

## **A CRITICAL EXAMINATION OF THE PHILOSOPHY OF SCIENCE FROM WESTERN AND ISLAMIC PERSPECTIVES**

**Nurma Millatina\*<sup>1</sup>, Rizka Putri As-Syafi'i<sup>2</sup>**

Master's Degree in Islamic Education, Universitas Islam Negeri Maulana Malik Ibrahim Malang,  
Indonesia<sup>1,2</sup>

E-mail: [230101210045@student.uin-malang.ac.id](mailto:230101210045@student.uin-malang.ac.id), [230101210073@student.uin-malang.ac.id](mailto:230101210073@student.uin-malang.ac.id)

**Abstract.** This research discusses the philosophy of science from a Western and Islamic perspective. Philosophy of science is a branch of philosophy that discusses the fundamental characteristics of science systematically. In the study of philosophy of science, there are two most prominent camps, namely Western philosophy of science and Islamic philosophy of science. Both have their own backgrounds, perspectives and characteristics. From here, this research intends to re-examine Western philosophy of science and Islamic philosophy of science critically and comprehensively, to produce a complete understanding by looking at the results of analyzing the similarities and differences between Western and Islamic philosophy of science. This study uses a qualitative research method with a literature study approach to collect theories from various sources that are related and can be used to solve research problems. Through literature study, data collection in this study is carried out by examining various books, literature, reports and notes relevant to the philosophy of science in Western and Islamic views. From this research, it is found that in both Western and Islamic philosophy of science, there is a deep concern for the search for truth, the use of reason, scientific research methodology, the concept of causality, and the relationship between religion and science. Western philosophy of science and Islamic philosophy of science have significant differences in various aspects, including the foundations of epistemology, theology, approaches to science, and cultural influences.

**Keywords:** *Philosophy; Science; Western Islamic*

### **A. INTRODUCTION**

One thing that distinguishes humans from other creatures is reason, with reason will generate a science. The progress of science is a benchmark for evaluating human civilization in every era. The increase in science is a sign of human development. For further progress, science is separated into several disciplines, each of which requires unique methods, characteristics, subjects, goals, and measures. The growth of these various disciplines is based on the philosophy of the objects of scientific research, which have many complex qualities and diverse interpretations for those who try to investigate the meaning of these objects of research (Umar, 2018, p. 70).

Several Muslim and Western philosophers actively participated in this discourse on discipline by gathering factual information and determining which ones would produce certain ideas, issues and approaches. Several different viewpoints on knowledge seek to break down the ideologies involved. Science was created in the past as a result of specific tangible forms (Soelaiman, 2019, p. 35).

In modern times, man is called the rational animal. This is based on the human mind being given freedom from the shackles of religion. The human mind has begun to develop to give birth to a more advanced civilization. During the modern period, philosophers paid attention to the real thing. From this, Western philosophy was born (Widiyawati, 2013, p. 87).

Meanwhile, the development of Islamic philosophy is an integral part of the long history of Islamic thought. One of the reasons for the misconception that Islamic philosophy is exclusively of Greek origin or the anti-philosophy sentiment that exists in certain Muslim communities is the lack of research. Many people recognize that the influence of Greek philosophical ideas on Islamic thought has influenced the development of Islamic philosophy (Wahyuni, 2021, p. 82).

Departing from this background, the author is interested in reviewing and comprehensively examining the nature of the philosophy of science, the philosophy of science from a Western perspective and also the Philosophy of Science from an Islamic perspective. It is hoped that the preparation of this paper can add to the treasury of integration-based philosophy of science that is beneficial for the life of the country, nation and religion.

## **B. METHODS**

The study uses a qualitative research method with a literature study approach, where this research covers theories related to the research problem. Literature study is an approach that aims to collect data by examining various literature studies, books, notes, reports that are relevant to the problem being studied (Irawan & Mutmainah, 2022, p. 101). Therefore, in the preparation of this article, researchers collected data obtained from the results of searching and reviewing articles, books, journals and other literature related to the philosophy of science in western and Islamic perspectives without conducting reviews or field research.

Rizaldy Fatha Pringgar and Bambang Sujatmiko said that literature review is a study that provides new theories using accurate data collection techniques (Fatha Pringgar & Sujatmiko, 2020, p. 319). As for data collection techniques, researchers use documentation techniques. The data used in this study is secondary, namely data generated by examining objects that are indirectly related.

These secondary data related to the philosophy of science from a Western and Islamic perspective can be accounted for because after the data is collected, then the researcher analyzes it using descriptive qualitative analysis. The results of the analysis are in the form of descriptive written sentences and observations from the results of research that has been conducted by previous researchers. In data processing, at least researchers go through 4 stages, namely:

### **Collecting Data**

At this stage, researchers collect data related to the philosophy of science in Western and Islamic views from various literatures to obtain the information needed for research purposes.

### **Reducing Data**

After the data is collected, the researcher then analyzes, selects the data and then separates the data from the data that is not needed. Then the data is categorized in such a way as to facilitate further data processing.

### **Presenting Data**

After the data is reduced, the researcher presents the data in the form of exposure to patterns that are useful for research and conclusions from possible data. Researchers recorded secondary data until several general conclusions were obtained regarding the philosophy of science from a Western and Islamic perspective.

### **Verifying Data.**

This stage is the stage of concluding new findings that have not existed before. Analysis is

carried out by producing general conclusions that lead to specific conclusions. This is done in order to identify comparisons and differences between this research and previous research.

## **C. RESULT & DISCUSSION**

### **The Essence of Philosophy of Science**

The term "philosophy" comes from the ancient Greek word "philosophia", which consists of the words "philo" and "sophia". The word "philo" denotes the concept of love, while "sophia" refers to the implied message or truth. According to I.R. Pudjawijatna, the term "philo" encompasses a comprehensive notion of love, which involves a strong desire for something and an effort to obtain it. On the other hand, "sophia" is associated with intellectual acumen and deep understanding. The significance of philosophy lies in its potential to be interpreted as an implicit expression of love or as a fundamental truth relating to love. Therefore, philosophy can be characterized as an effort and a deep desire for comprehensive understanding or a loving devotion to wisdom (Ritaudin, 2015, p. 129).

Gazalba in Setya Widyawati argues that philosophizing is the search for truth from truth to truth about all issues through systematic, radical, and broad thinking. Narratives and descriptions that are built from a thought are called philosophy. Starting from the verb "philosophize", a noun emerges, namely philosophy, which is defined as a system of truth about everything in question as a product of a radical, systematic and universal thinking process (Widyawati, 2018, p. 4).

Thus, philosophizing is a thinking activity, but not all thinking activities are philosophical activities. Gazalba in Setya Widyawati further explains the characteristics of thinking patterns that can be said to be philosophical, among others: (Widyawati, 2018, p. 4)

- a. Radical, means thinking deeply to the roots and to the ultimate consequences. Thinking radically means thinking all the way to the end without stopping halfway.
- b. Systematic, means systematic thinking is logical thinking that takes place responsibly with an orderly reciprocal relationship, step by step consciously.
- c. Universal, meaning thinking in a general and comprehensive manner. limited to a few areas but encompassing the whole.

Philosophy is the study of how to address life's difficulties wisely and how to lead humans through mental processes to solve these problems. Philosophy is a way of thinking that guides people to develop wisdom in facing life's challenges. As a result, philosophy can help people find solutions to unresolved problems in everyday life (Efendi & Sartika, 2019, p. 2).

The etymology of the name "Science" can be traced back to the Arabic phrase "alima-ya'lamu-ilman" which denotes the act of understanding or comprehending. In the field of English literature, it is generally stated that the term "science" comes from Latin, specifically from the words "scientia" (which means knowledge) and "scire" (which means knowing). According to the Kamus Besar Bahasa Indonesia, science is characterized as a discipline that is systematically arranged through a rigorous methodology and has the ability to explain certain symptoms in the field of knowledge (Siti Fatimah, 2022, p. 1155).

Alfensyef, a prominent Russian intellectual, argued that science encompasses a comprehensive compilation of human knowledge relating to nature, society and the human mind. Science serves as a reflective tool for understanding the natural world, using a systematic methodology to investigate its concepts, theories, and empirical manifestations. According to Harre, the concept of science includes a compilation of empirically verified hypotheses that explain consistent or inconsistent patterns of carefully investigated data or facts (Tamrin, 2019, p. 73).

Philosophy of science is concerned with the philosophical study of scientific problems. Disciplines concerned with the critical examination and contemplation of fundamental concepts are

usually referred to as philosophy. The field of philosophy of science therefore entails a comprehensive examination of the fundamental principles and conceptions underlying scientific studies. In the field of science, such principles can be defined as the essential factors and universally applicable truths that serve as the foundation for a particular discipline (Widyawati, 2018, p. 8).

## **Philosophy of Science Western Perspective**

### **1. A Brief History of Western Philosophy of Science**

Philosophy of Science began to develop in the Western world three centuries ago. Motivated by their situation and conditions at that time. The West paid great attention to the study of philosophy of science. The West experienced a great and great revolution regarding freedom of expression in everything that resulted in changes in their mindset. Coupled with their pluralist mindset, where this patterned thinking requires diverse understanding and knowledge from the community. This has led them to the gates of a rich and extraordinary knowledge. They were able to get out of intellectual trauma (Oesman, 1996, p. 100).

The development of philosophy of science over a period of time is closely linked to the broader development of philosophy as a discipline. There are clear differences in the paradigm of philosophical development between the West and Islam, which have the potential to show contrasting characteristics. According to Rasel in Rian Rokhmad Hidayat et al (2021) the period of western philosophy is divided into three periods, namely: 1) Ancient philosophy, which consists of: pre-Socratic era, the age of Socrates, Plato and Aristotle and post-Aristotelian times; 2) Catholic philosophy, which consists of: the age of the fathers, the age of medieval philosophers; 3) Modern Philosophy (Hidayat et al., 2021, p. 127). Each historical era shows different perspectives and characteristics in reviewing an object of life that builds on the previous era. Each era also produces significant scientific ideas that have value and can serve as the foundation for human existence.

### **2. Definition of Western philosophy of science**

Darwis A. Soelaiman suggests that philosophy is divided into two aspects of understanding, namely: general philosophy and special philosophy. General philosophy is a philosophical study that discusses all the realities that exist in the universe in order to find the ultimate truth of these realities. Meanwhile, special philosophy is a philosophical study that is applied to certain fields of science as a philosophical basis, such as the philosophy of economics, philosophy of physics, philosophy of education and others (Soelaiman, 2019, p. 6).

Here are opinions of Western experts regarding the definition of philosophy of science: Cornelli Benjamin, argues that philosophy of science is a branch of philosophy that examines systematically the fundamental characteristics of science, especially concepts, methods, conjectures, and their location in the general frame and branches of science systematically (Soelaiman, 2019, p. 30).

The Liang Gie, states that the philosophy of science is the scope of all deliberate thinking about problems related to the theoretical basis of science and the interaction between science and all aspects of human life (Gie, 1997, p. 61).

Jujun S. Suriasumatri, says that philosophy of science is a branch of philosophy that focuses on the nature of science and seeks to provide answers to questions about the nature of science, including ontological, epistemological, and axiological questions (Suriasumantri, 1996, p. 33).

May Brodbeck, says that philosophy of science is the basics of science analyzed, described, and explained in an ethically and philosophically neutral way (Umar, 2018, p. 167).

From some of the definitions above, it can be concluded that the philosophy of science is an effort to critically examine the methods used in a particular science.

### **3. Position of Western Philosophy of Science**

Historically, the position of philosophy and science is difficult to separate respectively because of the view of philosophy as the parent of all existing sciences. But in its development, philosophy and science need to be distinguished from the aspect of its definition. The dichotomy of philosophy and science is not necessarily an attempt to shift the existence of philosophy as the parent of all sciences, but aims to reveal the existence of each of philosophy and science (Umar, 2018, p. 164).

Philosophy offers enlightenment or deep and significant solutions to these problems. Another point of view states that historically philosophy is considered the mother of science. As it developed, science became more specialized and independent. Philosophy has replaced science as the foundation for addressing many of life's problems. Science does not regard philosophy as lacking in intellectual rigor and likewise, philosophy does not regard science as having a superficial understanding of the natural world. Hence, philosophy of science can be considered as an endeavor that aims to reconcile the gap that exists between the worlds of philosophy and science. The process or interaction mentioned above pertains to the discipline known as the philosophy of science (Nurhayati et al., 2021, pp. 346–347).

### **4. Scope of Western Philosophy of Science**

Philosophy of science includes philosophical thinking related to science. The discipline of philosophy of science can be conceptualized as a scientific endeavor that aims to investigate and analyze various aspects related to science. These aspects include the nature and characteristics of science, the methodology used to acquire it, and the practical advantages it offers in the context of everyday life. Philosophy of science is inherently linked to the basic principles of philosophy, such as: ontology, epistemology, and axiology (Nurhayati et al., 2021, p. 347).

Ontology, a branch of philosophy of science that deals with the problems being studied by a science.

Epistemology, is a branch of philosophy of science that discusses various sources and methods of science to arrive at scientific truth.

Axiology, is a branch of philosophy of science that deals with questions about how humans use their knowledge (Mariyah et al., 2021, p. 276).

### **5. Benefits of Western Philosophy of Science**

When considering the nature of philosophy and science, studying the philosophy of science will have many benefits, including (Soelaiman, 2019, pp. 32–33):

Train to think logically and critically about the truth.

By studying the philosophy of science, a person will have critical thinking about the theory and science he is studying. He does not easily believe and swallow a theory or idea raw, but examines it carefully. This is what is called a critical attitude that needs to be developed as a way and pattern of life.

Increase awareness of the nature of science.

Philosophy of science will lead a person to an understanding of the concepts, methods and procedures of science. Knowledge of this is very important and necessary, especially in conducting scientific research. Where the research requires the ability to analyze and explain the relationship between one phenomenon and another until a result is obtained in the form of a solution in solving a particular problem.

Realizing the importance of the role of ethics in developing science and technology.

Apart from being a provider of satisfaction for human curiosity, the presence of science and technology also contributes to solving problems that arise in human life and how to survive properly and correctly. Problems such as underdevelopment, poverty, disease, ignorance and so on can be overcome with the development of science and technology but by still paying attention to

the role of ethics in it so that its application is fit for purpose and controlled.

## **Philosophy of Science from an Islamic Perspective**

### **1. A Brief History of Islamic Philosophy of Science**

The beginning of the history of philosophy can be traced back in the coastal areas of the Eastern Mediterranean Ocean around the 6th century BC. In his exposition, Majid Fakhriy in Wahyu Rinjani et al (2021) explains the origins of philosophy by highlighting its inherent role in answering questions related to the human condition, nature, and divinity. Philosophy has the capacity to give birth to disciplines, such as ethics, mathematics, and metaphysics, which serve as the basic pillars of global civilization. When examining the relationship between philosophy and Islamic law, the main focus lies in the realm of divinity, specifically the exploration of God's provisions for His servants (Rinjani et al., 2023, pp. 62–63).

According to Al-Farabi's Tahshil as-Sa'adah, the origins of philosophy can be traced back to Keldania (Babylon), then spread to Egypt, Greece, Suryani, and finally reached Arabia. The discipline of philosophy experienced a significant shift to the Arab region after the advent of Islam. Hence, the philosophical tradition that migrated to the Arab region is generally referred to as Islamic philosophy. Historians have different perspectives on the nomenclature of the philosophical tradition that migrated to the Arab region. However, the majority of scholars agree that the philosophical tradition that experienced significant development is called Islamic philosophy (Al-Ahwani, 1995, p. 2).

The process of translating especially Greek philosophical works was carried out during the caliphate of Abd al-Malik, and reached its peak during the caliphate of al-Makmum in 215 CE. The translators undertook the task of translating a large amount of Greek philosophy, especially the works of three leading thinkers: Plato, Aristotle, and Neo-Platonism. These translated texts exerted a significant influence on several Islamic intellectuals, ultimately serving as a catalyst for the emergence of Muslim philosophers who laid the foundation for the development of Islamic philosophy (Astuti et al., 2022, p. 275).

The emergence of Islamic philosophy led to mixed reactions from various groups. Some who oppose it believe that the study of philosophy will diminish Muslims' respect for the teachings of their religion. On the contrary, those who embraced it argued that philosophy could help in explaining the teachings of the Qur'an by providing information that was in tune with human reasoning. Islamic philosophy experienced fluctuations during its development, as demonstrated by the emergence of prominent Islamic thinkers such as al-Kindi and al-Razi in 806 AD. However, this period was also characterized by opposition from Imam Ibn Hanbal in 840 AD. The revival of philosophical thought in 870 AD was mainly led by al-Farabi and Ibn Sina. However, this intellectual progress suffered a setback in 1058 AD due to the opposition led by Al-Ghazali, which resulted in the decline of philosophical activities. It was not until 1153 AD that a new integration between philosophy and Sufism emerged, facilitated by Subrawardi and Ibn Arabi (Astuti et al., 2022, p. 275).

### **2. Definition of Islamic Philosophy of Science**

From an Islamic perspective, philosophy is a means of explaining the way Allah conveys the truth, or haq, through rational language (Masang, 2020, p. 42). The philosophy of science according to some Islamic figures as follows.

According to Al-Kindi, Philosophy is a knowledge that includes understanding the nature of things (events, problems, etc.) within the limits of human possibility.

According to Ibn Sina, Philosophy includes the refinement of the human spirit by conceptualizing phenomena and evaluating theoretical and practical truths, while recognizing the inherent limitations of human capacity (Qadir, 2002, p. 8).

In ancient times, philosophy in the Muslim community was a story of progress and growth of the spirit. The principles discussed above also apply to Islamic science. In Islamic science, the Qur'an asserts that all natural phenomena are manifestations of God's guidance. This perspective is recognized by Rosental, who states that the purpose of philosophy in Islam is to establish the truth of revelation as God's law, while recognizing the limitations of reason in understanding God's nature. Furthermore, the aim of Islamic philosophy is to affirm that revelation does not contradict reason (Qadir, 2002, p. ix).

When studying and comparing Islamic philosophy with general philosophy, it is certain that Islamic philosophy has different characteristics, even though both have the same subject matter or object. The reason is because Islamic philosophy is influenced and limited by Islamic principles and values. Islamic philosophy is informed by the teachings of Islam. Based on the description above, it can be concluded that Islamic philosophy is a product of radical, systematic, and universal human contemplation about the essence of God, the universe, and humans based on Islamic teachings (Masang, 2020, p. 42).

Islamic philosophy shows a harmonious relationship between reason and revelation, and between vision and reasoning. Islamic philosophy is a storehouse of knowledge based on rational reasoning, ultimately leading to illumination. Illumination is a state that certainly cannot be separated from the sacred (Masang, 2020, p. 41).

### **3. Position of Islamic Philosophy of Science**

The position of Islamic philosophy has fluctuated in terms of its development and condemnation, generating considerable interest in scientific discourse. Some scholars claim that Islam and philosophy are fundamentally incompatible and that integration of these two disciplines is unachievable. Al-Kindi, Al-Farabi, Ibn Sina, and Ibn Rushd were prominent scholars who attempted to unify and harmonize the two concepts. Al-Kindi stated that the fundamental purpose of philosophy lies in explaining the intrinsic nature of phenomena by elucidating their underlying causes. Al-Kindi established the relationship between philosophy and religion (Islam) by stating that philosophy serves as a discipline concerned with the pursuit of truth, while religion serves as a domain dedicated to the study of truth. Al-Farabi, on the other hand, demonstrated the capacity to establish a link between classical Greek political philosophy and Islam, interpreted in the light of revealed religions. Ibn Sina put forward the idea that the universe was created by God through a process of emanation. The viewpoints expressed by these philosophers show a significant correlation between philosophy and Islam. The religion of Islam shows a strong and harmonious compatibility with scientific principles (Fitrian et al., 2023, p. 258).

The position of philosophy of science in an Islamic perspective is as a medium to perfect the understanding of the truth that humans want to achieve. So that it comes to the point where the position and function of religion is strengthened not just a formal ritual, but as a final peak of human discovery of the truth (Zubair, 1997, p. 43).

The position of Islamic philosophy differs significantly from the conceptual framework of Jewish philosophy. The existence of Islamic philosophy can be attributed to the efforts of Muslim philosophers who have played an important role in maintaining its various perspectives. Islamic philosophy has exerted a significant influence on diverse customs, cultures, and civilizations all over. This indicates that philosophy in Islam has taken its rightful place, without any inherent contradiction to the core teachings of Islam. On the contrary, an examination of the Qur'anic verses reveals Allah's commands to engage in philosophical contemplation and reasoning (Masang, 2020, p. 41).

### **4. Scope of Islamic Philosophy of Science**

Islamic philosophy encompasses a wide range of disciplines, including: logic, physics,

mathematics, and metaphysics. During the classical period, one was not considered a philosopher unless they demonstrated mastery over the various disciplines of philosophy. One example is Ibn Sina, a prominent philosopher who wrote a philosophical treatise known as "ash-Shifā'." This work is often regarded as his most important contribution. In addition, Ibn Sina also wrote works on various other disciplines, such as: metaphysics, logic, mathematics, and physics. This shows how broad the scope of Islamic philosophy was during the classical period (Mustofa, 2004, pp. 188–213).

The domain and scope of Islamic philosophy includes discussing the nature of all that exists as a whole, from the ontological and metaphysical realms to the empirical realm. Similar to the scope of philosophy in general, Islamic philosophy also examines topics such as epistemology, logic, ethics, and aesthetics. Furthermore, Islamic philosophy is also involved in the study of fundamental themes in human life, including: God, man, nature, and culture. These themes are harmonized with the evolving trends of society and the prevailing spirit of the times (Asy'arie, 1999, p. 29).

Therefore, the object of Islamic philosophy is basically indistinguishable from the subject matter of philosophy in general. This object of philosophy has the potential not to change from time to time. However, the formal object of study, which includes elements such as style, nature, and dimensions that become the emphasis or focus of study, can change and adjust to the development of the context of human life and civilization (Asy'arie, 1999, p. 30).

## **5. Benefits of Islamic Philosophy of Science**

Ahmad Tafsir argues that the study of philosophy includes at least three different purposes and uses (Tafsir, 1997, pp. 41–44):

Philosophy as a compilation of a set of theories. In this scenario, philosophy serves as a foundation that can be used to strengthen or refute ideas proposed by others with the aim of beautifying and advancing world civilization. For example, for one to effectively critique various cultures, traditions, political systems, and global economic structures, it is imperative to first understand the philosophical conceptions underlying these constructs.

Philosophy as a way of life. In this scenario, the discipline of philosophy is implemented as religious teachings. Philosophical theories are used as perspectives and guiding principles in the implementation and application of daily activities. As a result, not a few parties believe that philosophy is able to make humans act wisely.

Philosophy as a problem-solving method. Solving and finding a solution to a problem is not easy. For example, there are rampant cases of theft in a housing complex. In general, people will reactively propose night patrol activities to overcome it. In fact, this solution is not able to solve the problem completely. It is different with people who solve problems with a philosophical approach. He will first analyze the problem in detail, and then he will formulate the right solution based on the root of the problem he found.

In fact, in addition to the three purposes and uses mentioned above, the study of philosophy also provides many additional benefits. Philosophy as the parent or root of all science, has a significant value in Islam as a source of knowledge while still recognizing the importance of the existence of revelation. As stated by Verhaak in Mohammad Ridwan and Muhyar Fanani (2023) added several benefits of studying philosophy of science, especially in understanding Islamic sciences, including (Ridwan & Fanani, 2023, pp. 6–7):

Accustom yourself to think logically and rationally in your opinions and arguments.

Develop a spirit of tolerance in every difference of view (plurality), because philosophers never have one opinion, both in content, formulation of problems and preparation of answers.

Teaches us how to think carefully and tirelessly.

### **1. Analysis of the Philosophy of Science from a Western Perspective**



Philosophizing means discussing everything thoroughly and also deeply, because the purpose of philosophizing itself is to find the real truth. This is written in Darwis A. Soelaiman's book entitled "Philosophy of Science in Western and Islamic Perspectives", he reveals that philosophy is a science that discusses everything that exists thoroughly, deeply and also systematically in order to find the ultimate truth (Masang, 2020, pp. 30–55)

Philosophy of science is a sub-system of philosophy that still holds a mystery regarding its meaning that is not easily understood. This is what makes philosophy of science a matter of concern by some of the scientific elite. Each of them has a different point of view, giving rise to diverse perspectives of understanding. Not only in the redaction, but also in the substance of the problem.

From the presentation of the results regarding the definition of philosophy of science from a Western perspective above, several important points can be taken and understood. First, philosophy of science is a methodical scientific procedure used by philosophers or researchers to identify and categorize certain objects of knowledge. This is in line with the view of Nurhayati et al, who state that the philosophy of science is a process of critical analysis of the basic concepts of science to obtain validity so that a solid foundation is obtained (Nurhayati et al., 2021, p. 353).

Second, although the definition of the philosophy of science is different, it basically refers to the same thing, namely the philosophy of science is a form of human endeavor. This point reinforces the opinion expressed by Paham Ginting & Syafrizal Helmi that philosophy is a process, not a product. Where philosophy will change continuously until a certain point (Ginting & Situmorang, 2008, p. 2).

Third, understanding the difference between philosophy and science is very important to emphasize the concept of philosophy of science and to explain the point of view of philosophy of science. As explained by Nurhayati et al also, that the difference between philosophy and science lies in its emphasis. Where science focuses on studying a limited field by using a descriptive and analytical approach and using experiments, observations and data classification. As for philosophy, it focuses on studying experience as a whole and is inclusive, synthesizing and synoptic and even if it is analytical, the analysis enters the dimensions of life as a whole (Nurhayati et al., 2021, p. 353).

Fourth, as more and more problems in everyday life arise that cannot be solved by science alone, philosophy is forced to step forward and become the basis for solutions. As Setya Widyawati explains, philosophy provides a comprehensive and transformative explanation or resolution to these confusions. In the current context, the progress of science continues to evolve within set parameters, despite facing substantial scrutiny and criticism. The field of philosophy of science seeks to establish a harmonious relationship between philosophy and science, ensuring that neither discipline undermines the other (Widyawati, 2013, p. 93).

Fifthly, regarding truth, Abu Tamrin states that the truth obtained through science and philosophy is not multiform, but relative (Tamrin, 2019, p. 94). So, rather than taking the existence of science as a given, it is important to critique and examine it in order to place it appropriately within its boundaries. In addition, it is crucial to maintain a persistent effort to view science as an important component that coexists and collaborates with the various dimensions and disciplines involved in the formation and advancement of human civilization. This approach can effectively prevent the tendency to over-prioritize science and regard it as an exclusive source of truth.

Sixth, in this case, the philosophy of science will provide a new perspective on what the true nature of science is. This is because according to Setya Widyawati, philosophy of science is a study and reflection on science, so it is needed to combat the threats that result in the scattered condition of science (Widyawati, 2013, p. 93). In addition, by understanding the fundamentals, contexts, and relationships associated with scientific activities, the current growth of science can be kept in

balance.

### **Analysis of Islamic Philosophy of Science**

As for the philosophy of science in the Islamic world, it has not received full attention. In fact, through the development of the framework of Islamic philosophy of science, it can be used as an effective solution in saving Muslims from the great currents under the control of the rapidly growing Western philosophy of science. Amrullah Achmad argues that Muslim scholars have a task that needs immediate handling, namely developing the study of Islamic philosophy of science. This philosophy of science is essentially able to lead Muslims from the classical period to a scientific and cultural civilization that is applicable but not dichotomous (Agus Toni, 2015, pp. 20–21).

Many think that Islamic Philosophy was influenced by the translators of Classical Greek works, such as Plato, Aristotle and so on. Although Greek philosophy influenced Islamic philosophy, Islamic philosophy is not only based on Greek philosophy. The accusations made by Ernest Renan and Pierre Duham who said that Islamic philosophy is only the result of copy and paste of Greek works translated into Arabic. However, this is not accepted by Oliver Leaman et al. They say that the teacher does not have to show similarities, because each thought does have its own cultural background. Hence the need for the development of Islamic philosophy itself (Wahyuni, 2021, p. 83).

From the above statement, an understanding can be taken that Islamic philosophy is not based on Greek philosophy which entered the Islamic scientific tradition through the process of translating Greek books, but Islamic philosophy is the development of Islamic treasures themselves because of a need in it.

Philosophy first appeared in Babylon, which then spread to Egypt, Greece, and arrived in Arabia. The arrival of Philosophy in Arabia is what is said to be Islamic philosophy. This statement is explained by Al-Farabi in his book *Tahshil as-Sa'adah* (Al-Ahwani, 1995, p. 2).

Azis Masang views that Western philosophy and Islam have similarities, both of which discuss truth. However, philosophy in the Islamic context has its own characteristics, although the object is the same, but philosophy in the Islamic context is bound by Islamic norms and Islamic religious guidelines (Masang, 2020, p. 49). From the explanation above, it can be concluded that Islamic philosophy is the result of radical, systematic, and universal human thought in which it discusses the nature of God, the universe and humans based on the teachings and guidelines of Islam.

Azis Masang also explains several things that are factors in the existence of Islamic philosophy in the world, namely (Masang, 2020, p. 49):

#### **Encouragement of Islamic teachings**

Islam is a religion or teaching that consistently encourages its followers to pursue knowledge. As a religion of praise and honor, Islam treats scientists very well. The Qur'an and Sunnah encourage Muslims to advance their knowledge and elevate their status.

#### **Factors of division among Muslims**

Political differences were the first thing that caused divisions in our world, these differences of opinion then spilled over into other areas such as religion. This happened after the time of Uthman bin Affan Muslims used logic and ancient scholarship, especially Greek and Persian reasoning to defend their position and refute the arguments of their opponents. After that, they developed what is now known as Islamic philosophy.

#### **Islamic Da'wah Factors**

Islam requires its adherents to spread the teachings of the religion to others. Efforts to invite people to convert to Islam, one of which is by conveying to them rational arguments. So that the followers of Islam can accept Islam also rationally.

### **Factors Facing the challenges of the times**

With the development of the times, thinking about Islam is also growing. With the development of thoughts each individual must create different thoughts, therefore we need Philosophy to find the truth of each person's thoughts.

### **Influence of other cultures**

The influence of other cultures that enter Islam, then the need for philosophy here. With the aim that incoming foreign cultures are not accepted raw by Islamic teachings.

Ziauddin Sardar, he mentions that Islamic philosophy of science has nine basic characteristics that Western philosophy of science does not have, including (Ziauddin, 1993, pp. 44-45). Based on absolute guidelines and frameworks

- a. Although the guiding framework is absolute, Islamic epistemology is active
- b. Judges objectivity as a general rather than personal issue
- c. The majority is deductive
- d. Compromises knowledge with Islamic values
- e. Values knowledge as something that is inclusive, not exclusive
- f. Attempts to organize subjective experience and search for its basic value commitments.
- g. Bringing together concepts from different levels of subjective experience or consciousness, so that concepts that are appropriate at one level do not have to be appropriate at another.
- h. Does not contradict the holistic perspective, but integrates with human experience and knowledge.

Based on the nine basic characteristics above, it is understood that the most striking difference between Islamic philosophy of science and Western philosophy of science lies in the theological foundation in the form of an absolute guiding framework. Therefore, the essence of Islamic philosophy of science has advocated various ways to study nature and emphasize experience and reality in totality, so that knowledge can be obtained through reason, revelation, observation, research, theoretical speculation, tradition and intuition. In other words, Islamic philosophy of science is a flexible tool for obtaining various sciences, both those based on empirical data, through speculative approaches and those derived from revelation (Al-Qur'an and Hadith).

With the existence of Islamic Philosophy, Muslims will avoid all things that are still in doubt. With philosophy, Muslims can find the truth about things or problems that are happening. This is also expressed by Hasan, he revealed that the existence of Islamic philosophy will be able to 1) show the problems being faced, 2) provide a certain view of God and humans, 3) seek the truth about a matter that has not been solved. Problem (Basri, 2006, pp. 1-11).

### **Analysis of Similarities and Differences in Philosophy of Science from Western and Islamic Perspectives**

In this regard, it is important to remember that Western philosophy of science and Islamic philosophy of science have different cultural backgrounds, histories and traditions. While there are similarities in some aspects, there are also differences in their approaches and focus. Western philosophy of science and Islamic philosophy of science have much in common, especially in their frameworks of thinking about science, knowledge and epistemology. Both seek to understand the nature of knowledge, the scientific method, and the relationship between humans and nature. Some of the fundamental similarities between the two are:

- a. The Search for Truth

In both Western philosophy of science and Islamic philosophy of science, there is a deep concern for the search for truth. Both seek to understand the universe, knowledge, and reality in depth.

b. Use of Reason

The primary source of knowledge in both traditions is reason. Both Western and Islamic traditions value the ability of human rationality to understand the world and reach the truth.

c. Research Methodology

In both Western and Islamic philosophies of science, there is attention to the methodology of scientific research. Both support the use of scientific methods to understand the world and develop knowledge.

d. The Concept of Causality

Both recognize the concept of causality, which is the idea that every event has a cause that can be understood and explained.

e. The Relationship between Religion and Science

Islamic philosophy of science often discusses the relationship between religion and science. This is similar to some discussions in Western philosophy of science about the relationship between religion and science.

However, there are also significant differences between the two. Western philosophy of science tends to focus more on rational thinking and scientific methods based on observation and experimentation. Meanwhile, Islamic philosophy of science includes a stronger spiritual and theological dimension, with an emphasis on understanding the universe in the context of Islamic religious beliefs. Western philosophy of science and Islamic philosophy of science differ significantly in many aspects, including epistemological foundations, theology, approach to science, and cultural influences. Here are some key differences between the two:

Aspect	Differences in Philosophy of Science	
	West	Islamic
Basic Epistemology	It is based more on the classical Greek philosophical tradition, such as Aristotle and Plato. Western philosophy of science emphasizes empirical scientific methods and rational thinking as the primary way to understand the world.	It is more related to the Islamic intellectual tradition and Islamic theology. Islamic philosophy of science often includes elements of theology and religion in the understanding of science.
approach to religion	Tends to separate religion and science, encouraging a secular understanding of science and philosophy of science.	They often include elements of theology and religion in their thinking. The understanding of Islam and religion becomes an integral part of Islamic philosophy of science.
Source of Authority	More likely to rely on empirical scientific methods and rational authority in the development of scientific thought.	Sources of authority include the Qur'an, Hadith, and the thought of Islamic scholars, in addition to the scientific method and rationality.
Framework of Thought	More often focused on questions of scientific method, empiricism, positivism and epistemology in science.	It tends to include questions about how science relates to Islamic teachings, how it can reflect the God-given order of the universe, and its ethical implications.
Cultural Influences	It was formed in the context of Western culture with influences from classical	It developed in an Islamic cultural context that involved

Greek philosophy and the European Renaissance, and developed under the influence of Christianity, the Enlightenment, and the scientific revolution.	heavy influence from Aristotle's thought, Neoplatonism, and Persian and Greek philosophical thought translated into Arabic during the Middle Ages.
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These differences create different frameworks in Western and Islamic philosophy of science. Although both seek to understand the universe and knowledge, their approaches, epistemological foundations, and intellectual focus can be very different. It is important to understand these differences in order to appreciate the diversity in philosophy of science thinking around the world.

#### D. CONCLUSION

The philosophy of science is concerned with the philosophical study of scientific problems. Western Philosophy of Science is a branch of philosophy that systematically examines the fundamental characteristics of science, especially its concepts, methods, conjectures, and location within the general framework and branches of science systematically. Islamic philosophy can be interpreted as an activity of thought that is Islamic in nature. The object discussed in Islamic philosophy is in the context of Islamic principles. Western philosophy of science and Islamic philosophy of science have many similarities, especially in their framework of thinking about science, knowledge, and epistemology. However, there are also significant differences between the two. Western philosophy of science tends to focus more on rational thinking and scientific methods based on observation and experimentation. Meanwhile, Islamic philosophy of science includes a stronger spiritual and theological dimension, with an emphasis on understanding the universe in the context of Islamic religious beliefs. It is hoped that this article can add insight into the scientific treasure for the community in general and academics in particular. In addition, it motivates further researchers to study it more comprehensively.

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