

SIRAJUDDIN ZAR THINKING CONSTRUCTION ABOUT COSMOLOGY**Ilham Sahruji**UIN Sjech Muhammad Djamil Djambek Bukittinggi
sahrujiilham@gmail.com**Johan Septian Putra**UIN Sunan Kalijaga Yogyakarta
20201021011@student.uin-suka.ac.id**Abstrak**

Tujuan dari artikel ini adalah untuk mendeskripsikan landasan pemikiran Sirajuddin Zar; menganalisis faktor-faktor mempengaruhi pemikiran Sirajuddin Zar tentang kosmologi; dan menjelaskan corak pemikiran kosmologi dari Sirajuddin Zar. Penelitian ini merupakan penelitian kepustakaan (library research) dengan penggunaan metode deskriptif-analitis, induksi dan holistika. Data primer dari kajian ini adalah karya Sirajuddin Zar yaitu Konsep Penciptaan Alam dalam Pemikiran Islam Sains dan al-Qur'an. Penelitian ini didukung dengan data sekunder berupa buku dan jurnal berkaitan dengan tajuk kajian dalam artikel ini. Hasil penelitian menjelaskan beberapa hal tentang konstruksi pemikiran Sirajuddin Zar yaitu; pertama, pemikiran kosmologi Sirajuddin Zar berlandaskan sumber dari al-Qur'an, para filsuf Islam masa klasik dan ilmu sains. kedua, pemikiran kosmologi Sirajuddin dipengaruhi oleh gurunya yaitu; Harun Nasution, Quraish Shihab dan Ahmad Baiquni serta mereferensi dari buku teologi Islam, filsafat Islam dan tafsir al-Qur'an. Ketiga, corak kosmologi Sirajuddin Zar diposisikan sebagai rasional empiris.

Kata Kunci: *Konstruksi; Kosmologi; Sirajuddin Zar.***Abstract**

The purpose of this article is to describe the rationale of Sirajuddin Zar; analyze the factors influencing Sirajuddin Zar's thoughts on cosmology; explain the cosmological thinking style of Sirajuddin Zar. This research is library research using descriptive-analytical, induction, and holistic methods. The primary data of this study is the work of Sirajuddin Zar, namely the Concept of Creation of Nature in Islamic Thought, Science, and the Qur'an. This research is supported by secondary data in the form of books and journals related to the title of the study in this article. The results of the study explain several things about the construction of Sirajuddin Zar's thoughts, namely; First, Sirajuddin Zar's cosmological thinking is based on sources from the Qur'an, classical Islamic philosophers, and science. second, Sirajuddin's cosmological thinking was influenced by his teacher, namely; Harun Nasution, Quraish Shihab, and Ahmad Baiquni as well as references from books on Islamic theology, Islamic philosophy, and interpretation of the Qur'an. Third, Sirajuddin Zar's cosmological style is positioned as empirically rational.

Keywords: Construction; Cosmology; Sirajuddin Zar.

Introduction

The universe or the universe also called the universe is a term often used to study the entire space and time in which humans and other living things live. Science to understand the universe can be studied in a discipline, namely physics or often called astronomy(Aini, 2018, p. 56).

In language, cosmology is taken from English, namely Cosmology, which comes from the Greek, namely "Cosmo" which means universe and "logos" which means science or rational principles. In terms, cosmology is the study of the structure and history of the large-scale universe. The concept of cosmology has gone through various experiments to establish its theory. The concept was born from ancient human thought, be it myth, limited observation, and theology. For example, the Babylonians and Ancient Egyptians built their cosmological systems from a mixture of ancient myths. They believed that the cosmos was box-shaped, with the earth as its base and the mountains supporting the sky as its roof. Later, the Mesopotamians also had their own myths. They thought the universe was a dome containing a flat disk of earth surrounded by water. Above the dome, the water formed the sky, and was thought to be the abode of the gods and other celestial bodies. After the development of adequate science and technology, the concept of cosmology was recognized by modern society at this time (Juwaini dan Lilis Suci Rahmasari et al., 2022), p. 175.

Cosmology is a separate concern by experts (Muslim thinkers) how to view this science from the perspective of philosophy, theology or other disciplines to build theories and correlations, especially with the Islamic world cosmology with metaphysical discussions is considered a human effort to understand the universe and determine its position. The foundation of human belief that the causality of planetary movements appears chaotic, there can certainly be a real pattern in accordance with the laws governing the mechanism of movement. This foundation makes thinkers produce certain cosmological views alternately understood by humans such as geocentrism, heliocentrism and relativism (Muzawir & Halid, 2021, p. 63)

The dynamics of thought in the Islamic world continue to develop until now. This fact occurs due to the doctrine of respect for reason and one of the sources of knowledge and truth. Al-Quran and hadith provide explanations regarding the urgency

of reasoning, research, and thought. Many terms are used to refer to this understanding, such as *nazhara*, *tadabur*, and *tafakkur*. (Aini, 2018, p. 58).

The Qur'an has commanded humans to (*nazhara*) means observing with the eyes, seeing, investigating, philosophizing, and others about the heavens and the earth. Allah SWT commands and guides humans to study the universe and its contents. (Aini, 2018, p. 57).

There are many opinions about the concept of the creation of nature. According to the peripatetic Islamic philosopher, al-Kindi, the view that the creation of the universe was created from something already exists (*al-ijad min al-syai'*). Then they explained that the universe was created by Allah and the original matter (*al-hayula al-ula*). This original material emanates from Allah SWT to the emission of ten minds mechanically or sequentially (Sirajuddin Zar, 2014, p. 76). Furthermore, the philosophy of illumination emerged, which was initiated by al-Suhrawardi al-Maqtul (549 H/1155 AD). The philosophy of illumination gives a new color to Islamic philosophical thought (Amroeni Drajat, 2001, p. 70). Suhrawardi's philosophy states that the universe as a whole is a giant irradiating process. All forms start from a single main principle with the name 'nur al-qadhir, Nur-Anwar' (Muhardi, 2019, p. 59).

Furthermore, the view of science to explain the process of the creation of nature using the big bang theory in 1930, the theory was initiated by Georg Leimater explaining that nature originated from a huge explosion throwing celestial bodies in all directions, and slowly the bodies formed. According to this theory, the universe fused in a singularity and then about 15 billion years ago exploded violently into pieces. This fragment becomes the universe, the galaxies move away from each other and continue to move (Sirajuddin Zar, 1997, p. 147).

The dynamics of the problem of the creation of nature above are also part of the study of thought by Sirajuddin Zar (professor at UIN Imam Bonjol). He is one of the figures in the study of Islamic philosophy in Minangkabau with new ideas and responding to the study of cosmology. Sirajuddin Zar uses the verses of the Qur'an as information or the main source of his thoughts. Then he compared the methods of philosophy, theology, and science (the observations of natural scientists in science and technology). Sirajuddin Zar is of the view that the basic thing of the universe or universe, is not explained in detail, whether nature was created from something or

matter has existed or from nothing. The answers to the problems in cosmology that are still polemic can be found through the position of Islamic philosophy, Islamic theology, and science from the perspective of the Qur'an.

Sirajuddin Zar proposes eight forms of words expressing the creation of nature through thematic interpretation, namely *khalq*, *bad'*, *fathr*, *ja'l*, *shun*, *amr*, *nasy'*, and *bad'*. The eight-word forms about creation have two meanings, namely First; creation other than the universe is physical. Allah SWT creates something from pre-existing material and it undergoes a gradual process. Second; is the creation of the universe which undergoes a process of gradual development under '*sunnatullah*'. Based on this background, three academic problems will be answered, namely what is the basis of Sirajuddin Zar's cosmology? what factors influence Sirajuddin Zar's thoughts on cosmology? and what is the style of Sirajuddin Zar's cosmological thinking?

Previous literature studies on Sirajuddin Zar's cosmological thinking include: The book of *Teori Relativitas dan Kosmologi* ditulis oleh Eng. Rinto Anugraha NQZ, (Yogyakarta, 2011) as lecture material for the Relativity Theory course at the Physics Department, FMIPA UGM. Then, the book of *Al-Qur'an Tentang Alam Semesta*, ditulis oleh Muhammad Jamaluddin El-Fany, (Jakarta, Amzah, 2013) was translated by Abdul Bar Salim. This book focuses on verses about the universe in the Qur'an. The last, the book of *Penciptaan Bumi Dalam Perspektif Al-Qur'an dan Sains* was compiled by a team from the Ministry of Religion of the Republic of Indonesia, Jakarta 2012. This book contains thematic verses of the Qur'an, related to one issue and a comprehensive study on one issue. and contains the beginning of the creation of the earth, the anatomy of the earth, geological processes, and dynamics of the earth, seas, and oceans. All of the literature reviews above were not found to specifically discuss the cosmological thinking of Sirajuddin Zar.

The study in this article uses social construction theory to analyze the factors influencing the construction of Sirajuddin Zar's cosmological thinking. The theory of social construction (externalization, objectivation, and internalization) (Burhan Bungin, 2008, p. 14-15) was initiated to compare theories in social paradigms and facts such as the ideas of Emile Durkheim (Yuliadi, 2018, p. 122-123). His social construction theory of Berger states that all these social realities that make religion part of culture are human constructions because there is a dialectical process of public relations with

religion. Religion is an objective entity outside of humans. Religion undergoes a process of objectification in the text or becomes a system of values, norms, rules, and so on (H.M Zainuddin, 2013, p.73-74) (Yuningsih, 2006). In a simple manner, Sirajuddin Zar's thought of cosmology is that nature is the creation of God and has a moment of beginning and end of creation. The initial moment is that this nature does not occur suddenly and the final moment is that the universe will become extinct (impermanent). The creation of the universe through the process of the components of this universe. Absolutely, this simple thought contradicts the theories of modern thinkers assume that this universe will be destroyed but will be re-created into a new universe.

Research Methods

The research method used by the researcher is a literature review (Afriyanto & Muhid, 2021, p. 175) or library research, namely the use of several literature results (library) in the form of books, reports on research results from previous research with details on the object under study or how to selectively handle a certain scientific object (Tim Penyusun Buku Pedoman Akademik IAIN IB Padang, 2015, p. 74).

Data collection techniques in the completion of this paper use several methods to read the data with two classifications, namely primary and secondary. Primary data is data derived from primary sources obtained from a book by Sirajuddin Zar entitled *Konsep Penciptaan Alam dalam Pemikiran Islam, Sains dan Al-Qur'an, Filsafat Islam Filosof dan Filsafatnya, Teologi Islam; Aliran dan Ajarannya, Aliran Mu'tazilah dan Sumbangannya terhadap Ilmu Kalam*. Then secondary data was taken from related books and journals in the study of this article.

The writing method used in this study is descriptive-inductive. The descriptive method is used to describe the object of language material, without the intention of making decisions or conclusions that are generally accepted, the presentation of the data is displayed as is. The inductive method is the path used to gain knowledge (Sudarto, 2003, p. 59). Concluding the process of data collection and data analysis. Then through synthesis and inductive inference to get perfect data (Kaelan, 2005, p. 76).

Biography of Sirajuddin Zar

Sirajuddin Zar was born on September 03, 1953, at Balai Salasa, Pesisir Selatan, West Sumatra Province and died on August 30, 2018. Sirajuddin has a wife named Arni

Darwis and four children named Fuad Mahbub Siraj, Zaky Siraj, Elfitri Sakinah Siraj, and Young Pioneer Siraj. Sirajuddin was raised in a religious family. Zarkasi Idris (his father) was an ulema in Lagan and founded the First Religion Teacher Education school or PGAP (now MTsN) (Tim Penulis, 2016, p. 201). Zarkasi educates Sirajuddin from childhood with religious knowledge and morals.

Sirajuddin at the age of 7 years (1960) entered an elementary school (Sekolah Rakyat) in Balai Selasa, Pesisir Selatan. He continued his education at Thawalib Padang Panjang (1970-1973). After graduating, he immediately applied and worked as an employee of Bank BRI Padang Panjang and studied at the Ushuluddin Faculty, Padang Panjang (graduated in 1977). Sirajuddin continued his studies in Padang City to take a complete bachelor's degree (Drs) at the Faculty of Ushuluddin and graduated in 1980. Sirajuddin was appointed a lecturer at the Faculty of Ushuluddin in 1981. After that, he continued his studies at the Graduate School of IAIN Syarif Hidayatullah Jakarta and obtained a master's degree from the Postgraduate IAIN Syarif Hidayatullah, Jakarta in 1989. Then, in 1994, he got a doctorate (Dr) at the Graduate School of IAIN Syarif Hidayatullah Jakarta (Zar, *Filsafat Islam (Filosof dan Filsafatnya)*, 2014, p. 275).

Sirajuddin teaches at the Ushuluddin Faculty, the Adab Faculty, the Syari'ah Faculty, the Postgraduate Program at UIN Imam Bonjol Padang, the Tarbiyah Faculty in Batu Sangkar, UMSB in Padang Panjang, STAIPIQ West Sumatra, the Tarbiyah High School at Balai Tuesday, the Muhammad Natsir Foundation Da'wah College, and AMIK Jayanus Padang. In 1998, Sirajuddin was appointed as a thesis/dissertation examiner at Universiti Malaysia Kuala Lumpur. Since 2000, Sirajuddin has been appointed as the Academic Guidance Lecturer for PTAIS KOPERTIS Region VI, West Sumatra, and Kerinci. Since 2001, Sirajuddin has been general director of Thawalib Padang Panjang; Professor (Professor) of Islamic Philosophy, Faculty of Ushuluddin Imam Bonjol Padang. He is also the author and caretaker of the magazines *al-Turas* and *al-Tajdid* (Zar, *Filsafat Islam (Filosof dan Filsafatnya)*, 2014, p. 276).

Sirajuddin is intelligent and critical, as an influential Islamic thinker in his environment. Sirajuddin's thoughts were influenced by his teachers when they were still in college, namely Quraish Shihab and Harun Nasution. Sirajuddin is also influenced by texts or books by figures such as; *Taba'-Taba'i*, Muhammad Abduh in Egypt, Ahmad

Khan, and Muhammad Iqbal in Pakistan, Jamaluddin al-Afghani, Ikhwan al-Shafa, and others.

The theological thinking of Sirajuddin Zar is rational. He explained that Islamic teachings on the human mind have a high position and are used in all things, especially for the development of Islamic teachings. Sirajuddin stated that the development of religion and science was determined by the methods of its adherents. If the adherents of thinking are limited by many dogmas, then science and religion science will experience difficulties in their development (Zar, *Logika Befikir dalam Islam*, 2000, p. 5).

His cosmological thinking uses more on the ratio of the concept of the creation of nature. Sirajuddin argues that the creation of the universe comes from pre-existing matter or non-existence before and he undergoes a gradual process under the *sunnatullah*. Sirajuddin's work on Kosmologi hanya diperoleh dari satu buku yakni *Konsep Penciptaan Alam dalam Pemikiran Islam, Sains dan al-Qur'an*. Sirajuddin rearranged the cosmology based on the verses of the Qur'an in his first book to interpret the verses about nature with the *maudhu'i* interpretation method.

The Foundation of Sirajuddin Zar's Cosmological Thought

1. al-Qur'an

Cosmology or the universe in the Qur'an deals with the creation of the universe. Because he is also an object of study in philosophy because nature is part of the power of Allah SWT or the verses of Allah SWT. Sirajuddin conceptualizes eight forms of expression of creation in the Qur'an (*khalafa, bada'a, fathr, shun, ja'ala, amr, nasy, and bada'a*). However, related to the creation of the universe there are three namely *khalafa, bada'a, and fathr*).

Khalafa or *khalqi* means creation, in the Qur'an. *Khalafa* means fixed size or provision (Hasyim, 2012, p. 68). *Khalafa* in terms of its meaning requires that there be material substantively (Zar, *Konsep Penciptaan Alam dalam al-Qur'an, Sains dan al-Qur'an*, 1994, p. 54). If *khalafa* is associated with the creation of the universe, then the Qur'an does not inform it in detail, whether this universe was created from existing matter or not (Hasyim, 2012, p. 68). Therefore, humans must interpret it according to their respective powers of reason (Zar, *Konsep Penciptaan Alam dalam al-Qur'an, Sains dan al-Qur'an*, 1994, p. 54).

Khalaqa according to its object is widely contained in the Qur'an. The use of the universe as an object 38 times in 32 suras, one of which is found in Surah Al-'An'am in verse 6, Allah SWT says:

Meaning: *Praise be to Allah Who created the heavens and the earth and made darkness and light, but those who disbelieve associate (something) with their Lord.*

Furthermore, *bada'a* means to create or perform an action without any previous example. The word *bada'a* is mentioned in the Qur'an four times, one of which is in Surah al-'An'am, verse 101.

Meaning: *He is the Creator of the heavens and the earth. How can he have children when*

he doesn't have a wife. he created all things, and he knows everything.

Then, *fathr* is *al-syaqq* which means broken and divided. This word is mentioned in the Qur'an 20 times in 17 surahs, one of which is in Surah Al-Muzammil verse 18.

Meaning: *The sky will be divided on that day. is His promise it will surely come true.*

Some of the origins of the words that have been described above relating to the universe are only outlines and principles. Furthermore, the Qur'anic basis on cosmology (the creation of the universe) from Sirajuddin in his book contains nine verses from six letters, one of which is in Surah Hud verse 11.

Meaning: *And it is He Who created the heavens and the earth in six days, and is His throne (before that) on the water, so that he may test which of you is better in deed and if you say (to the people of Mecca): "Indeed you will be resurrected after death", surely those who disbelieve will say: "This is nothing but real magic".*

The verse above describes the creation of nature for six periods, this process uses water (*al-ma*). The word *al-sama* is usually interpreted as the sky and is understood as a natural space where there are many galaxies, stars, and planets (Hasyim, 2012, p. 62). While the word *al-ardh* is defined as earth and can be understood as matter. Before the creation of the universe, the material future of the earth already existed. Scientists agree with the interpretation that the earth formed about 4.5 billion years ago in the circular orbit of the sun. The soil on Earth is formed from magma crust. The word *al-ma* in this

verse is usually interpreted as water, but in the interpretation of cosmologists, al-ma is defined as the flowing substance and soup of the cosmos. Because before it became water, its constituents were oxygen atoms and hydrogen atoms and in the process of creating natural, it could not have any form, because at that time the new universe contained radiation and high temperatures did not form.

So, from the discussion about the process of creating the universe above (*khalqi*, *bad'i*, and *fathr*) above, it is not at all clear whether this world was created from the existence or not. Sirajuddin concludes to be *ratq* and *fatq*. Then the form of a cohesive unity, Sirajuddin said that "before the universe was in the form of today, the universe was in the form of a solid and flowing substance or cosmic soup".

2. Classical Islamic Philosophy

Sirajuddin's version of cosmology formulation takes the theory of classical Islamic philosophers, namely the theory of emanation from al-Farabi and Ibn Sina. He thought that the philosopher was able to achieve the perfect collaboration of ideas between classical Greece (Plotinus' theory) and Islam.

According to al-Farabi, Allah SWT created the universe through emanation (deployment). The creation of this nature begins with a single form (*waib al-wujud*) namely God, then produces an abundance (*mumkin al-wujud*). Another argument used as the basis by al-Farabi is the regularity of nature and a very regular layout, such as the limbs working according to their functions. This shows that this nature does not occur by chance, but from a single and abundant form (Wiyono, 2016, p. 72).

The first form (*al-maujud al-awwal*) is God as a mind capable of thinking about Himself. The power of God's thought to give rise to a second form is that the first intellect also has substance. The second form or the first mind thinks about Himself and produces a form in the form of the first sky, the second mind thinks about God giving birth to a third mind, the third mind thinks about God produces the fourth mind, and so on until the tenth mind, out of the ten minds think about itself. produce material forms in the form of Sky, Stars, Saturn, Jupiter, Mars, Sun, Venus, Mercury, and the Moon (Wiyono, 2016, p. 73).

At the tenth sense, his powers weakened and could no longer emanate. This tenth intellect governs the mortal world and human spirits as well as the first four material elements in the form of water, earth, fire, and air (Hasbi, 2010, p. 368). Furthermore,

from these elements emerged other materials such as iron, aluminum, copper, silver, and gold and also appeared plants and animals, including humans which are actualized by reason associated with the tenth intellect (*'aql fa'al*) (Hasbi, 2010, p. 368).

Ibn Sina (980 M-1037 AD) (Mustamin, 2019, p. 81), some of his cosmological concepts are not significantly different from al-Farabi's cosmological concepts. The philosophy of emanation holds that this world is qadim, because it was created by Allah SWT in the eternal era. The big difference between qadim and nature lies in the cause of the creation of nature. The existence of nature is not known by the times, so nature is qadim in terms of time (*taqaddum Zamany*). In terms of substance-produced radiance from God, then this nature is new (*hudud zaty*). While God is takaddum zaty, God is all that exists and he is the creator of nature. So this nature is new and qadim, new in terms of substance and qadim in terms of time (Zar, Filsafat Islam I, 1999, p. 75).

3. Science

Sirajuddin matched his cosmological thinking with the results of natural observations (science and technology) to ensure that the knowledge in the Qur'an can be proven by modern research. Sirajuddin describes the process of the creation of the universe with modern cosmological concepts from the Big Bang theory (big bang) (Zar, Konsep Penciptaan Alam dalam Pemikiran Islam Sain dan al-Qur'an, 1997, p. 144). The theory is still accepted as the beginning of the early universe although some other astronomers still doubt the theory until the contemporary era (Supriyadi, 2010, p. 164). The Big Bang theory suggests that the universe was once very dense. Another opinion says that the universe began at a certain time through the explosion of the "cosmic egg" called the big bang about 10 billion to 20 billion years ago and the expansion of the universe now is a continuation of the big bang (Malik, 2016, p. 62).

The Big Bang theory gains legitimacy from the idea of George Gamov (1948) who said that after the big bang, the formation of the universe came from the residual radiation left behind by the natural explosion. This radiation spreads to all corners of the universe. Then in 1965, a new discovery from Arno Penzias and Robert Wilson was the discovery of residual radiation from the early stages of the Big Bang event.

Factors Influencing Sirajuddin Zar's Cosmological Thought

1. Direct Factor

The meaning of the direct factor, in this case, is that Sirajuddin learns directly from influential professional teachers in their respective fields. Professional teachers not only teach but also educate according to their role. The role of the teacher is also very important in the learning process (Rahmat & Jannatin, 2018, pp. 98-99).

Sirajuddin learned about cosmology when he continued his studies at the Graduate School of UIN Syarif Hidayatullah Jakarta. During his master's degree, Sirajuddin often discussed and liked to review theological books from Harun Nasution's works, and Sirajuddin got the concept of rational theology from the Mu'tazilah group and traditional from the al-Asy'ariyah group. The contribution and active role of scientists and the blessing of Harun Nasution's struggle from 1973-1998, as a Muslim intellectual figure, initiated and offered scientific ideas on various occasions to develop rational Islamic thoughts. According to Harun, in general, the Indonesian people give the impression of understanding that Islam is narrow, or in other words, they understand the teachings of Islam narrowly, this is due to their misunderstanding and understanding of the nature of Islam itself. Society in general only knows Islam from the aspect of worship, fiqh, and monotheism, and even then only according to one particular school and sect, but also has aspects of philosophy, theology, mysticism, and renewal in Islam (Syafi'ah & HM, 2021, p. 32).

Furthermore, Sirajuddin continued his doctoral studies at UIN Syarif Hidayatullah and he attended a commentary lecture from Quraish Shihab. Sirajuddin already has a basic knowledge of interpretation from his childhood through studying with his father. Then, he continued his study of the yellow book at the Thawalib Islamic Boarding School, Padang Panjang. After that, Sirajuddin sharpened his skills in the science of interpreting the Qur'an with Quraish Shihab. His interaction with Quraish Shihab influenced Sirajuddin's thoughts on the Qur'anic propositions about cosmology. Finally, Sirajuddin's cosmological thinking was influenced by the scientific cosmological thinking of Ahmad Baiquni (Indonesia's first physicist), it was a fortune for Sirajuddin when he studied natural science courses with Achmad Baiquni. Ahmad Baiquni is also the supervisor of Sirajuddin's dissertation entitled *Konsep Penciptaan Alam dalam Pemikiran Islam Sains dan al-Qur'an*. In the process of making a dissertation and making it his first book, Sirajuddin had discussions with him. So that Sirajuddin's insight becomes more about cosmology based on observations. Finally, the formation of

Sirajuddin's three cosmological concepts from different sources. This concept of thought made Sirajuddin more convinced that cosmology was very important (Zar, *Konsep Penciptaan Alam dalam Pemikiran Islam Sain dan al-Qur'an*, 1997, p. vii) in Islamic studies from a philosophical perspective.

These three important figures directly made the process of transforming Sirajuddin's thoughts on cosmology. First, Harun Nasution influences Islamic theological thinking. Second, Quraish Shihab influences through the science of interpretation. Finally, Ahmad Baiquni influenced Sirajuddin's thinking through science.

2. Indirect Factors

Since childhood, Sirajuddin has made it a habit to read books that were taught by his father. In accordance with the proverb from Minangkabau it says "*anjalai tumbuhan dimunggu, sugi sugi dirumpun padi. Supayo pandai rajin baguru, supayo tinggi naikan budi*". This means that knowledge can only be obtained by studying, and glory is only obtained with a high mind. As the son of a cleric from the village, Sirajuddin was accustomed to a systematic-regular lifestyle in the religious Minangkabau custom.

Four categories of texts or books influence Sirajuddin's thinking on cosmology, as follows: Interpretations are: Al-Zarqani: *Manahil al-'Urfan fi 'Ulum al-Qur'an*, Muhammad Rasyid Ridha: *Tafsir al-Qur'an al-Hakim*, Muhammad al-Razy: *Al-Tafsir al-Kabir wa Fatih al-Ghaib*, Abi Thahir: *Tanwir al-Miqbas min Tafsir Ibn Abbas*, Muhammad Husain Thaba Thaba'i: *Al-Mizan fi al Tafsir al-Qur'an*, dan A. Rahman Djay: *Al-Qur'an dalam Kosmologi Modern*.

Natural Science, dominated from Ahmad Baiquni's opus dengan judul, they are: *Konsep-Konsep Kosmologi Dalam al-Qur'an, Islam dan Ilmu Pengetahuan Modern, Alam Ghaib Punya Hukum Sendiri, Al-Qur'an dan Ilmu Fisika dalam Perspektif Pengembangan Tafsir al-Qur'an, Islam dan Ilmu Pengetahuan Modern, Pengembangan Ilmu Pengetahuan dan Teknologi Dalam Hubungannya Dengan Pembaharuan Dalam Islam dan Teropong Islam dan Ilmu Pengetahuan*. Kemudian dari Joko Sulilo: *Astronomi AS Temukan Galaksi yang Terbesar*. Selanjutnya dari James A. Coleman: *Modern Theois of the Universe*. Terakhir dari Majid ali Khan: *Islam dan Evolusi Kehidupan*.

Theology is from Muhammad Abduh: *Risalat al-Tauhid*, Harun Nasution: *Akal dan Wahyu dalam Islam*, Nurcholis Madjid: *Takdir dan Ikhtiar*, Nurcholis Madjid: *Khazanah Islam*, Nurcholis Madjid: *Al-Ghazali dan Ilmu Kalam* dan William Lane Craiq: *The Kalam Cosmological Argument*.

Philosophy is from Harun Nasution: *Falsafat dan Misticisme Dalam Islam* dan *Sekitar Pendapat Filosof Islam Tentang Emanasi dan Kekalnya Alam*. Achmad Baiquni: *Filsafat Fisika dan al-Qur'an*. Jamil Shaliba: *Al-Mu'jam al-Falsafi*. Andi Hakim Nasution: *Pengantar ke Filsafat Sains*. Mahdi Ghuslyani: *Filsafat Sains Menurut al-Qur'an*. T. J. Des Boer: *Tarikh al-Falsafat fi al-Islam*, Al-Farabi: *Ara Ahl al-Madinah al-Faahilat*, Ibn Rusyd: *Fash al-Maq fima bain al-Hikmat wa al-Syar'iah min al-Ittishall* serta Al-Ghazali: *Tahfut al-Falasifah*.

Sirajuddin Zar's Style of Thought

A pattern is a form or form of someone's expression in describing natural forms under a certain picture. The style of thought is the tendency of certain ideas to dominate a particular work, which lies in being dominant or non-dominant to that thought or idea. The specific feature of Sirajuddin's family background is that he comes from a religious and intellectual family. The first thing that influenced Sirajuddin's thinking came from the household and family environment because Sirajuddin since childhood had been given an understanding of the Qur'an and continued his learning at the Padangpanjang Islamic boarding school. The genius and tenacity of science and his mature intellectual and social experience form the framework or formulation of social and educational theories.

The style of cosmological thought also looks quite complex, Sirajuddin mentions several times at the beginning of his work chapter: *"The Qur'anic discussion about the universe is found in its verses which are spread out in several letters. However, the information is only an outline or principle"* (Zar, *Konsep Penciptaan Alam dalam Pemikiran Islam Sain dan al-Qur'an*, 1997, p. 125) His demeanor is more lenient and does not seem to want to take unilateral justifications. Sirajuddin puts forward the ratio so that it is easily understood by various groups, including traditional commentators, rational circles (philosophy students), and so on.

Islamic philosophy in the classical period had several very influential figures in the issue of cosmology. One of the progressive figures on the problem of cosmology is Ibn Rushd. Ibn Rushd argues that creation does not mean *ibda'* whose connotation is the creation from nothing (*creatio ex nihilo*). Creation means *ijad* and *takwin*, with the connotation of the creation of something that has existed since ancient times. The universe has always carried out the process of forming forms continuously since the ages had no beginning, meaning that nature was not created simultaneously from something that did not exist.

Ibn Rushd is one of the last philosophers trying to find common ground (reconciliation) between revelation and ratio between religion and philosophy. Ibn Rushd's thoughts on the reconciliation effort are written in his book, entitled *Fashl al-Maqal wa Taqirir ma Bain al-Hikmah wa al-Syariah min al-Ittishal* (Hamzah & Muna, 2018, p. 170).

According to Ibn Rushd that "revelation" is interpreted by him more as "wisdom" which is defined as "the highest knowledge of spiritual existences (*al-ma'rifah bi al-asbab al-ghaibah*)". Through this wisdom, a prophet can know the true happiness of life after death. Ibn Rushd explains in his book, namely *Tahafut al-Tahafut*, that a prophet who has received revelation means he has received wisdom so that a prophet means an expert in wisdom, but an expert in wisdom is not necessarily a prophet (Hamzah & Muna, 2018, p. 178).

The approach was used by Ibn Rushd in two ways, namely the rational approach (from the point of view of reason) and the *syar'i* approach (from the point of view of religious texts). The *shar'i* approach is reconciled to the results of a rational approach. The first approach, according to Ibn Rushd that philosophy is to study all forms (*maujudat*) and contemplate as a proof of the existence of a creator. Everything that exists as a creation shows that there is a creator. To know the creator, one must know His creation or *sunnatullah*. In fact, according to him, the more perfect the knowledge of His creation, the more perfect the knowledge of the Creator. The second approach, he put forward the verses of the Qur'an in line with the purpose of research of reason. At the same time as the basis for Ibn Rushd regarding the need for intellectual research

(Hamzah & Muna, 2018, p. 179). Among them the word of Allah SWT in Q.S. al-Hashr: 2.

".....Then take (the incident) to be a lesson, O people of insight."

Thus, Ibn Rushd shows explicitly the law and that it is obligatory to study philosophy according to religious law. But not everyone can study it because philosophical thinking is based on ratio/logic ('science of *mantiq*) and needs a deeper study because the most important material in logic is *burhan* (philosophical reasoning) and *qiyas* (syllogism) (Hamzah & Muna, 2018, p. 180).

Associated with problems of science or natural sciences. Allah Almighty shows signs of His greatness to His servants through two things, namely the Qur'an as His *qauniyah* verse, and nature itself as His *qauniyah* verse. Al-Qur'an has many verses *qauniyah* ordered His servants to contemplate, research, study and take lessons about it. It is not only the kingdom of the earth that must be contemplated and thought about but also that of the heavens. Bucaille, a science expert, has researched that there are more than 40 *qauniyah* verses in the Qur'an given to Astronomy, some of these verses are only reflections on the majesty of the Creator and Ruler of all star systems and planets that we live in. know, and be kept in balance with the rules discovered by Newton about the law of attraction between objects (Law of Gravitation). As in Q.S. al-Sajadah: 4., Q.S. Fussilat: 9-12., Q.S. al-Anbiya': 2, 30, 32, 33., Q.S. al-Dzariyat: 3, 4, 7, 47., Q.S. Yasin: 38., Q.S. Hud: 7, Q.S. at-Thalaq: 12., and other verses (Hamzah & Muna, 2018, p. 183).

Based on the ideas of Ibn Rushd above, the construction of Sirajuddin's cosmological thinking cannot be separated from the roots of Islamic thought. Sirajuddin Zar is also a manifestation derived from the Qur'an as the main source. The context of Sirajuddin's cosmology looks like a study of the interpretation of the Qur'an because it displays many verses on each page. The interpretation of the verse uses more of a philosophical approach. The interpretation of the verse about the creation of nature is in harmony with the opinion of Islamic philosophers. Sirajuddin interprets that before the occurrence of natural space (*al-sama'*) and matter (*al-ardh*) as it is today, the universe was a unified whole (Zar, Konsep Penciptaan Alam dalam Pemikiran Islam Sain dan al-Qur'an, 1997, p. 136). Sirajuddin interprets the verse about the series of natural creation processes with his own questions and answers. What is the form of a cohesive natural

unity? Namely, after the separation by Allah SWT, the universe undergoes a transition process and then forms *dukhan*. Discussing *dukhan* (steam or dew), Sirajuddin also refers to Ibn Rushd, namely that natural space does not come from material like *dukhan*, but is more accurately said to be the beginning of the phase of forming the universe, meaning that *dukhan* exists because the universe has materialized through the cosmic soup.

Sirajuddin's thinking about cosmology is to accept and justify all the information he gets from experts. Sirajuddin Zar did not create a new theory but as a synthesis or conciliation of the internal conflicts of Muslims themselves regarding the contradictions between the scientific version of cosmology and Islam. Sirajuddin's style of cosmological thinking refers to scientists. In the interpretation of the verses on cosmology, Sirajuddin uses many philosophies or ratios derived from Ibn Rushd which are in line with scientific opinions and accordance with the studies of contemporary scientists.

In the 21st century, Sirajuddin's cosmological thinking still refers to the interpretation of verses that make sense to get a concept, but it is also supported by observations from scientists. Sirajuddin is a Muslim philosopher, but he addresses the problem of the universe, it is unethical to only refer to the arguments of previous philosophers and also refer to classical commentators, until finally denied by scientists.

Conclusion

The foundation of Sirajuddin Zar's cosmological thinking is the source of information in the Qur'an, classical Islamic philosophers' theories, and science. The meaning of material creation in the Qur'an is divided into two. First, the physical creation (such as spirit and body) from material already exists and the material changes form by itself gradually (gradual). Second, the process of creating the universe is not found in the verse that specifically describes the creation of nature from existing or non-existent matter. Factors influencing Sirajuddin Zar's thinking about cosmology, when he discussed directly with his inspirational teacher from the second campus he continued his master's and doctoral studies on cosmology. The formation of his thought was also influenced by the emanation theory of classical Islamic philosophers and the rational and traditional concepts of Islamic theology. His cosmological thinking is also

influenced by the version of science by Ahmad Baiquni (Indonesia's first physicist) who is the supervisor of a course on nature and a dissertation supervisor from Sirajuddin Zar with the title *Concept of Creation of Nature in Islamic Thought, Science and the Qur'an*. The description of Sirajuddin Zar's thoughts on cosmology is the acceptance and justification of all information obtained from experts. Sirajuddin Zar tends to choose the results of natural observations in science and technology compared to the results of other speculative thoughts, or in other words, his cosmological thinking is scientific in nature.

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