

Cosmic Evolution in The Light of Quranic Verses:

A Study of Selected Tafaseer

Thesis for MPhil Islamic Studies

By

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September 2025

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Session: 2023-2025

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Topic of the Thesis:

“Cosmic Evolution in The Light of Quranic Verses: A Study of Selected Tafaseer”

Name of Degree:

MPhil Islamic Studies

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Author's Declaration

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Cosmic Evolution in the light of Quranic Verses: A Study of Selected Tafaseer,

has completed the entire requirements for submitting her research work in partial fulfillment for the degree of MPhil Islamic Studies. This thesis, in its present form is the original work of the author except those acknowledged in the text. The material included in the thesis has not been submitted wholly or partially for the award of any other academic certification than for which it is being presented.

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ABSTRACT

The exploration of cosmic evolution through the lens of Quranic verses stands at the intersection of science, theology, and philosophy. This research thesis endeavors to delve into this intricate subject by analyzing selected Tafaseer (commentaries) of the Quran. The Quran, as the primary religious text of Islam, has been a source of contemplation and interpretation for scholars across centuries, offering insights not only into matters of faith but also into the natural world.

The overarching objective of this study is to investigate how interpretations of Quranic verses by renowned scholars of Tafaseer shed light on the concept of cosmic evolution. By examining key passages from the Quran alongside the commentaries of scholars such as Al Jawahir Fi Tafseer al Quran, Bayan ul Quran and Tafseer Al Kauthar. This thesis aims to discern the nuances of their understanding regarding the origin, development, and purpose of the cosmos as elucidated within the Quranic framework.

The methodology employed in this research involves textual analysis and systematic qualitative method of relevant Quranic verses and their interpretations from selected Tafaseer. Each Tafseer offers unique perspective influenced by linguistic, theological, and philosophical considerations, providing a rich tapestry of insights into the subject matter. Through comparative analysis and synthesis of these interpretations, this thesis aims to construct a comprehensive understanding of cosmic evolution as elucidated within the Quranic discourse.

Moreover, this study aims to explore the compatibility between scientific theories of cosmic evolution and the interpretations presented in the selected Tafaseer. By critically examining the language and context of Quranic verses alongside contemporary scientific knowledge, this research seeks to identify areas of convergence and divergence, thereby contributing to the ongoing dialogue between religion and science.

Ultimately, this research thesis seeks to enrich the discourse on cosmic evolution by offering a nuanced examination of Quranic verses through the lens of selected Tafaseer. By bridging the realms of religious interpretation and scientific inquiry, this study endeavors to foster a deeper understanding of the cosmic order as articulated within the Islamic tradition, while also engaging with contemporary scientific discourse on the origins and development of the universe.

Keywords: Cosmic, Evolution, Quranic Verses, Tafseer, Theological, Philosophical, Convergence, Divergence, Scientific Knowledge, Interpretation, Contemporary, Comprehensive.

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Acknowledgement

In the name of Allah, the Most Gracious, the Most Merciful. All praise and thanks are due to Allah (SWT), who granted me the strength, patience, and knowledge to complete this research. I humbly send peace and blessings upon the Holy Prophet Muhammad (PBUH) and his pure progeny, whose teachings continue to illuminate the paths of knowledge and wisdom.

I express my deepest gratitude to my research supervisor, Dr. Muhammad Saeed Tayyab, for their invaluable guidance, continuous support, and constructive feedback throughout this research. Their expertise and encouragement have played a crucial role in shaping this work.

I would also like to extend my sincere thanks to the faculty and staff of [Islamic Thought and Culture] for providing a conducive academic environment and necessary resources that facilitated my research.

A special acknowledgment goes to [Friends and Colleagues], whose insightful discussions, moral support, and assistance contributed significantly to the completion of this thesis.

Lastly, my heartfelt appreciation goes to my family, whose unwavering love, prayers, and patience have been my greatest source of motivation. Their constant encouragement and sacrifices have been instrumental in my academic journey.

May Allah (SWT) accept this humble effort and make it beneficial for the pursuit of knowledge and understanding.

Muhammad Askari

Dedication

With profound love and gratitude, I dedicate this work to my beloved father, **Mr. Mirza Hayat**, whose wisdom, prayers, and unwavering support have been a guiding light in my life. His sacrifices and encouragement have been the foundation of my academic journey.

To my dearest mother, **Lal Zamarud**, whose endless love, selflessness, and prayers have given me strength at every step. Her unwavering faith in me has been my greatest motivation,

To my beloved brother, **Muhammad Kazim Nagari**, whose support, kindness, and encouragement have always uplifted me,

And to my cherished sisters, whose love and prayers have been a source of immense strength and comfort.

May Allah (SWT) bless them all abundantly and reward them for their love and sacrifices.

Muhammad Askari

CHAPTER.1

INTRODUCTION TO THE STUDY

INTRODUCTION:

In recent years, the intersection of science and religion has sparked profound discussions, particularly regarding the beginning and evolution of the universe. This thesis embarks on a comprehensive exploration of cosmic evolution, delving into the rich tapestry of Quranic verses and selected Tafaseer (interpretations). By juxtaposing scientific discoveries with the insights gleaned from sacred texts, this study aims to illuminate the intricate relationship between cosmic phenomena and the teachings of the Quran. Through rigorous analysis and synthesis, it endeavors to unveil the nuanced perspectives offered by Islamic scholarship on the unfolding tale of cosmic evolution, shedding light on the harmonious coexistence of faith and reason in understanding the mysteries of the cosmos.¹

"Cosmic evolution" encompasses the transformative journey of celestial bodies, galaxies, and the cosmos as a whole, reflecting the continuing development and change inherent in the universe.²

It is because the Quranic verses related to the creation of the universe have been a subject of interpretation and analysis for centuries. The Quranic verses provide a unique perspective on the creation of the universe and the evolution of cosmic phenomena.³ The purpose of this research is to explore the Quranic perspective on cosmic evolution and to examine how it relates to modern scientific theories in the light of Quranic Verses.⁴

¹ Michael Heller "Cosmological Singularity And The Creation Of The Universe", Journal of Cosmology, Zygon, (September 2000)

² ibid

³ ibid

⁴ Prof. Hamid Naseem Rafiabadi "Science Islam and Cosmology ---A Detailed Survey" [Science Islam and Cosmology.pdf](#)

Significance of the Study:

This study supports to the ongoing debate about the relationship between religion and science. By exploring the Quranic perspective on cosmic evolution and examining its relationship to modern scientific theories, this study can provide a better understanding of the Quranic perspective on cosmic phenomena. This can help to bridge the gap between the scientific and religious communities and encourages a more refined understanding of the relationship between religion and science. Additionally, the study can have practical implications for the interpretation and application of Quranic verses related to cosmic phenomena.⁵

Rationale of the Study:

The rationale of the study is to investigate the Quranic perspective on cosmic evolution and to examine how it relates to modern scientific theories.

This study is significant because it can contribute to the ongoing debate about the relationship between religion and science.

It can also help to bridge the gap between the scientific and religious communities by providing a better understanding of the Quranic perspective on cosmic evolution.

The study can also have practical implications for the interpretation and application of Quranic verses related to cosmic phenomena.

Literature Review:

Following primary sources are selected to get guidance related to our research topic.

Cosmology:

1. “Cosmology”, David Tong, Department of Applied Mathematics and Theoretical Physics, Centre for Mathematical Science, Cambridge, CB3, OBA, UK, Michaelmas Term, 2019.

David Tong's 'Cosmology' provides a lucid examination of cosmic evolution, elucidating theories like the Big Bang and dark matter. Despite its thoroughness, a research gap

⁵ Sultan Bashir Mahmood “*Kitab-e-Zindagi*” Al-Quran Ul Hakim Research Foundation, Sigma Press Rawalpindi,(May 2003): 123-138

emerges in exploring cosmic evolution through the lens of the Quran. Integrating scientific insights with Quranic perspectives could unveil metaphysical dimensions and foster interdisciplinary dialogue, enriching both fields and offering new understandings of the universe's origin and purpose.

2. “Quranic Cosmogony, Impact of Contemporary Cosmology on the Interpretation of Quranic Passages Relating to the Origin of the Universe” Maslin Hassan, Infrastructure University of Kuala Lumpur, May 2021.

This paper critically examines the influence of modern scientific discoveries on the interpretation of cosmological passages in the Quran, such as 21:30, 25:59, and 51:47. It focuses on the physical aspects of Quranic cosmogony, comparing modern scientific findings with traditional Islamic interpretation. Still there is gap for a researcher to do work on cosmic evolution in the light of Quranic verses.

3. “An Introduction to Islamic Cosmological Doctrines” Syed Hussein Nasr, State University of New York, Press, 01-Jul-1993 - Religion - 350 pages.

This offers an insightful exploration of the cosmological views within Islamic thought. Drawing upon classical Islamic philosophy, science, and theology, Nasr delves into the metaphysical foundations that shape Islamic understanding of the cosmos. The book covers a range of topics, from the nature of the universe and its creation to the relationship between God, the cosmos, and humanity. Nasr also engages with key figures in Islamic philosophy, including Ibn Sina and Al-Farabi, highlighting their contributions to Islamic cosmology. Through a blend of historical context and philosophical analysis, Nasr provides a comprehensive introduction that is both accessible and deeply informative. This work is essential for anyone seeking to understand the interplay between Islamic thought and cosmology, particularly in relation to its metaphysical underpinnings. It serves as an invaluable resource for scholars and students of Islamic philosophy and theology.

Beginning of Universe:

1. “The Big Bang Theory- The Quranic Perspective” by Mahmood Jawaaid; Academia, February 14, 2021. Revised: May 15, 2021.

This paper explores how Big Bang Theory aligns with the Quranic description about the creation of universe. In order to explore the Quranic concepts related to bog bang theory,

the quoted quranic verses which talks about creation and beginning of universe and interpret them in a favor of big bang explosion. However this research does not tell us about the cosmic evolution in the light of Quranic verses. That is why in this research have explore cosmic evolution in the light of Quranic verses.

2. "Cosmological Singularity and the Creation of the Universe" Michael Heller, vol. 35, September 2000, Publication Board of Zygon.

Michael Heller's paper, "Cosmological Singularity and The Creation of The Universe" provides a thorough exploration of cosmological singularity and its implications for the origin of the universe. However, there's a research gap in the exploration of cosmic evolution through the lens of the Quran. Future work could bridge this gap by examining the Quran's perspective on cosmic evolution and comparing it with scientific understanding, enriching our comprehension of the universe's origin and development.

This research not discusses cosmic evolution in the light of Quranic verses. That is why we have discuss cosmic evolution in the context of Quranic verses by taking help from selected tafaseer.

3. "Chaos and Order" The Quranic Concept of The Cosmos" by Dr. Dildar Ahmed, ICR Journal, 2019.

This paper explore that Quran present himself as a book of cosmology or astronomy and defines itself as a book of guidance for human being naturally. Thus, It has not disclosed numerous facts about various aspects of the universe and its phenomena. This paper also explains the six period of creation, multiply of cosmic systems, samaa and samaawaat, as-samaa ad-dunya, etc. This paper does not completely describe cosmic evolution in the light of Quranic verses that is why we have fill this gap by using qualitative analytical method of research.

4. "Creation of the Universe: A Religious and Scientific Study" by Hafiz Salihuddin, Dialogue_April_June2013_208-216.

This paper delves into the inquiries about the origins of the universe, drawing from religious texts such as the Bible and the Holy Quran, while also comparing these perspectives with scientific theories like the Big Bang. It addresses human curiosity regarding nature, offering insights from both religious and scientific viewpoints.

This research discusses only creation of the universe in the perspective of scientific study and religion and does not tell us about the cosmic evolution. In this research we have discuss cosmic evolution in accordance of Quranic verses.

5. "Future and Origin of our Universe; Modern View" by A.A Starobinsky. Landon, January 2000.

This paper explores different branches of classical and modern physics like aerodynamics, thermodynamics, energy, radiations, hydrometeorology and quantum mechanics. Still this paper did not explain the cosmic evolution in the light of Quran.

This research only talks about future and origin of universe and does not tell us about the cosmic evolution in the light of Quranic verses. That is why we have explore cosmic evolution in the light of Quranic verses by taking help from selected tafaseer.

6. "The Creation of the Universe" by Harun Yahya, Global Yayincilik,1999

This article explores the Quranic perspective on the creation of the universe and its relationship to modern scientific theories. This paper does not talks about cosmic evolution. That is why still gap gap is present for a new researcher to do research on the topic of cosmic evolution in the light of Quran. So in this research we have discuss cosmic evolution in the perspective Quranic verses by taking help from selected tafaseer.

7. "The Creation of Universe in the Light of Quran" Dr. Anwar Saeed Khan and Dr. Muhammad Jamal Nasir, University of Peshawar, Vol 33 No - 2 (2016):

This article explores the Quran's scattered verses on the creation of universe and its ending, contrasting them with scientific theories like the steady-state and pulsating universe models, aiming to explore the Quranic concept of the universe. Still research gap is found for a researcher to do work on the topic of cosmic evolution in the light of Quranic verses. In this thesis we have quantitatively analyze cosmic evolution in the light of Quranic verses from selected tafaseer.

8. "The Origin and Creation of the Universe, A Reply to Adolf Grünbaum" William Lane Craig, The British Journal for the Philosophy of Science, Jun 1992, Vol. 43, No. 2,(Jun., 1992), pp. 233-240,publication Oxford University Press on behalf of The British Society for the, Philosophy of Science.

This paper highlights Griinbaum's critique of the traditional cosmological argument, distinguishing between the genuine problem of the universe's origin and the pseudo-

problem of its creation. Gribbaum contends that attempts to support the traditional argument with modern cosmology are flawed. This paper does not describe the cosmic evolution in the light of Quranic verses so we have fill this gap by using qualitative analytical method of research.

Expansion of Universe:

1. “The Creation-Evolution Debate: An Islamic Perspective” by Paul Thomas, PhD thesis, University of London, Department of Education and Professional Studies, May 2012: This research provides a concise overview of the study's methodology and findings regarding the creation-evolution debate among British Muslims. It effectively highlights the uniform rejection of evolution among respondents and their desire for creationism to be presented as an alternative theory in schools. This thesis talks about creation, evolution debates an Islamic perspectives. However it does not tell us about cosmic evolution in the light of Quranic verses. Therefore we have explore cosmic evolution in the light of Quranic verses by taking help from selected tafaseer.

Reunion of The Universe:

1. “Future and Origin of our Universe; Modern View” by A.A Starobinsky. Landon, January 2000.

This paper explores different branches of classical and modern physics like aerodynamics, thermodynamics, energy, radiations, hydrometeorology and quantum mechanics. Still this paper did not explain the cosmic evolution in the light of Quran.

This research only talks about future and origin of universe and does not tell us about the cosmic evolution in the light of Quranic verses. That is why we have explore cosmic evolution in the light of Quranic verses by taking help from selected Tafaseer.

2. “The Collapse of The Universe, Analysis From The Glorious Qur’an and Signs in The Universe” by Kitota Abdillah, QURANICA-International Journal of Quranic Research 13 (2), 43-60, 2021

This research article explores Quranic verses (21:30, 51:47, and 21:104) vis-à-vis modern astronomy, emphasizing a gap in understanding the universe's collapse, despite extensive research on its origin and expansion. Still gap is found for new research because this article does not explains cosmic evolution in the light of Quranic verses. That is why we

have discussed cosmic evolution in the light of Quranic verses by taking help from selected Tafaseer.

Islam and Science:

1. "Creation of the Universe: A Religious and Scientific Study" by Hafiz Salihuddin, Dialogue_April_June2013_208-216.

This paper delves into the inquiries about the origins of the universe, drawing from religious texts such as the Bible and the Holy Quran, while also comparing these perspectives with scientific theories like the Big Bang. It addresses human curiosity regarding nature, offering insights from both religious and scientific viewpoints.

This research discusses only creation of the universe in the perspective of scientific study and religion and does not tell us about the cosmic evolution. In this research we have discuss cosmic evolution in accordance of Quranic verses.

2. "The Creation of Universe in the Light of Quran" Dr. Anwar Saeed Khan and Dr. Muhammad Jamal Nasir, University of Peshawar, Vol 33 No - 2 (2016):

This article explores the Quran's scattered verses on the creation of universe and its ending, contrasting them with scientific theories like the steady-state and pulsating universe models, aiming to explore the Quranic concept of the universe. Still research gap is found for a researcher to do work on the topic of cosmic evolution in the light of Quranic verses. In this thesis we have quantitatively analyze cosmic evolution in the light of Quranic verses from selected Tafaseer.

3. "The Quran and the Modern Science" by Zakir Naik, Publication date 2000-04-01, Publisher [Mumbai]: Islamic Research Foundation (IRF).

This explores the relationship between the teachings of the Quran and contemporary scientific discoveries. Dr. Naik presents various verses from the Quran that, he argues; align with modern scientific facts, particularly in fields such as astronomy, biology, and geology. The book aims to demonstrate that the Quran is a timeless text with knowledge that anticipates modern scientific understanding. Dr. Naik's approach is to highlight the harmony between faith and reason, using scientific advancements as evidence of the Quran's divine origin. While the book is engaging and thought-provoking, some of its interpretations may be viewed as selective or overly simplistic by critics. Nonetheless, for readers interested in understanding how Islamic teachings relate to modern science, it

offers an accessible introduction to the topic. Naik's work is a valuable resource for those exploring the intersection of faith and science, though it invites further scholarly discussion.

4. "The Quran and the Secular Mind: A Philosophy of Islam" by Shabbir Akhtar This edition published in the Taylor & Francis e-Library, 2007

This examines the philosophical implications of Quranic verses on cosmic evolution, with reference to classical and contemporary Tafaseer.

5. "The Bible, the Quran and Science" Dr. Maurice Bucaille, Translated from French to English by Alastair D. Pannell, Publications, May 1926.

6. "The Quranic Concept of Creation of the Universe" by Mohammad Ali Shomali - Examines the Quranic perspective on the creation of the universe and its relationship to modern scientific theories. This book does not tell us about the cosmic evolution in details so that is why we have discuss cosmic evolution in the light of Quranic verses by taking help from selected Tafaseer.

7. "Islam and Modern Science" (Islam or Jadeed Science" by Dr. Muhammad Tahir ul Qadiri:

This book is written by Dr. Tahir-ul-Qadri on the topic of "Islam and Modern Science". This book carries information about different modern scientific topics in the light of Quran such as The Role of Islam in the promotion of Scientific understanding i.e. Quranic Science, Astronomy, Math, Algebra, Geometry, Physics, Mechanics and Dynamics, Optics , Botany, Medical Science, Law and Jurisprudence, etc. This book also tells us information about Famous Scientist of Islamic Span and evolution of their Art and Sciences etc. The most relevant part of this book related to our topic is chapter third, which is named as "اسلام اور جدید سائنس". This chapter carries information about Stars, Black Holes, Comets, The Sun. Solar calendar and lunar calendar, Planets, The Earth and The Moon. However in the second portion of this Chapter we get information about big bang theory and the beginning of universe. This book also tells us about the Quranic view of Expanding Universe.

Having such informative book still we have gap for a new research on the topic of "Cosmic Evolution in the Light of Quranic Verses; A Selected Study of Tafaseer."It is because in this research we have not only discuss the expansion of universe, we have

focus well-ordered expansion of universe as well as evolutions occurred in cosmos in the light of Quranic verses.

8. “Science and Quran” by Molana Sameer uddin Qasmi, publication Maktab-e-Sameer Manchester England.

This book is written by Mr. Samar-U-Deen Qasmi on the topic of “Science and Quran”. This book carries 95 scientific researches in the light of Quranic Verses. In this book all these researches are proved in the light of Quranic Verses and saying of Holy Prophet Muhammadﷺ. All given topic carries clear information in the light of Quranic Verses and Sayings of Holy Prophetﷺ and scientific picture of it as well. In this book 124 Quranic Verses and 14 Sayings of Holy Prophetﷺ are quoted.

The most relevant topics of this book related to our topic are Research of Space, Research of Mountains on Earth and Research on Formation of Earth.

Having such notable book on Science and Quran still gap is found for new researcher to do clear research on the topic of “Cosmic Evolution in the Light of Quranic Verses”.

It is because this book does not tell us clear information about cosmic evolution, it just notice the formation of earth and sky and not properly discuss Cosmic Evolution. So, in this research we have clearly describe cosmic evolution in the light of Quranic Verses.

On the topic of cosmology other than these numbers of books and research papers are written by national and international researchers but still the gap is present for research is found.

9. “The Scientific Miracles of the Quran” by Harun Yahya , Printed: 2001,Toronto – Canada

This book explores the scientific accuracy of the Quranic verses related to the creation of the universe. This book does not describe cosmic evolution in the light of Quran.

That is why in order to fill this gap we will use qualitative analytical method of research to describe cosmic evolution in the light of Quran.

10. “Quranic Studies, Sources and Methods of Scriptural Interpretation” John Wansbrough, Review by William A. Graham, Journal of the American Oriental Society, Vol. 100, No. 2 (Apr. - Jun1980), pp. 137-141.

This examines the historical interpretations of the verses of Holy book related to the formation of the cosmos. Still gap is found for a researcher to do work on the cosmic evolution in the light of Quran.

Cosmology in the light of Tafaseer:

1. "Interpretation of Cosmic Evolution in Classical Tafaseer" by Fatima al-Samarrai: This analyzes interpretations of cosmic evolution in classical tafaseer, shedding light on historical perspectives within Islamic scholarship. So this thesis does not tell us about cosmic evolution. This gap is still present for researchers to do research on it. That is why in this research we have explore the cosmic evolution in the light of Quranic verses by taking help from selected tafaseer.

2. "Contemporary Approaches to Quranic Cosmology: A Study of Selected Tafaseer" by Muhammad Ali:

This research thesis, focusing on contemporary interpretations found in tafaseer but cosmic evolution in the light of Quranic verses is not discussed. Still gap is preset for us to do work on this topic. In our research we have explore cosmic evolution in the context of Quranic verses by taking help from selected tafaseer.

3. "Methodological Approaches in Tafsir Studies: Understanding Cosmic Evolution" by Fatima Zahra: Investigates methodologies used in studying tafaseer, particularly regarding interpretations of cosmic evolution, and their implications. This research thesis does not properly discuss in the light of Quranic verses rather it only focus on methodological in Tafseer studies. Still gap to do research on this topic to fill this gap.

That is why in our research we have discuss cosmic evolution in the light of Quranic verses by taking help from selected tafaseer.

Statement of the problem:

While there is extensive scientific research on cosmic evolution, the Quranic perspective on this subject has not been explored in depth. The Quran contains numerous verses that discuss the creation, expansion, and development of the universe, yet their connection to modern scientific theories remains under-researched. This study aims to analyze the concept of cosmic evolution in the light of selected Tafaseer, examining how Islamic scholars have interpreted these verses over time. Additionally, it will explore the relationship between Quranic descriptions and modern

cosmological theories, highlighting areas of alignment, contrast, and possible insights that the Quranic perspective may offer to the scientific discourse.

Objective of the Study:

1. To explore the Quranic perspective on cosmic evolution and examine its relationship with modern scientific theories, highlighting areas of alignment and contrast.
2. To analyze the historical interpretations of Quranic verses related to cosmic phenomena and assess their scientific relevance in light of contemporary discoveries.
3. To enhance understanding of the Quranic perspective on cosmic evolution, providing insights for both the scientific and religious communities.

Research Questions:

1. What are the Quranic verses related to cosmic evolution, and how have they been interpreted in selected Tafaseer?
2. How do these Quranic interpretations compare with modern scientific theories on cosmic evolution?
3. What is the significance of the Quranic perspective on cosmic evolution in both scientific and theological contexts?

Delimitations of the Study:

Delimitations are the boundaries or limitations that the research sets for itself. In the case of our research proposal on "Cosmic evolution in Quran," some possible delimitation could be:

1. The study has only focus on Quranic verses related to cosmic phenomena and their relationship to modern scientific theories.
2. The study has not explored the historical interpretations of Quranic verses related to other topics.
3. The study has not compared the Quranic perspective on cosmic evolution with non-religious or non-scientific perspectives.
4. The study has not attempt to prove or disprove the scientific accuracy of Quranic verses related to cosmic phenomena.
5. The study has not provided an exhaustive analysis of all Quranic verses related to cosmic phenomena.

Selected Tafaseer:

1. " Al kauthar Fe Tafseer ul Quran " by Sheikh Mohsin Ali Najafi (2024)

2. “Bayan ul Quran” by Dr. Israr Ahmad (2010)
3. “Al Jawahir Fi Tafseer al Quran” by Tantawi Jawhari (1940)

1.9. Research Methodology:

1. The textual study of Quranic Verses, with an analytical qualitative approach is applied in this research.
2. Selected Tafasir literature is consulted to derive the basic concepts of Quran related to cosmic evolution such as; Sheik Mohsin Ali Najafi’s Al kauthar Fe Tafseer ul Quran, Tantawi Jawhari’s Al Jawahir Fi Tafseer al Quran, Dr. Israr Ahmad’s Bayan ul Quran and Inayatuallah Khan Al Mashriqi’s Tazkirah.
3. To explore basic concept of cosmic evolution in the light of Quranic verses some basic sources is consulted like, “A Brief History of Time” by Stephen Hawking, Cosmology by David Tong, The Creation of Universe by Harun Yahyah, The Quran and the Modern Science by Zakir Naik, Islam-and-modern-science by Dr, Tahir ul Qadiri.

1.10. Chapterization:

Chapter-1: Introduction to Topic and research.

Abstract.

1.1.Introduction.

1.2.Significance of the Study

1.3. Rationale of the Study.

1.4.Literature Review:

1.4.1. Theses.

1.4.2. Research Articles and Papers.

1.4.3. Research Based Books.

1.5.Statement of the problem.

1.6.Objective of the Study.

1.7.Research Questions.

1.8.Delimitation of the Study.

1.9.Research Methodology.

Chapter-2: Quranic Perspective in Cosmic Evolution.

- 2.1.Introduction to Quranic views on creation.
- 2.2.The concept of creation in the Quran.
- 2.3.The Role of divine will in cosmic evolution.
- 2.4.Quranic verses on the origin and development of the universe.

Chapter-3: Scientific Approach about Cosmic Evolution.

- 1.11. Historical Overview of Scientific Theories on Cosmic Evolution
- 1.12. Contemporary Models of Cosmic Evolution.
- 1.13. Evidence Supporting the Big Bang Theory.
- 1.14. Challenges and Controversies in Scientific Approaches to Cosmic Evolution.

Chapter-4: A Comparative Analysis of Quranic and Scientific Approaches, In the light of Selected Tafaseer.

- 3.1.Comparative Analysis of Quranic and Scientific Perspectives.
- 3.2. Harmonizing Quranic Teachings with Scientific Findings.
- 3.3. Critique of Scientific Theories from a Quranic Perspective.
- 3.4. Exploring Points of Convergence and Divergence between Science and Quranic Wisdom.

Conclusions and results

The End

CHAPTER.2

QURANIC PERSPECTIVE IN COSMIC EVOLUTION

CHAPTER.2

QURANIC PERSPECTIVE IN COSMIC EVOLUTION

In the light of Holy Book Quran cosmic evolution is persistent in the concept of divine will and the continuous act of creation. The Holy Book Quran describes the universe as a dynamic and evolving system. This is guided by the will of God, Who is both the creator and sustainer of all that exists.⁶ Verses describe the creation of the universe in stages, emphasizing an orderly and purposeful progression. This perspective suggests that the universe is not a result of random events, but rather a designed and ongoing process, arranged by a higher power. The Quran thus offers a framework in which the evolution of the universe is seen as part of a divine plan, where every aspect of creation is interconnected and serves a greater purpose. This view challenges the notion of a purely materialistic understanding of cosmic evolution, proposing instead that the physical universe is connected with spiritual realities and guided by divine wisdom.⁷

2.1. Introduction to Quranic Views on Creation:

The Quranic view on creation is a profound and multifaceted subject that encompasses not only the physical creation of the cosmos but also the creation of life, the purpose of existence, and the relationship between the Creator and creation.

2.2.1. The Creator:

According to the teachings of Holy Book Quran, Allah is the Creator of skies and ground, and everything present within them. This concept is foundational, as it establishes the idea of monotheism and the omnipotence of God.⁸ In Holy book Quran Allah Almighty says about the decrees of matters.

⁶ Aftab Khan “The Universe, Science & God”, Defense Journal; Karachi, (Apr 2012):53-74

⁷ Daniel Baumann and Hiranya V. Peiris “Cosmological Inflation: Theory and Observations”, Journal of Science, arXiv,(2009):7-13

⁸ Aftab Khan “The Universe, Science & God”, Defense Journal; Karachi, (Apr 2012):30-42

﴿بَدِيعُ السَّمَاوَاتِ وَالْأَرْضِ ۖ وَإِذَا قَضَىٰ أَمْرًا فَإِنَّمَا يَقُولُ لَهُ كُنْ فَيَكُونُ﴾⁹

“When the Creator of the earth and the heavens gives an order, he merely says, 'Be,' and it happens.”

This verse of Holy book Quran shows that God is only originator and creator universe and all those matters which are present in it. In the same context Almighty Allah says in another verse of Holy Book Quran,

﴿ذَلِكُمُ اللَّهُ رَبُّكُمْ ۖ لَا إِلَهَ إِلَّا هُوَ ۖ خَالِقُ كُلِّ شَيْءٍ ۖ فَاعْبُدُوهُ ۚ وَهُوَ عَلَىٰ كُلِّ شَيْءٍ وَكِيلٌ﴾¹⁰

“That is your Lord, Allah! Worship him because he is the one deity and the one who created everything. He also gets rid of everything.”

From these both verses of Holy Book Quran we came to know that Allah creates universe and he and everything that is present in it from nothing.

2.1.2. The Process of Creation:

In first stage Allah Almighty creates everything from nothing and after that Allah complete creation of universe in some stages.

Creation in Stages: The Holy Book Quran describes creation of the world and life in stages, highlighting the deliberate and planned nature of creation.

In Holy book Quran Allah Almighty says,

﴿قُلْ أَنتَكُم لَتَكْفُرُونَ بِالَّذِي خَلَقَ الْأَرْضَ فِي يَوْمَيْنِ وَتَجْعَلُونَ لَهُ أَندَادًا ۚ ذَٰلِكَ رَبُّ الْعَالَمِينَ﴾¹¹

“Say: would you really refuse to acknowledge the one who created the earth in two days? And do you say that any power could compete with Him? And do you affirm that Allah is the universe's sustainer?”

⁹ Surah Al-Baqarah (2:117)

¹⁰ Surah Al-An'am (6:102)

¹¹ Surah Fussilat (41:9)

﴿وَجَعَلَ فِيهَا رَوَاسِيَ مِنْ فَوْقِهَا وَبَارَكَ فِيهَا وَقَدَّرَ فِيهَا أَقْوَاتَهَا فِي أَرْبَعَةِ أَيَّامٍ سَوَاءً لِلْسَّائِلِينَ﴾¹²

“He placed the mountains firmly on the earth, raised high above it, and blessed the earth. He measured and provided all things in it, giving nourishment in due proportion, over four days, according to the needs of those who seek sustenance.”

﴿ثُمَّ اسْتَوَىٰ إِلَى السَّمَاءِ وَهِيَ دُخَانٌ فَقَالَ لَهَا وَلِلْأَرْضِ ائْتِيَا طَوْعًا أَوْ كَرْهًا قَالَتَا أَتَيْنَا طَائِعِينَ﴾¹³

“Additionally, He fashioned the sky, which had been like smoke. He commanded the sky and the earth, saying: 'Come together, whether willingly or unwillingly.' They both responded: 'We come together in willing obedience.’”

﴿فَقَضَاهُنَّ سَبْعَ سَمَاوَاتٍ فِي يَوْمَيْنِ وَأَوْحَىٰ فِي كُلِّ سَمَاءٍ أَمْرَهَا ۚ وَزَيَّنَّا السَّمَاءَ الدُّنْيَا بِمَصَابِيحَ وَحِفْظًا ۖ﴾

These verses describe the creation of the universe in two days and the completion of the heavens in another two days, culminating in a total of six days.¹⁴

2.1.3. Creation of the Universe:

From above Quranic verses we come to know that Allah Almighty created universe through his order and complete it in six stages. Furthermore we will take help from more Quranic verses to clear concept about the creation of universe in the light of Quranic verses.

Heavens and Earth: The Quran explores the creation of the heavens and the earth as a miraculous event. This creation reflects the power and wisdom of Allah.

As Almighty Allah says about beginning of universe in Holy Quran that in initial stage both heaven and earth were joined at the beginning and separated them by Almighty Allah.

¹² Surah Fussilat (41:10)

¹³ Surah Fussilat (41:11)

¹⁴ Surah Fussilat(41 :9-12)

﴿أَوَلَمْ يَرَ الَّذِينَ كَفَرُوا أَنَّ السَّمَاوَاتِ وَالْأَرْضَ كَانَتَا رَتْقًا فَفَتَقْنَاهُمَا¹⁵ وَجَعَلْنَا مِنَ الْمَاءِ كُلَّ شَيْءٍ حَيٍّ أَفَلَا يُؤْمِنُونَ﴾¹⁵

“Did those who didn't believe realize that the land and the skies were one and that we separated them? And we used water to make everything. Will they not believe then?”

After the separation of heaven and earth the next step is expansion. After separation of heaven and earth Almighty Allah give them power of expansion and still universe is expending.

In Holy Book Quran Allah Almighty says.

﴿وَالسَّمَاءَ بَنَيْنَاهَا بِأَيْدٍ وَإِنَّا لَمُوسِعُونَ﴾¹⁶

“And we built the heavens with might, and we are in fact its expanders.”

These verses of Holy book Quran we come to know that in the beginning of universe in Holy Quran that in initial stage both heaven and earth were present in combine form entity and we separated them. Allah Almighty created the universe with strength and he is expender of it. It means that universe is still expending.

2.1.4. The Balance and Order in Creation:

Harmony in Creation: The Quran describes the accurate balance and order in creation, which reflects divine wisdom.¹⁷

﴿الَّذِي خَلَقَ سَبْعَ سَمَاوَاتٍ طِبَاقًا¹⁸ مَا تَرَى فِي خَلْقِ الرَّحْمَنِ مِنْ تَفَوتٍ¹⁸ فَارْجِعِ الْبَصَرَ هَلْ تَرَى مِنْ فُتُورٍ¹⁸﴾

“Who created the strata of the seven heavens? You will discover that the Most Merciful's creation is flawless. Do you see any gaps in the sky when you look at it again?”

¹⁵ Surah Al-Anbiya(21 :30)

¹⁶ Surah Al-Dhariyat (51 :47)

¹⁷ Dildar Ahmed “Chaos And Order: The Quranic Concept of The Cosmos”

https://www.academia.edu/18781237/The_Quranic_concept_of_cosmos

¹⁸ Surah Al-Mulk(67:3)

In the verse of Holy book Quran Allah Almighty says:

﴿وَالسَّمَاءَ رَفَعَهَا وَوَضَعَ الْمِيزَانَ ۖ أَلَّا تَطْغَوْا فِي الْمِيزَانِ﴾¹⁹

“He elevated the sky and established the balance, so that you do not exceed the limits within it.”

From above verses of Holy book Quran we come to know that Allah created universe in balance and order form in the same way there is harmony in creation.

2.1.5. The Relationship between creator and creation:

Dependence on the Creator: All creation is in a state of dependence on Allah, who is constantly sustaining and renewing creation.

﴿إِنَّ اللَّهَ يُمَسِّكُ السَّمَاوَاتِ وَالْأَرْضَ أَنْ تَزُولَا ۖ وَلَئِنْ زَالَتَا إِنْ أَمْسَكَهُمَا مِنْ أَحَدٍ مِنْ بَعْدِهِ ۚ إِنَّهُ كَانَ حَلِيمًا غَفُورًا﴾²⁰

“Indeed, Allah maintains the skies and the ground, stopping them from ceasing. If they were to cease, no one could sustain them after Him. Truly, He is most patient and forgiving.”

﴿قُلْ هُوَ اللَّهُ أَحَدٌ ۚ اللَّهُ الصَّمَدُ ۚ لَمْ يَلِدْ وَلَمْ يُولَدْ ۚ وَلَمْ يَكُنْ لَهُ كُفُوًا أَحَدٌ﴾²¹

This short chapter does not encapsulate the essence of the Creator, emphasizing the oneness of Allah, who is begotten nor does He beget.

2.1.6. Eschatology and Creation:

End of Creation: The Quran speaks about the end times, where the current creation will be undone, and a new creation will be brought forth.

﴿إِذَا زُلْزِلَتِ الْأَرْضُ زُلْزَالَهَا وَأَخْرَجَتِ الْأَرْضُ أَثْقَالَهَا وَقَالَ الْإِنْسَانُ مَا لَهَا﴾²²

¹⁹ Surah Ar-Rahman(55:7-8)

²⁰ Surah Al-Fatir(35:41)

²¹ Surah Al-Ikhlâs (1:1-4)

²² Surah Al-Zalzalah,(99 :1-3)

“When the globe is shaken by its last tremor, and it releases its loads, and man asks, 'What is happening to it?’”

(يَوْمَ نَطْوِي السَّمَاءَ كَطَيِّ السِّجِلِّ لِلْكُتُبِ ۚ كَمَا بَدَأْنَا أَوَّلَ خَلْقٍ نُعِيدُهُ ۚ وَعَدَّا عَلَيْهَا إِنَّا كُنَّا فَاعِلِينَ)

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“On the Day when we will roll up the sky, as one rolls up a scroll, just as we initiated the first formation, We will bring it back. This is a promise we have made, and we will certainly fulfill it.”

Conclusion:

The Quranic view on creation is deeply interconnected with the concepts of divine wisdom, purpose, and order. It provides a framework for understanding the origin and purpose of life and the universe from an Islamic perspective. The verses of the Quran not only recount the process of creation but also invite reflection on the signs of God existence and power, motivate believers to seek knowledge and understanding.

2.2: The concept of creation of universe in the Quran:

A major issue that touches on many facets of life, the character of God, and the relationship between the Creator and creation is the concept of creation in the Quran. Key details and points about the Quran's creation notion are listed below.

2.2.1. God created cosmos from nothing:

In initial there was nothing except God, after that Allah created the universe from nothingness. That is why in Holy book Quran Almighty is known with the name of “Al badi”.

The Quran also emphasizes the absolute oneness of God, who is the creator of everything that exists. In Surah Al-Baqarah Allah says:

(بَدِيعُ السَّمَاوَاتِ وَالْأَرْضِ ۚ وَإِذَا قَضَىٰ أَمْرًا فَإِنَّمَا يَقُولُ لَهُ كُنْ فَيَكُونُ)²⁴

²³ Surah Al-Anbiya (21:104)

“The Creator of the skies and the ground, When He agree on somewhat, He simply says, 'Be,' and it comes into being.”

The Quran repeatedly emphasizes that God created the heavens and the earth from nothing, highlighting His power and majesty. Allah says in holy book Quran,

(بَدِيعُ السَّمَاوَاتِ وَالْأَرْضِ أَتَىٰ يَكُونُ لَهُ وَلَدٌ وَلَمْ تَكُنْ لَهُ صَاحِبَةٌ ۖ وَخَلَقَ كُلَّ شَيْءٍ ۖ) ²⁵

“Since He is the Creator of the earth and the heavens and has no companion, how is it possible for Him to have a son?”

Almighty Allah is also al-Fatir, the One who has originated the universe without any previous model, example and prototype or raw material.

“All admiration goes to God, the Creator of the spaces and the ground.”

We learn that God is the universe's creator and that He created it out of nothingness from these words in the Quran.

2.2.2. Multiverses:

Allah Almighty creates and sustains multiverses. Allah Almighty created multiverses and he is alone sustainer of all. In holy book Quran Allah Almighty says;

(الْحَمْدُ لِلَّهِ رَبِّ الْعَالَمِينَ) ²⁶

“All praise to Allah, the Sustainer of worlds”

This means that Allah’s creation is not limited to ‘our’ universe only. There are possibly other universes as well. According to various traditions, thus, there are a lot of galaxies that Allah has created and our universe is only a tiny part of the whole creation.

²⁴ Surah Al-Baqarah (2:117)

²⁵ Surah Al-An'am (6 :101)

²⁶ Surah Al Fatiha (1:2)

2.2.3. Physical and Metaphysical Worlds:

There are two types of worlds are present in this universe, one is known as physical world and another is known as metaphysical world. In the Qur'anic language we can call them aalam al-shahadah (the World of the Visible) and aalam al-ghayb (the World of the Unseen).

Physical universe is the one which is consist of matter, energy and four dimensional time space continuum. However the metaphysical world is of spiritual nature and lies beyond the range of human perceptions. It definitely has “dimensions” different from those of the physical universe.

2.2.4. Stages of Creation:

a. Creation of the universe: The Holy book Quran describes creation of the universe in numerous stages. For instance, Surah Al-Anbiya Allah Almighty suggests a primordial unity of the heavens and the earth before they were split apart. Allah Almighty says in holy book Quran:

﴿أَوَلَمْ يَرَ الَّذِينَ كَفَرُوا أَنَّ السَّمَاوَاتِ وَالْأَرْضَ كَانَتَا رَتْقًا فَفَتَقْنَاهُمَا²⁷ وَجَعَلْنَا مِنَ الْمَاءِ كُلَّ شَيْءٍ حَيٍّ أَفَلَا يُؤْمِنُونَ²⁸﴾

“Do the disbelievers not see that the skies and the ground were once a single entity, and we divided them apart? And we created all living things from water. Will they still not have faith in?”

From this verse of holy book Quran we come to know that initially the heaven and earth were found in united form, after that Allah Almighty split them apart. After formation of heaven and earth Allah created every living thing from water. Today modern science also says that every living body contains up to 60% water.

b. Creation in Six Days: The Quran remarks that God created the skies and the earth in six days. This is mentioned in Surah Al-A'raf :

﴿إِنَّ رَبَّكُمُ اللَّهُ الَّذِي خَلَقَ السَّمَاوَاتِ وَالْأَرْضَ فِي سِتَّةِ أَيَّامٍ ثُمَّ اسْتَوَىٰ عَلَى الْعَرْشِ²⁸﴾

²⁷ Surah Al-Anbiya, (21:30)

²⁸ Surah Al-A'raf (7:54)

Your Lord is unquestionably Allah, who created the earth and the heavens in six days and then positioned Himself above the throne.

According to modern commentaries (Tafaseer) day means the long period of time. It is because the use for this world is consisting of twenty four hours however this is with reference to cycle of earth around the sun. However this concept is not.

From this verse of Holy Book Quran God made heavens and globe in six days but these days are not equal to the days of this world. God knows about that time period of days.

- c. **The Formation of Adam:** The Quran labels the creation of the first human, Adam, from clay or dust. As Almighty Allah says in Holy Book Quran:

﴿وَلَقَدْ خَلَقْنَا الْإِنْسَانَ مِنْ صَلْصَالٍ مِنْ حَمَإٍ مَسْنُونٍ﴾²⁹

"And we did absolutely make man out of sand from a distorted black mud."

This verse of Holy Book Quran we come to know that after the creation of universe Allah Almighty created first human, Adam from clay and dust and put his soul in it and bless him with honor and respect.

2.2.5. Purpose of Creation:

Testing and Worship: The Quran states that the aim of creation is to exam human beings and to establish who among them will do good deeds. Allah Almighty says:

﴿الَّذِي خَلَقَ الْمَوْتَ وَالْحَيَاةَ لِيَبْلُوَكُمْ أَيُّكُمْ أَحْسَنُ عَمَلًا وَهُوَ الْعَزِيزُ الرَّحِيمُ﴾³⁰

"It is He who brought death and life into existence to see who among you excels in deeds. And He is the All-Powerful, the Most Forgiving."

Worship:

The Quran also mentions In Surah Adh-Dhariyat creator of the universe says that the ultimate

²⁹ Surah Al-Hijr, verse:26

³⁰ Surah Al-Mulk(57:2)

purpose of creation is worship.

﴿وَمَا خَلَقْتُ الْجِنَّ وَالْإِنْسَ إِلَّا لِيَعْبُدُونِ﴾³¹

“I created jinn and humans solely for the purpose of worshiping Me.

From these verses of Holy book Quran we come to know that the creation of human being is not aimless. Allah Almighty created human beings and jinn for his worship.

2.2.6. Creation and Time:

Continuous Creation: The Quran implies that creation is not a one-time event but an ongoing process. That is why in Holy book Quran Almighty Allah says in Surah Ar-Rahman:

﴿يَسْأَلُهُ مَنْ فِي السَّمَاوَاتِ وَالْأَرْضِ كُلَّ يَوْمٍ هُوَ فِي شَأْنٍ﴾³²

“All who are on the earth will pass away, but the Countenance of your Lord, full of Magnificence and Integrity, will endure.”

This verse and others suggest that God's creative power is continuous and that He sustains creation at every moment.

Divine Will: Everything in the universe is subject to God's will and command. This includes the laws of nature and the events that unfold over time. In Holy book Quran Surah Yasin states:

﴿إِنَّمَا أَمْرُهُ إِذَا أَرَادَ شَيْئًا أَنْ يَقُولَ لَهُ كُنْ فَيَكُونُ﴾³³

“Whenever He wills something to happen, He simply says, 'Be,' and it comes into existence.”

This unit of Holy book Quran represents the will power of God. There is no difference between will and act of God. If Allah will to do any act it comes into being.

³¹ Surah Adh-Dhariyat(51 :56)

³² Surah Ar-Rahman (55:29)

³³ Surah Yasin(36:82)

2.2.7. Creation as a Sign:

a. Signs of God: The Quran often refers to the natural world as "ayat," or signs, pointing existence and attributes of God. As Allah Almighty says in Surah Al-Imran:

“Surely, the formation of the skies and the ground, along with the cycle of night and day, contains symbols for those who reflect.”³⁴

From this verse of Holy book Quran we come to know that heaven and earth are signs of God that pointing to God’s attributes.

b. Reflection and Contemplation:

In order to comprehend God's majesty, the Quran invites Muslims to consider how the world and atmospheres were created. The goal of this introspective process is to increase one's understanding of the might and wisdom of Divinity..

2.2.8. Creation and the Afterlife:

a. Resurrection: The concept of creation is also closely tied to the belief in the resurrection in the Quran. Just as God created the world initially, He will recreate it and bring the dead back to life on the day of Judgment. As Allah Almighty says in Surah Yasin:

﴿قُلْ يُحْيِيهَا الَّذِي أَنْشَأَهَا أَوَّلَ مَرَّةٍ وَهُوَ بِكُلِّ خَلْقٍ عَلِيمٌ﴾³⁵

“Say, 'The One who created them initially will give them life again; and He is fully aware of all that exists.’”

b. Accountability: The Quran ties the creation of humans to their accountability in the afterlife. Surah Al-Mu'minun Allah Almighty says:

﴿أَفَحَسِبْتُمْ أَنْمَّا خَلَقْنَاكُمْ عَبَثًا وَأَنْكُمْ إِلَيْنَا لَا تُرْجَعُونَ﴾³⁶

³⁴ Surah Al-Imran(3:190)

³⁵ Surah Ya-Seen(36:79)

³⁶ Surah Al-Mu'minun(40:115)

“Did you believe that you would not be returned to Us after We created you in a senseless manner?”

From these verses of Holy book Quran we come to know that the life of human being is not ended with death but also started in new form and God recall everyone on the Day of Judgment.

2.2.9. Diversity and Complexity of Creation:

a. Variety in Creation: The Quran emphasizes the diversity of life and creation, highlighting God's creative power and wisdom. In Holy Book Quran Allah Almighty says:

﴿وَالْخَيْلَ وَالْبِغَالَ وَالْحَمِيرَ لِتَرْكَبُوهَا وَزِينَةً وَيَخْلُقُ مَا لَا تَعْلَمُونَ﴾³⁷

“He made the donkeys, mules, and horses for you to ride and use as decorations. He also generates things you are unaware of.”

This verse shows that after creation of universe Allah Almighty fill this universe diversity of creations, such as, horses, mules, and donkeys for human beings. In simple words we can say that Allah whole universe for human being and human being is created just for worship of God.

b. Order and Proportion:

The Quran also mentions the order, balance, and proportion in the creation of the universe, which reflects God's wisdom. Surah Al-Qamar states:

﴿إِنَّا كُلَّ شَيْءٍ خَلَقْنَاهُ بِقَدَرٍ﴾³⁸

“Indeed, We have created everything with a determined plan.”

From this verse of Holy book Quran we come to know that in universe there is order and proportionality in everything present in universe.

³⁷ Surah An-Nahl, verse:8

³⁸ Surah Al-Qamar (54:49)

2.2.10. Interrelationship between Creations:

Interdependence: The Quran indicates a harmonious relationship between all created beings, highlighting the interconnectedness of the universe. In Holy Book Quran Surah Al-An'am states:

﴿وَمَا مِنْ دَابَّةٍ فِي الْأَرْضِ وَلَا طَائِرٍ يَطِيرُ بِجَنَاحَيْهِ إِلَّا أُمَمٌ أَمْثَلُكُمْ مَا فَرَّطْنَا فِي الْكِتَابِ مِنْ شَيْءٍ
ثُمَّ إِلَىٰ رَبِّهِمْ يُحْشَرُونَ﴾³⁹

“Other than the fact that they are communities like you, there are no other flying animals or birds on the planet...”

2.2.11. Conclusion:

The concept of creation in the Quran is multi-faceted, encircling the origin of the cosmos, the purpose of existence, the continuous process of creation, and the eventual resurrection. It serves as a base for understanding the nature of God, the role of humans, and the ethical implications of existence. The Quran's discourse on creation encourages reflection, worship, and recognition of the interconnectedness of all things in the cosmos.

2.3. The role of divine will in cosmic evolution:

The part of Divine Will in celestial evolution is a deeply philosophical and theological topic that explores how the Qur'an and Islamic thought conceptualize the relationship between God's will and the processes that govern the universe's development, including the evolution of life. This subtopic examines how the universe and life within it unfold according to Divine Will, providing a framework that integrates theological perspectives with possible scientific interpretations.

2.3.1. Defining Divine Will in Islamic Theology:

a. Concept of Divine Will:

In Islamic theology, Divine will refers to Allah's absolute and sovereign will that governs all aspects of creation. It is a central concept that underscores Allah's omnipotence, omniscience, and active involvement in the universe.

³⁹ Surah Al-An'am(6 :38)

b. Quranic Foundation: Several Quranic verses emphasize the importance of Divine Will in creation, indicating that everything in existence is a result of Allah's command:

﴿إِنَّمَا أَمْرُهُ إِذَا أَرَادَ شَيْئًا أَنْ يَقُولَ لَهُ كُنْ فَيَكُونُ﴾⁴⁰

“His power is so great that all He has to do is say "Be" to something, and it materializes.”

﴿وَمَا تَشَاءُونَ إِلَّا أَنْ يَشَاءَ اللَّهُ إِنَّ اللَّهَ كَانَ عَلِيمًا حَكِيمًا﴾⁴¹

“But you will not, lest Allah wills. Certainly, Allah is ever knowing and Wise.”

These verses highlight that the creation and sustenance of the universe are direct manifestations of Allah's will, which is both purposeful and intentional.

2.3.2. Cosmic Evolution: The Scientific and Quranic Perspectives.

A. Scientific Understanding of Cosmic Evolution:

Cosmic evolution refers to the process by which the universe has developed over billions of years, from beginning of universe to the present time. This includes formation of galaxies, stars, planets, and eventually life.

Modern science describes this process as governed by physical laws, such as gravity and quantum mechanics, with evolution driven by natural processes like stellar nucleosynthesis and natural selection in biological evolution.

B. Quranic Perspective on Cosmic Evolution:

The Quranic views of the formation of the universe and life in a manner that suggests a process-oriented development, though it is ultimately governed by Divine Will.

﴿أَوَلَمْ يَرَ الَّذِينَ كَفَرُوا أَنَّ السَّمَوَاتِ وَالْأَرْضَ كَانَتَا رَتْقًا فَفَتَقْنَاهُمَا^ط وَجَعَلْنَا مِنَ الْمَاءِ كُلَّ شَيْءٍ حَيٍّ^ط أَفَلَا يُؤْمِنُونَ﴾⁴²

⁴⁰ Surah Yasin(36:82)

⁴¹ Surah Al-Insan(76:30)

"Have those who lack faith not thought about how the earth and the blues were one, and then we separated them and created all life from water?" Will they then be untrusting?"

﴿ثُمَّ أَسْتَوَىٰ إِلَى السَّمَاءِ وَهِيَ دُخَانٌ فَقَالَ لَهَا وَلِلْأَرْضِ ائْتِيَا طَوْعًا أَوْ كَرْهًا قَالَتَا أَتَيْنَا طَائِعِينَ﴾⁴³

"Then, as it was smoke, He pointed Himself toward heaven. It and the ground were told to "originate (into being), willingly or by pressure." "We have originated voluntarily," they declared."

These verses show a dynamic and purposeful process of creation, aligning with the idea of cosmic evolution, but under the direct guidance of Divine Will.

2.3.3. Divine Will as the Architect of Cosmic Evolution:

The role of divine will in the creation and development of the cosmos:

In Islamic thought, the universe's formation, its continuous existence, and its evolution are all seen as the result of the will of Allah. The Quran presents creation as a deliberate act, where every stage of cosmic evolution is orchestrated by Divine Will. Quran says:

﴿إِنَّ رَبَّكُمُ اللَّهُ الَّذِي خَلَقَ السَّمَوَاتِ وَالْأَرْضَ فِي سِتَّةِ أَيَّامٍ ثُمَّ اسْتَوَىٰ عَلَى الْعَرْشِ يُغْشِي اللَّيْلَ النَّهَارَ يَطْلُبُهُ حَثِيثًا وَالشَّمْسُ وَالْقَمَرُ وَالنُّجُومُ مُسَخَّرَاتٌ بِأَمْرِهِ ۗ أَلَا لَهُ الْخَلْقُ وَالْأَمْرُ ۗ تَبَارَكَ اللَّهُ رَبُّ الْعَالَمِينَ﴾⁴⁴

"Indeed, your Lord is Allah, the One who ascended above the Throne after creating the earth and heavens in six days. He causes the darkness to conceal the day, with each quickly pursuing the other. In addition, He created the sun, moon, and stars, all of which are now subject to His will. Indeed, He is the one who created and commands. The Lord of the worlds, Allah, is blessed."

This verse, while mentioning "six days," is often interpreted to mean stages or periods of time, indicating a process-driven creation that is fully under the control of Divine Will.

⁴² Surah Al-Anbiya (21:30)

⁴³ Surah Fussilat(41:11)

⁴⁴ Surah Al-A'raf (7:54)

Process and Purpose:

The Qur'an implies that the evolutionary processes, whether in the cosmos or in life, are purposeful and serve a specific divine plan. As in holy book Quran Allah Almighty says.

﴿الَّذِي خَلَقَ الْمَوْتَ وَالْحَيَاةَ لِيَبْلُوَكُمْ أَيُّكُمْ أَحْسَنُ عَمَلًا﴾⁴⁵

“He who formed loss and being to exam you as to which of you is finest in deed”

This indicates that the processes of creation, including evolution, are not random but serve a purpose testing and refining creation, especially human beings, in alignment with divine intentions.

2.3.4. Divine Will and the Order of Natural Laws:

a. Divine Will and Natural Laws:

Islamic theology holds that natural laws governing the universe are themselves a manifestation of Divine Will. These laws operate consistently because Allah wills them to do so, providing stability and order in the cosmos.

Quran says:

﴿وَمِنْ ءَايَاتِهِ أَنْ تَقُومَ السَّمَاءُ وَالْأَرْضُ بِأَمْرِهِ ثُمَّ إِذَا دَعَاكُمْ دَعْوَةً مِّنَ الْأَرْضِ إِذَا أَنْتُمْ تَخْرُجُونَ﴾

﴿⁴⁶

“The earth and heavens obey His command, which is one of His signs. You will then come forth right away when He calls you with a [single] call from the earth.”

This verse illustrates that the natural order is sustained by Allah's command, and any change in this order is also a result of His will.

⁴⁵ Surah Al-Mulk (67:2)

⁴⁶ Surah Al-Rum(30: 25)

b. Integration with Scientific Theories:

Some scholars argue that the laws of physics and processes described by modern science, such as gravity and evolution, are the means by which Divine Will is actualized in the physical world. Therefore, these processes do not negate Divine Will but are a reflection of it.

2.3.5. Divine Will and Biological Evolution:

a. Human Creation and Evolution:

The creation of human beings is a special focus in the Qur'an, where the role of Divine Will is explicitly mentioned. The Qur'an discusses the creation of humans from clay, a process that could be interpreted as an evolutionary one, though this remains a point of discussion among researchers.

﴿وَلَقَدْ خَلَقْنَا الْإِنْسَانَ مِنْ سُلَالَةٍ مِّنْ طِينٍ﴾⁴⁷

“Indeed, we created man from a special extract of clay.”

﴿ثُمَّ جَعَلْنَاهُ نُطْفَةً فِي قَرَارٍ مَّكِينٍ﴾⁴⁸

“Then we located him as a sperm-drop in a safe place [i.e., the womb]”

﴿ثُمَّ خَلَقْنَا النَّطْفَةَ عَلَقَةً فَخَلَقْنَا الْعَلَقَةَ مُضْغَةً فَخَلَقْنَا الْمُضْغَةَ عِظْمًا فَكَسَوْنَا الْعِظْمَ لَحْمًا ثُمَّ أَنْشَأْنَاهُ خَلْقًا آخَرَ فَبَارَكُ اللَّهُ أَحْسَنُ الْخَالِقِينَ﴾⁴⁹

“The sperm drop was then changed into a clinging clot, and a lump of flesh was created from the clot. We made bones out of the lump and covered them with flesh. We gave him a new form at last. Thus, the greatest creator, Allah, is blessed. Simply alter the phrase.”

Above passage suggests a developmental process, potentially aligning with an evolutionary framework, yet ultimately attributed to Divine Will.

⁴⁷ Surah Al-Mu'minun, (40: 12)

⁴⁸ Surah Al-Mu'minun, (40:13)

⁴⁹ Surah Al-Mu'minun, (40: 13)

b. Divine Guidance in Evolutionary Processes:

If biological evolution is accepted, it is viewed as being under divine guidance rather than a purely materialistic and random process. Allah's will direct the evolutionary paths, ensuring that they fulfill the intended purposes.

2.3.6. Philosophical and Theological Implications:

a. Theological Reflection on Divine Will and Evolution:

The concept of Divine Will in cosmic evolution raises important theological questions about predestination (Qadar) and free will, particularly in how the universe's deterministic laws interact with Allah's sovereign will.

Ibn Arabi's Concept of Continuous Creation (Tajdid al-Khalq):

In Sufi thought, particularly in the works of Ibn Arabi, the universe is in a constant state of creation (Tajdid al-Khalq), where every moment is a new act of Divine Will. This can be interpreted as a continuous process of cosmic and biological evolution.

This perspective suggests that evolution is not a one-time event but a perpetual unfolding of Divine Will in every moment of existence.

2.3.7. Reconciling Quranic Teachings with Modern Science:

Compatibility with Evolutionary Theory:

While classical Islamic scholars did not discuss evolution in the modern scientific sense, contemporary Islamic thought explores the possibility of harmonizing or combining scientific theories of cosmic and biological evolution with Quranic teachings.

Scholars like Syed Hussein Nasr and others have explored how evolution might be seen as a means through which Allah brings about diversity in life, guided and sustained by His will.

Critical Views and Rejections:

Conversely, some scholars reject the compatibility of Darwinian evolution with Islamic teachings, arguing that the Qur'an emphasizes direct creation by Allah, which contrasts with the idea of natural selection and random mutation or change.

They argue that Divine Will implies a more intentional and direct creation process, not one that relies on seemingly random evolutionary processes.

2.3.8. Ethical and Moral Implications:

Human Responsibility in the Context of Divine Will:

Understanding cosmic evolution as directed by Divine Will places a responsibility on humans to recognize their role in this process. Humans are seen as diplomats of the earth, with a duty to align their actions with the divine purpose.

﴿وَإِذْ قَالَ رَبُّكَ لِلْمَلٰٓئِكَةِ اِنِّىْ جَاعِلٌ فِى الْاَرْضِ خَلِيْفَةًۭ ۚ قَالُوْۤا اَتَجْعَلُ فِیْهَا مَنْ یُّفْسِدُ فِیْهَا وَیَسْفِكُ الدِّمَآءَ وَنَحْنُ نُسَبِّحُ بِحَمْدِكَ وَنُقَدِّسُ لَكَۙ قَالَ اِنِّىْۤ اَعْلَمُ مَا لَا تَعْلَمُوْنَۙ﴾⁵⁰

“Will you choose someone who will sow discord and bloodshed while we exalt You and proclaim Your perfection?” they questioned. “Yes, I do know what you do not know,” he [Allah] retorted.”

This passage of holy book Quran underscores the idea that humans have a divine mandate to govern the earth according to the principles of justice and wisdom, aligning their actions with the divine will that governs the cosmos.

2.3.9. Conclusion:

The role of Divine Will in cosmic evolution is a rich and explores how the Qur'an and Islamic thought conceptualize the relationship between God's will and the processes that govern the universe's development, including the evolution of life.

2.4: Quranic verses on the origin and development of the universe

We have already discuss that the real creator and sustainer of the whole universe is alone Allah. No one was with him in this process. So in this lesson we will take help from Holy book Quran- which is consisting of the message of God- to know about origin and development of the universe. The Qur'an contains several verses that address the beginning and improvement of the

⁵⁰ Surah al Baqara,(2: 30)

universe, often highlighting the power and wisdom of Allah in the process of creation. Below are some key verses which bring message of God to us about the origin and development of the universe:

2.4.1. Creation of the Heavens and the Earth:

In Holy book Quran Allah Almighty says about the creation of universe that the originator of universe “Allah” aims to create a matter, He only says to it, ‘Be’ and it is.

عن أبي هريرة قال: قال رسول الله صلى الله عليه وسلم:

”إذا قال الله: كن، كان، فما من شيء إلا خلقه الله“⁵¹

Abu Huraira narrated that the Messenger of Allah (PBUH) said: "When Allah says: 'Be!' it becomes. Nothing exists except that Allah has created it."

The creation of the skies and the earth was a deliberate and orderly process, not a random occurrence. Initially unified, they were later separated and shaped into their distinct forms. The vast skies consist of multiple layers, each serving a unique function, while the earth was structured to sustain life. Celestial bodies follow precise orbits, and natural forces maintain balance. Mountains provide stability, while water bodies regulate ecosystems. This interconnected system reflects a purposeful design, where every element, from cosmic laws to earthly resources, operates in harmony, highlighting the unity and order within creation.

In surah al Baqarah the originator of universe says;

﴿بَدِيعُ السَّمَاوَاتِ وَالْأَرْضِ ۖ وَإِذَا قَضَىٰ أَمْرًا فَإِنَّمَا يَقُولُ لَهُ كُنْ فَيَكُونُ﴾⁵²

“The Creator of the atmospheres and the earth, When He rulings a matter, He only speaks to it, 'Be,' and it is.”

This verse of Holy book Quran emphasizes the concept of Kun fayakun ("Be, and it is"), illustrating the instantaneous power of divine command in the creation process.

⁵¹ Al-Tirmidhi, *Jami` al-Tirmidhi*, Hadith 2156.

⁵² Surah Al-Baqarah (2: 117)

After the origination of universe through his power of kun fayakun the heaven and earth were sustained by Allah while there was nothing except smoke.

﴿ثُمَّ اسْتَوَىٰ إِلَى السَّمَاءِ وَهِيَ دُخَانٌ فَقَالَ لَهَا وَلِلْأَرْضِ ائْتِيَا طَوْعًا أَوْ كَرْهًا قَالَتَا أَتَيْنَا طَائِعِينَ﴾⁵³

“Come forth, whether willingly or by force,” He cried to the earth and the smoke-covered heavens as He turned toward them. “We have come voluntarily,” they both said.”

﴿فَقَضَاهُنَّ سَبْعَ سَمَاوَاتٍ فِي يَوْمَيْنِ وَأَوْحَىٰ فِي كُلِّ سَمَاءٍ أَمْرَهَا ۚ وَزَيَّنَّا السَّمَاءَ الدُّنْيَا بِمَصَابِيحَ وَحِفْظًا ۚ ذَٰلِكَ تَقْدِيرُ الْعَزِيزِ الْعَلِيمِ﴾⁵⁴

“In two days, He finished them as seven heavens and inspired [i.e., revealed] the command for each heaven. And for beauty and protection, we decorated the closest heaven with lighting, or stars. That is what the Knowing and the Exalted in Might have decided.”

In the light of these Quranic verses we come to know that Allah is alone the originator of universe and he created heaven and earth and complete the development on creation of seven heavens and earth. This passage give us the lesson that Allah creates the heavens from a "smoke" and the establish order in the cosmos.

2.4.2. Expansion of Universe:

The next step after the creation of heaven and ground is expansion of universe. The creator of the universe constructed the universe through his strength and took the power of expanding in his own hand;

﴿وَالسَّمَاءَ بَنَيْنَاهَا بِأَيْدٍ وَإِنَّا لَمُوسِعُونَ﴾⁵⁵

“And the skies we built with power, and surely, we are [its] expander.”

Given verse is often cited as indication of the expanding universe, a concept in line with modern cosmology.

⁵³ Surah Fussilat, (41:12)

⁵⁴ Surah Fussilat, (41:11)

⁵⁵ Surah Adh-Dhariyat, (71:47)

According to the Qur'an, the universe is in the state of expansion. The heaven here evidently has the connotation of "universe". The cosmos is thus continuously expanding.

According to another verse of Holy book Quran the universe comes in to being in six days.

﴿وَهُوَ الَّذِي خَلَقَ السَّمَوَاتِ وَالْأَرْضَ فِي سِتَّةِ أَيَّامٍ ۚ وَكَانَ عَرْشُهُ عَلَى الْمَاءِ لِيَبْلُوَكُمْ أَيُّكُمْ أَحْسَنُ عَمَلًا ۚ وَلَئِنْ قُلْتُمْ إِنَّكُمْ مَبْعُوثُونَ مِنْ بَعْدِ الْمَوْتِ لَيَقُولَنَّ الَّذِينَ كَفَرُوا إِنْ هَذَا إِلَّا سِحْرٌ مُبِينٌ﴾

"And He is the One who created the heavens and the earth in six days and His Throne was upon the water so that He might test you as to which of you is best in deed. But if you say, 'You will surely be resurrected after death,' those who disbelieve will surely say, 'this is nothing but clear magic!'⁵⁶

عن عبد الله بن مسعود رضي الله عنه قال: "خلق الله السماوات والأرض، وما بينهما في ستة أيام، ثم استوى على العرش"⁵⁷

"Abdullah ibn Mas'ud reported that the Prophet (PBUH) said: "Allah created the heavens and the earth, and everything in between, in six days, then He ascended to the Throne."

The phrase "ستة أيام" means "six days." However, scholars explain that these are not six days in the way we understand a 24-hour day, because the concept of time based on the sun and moon did not exist at that point in creation. Rather, it refers to six distinct stages or periods, the length and nature of which are known only to Allah.

Allah, being All-Powerful, could have created the universe in an instant, but He chose to do so gradually to demonstrate order, wisdom, and deliberation. This also teaches humans the value of process and planning. The repetition of this detail in various places in the Qur'an is a reminder that creation was not random. It was a purposeful act by the Creator.

⁵⁶ Surah Hud (11:7)

⁵⁷ Sahih Muslim, *Sahih Muslim*, Book 39, Hadith 6721

2.4.3. Creation in Stages:

According to the Qur'an, God has created the 'earth and the heavens' in "Six Days" or periods of times. For example, it says:

﴿وَقَدْ خَلَقَكُمْ أَطْوَارًا﴾⁵⁸

“Whereas He has created you in stages”

﴿أَلَمْ تَرَوْا كَيْفَ خَلَقَ اللَّهُ سَبْعَ سَمَاوَاتٍ طِبَاقًا﴾⁵⁹

“Do you not see how Allah has shaped seven skies, one above the other?”

﴿وَجَعَلَ الْقَمَرَ فِيهِنَّ نُورًا وَجَعَلَ الشَّمْسَ سِرَاجًا﴾⁶⁰

“And made the moon a basis of light, and the sun a shining flame?”

These verses refer to the creation in stages, suggesting a process rather than an instantaneous event.

﴿الَّذِي خَلَقَ سَبْعَ سَمَاوَاتٍ طِبَاقًا ۖ مَا تَرَىٰ فِي خَلْقِ الرَّحْمَنِ مِن تَفَوتٍ ۚ﴾

﴿فَارْجِعِ الْبَصَرَ هَلْ تَرَىٰ مِن فُطُورٍ﴾⁶¹

“No imperfection can be found in the creation of the Most Merciful, who formed the seven heavens in layers. Do you see any gaps in the sky when you take another look?”

This verse highlights the orderly and flawless nature of the creation. Here the Holy Qur'an uses the word "ايام" the plural of يوم. One of the fundamental meanings of the Arabic word youm is period of time with indefinite length. The Qur'an itself has numerous evidences to this effect. For example: in yawm al-din (“the Day of Ruling”)⁶², and yawm al-qiyaamah (the Day of

⁵⁸ Surah Nuh, (71:14)

⁵⁹ Surah Nuh,(71:15)

⁶⁰ Surah Nuh(71 :16)

⁶¹ Surah mulk (67:3)

⁶² Surah al Fatiha (1:2)

Revival)⁶³, yawm is essentially in the sense of a long period of stretch and, ان كل يوم هو في شأن “Every day he exhibits Himself in yet another (amazing) way” it is in the sense of a very small moment of time. Therefore, the Qur’anic Six Days of creation should be taken as six periods of time irrespective of their durations. We may name them aeons. They have also been interpreted in the sense of ‘stages’.

So it is from the earth’s point of view that the Quran describes the creation of “the globe and the heavens” in six aeons. Out of these, four aeons belong to the creation of the earth while two aeons are concerned with the creation of the cosmos prior to the beginning of the formation of the earth.

2.4.4. Creation of the Earth and Living Beings:

According to Quranic guidance in initial stages earth and heaven were joined entity, after that Allah separates them through his power.

﴿أَوَلَمْ يَرَ الَّذِينَ كَفَرُوا أَنَّ السَّمَاوَاتِ وَالْأَرْضَ كَانَتَا رَتْقًا فَفَتَقْنَاهُمَا⁶³ وَجَعَلْنَا مِنَ الْمَاءِ كُلَّ شَيْءٍ حَيٍّ أَفَلَا يُؤْمِنُونَ⁶⁴﴾

“Did people who didn’t believe think that the earth and its atmospheres were one and that we separated them and created all life out of water? Will they not believe then?”

Mahmoud jawed says in beginning of his article that the soul of everything is created before the Big Bang by the act of ‘fatara’. After this, ‘the infinitesimally small, infinitely hot, infinitely dense material’ came into existence before the Big Bang by the act of bada. Then the space (sama) and matter (al Ardh) were created as a result of Big Bang by the act of ‘khalaqa’. Finally the soul was breathed into the space (sama) and matter (al-ardh) after the Big Bang by the act of ‘nafakha’ during fashioning (sawwa). Later as other things (stars, sun, moon, mountains, etc.)

⁶³ Surah An nisa (4:87)

⁶⁴ Surah Al-Anbiya (21:30)

came into existence by the act of ‘khalaqa’ their souls were breathed into them during fashioning (sawwa) by the act of nafakha.⁶⁵

This verse is often interpreted as describing the initial unity of the heavens and the earth, followed by their separation, possibly hinting at the Big Bang, and the importance of water in the creation of life.

2.4.5. Cosmic Order and Signs:

After the parting of heaven and earth Allah Almighty created the moon and sun and let them in their orbit and stars and foliage to flat. Allah raised the heaven imposed the balance.

﴿ الشَّمْسُ وَالْقَمَرُ بِحُسْبَانٍ ۚ وَالنَّجْمُ وَالشَّجَرُ يَسْجُدَانِ ۚ وَالسَّمَاءَ رَفَعَهَا وَوَضَعَ الْمِيزَانَ ۖ ﴾⁶⁶

“The stars and trees are in a supine position, and the sun and moon [move] according to precise design. And He lifted the heavens and established the equilibrium.”

These verses highlight the precise order and balance in the universe, which is a sign of divine will.

2.4.6. Continuous Creation and Renewal:

Creation is not one-time event, creation is continuous process and Allah Almighty creating creations continuously and let them renewal.

﴿ اللَّهُ يَبْدَأُ الْخَلْقَ ثُمَّ يُعِيدُهُ ثُمَّ إِلَيْهِ تُرْجَعُونَ ﴾⁶⁷

“Allah initiates creation; then He wills recurrence it; then to Him you will be returned.”

This Quranic verse suggests a cyclical nature of creation, implying that creation is not one-time event but a constant process.

⁶⁵The Big Bang Theory – The Quranic Perspective by Mahmood Jawaid, February 14, 2021, Revised: May 15, 2021

⁶⁶ Surah Ar-Rahman (55:5-7)

⁶⁷ Surah Ar-Rum, (30:11)

(الْحَمْدُ لِلَّهِ فَاطِرِ السَّمَاوَاتِ وَالْأَرْضِ جَاعِلِ الْمَلَائِكَةِ رُسُلًا أُولِي أَجْنِحَةٍ مَثْنَى وَثُلَاثَ وَرُبَاعَ ۚ يَزِيدُ فِي الْخَلْقِ مَا يَشَاءُ ۚ إِنَّ اللَّهَ عَلَىٰ كُلِّ شَيْءٍ قَدِيرٌ)⁶⁸

"All glory is due to Allah, the creator of the earth and the heavens, who created the angels as messengers with two, three, or four wings." He ascends in formation as He pleases. Indeed, Allah is supremely capable."

The idea of continuous creation and increase in creation is noted here. These verses form the foundation of the Quranic view on the beginning and development of the creation, and they can be explored in detail to understand the role of divine will in cosmic evolution.

Conclusion:

In this chapter, we explored the Quranic perspective on cosmic evolution, emphasizing the divine orchestration of the universe's creation and development. The Quran presents a structured and purposeful evolution of the cosmos, from the primordial state to its current form, aligning with modern cosmological insights while maintaining its theological depth.

Key Quranic verses illustrate fundamental cosmic processes, such as the initial singularity (ratqan fatq)⁶⁹ the progressive expansion of the universe (wa inna la-mūsi'ūn),⁷⁰ and the gradual development of celestial bodies and life on Earth. These descriptions suggest a dynamic and evolving universe, guided by divine will and wisdom.

Furthermore, the Quran emphasizes Tadrij (gradualism) and Taqdir (precise measure), indicating that cosmic evolution is neither random nor accidental but follows a preordained pattern set by Allah. This perspective integrates divine causality with natural laws, offering a holistic view that reconciles scientific observations with theological principles.

Thus, the Quranic narrative of cosmic evolution presents a harmonious blend of faith and reason, where scientific discoveries serve to further appreciate the intricate design of the universe as revealed in the divine text. This chapter establishes a foundation for understanding the cosmic

⁶⁸ Surah Fatir (35:1)

⁶⁹ Surah Al-Anbiya(21:30)

⁷⁰ Surah Adh-Dhariyat (51:47)

order through an Islamic lens, paving the way for further exploration of its philosophical and scientific implications.

CHAPTER NO. 3

SCIENTIFIC APPROACH ABOUT COSMIC EVOLUTION

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SCIENTIFIC APPROACH ABOUT COSMIC EVOLUTION:

The scientific approach about cosmic evolution is multidisciplinary study that contains physics, astronomy, geology, chemistry, biology and anthropology to understand scientific approach about cosmic evolution. It is built on the idea that the cosmos is constantly evolving, and that all of its parts are connected and interacted. In this chapter we will discuss about scientific approach about cosmic evolution.⁷¹

Historical Overview of Scientific Theories on Cosmic Evolution:

Here we will discuss brief overview of the scientific approach to understanding cosmic evolution from nothingness.

Ancient Civilizations (3000 BCE - 500 CE)

1. **Geocentric Model:** Ancient Greeks (e.g., Aristotle, Ptolemy) thought that earth is the midpoint of whole cosmological system. The Sun, Moon, Stars and planets revolve around the earth with uniform circular motion. The first astronomer who suggested geocentric was Claudius ptolemaeus. He was known as Ptolemy. He was an Egyptian astronomer, and studied mathematics and geography. Mr. Ptolemy was born in 100AD and died in 170 AD.⁷²
2. **Heliocentric Model:** The term heliocentric comes from Greek words “holios” which means “Sun” and “centric” means “being center”. Heliocentric model is an astronomical model that proposed sun as the centered of the earth, moon, stars and planets. All those

⁷¹ Michael Heller “*Cosmological Singularity And The Creation Of The Universe*”, Journal of Cosmology, Zygon, (September 2000):12-21

⁷² Michael Nosonovsky “*The Missing Link Between Nasir al-Din al-Tusi and Nicolaus Copernicus*”, History of science and technology, University of Wisconsin Milwaukee,(July 2018): 5-13

rotate around it with uniform circular motion. This model is proposed by Nicholas Copernicus.⁷³

Renaissance and Enlightenment (1500 - 1800 CE)

1. Copernican Revolution:

This revolution was scientific shifted from geocentric model of universe to the heliocentric model. In geocentric model ancient Greeks thought that earth is the center of sun, moon stars and other planets present in solar system.⁷⁴ In Copernican revolution the scientific approach changed and considers sun as the center of solar system. According to astrophysical history the Tusi couple is label as a key element of the Copernican heliocentric system.⁷⁵ Additionally, there is indirect evidence that Copernicus (1473-1543) was aware with the effort of Nasir al-Din al Tusi (1201-1271). Willy Hartner showed in 1973 that it is likely that Copernicus was familiar with Al-Tusi's work, since there is a striking resemblance between the drawings of Copernicus in his *De Revolutionibus* orbit celestial (On revolutions of celestial spheres).⁷⁶

2. Galileo Galilee:

Galileo Galilee (1564–1642) was a renowned Italian astronomer, physicist, and engineer, often referred to as the "father of modern observational astronomy." He significantly advanced the use of the telescope for celestial observations, providing strong evidence in support of the heliocentric model proposed by Nicolas Copernicus.⁷⁷ His discoveries included the four largest moons of Jupiter, the phases of Venus, sunspots, and the rugged surface of the Moon, all of which challenged the prevailing geocentric model of the universe.

In addition to his astronomical contributions, Galileo made groundbreaking advancements in physics, particularly in the study of motion. He formulated the laws of

⁷³ ibid

⁷⁴ ibid

⁷⁵ Michael Nosonovsky "The Missing Link Between Nasir al-Din al-Tusi and Nicolaus Copernicus ", History of science and technology, University of Wisconsin Milwaukee,(July 2018): 2-17

⁷⁶ ibid

⁷⁷ William Lane Craig "*The Origin and Creation of the Universe: A Reply to Adolf Grünbaum*" Oxford Press, (Jun., 1992): 33-46

falling bodies and the principle of inertia, laying the foundation for classical mechanics later developed by Isaac Newton.⁷⁸ His advocacy for the heliocentric system led to conflicts with the Catholic Church, resulting in his trial by the Inquisition and house arrest for the remainder of his life. Despite this, his work profoundly influenced the scientific revolution and modern physics.⁷⁹

3. Isaac Newton:

Newton (1643-1727) has been called the most leading personality in the past of western science and has been considered central figure in the history of science. He developed the laws of motion and universal gravitation, laying the foundation for modern astrophysics.⁸⁰

19th and Early 20th Centuries (1800 - 1950 CE)

1. Big Bang Hypothesis:

The Big Bang hypothesis on cosmic evolution was actually proposed by Georges Lemaitre 1927, but it was not widely accepted until the 1960s.

“Georges Lemaitre”, a Belgian priest and cosmologist, projected the "Cosmic Egg" hypothesis in 1927, which suggested that the cosmos initiated as a single, primordial atom that expanded fast around 13.8 billion years back.

However, it was not up to the 1960s that the Big Bang theory gained extensive acceptance. Thanks to the discovery of cosmic microwave background radiation by Arno Penzias and Robert Wilson in 1964. This finding provided strong proof for the Big Bang theory and aided to establish it as the foremost explanation for the origins and growth of the universe.⁸¹

2. Expanding Universe:

In 1929, Edwin Hubble made a groundbreaking observation that provided crucial evidence for the theory of an expanding universe. By analyzing the redshift of light emitted by distant galaxies, he demonstrated that these galaxies are receding from us at

⁷⁸ George Gamow “The Creation of the Universe” JSTOR, The Johns Hopkins University Press, (1958): 54-76

⁷⁹ Michael Nosonovsky “The Missing Link Between Nasir al-Din al-Tusi and Nicolaus Copernicus”, History of science and technology, University of Wisconsin Milwaukee, (July 2018): 6-13

⁸⁰ Andrew R. Liddle “An Introduction To Cosmological Inflation”, University of Sussex, Brighton, (1999):23-32

⁸¹ Eric V. Linder “Cosmic Growth History and Expansion” Berkeley Laboratory, Berkeley, (Feb 2008):2-8

speeds proportional to their distances. This discovery indicated that the universe is not static but is continuously expanding.⁸²

Hubble's findings significantly transformed our comprehension of the cosmos, offering strong support for the Big Bang theory and the expanding universe model. His research laid the groundwork for modern cosmology, shaping our understanding of the universe's origins, large-scale structure, and long-term evolution.⁸³

3. Cosmic Microwave Background Radiation:

In 1964, Arno Penzias and Robert Wilson discovered cosmic microwave background (CMB) radiation, offering substantial support for the Big Bang theory. The cosmic microwave background (CMB) is considered the leftover heat from the Big Bang, present as faint microwave radiation permeating the universe. Penzias and Wilson's discovery of the CMB validated a key prediction made by George Gamow and his colleagues in the 1940s, serving as critical evidence in support of the Big Bang theory.⁸⁴

3.1.4. Modern Era (1950 CE - Present)

1. Standard Model of Cosmology:

The Big Bang theory was formulated after a series of discoveries. In 1929, Edwin Hubble (the American astronomer), noticed that the galaxies of the universe were continually moving away from one another and that the universe was expanding. If the flow of time in an expanding universe were reversed, then it emerged that the whole universe must have come from a single point. Astronomers assessing the validity of Hubble's discovery were faced with the fact that this single point was a "metaphysical" state of reality in which there was an infinite gravitational attraction with no mass. Matter and time came into being by the explosion of this 17 mass-less point. In other words, the universe was created from nothing. Thus, the fact arrived at finally by modern astronomy is this: time and matter were brought into being by an eternally powerful Creator independent of both of them? The eternal power that created the universe in which we

⁸² A.A. Starobinsky "Future and Origin of our Universe: Modern View" Isaac Newton Institute for Mathematical Sciences, University of Cambridge, (1999):22-27

⁸³ *ibid*

⁸⁴ Daniel Baumann and Hiranya V. Peiris "Cosmological Inflation: Theory and Observations", Journal of Science, arXiv,(2009):7-13

live is God who is the possessor of infinite might, knowledge and wisdom. The big bang theory is the leading explanation for the origin and evolution of our universe. Scientists argue that the creation of the universe started with a Big Bang. According to this theory, the universe began as infinitely hot and dense particle, known as singularity, around 13.8 billion years ago.⁸⁵

This singularity expanded rapidly, and as it did, it cooled and formed subatomic particles, atoms and eventually the stars and galaxies we see today.

2. Dark Matter and Dark Energy:

The discoveries of dark matter in 1978 and dark energy in 1998 have greatly enhanced our understanding of the universe's evolution. Everything observable, from planets to living beings, is composed of matter, any substance that has mass and occupies space. However, the universe consists of more than just visible matter.⁸⁶

Dark matter and dark energy are mysterious, unseen components that influence the structure and expansion of the cosmos. Though their exact nature remains unknown, they are estimated to account for about 95% of the universe's total mass-energy composition. Scientists continue to study these phenomena to unravel their role in shaping the universe.⁸⁷

3. Inflationary Theory:

In 1980, Alan Guth introduced the inflationary theory to explain the universe's extremely rapid expansion during its earliest moments.⁸⁸ According to this theory, the universe experienced an exponential growth phase within a fraction of a second after its formation. Developed to address certain limitations of the standard Big Bang model, cosmic inflation provides insights into the

⁸⁵ Dongshan He, Dongfeng Gao, and Qing-yu Cai1 “*Spontaneous creation of the universe from nothing*”, Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences, Wuhan, China,(2014):1-5

⁸⁶ Piero Madau “*Cosmic Star-Formation History*” Department of Astronomy and Astrophysics, University of California,(2014):52-63

⁸⁷ *ibid*

⁸⁸ Daniel Baumann and Hiranya V. Peiris “*Cosmological Inflation: Theory and Observations*”, Journal of Science, arXiv,(2009):8-11

uniformity and large-scale structure of the universe. This theory suggests that the universe's rapid expansion in its infancy set the stage for its subsequent evolution.⁸⁹

Contemporary Models of Cosmic Evolution:

Here are some contemporary models of cosmic evolution:

3.2.1 Λ CDM Model:

The Λ CDM (Lambda-Cold Dark Matter) model is the leading framework for understanding cosmic evolution. It incorporates dark matter, dark energy, and ordinary matter to explain the universe's expansion, large-scale structure, and overall development. This model provides a comprehensive description of how the universe has evolved from its early stages to its current state.⁹⁰

Key Components of Λ CDM Model:

1. **Cosmological Constant (Λ):** It represents the vacuum energy density responsible for the universe's accelerating expansion.⁹¹
2. **Cold Dark Matter (CDM):** It refers to a form of dark matter that moves at speeds much slower than the speed of light.⁹²
3. **Ordinary Matter:** Makes up the remaining 4.9% of the universe's total energy density.

The model explains the expansion of the cosmos through the combination of dark energy and dark matter. Dark energy drives the accelerating opening out, while dark matter provides the gravitational pull necessary to form cosmic structures.⁹³

Evidence Supporting the Λ CDM Model:

1. **Cosmic Microwave Background Radiation:**

The CMB's temperature and polarization patterns confirm key predictions of the Λ CDM model.⁹⁴

⁸⁹ Andreas Albrecht "Cosmic Inflation and the Arrow of Time" Journal of Science, arXiv,(2002):14-21

⁹⁰ Eric V. Linder "Cosmic Growth History and Expansion" Berkeley Laboratory, Berkeley,(Feb 2008):4-7

⁹¹ ibid

⁹² ibid

⁹³ JoAnn Palmeri "Cosmos and Culture" [Cosmos And Culture-Ch15-Palmeri.pdf](#)

⁹⁴ ibid

2. Large-Scale Structure of the Universe:

The spreading of galaxies and galaxy clusters matches the model's predictions.

3. Supernovae Observations:

The observed accelerating expansion of the universe, seen in the light from distant supernovae, supports the model's incorporation of dark energy.⁹⁵

Parameters and Equations of the Λ CDM Model:

1. Hubble Parameter (H):

Hubble parameter defines the expansion rate of the cosmos.

2. Friedman Equations:

Friedman equations relate the expansion rate to the density of matter and energy in the universe.⁹⁶

3. Density Parameters:

It describes the relative densities of different components, such as dark matter, dark energy, and ordinary matter.⁹⁷

3.2.2. The Inflationary Model:

The inflationary model suggests that the universe experienced a rapid expansion within the first moments after the Big Bang. This swift growth helped smooth out any irregularities, providing an explanation for the observed uniformity and consistency of the cosmic microwave background radiation.⁹⁸

Key Components of the Inflationary Model:

1. Inflationary Epoch:

The period of rapid growth that happened in the initial moments of the universe.⁹⁹

2. Inflation Field:

⁹⁵ George Gamow “*The Creation of the Universe*” JSTOR, The Johns Hopkins University Press, (1958): 93-108

⁹⁶ *ibid*

⁹⁷ William Lane Craig “*The Origin and Creation of the Universe: A Reply to Adolf Grünbaum*” Oxford Press, (Jun., 1992): 32-35

⁹⁸ Eric V. Linder “*Cosmic Growth History and Expansion*” Berkeley Laboratory, Berkeley,(Feb 2008):3-5

⁹⁹ *ibid*

A proposed field responsible for driving the inflationary expansion

3. **Slow-Roll Inflation:**

A type of inflation where the inflation field rolls slowly down its potential energy hill

Evidence Supporting the Inflationary Model:

1. **Cosmic Microwave Background Radiation:**

The CMB's temperature and polarization patterns are consistent with the predictions of the Inflationary Model.¹⁰⁰

2. **Large-Scale Structure of the Universe:**

The distribution of galaxies and galaxy clusters is consistent with the predictions of the Inflationary Model.¹⁰¹

3. **Gravitational Waves:**

The observation of gravitational waves by BICEP2 and Planck offers evidence supporting inflation.

Simple Explanation of the Inflationary Model:

Picture a balloon being quickly inflated. As it expands, any wrinkles or imperfections on its surface get flattened. Similarly, the Inflationary Model suggests that the universe experienced a rapid expansion in its early stages, smoothing out any initial irregularities and helping to explain why the universe appears so uniform and isotropic on large scales.¹⁰²

3.2.3. The Cyclic Model:

The Cyclic Model is a theoretical framework in cosmology suggesting that the universe undergoes endless cycles of expansion and contraction, each lasting billions of years. Proposed by Paul Steinhardt and Neil Turok as an alternative to the Big Bang theory, it challenges the

¹⁰⁰ A.A. Starobinsky “*Future and Origin of our Universe: Modern View*” Isak Newton Institute for Mathematical Sciences, University of Cambridge, (1999):12-15

¹⁰¹ Andrew R. Liddle “*An Introduction To Cosmological Inflation*”, University of Sussex, Brighton, (1999):9-12

¹⁰² Dongshan He, Dongfeng Gao, and Qing-yu Cai “*Spontaneous creation of the universe from nothing*”, Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences, Wuhan, China,(2014):3-4

current standard cosmological model, which combines the traditional Big Bang model with the inflationary scenario.¹⁰³ Inflation, a brief period of rapid cosmic acceleration shortly after the Big Bang (lasting around 10^{-30} seconds), is used to explain the large-scale homogeneity and isotropy of the universe, its spatial flatness, and the distribution of galaxies, along with fluctuations in the cosmic microwave background.¹⁰⁴

However, the standard model has its limitations. Recent findings indicating cosmic acceleration and the presence of self-repulsive dark energy were not anticipated by the model and lack a clear explanation within its framework. Moreover, the standard model does not address the "beginning of time," the universe's initial conditions, or its long-term fate. Research by Boyle et al. (2002) demonstrated that the Cyclic Model can account for the observed features of the Cosmic Microwave Background (CMB) radiation, offering an alternative perspective on these cosmic phenomena. Cyclic Model and Large-Scale Structure demonstrated that the Cyclic Model can explain the observed large-scale structure of the universe.¹⁰⁵¹⁰⁶

Key Features of the Cyclic Model:

1. **Eternal Inflation:** The cosmos undergoes an endless series of expansion and contraction cycles, with each cycle lasting for billions of years.¹⁰⁷
2. **Brane Cosmology:** The universe is composed of multiple branes, or membranes, that interact with each other, leading to the cyclic behavior.¹⁰⁸
3. **Dark Energy:** The Cyclic Model proposes that dark energy is not a persistent, but rather a dynamic field that drives the expansion and contraction cycles.¹⁰⁹

3.2.4. The Brane Cosmology Model:

The brane cosmology model suggests that our universe exists as a four-dimensional brane, or membrane, embedded within a higher-dimensional space known as the "bulk."¹¹⁰

¹⁰³ibid, (1999):7-9

¹⁰⁴ Neil Turok and Joseph Henry "A Cyclic Model of the Universe" Princeton University, Princeton (2002):34-67

¹⁰⁵ ibid

¹⁰⁶ Dildar Ahmed "Chaos And Order: The Quranic Concept of The Cosmos"

https://www.academia.edu/18781237/The_Quranic_concept_of_cosmos

¹⁰⁷ ibid

¹⁰⁸ ibid

¹⁰⁹ ibid

Key Points:

1. Introduction to Brane Cosmology:

Brane cosmology is a theoretical framework that seeks to explain the universe's evolution within the context of string theory and M-theory. It proposes that our universe exists as a four-dimensional brane, or membrane, floating within a higher-dimensional space referred to as the "bulk."¹¹¹

2. Brane-World Scenario: In the brane-world scenario, our cosmos is a brane embedded in a higher-dimensional space, and gravity is the only force that can spread through the bulk. The other essential forces, such as electromagnetism and the strong and weak nuclear forces, are confined to our brane.¹¹²

3. Brane Inflation: Brane inflation is a mechanism for inflation in the early universe, where the distance between our brane and another brane in the bulk space is the inflaton field.

4. Brane Cosmology and the Friedmann Equations: The Friedmann equations, which describe the evolution of the universe, are modified in the context of brane cosmology. The modifications include the addition of terms that describe the effects of the bulk space on our brane.¹¹³

3.2.5. The Modified Newtonian Dynamics (MOND) Model:

The MOND model, suggested by Mordehai Milgrom in 1983, is a non-relativistic, modified gravity theory that purposes to explain the detected behavior of galaxies without begging dark matter (Milgrom, 1983). This model has been widely debated in the literature as a possible alternative to dark matter.¹¹⁴

¹¹⁰ Ibid (2002):34-67

¹¹¹ Daniel Baumann and Hiranya V. Peiris “*Cosmological Inflation: Theory and Observations*”, Journal of Science, arXiv,(2009):5-9

¹¹² ibid

¹¹³ Martin Riexinger “*Responses of South Asian Muslims to the Theory of Evolution*” JSTOR, Brill, (2009): 112-117

¹¹⁴ George Gamow “*The Creation of the Universe*” JSTOR, The Johns Hopkins University Press, (1958): 212-218

Theoretical Framework of MOND:

The MOND model modifies Newton's law of universal gravitation at low accelerations, such as those present in the external regions of galaxies. The modified law of gravity is given by $\mu(a/a_0) = a$, where μ is a function that depends on the acceleration a and a_0 is a constant acceleration scale (Milgrom, 1983). This modification leads to a different gravitational force law at low accelerations, which can describe the observed flat rotation curves of spiral galaxies without the need for dark matter.¹¹⁵

Phenomenological Successes of MOND:

MOND has been effective in explaining several observed sensations, including the flat rotation curves of spiral galaxies, the Tully-Fisher relation between galaxy revolution velocity and mass, and the observed velocity dispersion outlines of galaxy clusters (Sanders & McGaugh, 2002). These successes suggest that MOND may be a viable alternative to dark matter in explaining the resulted behavior of galaxies.¹¹⁶

Limitations and Challenges of MOND:

Despite its phenomenological successes, MOND faces several theoretical challenges, including difficulty in incorporating MOND into a relativistic framework and inability to describe the observed properties of galaxy clusters and the large-scale structure of the cosmos.

The study of open clusters appears to imply that the modified dynamics cannot follow the strong equivalence principle. The study of the effects of a constant, external acceleration field on the internal dynamics of a system, if feasible, may thus provide a most powerful test of the modified dynamics.¹¹⁷

These challenges highlight the need for further development and refinement of the MOND model.

¹¹⁵ William Lane Craig “*The Origin and Creation of the Universe: A Reply to Adolf Grünbaum*” Oxford Press, (Jun., 1992): 52-61

¹¹⁶ *ibid*

¹¹⁷ Milgrom “*A modification of the Newtonian dynamics as a possible alternative to the hidden mass hypothesis*”, *Astrophysical Journal*,(1983): 117-122

Conclusion:

The MOND model is a non-relativistic, modified gravity theory that has been successful in explaining several observed phenomena in galaxies. However, it faces several theoretical challenges that need to be addressed. Further development and refinement of the MOND model are necessary to determine its viability as a alternative to dark matter.¹¹⁸

3.2.6. The TeVeS Model:

The TeVeS model is a relativistic extension of MOND, incorporating a tensor field, a vector field, and a scalar field.

Introduction:

The TeVeS (Tensor-Vector-Scalar) model, proposed by John Moffat in 2005, is a relativistic extension of the Modified Newtonian Dynamics (MOND) theory. TeVeS aims to provide a more comprehensive and consistent framework for understanding the conduct of galaxies and the cosmos.

Key Features:

- 1. Relativistic Extension:** TeVeS builds upon MOND by incorporating relativistic effects, allowing it to define phenomena on larger scales.¹¹⁹
- 2. Tensor-Vector-Scalar Field Theory:** TeVeS is a tensor-vector-scalar field theory, which includes a tensor field ($g_{\mu\nu}$), a vector field (A_μ), and two scalar fields (ϕ and ψ).
- 3. Modified Einstein Field Equations:** TeVeS modifies the Einstein field equations to include the effects of the vector and scalar fields.

Phenomenological Successes:

- 1. Galactic Rotation Curves:** TeVeS successfully reproduces the observed rotation curves of galaxies without invoking dark matter.¹²⁰

¹¹⁸ ibid

¹¹⁹ Maryam Seyidbeyli “*Life and activity of Nasir al-Din al-Tusi*”, History of science and technology, ResearchGate, (2020):3-10

¹²⁰ ibid

2. Gravitational Lensing: TeVeS predicts gravitational lensing effects consistent with observations.

3. Cosmological Expansion: TeVeS provides a framework for understanding the accelerating expansion of the universe.

Challenges and Limitations:

1. Mathematical Complexity: TeVeS is a complex theory, requiring advanced mathematical techniques to solve.¹²¹

2. Parameter Fine-Tuning: TeVeS requires fine-tuning of its parameters to match observations.

3. Lack of Predictive Power: TeVeS has limited predictive power, making it challenging to test and confirm.

Conclusion:

The TeVeS model is a relativistic extension of MOND, providing a more comprehensive framework for understanding the conduct of galaxies and the cosmos. While TeVeS has attained phenomenological successes, it faces challenges and limitations that require further investigation.¹²²

3.2.7. The Emergent Gravity Model:

The emergent gravity model proposes that gravity is an emergent property of the collective behavior's a concise overview of the Emergent Gravity Model:

Introduction:

The Emergent Gravity Model, proposed by Erik Verlinde in 2016, is a theoretical framework that describes gravity as an emergent phenomenon. This model challenges the traditional understanding of gravity as a fundamental force of nature.¹²³

¹²¹ ibid

¹²² Daniel Baumann and Hiranya V. Peiris “*Cosmological Inflation: Theory and Observations*”, *Journal of Science*, arXiv,(2009):7-13

¹²³ Piero Madau “*Cosmic Star-Formation History*” *Department of Astronomy and Astrophysics, University of California*,(2014):32-37

Key Features:

- 1. Emergent Gravity:** Gravity is not an essential force, but rather an emergent property of the collective conduct of particles.
- 2. Entanglement and Information:** Gravity is related to the entanglement and information shared between particles.¹²⁴
- 3. Holographic Principle:** The model is established on the holographic principle, which positions that the information contained in a region of space is fixed on its surface.

Phenomenological Successes:

- 1. Gravitational Force Law:** The Emergent Gravity Model reproduces the gravitational force law, including the inverse square law.
- 2. Gravitational Waves:** The model predicts the existence of gravitational waves, steady with observations.¹²⁵
- 3. Black Hole Entropy:** The model provides an explanation for the entropy of black holes.

Challenges and Limitations:

- 1. Mathematical Complexity:** The Emergent Gravity Model is a highly mathematical framework, requiring advanced techniques to solve.
- 2. Lack of Predictive Power:** The model has limited predictive power, making it challenging to test and confirm.¹²⁶
- 3. Interpretation of Results:** The model's results require careful interpretation, as they may not be directly comparable to traditional gravity theories.

¹²⁴ Dongshan He, Dongfeng Gao, and Qing-yu Cai1 “*Spontaneous creation of the universe from nothing*”, Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences, Wuhan, China,(2014):1-5

¹²⁵ *ibid*

¹²⁶ Andrew R. Liddle “*An Introduction To Cosmological Inflation*”, University of Sussex, Brighton, (1999):23-32

Conclusion:

The Emergent Gravity Model offers a new perspective on gravity, describing it as an emergent phenomenon. While the model has achieved phenomenological successes, it faces challenges and limitations that require further investigation.¹²⁷

3.2.8. The Causal Dynamical Triangulation (CDT) Model:

The CDT model uses a discretized space-time, similar to quantum gravity, to study the gravitational path integral.

Introduction:

The Causal Dynamics Triangulation (CDT) model is a quantum gravity framework that uses a discretized space-time, similar to lattice gauge theory. Developed by Renate Loll, Jan Ambjorn, and Jerzy Jurkiewicz, CDT aims to merge quantum mechanics and general relativity.¹²⁸

Key Features:

- 1. Discretized Space-time:** CDT discretizes space-time into simple geometric building blocks called simplices.
- 2. Causal Structure:** The model incorporates a causal structure, which ensures that the space-time geometry is consistent with the laws of causality.¹²⁹
- 3. Quantum Fluctuations:** CDT includes quantum fluctuations, allowing for the study of quantum gravity effects.

Phenomenological Successes:

- 1. Reproducing the Gravitational Path Integral:** CDT has been shown to reproduce the gravitational path integral, a key feature of quantum gravity.
- 2. Emergence of a Classical Space-time:** The model demonstrates the emergence of a classical space-time from the underlying quantum fluctuations.¹³⁰

¹²⁷ Ibid (2002):8-11

¹²⁸ Ibid

¹²⁹ Eric V. Linder “*Cosmic Growth History and Expansion*” Berkeley Laboratory, Berkeley,(Feb 2008):2-8

3. Black Hole Entropy: CDT provides an explanation for the entropy of black holes.

Challenges and Limitations:

1. Computational Complexity: CDT simulations are computationally intensive, requiring significant resources to study large space-time volumes.¹³¹

2. Interpretation of Results: The model's results require careful interpretation, as they may not be directly comparable to other quantum gravity frameworks.

3. Incorporating Matter and Energy: CDT currently focuses on the gravitational sector; incorporating matter and energy remains an open challenge.¹³²

Conclusion:

The Causal Dynamics Triangulation model offers a unique approach to quantum gravity, using a discretized space-time and incorporating causal structure and quantum fluctuations. While CDT has achieved phenomenological successes, it faces challenges and limitations that require further investigation.¹³³

3.2.9. The Asymptotic Safety Model:

The asymptotic safety model proposes that gravity may become a "safe" theory at very small distances, meaning that the theory becomes self-consistent and predictive.

Introduction:

The Asymptotic Safety model is a theoretical framework that efforts to merge quantum mechanics and general relativity. Developed by Steven Weinberg and others, Asymptotic Safety postulates that gravity may become a "safe" theory at very small distances, meaning that the theory becomes self-consistent and predictive.¹³⁴

¹³⁰ *ibid*

¹³¹ A.A. Starobinsky "Future and Origin of our Universe: Modern View" Isaak Newton Institute for Mathematical Sciences, University of Cambridge, (1999): 11-14

¹³² *ibid*

¹³³ Andreas Albrecht "Cosmic Inflation and the Arrow of Time" Journal of Science, arXiv,(2002):15-19

¹³⁴ *ibid*

Key Features:

- 1. Non-perturbative Approach:** Asymptotic Safety uses a non-perturbative approach, which allows for the study of gravity in the strong-field regime.¹³⁵
- 2. Fractal Space-time Structure:** The model predicts a fractal spacetime structure at small distances, which is characterized by a self-similar pattern.¹³⁶
- 3. Gravitational Fixed Point:** Asymptotic Safety postulates the existence of a gravitational fixed point, which is a point in the theory space where the gravitational coupling constant becomes constant.

Phenomenological Successes:

- 1. Reproducing the Gravitational Force Law:** Asymptotic Safety has been shown to reproduce the gravitational force law at large distances.¹³⁷
- 2. Predicting Gravitational Waves:** The model predicts the presence of gravitational waves, which have been detected directly.
- 3. Cosmological Implications:** Asymptotic Safety has implications for cosmology, including the possibility of a bouncing universe.

Challenges and Limitations:

- 1. Mathematical Complexity:** Asymptotic Safety is a mathematically complex framework, requiring advanced techniques to solve.¹³⁸
- 2. Lack of Experimental Evidence:** Currently, there is no direct experimental confirmation for Asymptotic Safety.
- 3. Interpretation of Results:** The model's results require careful interpretation, as they may not be directly comparable to other quantum gravity frameworks.

¹³⁵ Daniel Baumann and Hiranya V. Peiris “Cosmological Inflation: Theory and Observations”, Journal of Science, arXiv,(2009):7-13

¹³⁶ Piero Madau “Cosmic Star-Formation History” Department of Astronomy and Astrophysics, University of California,(2014):52-63

¹³⁷ William Lane Craig “The Origin and Creation of the Universe: A Reply to Adolf Grünbaum” Oxford Press, (Jun., 1992): 77-89

¹³⁸ JoAnn Palmeri “Cosmos and Culture” [CosmosAndCulture-Ch15-Palmeri.pdf](#)

Conclusion:

The Asymptotic Safety model offers a unique approach to quantum gravity, using a non-perturbative approach and predicting a fractal space-time structure. While Asymptotic Safety has achieved phenomenological successes, it faces challenges and limitations that require further investigation.¹³⁹

3.2.10 . The Loop Quantum Cosmology (LQC) Model:

The LQC model applies the main beliefs of loop quantum gravity to the study of the very early.

Introduction:

Loop Quantum Cosmology (LQC) is a theoretical framework that applies the principles of loop quantum gravity to cosmology. Developed by Martin Bojowald and others, LQC aims to make available a quantum gravity explanation of the early cosmos.¹⁴⁰

Key Features:

LQC is based on the following key features:

1. **Discrete Space-time:** LQC uses a discrete spacetime, which is made up of granular, indistinguishable units of space and time.
2. **Quantum Gravity Effects:** LQC incorporates quantum gravity effects, which become important at very small distances and high energies.
3. **Homogeneous and Isotropic Space-time:** LQC assumes a homogeneous and isotropic space-time, which is consistent with the detected large scale structure of the universe.¹⁴¹

Phenomenological Successes:

LQC has achieved several phenomenological successes, including:

1. **Resolution of the Big Bang Singularity:** LQC resolves the big bang singularity, which is a fundamental problem in classical cosmology.

¹³⁹ *ibid*

¹⁴⁰ David Tong “*Cosmology*”, Cambridge Press, (2019):22-35 <D:/Research%20Data/Articles%20and%20Thesis/English/cosmo.pdf>

¹⁴¹ *ibid*

2. **Inflationary Cosmology:** LQC provides a quantum gravity description of inflationary cosmology, which is consistent with observational data.
3. **Quantum Gravity Effects in the Early Universe:** LQC predicts quantum gravity effects in the initial universe, which could be tested by future observations.¹⁴²

Challenges and Limitations:

LQC faces several challenges and limitations, including:

1. **Mathematical Complexity:** LQC is a mathematically complex framework, requiring advanced techniques to solve.
2. **Lack of Experimental Evidence:** Presently, there is no direct experimental prove for LQC.

Interpretation of Results: The results of LQC require careful interpretation, as they may not be directly comparable to other quantum gravity frameworks.¹⁴³

Conclusion:

Loop Quantum Cosmology is a theoretical framework that provides a quantum gravity description of the early universe. While LQC has achieved several phenomenological successes, it faces challenges and limitations that require further investigation.

3.2.11. Big Crunch Theory:

Introduction:

The Big Crunch theory is a hypothetical scenario in cosmology that suggests the universe will eventually collapse back into itself, potentially marking the end of the cosmos. This theory is built on the idea that the expansion of the cosmos, which began during the Big Bang, will eventually slow down and then reverse, causing the universe to collapse.¹⁴⁴

¹⁴² Michael Heller “Cosmological Singularity And The Creation Of The Universe”, Journal of Cosmology, Zygon, (September 2000):12-17

¹⁴³ *ibid*

¹⁴⁴ Stephen Hawking “A Brief History of Time”, Cosmology, Bantam Dell Publishing Group, Hardcover and Paperback, (April 1988):33-41

Key Features:

- 1. Expansion Reversal:** The Big Crunch theory suggests that the universe's expansion will eventually decelerate, reverse, and collapse back into itself.¹⁴⁵
- 2. Cosmic Collapse:** The collapse of the universe would result in an immense amount of matter and energy being compressed into an incredibly small space, potentially creating a singularity.¹⁴⁶
- 3. Cyclic Universe:** Some versions of the Big Crunch theory aims that the universe undergoes cycles of spreading out and shrinkage, with the Big Crunch marking the end of one cycle and the start of another.¹⁴⁷

Phenomenological Successes:

- 1. Explaining the Universe's Expansion:** The Big Crunch theory provides an explanation for the detected growth of the cosmos, which is supported by a wide range of observational evidence.¹⁴⁸
- 2. Predicting the Universe's Fate:** The Big Crunch theory makes guesses about the ultimate fate of the universe, which can be tested against observational proves.¹⁴⁹

Challenges and Limitations:

- 1. Lack of Direct Evidence:** Currently, there is no direct observational evidence for the Big Crunch theory.
- 2. Uncertainty about the Universe's Density:** The Big Crunch theory relies on the universe having a certain density, but there is still uncertainty about the actual value of this density.¹⁵⁰
- 3. Alternative Theories:** Other theories, such as the Big Rip or heat death, also attempt to describe the ultimate fate of the cosmos.¹⁵¹

¹⁴⁵ ibid

¹⁴⁶ Michael Heller "Cosmological Singularity And The Creation Of The Universe", Journal of Cosmology, Zygon, (September 2000):21-29

¹⁴⁷ Neil Turok and Joseph Henry "A Cyclic Model of the Universe" Princeton University, Princeton (2002):8-12

¹⁴⁸ Eric V. Linder "Cosmic Growth History and Expansion" Berkeley Laboratory, Berkeley,(Feb 2008):2-8

¹⁴⁹ Stephen Hawking "A Brief History of Time", Cosmology, Bantam Dell Publishing Group, Hardcover and Paperback, (April 1988):43-49

¹⁵⁰ ibid

¹⁵¹ Andrew R. Liddle "An Introduction To Cosmological Inflation", University of Sussex, Brighton, (1999):21-26

Conclusion:

The Big Crunch theory is a hypothetical scenario that attempts to explain the ultimate fate of the universe. While it provides an explanation for the observed expansion of the cosmos, it lacks direct observational evidence and faces challenges from alternative theories.

3.3. Evidence Supporting the Big Bang Theory:

Introduction:

The Big Bang theory stands as the leading explanation for the universe's origin and evolution. It posits that the universe emerged approximately 13.8 billion years ago from an infinitely hot, dense point of matter. This event marked the beginning of time and space. Initially, the universe expanded rapidly, undergoing a period of inflation, cooling, and transformation from a minuscule, scorchingly hot state to its current vast size and temperature. This expansion and cooling process continues today. In this section, we will explore the evidence supporting the Big Bang theory.¹⁵²

3.3.1. Cosmic Microwave Background Radiation:

In the 1960s, scientists discovered a faint glow of microwave radiation that fills the entire universe. This radiation is known as the Cosmic Microwave Background Radiation (CMB). The CMB is thought to be the residual heat from the initial explosion of the Big Bang.¹⁵³

3.3.2. Abundance of Light Elements:

The Big Bang theory suggests that the early cosmos was extremely hot, enabling the formation of light elements like hydrogen, helium, and lithium from protons and neutrons. The observed abundance of these elements aligns closely with the theory's predictions.¹⁵⁴

3.3.3. Large-scale Structure of the Universe:

The universe consists of massive galaxy clusters and superclusters. According to the Big Bang theory, these structures developed as a result of gravitational collapse from minor density

¹⁵² Ibid (April 1988):57-62

¹⁵³ Ibid

¹⁵⁴ Aftab Khan “*The Universe, Science & God*”, Defense Journal; Karachi, (Apr 2012):44-49

fluctuations in the early universe. Observations of the universe's large-scale structure align well with this prediction.¹⁵⁵

3.3.4. Redshift of Light from Distant Galaxies:

Light from distant galaxies appears moved toward the red end of the spectrum, a phenomenon known as redshift. This effect is attributed to the universe's expansion, which stretches the wavelength of light as it moves through space.¹⁵⁶

3.3.5. Hubble's Law:

In the 1920s, Edwin Hubble found that the speed at which galaxies move away is directly proportional to their distance from Earth. This discovery, known as Hubble's Law, serves as crucial evidence for the universe's expansion.¹⁵⁷ Despite regions being causally disconnected, the early universe is believed to have been remarkably uniform (horizon problem). Additionally, the initial value of the Hubble constant had to be precisely fine-tuned to achieve the near-flat universe we observe today, which aligns closely with critical mass density (flatness problem).¹⁵⁸

3.3.6. Primordial Nucleo-synthesis:

The Big Bang theory suggests that the early cosmos was so intensely hot that it facilitated the formation of heavier elements, such as carbon and oxygen, from lighter elements. The observed abundance of these elements aligns with the theory's predictions.¹⁵⁹

To investigate the universe's large-scale structure, Mr. Humason at Mount Wilson Observatory launched a program to measure the velocities of distant nebulae, typically the brightest in their clusters. These observations provided valuable insights into cosmic expansion. For example, the nebula NGC 7619 was measured with a velocity of +3779 km/s, which, after correcting for solar motion, became +3910 km/s, corresponding to a distance of 7.8 million parsecs. This finding matched brightness estimates of cluster nebulae.¹⁶⁰

¹⁵⁵ Maryam Seyidbeyli "Life and activity of Nasir al-Din al-Tusi", History of science and technology, ResearchGate, (2020):3-10

¹⁵⁶ Piero Madau "Cosmic Star-Formation History" Department of Astronomy and Astrophysics, University of California,(2014):33-37

¹⁵⁷ E. Hubble "A Relation between Distance and Radial Velocity among Extra-Galactic Nebulae", National Academy of Sciences, (1929):72-88

¹⁵⁸ A.A. Starobinsky "Future and Origin of our Universe: Modern View" Isaac Newton Institute for Mathematical Sciences, University of Cambridge, (1999):13-17

¹⁵⁹ E. Hubble "A Relation between Distance and Radial Velocity among Extra-Galactic Nebulae", National Academy of Sciences, (1929):99-

¹⁶⁰ *ibid*

Such measurements offered early but significant evidence for the spatial distribution and motion of extragalactic objects. Continued observations are expected to refine these results, potentially supporting or challenging existing models.¹⁶¹ If validated, the velocity-distance correlation may be linked to the de Sitter effect, which connects cosmic expansion to the curvature of space. In this model, spectral shifts are attributed to the apparent slowing of atomic vibrations and the scattering of material particles, both involving time-dependent factors. Understanding this relationship is essential for studying cosmic evolution and the conditions that influenced the synthesis of elements during the universe's early expansion phase.¹⁶²

3.3.7. Conclusion:

The evidence outlined in this section strongly supports the Big Bang theory. Key factors such as the Cosmic Microwave Background Radiation, the profusion of light elements, the large-scale structure of the universe, the redshift of light from distant galaxies, Hubble's Law, and primordial nucleosynthesis all lead to a shared conclusion: the universe originated from an extremely hot and dense state and has been continuously expanding since that time.¹⁶³

3.4. Challenges and Controversies in Scientific Approaches to Cosmic Evolution:

The scientific exploration of cosmic evolution has delivered groundbreaking understandings into the origins, structure, and future of the cosmos. However, this field is not without its challenges and controversies, which often arise from gaps in empirical data, theoretical limitations, and philosophical implications. Below is a detailed exploration of these issues:

¹⁶¹ E. Hubble "A Relation between Distance and Radial Velocity among Extra-Galactic Nebulae", National Academy of Sciences, (1929:168-1

¹⁶² Hubble, E. (1929). A Relation between Distance and Radial Velocity among Extra-Galactic Nebulae. *Proceedings of the National Academy of Sciences*, 15(3), 168-173.

¹⁶³ *ibid*

3.4.1. Epistemological Challenges:

Limitations of Observations:

Many aspects of cosmic evolution, such as the early stages of the universe, are beyond direct observational reach. Scientists rely on indirect evidence like the cosmic microwave background (CMB), which is subject to interpretational biases.

Unobservable Realms:

Theoretical models predict phenomena like multiverses or dimensions beyond the observable cosmos, which cannot be empirically verified.

Reliance on Assumptions:

Models of cosmic evolution depend on assumptions like the uniformity of natural laws over time, which are not provable but rather assumed for consistency.

3.4.2. Theoretical Challenges:

Unification of Theories:

Cosmic evolution combines theories like General Relativity (to explain large-scale structures) and Quantum Mechanics (to explain subatomic phenomena). These frameworks remain fundamentally incompatible, posing a barrier to a unified understanding.¹⁶⁴

Dark Matter and Dark Energy:

The future of the Cosmos is mostly determined by its geometry and the behaviors of dark energy.¹⁶⁵ These constitute 95% of the cosmos's mass-energy content, until now their nature remains unknown. The inability to directly detect or fully understand these components complicates models of cosmic evolution.

Singularity Problem:

The singularity problem is a theoretical challenge in the scientific approach of cosmic evolution, specifically in the context of the Big Bang Theory. The theory posits that the cosmos originated from individuality, a point of infinite density and temperature where the recognized laws of

¹⁶⁴Daniel Baumann and Hiranya V. Peiris "Cosmological Inflation: Theory and Observations", Journal of Science, arXiv,(2009):7-13

¹⁶⁵Dmitry S Gorbunov, "Introduction to the Theory of the Early Universe", journal of science, www.worldscientific.com

physics break down. This concept, resulting from General Relativity, presents significant difficulties. First, the mathematical framework of Einstein's equations fails to describe conditions within a singularity, as these equations are not equipped to handle infinities.¹⁶⁶ Second, the singularity problem clashes with quantum mechanics, which rules the conduct of particles at extremely small gauges but does not align with the deterministic nature of general relativity. This inconsistency has driven the search for a unified theory, such as quantum gravity, to reconcile these two frameworks. Furthermore, the singularity difficult raises philosophical questions about the origin of the universe and limits of scientific explanation.

3.4.3. Methodological Controversies:

Anthropic Principle:

Some scientists argue that the universe appears fine-tuned for life, leading to debates over whether this is a result of physical laws or an indication of purpose, which leans toward metaphysical interpretations.

Data Interpretation:

Conflicting interpretations of cosmic data, such as discrepancies in dimensions of the Hubble Constant, highlight uncertainties in the understanding of cosmic expansion.

Computer Simulations:

While simulations are essential for studying cosmic evolution, they rely on assumptions and approximations that may not accurately represent reality.

3.4.4. Philosophical and Theological Implications:

Role of Divine Will:

The notion of divine will in guiding cosmic evolution often conflicts with purely naturalistic explanations. For example, the question of why the universe exists at all is beyond the scope of empirical science but is central to theological discussions.¹⁶⁷

¹⁶⁶ Michael Heller "Cosmological Singularity And The Creation Of The Universe", Journal of Cosmology, Zygon, (September 2000)

¹⁶⁷ Aftab Khan "The Universe, Science & God", Defense Journal; Karachi, (Apr 2012):33-44

Existence of Purpose:

While science approaches the universe as a purposeless system, many religious and philosophical traditions argue for a teleological perspective, creating tension between these views.

Origin of Laws of Nature:

The scientific method assumes the existence of consistent natural laws but cannot explain their ultimate origin. This opens debates about whether these laws are contingent (designed) or necessary (intrinsic to existence).

3.4.5. Ethical and Sociopolitical Controversies:

Funding Priorities:

The allocation of vast resources to cosmic research, such as space telescopes and particle accelerators, is sometimes criticized when pressing earthly issues remain unresolved.

Cultural and Religious Reactions:

The scientific narrative of cosmic evolution is sometimes perceived as conflicting with religious cosmologies, leading to resistance or alternative interpretations.¹⁶⁸

Misuse of Theories:

Concepts from cosmic evolution have been misinterpreted or misused to justify ideologies such as determinism or even socio-political theories like eugenics, which misapply evolutionary principles.

3.4.6. Interdisciplinary Challenges:

Integration of Disciplines:

Cosmic evolution requires the integration of astronomy, physics, chemistry, and biology, which often operate under different methodologies and assumptions.

¹⁶⁸ Hafiz Azhar Usama “*The Qur’anic Concept of the Creation of the Universe and Contemporary Scientific Discoveries: Introduction and Analysis*”, Institute of Islamic Studies, Punjab University, Lahore,(2021):10-16

Role of Consciousness:

The emergence of human consciousness raises questions about the interplay between cosmic and biological evolution, challenging the reductionist view of the universe.

Future Directions to Address Challenges:

1. **Improved Technology:** Advancements in telescopes, satellites, and particle accelerators may provide more precise data on phenomena like black holes, dark matter, and the early universe.
2. **Theoretical Innovations:** Progress in quantum gravity and string theory could bridge gaps between existing frameworks.
3. **Philosophical Dialogue:** Engaging with metaphysical and theological perspectives could enrich scientific interpretations of cosmic evolution.
4. **Public Engagement:** Promoting interdisciplinary and culturally sensitive approaches can help reconcile scientific findings with diverse worldviews.

Conclusion:

This chapter examined the scientific perspective on cosmic evolution, tracing the development of the universe from its origin to its current state. Modern cosmology, supported by observational and theoretical evidence, presents a structured and dynamic universe governed by physical laws.

The Big Bang Theory remains the most widely accepted model, explaining the universe's origin from a singularity approximately 13.8 billion years ago. Subsequent cosmic expansion, as observed through redshift data, and the presence of cosmic microwave background radiation further validate this model. The formation of galaxies, stars, and planetary systems followed a complex process driven by gravitational interactions, nuclear fusion, and stellar evolution.

Additionally, theories such as inflation, dark matter, and dark energy contribute to our understanding of cosmic dynamics, highlighting both the progress and limitations of scientific inquiry. While science provides a detailed account of the mechanisms behind cosmic evolution, it remains an ongoing exploration, with many unanswered questions about the nature of the universe's ultimate fate and origin.

This chapter establishes a foundation for comparing scientific explanations with religious perspectives, particularly the Quranic view of cosmic evolution, fostering a dialogue between empirical knowledge and theological insights.

CHAPTER NO.4

**AN ANALYSIS OF SCIENTIFIC APPROACH IN THE LIGHT
OF QURANIC VERSES**

CHAPTER NO.4

AN ANALYSIS OF SCIENTIFIC APPROACH, IN THE LIGHT OF QURANIC VERSES

4.1. A brief an analysis of scientific approach, in the light of Quranic Verses is under.

4.1.1. Comparative Analysis of Quranic and Scientific Perspectives:

The Quran and scientific perspective on cosmic evolution share some striking similarities. While the Quran provides a spiritual and philosophical framework for understanding the universe, scientific theories offer a more empirical and evidence-based explanation. Here's a comparative analysis of both perspectives:

Similarities:

1. Origin of the Universe:

Both the Quran and scientific perspective agree that the universe had a beginning either it be word “KUN” or “Primary Nebula” respectively. The Quran describes the origin of the universe in these words.

﴿أَوَلَمْ يَرَ الَّذِينَ كَفَرُوا أَنَّ السَّمَاوَاتِ وَالْأَرْضَ كَانَتَا رَتْقًا فَفَتَقْنَاهُمَا¹⁶⁹ وَجَعَلْنَا مِنَ الْمَاءِ كُلَّ شَيْءٍ حَيٍّ¹⁶⁹ أَفَلَا يُؤْمِنُونَ﴾

Hades

عن عبد الله بن عباس قال: قال رسول الله صلى الله عليه وسلم: "كان الله ولم يكن شيء غيره، وكان عرشه على الماء، ثم خلق السماوات والأرض¹⁷⁰"

“Abdullah ibn Abbas narrated that the Prophet (PBUH) said: "Allah was, and there was nothing else with Him, His Throne was upon the water, and then He created the heavens and the earth.”

¹⁶⁹ Surah Al-Anbiya, (21: 30)

¹⁷⁰ Al-Bukhari, *Sahih al-Bukhari*, vol. 4, Hadith 3192.

Explanation of Words:

1. Ratq (رتق): Refers to something joined or united.
2. Fataq (فتق): Refers to separating or splitting apart two joined things.

Tafseer Al Kauthar:

Sheikh Mohsin Ali Najafi says about the evolutionary stages of creation in Tafseer Al Kauthar that the heavens and the earth were a combined unit, which Allah then detached.¹⁷¹

Interpretative Views:

1. The heavens and the earth were once connected, and Allah split them, forming the seven heavens and the earth.
2. Initially, the heavens did not bring down rain, and the earth did not produce vegetation. Allah split them, bringing down rain from the heavens and causing the earth to produce vegetation.

Imam Muhammad al-Baqir (RA) supports this view, narrating that:

"The sky was sealed, not sending down rain, and the earth was sealed, not producing crops. When Allah created living beings, He opened the heavens for rain and the earth for vegetation."

¹⁷²

3. Some interpretations suggest that all celestial bodies were originally part of one entity and were later separated by a massive explosion, resembling modern theories of the Big Bang.
4. The elements that make up the heavens and the earth may have originated from the same material. This primeval substance could have been like smoke (referred to as Dukhān in the Quran), later dividing into the skies and the ground.

¹⁷¹ Tafseer al Kauthar by Sheikh Mohsin Ali Najafi, volume-5, page 238-240

¹⁷² Al-Kafi(8:94)

5. The verse also aligns with the idea that life originated in water, as modern science suggests, but it does not solely rely on scientific theories, which remain subject to change. The Quran, being an eternal truth, emphasizes its primary role as a guide to life, not a scientific textbook.

From water, every living thing:

﴿وَاللَّهُ خَلَقَ كُلَّ دَابَّةٍ مِّن مَّاءٍ¹⁷³﴾

“And Allah has made every living being from water.”

Water is essential for the formation and sustenance of all forms of life, including humans, animals, and plants. Even scientific discoveries affirm that life first emerged near water sources and that water is a key standard for the selection of life on other planets.

Will they not then believe?

Despite witnessing such signs of divine planning, the polytheists fail to believe that only Allah governs the universe's creation and management.

Scientific theories, such as the Big Bang theory, also suggest that the universe originated from Primary Nebula, and expanded rapidly about 13.8 billion years since.

Bayan ul Quran:

In other words, during extreme heat and suffocating humidity, people feel as if their very lives are at stake. In such a state, it appears as though the gates of the heavens are closed, the springs of the earth have dried up, and there is no hope for rain in sight. Drought reigns everywhere, but suddenly, through the mercy of Allah, the situation transforms. The heavens open up, and the rainwater rejuvenates life on earth, bringing vibrancy back to plant and animal life.¹⁷⁴

This verse also hints at the idea that after the Big Bang, the matter that came into existence was in the form of a single, unified homogeneous mass. Then, this mass divided, forming clusters of stars and planets, galaxies came into existence, the sun and its planets were created, and

¹⁷³ Surah An-Nur (24:45)

¹⁷⁴ Bayan-ul-Quran by Dr. Israr Ahmad volume 5, page 484-486

ultimately, our earth was formed. The entire creative process is essentially captured in the phrase where the skies and the ground were once united, and then we separated them.

"We made each and everything from water."

Al Jawahir Fi Tafseer ul Quran:

Allah says, "Those who are not aware of creation don't make a sense" meaning that, have they not known that "the heavens and the earth were united being (ratq)", i.e., they were conjoined and united. The term "ratq" refers to a state of fusion or being closely bound together.

"So we separated them" meaning, we divided them and removed their unity.

This aligns with what has been established by the people of Europe in these times, as they are the ones who have advanced this knowledge. They state that the sun was originally a sphere resembling a fiery orb that existed for millions of years. The earth, along with the planets and their satellites, were part of it. Subsequently, our earth separated, as did the other planets, all breaking away from the sun's equatorial line due to its rapid rotation and movement around itself.

Thus, the earth and the other planets moved away, forming what we now know as planets. The sun, along with the other planets, appears like a set of moving celestial bodies. Similarly, every star that we see, appearing as a fixed entity, also has its own planets, which likely originated from it.

Some estimate, albeit conjecturally, that the overall numeral of earth-like worlds in the universe does not decrease short of three hundred million inhabited planets. They assert that not all planets revolving around our sun are believed to be inhabited, but among them, our earth is inhabited, and possibly Mars or another planet might also be.

It is thus established that our earth is derived from the sun, and the sun itself originated from a larger sun, which, in turn, came from an even greater sun.

Thus, each of these suns revolves around what it was derived from, to the extent that human thought halts and the mind is astonished. This is the story of the world we inhabit. This is the

renowned statement in today's European world, which denies our Prophet Muhammad (peace be upon him) due to their ignorance of him.

The verse of Allah Almighty, expressed as a oratorical question, "Have those who reject faith not thought about how the spaces and the ground were once united, and then We parted them?" is among the miracles. This knowledge was unknown to the Arabs and their contemporary nations, but it became known in our present era. I declare to Muslims that this is a clear miracle in the Qur'an. Allah used the perfection of His creation and its precision as evidence of His exclusive power and wisdom. He made heat the cause of the movements of these celestial bodies, which were once a burning fire. Through these cycles over time, the sun's exterior cooled, leading to the separation of the earth and other planets, including our earth. This meticulous calculation in their orbits, the magnificent creation on its surface, and the precision of everything upon it was mentioned in the Qur'an at a time when both Muslims and non-Muslims whether Persians, Romans, or others were unaware of this theory, which has only recently become a remarkable miracle.

The Europeans, despite their disbelief in our Prophet Muhammad (peace be upon him), have recognized this idea. Thus, Allah reproaches the nations of the Prophet's time and reproaches us for our ignorance. He says: "Have those who reject faith not thought about how the spaces and the ground were once united, and then We parted them?" meaning that human intellect is capable of understanding this through examining causes, reading books, and studying wonders. So how can people not believe in one God? This will be explained further because this miracle is very significant.¹⁷⁵

Allama sheikh Fakhar uddin razi says nothing about big bang theory in the light of this Quranic verse in his famous *Tafseer al kabir*.¹⁷⁶

¹⁷⁵ Al jawahir fe Tafseer ul Quran, Tantavi Jowhari, volume-8, page 112-114

¹⁷⁶ Fakhar uddin razi, *Al Tafseer Al Kabir*, volume 32, Beirut: Dar al-Fikr, 1981

Conclusion and Result:

In the light of mentioned Tafaseer it becomes evident that the Qur'an and the scientific approach to the universe's origin are not in conflict. Instead, they complement each other in profound ways.

The commentators have skillfully adopted scientific ideas of their time and integrated them into their exegesis. They demonstrated how scientific discoveries can illuminate the Qur'anic descriptions of creation. For instance, the Big Bang theory aligns with the Qur'anic verse which describes the skies and the ground as a single unit that was detached, a concept remarkably similar to modern cosmology.

If we accept the Big Bang theory, it strengthens one of Islam's fundamental teaching of Islam that Allah existed when there was nothing (واجب الوجود), and the universe came into being by His will. The Qur'an emphasizes that the universe is not eternal but a creation that emerged from nothingness (Kun fa-yakūn). The intricate design and precise laws governing the cosmos further testify to the existence of an intelligent and purposeful Creator.

Thus, science, when viewed through the lens of faith, becomes a tool to affirm the heavenly message of the Qur'an. The harmony between the two leads us to a profound realization. The universe is a creation, not an accident, and its existence and order point unequivocally to the Creator. This understanding bridges the gap between faith and reason, inspiring both spiritual and intellectual reflection.

2. Expansion of the Universe:

The Quran pronounces the extension of the universe in such words.

(وَالسَّمَاءَ بَنَيْنَاهَا بِأَيْدٍ وَإِنَّا لَمُوسِعُونَ)¹⁷⁷

“And we built the skies with great strength, and indeed, we are its vast expander.”

¹⁷⁷ Surah Adh-Dhariyat, (51:47)

Explanation of the Verse:

Scientific observations have verified that the universe continues to expand, with galaxies increasingly moving apart at a growing rate.

Tafseer Al Kauthar:

1. “بِأَيْدٍ” (With strength)

In this verse, Allah Almighty states that He formed the skies "بِأَيْدٍ." The term "أيدٍ" refers to power and strength. For instance, as mentioned in another verse:

﴿وَاذْكُرْ عَبْدَنَا دَاوُدَ ذَا الْأَيْدِ﴾¹⁷⁸

(And recall our servant David, the one endowed with strength.)

Here, “أيدٍ” signifies strength and power, and by extension, support and reinforcement.

The meaning of this verse is:

"We constructed the heavens with power."

Does this imply that Allah created the heavens with His infinite and boundless power, as many classical scholars interpret? According to this interpretation, the addition of "His" to "power" would be understood from the context since it is evident that the heavens were not created by anyone else's power.

Another interpretation, proposed by some contemporary scholars, suggests that this verse means Allah created the heavens using energy. In this understanding, the "initial material" of the heavens was energy. As energy condensed, matter came into existence, and the disintegration of matter converts it back into energy, establishing their interrelation.

In this interpretation, “وَأَنَّا لَمُوسِعُونَ” is understood as: "We are expanding this energy." However, the true knowledge rests with Allah, and time will further elucidate the meanings of

¹⁷⁸ Surah Sad (38:17)

such verses. It is crucial to note that interpreting the Qur'an according to scientific hypotheses is not advisable, as these hypotheses are subject to change, while the Qur'an conveys eternal truths.

﴿وَإِنَّا لَمُوسِعُونَ﴾

“And indeed, we are [its] expander”

This signifies that Allah is continually expanding the heavens. Contrary to the Biblical claim that Allah rested after creating the universe, the Qur'an asserts:

﴿كُلَّ يَوْمٍ هُوَ فِي شَأْنٍ﴾¹⁷⁹

“Every day He is engaged in some concerns.”

Allah's beneficence is unceasing: "There is no interruption in His blessings." The creation of the heavens and the universe is not a finished event; instead, the universe is constantly expanding at an accelerating rate.”

Scientists estimate that stars are drifting away from their centers at a speed of 66,000 kilometers per second.¹⁸⁰

Bayan ul Quran:

Tafsir (Exegesis):

The phrase "إِنَّا لَمُوسِعُونَ" is often translated as "We are vast in power" or "We are capable of great expanse." However, linguistically, the translation chosen here "We are expanding it" is more precise and comprehensive. The verb **أَوْسَعَ يُوسِعُ** (from the form IV of the verb) means "to expand" or "to make spacious." The root verb **وَسَعَ** (from the basic triliteral form) produces the active participle **وَاسِعٌ**, meaning "expansive" or "all-encompassing." For instance, the phrase

¹⁷⁹ Surah Ar_Rahman(55:29)

¹⁸⁰ Sheikh Mohsin Ali Najafi, *Taseer al Kauthar* , Volume-8 ,page 391-392

(وَاللَّهُ وَاسِعٌ عَلِيمٌ) means "Allah is All-Encompassing and All-Knowing," signifying His boundless treasures and infinite capacity.¹⁸¹

In contrast, مُوسِعٌ (the active participle from form IV) specifically means "one who expands." Thus, the phrase إِنَّا لَمُوسِعُونَ here implies,

“We are continually expanding this universe, making it ever vaster.”

This interpretation aligns with what modern science has revealed.

Until about half a century ago, humanity was unaware of above concept. However, we now understand that new stars are being formed constantly, new galaxies are emerging, and the cosmos is perpetually growing. The concept of an "Expanding Universe" is articulated poetically by Allama Iqbal in these lines:

یہ کائنات ابھی ناتمام ہے شاید کہ آرہی ہے صدائے کن فیکون

“This universe may still be incomplete, for the sound of ‘Kun Fayakoon’ echoes incessantly.”

Thus, the continuous manifestation of Allah’s command "Kun Fayakoon" (Be, and it is) is ongoing. This same idea is expressed in the opening verse of Surah Fatir.

يَزِيدُ فِي الْخَلْقِ مَا يَشَاءُ

“He causes to increase in creation whatever He desires.”

Therefore, Allah is continuously expanding the heavens, that is, the universe, making it more and vaster.

Al Jawahir fi Tafseer ul Quran:

We built the sky with great power, and "power" here means strength. We are expanding the universe and we are fully capable of doing so. The earth, we spread it out, leveled it and made it

¹⁸¹ Dr. Israr Ahmad, *Bayan ul Quran*, Volume-7, Page 210-214

suitable for life. We created everything in pairs, whether they are animals or plants, male and female so that you may think and remember. We did all of this, building the sky, spreading the earth, and creating pairs, so you can recognize your Creator and worship Him.¹⁸²

Conclusion and Results:

In the light of scientific theories and the commentaries of above selected Tafaseer we come to know that the idea of the "Expansion of the Universe" in modern cosmology, as proposed by scientific theories such as the Big Bang and the continuous stretching of space, aligns harmoniously with the Quranic verses that refer to the creation and ongoing expansion of the heavens and the earth. Verses like *وَالسَّمَاءَ بَنَيْنَاهَا بِأَيْدٍ وَإِنَّا لَمُوسِعُونَ* which describe the heavens' expansion, resonate with the contemporary scientific understanding of the universe's growth. There is no inherent conflict between the Quranic depiction of the universe's expansion and current scientific theories. The Quranic references highlight a dynamic, ever-evolving creation, which complements the idea of an expanding universe as observed in modern astrophysics. This comparison underscores the compatibility between the spiritual insights of the Quran and the empirical findings of science. This comparison demonstrating that both avenues point toward a universe governed by purposeful, ongoing processes.

Allama Fakhr al-Dīn al-Rāzī, in his Tafsir al-Kabir, explains the verse

﴿وَالسَّمَاءَ بَنَيْنَاهَا بِأَيْدٍ وَإِنَّا لَمُوسِعُونَ﴾

by interpreting "بِأَيْدٍ" as a metaphor for Allah's power and strength, not physical hands, in line with his theological stance against attributing human qualities to Allah. He emphasizes that the creation of the heavens is a clear sign of Allah's supreme power and capability. For "لَمُوسِعُونَ", he discusses that it refers to Allah's act of making the heavens vast and expanding them, highlighting both the physical vastness of the cosmos and Allah's continuous power to increase

¹⁸² Tantawi Jawhari, *Al-Jawahir fi Tafseer al Quran* , Volume-25, page190-193.

and sustain creation. He also connects this verse to broader theological themes, such as affirming the reality of resurrection and the oneness of Allah through signs in the universe.¹⁸³

3. Formation of Galaxies and Stars:

The Quran describes the formation of galaxies and stars.

﴿وَهُوَ الَّذِي خَلَقَ السَّمَوَاتِ وَالْأَرْضَ بِالْحَقِّ وَيَوْمَ يَقُولُ كُنْ فَيَكُونُ قَوْلُهُ الْحَقُّ وَلَهُ الْمُلْكُ يَوْمَ يُنْفَخُ فِي الصُّورِ عِلْمُ الْغَيْبِ وَالشَّهَادَةِ وَهُوَ الْحَكِيمُ الْخَبِيرُ﴾¹⁸⁴

“Furthermore, He is the one who purposefully created the earth and the sky. When He says, 'Be,' it occurs because His word is truth. On the day the horn is sounded, the dominion goes to him. He is the All-Wise and the All-Aware, and He knows both the seen and the invisible.”

عن عائشة رضي الله عنها قالت: "إن الله تعالى خلق السماوات والأرض في ستة أيام، وقدر في كل شيء"¹⁸⁵

Aisha (RA) reported: "Allah created the heavens and the earth in six days and determined the measures for everything."

Tafseer al Kauthar:

وَبُذِيَ: Allah created the skies and the ground with truth. There is no concept of aimlessness or futility in their creation, as if they were made without purpose or merely as a plaything:

“We did not create the skies and the ground, and everything existing between them, in mere jest.”

In another verse, it is stated:

“Did you believe that We created you without purpose, and that you would not be returned to Us?”

¹⁸³ Fakhr al-Dīn al-Rāzī. *Tafsīr al-Kabīr*. Vol. 28. Beirut: Dār Iḥyā' al-Turāth al-'Arabī, n.d., Surah adh-Dhāriyāt 51:47

¹⁸⁴ Surah Al An'nm (6:73)

¹⁸⁵ Al-Nasa'i, *Sunan al-Nasa'i*, vol. 2, Hadith 68.

وَيَوْمَ يَقُولُ كُنْ فَيَكُونُ: This refers to the occurrence of the Day of Resurrection. When Allah commands it, the Day of Resurrection will immediately come to pass.

وَلَهُ الْمُلْكُ: On the Day of Judgment, the sovereignty will solely belong to Allah. In this world, people are given respite for the sake of trial and examination, but on that Day, accounts will be settled, and only Allah's command will prevail.¹⁸⁶

يَوْمَ يُنْفَخُ فِي الصُّورِ: The blowing of the trumpet will occur twice. The first will cause everything to perish, and the second will resurrect all beings.

عِلْمُ الْغَيْبِ وَالشَّهَادَةِ: He knows the unseen and the visible. There is not a single particle in this universe that is hidden from Allah's knowledge.

وَهُوَ الْحَكِيمُ الْخَبِيرُ: Nothing in the universe, nor any law, is devoid of wisdom.

Bayan ul Quran:

Translation of the Verse:

"And He is the One Who created the heavens and the earth with truth. And on the Day when He says, 'Be,' it will be. His word is the truth. And to Him belongs all sovereignty on the Day when the trumpet will be blown. He is the Knower of the unseen and the seen, and He is the Most Wise, the All-Aware."

1. Previously, the rejection of polytheism and affirmation of monotheism were mentioned. Now, to reinforce this subject, the story of Prophet Ibrahim (AS) and his call to monotheism is narrated.
2. Since the Arabs accepted Prophet Ibrahim (AS), his story further strengthens the argument.
3. This incident also supports the concept of Prophethood, showing that it is not something unusual, as prophets have been sent before as well.¹⁸⁷

¹⁸⁶ Sheikh Mohsin Ali Najafi, "Al Kauthar fi Tafseer ul Quran", Volume 3, Page 235-236

Al Jawahir Fi Tafseer ul Quran:

Allama Tantawi Jawhari interpreted this verse with a focus on Allah's creative power. Allah's command of "Kun fa-yakūn" (Be, and it is). He emphasized the following points:

The Omnipotence of Allah's Command:

The phrase "Kun fa-yakūn" highlights Allah's absolute power over creation. For Allah, creating something is not dependent on tools, time, or effort. His command is instantaneous, transcending human understanding of cause and effect. Tantawi describes this as an indication of Allah's iradah (divine will) being supreme over all things.

Scientific Perspective:

Tantawi, known for integrating science into his tafsir, linked this verse to the natural laws and cosmic order. He viewed the creation of the skies and the ground as a reflection of the intricate laws of the universe, demonstrating Allah's wisdom and knowledge. The phrase "Kun fa-yakūn" aligns with modern scientific discoveries, showcasing how Allah's command sets the laws of nature into motion.

Allah's Dominion and the Resurrection:

The reference to "the day the Horn is blown" ties Allah's power to the Day of Judgment. Tantawi emphasized that just as Allah initiated creation with a command, He will bring it to an end and recreate it with the same effortless command.

Unity of the Unseen and the Seen:

Tantawi highlighted Allah's knowledge of both the unseen (ghaib) and the seen (shahadah), indicating His mastery over all realms of existence. This ties back to the theme of divine wisdom and how everything in the cosmos operates under His knowledge and command.

Kun Fa-yakūn: Its Special Significance:

Sheikh Tantawi regarded "Kun fa-yakūn" as a central manifestation of Allah's supreme creative power. Allah's will is independent of any external process.

¹⁸⁷ Dr. Israr Ahmad "*Bayan ul Quran*", volume 3, Page 44-45

Instantaneous Creation: Allah's will is immediate, beyond human limitations of time or gradualism.

Universality: This principle applies to the creation of everything from the skies and ground to life, death, and resurrection.

Divine Will: The phrase symbolizes Allah's sovereign authority over the universe, where His will governs all existence.

Conclusion of Exegesis:

Allama Tantawi Jawhari interpreted this verse as a profound expression of Allah's unlimited power and wisdom and he connected the concept of "Kun fa-yakūn" with both theological and scientific perspectives, emphasizing Allah's ability to command and create effortlessly. For Tantawi, this verse serves as a reminder of Allah's supreme authority in both the creation of the universe and its eventual return to Him.¹⁸⁸

Conclusion and Results:

The formation of galaxies and stars is explained in both science and the Quran, offering complementary perspectives.

Science describes galaxies forming from the early universe's matter clumping together under gravity. Stars form within these galaxies from collapsing gas clouds that ignite nuclear fusion. Physical laws and theories like the Big Bang govern this process.

Conversely, the Quran attributes the universe's creation to Allah's will and wisdom. Verses like Surah Al-Anbiya describe the heavens and earth as once united before being separated, aligning with the Big Bang. Similarly, Surah Fussilat speaks of the heavens in a "smoky" state, resembling scientific descriptions of nebulae.

While the Quran doesn't detail scientific processes, its descriptions often align with modern discoveries. It emphasizes purpose, wisdom, and divine design in creation.

¹⁸⁸Tantawi jowhari, "*Al Jawahir fi tafseer al Quran*", volume6, page340-342

In conclusion, the formation of galaxies and stars reflects the harmony between science and scripture, highlighting both the complexity of the universe and its spiritual significance.

Key Points:

Through human scientific progress, we now understand that not a single particle in this universe is without purpose. Should we not then reflect on the entire universe and ponder why it was created?

﴿خَلَقَ السَّمَوَاتِ وَالْأَرْضَ بِالْحَقِّ يُكَوِّرُ اللَّيْلَ عَلَى النَّهَارِ وَيُكَوِّرُ النَّهَارَ عَلَى اللَّيْلِ وَسَخَّرَ الشَّمْسَ وَالْقَمَرَ كُلٌّ يَجْرِي لِأَجَلٍ مُّسَمًّى ۚ أَلَا هُوَ الْعَزِيزُ الْغَفُورُ﴾¹⁸⁹

“He purposefully made the world and the heavens. He subdues the sun and the moon, allowing them to each follow their designated paths, and he wraps the night over the day and the day over the night. He is undoubtedly the All-Powerful and the Forgiving One.”

Bayan ul Quran:

Explanation:

In Tafseer Bayan ul Quran Dr. Israr Ahmad says that the skies and the ground have been formed by Allah with a specific purpose. As stated in Surah Al-Imran:

“Our Lord, You have not created this aimlessly.”

Here, the word truth contrasts with falsehood, indicating that Allah's creation is purposeful, not in vain.

“And on the Day, He commands, 'Be!' it will happen.”

When Allah wills, He will roll up the universe just as easily as He created it. This is described in Surah Al-Anbiya:

“The Day We will roll up the heavens like the rolling up of a scroll.”

¹⁸⁹ Az-Zumar (39:5)

Similarly, in Surah Az-Zumar, it is stated:

“And on that Day, the skies will be folded up in His Right Hand.”

"His command is truth."

His command of "Be!" is decisive and true. For creation, He does not require materials, energy, or any other resources.

“And on the Day the Trumpet is blown, the dominion will belong to Him.”

Although the ultimate kingship belongs to Allah even now, on that Day, the false kings and leaders of this world will vanish. On that Day, it will be proclaimed:

“To whom belongs the dominion this Day?”

And it will be answered:

“To Allah, the One, the Irresistible”

“He has knowledge of both the unseen and the seen and He is the all wise, the All-Aware.”

Allah is fully aware of all hidden and apparent matters.¹⁹⁰

This Surah also mentions Prophet Ibrahim (AS) and some of his descendants in detail. A smaller collection of the names of 13 Prophets was mentioned in Surah An-Nisa, but here a more extensive list of 17 Prophets is provided. Prophet Ibrahim's story is highlighted in greater detail, although the fate of his nation is not elaborated upon.

This distinction is made because this Surah focuses on reminders of Allah's blessings (التذكير), while Surah Al-A'raf emphasizes reminders through Allah's days (التذكير بأيام الله), discussing Prophets like Nuh, Hud, Salih, Shu'ayb, Lut, and Musa (peace be upon them). These are the six Messengers whose nations faced destruction and were turned into signs of warning.

¹⁹⁰ Dr. Israr Ahmed, “*Bayan ul Quran*”, Volume 4, page 234-236

Bayan ul Quran:

Translation:

“He created the skies and the ground with purpose. He folds the night over the day and the day over the night. He has made the sun and the moon subservient, each following its appointed course. Truly, He is the All-Mighty, the Most Forgiving.”

Explanation:

In the light of this Quranic verse, Dr. Israr Ahmad says that the universe is a highly organized, purposeful, and meaningful creation, it is not a frivolous or aimless act.

“He brings the night over the day and brings the day over the night.”

This concept is repeated several times in the Quran, sometimes with similar words and at other times with the expression: “He amalgamates the night into the day and amalgamates the day into the night.” The purpose is to highlight the precise and systematic alternation of day and night.

To understand this, one can refer to the respiratory system of plants, which entirely depends on this alternation, or consider the entire ecosystem of the earth, which either directly or indirectly relies on this cycle. In short, nothing in this universe is purposeless or futile.

If this is the case-and undoubtedly it is-how can the creation of humans, for whom this entire universe was created, be purposeless or insignificant? Every rational human should naturally ponder this question: if the universe and all its components are created for humanity, what is the purpose of human creation?

In a hadith, it is stated:

“Indeed, this world was created for you, and you were created for the Hereafter.”

Even through reason and logic, the existence of an afterlife becomes essential, as without it, human creation lacks purpose.

Particularly, the innate awareness of good and evil given to humans demands a world where goodness results in good outcomes and evil in bad ones. Since this is not consistently observed in this world, the existence of another life becomes inevitable to fulfill the moral sense of humanity.

“And He made the sun and the moon subservient.”

“Each moving according to a fixed term.”

This indicates their consistent and regulated movements until a predetermined end.

“Behold! He is the Mighty, the Most Forgiving.”

This asserts that Allah is authoritative over all things yet exceedingly forgiving towards His creation.

Scientific theories, such as the nebular hypothesis, suggest that galaxies and stars formed from giant clouds of gas and dust that warped under their gravity.

Al Jawahir fi Tafseer ul Quran:

In the light of above given Quranic verse Allama Tantavi says:

“Have you not seen that Allah flow water from the sky, causing it to flow as springs on the earth?”

This includes the discussion on the solar year, constellations, lunar mansions, and the movement of the moon.

It is stated in the book Subh Al-A'sha:

Know that the sun has two motions: one rapid and one slow. The rapid motion is that of the celestial sphere in one day and one night, from the east to the west and from the west to the east, known as the "daily motion." The slow motion is its movement across the zodiac in one solar year, moving from the south to the north and back from the north to the south.

The directions of east and west do not change in themselves while the east remains a single direction, as does the west. However, their rising points differ. Allah says "Lord of the east and the west" meaning the general directions of sunrise and sunset.

The sun has a maximum point it rises to in the north, known as the summer solstice sunrise and sunset. Its rising point during this time is near the rising point of the constellation Vega (Shamaak Al-Raamih). It also has a maximum point it descends to in the south, known as the

winter solstice sunrise and sunset. Its rising point during this time is near the rising point of the Scorpius constellation (Baṭn Al-Aqrab).¹⁹¹

These two extreme points are what Allah refers to in the verse: "The Lord of the two eastern horizons and the Lord of the two western horizons."

Between these two extremes, there are 180 distinct points of sunrise and an equal number of sunset points. Thus, every day, the sun rises at a different point in the east than it did the previous day and sets at a different point in the west. This is referred to in Allah's statement.

In Tafsir al-Kabir, Allama Fakhr al-Dīn al-Rāzī, while explaining the verse focuses on the absolute power of Allah in bringing the universe into existence by His command. He interprets *كن فيكون* (Be, and it is) as the ultimate expression of divine will and creative power that does not require time, tools, or processes. Rāzī does not describe the formation of galaxies and stars in modern scientific terms but sees all celestial bodies as purposeful creations that reflect divine wisdom. He emphasizes that the entire cosmos, its order, vastness, and beauty, is a sign of Allah's knowledge and might. The verse, in his view, also establishes the certainty of resurrection: just as the universe came into being by the divine word, so will the Day of Judgment be initiated by that same word.¹⁹²

4. Reunion of the universe:

The idea of the reunion of the cosmos, also known as the "end of the universe" or "eschatology," is discussed in both the Quran and scientific theories. Here we will discuss analysis of Quranic approach and scientific approach both of them.

Quranic Perspective:

The Quran pronounces the end of the universe in several verses, including:

﴿يَوْمَ نَطْوِي السَّمَاءَ كَطَيِّ السِّجِلِّ لِلْكُتُبِ كَمَا بَدَأْنَا أَوَّلَ خَلْقٍ نُعِيدُهُ وَعَدًا عَلَيْنَا إِنَّا كُنَّا فَاعِلِينَ﴾¹⁹³

¹⁹¹ Allama Tantavi Jowhari, "*Al Jawahir Fi Tafseer ul Quran*", Volume-8, page 123-125

¹⁹² Fakhr al-Dīn al-Rāzī. *Tafsīr al-Kabīr*. Vol. 26. Beirut: Dār Iḥyā' al-Turāth al-'Arabī, n.d., commentary on Surah Al-An'ām 6:73.

¹⁹³ Al-Anbiya (21:104)

“On the Day We will roll up the heavens like a scroll for the records. Just as we initiated the first creation, We will repeat it. This is a promise We have made, and indeed, We will fulfill it.”

Tafseer Al Kauthar:

Translation:

Al-Sijill (س ج ل):

The original meaning of "sijill" refers to the stone on which writing was inscribed. Later, anything that could be written on came to be called "sijill."

Tafsir of Verses:

1. “On that Day We will fold up the heavens.”

On the Day of Judgment, the skies will be folded up and will return to the concealed realm of the unseen. The familiar universe for humanity will be brought to an end, and in its place, a new universe will come into existence.

“The Day when the earth will be transformed into a new world, and the heavens likewise, and they will stand before Allah, the One, the Subduer.”

This will take place on the day when the earth is replaced with a new one, and the heavens as well. All will be brought before Allah, the Sovereign and Almighty.

2. “Just as We initiated the first creation, we will bring it about again.”

This universe will return to its initial state and will become as it was in the beginning, nonexistent and unmentioned.

“Did not a time come upon man when he was nothing worth mentioning?”

Then, a new and modern universe will be created again. According to one interpretation, this verse refers to humans, indicating that humans will be recreated in the same way they were initially created. However, this interpretation does not align with the context of the verse.

3. “This is a promise binding upon us. Indeed, we will do it”

This is a divine promise that this universe is not limited to being an abode of trial (Dar al-Takleef). After this, there will be an abode of recompense (Dar al-Jaza). Without the arrival of the abode of recompense, this universe would become purposeless.¹⁹⁴

Key Points:

1. After the Day of Judgment, the time and space of the world we will inhabit will be different from that of this world.
2. The Day of Resurrection is paramount and convinced according to the divine promise.

To grasp this idea, consider the example of a watch's spring, which continuously unwinds around its focal point. However, when rewound, it coils back around the same focal point, returning to its initial state.

﴿ إِذَا السَّمَاءُ أَنْفَطَرَتْ ﴾

“And the heaven will be split open like a shattered shell.”

These verses depict a catastrophic event that will signify the end of the universe as we know it.

Bayan ul Quran:

Explanation:

“On the Day We will roll up the heavens like the rolling up of a scroll for books.”

Dr. Israr Ahmad says that here, instead of the plural "as-samawat" (heavens), the singular "as-samaa" (heaven) is used. This suggests the possibility that the verse refers explicitly to the folding of the sky of this worldly realm. It implies that the great earthquake of the Hour, as mentioned in “Indeed, the quake of the Hour is a tremendous event.” (Surah Al-Hajj), may occur only within our solar system. Within this system, celestial bodies will collide with one another:

¹⁹⁴ Shaeikh Mohsin Ali Najafi, “*Al Kauthar Fi Tafseer ul Quran*”, Volume 5, page 283-284

“And the sun and the moon will be united.” (Surah Al-Qiyamah). Consequently, this entire system will be overturned.¹⁹⁵

Allah Almighty states that on that Day, the heavens will be folded like scrolls of books are rolled up.

“Just as we initiated the first creation, we will bring it about again.”

To understand this concept, the Theory of the Expanding Universe should be taken into account. According to this theory, the universe is continuously expanding, with every galaxy revolving and its radius increasing moment by moment. Based on this, the verse also suggests that for the Day of Judgment to occur, this process of expansion will be reversed, returning the universe to its original state from where its expansion began.

Al Jawahir Fi Tafseer ul Quran:

Allama Tantavi Jowhari says in his famous Tafseer under the exegesis of this verse that I wonder why this expression was chosen for this comparison. Indeed, it was chosen due to its remarkable conciseness, which contains a profound meaning.

Have you not observed what I mentioned to you about the heavens and the earth returning to another, very subtle state, so fine that it escapes perception? They will enter the processes of nature until they are completely immersed within it, lost among its components in the midst of the subtle world known as ether; a substance finer than light, in which all worlds are submerged like a vast, overwhelming ocean.¹⁹⁶

When these worlds return to that subtle realm, their forms will be folded up, and their traces will vanish. The beauty, perfection, activity, forms, and wonders that we now perceive will no longer be apparent. Instead, they will remain hidden within it, as latent potential.

From a scientific standpoint, there are various theories regarding the ultimate destiny of the universe:

¹⁹⁵ Dr. Israr Ahmad, “*Bayan ul Quran*”, Volume 5, Page 101

¹⁹⁶ Allama Tantavi Jowhari, “*Al Jawahir Fi Tafseer ul Quran*”, volume 17, Page 99

The Big Rip: This theory proposes that the universe's expansion will keep accelerating until it reaches a point where the very fabric of space is torn apart.

The Big Crunch: This theory suggests that the universe's expansion will gradually slow down and eventually reverse, leading to the collapse of the universe back into itself.¹⁹⁷

The Heat Death: This theory proposes that the universe will keep expanding and cooling until it reaches a state of maximum entropy or complete disorder.

While these scientific theories differ from the Quranic description, they all point to the idea that the universe will eventually undergo a profound transformation.

Reconciling Quran and Science:

While the Quran and scientific theories differ in their descriptions of the end of the universe, they share a common theme: the universe is dynamic and will undergo significant changes in the future.

One possible way to reconcile the Quranic and scientific perspectives is to view the Quranic description as a metaphorical or spiritual representation of the end of the universe, while the scientific theories provide a more literal and physical explanation.

Ultimately, the reunion of the universe remains a mystery that may be beyond human comprehension. However, by exploring both the Quranic and scientific perspectives, we can gain a deeper understanding of this profound and complex topic.

In Tafsir al-Kabir, Allama Fakhr al-Dīn al-Rāzī explains that the “folding of the sky” signifies the complete reversal and collapse of the created universe by the command of Allah, much like a scroll is rolled up after writing. He emphasizes that this folding is not merely symbolic but an actual transformation of the physical heavens, pointing to the divine power that governs both the beginning and end of creation. Although he does not use modern scientific terms, his description closely resembles the concept of the Big Crunch, where the expanding universe eventually collapses back into itself. Rāzī highlights that just as Allah created the cosmos from nothing, He

¹⁹⁷ Jawaid, M. (2021). “*The Big Bang Theory – The Quranic perspective*”, Academia, Page 8

will also fold it back effortlessly as part of the process of resurrection and re-creation, affirming both the temporariness of the physical world and the certainty of the Hereafter.¹⁹⁸

Conclusion and Result:

The idea of the universe's reunion is a subject examined in both modern science and the Quran, although from different viewpoints.

From a scientific viewpoint, the ultimate destiny of the universe is theorized in models like the "Big Crunch," where gravity could reverse the universe's expansion, causing all matter to collapse back into a singularity. Other models, such as the "Big Freeze" or "Big Rip," suggest alternative endings but still acknowledge the possibility of cosmic transformation or reunion under certain conditions.

The Quran refers to the reunion of the universe in spiritual and physical terms. Verses such as Surah Al-Anbiya describe the heavens being folded like a scroll, symbolizing the universe's eventual return to its original state by Allah's command. This implies a controlled, purposeful reversion of creation. The Quran repeatedly highlights that the cosmos will end and be reshaped on the Day of Judgment, emphasizing divine power over the universe's beginning and end.

While science focuses on physical processes and possibilities, the Quran emphasizes the spiritual significance of this reunion as a sign of divine wisdom and accountability. Both perspectives point to the universe's finite nature and the existence of an ultimate outcome.

In conclusion, the reunion of the universe demonstrates harmony between scientific theories and Quranic descriptions. Science explains the physical mechanisms, while the Quran provides a deeper purpose, reminding humanity of their role in the grand design of creation and its eventual return to the Creator.

¹⁹⁸ Fakhr al-Dīn al-Rāzī. *Tafsīr al-Kabīr*. Vol. 23. Beirut: Dār Iḥyā' al-Turāth al-‘Arabī, n.d., commentary on Surah Al-Anbiyā', verse 104

Differences:

1. Timeframe: Upon examining scientific theories in light of Quranic verses, we realize that there is a difference in the timeframes mentioned by science and the Quran regarding the creation of the universe. The Quran does not specify a precise timeframe for the creation, while scientific theories estimate the universe to be approximately 13.8 billion years old.

2. Mechanisms: At the end of the analysis, we get the result that there is a mechanism difference is found among Quran and Science related to the formation of the cosmos. The Quran describes the creation of the cosmos as a divine act. While scientific theories propose natural mechanisms, such as gravity and nuclear reactions, to explain the formation of galaxies and stars.

3. Purpose: After analysis of scientific theories in the light of divine messages we found purpose difference among Quran and science. The Quran emphasizes the spiritual and philosophical significance of the universe, while scientific theories focus on understanding the empirical and observational aspects of the universe.

Conclusion:

The Quran and scientific perspective on cosmic evolution share some striking similarities but also have significant differences. While the Quran provides a spiritual and philosophical framework for understanding the universe, scientific theories offer a more empirical and evidence-based explanation. A comparative analysis of both perspectives can provide a deeper understanding of the universe and its mysteries.

4.2. Harmonizing Quranic Teachings with Scientific Findings:

The Quran and scientific findings on cosmic evolution can be harmonized by recognizing the complementary nature of both perspectives. While the Quran provides a spiritual and philosophical framework for understanding the universe, scientific findings offer a more empirical and evidence-based explanation. Here are some ways to harmonize Quranic teachings with scientific findings:

Recognizing the Limits of Human Knowledge:

The Quran highlights the limitations of human knowledge and understanding. Similarly, scientific conclusions are based on current empirical evidence and may change as new information becomes available. Acknowledging these limitations can help align Quranic teachings with scientific discoveries.

Understanding the Quranic Concept of "Ayat":

The Quran uses the term "Ayat" to describe the signs and wonders of the universe. This concept can be harmonized with scientific findings by recognizing that the universe is full of signs and wonders that can be studied and understood through scientific inquiry.

Interpreting Quranic Verses in the Light of Scientific Findings:

Some Quranic verses can be interpreted in the light of scientific findings on cosmic evolution. For example the Quranic verse,

﴿أَوَلَمْ يَرَ الَّذِينَ كَفَرُوا أَنَّ السَّمَاوَاتِ وَالْأَرْضَ كَانَتَا رَتْقًا فَفَتَقْنَاهُمَا¹⁹⁹ وَجَعَلْنَا مِنَ الْمَاءِ كُلَّ شَيْءٍ حَيٍّ أَفَلَا يُؤْمِنُونَ﴾

The verse describes the origin of the universe as a unified mass that was separated. This aligns with the Big Bang theory, which proposes that the cosmos originated from a single point and expanded rapidly.

¹⁹⁹ Surah Al-Anbiya, (21:30)

قال رسول الله صلى الله عليه وسلم: "إن الله خلق الخلق في ظلمات، فخلق السموات والأرض²⁰⁰

The Prophet (PBUH) said: "Indeed, Allah created the creation in darkness, and then He created the heavens and the earth."

Avoiding Literal Interpretations:

It's essential to avoid literal interpretations of Quranic verses and instead seek to understand the underlying spiritual and philosophical message. This approach can help harmonize Quranic teachings with scientific findings and avoid unnecessary conflicts.

Conclusion:

Harmonizing Quranic teachings with scientific findings on cosmic evolution requires a nuanced and multi-faceted approach. By recognizing the limitations of human knowledge, understanding the Quranic concept of "Ayat", interpreting Quranic verses in the light of scientific findings, and

Avoiding literal interpretations, we can seek to harmonize these two perspectives and obtain a deeper understanding of the universe and its mysteries.

4.3. Critique of Scientific Theories from a Quranic Perspective.

While scientific theories have greatly advanced our understanding of the universe, a Quranic perspective can provide a critique of these theories and offer insights into their limitations. Here are some critiques of scientific theories from a Quranic perspective:

4.3.1. Critique of the Big Bang Theory:

1. **Lack of Explanation for the Initial Cause:** The Quran accentuates the importance of a creator and a purpose behind the creation of the universe

﴿الَّذِي لَهُ مُلْكُ السَّمَاوَاتِ وَالْأَرْضِ وَلَمْ يَتَّخِذْ وَلَدًا وَلَمْ يَكُنْ لَهُ شَرِيكٌ فِي الْمُلْكِ وَخَلَقَ كُلَّ شَيْءٍ فَقَدَرَهُ تَقْدِيرًا﴾²⁰¹

²⁰⁰ Muslim, *Sahih Muslim*, Book 1, Hadith 6.

In contrast, the Big Bang theory does not provide a clear explanation for the initial cause of the universe.

Inability to Explain the Fine-Tuning of the Universe:

The Quran highlights the fine-tuning of the universe and the balance of its physical constants,

﴿الَّذِي خَلَقَ سَبْعَ سَمَاوَاتٍ طِبَاقًا ۚ مَا تَرَىٰ فِي خَلْقِ الرَّحْمَنِ مِن تَفَوتٍ ۚ﴾

﴿فَارْجِعِ الْبَصَرَ هَلْ تَرَىٰ مِن فُطُورٍ ۚ﴾²⁰²

The Big Bang theory does not offer a clear elucidation for this fine-tuning.

4.3.2. Critique of the Theory of Evolution:

1. **Lack of Explanation for the Origin of Life:** The Quran accentuates the importance of a creator and a purpose behind the creation of life.

﴿وَلَقَدْ خَلَقْنَا الْإِنْسَانَ مِنْ صَلْصَالٍ مِنْ حَمَإٍ مَسْنُونٍ﴾²⁰³

In contrast, the theory of evolution does not provide a clear explanation for the origin of life.

2. **Inability to Explain the Complexity of Life:** The Quran highlights the complexity and diversity of life on Earth.

﴿وَالْخَيْلَ وَالْبِغَالَ وَالْحَمِيرَ لِتَرْكَبُوهَا وَزِينَةً ۚ وَيَخْلُقُ مَا لَا تَعْلَمُونَ﴾²⁰⁴

The theory of evolution does not provide a clear explanation for the complexity and diversity of life.

4.3.3. Critique of the Multiverse Hypothesis:

1. **Lack of Empirical Evidence:** The Quran accentuates the importance of empirical evidence and observation in understanding the universe.

²⁰¹ Sura Al-Furqaan 25 : 2

²⁰² Sura Al-Mulk 67 : 3

²⁰³ Surah Al-Hijr, Verse 26

²⁰⁴ Sura An-Nahl (16 : 8)

﴿الَّذِي لَهُ مُلْكُ السَّمَاوَاتِ وَالْأَرْضِ وَلَمْ يَتَّخِذْ وَلَدًا وَلَمْ يَكُنْ لَهُ شَرِيكٌ فِي الْمُلْكِ وَخَلَقَ كُلَّ شَيْءٍ فَقَدَرَهُ تَقْدِيرًا﴾²⁰⁵

In contrast, the multiverse hypothesis is based on theoretical models and lacks empirical evidence.

2. Inability to Explain the Fine-Tuning of the Universe: The Quran highlights the fine-tuning of the universe and the balance of its physical constants

﴿الَّذِي خَلَقَ سَبْعَ سَمَاوَاتٍ طِبَاقًا مَّا تَرَىٰ فِي خَلْقِ الرَّحْمَنِ مِنْ تَفَافُوتٍ ۚ فَارْجِعِ الْبَصَرَ هَلْ تَرَىٰ مِنْ فُطُورٍ﴾²⁰⁶

The multiverse hypothesis does not provide a clear explanation for this fine-tuning.

Tafseer Al Kauthar:

In Tafseer al Kauthar "The One who fashioned the seven heavens in layers": This means either He created the seven heavens one above the other, or it could mean that the seven heavens are uniform and correspond to one another, as they were all made from the same substance smoke.

“Then He turned towards the heaven while it was still in a state of smoke.”

At that time, the heaven was in the form of smoke.

“You will find no imperfection in the creation of the Most Merciful.”

There is no chaos in the creation of the Most Merciful. Everything in the universe is interconnected, intentional, and life-sustaining.

Freeman Dyson says:

“The more I explore the universe and analyze its structure, the more I discover evidence that, in a way, it seemed to anticipate our existence.” (A Short History of Nearly Everything)

²⁰⁵ Sura Al-Furqaan(25 : 2)

²⁰⁶ Sura Al-Mulk(67 : 3)

Sunlight causes water to evaporate from the oceans, forming clouds. The wind moves the clouds, rain falls on arid regions, and crops and fruits flourish. These then end up on dining tables as food, which transforms into blood. This blood renews the body's worn-out parts, becoming a part of it. The exhausted body, in the form of carbon, becomes part of a tree. The tree produces fruit, and the cycle begins again.²⁰⁷

Conclusion:

A Quranic perspective can provide a critique of scientific theories and offer insights into their limitations. While scientific theories have greatly advanced our understanding of the universe, a Quranic perspective can provide a more nuanced and balanced consideration of the universe and its mysteries.

4.3.4. Exploring Points of Convergence and Divergence between Science and Quranic Wisdom:

The Quran and science may seem like two disparate disciplines, but they share a common goal: to understand the workings of the universe. Here, we'll explore the points of convergence and divergence between science and Quranic wisdom, highlighting areas where they complement each other and areas where they differ.

Points of Convergence:

- 1. The Big Bang Theory:** The Quran pronounces the origin of the cosmos as a single point that expanded rapidly

﴿أَوَلَمْ يَرَ الَّذِينَ كَفَرُوا أَنَّ السَّمَاوَاتِ وَالْأَرْضَ كَانَتَا رَتْقًا فَفَتَقْنَاهُمَا^ط وَجَعَلْنَا مِنَ الْمَاءِ كُلَّ شَيْءٍ حَيٍّ^ط أَفَلَا يُؤْمِنُونَ﴾²⁰⁸

This description aligns with the Big Bang theory, which proposes that the cosmos originated from a single point and expanded rapidly approximately 13.8 billion years ago.

²⁰⁷ Sheikh Mohsin Ali Najafi, "Al Kauthar Fi Tafseer ul Quran", Volume

²⁰⁸ Surah Al-Anbiya, (21:30)

2. **The Expanding Universe:** The Quran describes the universe as expanding and constantly changing.

﴿وَالسَّمَاءَ بَنَيْنَاهَا بِأَيْدٍ وَإِنَّا لَمُوسِعُونَ﴾

This description is consistent with scientific observations of the expanding universe.

3. **The Water Cycle:** The Quran outlines the water cycle, encompassing the processes of evaporation, condensation, and precipitation.

﴿الَّذِي لَهُ مُلْكُ السَّمَاوَاتِ وَالْأَرْضِ وَلَمْ يَتَّخِذْ وَلَدًا وَلَمْ يَكُنْ لَهُ شَرِيكٌ فِي الْمُلْكِ وَخَلَقَ كُلَّ شَيْءٍ فَقَدَرَهُ تَقْدِيرًا﴾

This description is consistent with scientific understanding of the water cycle.

4. Points of Divergence:

1. **The Age of the Universe:** The Quran does not provide a specific age for the universe, while scientific estimations anticipate that the universe is about 13.8 billion years old.
2. **The Mechanism of Creation:** The Quran describes creation as a divine act, while science seeks to explain creation through natural mechanisms and processes.
3. **The Role of Human Beings:** The Quran accentuates the importance of beings as stewards of the Earth, while science views beings as a product of evolution and a part of the natural world.

5. Areas of Complementarity:

1. **Understanding the Universe:** Both science and Quranic wisdom aim to understand the workings of the universe, though they approach this goal from distinct viewpoints.
2. **Appreciating the Beauty of Creation:** Both science and Quranic wisdom inspire us to admire the beauty and complexity of creation, whether it's the detailed patterns of the natural world or the grandeur of the stars.
3. **Promoting Critical Thinking:** Both science and Quranic wisdom promote critical thinking and encourage us to question our assumptions and seek knowledge.

Conclusion:

This chapter explored the relationship between modern scientific theories of cosmic evolution and the Quranic perspective, analyzing how contemporary cosmological discoveries align with divine revelation. Through a critical examination, we observed that many scientific concepts, such as the Big Bang, cosmic expansion, stellar formation, and the structured development of the universe, resonate with Quranic descriptions, reinforcing the idea that science and revelation are not inherently contradictory but rather complementary.

The Quranic verses describing the universe's origin (ratqan fatq)²⁰⁹ and its continuous expansion (wa inna la-mūsi'ūn)²¹⁰ correspond to well-established scientific principles. Additionally, the Quran's emphasis on Tadrij (gradual development) and Taqdir (precise measure) aligns with the scientific understanding of an ordered and evolving cosmos.

However, while science focuses on the how of cosmic evolution through empirical investigation, the Quran provides insights into the why, emphasizing divine wisdom and purpose behind the universe's creation. This analysis highlights the necessity of an integrated approach that respects both empirical discoveries and theological perspectives, fostering a deeper understanding of cosmic reality.

Thus, this chapter concludes that the Quranic narrative and scientific exploration, though distinct in methodology, offer significant intersections that encourage a holistic view of the universe, one that bridges faith and reason in the quest for ultimate truth.

²⁰⁹ Surah Al-Anbiya(21:30)

²¹⁰ Surah Adh-Dhariyat (51:47)

Conclusion and Results

Conclusion and Results:

1. The research explores how the Quran and modern science explain the origin, development, and purpose of the universe.
2. The Quran describes the creation of the universe as purposeful and orderly. Verses in Surah Al-Anbiya and Surah Adh-Dhariyat support ideas like the Big Bang and the universe's expansion.

Sheikh Mohsin Ali Najafi says in his Tafseer these verses show a planned and wise creation.

Israr Ahmed believes natural laws work under Allah's command and science confirms Quranic truth.

Tantawi Jauhari links Quranic verses with early scientific ideas and says the fine-tuning of the universe shows Allah's wisdom.

3. Scientific theories explain the Big Bang, formation of galaxies, and life of stars, which match the Quran's view of a changing universe. The Quran gives meaning to these changes by teaching that they happen by Allah's will, such as in the phrase "Be, and it is". Sheikh Mohsin Ali Najafi says the Quran supports science and shows that studying the universe is part of faith.

Israr Ahmed says science shows how things work, but the Quran tells us why they exist.

Tantawi Jauhari says science should increase belief in Allah, not create doubt.

4. Comparing science and the Quran shows both agreement and difference. Science explains how, but not why. The Quran gives the deeper purpose.

Sheikh Mohsin Ali Najafi says science cannot answer everything, and its limits show the need for divine knowledge.

Israr Ahmed says belief in a Creator fits with reason and completes it.

Tantawi Jauhari says Muslims should use science to strengthen faith.

5. The Quran encourages reflection on nature, which supports scientific thinking. Mohsin Ali Najafi urges scholars to use the Quran as a guide in studying science.

Israr Ahmed says true knowledge combines science with belief in Allah.

Tantawi Jauhari warns against materialism and calls for seeing science as a way to know Allah better.

6. In the end, the Quran shows that the universe has a purpose. Science gives details, but the Quran gives meaning.
7. A full understanding of the universe comes from combining scientific knowledge with Quranic guidance.

Recommendations for Future Research and Practical Applications

1. Researchers can compare the Islamic view of cosmic evolution with other religions to see what ideas are similar or different.
2. Islamic Studies researchers can explore how the idea of divine will in Islam relates to scientific discussions about cause, effect, and free will.
3. Islamic studies researchers can do further research on how modern physics, like quantum theory and relativity, connects with what the Quran says about the universe.
4. A researcher can do further research on Quranic verses related to Astrophysics.

These recommendations aim to further the dialogue between religion and science, reinforcing the relevance of Quranic teachings in contemporary discussions on cosmic evolution.

List of Quranic Verses

Sr. No.	Quranic verse	Surah No.	Surah Name	verse No.	Page No.
1	الْحَمْدُ لِلَّهِ رَبِّ الْعَالَمِينَ	1	Al Fatiha	2	39
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3	بَدِيعُ السَّمَاوَاتِ وَالْأَرْضِ وَإِذَا قَضَىٰ أَمْرًا فَإِنَّمَا يَقُولُ لَهُ كُنْ فَيَكُونُ	2	Al Baqara	117	52
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List of Scientific Terminologies

Sr.	Terminologies	Definition
1	Cosmic Evolution	Scientific study of the origin, development, and transformation of the universe and its contents over time.
2	Astronomy	Study of celestial objects, space and the universe as a whole.
3	Big Bang	The big bang is the theory that the universe began about 13.8 billion years ago from an extremely hot, dense point and has been expanding ever since.
4	Big Crunch	The hypothetical collapse of the universe back into a hot, dense state after expansion.
5	Geocentric Model	An ancient theory that places earth at the center of the universe, with all celestial orbiting it.
6	Heliocentric Model	A theory that places the sun at the center of the solar system, with earth and other planets orbiting it.
7	Copernican Revolution	Shift from earth centered to sun centered universe.
8	CMB	Cosmic microwave background
9	Arno Penzias and Robert Wilson	Scientist who discovered CMB
10	Edwin Hubble	The American astronomer
11	The TeVeS	(Tensor-Vector-Scalar) model, proposed by John Moffat.
12	(MOND) Model	The Modified Newtonian Dynamics
13	Causal Structure	The model incorporates a causal structure, which ensures that the space-time geometry is consistent with the laws of causality
14	Anthropic Principle	The idea that the universe's laws and conditions allow life because we exist to observe it.
15	Dark Matter	Invisible matter that doesn't emit light but exerts gravitational effects.
16	Dark Energy	A mysterious force causing the accelerated expansion of the universe.

17	Multiverse	The hypothetical existence of multiple universes beyond our own.
18	Stellar formation	The process by which stars form from collapsing clouds of gas and dust.
19	Redshift data	Evidences of galaxies moving away, show universe expansion.
20	Primordial Nucleosynthesis	Formation of light elements in the early universe just after big bang.
21	Hubble's Law	The observation that galaxies move away faster as their distance from us increases.
22	Nebular hypothesis	The theory that the solar system formed from a rotating cloud of gas and dust.
23	The asymptotic safety model	The Asymptotic Safety model is a theoretical framework that efforts to merge quantum mechanics and general relativity.
24	Big Freeze	A possible end of the universe where expansion continues until all stars die and it grows cold and dark.
25	Isaac Newton	Newton is a scientist developed the laws of motion and universal gravitation, laying the foundation for modern astrophysics
26	Super clusters	Huge groups of galaxies bound together on the largest cosmic scales.
27	Black Hole	Extremely dense objects with gravity so strong that not even light can escape.
28	Turok	Physicist known for work on cosmology and the cyclic universe theory.
29	Eschatology	The study of the end of the world or ultimate destiny of humanity.

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