dynamics, difference, and selfness.

### **4.1 Congenital**

Genes (Genetic factors) are all the nucleotide sequences required to produce RNA (Ribonucleic Acid), support the basic structure and performance of life, and store all the information of race, blood type, pregnancy, growth, and apoptosis of life. All life phenomena such as the birth, growth, decline, disease, aging, and death of organisms are related to genes, which are also the internal factors that determine the health of life. Therefore, genes have dual attributes: materiality and informativeness. The former is the carrier of gene existence, and the latter is the state of gene existence. Both constitute the material information of genes.

This genetic information is transmitted from one individual to another through various physical and chemical actions in the form of replication, so it faithfully retains the information characteristics of the previous generation. Genetic genes are the main material basis for storing and transmitting genetic information and replicating cells. Of course, brain cells are no exception, there must be material information in genetic genes, which also leads to the reason why everyone's natural intelligence is different. These genes are related to the complexity and order of material information.

From this point of view, people do have destiny, such as someone who is naturally smart and eager to learn and someone who has a talent for music etc. That is, congenital factors can determine a certain complexity and order of BAS, which will affect the acquired behavior and results, which can be understood as fate. As the saying goes, "you get what you sow."

In short, the birth and development of human beings are born and powerful because of information.  
So, BAS has the attributes of congenital.

#### **4.2 Materiality**

The material information is the order, distribution, and combination of various substances in BAS. It is composed of electromagnetic fields, electrons, currents, signals, ions, atoms, molecules, neurons, and biochemical reactions etc. These information carriers are neurons and glial cells. Nerve signals are electrically transmitted in neurons by means of action potentials, while among neurons, they are transmitted between synapses by means of chemical transmitters. They are interconnected through synapses. They are the basic signal processing unit of the human brain. Their main function is to receive information and transmit it to other cells. The electric pulse signal passes through the axon to the axon terminal, causes the vesicles in it to change and release neurotransmitters, and then adds to the dendrite of another neuron through the synaptic gap. The receptors on dendrites can accept neurotransmitters to change the permeability of membrane to ions, so that the concentration of ions outside the membrane changes, and the potential changes and conducts. Obviously, the activities of these neurons are related to material information.

Since neurons are the basic units of BAS, it is obvious that the materiality of BAS can also be determined.  
So, BAS has the attribute of materiality.

#### **4.3 Systematicness**

There are many discussions on the principle and distribution of brain functional blocks in the biological and medical circles. Due to the complexity of BAS, each discussion has not been fully recognized, but it can generally be composed of seven important brain networks, namely sensory motor system, visual system, limbic system, central executive network, default mode network, salience network and dorsal attention network.

In short, no matter what kind of discussion, these functional blocks are excited by the smallest unit neurons, which form local connections and functions through the multi-dimensional transmission pathways of electrical signals, such as transverse, longitudinal, lateral, and oblique; Secondly, these functional blocks seem to be independent, but multiple functions will interact with each other, and then form the BAS.

Neurons convert the input information into output information after processing, and then process the next input information before outputting information, gradually forming an interrelated and interrelated network function, and finally forming the network system BAS. All these features have typical systematic signs.

So, BAS has the attribute of systematicness.

#### **4.4 Complexity**

The brain is composed of about 14 billion cells, weighing about 1400g, and the thickness of the cerebral cortex is about 2-3mm. The entire cerebral cortex forms billions of neural connections. There are more than 10 billion nerve cells. Around each nerve cell, 1000-10000 synapses stretch out and connect with adjacent nerve cells. Like a circuit, these synapses have a "gate" that can pass through or stop the "electronic flow", and gradually form a powerful line network. These networks can store 10 trillion information, and their capacity can be equivalent to the storage capacity of 10000 computers. In addition, more than 100000 chemical reactions occur every second, including physical and biological reactions. The information itself is very Massive.

The latest scientific research shows that the geometric structure of the brain has more than 10 dimensions, including longitudinal, transverse, oblique and lateral dimensions. In addition, the threshold of neurons is not only 0 and 1, but also 0.5 and 1.5 or 2 and 3 etc. Therefore, scientists have not been able to understand the true operating principle of BAS in different fields. The direct reason is that the amount of material information of BAS is extremely huge, and the operating process is very complex, including both microscopic and macroscopic, both physical and chemical, both mathematical and biological, and possibly involving unknown disciplines. So far, it has not been able to understand comprehensively, reasonably, and systematically its operating principle, which has become an outstanding mystery of the Millennium.

So, BAS has the attribute of complexity.

#### **4.5 Dynamics**

From the definition of BAS, the consciousness is an active state, which is mainly reflected in the physical and biochemical reactions in the brain, as well as the continuous transmission of electrical signals and other activities. For example, there are about 100000 biochemical reactions per second. These activities determine the activity of BAS. In addition, BAS will immediately become more active under its impetus if there is certain input information and sufficient energy is transmitted and continuously provided through the nervous system. The processing ability of BAS will be strengthened, and then through the transmission of the nervous system, it will command the reactions and activities of

various organs of the human body, but the degree of movement is different in different states. These states are divided by age: infant state, juvenile state, adult state, and elderly state, and by day: dormant state, stable state and moving state.

In short, if there is activity, there is dynamic. The greater the activity, the stronger the dynamic. Otherwise, it is weak. So, BAS has the attribute of dynamic.

#### 4.6 Difference

The function of BAS is to process the input information and then output the information, and it has certain commonalities.

First, most of the material information carried by genetic genes is relatively consistent, leading to the consistent perception of some things and things. For example, vision, taste, hearing, taste, and power etc.

Secondly, it will also lead to a relatively consistent understanding of some things and things from the knowledge, experience and lessons acquired at the cost of thousands of years of social practice. For example, most people agree with universal values, such as kindness, sincerity, integrity, freedom, democracy, fairness, and justice.

But so far, there are still various contradictions, disputes and disputes among human beings living on the earth, which are mainly caused by the differences in BAS.

The first is that multiple individuals have different observation angles. When a person's BAS acquires and processes information, everyone's input information is different due to different perspectives, and the output of the processed information is different, such as different observers have different views on the same event.

Secondly, it is different for the BAS of everyone. The input information is completely consistent during the process of observing an event, it is different for the BAS of individuals to process same event. Because its complexity is mainly reflected in the difference of processing process in BAS, and the output information after processing is different. For example, different observers' different processing methods for the same event leads to different views on the output information.

Thirdly, the time is different. The same person will also have differences due to different ages. For example, when someone is young and old, they will have different views on the same thing, and so on.

In a word, the differences in multiple dimensions of individuals, groups, time, and space (environment) will cause the differences in BAS' output results after handling things. These differences lead to the fact that BAS' output information may not truly reflect the objective facts, it may be beyond the objective facts, it may also be a distorted reflection of the objective facts, it may also be its own subjective reflection, or it may even be a reflection out of nothing.

All these differences lead to the difference of everyone's world outlook, outlook on life and values, and are also the root cause of the formation of human contradictions.

So, BAS has the attribute of difference.

#### 4.7 Selfness

In all kinds of existing systems in the universe, there will be a common feature is the existence of a "center", which has the characteristics of relatively large matter and high energy. For example, the atom exists with the nucleus as the center; The earth exists with the center of the earth as the center; The solar system exists with sun as the center etc. All these "centers" constitute the reason for the existence of the system. This is because all entities are running around the "center" in various systems. The "center" has great power (such as large mass or high energy) to control all the surrounding entities. Then for the "center", the concept of "I" is formed. The atomic nucleus will say that the atom is "mine"; Earth will say that the moon is "mine"; The sun will say that the earth is "mine"; Black holes will say that the Milky way is "mine" and so on. Obviously, the "center" plays an active, dominant, and important role, and obviously has the concept of "mine". But the electron will not say that the atom is "mine"; The moon will not say that the earth is "mine"; Jupiter will not say that the solar system is "mine"; The sun will not say that the Milky way is "mine" and so on. This is because non "central" entities do not have enough power to control other entities, so there is no "I" concept. They play passive, subordinate, and secondary roles, that is, passively controlled, in a subordinate position, playing a secondary role, there is no "I" concept.

In a biological and social system, there will also be a common feature. There also is a "center", which has great power to control the whole system. For example, cells exist with the nucleus as the center; The human body exist with the brain as the center; The family exists with parents as the center; Enterprises exist with the boss as the center and countries exist with the king as the center etc. All these "centers" constitute the "I" concept because all activities are carried out around the "center" in this system. So, the nucleus will say that the cell is "mine"; The brain will say that the human body is "mine"; Parents will say that family is "mine"; The boss will say that the enterprise is "mine"; The king will say that the country is "mine" and so on. Obviously, the "center" plays an active, dominant, and important role in the system.

But the cell membrane will not say that the cell is "mine"; Hands and feet will not say that the human body is "mine"; Children will not say that family is "mine"; Employees will not say that the company is "mine"; People will not say that the

country is "mine" and so on. Obviously, this is because they do not have the power or energy to control other entities, and play a passive, subordinate, and secondary role.

Obviously, the "center" can be understood as the core part of a system. This part has the characteristics of high energy and large material, occupies a dominant position, has a strong desire for possession, and has the concept of "I", that is, "I am the center" "the center is me" "everything is mine", and so on.

Of course, the human body system is no exception. As the central control area of the human body, BAS determines its dominance: "everything is mine", "I am right", "I am good", "egoism" and other self-concepts, resulting in the emergence of self-identity. Because everyone regards themselves as the "center", they will have different views on the same thing in social activities, resulting in differences and contradictions.

So, BAS has the attribute of selfness.

## **5 Summary**

- The essence of consciousness (BAS): is material information.
- Characteristics of consciousness (BAS): has three major characteristics: exciting with energy, keeping activity and forming information state.
- The ability of consciousness (BAS): is the degree to which the complexity and orderliness of material information are utilized.
- Attributes of consciousness (BAS): has seven attributes: congenital, materiality, systematicness, complexity, dynamics, difference, and selfness. Selfness and difference are the core issues of human contradiction.

## **References**

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