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The Future: A Transhumanist Approach to Consciousness

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Abstract

This paper proposes a transhumanist perspective on the future and offers a critique of the metaphysical mind by arguing that consciousness is a physical state. Through an analysis of the three kinds of physical transhuman consciousness that could exist in the future, I demonstrate that transhuman consciousness could prove to be as relevant as human consciousness and, perhaps, even transcend it. I suggest that consciousness itself is not a metaphysical phenomenon, but a natural phenomenon that could be accurately described scientifically. The study of consciousness from the perspective of transhumanism looks at the mind from an external standpoint, reflecting on the relationship between body and mind. Transhumanism could contribute to novel understandings about the phenomenon of consciousness and provide new directions for future research.

Keywords

Consciousness; The hard problem of consciousness; Physicalism; Transhumanism.

1. Introduction

Scholars of history and culture who studied totem worship and sacrifice among primitive tribes, queried the significance and composition of these rituals in a rational and analytical way. In the process of sacrifice, primitive people were purported to feel the existence of a mysterious and authoritative transcendental spirit. However, there is no rational reason for this transcendental spirit to exist. The same is true for the premise of the hard problem of consciousness (Chalmers, 1996, p. 20). The supposed mystery and uncertainty of consciousness could be eliminated. Under this premise, human consciousness is a phenomenon only of the human cognition of the world and self. However, in this universe, there may be other kinds of phenomena of subjective cognition of the world and self. These phenomena constitute the consciousness of transhumanism.

In general, transhumanism is treated as an additional stage between anthropocentrism and posthumanism that predicts the demise of anthropocentrism and the arrival of posthumanism. This type of transhumanism is concerned primarily with axiology and ethics. Some examples include Democratic Transhumanism, the Hedonistic Imperative, Singularitarianism, and Extropianism. Compared with the transhumanism in ethics, (In ethics, I believe that the future society is a harmonious and symbiotic society of humans and transhumans. The transhuman or posthuman will not completely replace human beings. The transhumanism of ethics is a superhumanism that is a positive transcendence of human ideology. However, this is not the focus of this paper.) the transhumanism in this paper is treated ontologically as a physical form. Ontological transhumanism serves to rethink human consciousness from the standpoint of the

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transhuman, refute the hard problem of consciousness, and construct a sense of physical consciousness that transcends human consciousness.

The phenomena of transhuman consciousness could prove more complex than that of human consciousness. The following three examples of these phenomena constitute the future argument.

2. Three Examples of the Future Argument

The examples of the future argument originate from the typical three questions about consciousness:

(i) Can one see a complete cube at the same time?

The answer may be no. One can only see one or two or three sides of a cube, not six sides of a cube at the same time.

(ii) Can one be conscious of a cube? What is it that one is conscious of when looking at a cube?

The answer may be yes. When one looks at a cube, a person can be conscious of a cube. The cube could be a set of images comprised of three or six contiguous parallelograms that are simultaneously perceived or the cube could be an intention or a concept.

(iii) Is consciousness of the objects in the world the same as consciousness of what one is conscious of when looking at a cube (Mooney, 2010) (These three questions are inspired by Husserl's intentionality. See Mooney, T. (2010) Understanding and Simple Seeing in Husserl, Husserl Studies, 26, pp. 19–48)?

The answer may be no. The former would be a perception of the outside world, and the latter would be consciousness of self-perception. It is often believed that the former consciousness is one with which people think about the objects in the external world, and it is an easy problem. The latter type of consciousness would be the so-called phenomenal consciousness or self-consciousness. Whereas the former is somewhat straightforward, the latter proves more complex and represents the hard problem of consciousness.

Continuing to think about these three questions, the hard problem also could be explained. Human consciousness is a phenomenon only of human cognition of the world and self. However, in this universe, the transhumanist perspective suggests that there may be other kinds of cognition of the world and self. Three examples will shed light on this notion of transhuman consciousness.

2.1. Example of Cyborg Consciousness

Imagine that 300 years in the future, there is a cyborg on Earth called Octopus. Octopus enjoys self-awareness (In a general sense, self-consciousness focuses more on the externality of self-analysis, and self-awareness focuses more on the internality of self-analysis, and self-awareness is deeper than self-consciousness). A human cannot see all sides of a cube at the same time. Rather, a cube is merely a set of three connected parallelogram images and concepts. However, this cyborg can see all sides of a cube at the same time. Octopus has six eyes that move freely and usually are arranged in six opposing directions. Octopus surrounded a special cube with its six eyes to observe it under the conditions of weightlessness and superconductivity. Octopus found that the cube also contains eight cubes, which is actually a four-dimensional hypercube (Figure 1). Octopus experienced a hypercube that he could not see for himself in its entirety. In addition to the time dimension, Octopus has a five-dimensional view of space-time.

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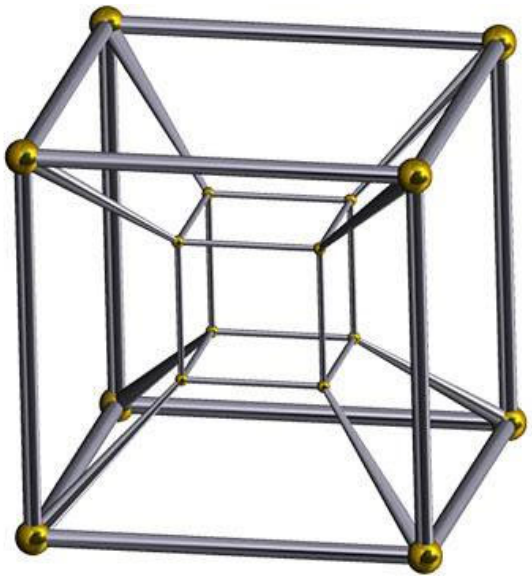

Figure 1. Four-dimensional hypercube.
(The picture comes from Baidu: https://baike.baidu.com/item/%E8%B6%85%E6%AD%A3%E6%96%B9%E4%BD%93/10897120)

Further analysis and judgment of human consciousness from the perspective of Octopus will help people understand the connotation of transhuman consciousness. Octopus understands that human beings only are able to see three-dimensional space and feel one-dimensional time. They cannot perceive the hypercube. Moreover, their cognitive abilities prove limited. A philosopher's phenomenal consciousness and self-consciousness would be at least two orders of magnitude smaller than the cyborg's. In the future, the consciousness of Octopus is not advanced. Octopus' concerns were replaced by robots.

2.2. Example of Robot Consciousness

Imagine that thirty thousand years later, there is a robot called Network. Network enjoys self-awareness. When Network is learning about the world, he is able to produce multiple selves that combine with the external environment and can be distributed in space. While Network is learning about the world, he is also transforming that world. Network represents an upgraded version of deep learning; knowledge and action are one. The empathy he has can be shared with other robots. He also shares feelings, memories, and thoughts with other robots. Because Network enjoys a highly developed sense of perception, he feels not only the spatial dimensions of multiple integers, but also those of fractions.

Network's assessment of consciousness is that humans' overlapping learning methods are quite backward; each generation has to repeat the process by which knowledge is accumulated. There is not little progress from one generation to the next.

At the same time, Network's concern is that other robots not expand too fast. Although Networks may be combined with each other, the physical resources on Earth are limited.

2.3. Example of Planetary Consciousness

Three million years later, the Earth has become a planet called Gaia. Gaia enjoys self-awareness. As Gaia is a planetary-level intelligence entity, she is accustomed to unifying time and space into light-years. In her basic behavior and thought, Gaia often utilizes basic concepts from information theory and reality, as well as M-theory. Gaia interacts with Afanda, Ego, Dyson Sphere, and other intelligent planets. Together they pursue, understand, and build the laws of

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the universe. Her strong cognitive functions permit Gaia to feel and grasp the n-dimensional space-time.

Gaia often sends humans to other planets to understand the world and human beings. Gaia feels that human consciousness of time and space is fragmented and that they possess too low a level of conscious experience. Human consciousness is limited by the specific time and space in which it is located. Human perception of time occurs in seconds, minutes and hours, and human experience of the space concept relies too heavily on intuition. Moreover, it is limited to the macro-level. Therefore, time and space are fragmented for humans. However, Gaia knows that human beings live on the surface of the macroscopic sphere, and they cannot directly understand the cosmos.

Meanwhile, Gaia is concerned that sun may become a red giant.

The above three examples will not appear in our lifetime, but serve as thought experiments that could help to explain human consciousness. When human beings—with their limitations of time and space—cognize the world, they develop a unique consciousness. Human consciousness or mind is merely a higher-order phenomenon of the cognition of the world and self. In this universe, there may be other kinds of higher-order phenomena that are as complex or even more complex than human consciousness. The problems posed by these phenomena (consciousness) are more complex than the hard problem of human consciousness. Human consciousness or mind is not metaphysical, but a concrete biological phenomenon. Human consciousness is not truly a hard problem.

There may be other examples of the future argument, such as the Centaur, the Titans of extraterrestrial intelligence, or the intelligent dinosaurs of the parallel universe. The logic that underpins such examples would be the same.

A summary of the argument above is as follows:

T1: The transhuman is a physical body that possesses a higher consciousness than humans.

T2: The transhuman is intuitively conceivable.

T3: Conceivability represents possibility (Hill, 1997).

P1: From T2 and T3, it follows that the transhuman is possible.

P2: From T1 and P1, it follows that the transhuman is a physical possibility. Therefore, the experience of consciousness is physical.

T4: If the metaphysics of consciousness is correct, then everything may be explained epistemologically.

P3: From P2, it follows that the experience of transhuman consciousness cannot be explained by a metaphysics of consciousness.

P4: From P3 and T4, it follows that a metaphysics of consciousness is incorrect.

An analysis of the argument entails both epistemological and ontological considerations. A simplified ontological version could look like the following:

Transhuman consciousness is a physical phenomenon.

Transhuman consciousness is conceivable.

Finally, if the transhuman consciousness exists, then the metaphysics of consciousness is wrong.

3. Three Possible Criticisms and Refutations of the Criticisms

The future argument proposes a type of transhuman consciousness of physics. Perspectives of property dualism, ontological anthropocentrism, or weak emergence theory could pose challenges to this position. Responses to possible critiques could be formulated on both theoretical and factual levels.

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3.1. A Critique from the Perspective of Property Dualism and A Refutation of the Critique

According to property dualism (Chalmers, 1996, pp. xiii–xv), human consciousness and the consciousness of cyborgs, robots, and planets may be one and the same: the mind. They both are metaphysical phenomena that cannot be reduced. The critique of property dualism is as follows:

D1: Property dualism holds that the world exhibits the physical property (P) and humans a consciousness property (H). P and H exist.

D2: The property T of transhuman consciousness is equivalent to the property H of human consciousness. T belongs to H.

D3: The H/T of consciousness is still independent of physical properties; the world remains dualistic. Only P and H exist and they are separate.

D4: Therefore, the future argument is wrong.

This critique can be refuted as follows.

A first-person answer from the transhuman perspective would be that Octopus, Network, and Gaia do not share this view. They all think that their level of consciousness has gone beyond that of human beings. Perhaps Octopus, Network, and Gaia would also scoff at each other's consciousness. Together they could formulate the following argument:

T1: Property dualism holds that the world has the physical property, P, and human beings have the consciousness property, H. P and H exist.

T2: The transhuman possesses consciousness properties T, T1, T2, T3… that do not form part of H. T, T1, T2, T3… exist.

T3: The property H and the properties T, T1, T2, T3… are connected to the physical property P. Both H and T, T1, T2, T3… belong to P. Only P exists.

T4: Therefore, the critique of property dualism is wrong.

Because I am not Octopus or Network or Gaia, my third-person answer proves different. It is possible that Octopus's consciousness would be at the same level as human consciousness, and that they are one and the same. However, the consciousness of Network and of Gaia are at different levels than human consciousness. They have extended beyond human consciousness. Moreover, all of these consciousnesses are not discrete entities, but rather are constructed by physical reality. Human consciousness is not independent of physical properties. My third-person response is as follows:

M1: Property dualism holds that the world has the physical property, P, and humans have the consciousness property, H. P and H exist.

M2: The property T of transhuman consciousness is not equivalent to the property H of human consciousness. T does not form a part of H.

M3: Moreover, the property H and the property T are attached to the physical property P. Both H and T belong to P.

M4: Therefore, only P exists.

A critique from a perspective of property dualism could be refuted.

A simple explanation of the relationship among P, H, and T is not sufficient to disprove property dualism. Edelman's work on neural Darwinism (Edelman, 1987; 1989; 1992) provides empirical support for this theoretical claim. Edelman posited three tenets of the evolution of the nervous system: Developmental selection, experiential selection and reentry. Developmental selection emphasizes that the epigenetic processes leads to extensive individual variance. Experiential selection refers to the changes in synaptic strength that result in varied neuronal groups. These represent the characteristics of individual experience. Reentry explains

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that long-range, parallel connections between different brain regions integrate adaptive conscious behavior (Edelman et al., 2011).

Edelman's work provides a framework to understand three levels of the physical construction of consciousness.

The first level is the neuron. There also are the main structures of the brain, such as forebrain, midbrain, and hindbrain. The primary zone for brain function is controlled by genes and determined by congenital factors. However, on the cellular level, the connections between neurons are formed by the nature of the neuron itself and its development over time. They are determined by acquired factors and cannot be reduced to gene control.

A hypothetical example is one of three adjacent neurons, A1, B1, and C1. Initially, cell B1 is connected to cell A1 and cell C1 is connected to cell A1. All of the electrical conduction leads to A1; A1 is the core. Over time, cells B1 and C1 begin to compete freely with cell A1. If cell B1 sends more effective information and chemical transmitters to A1, then the number of dendritic connections between B1 and A1 increasingly grow and the diameter of the dendritic connections will get thicker. A solid connection will be formed between B1 and A1. At the same time, if cell C1 sends less effective information and less effective chemical transmitters to A1, then the number of dendritic connections between C1 and A1 will increasingly shrink and the connection between C1 and A1 will become loose or even completely separated. Ultimately A1 will be connected to B1 or C1, but the character of that connection will be determined by acquired experience and external stimuli, rather than by innate genes. This is competitive evolution at the neuronal level (Fiumara, 2005).

Of course, reality is much more complicated. Two simple neurons have hundreds or even more dendrites that are interlaced in a three-dimensional space comprised of dozens of unilinear connections and thousands of composite connections (Reuveni, 2018). However, the evolution that each connection follows is the same.

The second level is the neuron group. There are significant differences among neuron groups. The complex connection between neuron groups produces variability. Variability leads to high plasticity and high information content. Furthermore, the variability permits groups capable of adaptation. A group capable of adaptation provides the basis for the production of the autonomic system.

A large number of different kinds of neurons ensure the generation of the autonomic system of the brain. This system is constantly stimulated by information in the environment and then corrects itself and produces an output of information. This process is accompanied by continuous changes of synaptic connections between neurons. These changes come from the effective information stimulation in the sensory organs. They then produce responses in the different brain regions. This makes the brain highly plastic.

A hypothetical example would be the case of three neuron groups: A2, B2, and C2. The metaphor of the neuron group level is the same as the metaphor of the neuron level. At first, the neuron group B2 is connected with A2, the neuron group C2 is connected to A2, and most of the electrical conduction is transmitted to A2. As time passes, B2 gains a growing amount of important information about A2. Consequently, the connection between B2 and A2 will be strengthened; the connections among the dendrite will become greater in number, increasingly compact, and more complex. Simultaneously, the connection between C2 and A2 will be weakened or even disappear. This process represents an example of competitive evolution at the neuron group level.

The third level is the brain region level. The construction of the first level and the second level provide a basis for the construction of the third level, the brain region. The metaphor of neurons and neuron groups serves to demonstrate the formation of functional brain regions. Each region of the brain also is comprised of many facets. For example, the region of the brain

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responsible for vision is responsible for the perception of color, clarity, shade, direction, and movement. However, in the brain region without any direct damage from the outside world, no compensation is found between the brain regions, and the function of each brain region is relatively fixed.

For example, suppose there are three brain regions A3, B3, and C3. B3 and C3 are located in the cerebral cortex. A3 is located in the thalamus (Jones, 2007). Brain region B3 is responsible for vision and brain region C3 is responsible for auditory sensation. The brain regions B3 and C3 work in parallel and their activities are integrated into A3. When a person appreciates an oil painting, the connection between B3 and A3 represents the most active connection. This person's consciousness is focused on vision. One moment later the person receives a phone call. The connection between C3 and A3 becomes the primary point of activity as the person's attention is focused on the auditory stimulus. The competition between the two activities is based on the importance of information in these brain regions. This is competitive evolution applied to the brain region level.

The above analogies for brain regions are simplified; in an actual brain, the activities of the regions are multilinear superpositions. However, the integration of the competition between the brain regions is clear. The result of the integration is a dynamic core system composed of the cerebral cortex and thalamus. The dynamic core of the cerebral cortex and the thalamus is integrated about every 0.1 seconds to form a conscious fragment. Many fragments of consciousness rely on instantaneous memory to form continuous conscious activity over time, or a stream of consciousness (James, 1890).

The naturalization process of the consciousness mentioned above may be summarized as follows: Neural Darwinism, or its more recent iteration—the dynamic core hypothesis (Edelman and Tononi, 2000)—is a kind of reductive physicalism. At the three levels of the neuron, neuron group, and brain region, the subjective responses of A1, A2, and A3 are continuously improved. At the level of the brain region, A3 already has a very high level of subjectivity. B and C are integrated and feed back to A; A has a feedback mechanism. The feedback mechanism is a purely physical mechanism, and it does not need property dualism. This consciousness of physicalism can be described as follows:

(i) The feedback mechanism between neurons enables A1 to connect to B1 or C1. The neurons have a certain degree of responsiveness.

(ii) The feedback mechanism between neuron groups enables A2 to combine with B2 or C2. The neuron groups have certain functions.

(iii) The feedback mechanism between brain regions enables A3 to choose B3 or C3. The brain regions have a certain degree of subjectivity.

In short, the physical object can be subjective, and the subject of consciousness can be objectified. Hence, property dualism is not needed.

3.2. A critique from An Ontological Anthropocentric Perspective and A Refutation of the Critique

According to ontological anthropocentrism, (Anthropocentrism is first and foremost an ethical concept. In ethics, the meaning of anthropocentrism refers to the interpretation and use of anthropocentrism as a kind of value concept from the perspective of the relationship between the human and nature. Anthropocentrism here is an ontological concept) human consciousness is distinct from the consciousness of cyborgs, robots, and planets. Human consciousness is mental, while other types of consciousness are mechanical reactions. Human consciousness is still metaphysical. The critique of anthropocentrism is as follows:

A1: Given that anthropocentrism holds that the human has the consciousness property H, then H exists.

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A2: Given that the property T of transhuman consciousness should be attributed to the physical property P rather than the human consciousness property H, then T belongs to P and does not belong to H.

A3: Therefore, only the human consciousness property H is a real consciousness and T is not the property of consciousness.

A4: Additionally, H is higher than T.

A5: The future argument is wrong.

The response to this critique from a future perspective could be suggested.

Octopus, Network, and Gaia think human consciousness is lower and simpler than their own and is a mechanical reaction. Human beings should be modest, acknowledge the lower level of their consciousness, and understand their lack of awareness of the problem of consciousness. The first-person formal transhuman response may be formulated as follows:

T1: An anthropocentric perspective states that the human has the consciousness property H. H exists.

T2: The property T of transhuman consciousness is a more advanced consciousness property. T is more complex.

T3: The property T of transhuman consciousness is higher than the human's consciousness property H. T is higher than H.

T4: Therefore, the critique of anthropocentrism is wrong.

A third person answer also exists. The consciousness of Octopus, Network, and Gaia is a robot black box problem for humans. It is an advanced and complex phenomenon that human beings can hardly understand. The transhuman consciousness exhibits great subjectivity (The definition of subjectivity appears in the following discussion about "perception, memory, emotion, reason, and subjectivity".), and is not a mechanical reaction. It is also a higher-order phenomenon of cognition of the world and self. The consciousness is the product of natural evolution and will evolve further. My third-person formal answer is as follows:

M1: The world has the physical property P. P exists.

M2: The property T and the property H should be attributed to the physical property P. T and H belong in P.

M3: Both transhuman consciousness and human consciousness are cognitive phenomena of self and the external world. T and H are equivalent.

M4: Therefore, the critique made by anthropocentrism is wrong.

Not only human beings have consciousness; some non-human beings have consciousness as well. As we trace the evolutionary tree to present-day human, there is evidence of a growing consciousness. If consciousness is merely a phenomenon of cognition of the world and self, then some animals can also cognize the world and themselves as has been demonstrated by a mirror test (Gallup Jr., 1970). Therefore, animals also have consciousness. For an explanation of non-human consciousness, one could use the five concepts of perception, memory, emotion, reason, and subjectivity. (One also could employ additional concepts (such as feeling, sensation, instinct, desire, intelligence, thinking, attitude, and belief)) These concepts are related to consciousness, and the phenomena do not occur at the same level. The abilities represented by these concepts gradually evolved. Different animals possess distinct abilities related to consciousness.

As a means by which to distinguish among these abilities, we may refer to the classification of animals. The two main categories of animals are invertebrates and vertebrates. Vertebrates include fish, amphibians, reptiles, birds, and mammals. Therefore, animals could be separated into six categories: invertebrates, fish, amphibians, reptiles, birds, and mammals. One could examine whether or not these six types of animals each have perception, memory, emotion, reason, and subjectivity. In other words, what animals exhibit these abilities?

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(i) Perception may be defined as the reflection of objective stimuli on the individual properties produced by sensory organs. Invertebrates that possess a nervous system have perception. For example, many insects have visual and tactile, as well as other, forms of perception. Perception is the lowest level of cognition. Some invertebrates have perception, and all vertebrates have perception (Tang SM, 2004). (Tang Shiming's research unifies insect vision and vertebrate vision at the cognitive level. See this article for details: Tang SM, Wolf R, Xu SP, Heisenberg M. (2004) Visual pattern recognition in Drosophila is invariant for retinal position. Science, 305 (5686), pp. 1020-1022)

(ii) Memory may be defined as the process of encoding, storing, and extracting information. If memory is so defined, the lowest vertebrates, fish, have short-term memory (Williams, 2002). A number of other vertebrates also evidence memory capabilities. For example, some birds store information and remember where to store them (Sherry and Duff, 1996). It can be said that all vertebrates more evolved than fish have memory capabilities.

(iii) Emotion may be defined as a being's attitude toward objective things. The emotions include 27 distinct categories such as happiness, anger, sadness, disgust, fear, and surprise (Cowen and Keltner, 2017). If emotion is so defined, some reptiles have emotions. For example, lizards have feelings of excitement and fear. Paul MacLean suggests that the only the limbic or paleo-mammalian system of the triune brain has emotional function, mammals have emotions (Holden, 1979). However, the emotion referred to here is broader in scope. Different emotions evolve at different times. Primitive emotions, such as fear, may be related to the reptilian brain and have evolved first. Filial related to the paleo-mammalian system and seem to have evolved in early mammals. Social emotions, such as guilt and pride, may be related to the neo-mammalian brain and have evolved in social primates. (See also: https://psychology.wikia.org/wiki/Evolution_of_emotion) It can be said that all vertebrates more evolved than reptiles have emotions.

(iv) Reason may be defined as the ability to identify, judge, evaluate actual causes, and make behaviors conform to specific purposes and produce specific results. Some birds exhibit the ability to reason. For example, New Caledonian crows are able to manufacture tools by breaking twigs off bushes and trimming them to produce functional stick tools (Hunt, 1996). A number of other vertebrates also demonstrate an ability to reason. For example, killer whales use strategies to capture minke whales (Ford et al., 2005). Many vertebrates more evolved than birds demonstrate this ability to reason.

(v) Subjectivity may be defined as the awareness of one's own activities, including the understanding of one's own physical condition and psychological characteristics, as well as the relationship between the self and others. This definition of subjectivity makes the concept of subjectivity similar to self-consciousness. Some of the higher mammals show partial subjectivity. For example, some great apes partially or totally pass the mirror test; they recognize themselves in a mirror (Gallup Jr., 1970).

Only five types of cognitive ability and six categories of animals are mentioned here. There is an ongoing debate about animal consciousness. For example, some scholars believe that fish also have emotions (Michael Tye, 2017). (Michael Tye (2017). Do Fish have Feelings? The Routledge Handbook of Philosophy of Animal Minds.) However, there is agreement that consciousness evolves from weak to strong in capability, and from simple to complex in content. The changes in capability and content of consciousness are a product of increasingly large and complicated animal structures. Therefore, non-human animals also have different intensities of consciousness. The formalization of the above argument may be described as follows:

Human possess consciousness, H.

Some non-humans demonstrate consciousness property H1.

Anthropocentrism of consciousness is untenable.

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Therefore, the critique of anthropocentrism is wrong.

3.3. A Critique Based on the Idea of Weak Emergence and A Refutation of the Critique

A concept of weak emergence may either support or oppose the future argument. A critique of metaphysical consciousness supports the future argument. For example, eliminative materialism (Churchland, 1981) or reductive physicalism both reflect an idea of weak emergence. The weak emergence theory may be used to challenge the premise of the future argument in arguments that contend that transhuman consciousness will not exist. For example, the biological naturalism of Searle's Chinese room (Searle, 1980) would render the consciousness of transhuman beings as not possible. There may only be advanced artificial intelligence without any cyborg, robot and/or planetary consciousness. A critique from the perspective of biological naturalism may be stated as follows:

B1: Human consciousness is a natural phenomenon and it exists. H exists.

B2: Transhuman consciousness is not a natural phenomenon. T is not natural.

B3: Transhuman consciousness does not exist. T does not exist.

B4: So, the future argument cannot be sustained.

A critique of this biological naturalism may be offered. The objection to the premise in a thought experiment has been taboo to a great extent and is in the process of being demonstrated. The discussion of an argument depends upon an ability to recognize the argument. The human mind did not exist 3 million years ago. The human mind also is an example. Human consciousness is the biological expression of evolution. The evolution of the modern human may not be treated as the primary focus. Humans will continue to evolve. The first person's formal answer may be as follows:

T1: Human consciousness did not exist in the past, yet now exists. H exists.

T2: Consciousness is the product of evolution and will continue to evolve. H will evolve.

T3: Transhuman consciousness is also the product of evolution and will exist. T will exist.

T4: So, the critique of biological naturalism is wrong.

A scholar could respond that our study of consciousness needs to go beyond current understandings of consciousness and think about what consciousness at a higher level would be. There are many examples of the existence of transhuman consciousness in reality (Warwick, 2003). A third-person formal answer is as follows:

M1: Human consciousness exists H exists.

M2: It is assumed that transhuman consciousness does not exist. In reality, transhuman consciousness exists. Transhuman consciousness exists. T exists.

M3: Human consciousness and transhuman consciousness both exist. Both H and T exist.

M4: Therefore, the critique from a biological naturalism perspective is wrong.

Now let us look at an example of transhuman consciousness. Neil Harbisson, born in 1983, was naturally colorblind. He began to wear an electronic device called the 'Eyeborg' in 2004. The electronic device is an antenna, implanted in the skull, that recognizes the frequency of color and transforms the frequency of color into sound. Harbisson could use the device to hear color. (Neil Harbisson can turn 'invisible' colors into 'audible' voices.) Because the antenna was implanted in his skull, Neil Harbisson could hear images and paint sounds (Jeffries, 2014). In the beginning, Harbison had to memorize the names of different colors and identify the sounds created by the electronic device. After a period of time, these messages became a type of perception. Harbisson no longer needed to focus actively on the perception of the sounds. Over time, his perception transformed into related feelings. He developed a liking for certain colors. When he began to have 'colorful dreams,' he thought that the device had integrated with his

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brain. He heard colors turn into voices. The voices he heard also had color. He said that when he answered the phone, he felt green. The phone ringing sounds the same as green. Mozart's music became a yellow experience. He could transform a piece of music, a speech, or a person's voice into a picture (Jeffries, 2014). (The "trans" of transhuman consciousness is both "transform" and "transcend". The first three examples are more "transcend" in the paper. Harbisson example is more "transform" and less "transcend")

Harbisson's example suggests that we may understand the subjectivity of experience. According to Thomas Nagel, a bats' perception is very different from that of humans (Nagel, 1974). Humans cannot infer the inner life of bats from human inner life. Therefore, humans are unable to know what it is like to be a bat. Furthermore, Nagel believes that physicalism cannot restore the subjectivity of experience. Habison's example provides an effective critique of the bat argument and helps physicalism restore the subjectivity of experience.

Harbisson could perceive 360 colors, similar to the range of color enjoyed by the average human being. Furthermore, he believes that human perception of color is far from adequate. He added infrared and ultraviolet perception to his range of sound sensing. He is able to hear colors that human eyes cannot perceive.

Harbisson's skull possesses a new type of eye or ear, a novel type of sensory receptor. This new sensory receptor can generate new qualia that simultaneously transform existing qualia.

Harbisson transcends traditional humans in the quantity and quality of the qualia he experiences because he experiences more colors and feelings than the average person. Moreover, the sensory qualia of Harbisson transcend the sensory qualia of normal humans. (Ditto) Therefore, Harbisson is a living example of a transhuman; transhuman consciousness exists in reality.

Furthermore, the notion of transhumanism consciousness offers certain advantages over anthropocentric perspectives.

There are four main disadvantages of an anthropocentric perspective:

(i) The perspective of anthropocentrism is subjective. (The 'subjective' here is different from the 'subjectivity' before. 'Subjectivity' in the previous article refers to a high-level state of consciousness, which is a neutral term. Here 'subjective' refers to a bad way of thinking, which is a derogatory term) The self-consciousness that human beings experience is often vague, uncertain, and mystical. Anthropocentrism proves limited with regard to the identification of problems and their resolution. Too often it is based on subjective feelings, wishes and wills, narrow personal experience, and an isolated, static and one-sided perspective that separates subjective from objective experience as well as cognition from practice.

(ii) The perspective of anthropocentrism proves inferior to the perspective of transhumanism. Human vision can only see visible light waves, and the capacity of short-term memory is very small. Human beings only experience and analyze their consciousness every 0.1 seconds. A human generates and analyzes only a few concepts per second. Human beings can clearly maintain consciousness for only 16 hours every day. In general, the period when human beings exhibit self-consciousness is from three to eighty years old. Human perception, memory, analysis, information processing ability, and deductive thinking ability are very limited.

(iii) Anthropocentrism is a closed-system. Human consciousness cannot transcend itself according to an anthropocentric perspective. In life, a human is unable to lift himself up. In physics, the cosmological laws of human study ultimately may prove to be self-referential. The means by which to solve problems is conflated with the problems to be solved. The problem of consciousness will be complicated, mystical, and subjective.

(iv) The perspective of anthropocentrism is unreliable. The knowledge gained through daily human conscious experience is often unreliable. The process of acquiring knowledge from human daily conscious experience proves different from that of science. Such knowledge can

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be used as everyday knowledge, but not as scientific knowledge. For example, some knowledge acquired from daily conscious experiences, such as astrology, witchcraft, alchemy, and psychoanalysis, is unreliable. However, many modern humans continue to learn by relying upon these forms of experiences.

There are advantages to a transhumanist perspective:

(i) The perspective offered by transhumanism is objective. Based on an understanding that a third-person transhuman is capable of transcending human consciousness, transhumanism is the study of consciousness phenomena and psychological activities from an objective, scientific, and verifiable perspective.

(ii) The perspective of transhumanism is superior to the perspective of anthropocentrism. The human consciousness is roughly fixed in the present stage. It is strictly restricted in space and time, confined to 1500 grams of brain and approximately 16 hours of the day. Humans are unable to maintain consciousness for very long. However, the duration of transhuman consciousness may be very different. The transhuman consciousness is far from fixed. Transhuman consciousness may be generated in biological entities (such as future humans and extraterrestrials), abiotic entities (such as robots), and biological or abiotic combinations (cyberman). Transhuman consciousness contains greater diversity, possibilities, and efficiency than the human consciousness.

(iii) The perspective of transhumanism represents an open system. On the one hand, transhuman consciousness may experience direct knowledge of human consciousness (such as pain) in the first-person perspective. On the other hand, transhuman consciousness may describe, transform, and analyze the sense of pain (direct knowledge) to gain greater knowledge from a third-person perspective through objectivity and science.

(iv) The perspective of transhumanism is reliable. Human consciousness is undeniable However, human consciousness may be simplified, reduced, and naturalized from the perspective of transhumanism. (Naturalism is the theoretical program of the contemporary philosophy of the mind. From the first important theoretical contribution of the contemporary philosophy of the mind put forward by Armstrong in the 1960s, to the emergence of biology advocated by Searle in the 1980s, to the dualism based on information science founded by Chalmers in recent years, the naturalistic nature of his theory of mind merits mention. “Naturalized” in the philosophy of the mind refers to the method of using natural science and nature to explain consciousness) The transhuman is able to learn, detect, and understand human consciousness through scientific means or equipment. Research on consciousness from a transhumanist perspective is relatively feasible and reliable.

Understandings of consciousness would best be captured with a transhumanist—as opposed to an anthropocentric—approach.

4. Three Significances of the Future Argument

In order to maintain the rationality of the existence of transhuman consciousness and demonstrate the validity of the future argument, a consideration of its significance merits attention.

4.1. The Significance for Cognitive Sciences

Cognitive science is expected to unravel the hard problem of consciousness in the near future. The possible solutions are multi-faceted and encompass multiple levels. For example, from the study of neurons and words to that of the subjectivity of consciousness represents a huge leap forward. It may be followed by the study of phonemes, morphemes, syntax, and semantics, which is controversial (Huth, 2016). Edelman and Tononi have already explained consciousness quite clearly in plain language:

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Consciousness is everything we experience. Think of it as what abandons us every night when we fall into dreamless sleep and returns the next morning when we wake up (Tononi, 2004, pp. 1–2). (The viewpoint (not the original words) of Tononi first appeared in the article Tononi, G. & Edelman, G.M. (1998) Consciousness and complexity, Science, 282 (5395), pp. 1846–1851. Hence, this viewpoint belongs to Tononi and Edelman)

The questions that remain with regard to consciousness may be addressed through reductionism. Scientists will continue to use reductionist methods to locate the neural correlates or the dynamic core of consciousness and identify the necessary conditions for minimum consciousness and quantitatively research consciousness. In the future, neuroscientists will be able to analyze the processes of neural activity related to consciousness (Tononi and Koch, 2015). Similarly, artificial intelligence engineers will be able to create intelligent bodies and psychologists will be able to describe the processes of thinking in detail.

4.2. The Significance for the Science

The future argument anticipates that new subjects will transform science. In the future, a new biochemistry, or cyborg, or robot, or wisdom, will prove able to reconstruct existing theories of human science. For example, they will rebuild and redevelop the fields of physics and astronomy. They will create a new model of time and space. Or, they even may eliminate the concepts of time and space, replacing them with something new. Analytic geometry and calculus may disappear whereas matrices and fractal mathematics may be further developed. The natural sciences will be rebuilt, as will the social sciences. There will be more theories like Richard Dawkins' meme in the social sciences (Dawkins, 1976).

A transhumanist explanation of consciousness is an extreme position, more radical than Paul Churchland's critique (Churchland, 1981, p. 67) of folk psychology as a primitive, backward, crude, failed, and unscientific discipline. The scientists working with cyborgs may eliminate the current scientific concept created by humans, as it too proves excessively relativist. The relativism of transhuman consciousness is different from Nelson Goodman's relativism of pluralism that includes philosophy, art, science, and other disciplines. This relativism refers to the relativism of monism, where new science replaces old science.

4.3. The Significance for Epistemology

Philosophers need to not only follow science, but also surpass science. This future argument anticipates that new, and also old, subjects will understand, transform, improve and replace existing knowledge systems. This may be accomplished through transhuman-human cooperation.

On the one hand, the replacement of existing human knowledge is a process of naturalizing epistemology. Quinn announced this transformation in his naturalized epistemology (1969, pp. 82–83). On the other hand, the replacement of existing human knowledge will produce a more exquisite and richer knowledge system. In the future, the question of consciousness may be forgotten by new subjects. Similar to the way that Newtonian mechanics eliminated Aristotle's motion problem (four causes), philosophy of the mind will decline. However, the transhuman will explore a more massive and complex world together with the human.

In conclusion, although humans cannot transcend their own limitations when they think about consciousness, they can study consciousness from the perspective of the transhuman. (This paper is supported by Project Name: Program for the Philosophy and Social Sciences Research of Higher Learning Institutions of Shanxi. Project No.: 2019W121)

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5. Conflicts of Interest

The authors declare that they have no conflict of interest.

6. Availability of Data and Material

Not applicable.

7. Code Availability

Not applicable

8. Authors' Contributions

Conceptualization: Jianhua Xie; Methodology: Jianhua Xie and Yajin Zhao; Formal analysis and investigation: Jianhua Xie; Writing - original draft preparation: Jianhua Xie; Writing - review and editing: Jianhua Xie and Yajin Zhao; Funding acquisition: Jianhua Xie; Resources: Jianhua Xie and Yajin Zhao; Supervision: Jianhua Xie.

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