Dissecting the Foundations of the Philosophy of Science: Ontology, Epistemology, and Axiology in a Contemporary Perspective

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ARTICLE INFO	ABSTRACT
	The purpose of this study is to know and understand three important studies in the philosophy of science, namely ontology, epistemology, and axiology. Which Until now the study of philosophy of science is still the main concern. The existence of a philosophy of science that results from thinking activities is a pillar of civilization. where humans find themselves, understand the meaning of life, and live a more ideal life. This study reviews previous studies such as journal articles, books, and other academic sources that address similar topics to gain a better understanding of Science in Philosophy Review: Axiology, Ontology, and Epistemology. With the results, the three main components of the study of philosophy of science are ontology, epistemology, and axiology, as mentioned earlier. It has a very important role to understand the philosophy of science as a whole.
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INTRODUCTION

Until now, the study of philosophy of science is still the main concern. The existence of a philosophy of science that results from thinking activities is a pillar of civilization. where humans find themselves, understand the meaning of life, and live a more ideal life. The problems that arise in humans have encouraged critical thinking, questioning, and finding solutions to all problems, and in the end, humans have become beings who have the ability to find and find bright spots in their lives. Therefore, science develops in accordance with human development and also in an effort to find the reason for human curiosity (Saefuddin, 1987).

Basically, philosophy cannot be separated from its task to describe and explain what is happening in the universe. These theories come from thought that has been done throughout time, personal experience. Therefore, the progress of science also strengthens the existence of philosophy and the

purpose of philosophy is to find the truth. Although there are many studies on the study of philosophy, there is still no adequate understanding of the foundations related to the study of philosophy of ontology, epitology, and axiology. The purpose of this study is to 1) To find out the study of science ontology 2) To explain the study of science epistemologically 3) To understand the study of science in an axiological way.

Several studies have been related to ontology, epistimology, and axiological analysis. The research entitled Implementation of Authentic Assessment in Indonesian Language Learning: Ontology, Epistemology, and Axiology written by (Gayatri, 2020), which in this article discusses Indonesian language learning in the implementation of authentic assessment. And the research entitled Philosophical Review (Ontology, Epistemology and Axiology of Cybernetic Theory-Based Learning Management written by (Suminar, 2016), which in this study explains the philosophical review in cybernetic theory-based learning management. Therefore, the researcher asked several study questions, namely: 1) To find out the study of science ontology 2) To explain the study of science in epistemology 3) To understand the study of science in an axiological way.

Philosophy is an attitude or outlook on life and an applied field that helps people evaluate their existence in a better way. Philosophy helps us understand and understanding helps us act. For those who work in education, philosophy must be understood because it determines the mind and directs their actions to achieve the goal. Philosophy discusses everything that exists, even that may exist, whether abstract or tangible, such as God, humans, and the universe. Therefore, it is very difficult to understand every philosophical problem thoroughly, and we may only understand a small part of its scope.

Broadly speaking, philosophy is organized into three main topics: epistemology, or theory of knowledge, which deals with how knowledge is obtained, ontology, or theory of essence, which deals with what causes knowledge to arise, and axiologicals, or theory of value, which deals with how knowledge can be used. Therefore, understanding these three branches is very important to understand philosophy in a very broad scope and its formulation.

The philosophy of science aids scientific inquiry by directing our understanding of reality (ontology), the nature of knowledge (epistemology), and our error (axiology) (Lim, 2023). Actually, the above three theories talk about the same thing, but they depart from different sources and purposes. The theory of knowledge known as epistemology discusses how knowledge is acquired, how we can acquire knowledge, and how we can distinguish knowledge from another. Ontology discusses what we are studying, how the

object actually exists, and its relationship to the power of thought. However, axiology as a theory of value discusses the classification, purpose, and development of our knowledge.

RESEARCH METHODE

This study uses a qualitative literature study methodology and aims to find, analyze, and synthesize relevant literature on Axiology, Ontology, and Epistemology (Putri, 2020). In addition, this study will review previous studies, journal articles, books, and other academic sources that address similar topics to gain a better understanding of Science in Philosophy Review: Axiology, Ontology, and Epistemology (Zulaikha et al., 2022). The main tool of the study is the researcher himself, who collects and analyzes the data. To ensure that relevant information from various sources can be identified and analyzed systematically, researchers will use structured literature analysis guidelines (Rachmawati & Fadhilawati, 2021).

To reach a conclusion, this study uses a qualitative data analysis method, which starts with data collection, data grouping, data presentation, and correlation analysis. In this study, the author searched for articles with the help of Publish or Perish (POP), from various Google Scholar journal databases, and Semantic Scholar. The keywords used in the article search are three studies of philosophy of science. The researcher used English and Indonesian to search for articles. In addition, the selected articles are unpaid and complete articles. At first, researchers identify articles, filter them, and then conduct analysis and review. To reach the conclusion, this study uses a qualitative data analysis method, which starts with data collection, grouping, presentation, and relationship analysis (Creswell, 2009; Nabuasa et al., 2022).

RESULT AND DISCUSSION
Study of Science Ontology

In general, philosophy focuses on the essence of existence which includes the existence of everything that exists and may exist (Mahfud, 2018; Suaedi, 2016). The systematic relationship system is based on the law of cause and effect (Jasnain et al., 2022). According to etymology, the term "ontology" is derived from the Greek words "ontos," which means "to exist," and "logos," which means "knowledge," "theory," or "reason." In English, the word "ontology" refers to the study or science of what exists or exists (Bahrum, 2013; Hasbi et al., 2023). Simply put, ontology is a field that investigates what exists.

The study of philosophy usually looks at the truth from the point of view of measure, whether something is logical or not. On the other hand, religion

does not always measure truth from a logical point of view because religion sometimes ignores logical aspects (Nasikhin et al., 2022).

According to the Islamic perspective, the study of ontology consists of two categories. The first category includes objects of knowledge that are material, or can be heard, seen, or felt. This category includes science, exact science, political science, social, cultural, psychology, and others. The second category includes non-material objects of knowledge. Non-material cannot be seen, heard, or felt like material objects. Spiritual satisfaction is the end result of these immaterial things. Examples of objects that discuss the spirit, nature, and form of God (Dewi, 2021).

The question of "existence", or essence, is the first ontological problem in Islamic educational philosophy. Ontological questions usually start with a "what" question. For example, what is education? What is philosophy? It is possible to consider this topic as an important starting point to consider problems that arise later on. Tawhid is the basis of further science, according to Islam (Afriandi et al., 2024).

Ontologi berbicara tentang hakekat yang ada, yang tidak terikat oleh satu bentuk. Ia berusaha untuk menemukan inti yang terkandung dalam setiap kenyataan Ontologis, dan mencari inti yang terkandung dalam setiap kenyataan. Dasarnya berbicara tentang apa itu ilmu pengetahuan, apa itu objeknya, dan bagaimana subjek-objek ilmu berhubungan satu sama lain. Dalam perspektif ontologi, ilmu pengetahuan diperiksa dan dianalisis untuk menentukan eksistensinya. Sebagai contoh, jika dilihat dari perspektif ontologis, pembahasan tentang Manajemen Pendidikan Islam akan berpusat pada fakta bahwa itu benar-benar ada. Bukan hanya program studinya, tetapi materi yang diajarkan di dalamnya sama sekali tidak berbeda dengan manajemen pendidikan secara keseluruhan. Oleh karena itu, ontologis berusaha untuk membuktikan dan menelaah keberadaan ilmu pengetahuan (Abdul Halik, 2020).

The focus of the discussion of ontology is the foundation of knowledge that discusses the unique characteristics of science and a complete picture of science. In addition, the ontology dimension includes the essence of science, namely fundamental beliefs about facts and truth. Empirical facts—through observation of one's environment and experience, as well as rational thinking—can be used to derive the essence of knowledge. Ontology will help us in understanding important concepts that have been assumed by science (Widiastuti et al., 2022).

Kajian Ilmu Secara Epistemologi

Epistemology etymologically means theory of knowledge because the Greek words "episteme" means "knowledge" and "logos" means "theory." (Arwani, 2012; Khomsatun, 2019; Parida et al., 2021). Epistemology in Arabic literature is called النظرية المعرفية (theory of science) (Dedi, 2020) The branch of philosophy known as epistemology investigates the origin, structure, methods, and validity of knowledge. In 1854, J.F. Ferrier created and used epistimology (Hifni, 2018; Sandi et al., 2022). Furthermore, epistemology is also called knowledge theory which summarizes issues such as the nature of perception, the relationship between knowledge and belief, and alternative truth theories (Aji, 2024).

Questioning how something came about, how the process of creating nature occurred, how we know it, how we distinguish it from others, and so on about the state and condition of something in space and time is the subject of epistimological analysis (Pajriani et al., 2023). Epistemologi mempelajari tentang pengetahuan dan strukturnya. La science, qui est un phénomène de pointe, est un acteur majeur de la science. Oleh karena itu, metode ilmiah, yang menggabungkan rasionalisme dan empirisme, digunakan untuk menemukan kebenaran ilmiah (Susanto, 2021).

In the context of this conceptual discussion, the philosophical tradition considers the field of epistemology as the basic structure of its methodology. Epistemology is the analysis of something through the use of logic; Therefore, philosophical does not intend to surpass or reduce any kind of knowledge. The philosophical epistemological approach sees the world radically fundamentally and thoroughly, and uses it as a basis for constructing theological-concepts (Fadillah & Juhari, 2022).

CONCLUSION

The importance of comprehensively understanding the three branches of science above which are interrelated to understand science as a whole. The three aspects above are fields of study in philosophy, such as logic, metaphysics, cosmology, methodology, ethics, aesthetics, philosophy of religion, sociology, psychology, and biology.

In a nutshell, epistimology is the field of philosophy that studies how and for what knowledge is obtained, axiology is the field of philosophy that studies how and for what purpose that knowledge is used.In other words, the three things mentioned earlier: ontology, epistemology, and axiology are the three main components of the study of philosophy of science. It is impossible to understand the philosophy of science thoroughly without them.

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