The Golden Age of Islamic Intellectuals and The Development of Science During The Abbasid Dynasty

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Abstract
This paper aims to examine the era of Islamic intellectual packaging during the reign of Caliph Harun al-Rashid during the Abbasid dynasty in Baghdad. History has recorded that during the reign of the Abbasid dynasty, Muslims were truly at the peak of their glory and led world civilization at that time. The reign of the Abbasid dynasty was a "golden age" in the history of Islamic civilization, especially during the reign of Caliph Harun al-Rashid and al-Ma'mun. Harun al-Rashid is considered by historians to be the greatest and most brilliant caliph who brought the Abbasid dynasty to its golden age. He ruled for 23 years and made this dynasty achieve progress and glory in the fields of politics, economy, trade, science and Islamic civilization. This research concludes that the Abbasid Dynasty was the heyday of Islam in various fields, especially science and science. Islamic intellectual progress at that time was due to the caliph's love of science, the establishment of the Baitul Hikmah library, and the movement to translate various books and literature into and out of Arabic played a major role in shaping the Islamic intellectual world at that time.

Keywords: Golden Age; Islamic Intellectuals; Abbasids; Harun Al-Rashid.

Abstrak

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INTRODUCTION

Islamic civilization treading the golden age which took place during the Abbasid dynasty is a historical fact. A comparison of the progress that has been obtained between the time of the Prophet, Khulafa al-Rashidin, the rule of the Umayyad dynasty, and the rule of the Abbasid dynasty is also very significant (Aliani, Alam, Rofiq, & Srinio, 2023; Sholichuddin, Muchtar, & Ratna, 2023). If the progress of Islam during the time of the Prophet could be called progress in the field of religion and politics, during the time of the Caliph Khulaf an al-Rashidin as political and military progress, during the Umayyad dynasty as political, economic, and military progress, then the progress of the Abbasid dynasty adding to the long achievements of that progress namely politics, military, economy, science and civilization. Achievements that put Muslims at the peak of its glory (Nurhakim, 2017). The Abbasid era is considered one of the most brilliant eras in Arabia in terms of literature, science and art. Arabs began to realize, through direct contact, what neighboring countries had achieved regarding certain aspects of culture and civilization (Fakhoury, 1951).

The main contribution of the Abbasid dynasty in the history of Islamic civilization, in contrast to the Umayyad dynasty which prioritized political aspects, was its great support for the development of science, philosophy and science. In general, most of the caliphs of the Banu Abbas were people who loved knowledge and wisdom and gave great support to this field (Makdisi, 2005). The reign of the Abbasid dynasty was the heyday of Islam in various fields, especially science and technology. The Islamic world has played an important role in both the field of religious knowledge and general knowledge. In this connection, Harun Nasution said that Islamic scholars at that time not only studied science and philosophy from Greek books but added to the results of their investigations and thoughts in philosophy. Thus, Islamic scientists and philosophers emerged (Khoiruddin, Salminawati, & Usiono, 2023). These scientists have knowledge that is integrated, namely that the general knowledge they develop is inseparable from religious knowledge or inseparable from Islamic values. For example, Ibn Sina, apart from being an expert in philosophy and medicine, is also an expert in Islamic sciences such as tasawuf. Likewise, besides being an expert in mathematics and medicine, Ibn Rushd was also an expert in Islamic law. This means that Islam does not recognize a dichotomy between religious knowledge and general science (Nasution, 1985).

History has engraved that during the reign of the Abbasid dynasty, Muslims were truly at the peak of glory and leading world civilization at that time. Von Grunebaum, for example, described the reign of the Abbasid dynasty as a "golden age" in the history of Islamic civilization, especially during the time of Caliph Harun al-Rashid. and al-Ma'mun (Grunebaum, 1970). Likewise, Jurji Zaidan, described the same thing, that the Abbasid dynasty was an era in which the sovereignty of the Muslim community had reached the peak of glory, be it wealth, progress, or power. It was at this time that various Islamic sciences were born, such as philosophy, astronomy, medicine, physics, mathematics, and so on, and important sciences were also translated into Arabic.
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(Zaidan, 1978). There is one thing that needs to be underlined that the period of the Abbasid dynasty in the eyes of the world community was a scientific and intellectual awakening. It can be said that this awakening is the greatest triumph in Islamic history which greatly influenced human thought and culture (Saefudin, 2002).

Many great scholars lived at that time, such as Imam Abu Hanifah (699-767), Ibn Ishaq (704-767), Imam Malik, Sufyan al-Thauri, al-Auza’i (707-774) Ja’far al-Siddiq, 'Abdullah Ibn Muqaffa (720-757) Sibawaih, al-Kisa’i, Abu Tamam, al-Farra, Imam Syafi’i, Ibn Hambal, Abu Yusuf, Sufyan ibn Uwaynah, and others. In this case, Amira K. Bennison stated that the city of Baghdad was the golden era and the pinnacle of Islamic scholarship (Bennison, 2009). Intellectual and cultural development can not be separated even marked by the emergence and entry of outside influences such as influences from Indo-Persia, Syria, Greece, and India (Hitti, 2014).

Studies on the history of civilization during the Abbasid dynasty in Baghdad are numerous and varied. Regarding the study of Harun al-Rashid conducted by Tayeb el Hibri at the University of Massachusetts whose dissertation title is: Reinterpreting Islamic Historiography, Harun al-Rashid and the Narrative of the Abbasid Caliphate. This Hibri research examines 4 (four) Caliphs namely Harun al-Rashid, al-Amin, Al-Ma’mun, and al-Mutawakkil. The focus of the study is the study of the Abbasid rule, especially al-Ma’mun in the accompanying political and religious transition to power. As a historical research, Hibri tries to find and explore the memory construction of medieval historians on the early period of the Abbasid Caliphate within the framework of Islamic history broadly (Hibri, 1999). Didin Saefudin, a postgraduate lecturer at UIN Syarif Hidayatullah Jakarta through his book entitled: Safe Islamic Packaging; The Historical Reconstruction of the Abbasid Empire (Saefudin, 2002) comprehensively describes the progress of the Abbasid Empire from the political, economic, military, intellectual and Social aspects.

RESEARCH METHODS

This research is historical research. So the method used in this research is historical research. The historical method here is the process of critically examining and analyzing past records and relics (Gootschalk, 1986). In a more specific sense, Dudung Abdurrahman explains that historical research is a set of systematic rules and principles to collect historical sources effectively, assess them critically and propose a synthesis of the results achieved in written form (Abdurrahman, 1999).

Research on Islamic history is an interesting matter. The writing of Islamic history that began during the Umayyad dynasty had many confusions and varied goals. There are those whose goal is to exalt the newly established caliphate for the sake of the ruler's interests, there are also those who write religious history and relate it to the greatness of Abu Bakr, ‘Umar, and Uthman. Likewise there are several credible religious leaders who collect various existing news stories, select them, and then write them into history books such as al-Tabari, Ibn ‘Asakir, Ibn Athir, and Ibn Kathir who write history by collecting all news reports from various sources and view. Nonetheless, the writings
of Islamic historians are sources of data and sources of knowledge that need to be studied, researched, and criticized.

RESULTS AND DISCUSSION
Islamic Intelectual and Research in The Period of Caliph Harun al-Rashid and al-Ma’mun

None of the Abbasid caliphs was more famous than Harun al-Rashid. History records that among the caliphs who once led the Abasid dynasty were Caliph Harun al-Rashid (786 AD -809 AD), and his son Caliph Al -Ma’mun (813 AD -833 AD), where these two Khalifah are most famous for having brought the Abasiyah dynasty to the peak of glory (Saeufdin, 2002). This glorious period covered all aspects of life starting from economics, military, politics, science to Islamic civilization.

The reign of Caliph Harun al-Rashid The Abbasid dynasty followed the pattern of government of the previous Abbasid caliphs. The pattern of government that is applied varies according to political, social, economic and cultural changes. The political system run by the Abbasid dynasty, among others: a). The caliphs remain of Arab descent, while ministers, commanders, governors and other officials are chosen from Persian and mawali descent. b). The city of Baghdad is used as the national capital, which is the center of political, economic, social and cultural activities, c). Science is seen as something very important and noble, d). Freedom of thought as a right is fully recognized, e). Ministers of Persian descent were given full power to carry out their duties in the government (Hasyimy, 1979).

Is the golden age of Islamic civilization a reality or is it just exaggeration, exaggeration and claims? The term golden age was coined by orientalists in the 19th century. Orientalists formed a very influential movement of Western academics who were involved in studying the societies of the Middle East, Asia and North Africa. As academics who worked at the same time as European expansion into Islamic lands, they brought a lot of assumptions and prejudices to the fundamental assessment of the phenomenon of Islamic society from the colonial perspective. Orientalism becomes a narrative of colonialism in the form of studies, writing, and creating images about the East. Arrogance and intolerance dominated much of Western scholarship during the 18th and 19th centuries (Said, 1978).

The glory of these Muslim caliphs is doubted by Western orientalists. Reinhart Dozy (1820-1883 AD) depicting the history and life of Arab Muslims and especially those in Andalusia was seen as an attempt to highlight the tyranny and despotism of the Muslim rulers and communities there. It is feared that the comparison and depiction of this side of the situation will indirectly convince readers to interpret that Muslims are a nation that likes to carry out oppression and tyranny (Jamsari, 2014).

The golden age of Islam during the Abbasid dynasty in Baghdad was not only the result of Islamic achievements alone, but included a large number of Jews, Christians and even Persians who made a significant contribution to the achievements of Islamic scientific and social culture. All working together in harmony embodied the immense
intellectual, scientific, technological, architectural and other contributions that formed the basis of what is now called the Islamic Golden Age. The works of the ancients, especially Greek and Roman works contributed to Islamic philosophy and scientific achievements, which in turn preserved the ancient texts of these scholars and in doing so made a major contribution to the intellectual heritage of Islam and the world (Renima, 2016).

Dimitri Gutas believes that Arab Philosophy that is growing in the Islamic world is the result of a long and complicated intellectual process, in which Muslim and non-Muslim scholars (especially Jews and Christians) actively take part (Gutas, 2002). According to Dimitri Gutas, the pinnacle of knowledge transmission activities through the translation movement of the Abbasid Caliphate era, according to Dimitri Gutas, was driven by social, political and intellectual motives. This means that all components of society from the ruling elite, entrepreneurs and intellectuals are involved in this process, so that the cultural impact is enormous (Gutas, 1998).

The Islamic Golden Age was an authentic and revolutionary age in almost all sectors of human interaction, arts and humanities, natural sciences and physics, architecture, jurisprudence, philosophy, mathematics, medicine and many others. The Islamic Golden Age was built on expanding the nature of knowledge in both Islamic and non-Islamic societies.

The development and progress of law during Harun ’s time could not be separated from the development of science, especially through the movement of transliteration of various books and literature into and out of Arabic. Apart from that, the factor of the birth of great Islamic scholars and thinkers also has an influence that is no less important, such as that of Imam Abu Hanif fah (700-765), Imam Maliki (713-795), Imam Syafi’i (765-870), and Imam Ahmad ibn Hanbal (780-855) (Suwito, 2005).

Baghdad, which was the capital of the government during the leadership of Harun ar-Rashid, became an international center of science. In the history of the city, there has never been a movement of love of knowledge and thought that was so powerful except in its time. From Baghdad, the movement spread to all corners of the Islamic world (Khalil, 1997). Establishment of Bait al-Hikmah by Harun ar-Rashid as a library and center for scientific studies, making the city of Baghdad the center of world civilization and science (Islam, 2011). The library activities are divided into two parts; First relating to translation work, and The second relates to book collections and library cataloging. Harun al-Rashid entrusted the management of the library to al-Fadl ibn Naubakhti, a scholar and expert in translation as well as the head of the library (Wani, 2015).

The government, in supporting the improvement of science and knowledge, has also established paper industries, thus an abundance of paper will automatically support the development of science and encourage scientific writing activities in a more systematic manner. Initially the secret of paper making was kept secret and strictly by China. The art of papermaking was acquired from prisoners at the Battle of Talas who later built paper-making factories in Samarkand and Baghdad. Innovatively improved
papermaking and started the use of pens. From here papermaking spread to Europe in the 13th century via Andalusia (Wani, 2015).

Center for Research and Studies: Baitul Hikmah Library

Bait al-Hikmah, which means "house of wisdom" or "house of knowledge", (Basri, 1999) is a library, academy, as well as a translation bureau. Baitul Hikmah is a center of scientific activity where books from Greek, Syriac and Persian are translated into Arabic by Arab experts. Baitul Hikmah was the first major library in Baghdad during the Abbasid dynasty as well as the center of the most famous Islamic library in history (Hitti, 2014). According to Ibn al-Nadhim, it was built during the time of Caliph Harun al-Rashid and continued during the reign of caliph al-Amin and then renovated again by Caliph al-Ma'amun in 217 H/832 AD (Fahruddin, 2009). This institution combines a library, literary workshop, study center and observatory. Bait al-Hikmah is described as the Baghdad Academy of Sciences (Ahmed, 2008).

Bait ul Hikmah became a center for scientific studies and many educated people visited there from various parts of the country to study various kinds of knowledge. In it, the books are completely available to students and scholars. This library is known all over the world and attract students in such a way that astronomer Abu-Ma'shar (d. 885) who came from Khurasan with the intention went to Mecca to perform the Hajj, decided to go and see it. He is very enthusiastic and amazed by the ocean of knowledge, until finally he remained there and did not continue his journey (Hamawi, 1936).

There are also those who call Baitul Hikmah with Dar al-Hikmah, a best library during the Abbasid era, lasting around from 750-1100. Harun al-Rashid and his son al-Ma'mun (813-833) who were the founders of this institution in the city of Baghdad which consists of an astronomical observatory and library. The study of science was intensive by the ulama and scientists of al-Ma'mun's time. Books from India to Spain were collected to support the collection from the Library. In addition, Greek manuscripts were obtained and translated into Arabic. Many Greek works are original manuscripts lost is preserved again through these translations. Historical sources say that the library was open to scholars and public from all over the Islamic world, various fields of religion, science, poetry or medicine (Johnson, 1965).

The success of the public library in Baghdad had a major impact on other Islamic cities, and, as a result, a large number of libraries were established throughout the Islamic world. The large public library is open to all. This fact explains that anyone can read, write or study any subject he wants. The library facilitates in every way the use of books by students and scholars. The following table shows the distribution of public libraries in major Islamic cities (Elayyan, 1990).

Table 1. Distribution of Libraries in Islamic Cities

<table>
<thead>
<tr>
<th>Location</th>
<th>Library</th>
<th>Founding father</th>
<th>Year</th>
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<tbody>
<tr>
<td>Baghdad</td>
<td>Bait al-Hikmah</td>
<td>Al-Ma'mun</td>
<td>9th c</td>
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<tr>
<td></td>
<td>Dar al-Ilm</td>
<td>Sabur Ibn Ardashir</td>
<td>991</td>
</tr>
<tr>
<td></td>
<td>Nizamiyah Library</td>
<td>Alp Arsalan</td>
<td>1064</td>
</tr>
<tr>
<td></td>
<td>Mustansiriyah Library</td>
<td>Al-Mustansir</td>
<td>1233</td>
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</tbody>
</table>
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<table>
<thead>
<tr>
<th>City</th>
<th>Library</th>
<th>Founder</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mosul</td>
<td>Dar al-Ilm Library</td>
<td>Ibn Hamdun</td>
<td>935</td>
</tr>
<tr>
<td>Al Basra</td>
<td>Al-Basra Library</td>
<td>Ibn Sawwar</td>
<td></td>
</tr>
<tr>
<td>Halab</td>
<td>Hamdan Library</td>
<td>Hamdanidi Prince</td>
<td>10th c</td>
</tr>
<tr>
<td>Tripolis</td>
<td>Banu Ammar Library</td>
<td>Banu Ammar</td>
<td>11 years c</td>
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<tr>
<td>Cairo</td>
<td>Al-Azhar Library</td>
<td>Al-Aziz</td>
<td>980</td>
</tr>
<tr>
<td></td>
<td>Dar al-Hikmah</td>
<td>Al-Hakim</td>
<td>1004</td>
</tr>
<tr>
<td></td>
<td>Fadiliyiah Library</td>
<td>Al-Fadhil</td>
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<tr>
<td>Merv</td>
<td>Nizammiyah Library</td>
<td>Nizam al-Mulk</td>
<td>11th c</td>
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<tr>
<td></td>
<td>Aziziyyah Library</td>
<td>Aziz al-Din</td>
<td>12 years c</td>
</tr>
<tr>
<td>Shiraz</td>
<td>Adid Ad-Dawla Library</td>
<td>Adid al-Daula</td>
<td>997</td>
</tr>
<tr>
<td>Cordova</td>
<td>Al-Mustansir Library</td>
<td>Al-Mustansir</td>
<td>961</td>
</tr>
<tr>
<td>Fas</td>
<td>As-Saffarin Library</td>
<td>Sultan Abdul Haq</td>
<td>1195</td>
</tr>
</tbody>
</table>


Library has arrived The Mongols came to Baghdad, after which it was destroyed following the end of the Abbasid caliphate caused by the attack of the Mongol troops led by Hulagu Khan. The process of vandalizing and destroying Baitul Himah was accompanied by 35 other libraries in Baghdad such as the Umar al-Waqidi Library, the Dar al-Ilm Library, the Nizhamiyyah Library, and others (Didin Saefudin, 2002).

**Translation Movement**

Civilization according to Toynbee is a reflection of society that has a historical unity that can be understood. A civilization does not arise in a vacuum. The Arab scientific heritage developed gradually with the spread of Islam and thereafter. Philosophy, medicine, and the natural sciences, for example, arose from many origins and from many sources. Translation played a major role in shaping the Arab scientific world, it is a distinctive civilization resulting from the overlap of human civilizations. The civilization that emerged in the Arab world was a collective creation of the peoples who settled in this region. In addition, humans always benefit from each other. This means that nations have become indebted to one another in one way or another. Thus, civilization lives and develops as a result of intellectual and moral interactions (Khalidi, 2015).

Translation was the most prominent intellectual activity in the Abbasid era because it received great interest from the caliph. However, the beginning was in the Umayyad era when translation activities from foreign languages into Arabic were carried out by Khalid bin Yazid bin Muawiyah (85AH / 704 AD). However, translation in the Umayyad era was considered an individual endeavor that ended in the death of the translator. It is also up to the translator to choose what to translate and what not to translate depending on his personal interests. Khalid bin Yazid bin Muawiyah, for example, was interested in chemistry. The Abbasid period was different, translation was the work of the nation and not the work of individuals, schools and translation centers.
Translation was the most prominent cultural activity in the Abbasid era because it received great interest from the caliphs. According to W. Montgomery Watt, before the emergence of the translation of Greek books there had been intense intellectual activity among Muslims, especially regarding matters of jurisprudence (Watt, 1990). Meanwhile, according to Mehdi Nakosten, the translation movement that took place in Baghdad cannot be separated from the translation movement that was previously carried out during the Sassanid kingdom, which was centered at a Jundishapur academy. This academy was a center for translating works of Greek and Hindu science and philosophy into the Pahlavi language. From this school also emerged several important translations from Sanskrit, Pahlavi, and Syriac into Arabic (Nakosten, 1964).

Mohammed Arkoun stated that Islam would achieve its glory if Muslims opened themselves to pluralism of thought, as in the early days of Islam to the Middle Ages. Pluralism can be achieved if religious understanding is based on humanity, so that Muslims can get along with anyone. Arkoun revealed that humanism in Arabic emerged in the 10th century in Iraq and Iran, when there was a strong movement to open up to all cultures in the Middle East based on a humanist approach to humans. Theologians, jurists, scientists, and philosophers gathered for the Evening Council. When talking and exchanging ideas, they face each other, which is known as munadharah (Arkoun, 2000).

The occurrence of assimilation between Arabs and other nations (non-Arabs) has greatly encouraged developments in the field of science. This intense assimilation has caused many non-Arab nations to adopt Islam. So that by converting to Islam, they can contribute to the development of knowledge in Islam. Such as the influence of the Persians who were very good at organizing a government system, mastery in philosophy and literature (Amin, tt).

However, the adoption of Greek intellectual heritage into the Islamic world has given rise to two assessments; First, there has been an Islamization of these Greek works. This happens because contemplative thinkers have adjusted and added Islamic values to their thinking. For example, what al-Kindi did in thinking about the philosophy of the soul, divinity and prophecy. Second, the occurrence of silting of Islamic values, for example the philosophical traditions developed by philosophers which are then assessed by shari'a scholars as something negative, chaotic, ambiguous, or even unlawful. As happened in history, where jurists criticized philosophers, for example al-Ghazali who wrote his comments about the mistakes of philosophy as in his work Tahafut al-Falasifah (Saefudin, 2002).

This translation movement takes place in three phases: a). The first phase, during the caliph al-Mansur until Harun al-Rashid. In this phase, many works were translated in the fields of astronomy and mantiq b). The second phase took place from the time of the caliph al-Ma'mun to the 3rd century Hijriyah. The books that have been translated are in the fields of philosophy and medicine. c). The third phase, took place after 300 H, especially after the manufacture of paper. The fields of science that are translated are
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increasingly expanding the influence of the culture of this advanced nation, especially through the translation movement, not only bringing progress in the field of general science, but also religious knowledge (Yatim, 2008).

The intellectual movement carried out by the Muslims during the Abbasid dynasty brought them to the peak of scientific progress. Translation leads to mastering the intellectual heritage of three types of culture; Greek, Persian and Indian. Finally, the Muslims were able to build a culture of knowledge, both religion, philosophy and science (Bocerd, 2006; Ferdian, Rusman, & Asrori, 2022).

Nestorian medical knowledge and medicine to the East was carried out with the establishment of hospitals and universities. They sent medical services to caliphs and people in the Islamic world and they train many doctors. The first head doctor of the hospital in Gondishapur was Jurgis Bukhtishu. His descendants held the post for six generations. This tradition continued, even with the fall of Persia into the hands of the Muslims in 639 AD. One of his descendants, Jibrail, was the chief physician at the palace. Har un a1-Rashid, the most famous Abbasid caliph. The caliph's strong interest and support for science, so that they could acquire all the knowledge of the Greeks: medical, scientific and philosophical. They specifically appreciated the skill of the Nestorian healers. This doctor who built the hospitals in Gondishapur and Baghdad is called Jibrail; he died April 10, 1006 (Brooks, 1980).

CONCLUSION

From the results of the research that has been done, it can be concluded that the reign of the Abbasid dynasty was the heyday of Islam in various fields, especially science and technology. The Islamic world has played an important role in both the field of religious knowledge and general knowledge. General intellectual development begins with the translation of classical Greek intellectual treasures. Caliph Harun al-Rashid and his son Caliph al-Ma’mun allocated a special budget to pay scholars, intellectuals, and translators. Harun al-Rashid founded a library named Baitul Hikmah. This institution besides functioning as a library and translation center. Translation was the most prominent cultural activity in the Abbasid era because it received great interest from the caliphs. Translation played a major role in shaping the Arab scientific world. The reign of the Abbasid dynasty was the heyday of Islam in various fields, especially in science and technology, especially during the reign of Caliph Harun al-Rashid.

This research shows that the history of the Abbasid dynasty in Baghdad may not be that important in today's modern world, but what makes them relevant is their attitude of openness and collaboration with other parties from the Palace and the figure of Caliph Hārūn al-Rashīd who encouraged scientific thinking and development. science, and re-researching the science of Ancient Greece and Persia as the basis for the progress of Islamic civilization at that time.

Modern Indonesian thinkers often limit the scope of the stimulus for change as coming from the West or from a modern background. However, looking at the broad history of Caliph Hārūn al-Rashīd may be useful to explore the progressive steps
towards change from Islam's glorious past as the Modern West itself studies and re-refines the science of the time of Caliph Hārūn al-Rashid as the basis for the development of modern science today.

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