CHAPTER I

INTRODUCTION

A. Background of Study

Along with the advancement of science in the 18th century, known as the "*Age of Enlightenment,*"[1] there was a dominance of intellectual and philosophical movements.[2] Beginning with the appearance of works by figures such as Francis Bacon, John Locke, there is a view that the roots of this movement when Rene Descartes published his work, "*Discourse on the Method*" in 1637 with his famous phrase, '*cogito, ergo sum*' (I think, therefore I am).[3] There are also those who argue that the movement began with the publication of Isaac Newton's "*Principia Mathematica*" in 1687 as the highlight of the Scientific Revolution and the beginning of the Enlightenment.[4] In Edmond Halley's metaphor, what had once troubled the minds of magicians was now

[1] "*Enlightenment is the human being's emancipation from its self-incurred immaturity*" (8:35). See, Immanuel Kant et al., *Toward Perpetual Peace and Other Writings on Politics, Peace, and History*, trans. David L. Colclasure, Rethinking the Western Tradition (New Haven London: Yale University Press, 2006), 17.

[2] Hourly History, *Age of Enlightenment a History from Beginning to End*, 2017, 1. For more details, see chapter one of the book

[3] The phrase "*Cogito, ergo sum*" (I think, therefore I am) is a key concept in the philosophy of René Descartes. Descartes realized that when he thinks, there is something that thinks, namely himself. This understanding is so solid that it is not affected by the doubt. Because of this certainty, Descartes considered it the first principle of his philosophy. Thus, the awareness of the thought process becomes the proof of its own existence. See Rene Descartes, *Discourse on Method and Meditations on First Philosophy*, trans. Donald A. Cress, 4th ed. (Cambridge: Hackett Publishing Company, 1998), 18.

[4] Peter Gay, *The Enlightenment An Interpretation The Science of Freedom*, Reprint of the ed. publ. by Knopf, New York, vol. 2 (New York: W.W.Norton & Company, 1977), 147.

illuminated by reason, and the clouds of ignorance were finally dispelled by science.[5]

During this period, philosophers and scientists actively spread their ideas through various academic forums. The main doctrines of the philosophers of that time were the freedom of the individual and the tolerance of religious diversity; These concepts were antithetical to the tenets of absolute monarchical rule and the dogmatic teachings of the Church espoused during that era. They were also distinguished by the embrace of scientific methodology, accompanied by an increasing skepticism regarding traditional religious teachings.[6] This was expressed by Immanuel Kant with the famous phrase "*Sapere aude*", which means "dare to know or dare to be wise".[7] This century also saw the emergence of various movements, such as liberalism and socialism, which were the result of the spread of Enlightenment ideas. [8]

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[5] Paolo Casini, "Newton's Principia and the Philosophers of the Enlightenment," *Notes and Records of the Royal Society of London* 42 (1988): 1. Newton used the phrase "*Intima panduntur vidti penetralia caeli*" to mean "The innermost secrets of the heavens are open to view." This illustrates the idea that something very deep or hidden is finally opened or revealed. In certain contexts, this phrase can refer to the revelation of previously unknown knowledge or truth. See, Isaac Newton, *Philosophiae Naturalis Principia Mathematica*, ed. Tertia Audta and Emendata (London: Apdut Gui & Joh Innys, 1726), 1.

[6] The scientific method of the middle ages sought to find arguments against Christianity and a basis for reliable knowledge. See, Gay, *The Enlightenment An Interpretation The Science of Freedom*, 2:148.

[7] Kant stated that "enlightenment" is the liberation of human beings from dependence on self-induced immaturity. Immaturity is the inability to use the intellect without direction from others. This immaturity is self-inflicted when the cause is not a lack of intellect, but rather a lack of determination and courage to use the intellect without direction from others. "*Sapere aude*! Have the courage to make use of your own intellect!" is the motto of the Enlightenment, which invites people to have the courage to use their own intellect without depending on others. See, Kant et al., *Toward Perpetual Peace and Other Writings on Politics, Peace, and History*, 17.

[8] William Smaldone, *European Socialism: A Concise History with Documents* (Lanham: Rowman & Littlefield Publishers, 2014), 3–4.

With the rise of the Scientific Revolution,[9] which is considered the foundation of modern science.[10] Various ideas emerged that emphasized values such as material freedom, prosperity, and happiness, as well as knowledge and technology used to improve human life. This scientific revolution was also seen as a better form of freedom and enlightenment than irrational beliefs or the authoritarian use of power. Thus, the separation of church and state authority became one of the most important aspects of the movement.[11] From here began the separation between science and religion.

A Christian theologian named Ian G. Barbour (hereafter referred to as Barbour) responded to the above phenomena with his typological concept. He tried to make a first connection between science and religion, he was aware of the problem of the separation of science and religion, therefore, he tried to map the relationship between science and religion. Barbour's view of the integration of science and religion involves four paradigms, known as the conflict, independence, dialogue, and

[9] "*Scientific Revolutions are abrupt and convulsive stages of scientific advance*". John L. Heilbron et al., eds., *The Oxford Companion to the History of Modern Science* (New York: Oxford University Press, 2003), 743. Even social scientists and historians who were aware of these fundamental changes struggled to find terms to describe what was happening. See, Andreas Wirsching et al., "The 1970s and 1980s as a Turning Point in European History?," *Journal of Modern European History* 9, no. 1 (2011): 19–20.

[10] "*a historical period regarded as pivotal in the rise of modern science*" is a period of history that is considered important in the emergence of modern science. It was a time when significant changes occurred in the way humans understood nature and developed more systematic and rational scientific methods. This period is often considered a turning point or a crucial moment in the evolution of science into a more modern form. See. Heilbron et al., *The Oxford Companion to the History of Modern Science*, 741.

[11] Milan Zafirovski, *The Enlightenment and Its Effects on Modern Society* (London: Springer New York Dordrecht Heidelberg, 2011), 151–52.

integration models.[12] This typology reflects various ways in which science and religion interact. However, of the four approaches Barbour offers, he states that he leans more towards and focuses his attention on dialogue and integration.[13]

In light of this, the question arises as to why Barbour's typology originated and became popular among Western church theologians. One reason lies in the stagnation of scientific education in the muslim world since the 18th century,[14] while science in the West experienced rapid

[12] **Conflict** arose between two groups at that time, namely scientific materialism and biblical literalism, both of which believed that there was a conflict between science and religion, and that science and religion were competing in the same field. See, Ian G Barbour, *Religion in an Age of Science*, vol. 1, The Gifford Lectures 1989-1991 (San Francisco, London: Harper & Row Publishers, 1990), 3.The **independence** model, then, is an alternative view that says that science and religion can coexist peacefully as long as they keep a safe distance from each other. According to this view, there should be no conflict because science and religion relate to different areas of life or aspects of reality. Furthermore, the **dialogue** model between science and religion illustrates similarities and differences, for example, in conceptual models and analogies that can be used to describe something that cannot be directly observed and that become alternatives when science touches on issues outside its domain. In this dialogue, both scientists and theologians respect and consider each other's views. Finally, the view of **integration**, which is a reformulation of traditional theological ideas to be more extensive and systematic and to seek common ground between the two, there are three versions in integration, *namely natural theology, theology of nature* and *systematic synthesis,* see Ian G Barbour, *When Science Meets Religion: Enemies, Strangers or Partners?* (New York: HarperCollins Publishers, 2000), 1–3.

[13] He stated "*It will be evident that my own sympathies lie with Dialogue and Integration (especially a theology of nature and a cautious use of process philosophy), but I hope that I have accurately described all four positions*". See Barbour, *When Science Meets Religion: Enemies, Strangers or Partners?*, 3. But more emphatically he agreed with the fourth position with his variant of the *theology of nature* "*I am in basic agreement with "Theology of Nature" position, coupled with a cautious use of prosess philosophy*". See, Barbour, *Religion in an Age of Science*, 1:36.

[14] Several Muslim scholars highlight internal and external factors that contribute to the decline of the Muslim community, such as moral degeneration, dogmatic rigidity, decreased intellectual activity, internal rebellion, external invasion, war, fiscal imbalance, insecurity, decreased investment, agriculture, craftsmanship, trade, loss of mines, natural disasters, and declining population that affect the economy, see. M. Umer Chapra, "Ibn Khaldun's Theory of Development: Does It Help Explain the Low Performance of the Present-Day Muslim World?," *The Journal of Socio-Economics* 37, no. 2 (April 2008): 838.

development in the West.[15] As a result, Barbour's typological model is more influenced by Western worldviews. This can be seen in his explanation of integration, especially in his version of the theology of nature.[16]

In the theology of nature, Barbour believes that there are some traditional doctrines that need to be adapted to the current scientific knowledge, although science and religion are considered separate sources of ideas, there are some areas where they are interconnected. In particular, ideas about creation and human nature are influenced by scientific findings. If religious beliefs are to be in harmony with scientific knowledge, then theologians must take into account current scientific findings, not specific or speculative theories that may not be relevant in the future. Theological doctrines must be adapted to scientific discoveries, although not all are directly related to current scientific theories.[17]

In the theory of evolution, the theological doctrine of creation teaches that while God is present in every event, he does not control the end result.[18] This inspired the idea of process theology in Christianity which sees God not as a coercive force, but as a persuasive and inspiring

[15] Ebrahim Moosa, "Interface of Science and Jurisprudence: Dissonant Gazes at the Body in Modern Muslim Ethics," in *God, Life, and the Cosmos: Christian and Islamic Perspectives*, ed. Ted Peters, Muzaffar Iqbal, and Syed Nomanul Haq (Burlington, USA: Ashgate Pub. Co, 2002), 330.

[16] Barbour, *When Science Meets Religion: Enemies, Strangers or Partners?*, 31.

[17] Originally "*Theological doctrines must be consistent with the scientific evidence even if they are not directly implied by current scientific theories*". Barbour, 32. See also, Ian G Barbour, *Issues in Science and Religion* (Englewood Cliffs, New Jersey: Prentice Hall, Inc, 1966), 415.

[18] Ian G Barbour, *Menemukan Tuhan Dalam Sains Kontemporer Dan Agama*, trans. Fransiskus Borgias M. (Bandung: PT Mizan Pustaka, 2005), 96.

guide.[19] Ultimately, the relationship between God and humans is seen as a partnership to achieve the end result. Barbour also believes that only science can provide the data needed to assess the threat to nature posed by human lifestyles, while religious beliefs can only influence one's attitude towards nature and our motivation to act.[20] In this instance, the tenets of scientific inquiry are acknowledged and accepted as a valid and reliable body of knowledge.

Barbour's perspective above, while intended to help keep the dimensions of religion and science in balance, appears to suggest that science dominates theology or that theology is weakened by science.[21] The realm of faith, meaning and values is placed on the defensive and threatened with constant change in accordance with the development of science, which is centered on a positivistic and materialistic worldview.[22]

In another hand, Syed Muhammad Naquib al-Attas, a Muslim intellectual who is very influential in the field of Islamic thought, responds to the event of the decline and weakness of Muslims since the occurrence of Western colonialism in the 18th century, caused and rooted in confusion in understanding the nature of science, one of which is in the meaning of religion. He realized that the concept and components

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[19] Originally "*process theology sees it as arising out of the persuasive power of God. It is because God exercises power upon us, persuasive power, that a space is opened up for us within which we are free*". John B. Cobb and David Ray Griffin, *Process Theology: An Introductory Exposition* (Philadelphia: Westminster Press, 1976), 119.

[20] Barbour, *When Science Meets Religion: Enemies, Strangers or Partners?*, 33.

[21] Huston Smith, *Why Religion Matters : The Fate of the Human Spirit in an Age of Disbelief* (United Kingdom: HarperCollins Publishers Ltd., 2001), 100.

[22] "*The domain of faith, meaning, and values is constantly placed on the defensive and undercut by the incursions of a narrow, positivistic knowledge, along with its accompanying materialistic worldview*". Smith, 100.

had been contaminated by entities from other civilizations, especially the West.[23]

As a result, al-Attas is known for his concept of the *de-Westernization of knowledge*, which is the first step in the *Islamization* process,[24] has a very comprehensive and ontological concept of religion and science that touches the metaphysical realm. He uses the term dīn, which is generally interpreted as religion, in contrast to the concept of religion as interpreted and understood in Western religious history.[25] Al Attas views the radical shifts in Christianity as a consequence of the massive secularization of religion in the West, which changed the views of Christian theologians and realistically accepted its arrival as a process of adjustment in finding the true nature and purpose.[26]

Meanwhile, al-Attas' interaction with Western science can be seen in his attention to the values it contains. He is very concerned about values and is so selective in his sorting and choosing that, he believes that science is not value-free; it is influenced by the background of the

[23] Wan Mohd Nor Wan Daud, "The Metaphysical Worldview," in *A Companion To The Worldview Islam* (Malaysia: Himpunan Keilmuan Muslim For Worldview of Islam Series Summer School (WISE SS), 2015), 1.

[24] Syed Muhammad Naquib Al-Attas, "Dewesternisasi Ilmu," *Jurnal Terjemahan Alam &Tamadun Melayu* 1, no. 2 (2010): 3–20.

[25] Syed Muhammad Naquib Al-Attas, *Prolegomena to the Metaphysics of Islam; an Exposition of The Fundamental Elements of The Worldview of Islam* (Kuala Lumpur: International Institute of Islmaic Thought (ISTAC), 1995), 41.

[26] It can be seen in the following quote from al Attas"*...both Catholic and Protestant have found cause to call for radical changes in the interpretation of the Gospel and in the nature and role of the Church that would merge them logically and naturally into the picture of contemporary Western man and his world as envisaged in the secular panorama of life* ". Syed Muhammad Naquib Al-Attas, *Islam and Secularism* (Kuala Lumpur: International Institute of Islmaic Thought (ISTAC), 1993), 3.

scientist's thinking.[27] This perspective will be the main focus of this research, using al-Attas' perspective as a lens to evaluate the integration model offered by Barbour.

Therefore, in this study, the author will examine and explore the thoughts of Ian G. Barbour, the typology model he presents in his direct works such as "*When Science Meets Religion*" and "*Issues in Science and Religion*" as well as several books he authored as the main references for the researcher. The study will also analyze Barbour's background understanding of science and religion and how he interacts with both. Based on qualitative research, using a critical descriptive analysis method for evaluation, and utilizes the comparative and contrast method to assess Ian G. Barbour's integration of science and religion through the perspective of al-Attas' Islamization.

B. Problem Formulation

Based on this background, the researcher formulates a problem that will be the main subject and focus of study in this research, specifically: How to evaluate the model of science and religion integration by Ian G. Barbour using the perspective of Islamization by al-Attas?

C. Purpose of Study

Based on the formulated problem above, the objective of this research is to evaluate the model of science and religion integration by Ian G. Barbour using the perspective of al-Attas.

[27] Syed Muhammad Naquib Al-Attas, *Risalah Untuk Kaum Muslimin* (Kuala Lumpur: International Institute of Islmaic Thought (ISTAC), 2001), 42.

D. Significance of Study

1. Theoretical Aspect (Academic)

a. This research is expected to contribute to the development of knowledge, especially in the context of Islamization and the relationship between science and religion in philosophical discourse, through an in-depth understanding of the thought of Ian G. Barbour and the Islamization by al-Attas.
b. Through this research, it is hoped to strengthen the argument for the necessity of Islamization programs in higher education as a strategy to respond to the development of Western science.
c. This research is expected to make a significant academic contribution to the study of al-Attas's Islamization and the integration of Ian G Barbour's thought in Indonesia.

2. Practical Aspect (Social)

a. This research is expected to serve as a reference for further studies related to the discourse on the integration of science and religion, particularly those concerning the thought of Ian G Barbour.
b. This research is expected to serve as useful evaluative material in examining the development of contemporary science by referring to the perspective of al-Attas's Islamization of science.

E. Previous Study

Based on the literature review conducted by the researcher regarding the title "**A Critical Evaluation of Ian G. Barbour's Integration of Science and Religion**" there is currently limited specific evaluation of the integration model proposed by Barbour. Furthermore, evaluations using the perspective of al-Attas as a lens are also limited. Although this

topic has been the focus of some previous studies, research specifically addresses the evaluation of Ian G. Barbour's model of the integration of science and religion from the perspective of the Islmization of al-Attas is still relatively rare. Despite the theme and title, the researcher identified several previous studies.

Firstly, it is a response to Ian G. Barbour's work, "*Science and Religion from Conflict to Conversation*" by John F. Haught.[28] Haught's perspective is similar but not identical. He classifies the approaches of science and religion into Conflict, Contrast, Contact, and Confirmation. Although these four views can be considered analogous to those proposed by Barbour, Haught also interprets them as a kind of journey.

Secondly, the journal "*Barbour's Typologies and The Contemporary Debate on Islam and Science*", written by Stefano Bigliardi,[29] discusses the views of four figures who explore the relationship between Islam and modern science and connect it with concepts in Ian Barbour's typologies of religion-science interactions. The journal presents philosophical perspectives from Ismail Raji al-Faruqi, Seyyed Hossein Nasr, Mehdi Golshani, and Nidhal Guessoum on the relationship between science and religion in the context of Islam. Al-Faruqi highlights the Islamization of science as a first step in improving Muslim societies. Nasr emphasizes the need to return to an understanding of the sacred science to address the environmental and spiritual crises in the West. Meanwhile, Nidhal

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[28] John F. Haught, *Science and Religion; From Conflict to Conversation* (New York: Paulist Press, 1995).

[29] Stefano Bigliardi, "Barbour's Typologies and The Contemporary Debate on Islam and Science," *Zygon*® 47, no. 3 (September 2012): 501–19.

Guessoum, using the term "reconciliation," refers to efforts to unify or align scientific perspectives with religious principles, allowing for their harmonious integration without conflict. Mehdi Golshani proposes a harmonious approach where scientific principles and religious concepts complement each other. The author concludes that the use of the concept of science and religion integration in the context of monotheistic religions is not entirely consistent with Barbour's classification.

Thirdly, there is a journal by Ted Peters titled "*Cult Books Revisited: Ian Barbour's Issues in Science and Religion*"[30] this article which reviews Ian G. Barbour's book "Issues in Science and Religion" published in 1966. The book is considered foundational for the emerging discipline known as "*Science and Religion*" or "*Theology and Science*." In the journal, the author reveals how the book paved the way for dialogue and integration between science and religion, leading to the development of new scientific knowledge. During that period, the subject between science and religion were seen as conflicting, much like communism and capitalism. However, Barbour, a young professor at Carlton College, aimed to demonstrate that science and religion were more alike and compatible than commonly understood. Barbour built a bridge for dialogue and integration between science and theology.

Fourthly, the research by Fitri Meliani, Nanat Fatah Natsir and Erni Haryanti entitled "*Sumbangan Pemikiran Ian G. Barbour mengenai*

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[30] Ted Peters, "Cult Books Revisited: Ian Barbour's Issues in Science and Religion," *Theology* 120, no. 3 (May 2017): 163–71.

Relasi Sains dan Agama terhadap Islamisasi Sains"[31] examines the thoughts of Ian G. Barbour and his contribution to the idea of Islamization, is it true that there are many critics like Seyyed Hossein Nasr for Barbour's integration because it tends to weaken theology under the dominance of science. For Nasr, theology, especially tradition, should be the standard for scientific theory. Smith and Nasr, as proponents of perennial philosophy, emphasized the necessity of establishing theology as the guide of science. Al-Faruqi and Syed M. Naquib al-Attas led the Islamization of Science movement to protect science from Westernization, emphasizing the importance of the concept of Tawhid as the basis of science. Here, the researcher does not use the specifics and details of al-Attas' Islamization thought as a research lens.

Fifthly, a study on the integration of Ian G. Barbour in the journal written by Mohammad Muslih, Heru Wahyudi, and Amir Reza Kusuma titled "*Integrasi Ilmu dan Agama menurut Syed Muhammad Naquib al-Attas dan Ian G Barbour*"[32] examines the relationship between science and religion using the perspectives of two figures, Barbour and al-Attas. However, the method used in the research is to compare the two thinkers and provide only limited criticism rather than a comprehensive analysis. Therefore, the researchers strive to present a comprehensive critical descriptive analysis of Ian G. Barbour's thoughts.

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[31] F Meliani, NF Natsir, and E Haryanti, "Sumbangan Pemikiran Ian G. Barbour Mengenai Relasi Sains Dan Agama Terhadap Islamisasi Sains," *JIIP-Jurnal Ilmiah Ilmu Pendidikan* 4, no. 7 (2021).

[32] Mohammad Muslih, H Wahyudi, and AR Kusuma, "Integrasi Ilmu Dan Agama Menurut Syed Muhammad Naquib Al-Attas Dan Ian G Barbour," *Jurnal Penelitian Medan Agama* 13, no. 01 (2022).

Sixth, a study conducted by Husnul Hidayah, Deni Iriyadi, and Iffan Ahmad Gufron titled "*Relasi Sains Dan Agama dalam Perspektif Ian Graeme Barbour*"[33] also discusses Ian G. Barbour's thoughts on the integration of science and religion. They employ text analysis and deductive methods to conclude, finding that Barbour categorizes the relationship between science and religion into four models: conflict, autonomy, dialogue, and integration. The conflict model views them as inherently problematic, while autonomy asserts their distinct domains. The dialogue model involves the exchange of ideas and mutual assistance, whereas the integration model resolves disagreements on issues considered inconsistent between the two.

Therefore, without ignoring previous research, the researcher brings a unique approach to evaluate the integration of religion and science by Ian G. Barbour through the lens of al-Attas's Islamization perspective. To date, comprehensive studies specifically addressing this title have not been found.

F. Theoretical Framework

This research uses a philosophical approach that aims to scientifically and reflectively clarify the subject matter concerning the relationship between fundamental ideas, religiosity, and human experience within cultural and historical contexts.[34]

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[33] H Hidayah, D Iriyadi, and IA Gufron, "Relasi Sains Dan Agama Dalam Perspektif Ian Graeme Barbour," *Aqlania: Jurnal Filsafat Dan Teologi Islam* 13, no. 1 (2022).

[34] Muzairi et al., *Metodologi Penelitian Filsafat* (Yogyakarta: FA Press UIN Sunan Kalijaga, 2014), 77–79.

The theoretical framework utilized to evaluate Ian G. Barbour's Model of the integration of science and religion is the Islamization of science by al-Attas. Although al-Attas was the original proponent, the concept of Islamization he introduced by him was further developed and popularized by Ismail R. Al-Faruqi, who was also a close associate of al-Attas.[35] Islamization is the grand idea of reviving the glory of Islam. This idea has brought about major changes in Muslim thinking since the mid-20th century, and in the face of the challenges of modern science, Islamization has become even more important. Muslims need courage and conviction in dealing with the advances of Western science.[36]

Islamization is a process of fundamental transformation in the understanding, values and direction of human life to conform to Islamic teachings. This process involves purification from all element that are not in harmony with Islamic principles, with the aim of a deeper understanding and appreciation of Islam. As al-Attas defines it in his book "*Islam and Secularism*":

> *"Islamization is the liberation of man first from magical, mythological, animistic, national-cultural tradition opposed to Islam, and then from secular control over his reason and his language. The man of Islam is he whose reason and language are no longer controlled by magic, mythology, animism, his own national and cultural traditions opposed to Islām and secularism... It is also liberation from subservience to his*

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[35] Ismail Raji Al-Faruqi, *Islamization of Knowledge: General Principle and Workplan.* (Herndon: IIIT, 1989). For current discussion, see. Imtiyaz Yusuf, ed., "The Concept of Dīn (Religion) as Interpreted by Isma'il Al Faruqi," in *Islam and Knowledge: Al Faruqi's Concept of Religion in Islamic Thought* (London: I.B.Tauris, 2012).

[36] Wan Mohd Nor Wan Daud, *Budaya Ilmu Satu Penjelasan* (Singapura: Pustaka Nasional Pte Ltd, 2007), 68.

physical demands which incline toward the secular and injustice to his true self or soul, for man as physical being inclines towards forgetfulness of his true nature, becoming ignorant of his true purpose and unjust to it. Islamization is a process not so much of evolution as that of devolution to original nature."[37]

According to al-Attas, one of the greatest scholarly challenges today arises from the confusion of thought due to the influence of secular Western culture. This confusion is a result of the Westernization of science, which has led to prolonged confusion, efforts to change moral norms according to their desires, consequently a significant decline in values and morals among Muslims.[38]

It must be believed that knowledge is not neutral;[39] it is like a bundle of interconnected meanings relating to things one perceives and understands, then entering into one's soul and mind.[40] This means it is influenced by the quality and capacity of the human mind and its worldview.[41] However, much of the knowledge today is fundamentally conceived and interpreted by the West. The concept, which is dominated by the mind based on four main elements: secularism, dualism,

[37] Al-Attas, *Islam and Secularism*, 44–45.

[38] Al-Attas, *Prolegomena to the Metaphysics of Islam; an Exposition of The Fundamental Elements of The Worldview of Islam*, 15.

[39] Al-Attas, *Islam and Secularism*, 133.

[40] Syed Muhammad Naquib Al-Attas, *The Concept of Education In Islam; a Framework For an Islamic Philosophy of Education* (Kuala Lumpur: International Institute of Islmaic Thought (ISTAC), 1999), 17–18.

[41] Wan Mohd Nor Wan Daud, *Islamization of Contemporary Knowledge and the Role of the University in the Context of de Westernization and Decolonization* (Malaysia: UTM, 2013), 18.

humanism, and tragedy, permeates all aspects of Western life and although.[42]

Thus, al-Attas's Islamization involves a dual process of de-Westernization and Islamization of current knowledge, in wich elements and concepts deemed incompatible with Islamic principles, especially those from the West, are isolated and eliminated. At the same time, key elements and principles in Islam are integrated into these new or unfamiliar elements and principles.[43] Some key elements in Islam and its principles include aspects such as human beings (*insan*), religion (*din*), knowledge (*'ilm* and *ma'rifah*), wisdom (*hikmah*), justice (*'adl*), and righteous action (*'amal* as *adab*). All of these are closely related to the concept of Allah, His essence, and attributes (*tawhid*), as well as the meanings and messages found in the Qur'an, Sunnah, and Shari'ah.[44]

On the basis of this dual process, the Islamization of science can be divided into several technical stages. The first stage focuses on Islamization at the individual level, beginning with liberation from magical, mythological, animistic, and culturally opposed values to Islam, as well as secular thought. In this stage, individuals undergoing the process are expected to recognize and understand their innate nature while positioning themselves as human beings. This stage includes human interaction with others (*muamalah ma'annas*) and interaction with

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[42] Al-Attas, *The Concept of Education In Islam; a Framework For an Islamic Philosophy of Education*, 44–45.

[43] Daud, *Islamization of Contemporary Knowledge and the Role of the University in the Context of de Westernization and Decolonization*, 19.

[44] Al-Attas, *Islam and Secularism*, 163.

Allah (*muamalah ma'allah*).[45] It is important to avoid thinking that contradicts Islamic teachings and to develop an understanding consistent with Islamic values.

The next stage is the process of Islamization of the worldview.[46] Worldview refers to the belief system that forms the core of how we view ourselves (*self-nature*), the world around us (*reality*), and the meaning of our existence.[47] It includes fundamental beliefs about who we are, what we believe to be real, and why we are in this world. In this case, beliefs and the concept of God are very important and form the basis for other concepts.[48]

There are fundamental elements in worldview, but there are different views on the number of elements it contains.[49] Al-Attas himself

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[45] Mohammad Muslih, H Susanto, and MP Perdana, "The Paradigm of Islamization of Knowledge According to SMN Al-Attas (From Islamization of Science to Islamic Science)," *TASFIYAH Jurnal Pemikiran Islam* 5, no. 1 (2021): 34.

[46] Al Attas defines worldview as "*the vision of reality and truth that appears before our mind's eye revealing what existence is all about; for it is the world of existence in its totality that Islam is projecting. Thus by 'worldview' we must mean ru'yat al-islam li al-wujüd*", This "worldview" or worldview in the context of Islam is the view of reality and truth that arises in our minds and reveals the true essence of existence. In other words, the Islamic worldview shows how Islam perceives the world as a whole. See. Al-Attas, *Prolegomena to the Metaphysics of Islam; an Exposition of The Fundamental Elements of The Worldview of Islam*, 2. About the stages of Islamization of science see Tiar Anwar Bahtiar, *Jas Mewah: Jangan Sekali-Kali Melupakan Sejarah & Dakwah* (Yogyakarta: Pro-U Media, 2018), 329.

[47] Originally "*An integrated system of basic beliefs about the nature of yourself, reality, and the meaning of existence*". Thomas F. Wall, *Thinking Critically About Philosophical Problems, A Modern Introduction* (Australia: Wadsworth Thomson Learning, 2001), 532.

[48] Hamid Fahmy Zarkasyi, *Al-Ghazali's Concept of Causality; with Refrence to His Interpretations of Reality and Knowledge* (Kuala Lumpur: International Islamic University Malaysia (IIUM), 2010), 19.

[49] Wall summarizes six core elements in worldview, namely the concept of God, knowledge, reality, self, ethics, and society. See F. Wall, *Thinking Critically About Philosophical Problems, A Modern Introduction*, 16. While Smart partially agrees with Wall, he alters the concept of God with the terms doctrine and mythology, while adding ritual and experience as additional elements. However, Smart does not include the concepts of

places the concept of God in the first tier, followed by the concepts of revelation, creation, humanity, knowledge, religion, freedom, values, and virtues.[50] This indicates that in worldview, al-Attas places the concept of God in the most important or foundational position in the worldview. In other words, God becomes the primary focus or conceptual foundation of various elements. This is where the fundamental difference lies between al-Attas and Barbour. Unlike Barbour's explanation, al-Attas positions the worldview with his concept of God as permanent and unchanging, even when integrated with science, while Barbour, in the *theology of nature*, allows theology to be reformulated according to scientific findings.

In the final stage, after individuals have been imbued with a complete Islamic worldview, the integration of knowledge in accordance with Islamic principles can take place. The adoption of Islamic perspectives by scientists becomes essential for the development of knowledge based on Islam. It should be emphasized that the process of "Islamization" knowledge primarily applies to fields of study influenced by Western paradigms.[51]

knowledge and reality, perhaps because the understanding of these concepts varies across different religions. See Ninian Smart, *Worldviews Crosscultural Explorations of Human Belief* (New York: Charles Scribner's Sons, 1983), 7–8. On the other hand, Alparslan proposes five fundamental elements of a worldview based on how humans understand it. These include the structure of life, the structure of the world, the structure of humanity, the structure of values, and the structure of knowledge. See Alparslan Açikgenç, *Islamic Science, Towards a Definition* (Malaysia: International Institute of Islmaic Thought (ISTAC), 1996), 20–26.

[50] Al-Attas, *Prolegomena to the Metaphysics of Islam; an Exposition of The Fundamental Elements of The Worldview of Islam*, 5.

[51] Muslih, Susanto, and Perdana, "The Paradigm of Islamization of Knowledge According to SMN Al-Attas (From Islamization of Science to Islamic Science)," 34.

The concept of Islamization of science proposed by Al-Attas is very suitable to be used as a theoretical framework in evaluating the idea of integration of science and religion, especially in the context of Barbour's idea of integration of science and religion. This approach allows for a critical evaluation of the concepts of Western science that are secular in nature, by identifying elements that are contrary to the Islamic worldview and replacing them with concepts that are in accordance with the Islamic worldview.[52]

Al-Attas' concept of Islamization offers a selective and careful evaluation framework. Islamization not only encourages harmonious integration, but also ensures that science does not revise or degrade religion, but rather supports it within a higher framework of truth.[53] Thus, Al-Attas' concept can be a powerful tool in assessing whether the idea of the integration of science and religion, as proposed by Barbour, is in accordance with Islamic principles or not.

Therefore, based on the Islamization theory explained above, the model of science and religion integration by Ian G. Barbour will be evaluated. The focus will be on understanding the differences between Barbour and al-Attas in their interaction with science and religion. This will form the basis upon which this research is written.

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[52] Al-Attas, *Islam and Secularism*, 44–45.

[53] as emphasized by al-Attas "*Islam has never accepted, nor has ever been affected by ethical and epistemological relativism that made man the measure of all things, nor has it ever created the situation for the rise of skepticism, agnosticism, and sub- jectivism, all of which in one way or another describe aspects of the secularizing process which have contributed to the birth of modernism and postmodernism*" see, Al-Attas, *Prolegomena to the Metaphysics of Islam; an Exposition of The Fundamental Elements of The Worldview of Islam*, 14.

G. Methods of Research

1. Kind of Research

This study is a literature review based on qualitative research.[54] A literature review is a research method that uses written sources such as books, journals, and other documents. The analysis of historical records is done by studying and interpreting the available historical records. Techniques include note-taking, content analysis, and listening to and analyzing audio recordings or films.[55]

2. Source of Data

There are at least several stages in the collection of data for this research. It begins with the inventory and critical and philosophical reading of various works related to the topics and figures to be studied.[56] Based on the source of data, data collection can be divided into two, namely primary and secondary. Primary data are data and sources obtained directly from the figures directly related.[57] In this case, the researchers use the works of Ian G. Barbour such *as Issues in Science and Religion*, *When Science Meets Religion: Enemies, Strangers or Partners*, *Religion and Science: Historical and Contemporary Issues*. Also referring to journals written directly by the figure to find out the integration model he offers while finding out how al-Attas' Islamization, primary sources

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[54] Sugiyono, *Metode Penelitian Kuantitatif, Kualitatif, Dan R&D* (Bandung: Alfabeta, 2013), 291.

[55] C.R Kothari, *Research Methodology; Methods and Techniques*, 2nd ed. (New Delhi: New Age International (P) Ltd, 2004), 7.

[56] Syahrin Harahap, *Studi Tokoh Dalam Bidang Pemikiran Islam* (Medan: IAIN Press, 1995), 16. See also. Arief Furchan and Agus Maimun, *Studi Tokoh Metode Penelitian Mengenai Tokoh* (Yogyakarta: Pustaka Pelajar, 2005), 54.

[57] Rahmadi, *Pengantar Metodologi Penelitian* (Banjarmasin: Antasari Press, 2011), 71. See also. Burhan Bungin, *Metodologi Penelitian Kuantitatif: Komunikasi, Ekonomi, Kebijakan Publik Dan Ilmu Sosial Lainnya* (Jakarta: Kencana, 2006), 122.

are his works such as *Islam and Secularism, Risalah Untuk Kaum Muslimin, Prolegomena to the Metaphysics of Islam; an Exposition of The Fundamental Elements of The Worldview of Islam*, as well as journals written by al-Attas directly.

Secondary sources, on the other hand, take the form of someone's interpretation of the original work and become a book translation, a book review, a short note on a specific topic, or an article usually published in a scholarly journal. In terms of content, secondary literature attempts to adhere to long-established standards of scholarly practice in scholarly discourse, including objectivity, source documentation, and general validity. However, it is important for any reader to be able to examine and follow the arguments, findings, and claims of literary criticism. Textual interpretation always involves an element of subjectivity. [58] The next step is to critically evaluate and synthesize the character's thoughts, eliminating everything that doesn't fit and keeping all the elements that are good and appropriate. The next step is to critically evaluate and synthesize the figures' thoughts, discarding anything inconsistent and retaining all relevant and appropriate elements.[59]

3. The Technique of Data Analysis

In analyzing data, researcher use descriptive methods aimed at explaining current conditions or events by revealing facts and providing an objective picture, strong interpretation, and detailing related

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[58] Mario Klarer, *An Introduction to Literary Studies*, Third edition (London and New York: Routledge, Taylor & Francis Group, 2013), 5.

[59] Harahap, *Studi Tokoh Dalam Bidang Pemikiran Islam*, 17.

information.[60] With critical analysis methods this is an analysis that includes criticism of Ian G Barbour's text, from which the researcher can critically reveal the strengths and weaknesses of the characters without having to lose objectivity.[61] There are two types, internal and external. Thus, researchers use external ones by using different points of view in evaluating a text.[62] Furthermore, this research will also expand the review of al-Attas' thoughts on Islamic philosophy of science, which is the theological basis for the existence of Islamic science. Data analysis will be carried out by classifying the meaning and characteristics of science and religion historically and philosophically using the compare[63] and contrast[64] method.

The compare and contrast technique is the author's attempt to analyze and compare different pieces of data, refine them, then move to a higher conceptual level and conduct data analysis to develop concepts, by constantly comparing, identifying, and exploring the relationship of the data to each other and integrating them into a coherent theory.[65] In other words, this method allows researchers to systematically develop an understanding of qualitative data, starting from the concrete level to the more abstract conceptual level, until a contrast principle is created

[60] Raihan, *Metodologi Penelitian* (Jakarta: Universitas Islam Jakarta, 2017), 51–52.

[61] Furchan and Maimun, *Studi Tokoh Metode Penelitian Mengenai Tokoh*, 28.

[62] Muzairi et al., *Metodologi Penelitian Filsafat*, 54–55.

[63] Furchan and Maimun, *Studi Tokoh Metode Penelitian Mengenai Tokoh*, 72.

[64] William J. Gibson and Andrew Brown, *Working with Qualitative Data* (London: SAGE Publications Ltd, 2009), 197.

[65] Charles Teddlie and Abbas Tashakkori, *Foundations of Mixed Methods Research: Integrating Quantitative and Qualitative Approaches in the Social and Behavioral Sciences*, Nachdr. (Los Angeles: SAGE, 2010), 221–22.

which is the final stage of the analysis system.[66] In order to see the contrast and evaluate Ian G Barbour's thoughts in this research, the author uses the Islamization of al Attas as an evaluation lens for Ian G Barbour's offer of integration

H. System of Study

In writing this thesis, a systematic discussion is necessary to facilitate understanding and achieve optimal results. The systematicity of this discussion involves the division into chapters and several sub-chapters, which are detailed as follows:

Chapter I, which contains the introduction, provides the background of the study as a frame of reference for writing this thesis. then the formulation of the problem, purpose study, significance study (theoretical and practical aspects), previous literature studies, theoretical framework, research methods (including research types, data sources, data analysis techniques) and research system.

In Chapter II, the discussion is in the form of a general description consisting of Ian G. Barbour's biography (academic journey and contribution to his work) then will discuss the history of the debate on the relationship between the two by including the thoughts of several figures from Islam and the West.

In Chapter III, it contains a special discussion on Ian G. Barbour's typology of the relationship between science and religion, starting from his worldview and understanding of science and religion, also discussing

[66] "*The contrast principle states that the meaning of a symbol can be discovered by finding out how it is different from other symbols*."Teddlie and Tashakkori, 221.

the typology offered and also the main ideas that are the implications of Ian G. Barbour's integration of science and religion.

In Chapter IV, which is in the form of findings and the core of the discussion. In this chapter, the researchers will try to evaluate Ian G. Barbour's concept of integration of science and religion, explained in the previous chapter, using Al Attas' perspective of Islamization of science.

Chapter V, the Conclusion and Suggestions. This chapter consists of conclusions from the research results on the evaluation of Ian G Barbour's proposal for integration of science and religion, followed by recommendations that include suggestions and input on what the researcher perceives as deficiencies that require further research and attention.

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