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Cultural Impact of Scholars in the Andalusian Emirate (138-442 AH / 756-1031 AD)

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Abstract

Scholars during the Islamic ages played a significant role in the development of society, culture, and various other fields including economy, science, literature and arts etc. With the fragmentation of Abbasid caliphate, various rulers became independent and formed parallel caliphates, and adopted their own approaches towards development. Andalusian emirate is one such independent kingdom in southern Spain, which disowned its diligence to the Islamic caliphate, and adopted its own approaches to the development of the region. Scholars during this period played a significant role in transfer of technology from foreign regions, leading innovation in various sciences such as agronomy, astrology, astronomy, mathematics, arts, philosophy etc. All these events led to a significant impact on the culture and society, which are discussed and presented in this paper.

Keywords: Cultural life, achievements, impact, Andalusian Emirate

Introduction

Al-Andalus was a part of Iberian Peninsula, which was ruled by Muslims during 711 AD and 1492 AD.[1] Ruano explaining its location stated that "Arabs and Muslims from the Middle Ages used the name of Al-Andalus for all those lands that were formerly part of the Visigoth kingdom: the Iberian Peninsula and Septimania."[2] However, de Cortázar argued that Al-Andalus represents the lands in Iberian Peninsula, which were conquered by Arab Muslim troops.[3] The geographical region of Al-Andalus covered most of the Iberian Peninsula, representing the current Portugal, Spain, and southern France.[4] It came in to existence during the reign of Umayyads, which was ruled for almost eight centuries starting from seventh century, during which its boundaries have changed many times.

It was administered by Caliph Al-Walid I (711–750); the Emirate of Córdoba (c. 750–929); the Caliphate of Córdoba (929–1031), which was later divided in to smaller kingdoms.[5] Emirate of Granada was the last ruler who was overthrown by Christian kings from the west in 1492,[6] which eventually led to the end of Muslim rule in Al-Andalus.

Al-Andalus society mainly consisted of Muslims, Christians, and Jews. Though the Muslims were united on religious fronts, they were divided on various classes. For example, Amazighs or Berbers were non-Arab Muslims from North Africa who inhabited Iberian Peninsula before Arabs, who arrived in 8th century AD. Berbers were mostly involved in agriculture, animal husbandry or handicrafts manufacturing. They were considered at second level in the social scale adopted in the society, after the Arabs who occupied first place. Muladies (Iberian Muslims), who were majority among the Muslims, occupied third position in the society. They were followed by Muwallads (Christians in Iberian Peninsula who were converted to Islam), Mozarabes (Christians in Iberian Peninsula who abandoned Latin to speak Arabic), and Jews.[7] Muwallads enjoyed privileged positions in the society compared to Mozarabs.[8] Al-Andalus experienced change in various rulers, religious conversions, transfer of

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[1] Camilo Gomez-Rivas (2015), *Law and the Islamization of Morocco under the Almoravids*, Leiden, Netherlands: Brill, p. 1.

[2] Eloy Benito Ruano (2000), *Tópicos y realidades de la Edad Media. Real Academia de la Historia, Spain*, Año de Publicación, pp. 1-10.

[3] J.A.G. de Cortázar (1995), *V Semana de Estudios Medievales: Nájera, 1 al 5 de agosto de 1994. Gobierno de La Rioja*, Instituto de Estudios Riojanos, p. 52.

[4] Fernando Luis Corral (2009), "The Christian Frontier against al-Andalus (Muslim Spain): Concept and Politics during the Reigns of King Fernando I of Castile and Leon and His Successors until 1230," in Natalie Fryde and Dirk Reitz (eds.), *Walls, Ramparts, and Lines of Demarcation*, Berlin: Lit Verlag, p. 145.

[5] Manfred W. Wenner (2009), "The Arab/Muslim Presence in Medieval Central Europe," *International Journal of Middle East Studies*, Vol.12, No. 1, pp. 59-79.

[6] Joseph F. O'Callaghan (1994), *A History of Medieval Spain*, Ithaca: Cornell University Press, p. 142.

[7] Richard A. Fletcher (2006), *Moorish Spain*, California: University of California Press, p. 27; Ana Ruiz (2012), *Medina Mayrit: The Origins of Madrid*, New York: Algora Publishing, p. 57.

[8] García-Arenal Mercedes and Mediano Fernando Rodríguez (2013), *The Orient in Spain: Converted Muslims, the Forged Lead Books of Granada, and the Rise of Orientalism*, Leiden: Brill, p. 167.

knowledge and technology from Arab, which had a major cultural impact on the society and livelihood. Arabic influence can be still found in the areas of art, literature, agriculture, fabrics in Andalusia, an autonomous community in southern Spain. There were many scholars who had significantly contributed in all the above-mentioned areas during 8th to 10th century in Al-Andalus. This paper reviews the various contributions of scholars and their impact on the society in Al-Andalus during 756 AD - 1031 AD.

Historical Background

Under the rule of various Arab leaders, science and art has flourished in Al-Andalus during the period 756 AD to 1031 AD. While there were scholars who were native to Al-Andalus, there were other scholars who moved to Al-Andalus for recognition of their work or for other political reasons in other surrounding regions. For example, during the reign of Abd Al Rahman, many scholars left Abbasid caliphate and moved to Al-Andalus due to political unrest and continuous wars (fitnas).

Few Arab rulers in Al-Andalus, specifically the descenders of Abd Al Rahman have made various attempts in the development of science and art during their reign.[9] Caliph Abd Ar Rahman III (912 - 961 AD)[10] collected variety of books written by many scholars in the field of medicine, agriculture, astronomy, and various other ancient sciences. Another ruler, Al-Hakam II has built a university and libraries in the city of Cordoba paving the way for availability of educational resources for scientific exploration, awareness, and development of the community. During his reign, the city of Cordoba has become one of the important centres of philosophical debates and scientific conferences. Few rulers recognised the importance of science and arts, the contributions of scholars for the benefit of society, developments of technology and innovations in various commercial sectors that could boost the economy and livelihood of the people.[11]

However, there are few rulers who were against the scientific advancement, and strongly believed in orthodox religious cultures. For example, Hisham II was declared as the ruler after the death of Al-Hakam. Though Hisham II was the ruler, the real power lied in the hands of hajib Al-Mansur Ibn Abi Aamir, who held strong association with Islamic religion, and reflected not his disapproval towards science and arts. Al-Mansur has publicly burnt various books related to sciences and arts including astrology, astronomy, agriculture, medicine, engineering, and many more books written by prominent scholars that were preserved by Al-Hakam II. However, after his death, interest in science and arts was revived as many scholars emerged in the region.[12]

Abu Uthman Ibn Fathun for instance was a prominent scholar in philosophy who was known for his work on philosophical treatise, 'Tree of Wisdom'. Similarly, Maslamah Ibn Ahmad al-Majriti a prominent scholar in the fields of astrology and astronomy travelled all over the Arab world and other regions for collecting and recording the knowledge related to the science of astronomy and astrology in different regions. He brought 51 "Epistles of the Brethren of Purity," a secret society of scholars and Muslim philosophers in Iraq to Al-Andalus, for philosophical debates and knowledge transfer. These philosophical outcomes were believed to be comprehended by another philosopher called Al-Majriti in the book called the Ghayat al-Hakim (The Aim of the Sage), which explored a synthesis of Platonism with Hermetic philosophy.[13]

Al-Majriti had several followers, out of whom, Abu al-Hakam al-Kirmani was one of the prominent scholars and a neoplatonic advocate, who wrote many books on geometry and logic.[14] He was in turn followed by Abu Bakr Ibn al-Sayigh, who was known as Ibn Bajjah (Avempace), famously known for his contributions in the field of philosophy, astronomy, physics, botany, and music.[15] Cordoba, again

[9] Hugh Kennedy (2014), *Muslim Spain and Portugal: A Political History of al-Andalus*, London and New York: Routledge, p. 58; Masoud Kheirabadi (1991), *Iranian Cities: Formation and Development*, Texas: University of Texas Press, pp. 12-16; K. Wessels (2000), "Renovating Qanats in a Changing World, a Case Study in Syria," Paper presented to the International Syposuim on Qanats, May 2000.
[10] Tor Eigeland (1976), "The Golden Caliphate," *Saudi Aramco World*, Vol.27, No. 5, pp. 12-26.
[11] Saylor Academy (2011), Al-Andalus, accessed on 4 December 2020, https://resources.saylor.org/wwwresources/archived/site/wp-content/uploads/2011/08/HIST351-4.1-Al-Andalus.pdf.
[12] Saylor Academy (2011), Al-Andalus.
[13] Saylor Academy (2011), Al-Andalus.
[14] Sa'id Andalusi, Sema'an I. Salem and Alok Kumar (1996), *Science in the Medieval World*, Austin: University of Texas Press, p. 184.
[15] Jon Mcginnis and David C. Reisman (2007), *Classical Arabic Philosophy: An Anthology of Sources*, Indianapolis: Hackett Publishing Company, p. 74.

became one of the important centres of learning in the world. The works of Al-Andulus scholars such as Al-Zahrawi (Abulcasis), an Andalusian physician, surgeon, and chemist, who was considered as the greatest surgeon of medieval times; and Ibn Rushd (Averroes) polymath and jurist who wrote about many subjects, including philosophy, theology, medicine, astronomy, physics, psychology, mathematics, Islamic jurisprudence and law, and linguistics have greatly influenced the intellectual life in medieval Europe. In addition, many Muslims, and non-Muslims from abroad came to study at various libraries in the city of Cordoba and at various universities in Al-Andalus.[16]

Considering the large number of scholars in Al-Andalus during the reign of Arab rulers, various scholars according to their areas of interests and works were discussed in the following section.

Science

Under the Arab rule in Al-Andalus has seen various developments in the fields of science, especially in medicine, astronomy, agronomy, arts, and music. The city of Cordoba has served as the centre for these developments. In addition, the interests of certain ruler in the fields of science have further fostered these developments. Access to translated versions of Greek and Persian works through the libraries built by Abd Al-Rahman III during 929 A.D. to 961 A.D. by the scientists and scholars have further fostered the developments in the scientific community.[17] It can also be observed that many scholars worked on different subjects simultaneously and proved to be polymaths, as a result of which it is complex to categorise them under a single field of science.[18] However, the major contributions of the scholars and their impact on the community can be categorised under different fields, which are reviewed in the following sections.

Medicine

Many scholars from Al-Andalus have contributed to the field of medicine, out of whom the prominent scholars include Abu al-Qasim al-Zahrawi (Albucasis), Abu Marwan ‘Abd al-Malik ibn Habib, and Abu Marwan ibn Zuhr (Avenzoar) etc.[19] Among the noted scholars, Albucasis was considered by many to be one of the greatest physicians of all time. His major work in the field of medicine can be recognised from his book Kitab al-tasrif li-man ‘ajiza ‘an al-ta’alif, which was written with a goal of summarising the existing medical knowledge in a single book, making it as a comprehensive medical encyclopaedia during the 10th century.[20] The book also provided detailed descriptions of all the concepts of medicine. For example, a chapter on surgery explained and illustrated the various surgical instruments, their use, and other practices including cauterization, on incisions, venesection and bone setting.[21] The book, Kitab al-tasrif li-man ‘ajiza ‘an al-ta’alif was later translated in to various languages, and was widely used by the students and medical practitioners in various institutions during the 10th century.[22] In addition, the book also included the experiences of Albucasis in medicine, which were used as case studies by the students and practitioners.[23]

Similarly, Al-Baytar’s book ‘Kitāb al-Jāmiʿ li-Mufradāt al-Adwiya wa-l-Aghdhiya’ is a comprehensive encyclopaedia of medicaments and foods, in which more than 1400 plants, foods, and drugs have been listed along with their uses. Some of his major works has led to the developments in the field of chemistry. For example, Al-Baytar’s chemical information on rose water, orange water, scented shurub or syrup led to the mixture of various chemical in order to produce complex and costly medicines.[24] In addition, Ibn Habib’s book, ‘Kitab tibb al-’arab’ (book of medicine of the Arabs), provides a summary of medicines which are prominent in the Islamic history, including a detailed list of medicines used by the Prophet, and others. The book is significant because of its relevance strictly to the Islamic medicinal

[16] F. Rispoli (2010), “Unmasking a Mystery: the Curious Case of the Gua Made Green Masks,” *Current World Archaeology*, Vol. 43, p.42-49.
[17] Manuela Marín (ed.) (1998), *The Formation of al-Andalus*, Aldershot: Ashgate, p. 47.
[18] Osman Bakar (2006), “The Golden Age of Andalusian Science,” *Islamica Magazine*, Vol. 18, pp. 106-112.
[19] Peter E. Pormann and Emilie Savage-Smith (2007), *Medieval Islamic Medicine*, Washington: Georgetown University Press, p. 94.
[20] Marín (ed.) (1998), *The Formation of al-Andalus*, p. 45.
[21] Pormann and Savage-Smith (2007), *Medieval Islamic Medicine*, p. 94.
[22] Bakar (2006), “The Golden Age of Andalusian Science,” pp. 106-112; Pormann and Savage-Smith (2007), *Medieval Islamic Medicine*, p. 94.
[23] Pormann and Savage-Smith (2007), *Medieval Islamic Medicine*, p. 94.
[24] Roshdi Rashed (1996), *Encyclopedia of the History of Arabic Science*, London: Routledge, p. 118.

guidelines based on the principles of Galenic medicine, such as humourism and the theory of four temperaments.[25]

The foundations laid by the early scholars in medicine has helped the future generations to lead the research in medicine in Al-Andalus. Abu Marwan ibn Zuhr family for instance has played an important role in developing Al-Andalus medical knowledge by extending the medicinal research through five generations.[26]

Some of the major contributions of the family include various medicinal books: 'Kitab al-Iqtisad (Book of Moderation), a treatise on general therapy; 'Kitab al-Aghdhiya' (Book of Foods), describing various foods and their effects on the body, and procedures for maintaining a healthy lifestyle.[27]

Abu Al-Qasim, a renowned scholar in surgery developed various technical designs which are still being used in neurosurgery. Various neurological disorders such as meningitis, intracranial thrombophlebitis, and mediastinal germ cell tumours were first described by Ibn Zuhr, who belonged to Al-Andalus.[28] Focusing on the aspect of sociology, Said Al-Andalusi expressed the idea that people across the world have a common origin, but they differ in certain aspects such as ethics, appearance, culture, and traditions etc. Al-Andalusi linked universal history of humanity to the history of Egypt.[29]

Astronomy

Astronomy is one of the prominent fields in which various scholars have emerged in Al-Andalus. Ibn Rushd, Ibn Tufail, and Nur ad-Din al-Bitruji were the three prominent scholars in the field of astrology. Their work focused on critiquing Ptolemaic astronomy and promoted the Aristotle's theory of homocentric spheres.[30] Similarly, other scholars such as Ibn Bajjah proposed that milkyway galaxy comprised of many stars, but it appears to be continuous image because of refraction in earth's atmosphere;[31] Al-Betrugi discovered that planets are self-luminous.[32] However, their models were not accepted as they were less accurate than the Ptolemaic model.[33] Ibn Habib's book, 'Kitab fi l-nujim' (book on stars) has included the lunar mansions, zodiac signs, calculation of moon phases and annual solstices, and division of seasons, which have significantly contributed to the development Islamic calendar, agricultural patterns, and religious rituals.[34]

Maslama Al-Majriti was another prominent scholar who translated the works of Ptolemy's Planisphaerium and Almagest. His work mainly focused on improving the works of previous researchers such as Muhammad ibn Musa al-Khwarizmi.

Abu Ishaq Ibrahim al-Zarqali was another researcher who worked on astronomical tables, and calculated the motion of the solar apogee to be 12.04 seconds per year, which is relatively close to today's calculation of 11.8 seconds per year.[35] Similarly, Abu 'Abd Allah Muhammad ibn Ma'udh worked on the optical geometry, whose work focused on various subjects such as calculating the angle of depression of the sun in the morning and evening twilight, calculating the atmospheric moisture responsible for the refraction of sun light etc.[36] Similarly, Jabir ibn Aflah invented a mechanical device called 'torquetum' to transform between spherical coordinate systems. Ibrahim ibn Said al-Sahli was another genius who invented an instrument to determine the positions of the stars on the sky called

[25] Marín (ed.) (1998), *The Formation of al-Andalus*, p. 47.
[26] Pormann and Savage-Smith (2007), *Medieval Islamic Medicine*, p. 94.
[27] Thomas Glick, Steven J. Livesey and Faith Wallis (2014), *Medieval Science, Technology, and Medicine: An Encyclopedia*, London: Routledge, p. 260.
[28] Martin-Araguz A., Bustamante-Martinez C., Fernandez-Armayor Ajo V. and Moreno-Martinez J. M. (2002), "Neuroscience in al-Andalus and Its Influence on Medieval Scholastic Medicine," *Revista de Neurología*, Vol. 34, No. 9, pp. 877-892.
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[30] George Saliba (1994), *A History of Arabic Astronomy: Planetary Theories during the Golden Age of Islam*, New York: New York University Press, pp. 62-63; Wilson Wall (2018), *A History of Optical Telescopes in Astronomy*, Cham: Springer, pp. 9-10.
[31] Josep Puig Montada (2007), "Ibn Bajja," *Stanford Encyclopedia of Philosophy*, accessed on 4 December 2020, http://plato.stanford.edu/entries/ibn-bajja.
[32] Bernard R. Goldstein (1972), "Theory and Observation in Medieval Astronomy," *Isis*, Vol.3, No. 1, pp. 39-47.
[33] Stephen D. Norton (2020), "Ptolemaic Astronomy, Islamic Planetary Theory, and Copernicus's Debt to the Maragha School," *Encyclopedia*, accessed on 4 December 2020, https://www.encyclopedia.com/science/encyclopedias-almanacs-transcripts-and-maps/ptolemaic-astronomy-islamic-planetary-theory-and-copernicuss-debt-maragha-school.
[34] Marín (ed.) (1998), *The Formation of al-Andalus*, p. 47.
[35] Bakar (2006), "The Golden Age of Andalusian Science," pp. 106-112.
[36] Abdelhamid I. Sabra (1967), "The Authorship of the Liber de Crepusculis, an Eleventh-Century Work on Atmospheric Refraction," *Isis*, Vol. 58, No. 1, pp. 77-85.

astrolabe of Al-Sahli. In the geographic and space models, al-Bitruji, a famous astronomer was one of the first scholars to present non-Ptolemaic astronomical system as an alternative to Ptolemy's models (earth as the centre of planetary system). Not only in astronomy, Al-Andalus scholars' work was also contributed to the trading, as the exports and imports were at large during the reign of Arabs in Al-Andalus with increasing agricultural outputs. For instance, baculus an instrument used in nautical astronomy was originated in Al-Andalus, which was later used by Portuguese navigators.[37] The research in astronomy in Al-Andalus led to the philosophy of critique, logic, and reasoning in developing and validating the theories in scientific arena, which is one of the significant impacts of the scholars work on the areas of philosophy and society.

Agronomy

Agricultural sector during the rule of Arabs in Al-Andalus has seen a tremendous development in the region. Dependency of the major population group, Berbers on agriculture, development of innovative technologies in cultivation and irrigation have promoted the research and development in the field of agronomy. Various scholars published books relating to different agricultural practices. Al-Awwam's book on agriculture included 34 chapters explaining the various concepts relating to agriculture and animal husbandry. In addition, 580 different plant species were described and various methods for treating plant diseases were presented in the book.[38]

Al-Filahat al-nabatiyya (Nabatean Agriculture), was identified to be the first book on agronomy to be found in Al-Andalus, written by Ibn Wahshiyya from Iraq in 10th century. The event reflects the importance given to the transfer of agricultural knowledge between the regions. Accordingly, various books have been written since then, which are related to the agricultural practices, such as the Mukhtasar kitab al-filaha (Abridged Book of Agriculture) by Al-Zahrawi (Abulcasis) from Cordoba during the 10th century.[39] Another prominent scientist in the field of agronomy was Ibn Bassal from Toledo city in Spain, who had travelled widely across the Arab world identifying and recording various species of plants and their benefits.

Bassal presented 177 different species of plants in his Dīwān al-filāha (The Court of Agriculture). In addition, Bassal wrote a book with a detailed description of various plants including vegetables, spices, herbs, and few trees, explaining their usefulness to humans and procedures for growing and taking care of them. In addition, another renowned researcher, Abū l-Khayr al-Ishbīlī from Seville described a collection of techniques for growing plantations and managing them in his book called Kitāb al-Filāha (Treatise on Agriculture). Details related to different crops such as cotton, olive trees: how they should be grown, types of diseases and how they should be treated, how they should be harvested were provided in the book by reflecting his experiences from the accounts of his own experiments.[40]

Literature and Poetry

Andalusian literature was initially dominated by the Arab tradition till the beginning of 10th century, as a result of which larger sections of society felt isolated.[41] However, with increase in the centres for knowledge including libraries and universities in the 10th century, and organization of philosophical debates and literary circles by noble cordovan patrons has favoured the development of Andalusian literature.[42] After Christian forces recaptured Toledo, the works of various Islamic scholars were translated from Arabic to Latin, and found their way to Europe.[43] Gerard of Cremona was one of the famous translators during the period known for translating 87 books from Arabic to Latin.[44]

[37] E. Edson and E. Savage-Smith (2004), *Medieval Views of the Cosmos: Picturing the Universe in the Christian and Islamic Middle Ages*, Oxford: Bodleian Library, University of Oxford, p. 193; John M. Hobson (2004), *The Eastern Origins of Western Civilisation*, Cambridge: Cambridge University Press, p. 141.
[38] Bakar (2006), "The Golden Age of Andalusian Science," pp. 106-112.
[39] D. Fairchild Ruggles (2008), *Islamic Gardens and Landscapes*, Philadelphia: University of Pennsylvania Press, pp. 32-35.
[40] Ibn Al-Awwam (2020), "Kitāb al-Filāḥa," *The Filāḥa Texts Project*, accessed on 3 December 2020, http://www.filaha.org/author_ibn_al_awwam.html.
[41] Jaakko Hameen-Anttila (2002), *Maqama: A History of a Genre*, Wiesbaden: Harrassowitz, p. 206.
[42] I. M. Filshtinsky (1966), *Arabic Literature*, Moscow: Nauka Publishing House, p. 180.
[43] Charles Homer Haskins (1924), *Studies in the History of Mediaeval Science*, Cambridge: Harvard University Press, pp. 8-10.
[44] Victor J. Katz (1999), *A History of Mathematics*, Reading: Addison-Wesley, p.291.

With the fall of Islamic occupation in Al-Andalus, it was believed that the scientific and technological initiatives led by the Islamic world was inherited by the Europeans which laid the foundations for Europe's Renaissance and Scientific Revolution.[45] Andalusian poetry was greatly influenced by Arabic styles, and the rise in poetry was marked with the rise of muwashshah poetic form.[46] Ibn Quzman popularised the colloquial zajal, a traditional form of oral strophic poetry, which became popular in other regions such as Egypt and the Middle East than in its homeland Al-Andalus.[47] Rithā' Al-Andalus is considered the most significant series of poems that were written in the classical tradition of rithā' (a genre of Arabic poetry) by Andalusi poets who had been inspired by the Reconquista by Christian forces in Al-Andalus.

Music

The music of Al-Andalus was regarded as highly influential musical tradition, whose existence can be still traced in the region.[48] Ziryab, a renowned musician from Abbasid state in the East has revolutionised Andalusi music, and the local culture in 8th century.[49] Various poetic forms such as muwashshah, the kharja, the nawba, and the zajal were identified to be prominent in Andalusian music.[50] It was believed that Andalusian music was invented in the Emirate of Cordoba in 9th century, which was promoted by Ziryab, court musician of Abd al-Rahman II in Cordoba. Ibn Bajjah (d. 1139) of Saragossa combined the style of Ziryâb with Western approaches to produce a wholly new style that spread across Iberia and North Africa.[51] In addition, several musical instruments such as rebec (ancestor of violin) from the rebab, the guitar from qitara, naker from naqareh, adufe from al-duff etc. were identified in Al-Andalus, which are being used in the Spanish classical music.

Philosophy

There were many scholars who contributed to philosophy and created a major impact on the lives of the people, some of which can be still experienced in the modern world. For instance, Ibn Arabi was one of the famous philosophers, who was extremely influential within Islamic thought. His works reflected a deep analysis of the concept of being a perfect human, and one's pursuit in becoming perfect. He used mirror as a metaphor in explaining the concept of perfect being, where he compared the relationship between the god and his creatures.[52] That is, he considered humans as the reflections of God, and there can be no difference between the both. Thus, by pursuing the path of becoming perfect human and improving self-consciousness (philosophy of oneness), one can be reunited with god.[53] Similarly, Maimonides is another philosopher, formulated "thirteen principles of faith," which are required to be believed in Judaism.

His works reflected the idea that human beings though influenced by external entities, through their innate elements including ethical and emotional spectrum and through free will can choose to behave in a way that build character.[54] He tried to explain the co-existence of God and Evil in humans by stating that the evil stems from the individual attributes of different human beings, while good comes from universally shared humanity.[55] Similarly, Ibn al-Abbar, Al-Andalus are some famous philosophers, who composed and improved the works of other scholars during the Andalusian period.

[45] Edward Grant (1996), *The Foundations of Modern Science in the Middle Ages: Their Religious, Institutional and Intellectual Contexts*, Cambridge: Cambridge University Press, p. 167.
[46] 'Abdulwahid Lu'lu'a (2013), *Arabic-Andalusian Poetry and the Rise of the European Love-Lyric*, Cambridge: Strategic Book Publishing, p. 79.
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[53] John T. Little (1987), "Al-Insān Al-Kāmil: The Perfect Man According to Ibn Al-'Arabi," *The Muslim World*, Vol. 77, No. 1, pp. 43-54.
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[55] I. Twersky (2005), "Maimonides, Moses," *Encyclopedia of Religion*, pp. 5613-5618; Monroe (2013), "Why was Ibn Quzmān Not Awarded the Title of "Abū Nuwās of the West?" pp. 293-334.

Conclusion

The impact of Al-Andalus scholars during the rule of Arab Muslims was observed on various sections of the society, culture, and various fields which have significantly impacted the lifestyles of the people. The works of various scholars has not only influenced the philosophy of thought, logic, reasoning, and critique, especially in scientific research. Arab scholars in various fields critiqued various western philosophies and theories, and developed a sense of logical analysis and reasoning. This reflects the importance given to the knowledge in shaping the lives and promoting innovations for the benefit of society. Accordingly, many scholars such as Averroes, Ibn Hazm excelled in many fields including philosophy, theology, medicine, astronomy, physics, psychology, mathematics, Islamic jurisprudence and law, and linguistics. In addition, the contributions of various scholars can be attributed to the increase in the knowledge-seeking behaviour of the people in libraries and universities, which may have impacted their lifestyles. For instance, advancements in the fields of medicine have led to the identification of various diseases, and enhanced the quality of diagnosis and treatment options. These findings were preserved by many scholars for the future generations so that their treatments and medicine formulas can be used by the future generations. Additionally, the contributions of scholars in various fields such as agronomy, have significantly impacted the society and culture, as they have major economic and cultural impact on the people.

One of the significant impact of scholars can be identified in philosophical context. Many philosophers in Andalusian period tried to interpret various factors that were influencing the people lifestyles and culture. They tried to present the goal of humans to become perfect human being by using various metaphors, which were easy to understand. Furthermore, they highlighted how one can be influenced by evil factors, and how one can overcome them by becoming self-conscious. These philosophies are very much relevant even in the current world.

Through this review, it can be observed that scholars during Andalusian period had excelled in various fields which shaped the factors that influence the 'ways of living,' especially in shaping the thoughts, using the knowledge for benefit of society. They balanced the science with culture and humanity. While importance was given to the science and other fields, utmost priority was given to the individual in becoming perfect human being, and not letting the science overcome the basic human and ethical values and promoted the same extensively in other regions, which was very much contrast to the current global situation. Thus, it can be concluded that scholars during the Arab rule in Al-Andalus had a significant cultural impact among the local people and in the surrounding regions.

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