



Western and Islamic Effectiveness of Ontology, Epistemology and Axiology of Science

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Abstract

In studying the philosophy of science, of course, there are three objects of study that are always found as the main pillars of every philosophical study that should not be missed, namely known as ontology, epistemology and axiology. These three objects of study are interconnected with each other, but in understanding these three objects in the scientific shutter, there are differences in Western and Islamic effectiveness in interpreting them. This difference in perspective often makes Muslims mistaken and even blind to the understanding that the science in Islamic effectiveness is very special. For this reason, it is necessary to examine more deeply the differences between these two perspectives, which later hopefully readers, especially Muslims, will no longer be blind to the beauty of the Islamic perspective on Science. Starting from what is studied, how and what the science was created for. By using the library research method or literature review, the author obtains the results of the research that. There are very deep differences between the two perspectives of both Western and Islamic perspectives.

Keywords : West and Islam, Ontology, Epistemology, Axiology of Science.

Abstrak

Dalam mengkaji filsafat ilmu tentunya ada tiga objek kajian yang selalu ditemui sebagai pilar utama setiap kajian filsafat yang tidak boleh terlewatkan, yaitu dikenal dengan istilah ontologi, epistemologi dan aksiologi. Ketiga objek kajian ini saling berhubungan satu sama lain, namun dalam memahami ketiga objek ini dalam rana keilmuan, terdapat perbedaan perspektif Barat dan Islam dalam memaknainya. Perbedaan cara pandang ini sering kali membuat umat Islam keliru dan bahkan buta pemahaman bahwasanya ilmu dalam perspektif Islam sangat istimewa. Untuk itu maka perlulah dirasa untuk mengkaji lebih dalam mengenai perbedaan kedua cara pandang ini, yang nantinya diharapkan pembaca khususnya umat Islam tidak lagi buta akan indahnya cara pandang Islam terhadap Ilmu. Mulai dari apa yang dikaji, bagaimana caranya dan untuk apa ilmu itu diciptakan. Dengan menggunakan metode penelitian *library research* atau kajian pustaka, Penulis memperoleh hasil penelitian bahwa. Terdapat perbedaan yang sangat dalam mengenai kedua cara pandang baik dari perspektif Barat maupun Islam.

Kata Kunci : Barat dan Islam, Ontologi, Epistemologi, Aksiologi Sains.

Introduction

When talking about philosophy, of course there is a philosophy related to science, namely the philosophy of science. Philosophy of science is the most comfortable home of all knowledge. How could it not be, this is because the philosophy of science is precisely the gathering of various different sciences. It seems that the term science is familiar to academics and the general public. The term science is often juxtaposed with the word knowledge and is even considered to have the same meaning as science. Whereas basically knowledge is different from science.

The fundamental difference can be seen from the origin of the word knowledge (English), namely knowledge, while knowledge is taken from the word science and is a transition from the Arabic word (ilm). Science is part of knowledge whose truth can be proven empirically and has a higher position than knowledge, in contrast to knowledge that has not been structured and can be said to be ordinary knowledge or common sense. Science and knowledge can be likened to a broomstick. Where knowledge is sticks that are still scattered while knowledge is a combination of these descriptions which are then tied together through certain stages.(Hermawan, 2011, p. 20)

After discussing science, of course it cannot be separated from the name of philosophy, where science is a part of it that has a relationship with one another. Still talking about the philosophy of science, in studying the philosophy of science there is what we are familiar with as the object of study. The objects of study of philosophy include ontology, epistemology and axiology. The author will try to discuss how actually the three objects of study of the philosophy of science are both in Western and Islamic perspectives.

Research Method

Initially the method in research was scientific steps used to obtain information for the purpose of solving a problem, these steps were also not ordinary steps, but had to have the characteristics of being reasonable, able to be

proven by the five senses and orderly.(Ngatno, 2015, p. 11)

It is clear that the method greatly determines the direction and results of a study. Therefore, in determining the research method must be very careful. Because of this caution, in writing this journal the author chose the library research research method as the research method used, because by using this method the expected research results can provide output data that explains the study regarding the research title, this is due to the use of this method, meaning Obtain data from primary and secondary sources related to research titles from books, journals and other sources.

Result and Discussion

The Nature of Ontology, Epistimology and Axiology of Science

a. Siencie of Ontology

The Greek language is the origin of the emergence of the word ontology which divides it into two words, namely on or ontos which means being/existence and logos (study, knowledge of). (Biyanto, 2015, p. 139) So it is considered appropriate to say that ontology is the science of what exists. Become a fundamental part of philosophy, especially the philosophy of science. Where ontology will examine the problem of the existence of all that exists and is discussed as a whole. The reality or reality referred to here is not only something in physical form that can only be assessed by the human senses, but the reality referred to here also includes something that cannot be proven by the senses but whose existence really exists, for example desire, love and affection. want to be loved. Of course, this cannot be proven by simply seeing, hearing and through the five senses. (Syr'i, 2020, p. 17). However, in the discussion of what is studied in this ontology, there is a discourse of understanding in both Western and Islamic perspectives.

b. Science OF Estimology

J.F. Ferriere was the first to use the term epistemology with the aim of distinguishing

between the two branches of philosophy, namely between ontology and epistemology. If in ontology the fundamental question is what is the object of science being studied? So the fundamental question in epistemology is how to acquire this knowledge? The words episteme and logos are the origins of the words epistemology?

The word episteme means knowledge or truth (validity). While logos has the meaning of thoughts, views, words or theories. Etymologically epistemology can be interpreted as a theory of knowledge or truth which in English is known as the theory of knowledge. (Surajiyo, 2017, p. 24) According to DW. Hamlyn's epistemology in terms is a branch of philosophy that has a relationship with the essence and scope of knowledge, principles and assumptions. In line with this understanding L. Katsoff makes a boundary in epistemology, namely a branch that traces the origin, structure, method and validity of knowledge.

Katsoff further explained that epistemology is an attempt to respond to fundamental questions regarding knowledge, for example, What is knowledge? What is the beginning (origin) of knowledge? How is the effort to distinguish between knowledge and opinion? What forms of knowledge exist and how are efforts to acquire that knowledge? What is truth and error? From some of the fundamental questions that have been described, it can be understood that epistemology focuses on subjects who think and know. This is different from metaphysics which is oriented towards known objects. These questions stem from doubts and anxieties about a knowledge contained in humans. Epistemology requires a clear answer to questions that contain what, this is what Descartes calls 'clara at distincta perceptio', namely a transparent and clear knowledge of what is known. Thus, having knowledge means having a clear answer to the questions above. (Chalik, 2015, pp. 42–43) So that related issues related to the epistemology of science, it will not be separated from the methodology or steps to seek knowledge.

c. Science of Axiology

After discussing ontology and epistemology, it is time to explore the nature of the axiology of science. Axiology comes from the word axios and logos which mean value and knowledge. (Susanto, 2001, p. 110) If it is related to science, axiology in the study of philosophy of science is defined as the useful value of a science. This means that a science that is created must have benefits.

In the study of the philosophy of science, axiology is more emphasized on the value of the usefulness of a science, where basically science is created to facilitate human activity.

Western and Islamic Perspectives on Ontology, Epistemology and Axiology of Science

Like a piece of hot news that will never end regarding differences in Western and Islamic perspectives, which then raises many questions that are expressed in this study, making this discussion seem endless. Differences in the perspectives of the West and Islam do not seem to have a meeting point. Because from the most basic things, the two of them already have different paths. Even in the Western view there is a dichotomy in the scientific field. In order not to become more curious about the two of them, we will discuss this study soon, starting with a Western point of view and continuing with an Islamic point of view.

a. Western Perspective

In the Middle Ages the term ontology appeared around the 17th century, where Goclenius as a figure who introduced it in 1636 then in 1674 was used by Clauberg, 1653 by Micralius and Du Hamel in 1663. At the end of the 17th century, the term ontology in the sense of "knowledge" about that which is" was accepted by Gottfried Wilhelm Leibniz (1646-1716), Christian Wolff (1679-1754), and Alexander Gottlieb Baumgarten (1714-1762). At that time, the expression "philosophy of being (philosophia entis)". (Suaedi, 2016, p. 82)

In line with the expression that appears that the West only studies something that exists. That is something that can be proven empirically and ratio. What does it mean ? the point is that something is studied by the west if something can be proven by the senses and reason, therefore the West does not study things that are metaphysical.

Not only discussing from the ontology side of science, the West also has a different perspective regarding epistemology. According to the Western point of view, knowledge is obtained based on experience and the five senses. In this epistemological study, the way to acquire knowledge is usually called the scientific method, which is known as logico, hypothetico, verification.

These three things become a measure of scientific knowledge. Logico leads to finding problems, and it should be underlined that finding problems here is not looking for problems. Errors often occur at this stage. Then after finding the problem the next step is hypothetico or provisional conjecture, this step is an activity to find solutions to temporary conjectures that are supported by theories or usually in a study often associated with previous research. After finding temporary allegations, the next step is verification, namely the stage to verify whether the findings can be proven true or not. In describing the sources of epistemology there are differences of opinion from scientists.

In general, there are three categories of epistemological sources, including Rationalism, Empiricism, and Intuitionism. But Louis O. Kattsoff categorizes it into six namely, rationalism, Empiricism, Phenomenalism, Intuitionism, scientific method and hypothesis. As for Pradana Boy ZTF categorizes it into three, namely Rationalism, Empiricism and Criticism. (Budi, 2016, p. 176) Thus the author will explain the sources of knowledge that the author divides into three categorizations, including Rationalism, Empiricism and Criticism.

1) Rationalism

Rationalism is a school of thought that the source of knowledge that is appropriate and can be trusted or proven only comes from reason (reason). Knowledge that is considered to meet the requirements based on the demands of general and absolute nature is only knowledge obtained from reason, and this is a condition used by all scientific knowledge. (Surajiyo, 2017, p. 33)

The source of truth is ratio. only ratios can lead humans to a truth. What is authentic is only a bright act of reason which is referred to as Ideas Claires et Distinctes (bright and segregated thoughts). This bright mind is a form of God-given before people are born (idea innatae = innate idea). So it is impossible that it is not true because it is a gift from God.

Rationalism is a philosophical understanding which holds that reason (reason) is the most important medium for obtaining knowledge or truth. The rationalist school argues that thinking is a way to acquire knowledge. (Hakim & Saebani, 2008, p. 247) The figures of the rationalist school are Descartes (1596-1650 AD), Spinoza (1632-1677 AD), and Leibniz (1646-1716 AD)..

2) Empiricism

Empiricism is a school that argues that the source of knowledge can be obtained by emphasizing the role of experience and downplaying the role of reason. Meanwhile, the term epistemology comes from the Greek word *empeiria* which means trial and error or experience. As a dogma, empiricism is the opposite of rationalism. (Hakim & Saebani, 2008, p. 265)

Followers of empiricism argue that the source of knowledge for humans comes from experience, this of course precedes reason (reason). The ratio will not be able to provide a certain exposure without experience. Even though it can be described in such a way, the sign of the experience is only a fantasy. (Hakim & Saebani, 2008, p. 266)

3) Criticism

The conflict that occurred between the schools of rationalism and empiricism tried to be resolved by Immanuel Kant with his criticism. This flow is a combination of rationalism and empiricism, where knowledge can be obtained through reason and our five senses. Objects outside ourselves give us experience through the five senses. While experience is rationalized, it becomes a subject (we) becomes knowledge. (Soelaiman, 2019, p. 76)

In his criticism of pure reason, Immanuel Kant divides knowledge into three, which are:

- 1) Analytical knowledge: here the predicate is included in the subject. Subject analysis is a way to find out a predicate. For example, round is a form of a circle.
- 2) Aposteriori synthesis knowledge: in this case the predicate is connected with the subject based on sensory experience. For example, "Today it is raining", this is the result of sensory observation. "after" that observation, I can say that the subject is a predicate.
- 3) Knowledge of a priori synthesis: it takes reason and sensory experience simultaneously. Sciences that fall into the category of a priori synthesis are exact sciences, aerospace sciences, and natural sciences. If I know that $10+7=17$ means something very special has happened. (Surajiyo, 2017, p. 34)

After discussing the steps or ways to acquire knowledge, we will then move on to the use of knowledge or also known as the axiology of science. The axiology of science according to their Western perspective will not care whether science is used for good or evil. The use of science is left entirely to the users of science. Because in essence science according to the western view only has the aim of science for science or known as science for science.

b. Islamic Perspective

Islam has its own perspective on science in terms of its ontology, epistemology and axiology. This specialty will later distinguish

between Islamic and Western views. The object of study of science in the perspective of Islam related to scientific ontology is divided into two, namely objects of science that are material and objects of science that are non-material. Objects of study that are material or real are objects of study that can be studied with five senses, for example social sciences, politics and others. Whereas non-material knowledge cannot be studied with the five senses but rather leads to spiritual satisfaction. For example, the object of study discusses the spirit, nature and form of God. (Khomsatun, 2019, pp. 229–231)

Islamic science believes that there are two realms, namely the physical realm ('alam al-Shahadah) and the non-physical realm ('alam al-ghayb). Described in the verse of the Qur'an surah Al-Hadid verse 3 "He is the first and the last who is Zahir and the Inner, and He is All-Knowing of everything." It is explained that Allah is the beginning that existed before everything existed, and the end is that which remains after everything has been destroyed. The Zahir is what is real and the inner is that which is invisible or cannot be described.

The distinctive feature of ontology in the Islamic perspective is that it combines physical and non-physical sciences, reflecting that in the Islamic perspective there is no such thing as a scientific dichotomy. Physical and non-physical science obtained through a process of reasoning and logical analysis and guided by Allah's Revelation, so that it is different from the Western perspective which does not believe in non-physics, therefore the existence of Islamic and Western science from this point of view cannot be reconciled.

Still talking about the three objects of study of the philosophy of science from an Islamic point of view, the study of epistemology in Islam also has its own uniqueness. Islam views that Allah SWT. as the only source of knowledge, meaning that Allah is the source of knowledge and the source of all truth, besides that the philosophy of Islamic knowledge is also centered on humans, because humans are the

seekers of knowledge (truth), because this is where the function of humans is as actors seeking knowledge (truth). this opinion is based because humans as caliphs strive to seek knowledge and truth. (Hasyim, 2018, p. 219)

In contrast to the Western view which reveals that the way to acquire knowledge is obtained through empiricism, rationalism, and criticism, in the Islamic view, there are at least three sources of knowledge known as bayani, burhani, and irfani and each section has an opinion in obtaining knowledge (truth). (Idrus, 2019, p. 29) In this case the author will describe the three models of sources of knowledge from an Islamic perspective.

1) Bayani

Etymologically, bayani is an Arabic word which means to explain, while bayani actually has a variety of meanings, including the meanings al-waslu (continuous), al-fashlu (detached), al-zhuhur wa al-wudhuh (clear and clear), and has ability to make valid and universal. (Makiah, 2017, p. 2)

However, in terms of terminology there are several different scholars in defining al-bayan, such as the difference of opinion among balaqoh scholars, kalam scholars and some others. Balagoh scholars define al-bayan as the use of methods or methods such as the tashbih method (similarity), majaz and kinayah methods to find out the meaning of something. While the scholars of kalam (theology) explain al-bayan as a proposition that can explain clearly and clearly about a law. Others explain that al-bayan is an explanation or explanation, in the sense of a science that can explain something clearly or a science that can bring out something in a condition that still feels vague to a bright and clear condition. (Idrus, 2019, p. 33)

However, if studied in Islamic epistemology, al-bayan is a thinking methodology based on discourse (text). A text that has full influence in showing the direction and meaning of a truth. And what becomes a guard to secure the authority of the text is a function of ratio. (Haris & Bayoangin, 2016, p. 68)

From some of the definitions above, the author concludes that bayan is a methodology of thinking in finding a truth by explaining, meaning that bayan is an explanatory, namely understanding something or analyzing a text to be able to find out its true meaning.

2) Burhani

Arabic is the origin of the word burhani, which literally means to purify, or cleanse. Ulama ushul argue that al-burhan is a differentiator, meaning something that distinguishes between right and wrong, and distinguishes between wrong and right through decomposition. (Idrus, 2019, p. 34)

Burhani is a scientific method that maximizes reason (logic) not based on text or experience. In a simple (elementary) way, we can define that al-burhan is a scientific method through a deductive approach which in Arabic is known as al-istintaj) determines a qadliyah truth (proposition) by connecting one proposition to another that has been tested experimentally. axiomatic in Arabic is known as badihi. Whereas universally, al burhan is a scientific method for determining certain propositions. (Haris & Bayoangin, 2016, p. 68)

From some of the descriptions of the meaning of burhani above, the author concludes that burhani is a thinking methodology by using or maximizing reason (logic) in obtaining knowledge or truth.

3) Irfani

In Arabic the word Irfani consists of letter ع-ر-ف which has two meanings, namely something that is successive, one with the other is intertwined and has the meaning of quiet and calm. However, the literal meaning, the word irfani means to be able to know something must be taken by way of thinking or looking at it broadly and in depth, so actually when studied literally the word al-irfan is more specific when compared to the word 'ilm. (Idrus, 2019, p. 38)

The Irfani method is a method of seeking truth or knowledge through experience. This method uses experience or seeing directly in

revealing a knowledge or truth obtained based on the enlightenment of God's essence given to His servants. (Rangkuti, 2016, p. 6) Thus we can conclude that the Irfani method is a methodology used on an object of study that is not visible (non-physical) or an object that is metaphysical.

Similar to the Western perspective, Islam also has its own uniqueness in the object of study of the philosophy of science in its axiology. In the Islamic perspective, science is actually aimed at getting closer to Allah, where in making the goals for creating a science, it must be in accordance with Islamic law and not contradictory.

Islamic science is used as a tool to gain knowledge about Allah, pleasure and closeness to Allah. Knowledge must be able to direct a Muslim in various ways and efforts to get close to Allah SWT. Specifically, science must be able to increase knowledge about Allah SWT, help develop Muslim society and realize all its goals, guide others, and prevent various societal problems. Thus, all knowledge (religious knowledge and natural sciences) is a tool to get closer to Allah SWT. and as long as science plays that role, science becomes sacred. If knowledge is not directed to that role, then knowledge becomes a big obstacle to efforts to get closer to Allah. (Ghulsyani, 1991, pp. 54–57)

In the perspective of Islamic civilization, the development and use of science and technology must pay attention to the philosophy of establishing Shari'a in Islam. In the Islamic world the development of science is not justified if the development has an impact on destruction, damage to religion, soul, lineage, property, mind for fellow Muslims and non-Muslims. Regarding matters related to what are the limits, where knowledge stops, what makes this knowledge different from other knowledge, the answer is that knowledge is obtained from experience and will end in experience too. Does science study metaphysics, such as heaven and hell? The answer is no, because knowledge about it is beyond human reach, reason cannot get there. Because humans have not

experienced it. And why is science limited in this view? That's all because seen from the function of the science itself. Namely to facilitate human activities, then things such as the last day are not something that is questioned in science, but in religion. (Suriasumantri, 2013, p. 91) Therefore the beauty of Islam is that there is a role for religion in the exploration of knowledge. Something that cannot be understood by humans is all in the Qur'an.

Conclusion

The differences in the perspectives of the West and Islam regarding the object of study of the philosophy of science seem to be endless. From a Western point of view, they only study science that is empirical and rational in nature, meaning something that is not real they don't study it, then how to get knowledge they do with a method commonly called the scientific method, for them knowledge comes from what can be proven with the five senses and based on experience. Apart from that, they create knowledge, the goal is knowledge for knowledge, it is used for good or evil, it all depends on the user.

In contrast to the Islamic perspective which examines both physical and metaphysical knowledge, and Islam also believes that the source of knowledge comes directly from Allah SWT, and the ways to obtain it also vary. And in essence science was created for the benefit of humanity and getting closer to Allah SWT. Knowing the differences in Western and Islamic perspectives regarding the object of study of the philosophy of science certainly makes us more aware, especially Muslims, not to be swept away by the increasingly widespread dichotomy in science, as if it makes Islam even more marginalized. In addition, after knowing the privileges of the Islamic perspective on this study, of course, it must make us more and more sincere human beings so that good morals are born.

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