DIFFERENCE BETWEEN KNOWLEDGE AND SCIENCE

Dwi Murdiati
Faculty of Law,
University of Jakarta, Indonesia

Mohammad Adila Rossa
Faculty of Economics and Business,
University of Muhammadiyah Jakarta, Indonesia

Received: February 23, 2022
Accepted: March 15, 2022
Published: April 18, 2022

Corresponding Authors:
dwimurdiati59@gmail.com

DOI: 10.53947/tspj.v1i3.269

Abstract: Like other branches of philosophy, there are also main problems in the philosophy of science: the characteristics. The characteristic problem ought to be solved to its fundamental nature, making it different from other branches of philosophy. Problems in the philosophy of science include, among others, the understanding of the basic concept and science, each of which has its own identity. Knowledge problems include, among others, the understanding of knowledge, sources of knowledge, the level of knowledge, the structure of knowledge, as well as the truth and error of knowledge. The problems in the philosophy of science are as complex as any other branch of philosophy. However, it is highly demanded that those who study the science problem cannot simply detach themselves from the philosophy of knowledge and metaphysics. Therefore, those who desire to study the philosophy of science should approach these two branches of philosophy in the first place.

Keywords: Knowledge; Philosophy; Philosophy of Knowledge

Introduction

In Indonesian, the term "Science" is commonly used, while scientific knowledge consists of two words with their respective identities. From this identity and to support the development or improvement of the Indonesian language, an effort is needed to evaluate this common term "Science".

With the following description, the meaning of "science" and "knowledge" is expected to be precise. If "science" means a collection of organised knowledge (scientific knowledge) that has certain conditions and characteristics, will it be correct to use the term "science"?

From this question, it is possible to begin regulating the two terms that have the meaning of their respective characteristics and signs, which in the end, they are entirely different things.

Research Method

As previously stated, this is library-based research. In this regard, research materials are collected from the library in books, magazines and other writings related to the idea of the difference between knowledge and science.

Collecting data was performed by a system of collecting books that are relevant to the problems discussed (Suradika & Virgana, 2012). The data collected from books, magazines and other writings are classified and selected from dominant data or those directly related to the problem and complementary data. The method used in this research is the method of philosophy which consists of the followings:

- Description; it is to use and evaluate the term “knowledge”. Therefore, it can be used to describe concrete cases (science).
- Comparison; this method compares one thought from experts with another regarding “knowledge”. Comparing one opinion with another discovers the speciality of “science”.
- Heuristics; the effort using this method is to present a perspective on science and provide alternative solutions for the development of science.

The data used in these discussions and studies is classified material, namely "division" and "classification". "Division" means dividing, while "classification" means entering into specific groups or classes.

The steps of understanding, interpretation, and assessment in this context or issues to be discussed include; the main problem of knowledge, the truth of knowledge, sources of knowledge, the main problem of science, understanding of science, attitudes that scientists pay attention to, and the truth in science. These are intended to produce a descriptive formulation of research results that can be philosophically accountable.

Discussion And Analysis

A. Main problems of knowledge

What kind of knowledge is that? Can the meaning of knowledge be entirely stated? It is simply impossible to define a firm definition of “knowledge”.

The problem of knowledge is complex compared to other problems, such as truth, goodness, or beauty, because other problems are based on knowledge itself. If knowledge of the problem does not exist, there is no problem associated with it. However, the problem of knowledge is always based on reality. According to some opinions, other opinions are even entirely contradictory. They said they were the ones who knew earlier than the reality. Based on the diversity of knowledge problems, it might be suitable for describing the main problems of knowledge as follows:

1. The Meaning of Knowledge

It is complicated to provide the term “knowledge” with restrictions to express this term easier when a person acts to know about something. The result of that action is called knowledge.

Knowledge is a term used to describe when someone knows about something. A thing becomes his knowledge always consists of elements of knowing and being known and awareness of what he desires to know. Therefore, knowledge always requires a subject who is aware of something and the object which is something he desires to know.

The simple thing is, for example, if someone goes outside to see whether it is raining outside, he finds a wet lawn, thick clouds and drops of water. Therefore, he believes that it is rain because people used to call it "rain".

At another time, someone explained that the "rain" occurs from hot water and then evaporates into the air. Above the air, it gathers into one, usually called a cloud. Then the collection of water vapour melts and falls to the earth's surface, meaning that the rain happens. For someone unsatisfied with that answer, always ask: What is the rain? Is it just water? Is a raindrop the same as river water, for example? Alternatively, probably it is just steam that settles or something else that goes unanswered. However, some people explain that rain is one of God's blessings that He gives for human happiness on earth.

From the description above, it appears that knowledge about rain gets different explanations from one another. It depends on the background of what someone has seen, heard, perceived, thought and obtained from reading books or anything that can answer the problem.

In another situation, for example, last night, I slept so well that I dreamt that I had a beautiful villa at the top. After I woke up and remembered the dream, I felt that I owned a beautiful villa at that time, which then it does not exist in reality. Can it be called knowledge about what we realise in the dream?

Based on the examples above, it is not recommended to give a hasty understanding or restrictions about anything. However, for example, it can be pointed out with specific references to the more accountable agreement in terms of discussion. Likewise, the term "knowledge", a term that has a double meaning and its mystery in human life, has various meanings.

In other words, the above description of the term “knowledge” is a term to name "the result of the conscious act of knowing" with the note that this consciousness means an orderly thought arrangement that is desired and can be perceived. Awareness is an essential factor in this knowledge because it will show whether something that we know has a valid value or not.

2. Source of Knowledge

The problem of the source of knowledge is almost the same as the problem of the source of ignorance. Neither of them has a definite answer (undoubtedly according

to the thinker's background), whether it lies in mind, the senses, or other psychological aspects. To clarify this problem, approaching several mind or mental activities regarding the act of knowing was made, among others, the act of knowing, which is a specific activity based on psychiatric or mental activities. These actions are psychological actions that occur in a person at a particular time and moment. For example, my mind is restless, waiting for the exam results that have not been announced.

The awareness is that the heart and mind are in turmoil. Hence, it cannot be entirely interpreted that the image of knowledge is a clear thought since such a situation cannot be sensed. In this situation, the act of knowing is an activity that occurs in humans as a whole because humans at that time are in a specific psychological state. Alternatively, in other words, the sources of knowledge are matters relating to our appreciation of all conditions that complement human beings at a given moment. Every human being who desires to know himself must realise this kind of activity.

Apart from that, the act of knowing is only a mental activity of thought that can be perceived and known. For example, if we pass in front of the DKI Jakarta City Hall, we see a monument, namely "Monas". At that moment, we are seeing it, but we are also aware of the act of seeing. Knowing is impossible without awareness because awareness determines the content and time of knowledge formation.

Consciousness as a determinant in the content of knowledge will be connected with the problem of the truth of knowledge. It is a conscious activity toward a reality that can be sensed. From this example, it is clear that we see and know about something that is the reality (facts) existing outside of ourselves.

Therefore, the question of knowledge is a question full of mysteries. It is the same in this case that we cannot determine whether the act of knowing is merely a mental activity, consciousness, sensation, or object that stimulates our senses or something else. It also coincides with the answer to the source of ignorance.

In principle, the source of knowledge is from the results of our mental activities through the activities of the human mind, senses, and experience.

In the historical development of philosophical thought, which started from ancient Greece until today, the problem of knowledge is constantly discussed. For example, Plato (427-347 BC), a leader who desires to solve this problem, argues that those who have actions according to the highest goodness and beauty existing in ideas are humans who have pure or factual knowledge. Usually, such knowledge can only be achieved by philosophers because, in the past, knowledge was only something seen (received by the five senses) or was only a simple correct opinion or a correct opinion accompanied by an explanation. In this problem, Plato suggested that there are four types of knowledge. The lowest knowledge is EIKASIA knowledge which object is a shadow or image. This knowledge contains not real or imaginary things related to knowledgeable humans' pleasures or likes and pleasures.

Knowledge in this level is, for example, a person who dreamt that at a specific time, he had a luxurious house, large and beautiful, and equipped with vehicles and

others, so that his imagination was carried away by dreams. In that dream, he felt possessed and occupied the house. When a person is in consciousness, he assumes that his fantasies and dreams are a fact in the real world.

Another example is an artist who can create an image almost identical to reality because of his imagination. If he or others say or assume that the image exists in reality, then the person with such knowledge is at a level related only to the image or illusion that is the level of knowledge of EIKASIA.

One level higher of EIKASIA is the PISTIS level or SUBSTANTIAL knowledge. This knowledge is about things that appear in the real world or things that can be sensed directly. The object of Pistis knowledge is usually called Zooya. Therefore, the content of this kind of knowledge approaches a belief (very personal certainty or subjective certainty). This knowledge contains truth value if it has sufficient conditions for an act of knowing, for example, having a good hearing, routine vision, and ordinary life senses.

Even higher knowledge which is knowledge in the third stage, is DIANOYA knowledge. Plato explained that the content is about mathematical problems or quantity in number, area and content, and weight. Plato explained that this level of knowledge is the level in which something lies not only in the facts or objects that appear but also lies in the way of thinking because it is merely a conclusion from a hypothesis processed by the mind. Therefore, knowledge is also called knowledge of thought.

Examples presented by Plato about this knowledge are mathematicians or geometry with mathematics as the object, which must be investigated with common sense through diagrams and then drawing a hypothesis. This hypothesis is processed continuously to reach certainty. This certainty is considered a conclusion. Therefore, it can be stated that the form of knowledge at the Dianoya level is the knowledge that has a lot to do with mathematical or quantity problems.

The highest knowledge, called NOESIS, is the knowledge with the main principles as the object, including epistemology and metaphysics. This central principle is usually called "IDE", explaining that this knowledge is almost the same as knowledge of thought. However, it is no longer supported with pictures and diagrams but with a genuinely abstract mind. The goal is to achieve the main principles, which consist of things in the form of goodness, truth, and justice, what Plato called episteme.

Different from the view of Aristotle (382-322 BC), knowledge must be a reality that can be sensed, and this fact stimulates our mind, then processed by the mind. In his concept of knowledge, he does not divide it according to the level but the type. Knowledge, which is generally a collection of what he called Rational Knowledge, is divided into three types: first, production knowledge, which is related to creating artistic cultural or artistic products. The second is practical knowledge concerning everyday human actions or behaviour toward other humans, including ethics, economics and politics. The third is theoretical knowledge which objects are things in the form of eternal civilisation that do not change and are inseparable from the material or thing as the objects of knowledge. This third theoretical knowledge knows for mathematics, physics, and metaphysics or philosophy first.

Immensely different from the two opinions above is Pyrrho's opinion. He taught that there is nothing we can know for sure, and it is impossible for us to reach absolute truth. This was stated because the means of knowing that we have cannot be trusted.

In the age of modern thought, a new view emerged. This belief is known as "Rationalism", which believes that the human mind was initially simply a blank sheet of paper or tabula rasa. Knowledge is a stack of experiences, both sensory and inner.

Immanuel Kant desired to resolve the contradiction of the two opinions above. Kant argued that the role of the mind is highly considerable, which can be seen in his a priori knowledge. Likewise, the role of experience is apparent in his a priori knowledge that Immanuel Kant attempted to unify.

In short, sources of knowledge are ideas, facts, activities of senses or mind, experience, synthesis of mind and experience, or doubts about all of them because there is no means to achieve definite knowledge.

3. The truth of knowledge

To know our knowledge has an actual value must be closely related to the attitude of how to acquire knowledge, whether it is merely the activities and capabilities of the mind, through the activities of the senses, or through other means which is evident to a sceptic that knowledge has no truth value since everything is doubtful or the doubt itself is the truth.

Therefore, the problem of truth is a matter of knowledge content. To prove that this knowledge is always based on one theory from existing theories about the truth of knowledge.

This theory says that knowledge is proper if the proposition has a relationship with the previous proposition.

For example, the truth of the Diponegoro war that occurred between 1825 and 1830 cannot be directly proven, but through previous propositions in a historical series or another form, knowledge is valid if it has a logical relationship according to the laws of logic.

Another theory argues that knowledge is valid if it follows reality, meaning that the truth can be verified when knowledge exists. One more theory says that knowledge is valid if it has practical consequences for the person who owns that knowledge.

B. Main Problems in Science

Problems in science are closely related to knowledge. However, it is more specialised and more emphasised and compiled in a theory or law since the science is composed of theories that have been tested for the truth and their implications and are obtained using specific methods.

1. The Understanding of Science

There is a uniformity in opinion among scientists that every science is always composed of knowledge probably makes the term "knowledge" in Indonesian become "science". However, is every structure of knowledge a science?

Thus, what kind of knowledge can be called science? The knowledge that can be stated as science is knowledge arranged in an orderly manner that is obtained with a certain fulcrum (object) by using specific methods and paying attention to the attitude of scientists.

Therefore, it can be stated that science is an orderly collection of knowledge about particular objects, using specific methods, and which truth can be tested.

Based on this understanding of science, defining the term "science" will be challenging and will make the definition of the term unclear. Therefore, something tautological or pleonasm will occur.

2. Attitudes that scientists need to pay attention to

The attitude that needs to be considered is scientific, meaning that it is directed to achieve scientific and objective knowledge. In this scientific attitude, the goals of science are not to be discussed but an appropriate attitude to achieve the science goal that is truly objective regardless of prejudice and subjective personal opinions.

In the attitude of a scientist, first of all, there is no sense of self-worth. Therefore, in the research, selflessness must be eliminated, or there will be no selflessness because it is intended to achieve objective scientific knowledge without personal interests. The possible results achieved are things that can distort the actual situation or will also lead to the ambiguity of the problem.

Then it has to be selective, meaning to select the problems faced so that the supporting data (facts) or symptoms in the knowledge are precise. A selection of the existing hypotheses also has to be made.

Apart from that, there is a reasonable belief in the unchanging reality and tools of senses used to achieve knowledge.

Finally, there is a belief that every previous opinion, theory or axiom, has reached the certainty, but it is still open to be proven again if there are things doubtful or in a further study, there might be a piece of different or distinctive evidence.

3. The occurrence of science

Science cannot just appear by itself, but there is always a fundamental base in the form of a target or object, and it appears by using a way of thinking or scientific steps (method).

- **Science Object**

An object is something used as research material or for the formation of sciences. Objects are distinguished from material objects, meaning that it is a research review

of all materials in a complete and intact manner. A formal object is a point of view addressed to the research material. Therefore, a formal object is more directed to the problem of concern, although it is not yet specific.

As the central point of interest, objects are specific about an aspect of concern. Then the real object is the object that makes the basic concept of the problem. For example, in social sciences, the material object is humans, the formal object is human relations, the object the central point of interest is the political field, and the actual object is democracy.

- **Steps in acquiring knowledge (scientific method)**

If we only look at the object as a regular thing, knowledge will certainly not appear. Therefore, the objects we face consciously must be examined and observed. The series of actions in research begins with observation. Observations arise because objects of science are always a lot in number and variety in all fields. Research frequently opens the way to see various problems that previously have not been separated. Observation is an activity of scientists directed to facts (specific facts) that support the thought to be systematised.

The next step is to classify since we faced various problems in our observations. In this classification, we made groups for that fact. In this step, we provide restrictions for each problem simultaneously.

The following is about giving evidence. The evidence used is the way of thinking in analysis, synthesis, induction, and deduction.

The analysis, which uses evidence as the starting point, is a particular thing to achieve a general thing. The inductive logic (way of thinking) is used to conclude.

The synthesis, which uses evidence as to the basis, is a thing in the form of a cause and a general thing which is a more straightforward way to achieve specific knowledge. Deductive logic is used to conclude.

The final step of the research is testing the conclusions by confronting the facts (reality) or looking for rejected things. This stage is also known as verification or falsification. Knowledge can be used as a theory or law if the knowledge has been tested for truth and solidity.

4. The truth of science

The truth in science is the truth from the proof result and approved by scientists who are generally scholars. Therefore, the truth of science is objective and universal. In addition, this truth can also be maintained, corrected and can explain all similar events in any situation, and it is not restricted by place and time.

If a theory is already the truth, and when the time comes, there will be no more facts supporting or denying it, then the theory falls and no longer be a science.

5. Prospects of Science

In addition to achieving objective truth, every science always considers the future regarding the possibilities of development, either in the form of perfection or complements old science, or composes a new science from existing theories. As stated that "science is a knowledge-making process".

The main prospect of this science tends to be a lot in the social sciences. However, it also exists in other sciences.

Conclusion

Based on the short discussion above, the identity of knowledge and science has already been clarified. The differences mainly lie in the gradation/degree of knowledge. Another thing that distinguishes sharply is that the knowledge does not require any attitude to acquire it, and it does not require any method as long as common sense and senses can perceive all sensory stimulation.

Even in truth, knowledge is more subjective, while science is objective and always has to be approved by scientists, who are generally scholars.

The authors expect us to change habits that cannot be scientifically defended immediately.

References

Bochenski, J. M. & Yayasan Obor Indonesia (Jakarta). (2001). *Ilmu dalam perspektif* (J. S. Suriasumantri, Trans.). Yayasan Obor Indonesia.

Gie, T. L. (1977). *Suatu konsepsi ke arah penertiban bidang filsafat* (A. Mudhofir, Trans.; 2nd ed.). Karya Kencana.

Gie, T. L. (1978). *Ilmu Politik: Suatu pembahasan tentang pengertian, kedudukan, lingkupan, dan metodologi*. Gadjah Mada University Press.

Gie, T. L. (1980). *Kamus logika = (Diictionary of logic)* (2nd ed.). Karya Kencana.

Nagel, E. (1961). *The structure of science: Problems in the logic of scientific explanation*.

Popper, K. R. (2014a). *Conjectures and refutations: The growth of scientific knowledge*. http://public.ebookcentral.proquest.com/choice/publicfullrecord.aspx?p=4517138

Popper, K. R. (2014b). *The logic of scientific discovery*.

Santoso, R. S. I. (1977). *Capita selecta: Sejarah perkembangan ilmu pengetahuan*. Sinar Hudaya.

Suradika, A. & Virgana. (2012). *Filsafat Ilmu*. PT. Pustaka Mandiri.