

The philosophy of thomas kuhn: paradigms and scientific revolutions in islamic scholarship

Muhamad Fadli ^{a,1,*}, Diana Monita ^{b,2}, Muhammad Chafidz Ali Wafa ^{c,3}

^{*ab} Universitas Islam Negeri Sunan Kalijaga Yogyakarta, Indonesia.

^c International Islamic University Malaysia (IIUM), Malaysia

¹ muhfad32@gmail.com, ² monitadiana@gmail.com, ³ aliwafa.baru123@gmail.com

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ABSTRACT

One of the figures who strongly criticized positivism was Thomas Kuhn. Kuhn criticizes the opinion of positivism which says that science develops cumulatively and evolutionarily. This is then refuted by Kuhn by presenting the concept of scientific paradigm and revolution. The author tries to see the concept of paradigm and scientific revolution in the body of Islamic scholarship. The author uses the library research method in conducting this research. While in collecting data related to the topic discussed by the author using documentation techniques. The results of this study state that the development of science is continuous or can be called continuously evolving. In the course of its evolution, science will experience an old paradigm or a normal phase of science, then enter a period of anomaly and crisis. The end of this cycle is the formation of a new normal science or the birth of a new paradigm. If Thomas Kuhn's thoughts are brought into the context of Islamic scholarship, then at this time it is at the anomaly stage, namely the many differences that occur in understanding a problem. But not until entering the crisis stage which requires finding a new paradigm, this is because each opinion has different arguments and understanding.

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Introduction

As life in the world continues, so does science and knowledge experience rapid development. Starting with scientific applications and theories that are currently widely studied throughout human civilization. The goal is to achieve a better life, conduct research in all aspects of life to produce science and science that can be a tool to achieve this goal. But in fact, science that develops in all aspects today is narrowed by the presence of positivism concepts that enter the world of science and provide limitations for science and knowledge.

The terminology was born and developed from positivism or neo-positivist views and was criticized in some circles. Thomas Kuhn is one of the scientists who strongly opposed positivist thinking. Kuhn's various scientific criticisms of his predecessors, such as Auguste Comte's positivism (1798-1857), the Viennese School of logical positivism, Popper with the concept of falsificationism, Imre Lacca Toth (1922-1994), are all evidence of his work. Thomas Kuhn's disagreement relates to the idea of a scientific research program that contains a methodology for conducting research.

In his book *The Structure of Scientific Revolutions*, Thomas Kuhn wrote that "normal science means research firmly based upon one or more past scientific achievements, achievements that some particular scientific community recognizes for a time as supplying the foundation for its further practice" (Kuhn, 1996). Kuhn believed that science and knowledge can actually be discussed and researched in various ways and perspectives or multidisciplinary to get the best results. He also rejected previous thinkers who were based on positivist thinking and argued that there was only one truth. He offers a new way of thinking, a paradigm way of thinking, which he believes can also embrace and cover a wider scientific world.

Research conducted by Putri & Iskandar revealed the contribution of the concepts offered by Thomas Kuhn to science. The concept offered by Kuhn then becomes a trigger in understanding knowledge from various perspectives, including being able to use normative, historical, anthropological and other approaches in solving a problem in education (Putri & Iskandar, 2020). Then Almas explained the forms of contribution of Thomas Kuhn's paradigm in the world of education. The use of Problem Based Learning and Discovery Learning methods is a form of using the concepts offered by Kuhn. The method indirectly reduces the concept offered by Kuhn where students become subjects who have the freedom to explore knowledge according to their abilities (Almas, 2018). In 2020 Kesuma and Hidayat explained that the concept of Thomas Kuhn when drawn into Islamic science, it will be found that there is no absolute truth in science. This understanding is then able to open the mindset of Muslim scientists (Kesuma & Hidayat, 2020). So in this article the author wants to explore again how Islamic science is understood from the perspective of the concept of scientific revolution and Thomas Kuhn's paradigm.

Methods

The method used in this research is literature review, namely by collecting data that has a relationship with the object of research, or it can be said that this research uses a literature review. (Sari & Asmendri, 2020). This literature research limits activities to library collections without conducting research in the field. So in this study the results are not in the form of numbers, but descriptive sentences that explain the answers to the formulation of the problems contained in the background. The analysis used in this research is content analysis, namely by analyzing the data in depth and thoroughly. After being analyzed, it then ends with a conclusion as an answer to the problem in the introduction.

Results and Discussion

1. Biography and Background of Thomas Kuhn's Thought

Thomas Samuel Kuhn or commonly known as Kuhn is a philosopher. Kuhn, an American citizen, was born on July 18, 1922 in Cincinnati, Ohio. His father, Samuel L. Kuhn, is an industrial engineer who graduated from Harvard University and the Massachusetts Institute of Technology. His mother, Minette Stroock Kuhn, is a journalist and freelance writer (Lubis, 2015). Thomas Kuhn completed his Ph.D in Natural Exact Sciences at Harvard University in 1949 and studied at the University of California. Kuhn then began his career as a physicist before studying history, history of science, and finally philosophy of science (Zubaedi, 2007). He was later appointed as Assistant Professor of General Education and History of Science at Harvard University. In 1956, Kuhn also got a position as a lecturer in the history of science at the University of California. Kuhn taught at Princeton University from 1964 to 1979, and at the Massachusetts Institute of Technology from 1979 to 1991, where he was awarded the

title of Professor in 1983 (Almas, 2018).

Thomas Kuhn was an American physicist and philosopher, author of the history of science. One of his outstanding works that got the attention of philosophers at the time was *The Structure of Scientific Revolutions* published in 1962. The book covers the history and philosophy of science, as well as the concepts pioneered by Kuhn, namely paradigms and scientific revolutions. This book also became a reference book for scientists from the 1960s until now. In the classification of the history of philosophy of science, Kuhn's concept is included in the category of new philosophy of science (Verhaak & Haryono Imam, 1991). The work produced by Kuhn attracted many people because he used a political model in explaining the development of science. Kuhn used the term revolution to describe the development process in science and emphasized the discourse of providing alternatives to old theories with new theories. This view makes him a revolutionary in the direction of thinking about the renewal of scientific theories, especially those related to the field of philosophy of science (Sabila, 2019). Among the works written by Thomas Kuhn are: (Putra, 2015)

The Copernican Revolution: Planetary Astronomy in the Development of Western Thought, Cambridge Mass: Harvard University Press. 1957.

The structure of scientific revolution, Chicago: University of Chicago Press (1970, 2nd edition, with postscript), 1962/1970.

The essential tension, elected studies in scientific tradition and change. Chicago: University of Chicago Press, 1997.

Black-Body Theory and the quantum discontinuity, Oxford: Clarendon Press (2nd edition Chicago: University of Chicago Press) 1998.

The road since structure, edited by James Conant and John Haugeland, Chicago: University of Chicago Press, 2000.

Thomas Kuhn's thinking is inseparable from his background as a physicist. Through his scientific experience related to experiments in physical science led him to a conclusion. Kuhn said scientific theory and practice were obsolete and had undermined some of his basic concepts about the nature of science (Lubis, 2015). Departing from his experience made him discover a concept known as the paradigm of the scientific revolution. Results and Discussion can be presented in subchapters. Clearly discuss the subject matter in accordance with the problem, research objectives, and the theory used.

2. Thomas Kuhn's Critique of Positivism

Kuhn was born in the midst of the development of positivism. *The Structure of Scientific Revolutions* is one of Kuhn's works that sharply criticizes positivism and Popper's falsification. Kuhn in this case rejects positivistic-neopositivistic thinking and the process of accumulation, evolution and elimination. According to him, this view assumes that science is objective, universal and neutral is a narrowing of a definition. Positivism also claims that the scientific character or not of a theory must go through the principle of verification. Kuhn considered that Popper did not agree with the principle of verification which later replaced it with falsification (Kuhn & Surjaman, 1989).

Popper has the view that scientific development begins with the submission of a hypothesis and continues with proving the hypothesis that has been proposed. If after testing it is proven wrong, in this case the hypothesis is rejected, the theory used automatically falls and can no longer be used. In this case Popper considers that if a

theory is proven wrong, it is replaced with a new theory, and the old theory is no longer used or discarded. So, as long as a theory has no hypothesis error in it, the theory can be used forever until an error is found (Effendi, 2020).

Popper's thinking was later criticized by Kuhn. He has the assumption that changes in science are impossible when using these theories. The change occurs with a process called the scientific revolution. According to Kuhn, science develops through scientific revolutions and these revolutions can occur through paradigm shifts. Based on this, Thomas Kuhn is famous for his concept of paradigms and scientific revolutions.

3. Thomas Kuhn and the Concept of Paradigms

Paradigm is a core concept initiated by Thomas Kuhn. Paradigm itself comes from Greek, consisting of two words, namely para which means beside or next to and dekadani which means model or example (Sabila, 2019). According to KBBI, a paradigm is a model in the theory of science or more simply as a framework for thinking. According to Alan E. Musgrave, as quoted in Widodo's book, the term paradigm has two basic differences. First, the paradigm is intended as what we get from behavioral testing conducted on members of the scientific community. Second, paradigms are used in the overall constellation of beliefs, values, techniques, and so on that have been carried out by members of the community (Widodo, 2020).

Paradigm is defined as a basic footing of what is the center of the discussion that should be studied by science. This includes what should be asked and how to formulate answers and their interpretations (Solihin, 2021). Paradigm is an agreement of a certain group of scientists which makes it have its own characteristics that distinguish one from the other. These different paradigms are caused by the philosophical background, the theories and instruments used and the scientific methodology used as a scalpel or analysis (Kesuma & Hidayat, 2020).

Thomas Kuhn himself in defining the paradigm has not been done consistently, this is evidenced by the explanation he gave always changing according to the context. Therefore, Masterman divided three types of Kuhn's paradigm concept, namely: (Ulya & Abid, 2015)

The Metaphysical Paradigm includes beliefs, methods, values, techniques or ways and elements of generally known knowledge. Its function is related to ontology, finding theories and explanations for an object, and discovering reality.

The Sociology paradigm, deals with something related to habits, decisions and generally accepted rules.

Construct Paradigm, is a paradigm that has the most narrow or limited meaning, for example, the creation of a nuclear reactor and setting up a laboratory.

In Kuhn's point of view, the paradigm is a way of seeing, methods, values, principles that become the basis for solving a problem. In general, the paradigm is a basic belief that directs a person in carrying out his natural actions. There are also those who say that the paradigm is a fundamental image of a problem in a science. In this case, the paradigm provides guidance on what to study, statements that should be raised and what rules must be obeyed in formulating and interpreting the answers obtained (Sabila, 2019). Thus it can be understood that the paradigm in this case is analogous to a window where people look out, where people start to determine which direction to go and what must be prepared to get to the destination.

So we can take the red thread that the paradigm is not bound to the value of right or wrong, but a view that contains something good and useful for the development of

science in the future. This means that the results of research conducted by scientists are not only aimed at finding a truth but rather the value of the usefulness of the results of their research. Thus the paradigm in solving a problem will not be fixated on one point of view and close other views, but rather adjust to the context at hand to solve scientific problems. Kuhn was born in the midst of the development of positivism. The *Structure of Scientific Revolutions* is one of Kuhn's works that sharply criticizes positivism and Popper's falsification. Kuhn in this case rejects positivistic-neopositivistic thinking and the process of accumulation, evolution and elimination. According to him, this view assumes that science is objective, universal and neutral is a narrowing of a definition. Positivism also claims that the scientific character or not of a theory must go through the principle of verification. Kuhn considered that Popper did not agree with the principle of verification which later replaced it with falsification (Kuhn & Surjaman, 1989).

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4. Thomas Kuhn's Science Revolution

Kuhn considers that the development of science will always occur and is always accompanied by the discovery of new facts. This development is based on the inability of the current theory to answer new facts in the field. That way Kuhn sees that science is an exploration activity that is carried out continuously. The occurrence of a revolution is not an easy thing that happens without any obstacles and obstacles. Some scientists have a time when they do not want to accept the presence of a new paradigm.

Kuhn argues that the development of science is a continuous process, always accompanied by the discovery of new facts. According to him, scientific progress occurs when existing theories can no longer adequately explain or address emerging phenomena in the field. This creates a need for new theories to better account for the unexplained facts. Kuhn emphasizes that science is fundamentally an exploratory activity, where each step forward brings new insights and often challenges the status quo.

A key idea in Kuhn's philosophy is the concept of paradigms—frameworks of theories and methods that dominate scientific thought during a particular period. Scientific progress, in his view, occurs in stages: normal science, crisis, and revolution. During the phase of normal science, research operates within the established paradigm, refining and expanding existing knowledge. However, when anomalies accumulate, indicating that the paradigm cannot fully address new facts, a crisis emerges, setting the stage for a scientific revolution.

The shift to a new paradigm—what Kuhn calls a paradigm shift—is not a straightforward or easy process. The transition is often marked by resistance from

scientists who have built their careers and reputations on the old paradigm. These individuals may find it difficult to accept the new framework, as it challenges their existing understanding and years of accumulated knowledge. This reluctance creates obstacles to the acceptance of new theories, prolonging the process of scientific revolution.

Kuhn acknowledges that this resistance is a natural part of scientific change, as adopting a new paradigm requires scientists to reinterpret existing data and reshape their fundamental beliefs. The clash between old and new paradigms can create tension within the scientific community, slowing down the acceptance of revolutionary ideas. However, Kuhn also highlights that over time, as the new paradigm proves more effective in addressing unresolved problems, it gradually gains acceptance and becomes the new standard for research.

Ultimately, Kuhn's perspective reshapes the traditional view of scientific progress as a linear accumulation of knowledge. Instead, he proposes that science advances through cycles of stability and disruption, with each revolution marking the birth of a new paradigm. This dynamic process ensures that science continues to evolve, driven by the pursuit of deeper understanding and the constant search for more accurate explanations of the natural world.

Determining the paradigm is not an easy thing, this is because there is no standardized standard but based on the agreement of a group of people. At the time of the scientific revolution, scientists will see something new and they have never encountered before. As if the scientists were moved from one place to another where objects that they previously recognized appeared in a different form and they did not recognize. If there are some scientists who reject the new paradigm as the basis for their research, and use the old paradigm as the basis, then their research activities are considered not to provide benefits to the public (Widodo, 2020).

Thomas Kuhn's concept of paradigm in the scientific revolution consists of four phases. First, the pre-paradigm phase, which is a condition in which there is no agreed paradigm. Second, the normal science phase, a condition in which there is already an approved paradigm and scientists are trying to develop it by supposing future problems. Third, the phase of anomalies and crises, in this phase the agreed paradigm has begun to reach a dead end to solve problems and is increasingly piling up which then becomes a paradigm crisis. Fourth, the paradigm shifting phase, a new paradigm phase in which it is able to answer problems.

In the first phase there is no consensus on theory. This phase is characterized by incomplete theories, then theories are clashed with each other and the more complete theory is used. This phase lasts for a certain period of time until a paradigm is accepted by all layers, and the path to normal science is found. Furthermore, in the normal science phase there is an accumulation of science in which scientists try to develop a previously agreed paradigm. The normal science phase is a condition in which science has been recorded, researched, reviewed so that it becomes a standard reference at a certain time (Kurniawan & Rahman, 2021).

When scientists develop the paradigm that has been agreed upon during normal science, they experience paralysis in terms of analysis or the inability of the old paradigm to answer the problems that arise. In this phase there are many deviations and contradictions, this is referred to as the anomaly phase. Due to the many anomalies that arise, it causes a crisis, where the paradigm is doubtful. Because of this, scientists are trying to find a new paradigm that rests on the weaknesses in the old paradigm, this is the paradigm shifting phase or paradigm shift that marks the scientific revolution.

The cycle that occurs in these phases shows that a paradigm shift will not occur if there is no crisis that begins with an anomaly. The role of the old paradigm as mentioned earlier allows scientists to study anomalies so that they can be overcome later. These elements are important in developing science. This indicates that anomalies or ignorance and contradictions are not sufficient reasons for the rejection of a paradigm in this case as in Popper's falsification. Kuhn states that such complexity is a necessary capital for the change of a new paradigm. It can be understood that facts and theories are part of normal science so that anomalies appear as a part of a puzzle or puzzle that must be solved (Komarudin, 2021). There are several examples of paradigm shifts in science that illustrate Thomas Kuhn's concept of scientific revolution as follows:

In the history of natural science. At that time philosophy had succeeded in shifting the mindset of the Greeks and mankind in general from a mythical view to a logocentric view. Initially the Greeks and other nations of the world believed that all events in the world were influenced by the gods. So, the gods were always respected, even worshipped. The influence of philosophical thinking at that time could change from a mindset that depended on gods to a mindset that depended on ratios. Natural phenomena, such as eclipses, were no longer personified in the activity of the god sleeping, but finally came the scientific discovery that eclipses occur due to the sun, moon and earth being on a parallel line and forming a shadow of the moon on part of the earth's surface. Aristotle then began to put forward the term physics which distinguished it from metaphysics (unconscious reality). The inductive and deductive method with Aristotle then became the method in philosophizing. Aristotle's thinking then produced a scientific paradigm known as geocentric which was used to model and explain natural philosophy for more than a thousand years (Farid, 2021).

A continuation of Aristotle's geocentric thinking. The change from geocentric to heliocentric theory is known as the Copernicus Revolution which states that the earth and planets revolve around the sun. Thus, the sun is the center of the solar system. Opposition and attacks on Copernicus arose from church figures and astronomers who supported the paradigm for a long time, even Giordano Bruno supported the heliocentric theory was sentenced to be burned in 1600 and Galileo Galilei was threatened with the same punishment for not withdrawing his opinion. The heliocentric theory was eventually reinforced by Newton while strengthening pro-heliocentric astronomers. Finally, Copernicus' theory became the new paradigm/the result of a paradigm shift from the old paradigm to the new paradigm. Similarly, when tracing the previous scientific cycle, it turned out to be a Heliocentric theory similar to that put forward by Aristarchus in ancient Greece, but Aristarchus' views were later submerged and not recognized because the public was more accepting of the geocentric theory which states that the earth is the center of the universe and the sun and planets revolve around the earth. Thus, as the latest paradigm, this revolution by Copernicus changed and replaced the worldview from geocentric to heliocentric.

Pluto as a planet. Astronomers at the time were convinced that Pluto was the ninth planet in the solar system. Over time, problems began to arise, which Thomas Kuhn called anomalies. The problem arose when more sophisticated telescopes were developed. Observations showed that Pluto is one of many celestial objects in the named region. With so many celestial bodies like Pluto out there, astronomers came up with a set of requirements for celestial bodies to be called planets and Pluto did not meet any of the criteria to be called a planet. But then, to classify these Pluto-like planets, astronomers created a special designation called dwarf planets.

5. Anomalies, new discoveries and shifting paradigms

Scientists initially believed that the truth in a science was the result of the old paradigm. Scientific research carried out continuously using various kinds of innovations then produces a normal knowledge or (normal science) whose truth is not in doubt (UIN Sunan Kalijaga et al., 2020). Over time and the development of science and technology, problems arise where normal knowledge begins to experience anomalies. In Kuhn's view, anomalies have a significant role in stimulating new discoveries. Kuhn describes two scientific activities that can be used to find new discoveries, namely puzzle solving and the discovery of new paradigms. Kuhn argues that paradigms can survive because they are able to solve puzzles or puzzles well. This means that the paradigm is not aimed solely at finding the truth during normal science but solving puzzles with the old paradigm as long as new findings have not been found on the same object (Kesuma & Hidayat, 2020).

Scientific activities during normal science are guided by a paradigm in which scientists have the opportunity to explain in depth. On the way, scientists will encounter various kinds of phenomena that cannot be explained by the theory they hold, this is then called an anomaly. If these anomalies are found more and more, it will cause a crisis because the theory cannot be used to solve scientific problems. With a situation like this, scientists will usually return to the beginning of the emergence of the paradigm and explore and develop the paradigm by looking at the shortcomings so that it can be reused with a new model. The emergence of a new paradigm makes other scientists will conduct further research to validate the new findings. If the new paradigm is validated as a scientific truth, the old paradigm begins to be abandoned and switches to new discoveries (Kesuma & Hidayat, 2020).

This new finding then makes the old paradigm shift to a new paradigm or known as shifting paradigm. Based on this, it can be understood that shifting paradigms are (Vilmala, 2020):

Generating new ways of thinking because old ways of thinking are unable to solve new scientific problems that arise.

The emergence of a new paradigm is normal in the development of science. This is because there are problems that cannot be solved based on old paradigms and theories.

The emergence of a paradigm is a step to offer new solutions. The new paradigm does not say that the old paradigm is wrong, but the old paradigm is used as a foothold because it is unable to answer the anomalies and crises that arise. This is where the role of the old paradigm is to find weaknesses and create a new paradigm to cover the weaknesses of the old paradigm. In the normal science phase, the existing science at that time was considered capable of solving the problems that arose. The development of the times then raises problems that cannot be overcome by the existing science at that time and ends in the discovery of anomalies. This condition then raises doubts about the truth of science at that time, so that it becomes a trigger to produce new science that can answer challenges. The emergence of new knowledge will make scientists re-conduct research to prove the truth. If the new science is able to be accepted as a truth and is able to answer existing problems then the previous science can be replaced with a new one. The use of new science as a paradigm does not necessarily blame the old paradigm. The presence of the old paradigm is considered very important in guiding scientists to find flaws in the old paradigm so as to produce a new paradigm (Sahbana, 2022).

6. The Relevance of Thomas Kuhn's Thought in Islamic Science

Thomas Kuhn and the concept of the Science Revolution have a connection with the paradigm in Islamic science, especially with regard to the paradigm of Islamic philosophy. Some Muslim philosophers such as al-Kindi, Ibn Rushd and al-Farabi are examples of Muslims who often express interesting views, especially in philosophy and its penetration into Islamic studies. This then created a strong bond between Arabic and Greek philosophy. The developmental stage of Islamic scholarship can be seen with the inclusion of external cultural elements such as Zoroastrianism and Hellenism.

If analyzed, the concept of Thomas Kuhn's scientific revolution paradigm can be found in the Islamic scientific paradigm as follows:

Paradigm in Kuhn's view is the initial step in determining the philosophical foundation of science along with the theoretical basis in science. If drawn into the context of Islamic science, it can be interpreted as progress using logic to understand the paradigm in Islamic teachings. At this stage it is necessary to understand the paradigm based on its normative foundation, how the dynamics of thought, how the paradigm is able to continuously answer problems and is also sensitive to problems.

Normal science in Kuhn's view is a paradigm that has been accepted by a group of people and used as the main footing. In Islamic science, this context is based on the theory contained in the source of Islamic law, namely al-Qur'an and al-Hadith. In the context of normal science, Islamic studies can be analogous to understanding the theory of Islamic teachings with a theological-normative approach.

Anomaly according to Kuhn as a gap where the paradigm is no longer able to answer the problems that arise. In Islamic science, anomalies often occur during the development of the times where paradigms derived from sources of Islamic law are considered unable to answer the challenges of the times. So that if there are more anomalies, it will cause a crisis.

Revolution of Science, at this stage a crisis occurs and a paradigm shift is needed to end the crisis that occurs and will bring up a new paradigm. In this case, to answer the problems that arise in Islamic studies, various methodological frameworks are needed that can be used to analyze. This can be obtained by applying various approaches in understanding the paradigm obtained from the sources of Islamic law.

The scientific revolution and the transformation of Islamic law will continue to intersect throughout history. To overcome this, it is necessary to understand the paradigm of Islamic teachings by applying various methodological frameworks with approaches other than theological-normative approaches. This is done so that the paradigm of Islamic teachings does not seem rigid in answering the challenges that continue to emerge. To take the methodological framework can use historical approaches, sociology, anthropology and other scientific approaches. Amin Abdullah termed this as integration-interconnection (Kurniawan & Rahman, 2021). If it is associated with Islamic teachings, this is in line with Thomas Kuhn's thinking, that the main key in the scientific revolution lies in its methodology. So in understanding Islamic teachings, it is not the text that is renewed but the human paradigm in understanding the Qur'an. For this reason, it is necessary to have a new interpretation in understanding the Qur'an, which is suitable for the current reality so that it can answer the problems that occur (Farid, 2021).

If we look at the current Islamic scientific revolution from the perspective of Thomas Kuhn's scientific revolution, it can be concluded that Islamic science has also experienced a series of events from the scientific revolution. Starting from the stage of preaching monotheism carried out by the Prophet who then entered the stage of the laws he brought. All of that is a series of revolutions. At this time Islamic science was at

the stage of anomaly, namely the many differences of opinion that arose in viewing a sharia issue such as qunut subuh, dhikr jahar and Khofi and so on. However, it has not yet entered the crisis stage because each opinion has arguments that can be defended. This also shows that Islam is a religion that is always compatible with the times.

Conclusion

Thomas Kuhn's thinking is a criticism of the positivist or neo-positivist view. He provides new ideas or ideas for the development of scientific theories, which he calls paradigms. A paradigm can be defined as "a basic set of beliefs or convictions that determine one's behavior in scientific activities". Paradigms are key elements of science because they help one formulate what to study, what questions to answer, and what rules to follow in interpreting the answers obtained. It is therefore fair to say that Kuhn's paradigm contributes to the dynamics of science and human civilization.

In short, Kuhn's scientific progress program can be summarized as: pre-paradigm pre- science→normal science→abnormal→crisis→revolution→new paradigm. He explained that in the development of science, the existence of paradigms shapes concepts, and the existence of paradigms causes changes in concepts, thus making science constantly changing. The role of paradigms in the development of science is very important, because paradigms give vitality to concepts. It can be concluded that the "scientific revolution" is a symbol that explains the final effect of dynamic paradigm differences.

Thomas Kuhn's scientific revolution is also in line with Islamic science. Islam itself has always experienced changes in its science. Starting from the first time the Prophet delivered a revelation until now there have been many developments in the Islamic world. A clear example of scientific development in Islam is the birth of schools of thought that have their own methods and ways of determining a law. However, it must be emphasized that the Islamic world today has not reached the stage of Crisis as in Thomas Kuhn's Scientific concept. This means that although there are differences in views, it does not make it a form of crisis in Islam, this is because it still uses the same source in making decisions, namely the Qur'an and hadith. Draw conclusions with concise sentences as answers to research questions or as proof of research hypotheses. The conclusion ideally illustrates the relationship between research questions, objectives, results and discussion.

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