SCIENCE AND METAPHYSICS Part III

SCIENTIFIC EPISTEMOLOGY?

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Abstract

The major factor that limits application of science in episte-mology is identified as the blindness of science to the mind side of humans. The argument is develop-ed through three issues: Knowledge v. Belief; Rationalism v. Empiricism and Skepticism v. Certainty, which form the three major arguments of epistemology.

Plato's view and The Justified True Belief theory on knowledge and belief; Rene Descartes' defense of rationalism and John Locke's defense of empiricism in rationalism v. empiricism; and G. E. Moore's defense of certainty, called "Defense of Common Sense" and David Hume's defense of skepticism in skepticism v. certainty are examined.

1.INTRODUCTION

This is the third of a series of four papers, which contend that science is incapable of resolving arguments in metaphysics. Science has generally ignored the mind aspect and concentrated on the material aspect of things, including humans. This limits application of science to metaphysics. The limitation of science in epistemology is examined in this paper.

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Epistemology is the philosophical study of knowledge. The following three issues that form the set of major arguments, Knowledge v. Belief; Rationalism v. Empiricism and Skepticism v. Certainty, are considered.

Plato's view that knowledge and belief are different and The Justified True Belief theory that knowledge is belief under certain circumstances are the two views on the first issue, knowledge v. belief.

Rene Descartes' defense of rationalism and John Locke's defense of empiricism are the two views on the second issue, rationalism v. empiricism.

G. E. Moore's defense of certainty, called "*Defense of Common Sense*" and David Hume's defense of skepticism are the two views on the third issue, skepticism v. certainty. Can science contribute to the resolution of these issues?

2. VIEWS EXAMINED

(a) **Plato's view that knowledge and belief is different from each other**.

His argument consists of the following steps:

(i) Knowledge and belief are mind faculties.
(ii) Mind faculties are distinguished by their particular objects
(iii) Knowledge object is certain truth, and unchangeable.
(iv) Belief object is contingent truth, and changeable.
(v) Thus, **knowledge** and **belief** is not the same thing.

"I know X," means I am certain about X. "I believe X," does not mean that I am certain about X. Plato (427-347 B.C.)[1], *Republic Book* V, 477 says "*that which entirely is, is entirely knowable, and that which in no way is is in every way unknowable*". This shows that what is true can be known, but what is not true cannot be known ie. the object of knowledge is unchangeable certain truth.

"I know I am a man, but I am not sure." is an odd statement, but "I believe it will rain this afternoon, but I am not sure." is not an odd statement. The difference between belief and knowledge is based on how certain the claim is.

Plato was thinking in a similar way. However, he argues that if a thing is *"both is and is not, that sort of thing would lie between that which purely and absolutely is and that which wholly is not, and that the faculty correlated with it would be neither science nor nescience, but that which should appear to hold a place correspondingly between nescience and science"*. Then he concluded "*And now there has turned up between these two the thing that we call opinion"*. With this he pointed out that "opinion" lies between knowledge (science) and belief (nescience).

Plato says certainty, or lack of certainty, is in the knowledge object, not in the knower: "X is certain." (X is true in itself) and not "I'm certain that X," (not X is true because I am sure). In other words, X must be true, unchangeably.

"What is certain truth?" is a first criticism to Plato's argument. Any matter of fact can have arguments against it, or every matter of fact may be contradicted. This means matter of fact is never certain.

Another criticism is that language is not precise. For example, "I believe I am a man," means I am not certain that I am a man. "I know that answer…I think," means I know, but what I know may not be true.

A third problem is the question concerning certainty. Is it a psychological state? as in "I am certain," (I know it is true in my mind); or a metaphysical state? as in "It is certain" (known from other causes – like knowing by instinct). These problems do not prove Plato's argument to be faulty, but they show the need for careful thought on the nature of certainty.

Knowledge and **belief** are mental functions. The former is based on the "**consciousness series**" of mind activity, mentioned in the first paper of the series: Science and Metaphysics Part I**,** Scientific Art Appreciation – Is It Possible? Science does not recognize the mind aspect of an entity. Hence science cannot contribute here.

(b) **The Justified True Belief (JTB) theory**. A widely accepted theory, says that somebody (S) knows a proposition (P) to be true, if and only if

(1) S **believes** P
(2) S is justified in believing P, and
(3)P is true.

An alternative example based on the one given in the lesson can be:

(i) I believed he was going to arrive by Northwest flight today. (ii) I was justified in believing this since he had called me, and there was a NW flight today. (iii) It is true that he came.

There are several possible objections to this view, things like

1. What is justification?
2. What is truth?
3. Plato's distinction between certainty of knowledge and uncertainty of belief?

However all of these objections cannot disprove JTB - the possibility that the JTB theory is true still exists as long as its three propositions are true. Many accept its truth, but disagree about its meaning.

Edmund Gettier's criticism has a different base. He says that even if all three conditions of the JTB theory are present, knowledge may not be there. He uses fundamental logic principles that all proponents, who support the JTB theory, will accept. With this he

showed faults in above and also in the Chisholm and Ayer arguments- Edmund L.Gettier, "Is Justified True Belief Knowledge?"[2]

The first principle is that if "X and Y" is true, then "Y" is true, or if both parts are true, then each part is true. An alternative example to the one given can be: if it is true that Felix is a cat and Felix is a Siamese cat, then it is true that Felix is a Siamese cat, and it is also true that Felix is a cat.

The second principle is that if "X" is true, then "X or Y" is true (if "X" is true, then only one, either X or Y is true). For example, if it is true that Felix is a Siamese cat, then it is true that "Felix is a Siamese cat or Felix is a collie"; "Felix is a Siamese cat or Felix is a dog"; "Felix is a Siamese cat or the earth is flat."

The first principle was shown using Smith's belief that the man with 10 coins in his pocket will get the job.

(1) Smith believes P: "The man who gets the job will have 10 coins in his pocket."

(2) Smith's belief in P was justified, because he knew the job was offered to Jones, who had 10 coins in his pocket

(3) Hence P is true.

But Smith got the job instead of Jones, and then he discovered that he also had 10 coins in *his* pocket. Thus Smith was completely surprised. So he met all three conditions of the JTB theory but he did not have knowledge.

The second principle was shown using, Smith's belief that "Jones owns a Ford or Brown is in Barcelona." Smith's belief about Jones owning a Ford is justified (X true). But Smith does not really know where Brown is (X true, Y false). This demonstrates that X is true and Y is false because X is true. Then he finds out that Jones does not own a Ford but that Brown is really in Barcelona (X false, Y true). This demonstrates X is false and Y is true because Y is true.

(1) Smith believes P: "Jones owns a Ford or Brown is in Barcelona."

(2) Smith was justified in believing P, because he knew Jones own a Ford.

(3) P is true.

Smith was completely surprised. Even though all three conditions of the JTB theory were met, Smith did not have knowledge. Thus under certain circumstances, knowledge (certain) can be belief (uncertain).

The major objection to Gettier: was Smith really justified in **believing** "The man who gets the job will have 10 coins in his pocket" when he was wrong about Jones getting the job. Also was he justified in believing "Jones owns a Ford or Brown is in Barcelona" when he was wrong about Jones owning a Ford?

Here again, **belief** being a mental property precludes science.

(c) **Rene Descartes' defense of rationalism**. His argument is as follows:

(i) I know *a priori* that I exist (*Cogito*), so some knowledge is a priori

(ii) Thus even "experiential" knowledge is *a priori.*

(iii) Hence, all knowledge is *a priori.*

The second premise is based on Descartes' example of the piece of wax. The properties of wax are changed when it melts; yet is known that the wax melt is the same as the solid wax. For this to be possible, ***a priori*** **knowledge**, before sense experience, must exist. The knowledge that the wax melt and the solid wax are the same must exist before hand, before observing the wax melt. Thus knowledge not based on experience, before experiencing, technically called *a priori* knowledge exists. "*since all the reasons which contribute to the knowledge of the wax, or any other body whatever, are yet better proofs of the nature of my mind! And there are so many other things in the mind itself which may contribute to the elucidation of its nature, that those which depend on body such as these just mentioned, hardly merit being taken into account"*- Rene Descartes (1596-1650), Meditations on a First Philosophy. [3] This passage demonstrates Descartes subscribes to the a priori concept.

But Descartes knowledge of the wax solid and melt being the same might have come from being shown before. He might have learned this fact before - he might have learned it after an experience - *a posteriori*. Therefore Descartes second premise weakens his argument.

a priori **knowledge** involves **memory**, a mind function. Thus science is not applicable.

(d) **John Locke's Empiricism**. The basic argument is the belief that we are born "blank slates". We are born without **innate ideas** in our minds or brains. Our minds are totally blank. We begin to acquire ideas when we start using our senses, just like writing on a "blank slate". "*All ideas come from Sensation or Reflection"* - John Locke (1632-1704), An Essay Concerning Human Understanding[4].

Locke's argument against rationalism is: (i) Rationalism assumes innate ideas. (ii) Innate ideas do not exist (iii) Hence, rationalism fails.

Support for Locke's second premise is as follows: there will be proof if innate ideas exist. Proof can be from young children, whose ideas cannot have come from experience, and thus cannot be empirical; and from universal agreement about certain facts or truths. Lack of such proof shows innate ideas do not exist.

Locke's position was criticized on two fronts [Please see comments section also]

(i) failure to find proof does not mean there is no proof to be found. In other words, just because proof is not available, we cannot say it is not present. For example, in the days when x-ray machines were not present, the presence of x-rays cannot be detected. This did not mean x-rays did not exist. X-rays actually existed, even though there was no proof of their existence. Also if it is said that no innate ideas exist because there is no proof of their existence, then the "Fallacy of Appeal to Ignorance" is committed.

(ii) Since Locke says innate ideas can be known only through experience (empiricism), he was trying to prove empiricism by using empiricism. Thus his argument is circular.

There is also a problem with the first premise of rationalism assuming innate ideas. The term "innate" is ambiguous. It can mean "born in," so it need not be present at birth, it may have already been there before birth. Or it can mean "born with," meaning it is present starting from the time of birth. Locke probably refers to the second meaning, whereas rationalists refer to the first. So Locke's first premise is too ambiguous, and it weakens his attempt to disprove rationalism.

There are two arguments used by Locke to affirm or support empiricism: (i) existence of *a posteriori* (empirical) knowledge; and (ii) empirical knowledge is a natural phenomenon.

The first argument goes like this: I know that I exist. I know this by either *a priori* or *a posteriori.* But no knowledge is *a priori.* Therefore, there is *a posteriori* (empirical) knowledge based on experience.

The second argument is that nature does nothing without a purpose. Nature lets one get ideas through the five senses. Knowledge is made up of these ideas. Therefore, knowledge comes via experience through the senses (empiricism), and empirical knowledge is therefore a natural phenomenon.

The second premise of the first affirmative argument, shown above ("no knowledge is a priori") is weak. With reference to the second affirmative argument: (i) Nature sometimes does not seem to have a purpose – for what purpose is excessive rain in flooded areas? (ii) The function of senses may not be just to get ideas – survival and reproduction functions are not ideas. (iii) Knowledge may consist of more than just ideas acquired *a posteriori* – instincts are examples.

In short, Locke's argument on rejection of rationalism can fail because (i) it commits a "fallacy of appeal to ignorance"; (ii) it is circular (assuming as premise that he wants to prove in his conclusion); and (iii) it depends on an ambiguous word "innate idea."

Locke's first affirmative argument, second premise depends on his rejection of rationalism, which is not proven. Hence it may fail. Locke presumes too much about nature and the senses, so his second affirmative argument may fail too.

Innate ideas are the focus of the arguments here. Hence it involves the mind and science is not valid.

(e) **David Hume's defense of skepticism**.

"All the objects of ***human reason or enquiry*** *may be naturally divided into two kinds, to wit,* ***Relations of Ideas, and Matters of Fact****. Of the first kind are the sciences of Geometry, Algebra, and Arithmetic; and in short, every affirmation, which is either intuitively or demonstratively certain. That the square of the hypotenuse is equal to the square of the two sides, is a proposition, which expresses a relation between these figures. That three times five is equal to the half of thirty, expresses a relation between these numbers. Propositions of this kind are discoverable by the mere operation of thought, without dependence on what is any where existent in the universe".*

"Matters of fact, which are the second objects of human reason, are not ascertained in the same manner; nor is our evidence of their truth, however great, of a like nature with the foregoing. The contrary of every matter of fact is still possible;" - David Hume (1711-1776), An Enquiry Concerning Human Understanding[5]. Thus there are two kinds of human enquiry: Relations of Ideas and Matters of Fact.

Hume's basic argument for skepticism is the proposition that "The contrary of every matter of fact is still possible." This premise allows the following argument:

(i) Knowledge implies certainty.
(ii) The contrary of every matter of fact is always possible. (The possibility of the sun not rising tomorrow exists, even though the probability of this happening is very small).
(iii) This means matter of fact cannot be fully certain. Hence matters of fact cannot be known.

Hume, an empiricist, believes that all knowledge objects are sense impressions, or ideas "left over" from those impressions, or relations of those ideas. When knowledge of a matter of fact is claimed (E.g., when the cue ball hits the 8 ball, the 8 ball will move in a certain way) the claim is based on the relationship of cause and effect. E.g., the pool shot have been observed enough times so that there is confidence that the cue ball cause the 8 ball to move. But the relationship of cause and effect is not something that can be sensed (see, taste, smell, touch, or hear).

The cue ball was seen to move. The cue ball touched the 8 ball. The 8 ball movement was seen. But no cause was observed. Also there is a logical

possibility that next time the 8 ball will not move or that it will disappear. The claim to knowledge is thus not based on any certainty concerning cause and effect. It is based on the habit or custom that have been observed many times before (the two billiard balls act the way they do). Custom does not mean certainty.

Human reason or enquiry, Relations of Ideas, and Matters of Fact are related to mind functions. Hence science is not capable here.

(f) **G. E. Moore (1873-1958), "A Defence of Common Sense"**[6]**.** His argument: (i) I have a body that occupies a space, here on earth (contact with other three-dimensional things and other living human bodies has been experienced) (ii) I am a human being (has many different experiences of many different kinds in many ways). (iii) Each of us has known what I claim to know.

Moore did not prove these premises further. He took them for granted. Then he introduced his challenge: If a person disagrees with Moore, then that person believes that his view is false, or believes that it *could be* false. In any case, this means that he has a belief. This belief could be true or false. Since he has this belief, he must exist as a human who has such a belief. Thus either way, Moore's claim is proved.

Moore's argument seems difficult to disprove, but the following challenge may be made. Moore's argument appears to be "I know I exist, therefore I have knowledge." But how do I know I exist, if I need to prove the possible existence of the knowledge, I exist?

Moore's answer is that the very attempt to challenge him proves that he is correct. There is at least one human being—you. And you acknowledge his existing by challenging him. But then, the question "how do you know this?" arises. This is falling into a vicious, never ending circle. Thus Moore's "**Common Sense**" view appears not to be so certain.

Common Sense is definitely mental. Thus science that has ignored the mind cannot contribute here also.

3. CONCLUSION

Knowledge in Plato's view, *belief* in JTB theory, in the knowledge v. belief issue; *a priori knowledge* in Descartes view, *innate ideas* in John Locke's view, in the rationalism v. empiricism issue; *human reason or enquiry*, *relations of Ideas, and matters of fact* in Hume's view and *common sense* in Moore's view, in the skepticism v. certainty issue, are all mental functions or mind properties. Since science has ignored the mind aspect of entities, it is incapable of

contributing towards resolution of the various issues in epistemology.

REFERENCE

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