

What is final cause?

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Introduction

There have been various opinions about atom from ancient times. It is well known that the ancient Greece philosophers, such as Leukippos and Democritus claimed atom and Aristotle criticized it in great detail. However, atomism existed not only in Greece but also in India and there were critics of atomism, too.

I introduce here a part of criticism of atomism in India, a summary of "Twenty Verses on Consciousness Only" No.11 - 14 written by Vasubandhu, a Buddhist monk in the fourth century.

Definition

Atom is the smallest component of matter. It has no part and can not be divided.

Criticism 1

If an atom combines with more than one atom, it must consist of more than one part, which contradicts the definition that it has no part. However, if an atom does not combine with more than one atom, it can not compose any object.

Criticism 2

If an atom has no part, there must be no shade. That is, if it has no part, it must have the same luminosity in all directions when lightened. If an atom has no shade, also an object composed of atoms must have no shade, which contradicts the fact that an object lightened on one side is shaded on the other.

Criticism 3

If an atom can not be divided into spatial portions, it can never be blocked by another, that is, atoms will never bump together. If that is the case, all aggregates of atoms must become one atom size because every atom takes the same place.

This is the most logical criticism of atomism I have ever known.

Vasubandhu was a monk of the Consciousness Only school, one of schools of Mahayana Buddhism. The thought of Consciousness Only is known as the denial of existence of the outside world. The passage quoted here is a counterargument to atomists for defending his school. He answers various criticisms against his

school in this book. It is not that all of his arguments are worth reading at the present time. Yet there are a lot of things to study about epistemology or atomism as I have introduced here.

My position against atomism is the same as his. The modern concept of atom has a big defect as I have shown in another paper, so I do not accept the existence of atom. If I do not, I will have to answer the following question: If atom does not exist, what does exist? How can we understand this world?

The purpose of this paper is to answer this question. For this reason, I utilize the concept of final cause which Aristotle used once and seldom paid attention to nowadays.

First of this paper, I discuss the reason why I introduce final cause and what it can elucidate.

Secondly, I offer some answers to expected contrary opinions against final cause. This part contains criticisms of several philosophic and scientific opinions which can disturb the development of final cause.

Lastly, final cause itself is criticized. I discuss what ground the concept has and how it can be justified or can not. I try to explain final cause by associating with the doctrine of twelve Nidanas of Buddhism. It may not succeed enough but is necessary to organize this paper.

1

1.1

For example, let us take a scientist who investigates functions of human brain, and assume that he believes neurons control human behavior by exchanging electric or chemical signals each other. He also believes that he can understand all human activities from the minimum elements of matter, such as atoms or molecules, that is, reductionism. Then, if you ask him why he researches brain, how will he answer?

If he answers that his neurons operate in some way and release some neurotransmitters and consequently he studies his theme, do you take it as a serious answer? You may take it as a joke.

No matter how accurate and correct his answer is, it can not be the right answer. The right answer is such that he researches brain in order to understand its functions or in order to invent new treatments.

If you are questioned why you behave like that, you must answer by showing your purpose or reason. Such answer is obviously right and you can not explain any further. If it is appropriate to explain human behavior by purpose rather than by atom, you need not explain by atom.

Why do we think it necessary to explain human behavior from atoms or neurons?

It is because we regard that atom is the most basic existence and has to be the basis for every phenomenon. However, if atom does not exist, there is no necessity to explain human behavior from atom. Explanation by purpose can

be fundamental. Therefore if you regard final cause as the principle of nature, explanation by purpose is not only appropriate but also ultimately right for human behavior.

1.2

To take an example, let us consider the case that you drink a glass of water.

First, you look at the glass, reach your hand to it, carry it to your mouth and drink water. Seeing is for cognition. Moving your hand is for carrying the glass. Carrying is for drinking. And drinking is for satisfaction of your thirst.

At the same time, your body recognizes the glass by retinas and optic nerves. Motor nerves move muscles of your arm and throat muscles swallow water. Each part of your body works for the purpose of drinking.

On the other hand, you feel thirsty in your mind. Then, you see water and want to drink it. After drinking, you feel relief. These mental processes operate for drinking water and finally for survival.

All psychological functions such as will or cognition and all physical parts such as nerve or muscle exist for the purpose of survival. If you regard purpose as the principle of nature, you can understand both mind and body from the same principle.

1.3

If you do, how can you understand inorganic substances?

You can consider that such natural beings have their own natures. Things with mass pull each other, which is their nature. Things with electric charges of the same sign repel and with opposite signs pull each other, which is their nature. Gas obeys Boyle's law and so on.

Let us think about movements of celestial bodies, for example. We know that force of gravity between them is inversely proportional to the square of distance. Why must universal gravitation obey the inverse square law?

In order that a body moving around a center point goes in periodic orbit, the gravitational pull must be inversely proportional to the square of distance or proportional to the distance. Newton demonstrated that there is no other mathematical solution.

Therefore force between celestial bodies must obey the inverse-square law because they move periodically. According to observational evidences, we can exclude the force proportional to distance. That is to say, the law of force must be inverse square because periodic movement is the nature of celestial bodies.

Let us take another example, atom in scientific sense. Scientists regard atom as permanent. Even if matter is broken or changes its properties, atoms which compose it have to prevent themselves from changing. This is the scientific concept of atom.

Therefore if something moves within atom, its motion must be periodic and permanent. Consequently, force within atom must be inverse square (Coulomb

force) or proportional to the distance (harmonic oscillator), which is deduced from constancy of atom.

When you try to derive some laws of nature, you have to induce it from actual phenomena. Once laws are established, you can deduce natural phenomena from them. However, the order is reversed in scientific research. You have to begin with phenomena and then infer principle. For us, nature as a result of laws always precedes laws. Our cognition of nature is ahead of scientific knowledge and determines it.

Then, how can you explain scientific research itself as a natural phenomenon?

You can do that only by the final cause. It is an activity for understanding nature.

2

2.1

I think the most mysterious phenomenon of human mind is free will. Can we understand it from final cause?

Let us take a thirsty man about to drink water, for example. His will of drinking water aims at drinking and also is caused by the situation that his body lacks water. Therefore his will of drinking has two kinds of causes. One is the situation that his body lacks water. The other is the purpose to drink water or to maintain existence by drinking water. His will is not free because it is caused by them.

Every will has its purpose according to our experience. Therefore every will has its cause if you accept the final cause as a proper cause. Consequently, free will does not exist as long as you regard it as with no cause. If free will has some purpose, you can say it is caused by that purpose, so it is not free.

We have to say every human will has its cause from viewpoint of final cause, so there is no room for free will.

2.2

Human being acts on his will and is able to reflect on his actions when necessary. He can improve his behavior by reflection, but how?

You begin with checking situations you were put in. Then, you look back at things you recognized, your wants and purposes of your actions. You also recall emotions or feelings at that time, and examine relations between them. Did the emotion affect your behavior? Or were you strongly attracted to your objects of wants? Were you thinking about something else on another place or satisfaction of wants in the future? What determined your behavior then?

Although there were such many factors to determine your behavior, is it possible that it was simply determined by free will? If your judgements and wills arise freely and have no cause, how can you reflect on your behavior? If they do, you can not find out causes of your behavior and if you can not, you

also can not change causes and consequently can not improve your behavior. That is, if you believe in free will, you will lose opportunities to improve your behavior. Belief in free will leads you to corruption.

However, some say that we have intellect. We can analyze our situation with reason and make proper decisions. Intellect is the source of our will and makes judgements freely from all fetters.

Then, what are standards when intellect makes decisions? What is the basis on which we can choose the better option?

As long as intellect is to make judgements, it can not be free from that basis. In fact, the basis is our wants. What intellect judges is nothing less than what behavior satisfies our wants better. Something named intellect only serves our wants.

Nevertheless, we do not regard our wants as intellectual. We are rather inclined to consider them as the opposite of intellect. Therefore we can say that intellect is a quite anti-intellectual ability if it aims only satisfaction of wants. There is no intellect within humanity as long as wants are concerned. We are a kind of machines which work for wants. We shall discuss this problem from another point of view in the following section.

3

3.1

I think it is the critical philosophy of Immanuel Kant that claims free will or rational faculty of human being most strongly. So, we should examine our opinion in the light of Kantian philosophy.

There are two kinds of cognitions according to Kant. One is independent from experience, a priori cognition. The other depends on experience, a posteriori cognition. Judgment based on a priori cognition is called a priori judgment. The purpose of his critical philosophy is to clarify whether such a priori judgment exists or not, and if it does, what kind of property it possesses.

Then, how did he carry out his analysis?

It was by his reason.

Then, what is reason? How did he recognize it? He neither demonstrates nor gives any definition to it, in fact. However, his whole philosophy presupposes reason.

Let us think about the following question : Is the proposition that reason exists a priori judgment based on a priori cognition or an empirical judgment?

First, let us assume that it is a priori judgment. A priori judgment is to have strict universality and allows no exception at all. Nevertheless, such an analysis of a priori judgment itself is the business of our reason, so that a priori judgment presupposes reason. Kant says that reason is the faculty which provides the principle of a priori cognition[1]. Therefore the judgment that

reason exists can not be a priori.

Second, let us assume that it is an empirical judgment. However, is it proper that only experience can prove reason which provides the principle of a priori cognition? If it is, the whole transcendental philosophy should depend on experience.

Therefore the proposition can be neither a priori nor empirical. The existence of reason can not be proved within Kantian philosophical system. There is no means to recognize reason.

3.2

However, our opponent may say like this;

Question

Pure reason may have an ability to recognize itself. If reason recognizes itself, it is not necessary to make a distinction between a priori and empirical cognitions.

Answer

Even if it does, there remains another problem how Kant recognized his reason. I've already explained it is impossible.

Q Then, if you consider that reason has an ability to recognize itself and at the same time is identical with Kant, there will be no problem.

Just as a man especially need not know himself, Kant would not need any means to recognize pure reason if Kant himself was pure reason.

A Kant could not be pure reason, because it was him who wrote the book. That is to say, Kant had his hands, but I have never heard pure reason has hand. Therefore he must be different from pure reason. He must have recognized it by some means because it is impossible to know something different from himself in advance. Nevertheless, he could not know it by any kind of cognition as I mentioned above.

Furthermore, if Kant was identical with pure reason, pure reason will have no relation with us since it belonged only to him. It must have disappeared when he died.

Q You are wrong. Pure reason is not identical with him but a part of him.

A However, even if it is a part of him, he needs some cognition to know it.

Although your hand is a part of your body, you must recognize it by eyes or other sense organs if you want to know something about it. Even if it is a part of you, you don't necessarily have its knowledge in advance.

Q Actually Kant is a part of pure reason.

A It is impossible, too.

It is generally impossible that A includes B when A doesn't contain an element which B contains. Since Kant has hands and pure reason doesn't, he can not be a part of it.

In conclusion, you can not prove pure reason by any means. Kantian philosophical system is based on metaphysical fabrication and can not describe our lives at all.

4

4.1

Now, we shall resume our main theme. We may encounter the following refutations against final cause.

Q Although you claim final cause is the principle of nature, that can not be true on evolution of life. Living things have evolved through heredity and natural selection. Therefore evolution has no purpose.

A I have not said evolution has purpose. The vital activity itself is the purpose of living organism. Every part of living organism works for maintenance of vital activity. The theory of evolution should provide explanation how each part of living things works for survival.

For example, if the theory can not explain that wings of birds are for the sake of flying, no body will believe the theory. It is because the theory gives the same explanation as by purpose that we believe it. It accurately replaces the word purpose with the word fitness. The roll of the theory of evolution is to clarify that every part of living organism is useful for survival or at least not harmful and also to explain how it works.

Therefore final cause agrees with the theory of evolution.

4.2

Q However, it is wrong to regard vital activity as purpose. Life organisms exist for the maintenance of genetic informations. Evolution is only a by-product of that.

A If you are right, genetic information must be the subject of evolution. Yet it can not be because evolution is the change of genetic informations.

You should think about these questions: What does genetic information change against? What does it change from? What does it change to?

It is the change from the past information to the present information and genetic information is not conserved through that process. Rather the information itself changes and nothing is conserved. That is, genetic information is not inherited. Therefore evolution can not occur because it can not be without heredity.

Since genes with mutations do not transmit any trait, they are no longer genes. However, evolution doesn't occur without mutation. Therefore genes don't cause evolution as long as genes are genes.

To take an example, let us assume that a white mouse was borne by brown one. What does change in this case?

Some say that the trait of brown hair has changed into that of white hair. Yet color of neither mouse has changed in fact. The brown mouse has been brown from his birth and the white has been white. What happened is not a change of trait but only a birth of mouse which has the different trait from its parent. Change of trait is just an imaginary event. The idea of change of trait means nothing until you regard two individuals as identical in reality.

Change of character generally means that some character changes on some thing which is called substance. When we say that a man Socrates has changed from uneducated to educated, Socrates keeps existing throughout that change. That is, the substance itself must be identical before and after change.

Therefore, if there is no substance, there can not be any change. Since there is no substance on evolution as we have argued above, it can not be a change of character. Although neither individual nor genetic information evolves, what else does evolve?

The end of the theory of evolution is to understand the creation of species. Therefore the whole theory will be meaningless unless you postulate the existence of species. You have to accept it before everything in order to say whether the theory is right or wrong.

I have so far explained that final cause is consistent with the theory of evolution.

4.3

Q Then, why are children the same species as their parents if genetic informations are not inherited? What is species?

A When children are born, their developments are caused by their parents. Genes of parents cause genes of children. Both genes and individuals are produced each time.

Also, genes do not cause development because they can not do anything by themselves. There must be a cause of expression of genes, which lets development start. That is parent organism. Species is a chain of developments.

Q We assume that the origin of life on earth was a genuinely chemical occurrence according to the modern theory of evolution. If you say development is caused by parent organism, how can you explain the origin of life?

A It is practicable enough with our present technology to send a space probe to an extrasolar planet. Let us suppose that the probe carries samples of terrestrial lives, such as bacteria. If you observe them begin to live on the planet, you can say you have proved the origin of life on earth. That can be a reproducible phenomenon.

Moreover, if you claim that life was produced from inorganic matter, you have to accept the theory of spontaneous generation which you deny.

5

5.1

Q However, there must be the beginning of life because the universe has its beginning. It began with the creation from nothing, that is, the big bang.

A I can not regard the big bang theory as scientific. Creation from nothing is unscientific.

If the universe comes from some cause, the cause is a part of universe because it is connected to this universe through relation of cause and effect. Therefore the beginning is not the creation from nothing.

On the other hand, it is impossible that the universe comes from no cause. Once you accept that something arises with no cause, you have to accept that anything can arise at any place, because there is no reason that something does not arise at some place if a thing can arise with no cause.

Now, let us think about the word cause. That a phenomenon results from some cause means that it arises only under some conditions and does not under the other conditions. Even if we can not determine the exact conditions, we say that the phenomenon has cause. Although conditions are not known, that doesn't mean there is no condition.

Therefore, if a phenomenon arises with no cause, you can determine neither conditions under which the phenomenon arises nor those under which it doesn't.

And consequently you can not say that a certain phenomenon doesn't arise with no cause because conditions under which some phenomenon arises contain species of the phenomenon, and accordingly you have to accept that anything arises at any place.

Therefore, if you accept that some phenomenon arises with no cause even once, you have to accept that anything arises with no cause .

In conclusion, you should not say the universe arises with no cause. As long as you believe in laws of nature, you can't accept creation from nothing in any case. We should say the universe has no beginning because it comes from neither cause nor no cause.

5.2

Q Nevertheless, the universe will come to the end someday. The structure of universe is maintained by irreversible processes according to our theory. Therefore activities of stars will end in time and there will be no light in our universe.

If there is the end, there must be the beginning.

A You may be right. If you want to regard the universe as constant, you must think out some mechanism which keeps it going.

Aristotle called it the unmoved mover. It doesn't move itself and keeps the universe moving. It is not the first one in temporal sense since it keeps

moving the universe.

Why does our science have to be bound by only one occurrence in the past?
Is that really what science should be?

6

6.1

I have so far explained that the purpose of life is vital activity. Then, is there any purpose of it or is it the end of purposes? How can you acquire the clear understanding of the purpose of something when you do not know it?

To know that, you should examine in what situation it is called the best. When shoes are called good, that means they are suitable for walking. You can understand shoes are for walking in this way. Something is called good when it is suitable for its purpose.

It was obvious from the beginning for what they are in the case of shoes. How about life activity then? What is the purpose of our existence?

In order to know that, we have to think about what composes our existence and what it actually is in the first place.

6.2

What is life of a person?

That is nothing less than all the deeds he has ever done. Being is acting. Living thing is one which moves and acts. You have to study behavior in order to understand life.

On your behavior always appear effects of what you sense, want and judge through your life. First, you sense. Then your wants results from senses. Wants urge you to various considerations and intellectual thoughts, and you make a decision which appears best to you. Then you act according to that.

Such an act is based on wants and chiefly for survival. Wants determine most of the behavior of animals and human beings. However, there are actions not for survival. There must be deeds better than for survival among them.

We say that to help others even with a disadvantage is better than to act for our own survival. Therefore we can say the best deed is a moral one.

Yet some insists that considerations or judgements are only for the sake of our existence. Such intellectual abilities are for making decisions which benefit us more than simple satisfaction of wants in front of us. They say that the best deed is such as to benefit most.

Nevertheless, if there is a deed which benefits us most and at the same time is morally good, we will consider it better than which simply benefits most.

On the other hand, since we can say that a moral deed which benefits less is better than not moral one which benefits more, we can clearly tell what is good deed.

If a man did nothing when he saw a child about to fall off the window, we would not call him good. It is when he tries to help the child even with a danger that we say he is good.

Therefore, it is clear that good deed is a moral deed. Now we can clearly understand the purpose of our existence. If a deed is called good and life of a person with such a deed is called good, the purpose of our life is to do such a deed. That is to say, the purpose of existence is morality.

6.3

Still, we can not deduce what morality is. We can understand it only inductively through considerations and analyses of various affairs.

If the purpose of our life is morality and that is the end of purposes, morality itself will have no purpose and consequently no cause. Morality has no ground for itself and instead has to be grounds for all of human behavior.

7

7.1

Now, we shall explore the process of vital activity for the origin of final cause.

It is necessary for a living thing to nourish himself in order to maintain his life. Also, to sense is necessary in order to obtain nutrition. Pleasure and displeasure result from objects of his senses.

A pleasant thing is necessary for survival, nourishment. An unpleasant thing is not necessary for survival, which he should avoid. These feelings produce wants for pleasant things and dislikes for unpleasant things.

He is moved by wants and takes action to obtain the object of pleasure. Vital activity is maintained in this way.

7.2

However, you can not distinguish sense and object of sense because they are identical at the moment of perception.

You don't see your eyes at the same time when you see colors. You do not understand that there is an object of seeing on the one side and are eyes on the other side until you reflect on the phenomenon of seeing.

However, it is obvious that you do not sense anything when there is no object to be sensed. The object of sense is to be sensed by nature and for the purpose of being sensed. Otherwise we can not sense them.

7.3

Object of sense is necessary for survival. If there is no object to be sensed, you will die. However, you are alive now. Therefore it must exist. Object of sense results from your existence.

Object of sense produces sense and at the same time arises for sense.

Sense produces wants and at the same time arises for wants.

Wants produces existence and at the same time arise for existence.

That is to say, object of sense produces your existence and your existence produces object of your sense. Being and the obsession for being appear in this way.

Seeing creates eyes and hearing creates ears. Touching creates body and thinking creates mind. Senses create beings and beings create senses. This chain has no beginning and no end.

When you abandon the thought of existence, your life disappears. That is the work of wisdom.

8

Western people say that the intellectual being created the world. Aristotle said the active intellect did and Christians say the intellectual Absolute did.

Therefore intellect is an ordinary thing in the western world. It is natural that creatures have some intellect because the intellectual being made them in his image. Human beings are with intellect from the beginning.

However, Buddhists say that ignorance has created the world. Therefore all beings are always in darkness and the absence of intelligence is natural. This is the reason why a man with intellect deserves a wonder. The difference in attitude toward study results from here:

Western studies start with intellect and eastern studies start for intellect. Existence of intellect is not obvious. It is not attained yet and should be in the future, which is called nirvana.

References

- [1] I. Kant. *The Critique of Pure Reason 2nd ed.* Introduction.