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On the differences of virtual presence with thinking, consciousness and spirit

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ABSTRACT

This paper analyzes the characteristics of virtual presence and compares it with thinking, consciousness and spirit for the purpose of illustrating that the virtual presence as a newborn thing is not mysterious at all and is still a constituent part of the objective world.

Key words: Virtual presence; Thinking; Consciousness; Spirit

INTRODUCTION

Since the 1990s, the academia has stirred up an upsurge of great attention to "Virtual Reality", which becomes a new field of philosophic research at home and abroad. This paper analyzes the characteristics of "Virtual Reality", compares it with thinking, consciousness and spirit, finds out their differences, and reveals the unique features of "Virtual Reality". In order to discuss such characteristics and differences, the forming conditions of virtual reality may need to be clarified:

Forming Conditions of Virtual Reality

The forming of virtual reality is based on many conditions, which can be generally classified into three groups:

1. Hardware equipment. The realization of a "virtual reality" discussed here requires certain vital hardware equipments – computers, and such calculating machines also needs to be inter-connected with network cables; besides, assistant multimedia equipment such as audio and video equipment, sensors, etc. At the same time, the effective operation of these hard wares requires electricity as power.

2. Software applications. In addition to such equipment, creation of virtual reality also needs relevant soft wares and techniques, for instance, the service platform for computing systems, necessary software for networking, for making multimedia audios and videos, etc. Both the hardware and the software compose one or more electronic imaging systems to generate virtual reality.

3. Participation of humans. This is the most important, and meanwhile, the most complicated part. People program and use the electronic imaging systems according to their different needs; similar to their other activities, these are also driven or guided by their values.

The utilization of electronic imaging systems by different people under different circumstances can be illustrated as follows:

Scenario 1: People truthfully input real objects in forms of digital signals into the above mentioned electronic imaging systems. For instance, they can upload some digital photographs or videos from their cameras, in order to save as files or share with friends.

Scenario 2: People do some reworks to the input documents. Maybe they can use Photoshop to enhance some of their photographs so as to make them look prettier, the black spots on faces could be removed or covered, the

hairstyle can be changed, etc.

Scenario 3: People can also input digital signals, which are not projections of real objects, but imagination or creation by their own minds. This is how video games and animations are produced. Of course this requires supporting of certain already design programs. Upon completion, these works can be presented to others.

Scenario 4: Some programmers may make use of some loopholes in electronic imaging systems and certain people's curiosity with virtual stimulation (porn, pornography), develop hacker programs or viruses, and spread them among other's computers through the network. They may get some twisted pleasure from this, but the other people's normal utilization of such systems can be jeopardized.

Scenario 5: Communications can be achieved with the electronic imaging systems. Regardless of distances, people today can e-mail others, talk to others (e.g. through skype), have on-line diagnosis, or on-line teaching, etc.

Scenario 6: Scientific researches gain great help from assistance of the electronic imaging systems. Some experiments might be not applicable in reality due to costs, high danger coefficients, difficult operations, etc., including aircraft's crash test, stimulated flight, car's collision test, description of electron's moving trajectory, or proving of mathematical theorems. Having such experiments in virtual reality can save costs, reduce losses and improve efficiency.

Combining people's utilization of electronic imaging systems from different perspectives, a diagram can be used to abstract the operating mechanism of such systems:

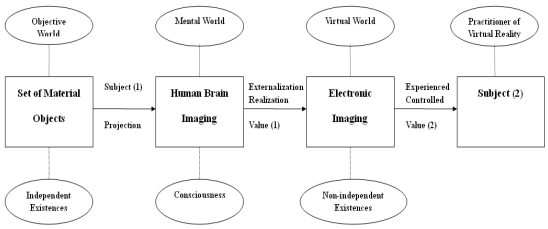

Figure 1. Operating mechanism of virtual reality

From Fig.1, several conclusions can be drawn:

First, the virtual reality has an origin of real world. There cannot be any "virtual reality" without raw materials from "reality". In addition, the materials needs to be processed into information prior to being input into electronic imaging systems, otherwise they cannot be reflected in a virtual world.

Second, generation and existence of virtual reality is dependent on electronic imaging systems. The systems can be compared to a information processing plant, and the products are various types of virtual existences.

Third, virtual reality has to be designed upon human participation. It is mastered by human consciousness or thinking, and limited by different people's value orientations.

Fourth, virtual reality has automaticity to certain extent, yet this automaticity is defined and programmed by human beings.

After analyzing the forming conditions of virtual reality, its philosophic nature seems to be ready to come out:

road capacity is difficult to measure accurately. Therefore, the direct application of these models or algorithms has a certain degree of difficulties and problems.

II. Philosophic Nature of Virtual Reality

The so-called "Virtual Reality" is the electronic images formed in the process of human involvement under the support of computers, Internet, multimedia and other relevant technologies. The virtual world created by human via the electronic imaging system is actually a world formed through the exchange of information between human and computers. In the virtual world, information technology realizes human's rich imagination and various requirements in forms of high or low electrical level, connection or disconnection of circuit, presence or absence of pulse, etc. In turn, all of this is realized under the control of human. The essence of Virtual reality can be comprehended from the

following aspects:

1. Non-independence. In view of its generation and running mechanism, virtual reality is not independent. It is different from the tables, stools, houses, mountains and rivers in the real world, these objective existences can still exist independently without continuous artificial manipulation, and they are independent from the subjective human being, thus they belong to independent objective realities. However, virtual reality mainly depends on the design and operation of human, as well as the support of electronic imaging system. Its generation and existence is similar to the saying of "moon in the water and flower in the mirror"; like the common characters and general rules of objective things discovered by people in scientific researches, which do not belong to independent objective reality. Without electronic imaging system, and without people's monitoring and operation, this virtual reality will disappear without even leaving any traces. The logic operation and data processing is independent in someone's opinion, but the question is that the so-called independence can only exist under prior human design and continuous power on, so it is not truly independent.

2. Objectivity. Definition of objectivity here is based on the criterion of objective reality made by Professor Zhang Yuxiang in his Guide for Ontology of Broad Spectrum. If a certain thing satisfies n persons or n observations (here n refers to the sufficiently large number in mathematics) under the same condition and the results fall into the same equivalence class, then this thing has objectivity that exists independent of human consciousness, and it is indicated to be objective reality. Virtual reality meets the criterion above: once the virtual world is formed through the electronic imaging system, it will satisfy n persons or n observations under the same condition and fall into the same equivalence class, namely it has the objectivity that can exist independent of human consciousness; so, virtual reality has its objectivity. However, this objectivity is different from the objectivity of mountains and rivers in real world, and it depends on the electronic imaging system support; there will not be any virtual reality without the existence of electronic imaging system, not to mention its objectivity.

3. Incomplete authenticity compared with reality. The word "virtual" can be traced back to theologian and logician John Duns Scotus in the Middle Ages, who comprehended this word as follow: intrinsic strength or power that can produce some effect. He considered that the concept of thing virtually includes its experience attributes and is a kind of virtual reality.

We call this existence formed by electronic imaging system "virtual" here, is based on one important reason that its authenticity differs significantly from the real world, that it is not tangible. Although people can see lots of objects, artistic performance, see friends and family from far away via the electronic imaging system, and make interactive communication with them, there is still a big difference between virtual reality and the real world:

First, all the items displayed in the electronic imaging systems are just images of real objects; they can be only felt by subjects but cannot be used by subjects. For instance, in electronic imaging system, people can see the introduction and model of certain automobile, and they can even conduct simulated driving, but all these activities are still different from the automobile we see and the driving in real world. If people want to buy an automobile, they must see it in the site and have a test drive, only by this can they know about the performance of this vehicle. If people want to do business in some other place, they cannot be there through simulated driving with a computer in a house; instead they need to drive to the destination in a real vehicle. Furthermore, the simulated driving on computer can be only realized with routes, sounds, road situations, possible collision and rollover movements already designed by software programmer in advance, it is still different from real situations and real collision.

Second, making friends in virtual world with people from far away is also different from that in the real world. Although people can be free to contact anyone in the virtual world regardless of his (her) nationality, identity, status, age or appearance, which shows many advantages of virtual relations, but when the relationship (especially online love affair) develops to a certain extent, the strong emotional attraction will force people to return to the real world, to know and understand each other, until they are certain that they do fit for each other. This is a question about relationships where the virtual world cannot solve. Moreover, due to the concealment of identity in virtual world, many parts of people minds are hidden, this becomes a channel for cybercrime and results in many undesirable social influence and harm.

Third, the simulated training in virtual world is only simulation after all, and people must return to the real world eventually. The emergence of electronic imaging system with main support of computers provides a new pathway, both convenient and economic, for many human scientific experiments and training. Many human activities can be conducted in electronic imaging systems, such as description of particulates' running orbit, flight control and intercept test of ballistic missiles, simulation test of water flow, and simulated driving training for drivers, etc. This indeed provides convenience and saves expenses. But what people cannot ignore is the fact that all of these are just

simulation and cannot take place of real activities. If people would like to check the results of tests or training, they must go back to the real world eventually.

Here ends the discussion about philosophic natures of virtual reality. For a futher and comprehensive understanding, it might as well be compared with human thinking, consciousness and spirit:

III. Comparison of Virtual Reality with Thinking, Consciousness and Spirit

For a long time, the philosophical circle and especially the philosophical circle in China, regards the concepts of thinking, spirit and consciousness as synonymous concepts or identical concepts, which inevitably causes great confusion. Take Cihai [2000 version] (a well-known Chinese lexicon and character dictionary, first published in 1936) as an example, "thinking" is defined as: "rational understanding or the process of rational understanding; the initiative, indirect and general reflection of human brain on objective things; consciousness or spirit compared to existences"; [2](P2027) "spirit" is defined as "the synonymous concept of 'consciousness' often considered by materialism; inner world phenomenon of human, including thinking, will, emotion and other conscious aspects, as well as other mental activities and unconscious aspects"; [2](P2030) while "consciousness" is "highly developed functions and attributes of human brains - a kind of special material; the subjective reflection of objective world in human brains." [2](P2453)

From the above definitions, it can be concluded that people have a vague understanding on the three concepts; these definitions in Cihai also indicates clearly that they are synonymous concepts, which is extremely disadvantageous for people to conduct theoretical researches. In terms of this issue, the author completely agrees with the viewpoints illustrated in Revealing the Mystery of the Brain—Spirit Molecular Theory written by Chen Dingxue. He considers that the definition of thinking shall be "the process of brain producing spirit; the process of perception of, understanding on and reaction to object and subject of brain";[3](P44) the definition of spirit shall be "the product of brain thinking and the result of perception of, understanding on and reaction to object and subject of brain";[3](P47) while definition of consciousness shall be "the superior state of human brain in the process of understanding; subject's awareness of ego and non-ego". [3](P48) Though his definitions of thinking, spirit and consciousness is still questionable, yet his spirit of bold exploration is worth appreciated. What's more, to some extent, his definitions of thinking, spirit and consciousness can help people further study a series of issues concerning thinking, spirit and consciousness, and three are discussed below:

1.*Analyzition of the electronic image system about the ability of thinking.* Based on the definition of thinking by Chen Dingxue, "thinking is a process of brain producing spirit", [3](P44) and it is a conscious and initiative process of the subject, which can't be or is impossible to be controlled and manipulated by anyone else. This is a special feature of human thinking. While the so-called calculation and "thinking" of electronic computers is just a process where people input designed programs to computers so that computers can do current activities under control of programs. Although the current activities can sort of replace human thinking and reduce the burden of human brains, they may be even superior to human brains under certain conditions; it doesn't mean that the calculation and "thinking" of computers is truly a process of human brain thinking. This can be proved with several significant differences as follows:

First, electronic imaging systems and electronic computers can't work basing on common sense, while human (brain) can think about questions basing on common sense. The calculation of electronic imaging systems and computers is carried out on the basis of binary system. When the calculation dimensionality is increased to more than enough, a "combinatorial explosion" crisis will appear with no results gotten. Different from the "thinking" of electronic imaging systems and electronic computers, thinking of human brains in most cases functions with common sense based on completely, which determines that the thinking of human brain can avoid the crisis of "combinatorial explosion" resulting from too much considerations.

Second, computers can only make judgments about true or false, and they can only mechanically execute instructions given by people without considering consequences of performing the program. However, human brains not only make judgments, but also think from values of the subject and evaluate the consequences. When realizing adverse effects may be brought to the subject, people may stop the footstep at cliff edge.

Third, electronic imaging systems and computers are just a pile of cold machines without emotions. They are never emotional, and so is their product of virtual reality. From this point, electronic imaging systems and computers are even inferior to animals.

Fourth, all calculations and operations of electronic imaging systems are realized under human control, while human thinking can not be operated or controlled by outside forces.

Therefore, conclusion can be drawn that the emergence of virtual reality, including the generation of electronic imaging system and electronic computers, is the result of human thinking. But the calculation of electronic imaging systems can't be called thinking, at least not thinking of human beings.

2.Virtualreality is not consciousness. Traditional definition of consciousness is as follows: "consciousness is highly developed functions and attributes of human brains - a special material, the subjective reflection of objective world in human brain." [2](P2330) Thus, there is a big difference between the virtual reality generated with electronic imaging systems and electronic computers and the human consciousness.

First, virtual reality can be observed and controlled by people, while human consciousness can't be observed and controlled by other people freely. The invention of electronic imaging systems and electronic computers aims to facilitate people's lives, communication and scientific researches. That is to say, virtual reality being available for people to observe and control is the connotative meaning of it. However, human consciousness can't be observed and controlled directly by others, so they can only have some insight into a person's thinking, motivation and purpose though his or her words and behaviors.

Second, electronic imaging systems and computers don't have ego or non-ego awareness, similarly, the virtual reality generated with them doesn't have this function either, while human consciousness is the clear proof of ego or non-ego awareness. According to the definition by Chen Dingxue, consciousness is the highly developed stage and state of human thinking. Electronic imaging systems and computers are far from human thinking, let alone the superior consciousness.

Third, virtual reality doesn't have the feature of self-organization, but people do. Electronic imaging system, as the basis of virtual reality, cannot unite with other electronic imaging systems automatically to work together overcoming any problem. They only work on people's demand. Their so-called joint operation is also realized under the control and command of people, and their so-called automaticity is also vested by humans. In order to solve the problems on survival and development, people will unite automatically to exchange experiences, integrate operations and fight against natural and social disasters together. Moreover, people will form rules and moral norms in common life, and use them to check their own words and behaviors. It is these social norms and morals that make people consider the social consequences of each of their gestures and expressions, so they won't make temerarious actions against law and public opinion; all of these can't be matched by electronic imaging systems and computers.

It is worth mentioned that as virtual reality is realized under people's operation and control of electronic imaging systems and computers, and different people have different values, so their operations will attach virtual reality with different value orientations.

3. Virtual reality is not spirit. It is already clarified that virtual reality is a special product generated form human's operation of electronic imaging systems. Then, what is its relationship with human spirit?

According to Chen Dingxue's definition of spirit, human spirit is "the product of brain thinking and the result of perception of, understanding on and reaction to object and subject of brain". [3](P47) However, the author believes that the scope of spirit should not be limited to this boundary. In philosophy, spirit should be the philosophy category in contrast to material existences. Its content should be much richer than that of consciousness and thinking. That is to say, not only is the product of brain thinking spirit, but also should the process of brain thinking and the consciousness be classified as human's spirit.

Similar to thinking and consciousness, virtual reality is intuitive and can be seen by people. Besides, virtual reality can also be changed arbitrarily by people according to their own thoughts. However, human spirit can't be observed by other people directly, and people can only observe a person's spiritual world through his works, speeches and activities indirectly; moreover, human spirit can't be changed by other people arbitrarily either, and people can only influence the spiritual world of other people indirectly through exterior forces, such as cruel torture, persuasion and education, exemplary conduct and so on; in addition, what virtual reality presents might be content of human spiritual world, but it is not all content of human spiritual world can be reflected and indicated by virtual reality. Since people can't observe human spiritual world directly like monitoring the virtual reality, their comprehension of other people's spirit can only be acquired indirectly. In the real world, people can't present all their thoughts in virtual reality directly; at least they can't yet. Take the potential consciousness as an example, to a certain extent, people they themselves are even not clear what are in their potential consciousness, let alone to present that stuff in virtual reality.

CONCLUSION

All in one word, we shall realize that virtual reality is significantly different from human consciousness, thinking and spirit. It can be concluded that the emergence of virtual reality is the result of human thinking, but virtual reality can't be simply equated to human consciousness, thinking and spirit.

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