

TRACING THE “ISLAMIC GOLDEN AGE” TO REVITALIZE THE SCIENTIFIC PARADIGM

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Article Info

Article History

Submitted 04-01-2024

Accepted 30-05-2024

Published 30-06-2024

Keywords: History; Civilization; Islam; Islamic Golden Age.

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Abstract

This research aims to analyze the Islamic Golden Age abbreviated as IGA, which is agreed upon by Western scholars and Muslim scholars and occurred in the history of Islamic culture and civilization. This research examines the possibility of grounding the characteristics and scientific paradigm of IGA in modern situations through several focuses of study, namely (1) the background of the development of the IGA concept, (2) the stage of development of the IGA concept, (3) the position of scientific activities in the map of cultural constellation (culture) and civilization (civilization) IGA, and (4) the characteristics and scientific paradigm of IGA. These four things are considered to be able to trigger the development stage of scientists, sciences, and inventions. The method used in conducting the research is descriptive-analytic of literature sources. This is done as a mapping of the entire overview of the IGA concept. This research approach is a history approach, both through a diachronic history approach and a synchronic history approach. In addition, it refers to the development of theories obtained deductively through literature studies. The basis of the research is then strengthened by conducting a form of inductive reasoning on the data obtained in this research in order to solve the final conclusions that are based on the data obtained.

INTRODUCTION

In Islamic history, there is a concept called the Islamic Golden Age. The Islamic Golden Age, hereafter abbreviated as IGA, is interpreted as a period in Islamic history where science, economy, and culture blossomed rapidly (Hassan, 1996).

While emphasizing other fields, IGA is interpreted as a period in which military achievements are at the peak of their strength and expansion (Life Magazine, 1955). Then some interpret IGA as a period of achievement in the political field governed by Islamic rules and referred to by the term *khilafah* (The Outlook, 1892). Some interpret IGA as a period of scientific activity (science) which is growing and developing rapidly. It was with the discovery of the figure of scientists, who worked in carrying out translation movement, research, and inventions in various fields of science and technology, through the construction of a learning institution called Baitul Hikmah (House of Virtue) as a starting point (Gutas, 1998).

If the concept of IGA is concluded compromisingly based on the views that have been discussed, in a more intact (integral) and comprehensive (coherent) construction, then IGA can be said to be a period in which Islam can embody the center of the value system (core value system) and the center of ideology (core ideology) that it has into all aspects of culture (culture) and civilization (civilization) that it builds. The aspects that stand out in Islamic culture and civilization, among others, are the structure of power (politics), military (military), religion (religious and theology), welfare (economy), trade and transportation (commerce and travel), education (education), mental and intellectual attitudes that are open to ideas (openness to diverse influences), health (healthcare), engineering (technology), law (law), philosophy (philosophy), agriculture (agriculture), art (art), literature (literature), building (architecture), science (science), and the findings (invention) produced in various fields. The most prominent works of the tree of Islamic culture and civilization that are used as references in the study of IGA are more focused on the growth and development of phenomena: (1) scientists, (2) sciences, and (3) inventions as the spearhead in the achievement of the history of Islamic culture and civilization which is considered successful and glorious.

The three things above are used as a reference (focus) of study and at the same time consider the period regarding the state of growth and development of the formal aspects of the Islamic power structure (*Khilafah*) in the political and administrative areas of the state. Thus, the IGA can be said to be a period where the three things that become references in the scientific field (scientific) and the field of technology began to grow and develop from the 7th century AD to the 20th century AD. However, the period of scientific creativity, when detailed more clearly and clearly, began in the 7th century AD and it peaked in the 15th century AD. From the 16th century to the 17th century, the developmental stage of the birth of scientists, sciences, and discoveries continued, although the graph began to gradually decline. Meanwhile, from the 18th century to the 20th century, although the birth of scientists, sciences, and inventions in the Islamic world is still continuous in a decreasing graph, it is just that the aspect of popularity and influence on the development of the times has faded.

An overview of how IGA has grown and developed in the historical trajectory of Islamic culture and civilization can be presented with three reference focuses that are representative of the following centuries.

In the 7th century CE came **Ka'ab Ibn Zuhair** (poetry) with his work entitled *Banat Su'ad* (Sells, 1990) and **Imam Hanafi** (fiqh, hadith, theology) with his works *Fiqh Al Akbar*, *Fiqh Al Absat*, *Al Athar*, *Al Wasiyah*, *At Tariq Al Aslam Musnad Imam Abu Hanifah* (Mangera and Abdur-Rahman, 2007).

In the 8th century, CE came **Ya'kub Ibn Tariq** (cosmology, astronomy, geography, mathematics) with his work *Tarkib Al Aflak* (Plofker, 2007), **Al Fazari** (philosophy, mathematics, astrology, astronomy, geography) with his work *Az Zij 'Ala Sini Al Arab* also called

Sindhind (Kennedy, 1956), and **Imam Malik** (hadith, fiqh, theology) with his works *Al Muwatta* and *Al Mudawana Al Kubra* (Schacht, 2023)..

In the 9th century AD, **Al Khawarizmi** (mathematics, astronomy, geography, history) appeared with his works *Kitab Al Tarikh*, *Kitab Ar Rukhama*, *Ma'rifat Sa'at Al Mashriq fi Kull Balad*, *Ma'rifat Al Samt min Qibal Al Irtifa'*, *Kitab Al Hisab Al Hindi*, *Kitab Al Jam' wa'l Tafriq Al Hisab Al Hindi* (Ben-Menahem, 2009), **Al Farghani** (astronomy, astrology) with his *Kitab fi Jawami 'Ilm Al Nujumi* (Holt, et al., 1978), **Abu Bakar Al Razi** (philosophy, chemistry, physics, medicine) with his works *Al Mansuri*, *Man La Yahduruhu Al Tabib*, *Al Shukuk 'Ala Jalinus*, *Al Asrar*, *Sir Al Asrar* (Ansari, 1976). **Imam Syafii** with his works *Al Risalah*, *Kitab Al Umm*, *Musnad Ash Syafii* (Hadduri, 2011), **Ahmad bin Hanbal** (hadith, fiqh, theology) with his works *Musnad Ahmad bin Hanbal*, *Rad Alal Jamiah wal Zanadika* (Ghaly.2005 /2006), **Imam Bukhori** (hadith, fiqh, theology) with his works *Shahih Al Bukhori*, *At Tarikh Al Kabir*, *Tarikh Al Ausat*, *Tarikh Al Shagir*, *Al Adab Al Mufrad* ('Abdul-Maujood, 2005), **Imam Muslim** (hadith, fiqh, theology) with his work *Shahih Imam Muslim* (Abdul Mawjood, 2007). **Ibn Ishaq** with his work *As Siratul Rasulillah* and **Ibn Hisyam** with his work *As Sirah An Nabawiyah* (Newby, 1989).

In the 10th century, **Al Batani** (astronomy, mathematics, astrology) appeared with his works *Kitab Az Zij As Sabi*, *Kitab Ma'rifat Matali Al Buruj fi ma Baina Arba Al Falak*, *Kitab fi dala'il Al Qiranat wal Kushufat*, *Sharh Kitab Al Arba'a li Batlamyus*, *Arba' Maqalat*, *Ma'rifat Maṭali Al Buruj*, *Kitab fi Miqdar Al Ittiṣalat* (Zamani, 2014), In addition, **Abdurahman As Sufi** (astronomy) with his work *Kitab Suwar Al Kawakib* (Selin, 1997).

In the 11th century, **Ibn Al Haitam** (mathematics, astronomy, physics, optics, engineering, biology, philosophy, theology, scientific method, experimental) appeared with his works *Kitab Al Manazir* and *Al Sukuk Ala Batlamyus* (Selin, 2008), and **Ibn Sina** (philosophy, poetry, theology, medicine, astronomy, psychology, astronomy, astrology) with his works *Al Qanun Fi Tibb*, *Kitab An Nafs*, *Kitab Asy Shifa*, *Risalah Fi Ibtal Ahkam Al Nujum* (O'Connor, 1999).

In the 12th century, **Umar Kayam** (poetry, philosophy, mathematics, astronomy) appeared with his works *Muslikat Al Hisab*, *Risala fi Sarh ma Askala min Muṣadarat Kitab Uqlidis and Maqala fil Jabr wal Muqabala* (E. D. R., & H. A. R. G., 1929) and **Ibn Rusyd** (philosophy, theology, medicine, astronomy, physics, psychology, mathematics, fiqh, language) with his works *Al Kulliyat fi Al Tibb*, *Al Kashf'an Manahij Al Adillah*, *Bidayat Al Mujtahid wa Nihayat Al Muqtaṣid*, and *Bidayat Al Mujtahid* (Campo, 2009).

In the 13th century, **Nasiruddin Ath Thusi** (architecture, philosophy, medicine, mathematics, Qur'an, hadith, fiqh, astronomy, tasawuf) appeared with his works *Awsaf Al-Ashraf*, *Rawḍayi Taslim*, *Tajrid Al 'Aqa'id*, *Akhlaqul Nasri*, *Zij'i Ilkhani*, *Al Risalah Al Asturlabiyah*, *Al Tadhkirah fi 'Ilm Al Hay'ah* (Bennison, 2009) and **Nurudin Al Bitruji** (philosophy, astronomy, fiqh) with his *Kitab al-Hay'ah* (Samsó, 2007).

In the 14th century, the names of **Syamsuddin Al Samarqandi** (astronomy, mathematics, theology, philosophy) appeared with his work *Risalah fi Adab Al Bahth* (O'Connor, 1999) and **Ibn Asy Syatir** (astronomy, mathematics, engineering, philosophy) with his work *Kitab Nihayat Al Sul fi Tashih Al Usul*, *Al Zij Al Jadid*, *Sandug Al Yawaqit li Ma'rifat Al Mawaqit*, *Al 'Ala Al Jami'* (Freely, 2015).

In the 15th century, **Jamsyid Al Kasyani** (astronomy, mathematics, theology) with his works *Risalah Al Watar wa'l Jaib*, *Khaqani Zij*, *Sullam Al Sama*, *Al Risalah Al Muhitiya* (O'Connor, et al.) and **Ali Qusyji** (astronomy, mathematics, theology, engineering, languages) with his works *Risalah fi Halle Eshkale Moadeleye Ghamar lil Masir*, *Risalah Al Muḥhammadiyya fi Hisab*, *Sharh Tajrid Al I'tiqad*, *Azkare fi Alati'r Ruhaniyye*, *Fa'ide li Tahkiki Lami't Ta'rif* (Ágoston, 2009).

In the 16th century, **Taqiuddin Muhammad ibn Ma'ruf** (mathematics, astronomy, engineering, optics, natural sciences) with his works *Sidrat Muntaha Al Afkar fi Malakut Al Falak Al Dawwar* (Al Zij Al ShahinshAhi), *Jaridat Al Durar wa Kharidat Al Fikar*, *Dustur Al Tarjih li Qawa'id Al Tastih*, *Rayhanat Al Ruḥ fi Rasm Al Sa'at Ala Mustawi Al Sutuh*, *Al Kawakib Al Durriyya fi Waq' Al Bankamat Al Dawriyya*, *Al Turuq Al Saniyya fi Al Alat Al Ruḥaniyya*, *Nawr*

Hadiqat Al Absar wa Nur Haqiqat Al Anzar (Tekeli, 2008). In addition, there is **Fathullah Asy Syirazi** (theology, literature, grammar, philosophy, medicine, mathematics, astronomy, astrology, engineering, history, Qur'an) with his works *Takmilah Al Hashiyah and Tarikh Al Al Alfi* (Ivi, et al., 1968).

In the 17th century CE came the name **Abdurahim Khan-i-Khan** (poetry, language, astrology) with his works *Baburnama* in Turkish and Persian and *Khetakautukam* and *Dwatrimshadyogavali* in Sanskrit (Longman, 1999), **Nuruddin bin Ali Ar Raniri** (tasauif, fiqh, theology, hadith, history, philosophy, comparative religion) with his works *Bustanus Salatin*, *Shiratal Mustaqim*, *Darul Fawaid Fi Syarah Al 'Aqaid*, and *Fawaid Al Bahiyah* (Ali and Hashim, 2008) and **Catib Celebi** (history, geography, cartography, biography, bibliography, politics, governance, encyclopedia, Qur'an, language, calligraphy, fiqh, astronomy, medicine, mathematics, philosophy, tafsir, hadith) with his works *Fadhlakat Al Tawarikh*, *Aqwim At Tawarikh*, *Cihannuma*, *Kashf Az Zunuz 'An 'asami'l Kutub wa'l Funun*, *Dustur ul Amel fi Islah il Halel* (*Dustur Al Amal li Islah Al Khalal*), *Kasyaf Az Zunuz* (Babai, ed. 2004).

In the 18th century, **Muhammad ibn Abdul Wahab** (theology, fiqh, tasauif, hadith, history, Qur'an) appeared with his works *Kitab At-Tauhid*, *Risalah Aslu Din Al Islam wa Qa'idatuhu*, *Kitab Al Quran*, *Kashf'ush Shubuhaat*, and *Al Usool'uth Thalaatha* (Abualrub, 2003) and **Abdul Ghani An Nablusi** (tasauif, anthropology, agriculture, fiqh, travel, poetry, geography) with his works *Idah Al Maqsud min Wahdat Al Wujud*, *Sharh Diwan ibn Farid*, *Jam'u Al Asrar fi man'a Al Ashrar 'an At Ta'n fi As Sufiyah Al Akhyar*, *Shifa' Al Sadr fi Fada'il Laylat Al Nisf min Sha'ban wa Layllat Al Qadr* (Sirriyeh, 2005)..

In the 19th century, **Tahir Al Jaza'iri** (tafsir, hadith, fiqh, history, language, poetry, literature, tasauif) appeared with his works *Sharh Khuṭab Ibn Nabatah*, *Madkhal Al Tullab ila Fann Al Hisab*, *Al Taqrib ila Uṣul Al Ta'rib*, *Al Tibyan li Ba'd Al Mabaḥith Al Muta'alliqah bi'l Qur'an* (Weismann, 2001) and **Muhammad Abduh** (fiqh, tasauif, philosophy, theology) with his works *Comments on Peak of Eloquence*, *Al Urwah Al Wuthqa*, *Risalat Al Tawḥid*, *Tafsir Surat Al 'Asr*, *Tafsir Juz' 'Amma*, *Tafsir Al Manar*, *Essai sur ses idées philosophiques et religieuses* (Netton, 2008).

In the 20th century, **Alwi bin Thahir Al Hadad** (history, genealogy, biography, fiqh, astronomy) appeared with his work *Al Qaul Al Fashl fi Maa li Bani Hashim wa Quraysh wal Arab Min Al Fadhl*, *Problems of Durus Al Sirah Al Nabawiyah*, *Mukhtashar Aqd Al Aali*, *L'annah an-Nahidh fi Ilm Al Faraidh*, *Majmuah min Ulum Al Falaq*, *Ath Thabaqat Al Alawiyyah*, *History of the entry of Islam in the Far East* (Alwi, 1997) and **Muhammad Iqbal** (philosophy, poetry, history, theology, fiqh, politics, psychology, tasauif) with his works *Bang e Dara*, *Tarana e Milli*, *The Secrets of the Self*, *The Secrets of Selflessness*, *Message from the East*, *Persian Psalms*, *Javid Nama*, *Sare Jahan se Accha*, *Shikwa and Jawab e Shikwa*, *The Development of Metaphysics in Persia* (Lelyveld, 2004).

If the discoveries made by these scientists are described more specifically to simply represent the state of the existing centuries, they can be described as follows. In the 7th century AD, there were inventions of the concept of poetry (ghazal) and the foundation of the science of law (fiqh). In the 8th century AD, there were decorative findings on buildings (arabesques), astronomical compasses (astrolabe), classification of chemical substances, metal processing (Damascus steel), geared gristmills, theories of mercury and sulfur in metal processing, and wind turbine grinding (panemon windmill). In the 9th century AD, there were findings of the concept of algebra, automatic control devices on machines, chemical synthesis of natural substances, the manufacture of automatic pistons on machines, the manufacture of taps (valves) in controlling the movement of water on machines, and the manufacture of glass. The 10th century saw the discovery of the binomial theorem, the development of the scientific method from a Western perspective (scientific method), and the discovery of the concept of decimals, ink pens, and vertical windmills. The 11th century saw the invention of mercury

florida and weaving machines. The 12th century saw the invention of the steel mill and paper food wrappers. The 13th century saw the invention of tower clocks, laboratory glass bottles, and metabolic research. The 14th century saw the invention of sundials, cotton processing with crank engines, chemical tanning of animal skins (cordoban leather), and pottery with the artistic technique of white tin glaze. The 15th century saw the discovery of coffee drinks, cannons, carpets, and firearms. The 16th century saw the invention of marching bands and steam engines. In the 17th century, there were inventions of sugar-making wheel machines (Al Hasani, 2021).

Since the 18th and 19th centuries, apart from works of pure science, there have been no works of applied science or inventions in the field of technology. As for the works of pure science, it can be said that new hypotheses and theories born from induction and experimental approaches are no longer found. In the end, in the 20th century AD, the structure of the Ottoman Turkish Caliphate collapsed along with the entire political structure of the Islamic world in other places. The writings produced in the 20th century AD were dominated by the renewal of the Islamic movement and efforts to reduce the hegemony and supremacy of the Western world in the area of the war of ideas and without any opportunity to make technological discoveries.

Through the above explanation, it is necessary to examine more deeply the level of possibility in grounding the characteristics and scientific paradigm of the Islamic Golden Age in modern situations through several studies, namely: (1) what is the background of the development of the concept of IGA, (2) what is the stage of development of the concept of IGA, (3) what is the position of scientific activities in the map of the constellation of culture and civilization of IGA, and (4) what are the characteristics and scientific paradigm of IGA to trigger the stage of development of scientists, sciences, and inventions?

METHOD

The method used is descriptive-analytic of literature sources. This is done to map the entire general picture of the IGA concept. The auxiliary science used in conducting this research is the approach of history, both through a diachronic history approach and a synchronic history approach. In addition to referring to the development of theories obtained deductively through literature studies, the research's basis is strengthened by conducting a form of inductive reasoning on the data obtained in this study to solve the final general conclusion regarding the characteristics and scientific paradigm of IGA.

RESULT AND DISCUSSION

(1) Background to the Development of the Concept *Islamic Golden Age* (IGA)

The term *Islamic Golden Age* was first used by Josias Leslie Porter (1868 CE) in his book *"A Handbook for Travelers in Syria and Palestine"*. Porter responded specifically in the context of the iconic and monumental architectural work of the Damascus mosque which was built in the 8th century AD on the orders of Caliph Al Walid who ruled during the Umayyah Caliphate. Porter refers to the mosque as one of the relics of the Golden Age of Islam. But then, he went on to respond negatively that *"like Mohammedanism itself, it is now rapidly decaying"*.

In the view of Western (*Judeo-Christian*) scholars in general, as represented by the opinion of Porter in the 19th century AD, who was an Irish-British scholar, orientalist, missionary, Presbyterian (Protestant) pastor, traveler, and rector of Queen's University Belfast, Islam is not interpreted as a religion of revelation that is valid and authentic as teaching revealed by Allah SWT to the Prophet Muhammad SAW, as believed by Muslims. Islam is only considered as the teaching of a great figure in the past named Muhammad (*Mohammedanism*). The term *Mohammedanism* according to Kramer (2003) began to be used in English terms in the 17th century AD to express what should be called the religion of Islam, which evolved from the use of the previous English word, namely *Mahometanism* which is also equivalent to the use

of other terms, namely *Muhammadanism*. In other variations, the term Mohammedanism is also commonly referred to as *Muhammadism*, which evolved from Mahometanism.

The *Mohammedanism*, according to Wilson (1993) is defined as "(now largely obsolete and offensive), the religion introduced by Muhammad: Islam". ((now largely obsolete and offensive), the religion introduced by Muhammad: Islam).

Since 1950 AD (Wilson, 1993), Islamic scholars have rejected the use of the term Mohammedanism because the conception of Islam which is a revelation of Allah SWT theologically is not based on the teachings (-ism) of the Prophet Muhammad SAW, but is based on teachings sourced from the revelation of Allah SWT to the Prophet Muhammad SAW. So that the position of the Prophet Muhammad SAW, is not the creator of Islamic teachings, but the recipient of Islamic teachings from Allah SWT and then tasked with conveying these teachings to mankind, as well as what was done by previous prophets and apostles. Muslims reject the use of the term *Mohammedanism*, which has been borrowed in parallel from the basis of the habits carried out by Western society towards the use of the term *Christianity* (the teachings of Christ / Jesus Al Masih), which is based on the assumption of the existence of the teachings of *Christ* (Christ / Jesus Al Masih).

Despite the different emphasis on Islam from the Western point of view, they through the views of their scholars recognize that Islam is considered the center of the core value system and the center of core ideology which is responsible for the growth and development of culture and civilization Islam itself so that it then reaches the stage that is "the golden age". It's just that this aspect of achievement, after going through the stage he called "the golden age", then experienced an anticlimactic stage which he called "decaying".

Given Porter's background as part of Western scholars, it is likely that the use of the term the golden age was inspired by the term used in the treasury of Ancient Greek knowledge as represented by the writings of Hesiodos in *Erga Kai Hemera* (Works and Days) in the 7th century BC. The Golden Age in the view of Hesiodos who was an Ancient Greek poet, philosopher, and farmer is one of the stages of the ages of mankind apart from other stages namely the Silver Age, the Bronze Age, the Heroic Age, and the Iron Age (Hard, 2004). The division of the ages made by Hesiodos in *Erga Kai Hemera*, which consists of 5 stages, was in turn simplified by Publius Ovidus Naso, who was a Roman poet in the 1st century AD. In his Latin work entitled *Metamorphoses* (Transformations), Ovidus Naso (1986) then divided it into only 4 stages, namely the Golden Age, the Silver Age, the Bronze Age, and the Iron Age.

The division of epochs carried out by Ancient Greek scholars and later by Ancient Roman scholars, actually has parallels with the division of epochs carried out also by Ancient Indian scholars who divided the development of the times into the concept of *catur yuga* (a cycle of four world ages) which also consists of 4 stages, namely *Satya / Krita Yuga* (Golden Age), *Treta Yuga* (Silver Age), *Dvapara Yuga* (Bronze Age), and *Kali Yuga* (Iron Age). The description of the *catur yuga* can be read through Hindu literature (*Sanata Dharma*) such as in the Rigveda, Surya Sidhanta, and Mahabharata (Bhagavad Gita) (Heinberg, 1989).

In addition to the Ancient Greek, Ancient Roman, and Ancient Indian traditions, the information regarding the division of time in society is also in line with what is found in the Jewish and Christian (*Judeo-Christian*) traditions. This conclusion can be obtained through the narrative of the story of the Prophet Daniel AS who interpreted the dream experienced by a Babylonian King (Sumerian and Akadian) who ruled in the 6th century BC named King Nebuchananezar II (Book of Daniel 2: 31-35), into 5 stages, namely the Golden Age, the Silver Age, the Bronze Age, the Iron Age, and the Iron and Clay Age (Seow, 2003).

In responding to the stage of the age carried out by Hesiodos in *Erga Kai Hemera* (Works and Days), Plato in *Cratylus* (Dialogue) in the 4th century BC said, that what was stated by Hesiodos regarding the metal elements at the stage of the age, actually did not mean it literally (real), but in its metaphorical meaning. So the Golden Age, as the context of this research, in the

view of Hesiodos, for example, according to Plato does not mean that the age is built by the element of gold (made of gold), but is built by the conditions of human virtue in the form of virtue and nobility (good and noble) in living life (Gravity, 1960). Meanwhile, if the meaning of the Golden Age is further expanded, according to Robin Hard, it means an era where human life is in the conditions of human virtue that results in a state of peace, harmony, stability, and prosperity (Hard, 2004).

So the term the Golden Age used by Porter in the phrase "*the Golden Age of Islam*", the intention is to state the facts that have occurred related to a specific time stage in history (*a specific time in history*), or a historical stage in the achievement of certain fields (*the history of a specific field*), which succeeded brilliantly (*the Golden Age of Islam*). The success and glory (*the Golden Age of Islam*), when borrowing formulations from Plato and Hard, is to meet the requirements of human virtues that apply the principles of virtue (*goodness*), nobleness, peace (peacefulness), harmony, balance (stability), and prosperity in all aspects of culture and civilization that are owned as a characteristic of the era. However, the successful and glorious stage of Islamic history, according to Porter, has ended and is currently in a stage of decline. By borrowing a parable at the stage of achieving the maturity of fruits in agriculture, "*the Golden Age of Islam*" is experiencing a stage of decaying that runs very quickly (rapidly). This metaphor is considered appropriate by comparing it to the meaning of culture itself which in English is called culture, which has its roots in Latin culture which means growing, cultivating, and harvesting agricultural land which is also an agricultural metaphor (Velkley, 2002).

Porter wants to place the concept of '*the Golden Age of Islam*' in a retroactively nostalgic perspective, and separate from the current age of Muslims, which is in a stage of decline ('the age of decline'). As for Muslims, what Porter calls "the Golden Age of Islam" does not only contain a nostalgic dimension (retroactively), but an ideal stage of achievement as a reference (role model) that is expected to be realized again in the achievement of Islamic society in the future (prospectively). However, both Western scholars and Islamic scholars essentially agree that the life of Muslims at this time is in a state of decline (so that it is uprooted from its past roots which are "*the Golden Age of Islam*").

(2) Concept Development "Islamic Golden Age" (IGA)

The term "*the Golden Age of Islam*" is used by Porter to relics in the Islamic past, especially in the context of relics in the form of the great mosque of Damascus built during the reign of Caliph Al Walid of the Umayyah Caliphate in the 8th century AD, continues to experience an expansion of meaning. Likewise, academically, it developed into a separate concept when identifying the fact of a time trajectory in the history of Muslims called by Western scholars later the "*Islamic Golden Age*" or IGA. However, although the concept has generally been accepted by Western scholars to state the facts in the historical trajectory of Muslims that are advanced, Western scholars still have differences of opinion in determining its boundaries more accurately and precisely (definitive), both regarding its initial stage and regarding its final stage and also regarding the focus on the topics of its field of study in a separate record of discourse (dialectics).

In the anonymous The Outlook (1892), an opinion was expressed on the need for the IGA to be extended in time from its original reference to the 8th century AD through Porter's opinion: "*For six centuries and a half, through the Golden Age of Islam, lasted this Caliphate, till extinguished by the Osmanli sultans and in the death of the last of the blood of the house of Mahomet. The true Caliphate ended with the fall of Bagdad*". (Being six and a half centuries, the Golden Age of Islam, the Caliphate nevertheless survived, until it faded away with the Otoman sultans and in the death of the last of the bloodline of the house of Muhammad. It is just that the real Khilafah ended with the fall of Baghdad).

If Porter's opinion that refers to the 8th century AD is developed more generally into the entire scope of the reign of the Umayyah I Caliphate in Damascus, which lasted from the 7th

century AD to the 8th century AD (Al-Ajmi, 2014), then the IGA in Porter's point of view thus initially only refers to a limited scope of 100 years (8th century AD) to 200 years (namely the 7th century AD to the 8th century AD). If the scope of time is then expanded by following the opinion offered in *The Outlook*, which says that IGA covers a span of 650 years, then the logical consequence is theoretically that the IGA period not only includes the reign of the Umayyah I Caliphate (7th century AD to 8th century AD) but will also include the reign of the Abasid I Caliphate (8th century AD to 13th century AD). The 650-year time frame offered by *The Outlook* would roughly cover the period of the establishment of the Umayyah I Caliphate, which began in the 7th century CE in Damascus, until the end of the reign of the Abasid I Caliphate in the 13th century CE in Baghdad, which collapsed due to the Mongol invasion.

The rule of Umayyah I (7th century AD to 8th century AD) survived and continued into Umayyah II (8th century AD to 11th century AD) in Cordoba, which when broken down consisted of two phases, namely the Emirate of Cordoba (8th century AD to 10th century AD) (Azizur Rahman, 2001). Then it turned into the Caliphate of Cordoba (10th century AD to 11th century AD) (Fletcher, 2001). Likewise, the rule of the First Abasid Caliphate (8th century AD to 13th century AD), actually continued to survive and continued to become the Second Abasid Caliphate which remained in Bagdad (13th century AD to 16th century AD) (Kennedy, 1990) although technically it became under the protection of the Mamluk Caliphate (13th century AD to 16th century AD) in Egypt (Bohn, 1969).

The author of *The Outlook* has not only narrowly limited the *Islamic Golden Age* to the reign of the Umayyah Caliphate and the reign of the Abasid Caliphate, which he considers to be the true caliphate because it was probably founded by the Arabs (Quraysh), like the tribe of the Prophet Muhammad himself, until the Mongol invasion. However, there seems to be a looser hint that can be used to extend the scope of time, even though it is considered extinguished and not founded by the Arabs (Quraysh) to the aspect of the formal power of the Islamic caliphate which continues to the reign of the Ottoman Turkish Caliphate (13th century AD to 20th century AD) which was founded by the Turkic people (Fromkin, 1989). In addition, the Makkah Sharifat was also established by the lineage of the Prophet Muhammad through Hasan bin Ali bin Abi Talib and Fatimah binti Prophet Muhammad SAW (10th century AD to 20th century AD) (Numan, 2005). Thus, if the concept of *Islamic Golden Age* is considered to cover the scope of time starting from the time of the establishment of the Umayyah I Caliphate in the 7th century AD until it ended with the collapse of the Ottoman Turkish Caliphate and Sharifat Makah by the Qotadah clan of Bani Hashim in the 20th century AD, then the author assumes that the scope of time is no longer limited to 100-200 years old but becomes a new one.

Some Western scholars argue that the IGA as represented by Gilman (1887), actually ended long ago with the death of Caliph Umar bin Khatab (Khilafah Rashidun). It's just that Gilman did not provide clearer information on whether the IGA had begun since the reign of Caliph Abu Bakar As Sidiq as part of the chain of the Caliphate of Rashidun in Medina, or had even begun its calculation since the reign of the Prophet Muhammad himself, who in the perspective of the rule of the Caliphate of Rashidun in Medina became the predecessor of Abu Bakar who was the caliph (the successor of the Prophet Muhammad SAW). Then almost similar to Gilman's opinion, there are also Western scholars who clearly and interpret IGA only for the scope of time during the reign of the Khilafah Rashidun and the activities of military expeditions carried out (Life Magazine, 1955). Thus, the reigns of Abu Bakr As-Sidiq, Umar bin Khattab, Usman bin Affan, and Ali bin Abi Talib who were the caliphs of the Khilafah Rashidun period in the 7th century CE would fall within the IGA timeframe. If the ruling period of the Khilafah Rashidun is included in the IGA period, then it becomes a matter of necessity if theoretically and academically the reign of the Prophet Muhammad itself must be included in the earliest period of the IGA concept. Through these opinions, it can be seen that the earliest limit in determining IGA, actually stems from the reign of the Prophet Muhammad (7th century AD)

itself (Goldman, 1995) and then followed by the reign of the Rashidun Caliphate (7th century AD) (Gleave, 2008) in Medina. Meanwhile, the end of IGA refers to the collapse of the entire chain of Islamic caliphates in the 20th century AD at the hands of the Ottoman Turkish Caliphate in 1923 AD (Ozoglu, 2011). In addition, the previous strategic role was played by the Makah Sharifate of Bani Hashim until its collapse in 1925 CE (Peters, 1994).

(3) Scholarly Activities at the Heart of Islamic Culture and Civilization

With the inclusion of the reign of the Prophet Muhammad SAW and the Khilafah Rashidun in Medina, from the perspective of Islamic scholars, of course, it will be a satisfying fact. Because in the belief of Muslims, the concept of IGA certainly should not hit the concept of *Salafus Salih* (the pious predecessors), which means the generation of the best predecessors of Islam as said by the Prophet Muhammad himself in his hadiths, which includes the followers of the Prophet Muhammad from the generation who lived and followed directly in his time (companions), the followers of the Prophet Muhammad from the generation who lived and followed directly the generation of companions (*tabi'in*), and the followers of the Prophet Muhammad from the generation who lived and followed directly the generation of *tabi'in* (*tabiut tabiin*) (Lacey, 2009).

The theoretical consequence is that the position of the Prophet Muhammad SAW becomes the main point of the entire growth and development of the concept of *Salafus Salih* (the best generations of Islam) and the concept of the Islamic Golden Age itself. The meaning is that they are the followers and continuers of the Prophet Muhammad SAW in applying Islam in social life with all its aspects.

Then, when mapped more specifically, the *Salafus Salih* generation (the best generations of Islam), will stretch from the 7th century AD to the 9th century AD. The chain of knowledge taught since the time of the Prophet Muhammad SAW through the guidance of the Qur'an and Sunnah. Furthermore, it continues to grow and develop until the time of the companions, *tabiin*, and *tabiut tabiin* in that century. As for after the Prophet Muhammad died, the position of the Rashidun Caliphate until the establishment of the Umayyah Caliphate was still filled by the formation of the generation of companions and the emergence of the *tabiin* generation. The generation of *tabiin* and *tabiut tabiin* in turn became the formation of the reign of the Umayyah Caliphate and the Abasid Caliphate at a later stage, namely from the 8th century AD to the 9th century AD. By presenting the generation of companions, *tabiin*, and *tabiut tabiin* in the context of IGA, then especially in the context of developing the basics of Islamic science (Islamic scientific), these scientific activities have grown and developed in stages through curricula such as the Qur'an, Sunnah, tafsir, tarikh, fiqh, balaghoh, nahwu, shorof, nasab, falak, faroid, munakahat, tajweed, calligraphy, martial arts, and so on, even including the development of humanities scientific clumps such as literature and poetry which have also been laid a foundation even since the generation of the Prophet Muhammad's companions. Likewise, the position of the imams of the madhhab (fiqh) and the imams of hadith who were famous and blossomed during the reign of the Umayyah Caliphate and the Abasiyah Caliphate as well as scientists in other fields, were all still in the formation of the *tabiin* and *tabiut tabiin* generations who were still in contact at first with the chain of Islamic teaching from the generation of the Prophet Muhammad's companions and *tabiin*. Thus, the *Salafus Salih* generation is clearly part of the earliest Muslim scholars who laid the foundations of IGA, or in other words that IGA which corresponds to the facts of modern academic historical studies was developed by the *Salafus Salih* generation as the earliest agents or apparatuses of the historical order of IGA itself.

In the context of the growth and development of the passion of the Islamic community for scientific work that makes the concept of IGA present, both those carried out by Western scholars and those carried out by Muslim scholars themselves, more direct the focus of their studies on the presence of generations of scientists, sciences, and inventions both in the fields of pure sciences, applied sciences, and technology as a hallmark of his era. The period, according

to scholars, was marked by the establishment of a learning center owned by Muslims in the form of Khizanat Al-Hikmah (Storehouse of Wisdom / Storehouse of the Books of Wisdom), or what was later referred to as Baitul Hikmah (House of Wisdom). Khizanat Al-Hikmah is a learning center for the Islamic community that has a library that was first established by the generation of the Prophet Muhammad's companions, namely Caliph Muawiyah in Damascus in the 7th century AD (Al-Khalili, 2011). At that time, literature derived from Ancient Greek, Ancient Roman (Latin), Persian (Avesta, Pahlevi, Ancient Persian), Hebrew, and Suryani (Syriac) cultures that became its collection, which included the fields of medicine, chemistry, physics, astronomy, and various other disciplines began to be translated into Arabic (Lyons, 2009).

The activities of Khizanat Al Hikmah during the reign of Caliph Muawiyah in Damascus in the 7th century AD, then continued its institutional relay in the formulation of Baitul Hikmah in Bagdad, especially during the time of Caliph Al Mansur (8th century AD), Caliph Harun Al Rashid (9th century CE), Caliph Al Ma'mun (9th century CE), Caliph Al Mu'tasim (9th century CE), Caliph Al Watiq (9th century CE), and Caliph Al Mutawakil (9th century CE) who favored scholarship. All the literature obtained from various cultures and languages such as Ancient Greek, Ancient Roman (Latin), Persian, Hebrew, Syriac, Central Asian, and Sanskrit that became their collection, was also translated into Arabic. In addition to developments in the fields of medicine, chemistry, physics, and astronomy as pioneered during the time of Caliph Muawiyah in the 7th century AD, the Abasid period further developed with the entry of fields of study such as philosophy, theology, egyptology, mathematics, cartography, pharmacy, and so on. (Brentjes and Morrison, 2000).

The existence of the learning institutions of Khizanat Al-Hikmah (Umayyah Caliphate) in Damascus and Baitul Hikmah (Abasid Caliphate) in Bagdad, then transplanted to other parts of the Islamic world, for example, into the territory of Caliph Ibrahim bin Al Aghlab of the Caliphate of Aghlab in the 9th century AD in Ifriqiyah (Tunisia, Al Jazair, and Libya), into the rule of Caliph Abu Al Mu'tasir-billah Al Hakam of the Caliphate of Cordoba in the 10th century AD in Cordoba (Algeriani and Mohadi, 2017), into the rule of Caliph Al Hakim bin Amrullah in the 11th century AD of the Fatimid Caliphate in Egypt (Al-Khalili, 2011), and into various other Islamic caliphates in various places (in Egypt a special term developed as Darul Hikmah). In addition to the development of learning institutions in the form of Baitul Hikmah, during the IGA period, there was also the birth of the development of other learning institutions in the form of public schools called maktab and universities called madrasah.

Madrasahs evolved gradually from the maktab (Baitul Arqom) which was developed since the time of the Prophet Muhammad SAW in Makah under the friend Zaid bin Arqom and then the maktab (Baitul Arqom) moved to Medina under the friend Ubaidah ibn As Samit in the 7th century AD under the name maktab (Suffah). The maktab taught a plurality of sciences such as the Qur'an, Sunnah, writing, faroid, munakahat, tajweed, nasab, health, athletics, calligraphy, martial arts, and so on. Then after the time of the Companions of the Prophet Muhammad SAW to various parts of the world in the 7th century AD, maktab continued to be built and developed in all places of wandering, for example in Egypt (Cairo), established a maktab by the Companion Amar bin Al Ash (Pedersen, et al. 2012). In the 9th century AD madrassas in the modern sense as universities began to be founded by Fatimah Al Fihri in Morocco (Fez) called Al Qarawiyyin. Then in the 10th century AD, the madrasa was founded by Al Qaid Jauhar ibn Abdullah in Egypt (Cairo) under the name Al Azhar. In the 11th century, the madrasa was founded by Nizam Al Muluk in Iraq (Bagdad) under the name Nizamiyah (Makdisi, 1970). In the 12th and 13th centuries, it is said that madrasahs were also established in Cairo to reach 75, in Damascus 51, and Aleppo 44. Likewise, madrasahs began to be established in Andalusia such as in the cities of Cordoba, Seville, Toledo, Granada, Murcia, Almeria, Valencia, and Cadis under the promotion of the Caliphate of Cordoba (Encyclopædia Britannica, 2008).

Through this explanation, it can be seen that IGA, which originally originated from the term proposed by Josias Leslie Porter in the 19th century, has developed into a more established and comprehensive academic concept from the 20th century to the 21st century by subsequent scholars, both Western and Muslim, who all accept historical facts about a period owned by Islamic society which is considered successful and glorious in developing aspects of Islamic culture and civilization.

IGA cannot be separated from its basic foundation developed since the 7th century AD under the conception of Islam as the revelation of Allah SWT revealed to the Prophet Muhammad SAW and at the same time applied directly in the scheme of culture and early civilization in Medina. After that, it was then followed by the generation of companions, *tabiin*, *tabiut tabiin* who developed the Rashidun Caliphate, the Umayyah Caliphate, and the Abashiyah Caliphate as its successor (caliph). The IGA gradually continued to climb from the 7th century AD to the 15th century AD, then experienced a decline (anticlimax) until it ended completely in the 20th century AD, along with the fall of power of the Ottoman Caliphate and the Sharifat of Makkah, along with other political units of Islamic power that were widespread throughout the Islamic world. As for what happened specifically in the Indonesian region, a comparison can be made with the dissolution of the Banten Sultanate in the 19th century (Cribb and Kahin. 2004) and the abolition of the Aceh Sultanate in the 20th century (Jelterep, 1996).

Then the peak of IGA, as highlighted by both Western scholars and Muslim scholars, is in a time range that is not only related to the time of the establishment of the maktab during the time of the Prophet Muhammad and his companions in the 7th century AD as a special note that is corrective, generally refers more to the stage of development that began since the establishment of Khizanat Al-Hikmah during the Umayyah Caliphate in the 7th century AD and Baitul Hikmah during the Abasid Caliphate in the 8th century AD. With the establishment of Khizanat Al-Hikmah and Baitul Hikmah, further stages developed in various scientific fields, such as law, technology, theology, philosophy, mathematics, natural sciences, social sciences, health, commerce and exploration, agriculture, art, literature, architecture, and so on. The various scientific creativity is not only a form of translation and curation of foreign texts, but also produces new and independent corrections, hypotheses, and theories. This period was also marked by the birth of giants of Islamic thought in various scientific fields such as Jabir ibn Hayan, Muhammad ibn Zakariya Al Razi, Al Jazari, Banu Musa, Al Jahiz, Abbas ibn Firnas, Ahmad ibn Tulun, Muhammad ibn Musa Al Khawarizmi, Amar ibn Ali Al Mausili, Tsabit in Qura, Ibn Haitam, Al Karaji, Al Samawal, and Fatullah Siraji. The birth of scientists, sciences, and inventions can be academically proven to be continuous since the 7th century AD (Ghazal, 2019) until it reached its peak in the 15th century AD and then began to experience a gradual decline in the 16th century AD and 17th century AD. Although conceptual and technological discoveries of a new and independent nature almost completely stopped in the 18th century, 19th century, and finally the 20th century. However, intellectual activities in the form of productivity of writings produced by Islamic scientists in that century are still widely found. It's just that it no longer has a position and its influence is not strong and not popular among Muslims themselves (Habib, 2011).

Through the explanation above, it can be seen that IGA is a historical fact that has occurred. The historical facts stretch from the 7th century AD to the 20th century AD, with the peak of innovation and the birth of massive scientists from the 7th century AD to the 15th century AD. Discoveries and creativity then began to decline in the 16th century AD and 17th century AD. While in the 18th century AD, 19th century AD, and 20th century AD, it can be said that there were no aspects of creativity at all in new findings in the conceptual and technological fields, except for intellectual writings that were repetitive and apologetic. The 20th century AD, also marked the end of the period of continuity of Islam manifested in political administration, which had colored aspects of culture and civilization that had previously grown and developed progressively and rapidly.

With the integration of the Prophet Muhammad SAW and the Khilafah Rashidun along with the concept of *Salafus Salih*, it can be seen that Islam is the center of the value system and the center of ideology which cannot be separated at all in the development of aspects of culture and civilization Islam. So when faced with aspects of culture and civilization that developed from the treasures of knowledge of Ancient Greece, Ancient Rome, Ancient Persia, Sanskrit, Syria, China, Hebrew, Central Asia, and others, Islamic culture, and civilization have experienced a stage of maturity in the previous period.

This means that theoretically Islam as the center of the value system and the center of ideology has provided basic capital to its adherents to have a mental attitude and paradigm that is scientifically dialogical (dialectical) with various findings from other societies. This theory rejects the assumption of Western scholars that the Islamic world became advanced because it was influenced by cultural contact. With this basic capital, Islamic society can be open (objectivity) to various findings presented by other cultures and civilizations, which then after going through a critical correction stage (Islamization), in turn, becomes part of the treasures of Islamic culture, civilization, and science itself.

(4) Characteristics and Scientific Paradigm ISLAMIC GOLDEN AGE (IGA)

Islam as a religion contains a reference that functions as a value system center and ideological center that can be used as a guide by its adherents (Muslims). The value system center can be interpreted as an arrangement of beliefs and views on virtue (morals), which are expected to guide every moral action (moral choices) he does, as a reflection of the existence of the value system center he has. Academically, the discussion of value centers will be part of the field of ethics, which is a branch in the field of axiology (Vuong, 2023). Axiology is one of the bodies of knowledge in philosophy, in addition to ontology and epistemology.

The ideological center can be interpreted as the embodiment of the value system center into the form of purpose, which means a formulation and technical arrangement of views (vision) regarding a target that can be designed in the form of strategies and policies that have been determined. In general, the ideological center will be applied to specific and limited targets in the fields of politics, economics, and state administration (especially those related to the main discourse of the realization between religion and the state) (Honderich, 1995).

In general, all the intricacies of the ideological center owned by modern Western society can be academically grouped into two main wings, the first is the right wing, which can be represented in the form of the ideology of liberalism-capitalism and the left wing, which can be represented in the form of the ideology of socialism-capitalism. The difference between the two ideological wings is due to the two points of view in solving political, economic, and social governance problems (Heywood, 2017).

The origins of the ideology of liberalism-capitalism can be historically traced to the existence of the bourgeoisie, a class of people who, since the English Civil War in the 17th century, the War of Independence in the United States in the 18th century, the French Revolution in the 18th century, and the Industrial Revolution in the 18th century until the 19th century. They sought to liberate themselves from the noble class who ruled the country in the form of a monarchy which was absolute in matters of personal life, the future of commerce, and ownership of property that they had cultivated themselves (Siegrist, 2001).

Regarding the origins of the ideology of socialism-communism, it can be historically traced to the existence of the proletariat, which is the working class that at the time the bourgeoisie succeeded in coming to power in implementing republican and democratic forms of government after going through the stages of revolution as mentioned above, then considered to experience oppression activities by the new ruling class (bourgeoisie) (Aron, 1955). The ideology of socialism-communism was born, which sought to transform the liberalism-capitalism-oriented republic and democracy into a socialistic-communistic republic

and democracy. By first transiting to the stage of dictatorship-proletariat (socialism), the classless society (communism) as envisioned in the ideology of socialism-communism is expected to be realized (Adoratsky, 1938). The implementation of the ideology of socialism-communism as an ideal was then carried out through the October Revolution (Bolshevik Revolution) as part of the Russian Revolution that took place in the 20th century until the formation of the Soviet Union (Acton, 1997). Long before the October Revolution, Karl Marx himself as the originator of the ideology of socialism-communism (who interpreted it specifically and differently from other spectrums of socialism) in the 19th century AD, had referred to the governance of the Paris Commune as the ideal form of communist society that had been achieved in the series of French Revolutions in the 18th century AD, although it only lasted for two months. However, if Karl Marx's views are further scrutinized, the agent of change in the French Revolution was not a pure monopoly of the proletariat, but rather the collective work of the entire third class (*tiers etat*), also known as the common people (*roturiers*). The ordinary class of society is what is later referred to in the terminology of socialism-communism as the bourgeois class and the proletarian class. Thus, in the beginning, the bourgeois class and the proletarian class in general (*commune*) were one layer of society that still worked together to defend the interests of their class against the hegemony and supremacy of absolute monarchy built by the noble class (*nobles*) as class number two and the clergy class (*clergy*) as class number one.

Thus, the separation between the right wing (liberalism-capitalism) and the left-wing (socialism-communism), which from medieval times until the advent of the French Revolution were still in the same class of society, namely when the absolute, totalitarian, and despotic monarchy, occurred when the bourgeoisie and the proletariat themselves had succeeded in establishing a new republican and democratic system of government. Thus, despite the differences in precision and accuracy regarding the conceptions of republic and democracy, both were built through the same values and history, namely the support for the establishment of republics and democracies that were anti-nobility (*nobles*) and anti-clerical (*clergy*) which became the main support for the establishment of the old French regime through the Catholic faith structure. Based on the Catholic faith that lasted from medieval times until the collapse of the ancient regime through the French Revolution in the 18th century, the system of absolute monarchy was built through the representation of social classes in the three estates that had been built upon it. In Latin, the three classes were named *oratores* (prayers/priests), *bellatores* (warriors/nobles), and *laboratores* (workers/bourgeoisie and proletariat). The laboratories, to borrow a later terminology, actually consist of the bourgeoisie and proletariat who are the class of society in general (*commune*), which in English would be called the *commune* people or *commoner*. Meanwhile, through a philosophical approach, it can be seen that Western society is basically divided into different philosophical spectrums, namely between the philosophy of idealism-spiritualism (through Friedrich Hegel's philosophical prototype) and the ideology of materialism-empiricism (through Karl Marx's philosophical prototype). While the similarity between the two schools of philosophy is the spirit in the area of theology that is secular (agnostic) which in turn will keep the distance between religious affairs against the state and the atheistic spirit (non-religious) which firmly negates religious elements in the state, although theologically Western culture and civilization are also able to find a form of spiritual life that is lived even though it is non-religious and non-religious.

As for the collapse of the Ottoman Turkish Caliphate in the 20th century AD as the final part of the entire series of *Islamic caliphate estafeta* that had been established since the 7th century AD, then the life of Muslims in the political, economic, and governance areas, in general, is no longer based on Islam as the center of ideology. Likewise, in all other aspects of culture and civilization, such as power, welfare, state administration, army, religion, trade and transportation, education, health, engineering, law, philosophy, agriculture and animal husbandry, art and literature, building and carpentry, science, and inventions, lost its footing

from Islam as the center of the value system. So when political, economic, and social supremacy (state administration), including all cultural and civilizational orientations, whose elements have been mentioned above, began to shift to the Western point of view as the center of value and the center of the new world ideology being offered, the Islamic world since the 20th century AD began to carry out a renewal movement (*tajdid*), which Western scholars academically called the term Islamic Revival. The movement carried out by Muslim scholars in principle seeks to revive or revive, regenerate, renew, awaken, updating (modernism), Islam as the central value system and ideological center that is considered dead or collapsed - damaged or dysfunctional, old or obsolete, dormant or powerless, old or weak, and distorted or deviated - into its new historical stage (reislamization) to face Western supremacy and hegemony.

The names of Muslim intellectuals who paved the way for the Islamic Revival movement include Sayid Jamaluddin Al-Afghani, Shaykh Muhammad Abduh, Sayid Muhammad Rashid Rida, Sayid Qutb, Hasan Al Bana, Sayid Ahmad Khan, Muhammad Iqbal, Muhammad Ali Jinnah, Abul Ala Maududi, Muhammad Ilyas Kandhalawi, HOS Cokroaminoto, Hasyim Asy'ari, Ahmad Dahlan, and so on. The common thread that can be concluded through the movement is to support the return of the Khilafah, calling for the unity of Muslims, the application of Islamic law, revamping the education and school system, the Islamic thought system as the foundation of culture and civilization, fighting colonialism and Western imperialism, fighting Western hegemony and supremacy in the field of thought, especially in the issue of secularism and atheism which is considered to damage the order of Islamic culture and civilization. Because the Islamic Revival movement in certain cases is not uniform in agreeing on all the details of all aspects of Western culture and civilization that exist and affect the construct of thinking of Muslims, then in certain parts Muslim scholars recommend adopting various Western achievements that are considered positive and can help the position of Islamic society more progressively, which is considered not contrary to the central value system and the center of Islamic ideology to balance the vitality of culture and civilization itself with the vitality of Western culture and civilization that is modern (Lapidus, 1997).

When comparing the body of knowledge in Islam with the body of knowledge in philosophy (body of knowledge in Philosophy), in general, the body of knowledge is built by three main foundations in the fields of ontology (aspects of belief), epistemology (aspects of knowledge), and axiology (aspects of usefulness), Islam can be known to have a specific and single structure of knowledge that is agreed upon by all Muslims so that it is different from Western philosophy which has a split into the polarization of the philosophies of idealism-spiritualism (spiritually-inner) and materialism-empiricism (physical-material). If the West tries to reconcile the philosophical schools of idealism-spiritualism and materialism-empiricism into a scientific work procedure formulated through the philosophy of positivism, then Islam has also been able to carry out the same scientific work procedure since the time of the IGA. The difference between the foundation of Islamic philosophy and the foundation of Western philosophy, then, will return to the discourse about the presence of the meaning of divinity (tawhid) and religion (din / Shariat) in every scientific framework on the one hand (Islam) and keeping a distance (secularism) and completely negating (atheism) the presence of the meaning of divinity and religion in every scientific work (West). As for Islam, the position of the fields of ontology, epistemology, and axiology in philosophy will be occupied by the concepts of faith, Islam, and Ihsan as stated by the Prophet Muhammad SAW through his hadiths. The hadiths can be traced to the source of reference (takhrij) (Hafizhullah, 2006).

By comparing the body of Islamic knowledge with the body of philosophical knowledge, it is very clear and clear that Islam ontologically has an arrangement of beliefs about what exists, both those that can be sensed (*sahadah*) and those that cannot be sensed (*ghaib*) through the creed of faith. Epistemologically, it has an arrangement of Sharia knowledge that can regulate life and how to obtain Sharia knowledge through the Islamic creed. Epistemologically,

it has an arrangement of Sharia knowledge that can regulate life and how to get the Sharia knowledge through the Islamic creed. Axiologically, it has an arrangement of values regarding virtue and beauty in its moral choices that are *maslahat* in this world and the hereafter through the credo of *Ihsan*. In addition, Islam has a basic principle that is not owned by the foundation of Western philosophy, namely knowledge that is pre-conceptual and axiomatic, that Islam with its entire body of knowledge is essentially a belief system that comes from the revelation of Allah SWT which was revealed to the Prophet Muhammad SAW. So that the possibility of speculative and nihilistic knowledge will not occur at all, because Islamic knowledge is meta-subjective which overcomes at the same time the discourse of objectivity and subjectivity of knowledge. The chain that connects a scientist to arrive at the Islamic teaching delivered by the Prophet Muhammad SAW, is also a must that is undoubtedly carried out by Muslims called the term *manhaj* (method). The plurality that occurs in Muslims in *manhaj* can be tolerated and is *absyah* through what is known as *madhab* (school of thought), an approach that is owned based on the principles of *ijtihad* (research). In the Islamic world, madhhab is equivalent to the position of ideology in the Western perspective, because madhhab provides a foundation for philosophical aspects, beliefs, and knowledge as an established intellectual tradition. However, schools of thought in the Islamic world will not touch on radical differences in ontological, epistemological, and axiological principles. The discourse between the ideology of liberalism-capitalism and the ideology of socialism-communism in the context of handling the facts of the economic gap between the bourgeoisie and the proletariat will then give birth to a scientific and policy base that is polarized between capitalistic approaches (referring to Adam Smith's theoretical basis) so that the Smithian / Smithist and communistic schools (referring to Karl Marx's theoretical basis) are born so that the Marxian / Marxist school is born. In Islam, the differences between schools of thought in looking at the fact of the existence of rich and poor, all of them do not disagree about the way of handling which is resolved through zakat maal (accumulation of wealth). In the West, differences in the ontological, epistemological, and axiological aspects of existing ideologies are radical and fundamental. In today's terms, the structure of faith, Islam, and *Ihsan* can also be recognized through the terms *aqidah*, *sharia*, and *akhlaq*, or faith, knowledge, and charity.

The structure of Islamic knowledge based on the conception of faith, Islam, and *Ihsan* can be operationalized in a legal perspective (*fiqh*) through a framework in the form of direct examination of the primary source of the Qur'an, the secondary source of Hadith, and methodological activities based on the *ijtihad* tradition which includes *ijma*, *qiyas*, *maslahat*, *istihsan*, *atsar*, *fatwa*, *urf*, and so on (Shari'ah and Fiqh, 2008). As for inductive observation of the characteristics of scientists, sciences, and findings within the framework of IGA, it can be used as a parameter that Muslim scholars can operationalize Islam as a religion into the form of cultural and civilizational development successfully and brilliantly. Included in this context is the field of scientific achievement, which by borrowing the terms developed by modern Western scholars has characteristics and scientific paradigms that are distinctive and fundamental, namely non-secular, polymath, and polyglot.

The non-secular means that Islamic scientists do not make a dichotomous division between religious science and world science. So all science is of religious value and worship value is based on the center of the value system and the center of Islamic ideology. This term is adopted through an oppositional comparison with the Western scientific perspective that is secular (Haldane. 2008).

The use of the term non-secular is not only used to state that there is no separation between religious and worldly sciences, but also to state that science in Islam has an integral and holistic character, both in worldly and afterlife topics. Based on the facts obtained through observation of Islamic scientists, it will be found that they treat the clump of religious knowledge and the clump of world knowledge in the same proportion of cultivation. So it is not surprising that one side writes astronomy and one side writes *fiqh* because in the scientific

perspective of IGA science is non-secular, integral, holistic, and coherent.

While polymath means "having learned much" (a learner of many subjects of knowledge) (Ask The Philosopher, 2010). The meaning of polymath is that Islamic scholars study various fields of knowledge and are not linear. Both the basic science of religion as a base, as well as social sciences, humanities, natural sciences, exact sciences, and including technological development. However, Islam did not underestimate the meaning of specialized and linear science, because during the IGA period professional academies were also developed in the fields of cartography, medicine, law (fiqh), and so on. The phenomenon of studying many disciplines proves that the commitment of Islamic scientists does not lie in limited scientific subjects, but rather in projects to solve problems in the lives of themselves and their communities as a whole, which will undoubtedly appear in various spectrums of knowledge. The sciences blossom in the context of the scientific classifications they have produced, and not in the integrity of their personalities as human beings who are interested in and need to solve many things. Polymaths can thus be said to also have independence, independence of attitude, not relying on circumstances, or the availability of limited system capacity so that in the end it grows into "a man can do all things if he will" (someone who can do whatever he wants) (Renaissance man, Definition, Characteristics, & Examples. 2015). So that the commitment is not based on limited subjects, but on paradigms and methodologies that can be applied to various scientific fields.

Furthermore, polyglot means being able to master various languages and actively use them in scientific activities. Islamic scientists can come into contact, interact, learn, and master many world languages that developed as a source of communication of scientific knowledge in the past. In addition to mastering Arabic as a base, Islamic scientists for the love of knowledge and respect for the culture of the local community in turn able to learn other languages such as Egyptian (Coptic), Suryani, Hebrew, Ancient Greek, Ancient Roman (Latin), Persian (Avesta, Pahlevi, Ancient Persian), Central Asia, and India (Sanskrit). Likewise, when the Arab community explored and settled in an area of its wanderings such as in Africa, Europe, America, and the languages of the East (Asia). The initial foundation of teaching to master the language (polyglot) has been recommended by the Prophet Muhammad SAW who encouraged the companions to learn other languages and scripts. On the orders of the Prophet Muhammad SAW in the hadith narrated by Imam Tirmizi (Jami At Tirmizi), the generation of companions of the Prophet Muhammad SAW who served as scribes and translators were eventually able to master Suryani (Aramaic) within 17 days and Hebrew within 15 days (Mursi, 2007).

Comparative linguistic intelligence has been possessed and applied since the time the Prophet Muhammad SAW was alive and ruled in Medina to make and reply to diplomatic letters. These language skills were also systematically influenced by translation projects (translation movement) of foreign languages that were officially charged by the caliphate government to the scientific association Khizanat Al-Hikmah during the Umayyah Caliphate and Baitul Hikmah during the Abasid period (Gutas, 1998).

CONCLUSION

The concept of the Islamic Golden Age, or IGA for short, stretches from the 7th century AD and ends in the 20th century AD. At that time Islam as a religion that contains philosophical and ideological values was able to be applied in all aspects of culture and civilization. By studying the characteristics of growth and development in scientific activities that span mainly from the 7th century AD to the 15th century AD, it can be seen that there are three references focused on (1) scientists, (2) the development of sciences, and (3) findings in the field of science and technology. In addition, there are scientific principles that are non secular, polymath, and polyglot which are the characteristics and paradigm of IGA.

Several renewal movements have tried to make a formula so that Islam is able to become the center of the value system and the center of ideology in the development of Islamic culture and civilization since the 20th century AD, right in the same century as the position of the last series of Islamic caliphates ended. These reform movements were able to encourage changes and movements in Islamic society to be free from the pressures of Western imperialism and colonialism and then adapt to a state system that adapts the basic framework of modern Western governance. However, the growth and development in the area of Islamic culture and civilization as expected, has not produced maximum results until entering the 21st century AD. The offer to study the position of the historical concept of IGA more holistically and comprehensively can be an academic and theoretical shortcut in applying Islam as a religion to the basic framework of Islamic culture and civilization. Including the application of the concept of IGA as a characteristic and paradigm of Islamic science.

Islam as a religion which is an arrangement of beliefs has been tested to be able to survive in every changing era. As for the application of the concept of Islam into the basics of derivative values, which in academic terms manifest into the basic framework of philosophy, ideology, and value system arrangement technically has not been successfully carried out again properly. The characteristics and scientific paradigm that are non-secular, polymath, and polyglot are actually the easiest formulation and modeling in re-implementing Islam into the entire spectrum of culture and civilization.

IGA is basically a continuous line from the application of Islam and the history of Islamic culture and civilization itself. Like the rise of the West, which basically imitated or transplanted the passion of IGA in the basic framework of Western culture and civilization. So modern Islamic society can basically carry out activities to reconnect the historical chain of IGA into the chain of modern Islamic history, while carrying out transitional activities by continuing to carry out academic and theoretical dialectical activities against aspects of modern Western culture and civilization.

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First publication right:

International Journal of Language and Culture