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Scientific Cosmopolitanism in 9th-Century Baghdad: Muslim, Jewish, and Christian Knowledge Exchange in Sociological Perspective

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Abstract
The 9th century was a pivotal phase in Islamic intellectual history, when Baghdad, under the Abbasid dynasty, emerged as a cosmopolitan center of knowledge. However, studies on interfaith interactions in the social construction of knowledge have rarely been discussed sociologically, particularly regarding the mechanisms of collaboration and the driving forces behind them. This study aims to analyze the exchange of knowledge between Muslim, Jewish, and Christian communities through social relations, institutions, and scientific networks, and to examine how these interactions have shaped cosmopolitan structures for the development of knowledge. This study employs a qualitative method with a historical-sociological approach, drawing on both primary and secondary literature. This study examines the role of Bayt al-Ḥikmah, the patronage of the caliphs, and the contributions of translators and scholars across religions through their works, institutions, and intellectual networks. The results show that Christian translators played a strategic role in transmitting Greek works through philological phases and conceptual adaptations. At the same time, Muslim scholars developed a methodological synthesis that connected rationalism and theology in the fields of philosophy, medicine, and mathematics. The Jewish community also made significant contributions to the development of philology and philosophy, which later had a profound influence on the Andalusian intellectual tradition. These findings confirm that Baghdad's scientific cosmopolitanism was not simply the result of knowledge transfer, but rather a social construct shaped by epistemic tolerance, institutional cooperation, and cultural openness. In conclusion, interfaith interactions during this period gave rise to a knowledge ecosystem model that was not only productive and collaborative but also

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accelerated methodological integration and the expansion of the intellectual horizons of the Islamic world.

Keywords: Cosmopolitanism; Baghdad; Exchange of Knowledge; Bayt Al-Ḥikmah; Religious Interaction

Abstrak

Abad ke-9 merupakan fase penting dalam sejarah intelektual Islam ketika Baghdad di bawah Dinasti Abbasiyah berkembang sebagai pusat kosmopolitan ilmu pengetahuan. Namun, kajian tentang interaksi lintas agama dalam konstruksi sosial pengetahuan masih jarang dibahas secara sosiologis, terutama terkait mekanisme kolaborasi dan aktor-aktor penggeraknya. Penelitian ini bertujuan menganalisis bagaimana pertukaran ilmu antara komunitas Muslim, Yahudi, dan Kristen berlangsung melalui relasi sosial, institusi, dan jaringan keilmuan, serta bagaimana interaksi tersebut membentuk struktur kosmopolitan bagi perkembangan ilmu pengetahuan. Penelitian ini menggunakan metode kualitatif dengan pendekatan historis-sosiologis berbasis kajian literatur primer dan sekunder, penelitian ini menelusuri peran Bayt al-Ḥikmah, patronase khalifah, serta kerja ilmiah para penerjemah dan cendekiawan lintas agama melalui karya, institusi, dan jaringan intelektual. Hasil penelitian menunjukkan bahwa penerjemah Kristen berperan strategis dalam mentransmisikan karya Yunani melalui fase filologis dan adaptasi konsep, sementara sarjana Muslim mengembangkan sintesis metodologis yang menghubungkan rasionalisme dan teologi dalam bidang filsafat, kedokteran, dan matematika. Komunitas Yahudi turut berkontribusi dalam pengembangan filologi dan filsafat yang kemudian memberi pengaruh pada tradisi intelektual Andalusia. Temuan ini menegaskan bahwa kosmopolitanisme ilmiah Baghdad tidak semata hasil transfer ilmu, tetapi merupakan konstruksi sosial yang terbentuk melalui toleransi epistemik, kerjasama institusional, dan keterbukaan budaya. Kesimpulannya, interaksi lintas agama pada masa tersebut melahirkan model ekosistem pengetahuan yang tidak hanya produktif dan kolaboratif, tetapi juga mempercepat integrasi metodologis dan perluasan horizon intelektual dunia Islam.

Kata Kunci: Kosmopolitanisme; Baghdad; Pertukaran Pengetahuan; Bayt Al-Ḥikmah; Interaksi Agama

Introduction

Ninth-century Baghdad is often regarded as a laboratory of Islamic civilization, exemplifying what can be termed scientific cosmopolitanism —a socio-intellectual condition in which the production and exchange of knowledge occurred across religions, ethnicities, and languages within a collaborative framework (Ashoor, 2020). In a sociological context, scientific cosmopolitanism refers to the interaction of knowledge that extends beyond the adoption of ideas, encompassing relational patterns, social networks, and institutional structures that facilitate intellectual integration across communities (Abidin, 2022). Baghdad during the Abbasid period is a significant case in point because it served not only as a center of political power but also as an epistemic space that actively brought together Muslim, Christian, and Jewish communities in scientific activities (Lim, 2021). The resulting socio-religious dynamics went beyond mere peaceful coexistence to establish an ecosystem of exchange of ideas driven by rational motivations, administrative needs, and the cultural legitimacy of knowledge (Axelson, 2023).

One key institution explaining this phenomenon is the Bayt al-Ḥikmah, which served not only as a center for translation but also as an arena for interaction across scholarly identities (Algeriani & Mohadi, 2017). Works from the Greek, Persian, and Indian traditions were not simply linguistically transferred but reinterpreted to suit the needs of 9th-century Islamic civilization (König, 2018). Figures such as Ḥunayn ibn Isḥāq, a Nestorian Christian scholar, played a leading role in the translation of medical and philosophical texts (Arnzen, 2021). Collaborations with Muslim scholars, such as al-Kindī, demonstrate that scholarship developed through epistemic hybridization, rather than unilateral assimilation (Rahman & Sudirman, 2024). This suggests that Baghdad not only absorbed foreign knowledge but transformed it into interfaith intellectual capital.

The development of science during this period was also closely linked to the Abbasid social structure and policies that opened up spaces for participation for non-Muslim communities. The work of al-Fārābī, al-Khwārizmī, and al-Rāzī did not emerge from intellectual isolation but was facilitated by access to texts, intercultural dialogue, and state patronage (Turdiyev & Wekke, 2024). From the perspective of the sociology of knowledge, these interactions illustrate that the production of knowledge was not an individual activity, but rather part of a social configuration that enabled the distribution of epistemic authority across religions (Berger & Golan, 2024). The strategic positions given to non-Muslim translators and scholars attest to the social legitimacy of collective scientific work (Wang, 2024). Thus, Baghdad's scientific cosmopolitanism cannot be understood as a purely intellectual phenomenon, but as a social practice shaped by power relations, bureaucratic needs, and the integration of a multicultural urban community.

Previous studies have highlighted various aspects of this phenomenon, but most have not explicitly connected them to a sociological perspective. Giuffrida, Németh, and Proverbio (2023) emphasize translation collaboration in the Bayt al-Ḥikmah, but their focus remains on the transfer of knowledge rather than its social dynamics. Turdiyev and Wekke (2024) discuss Baghdad as a cosmopolitan city; however, their analysis is more political than epistemological. Hussain and Qasim (2024) examine the contributions of Muslim scholars, but do not link interfaith social networks as a contributing factor. Worthing (2024) demonstrates the role of the Nestorian Christian community in the transmission of Greek texts, but fails to address its sociological implications for structures of coexistence. Griffel (2020) discusses Muslim-Jewish theological interactions, but remains limited to discourse rather than social practice. This gap suggests that the study of Baghdad's scientific cosmopolitanism still requires an analysis that integrates social, institutional, and epistemic dimensions simultaneously.

Based on this gap, the research problem is formulated as follows: How did the exchange of knowledge between Muslim, Jewish, and Christian communities in 9th-century Baghdad shape scientific cosmopolitanism, which impacted the

development of science and patterns of social relations? This research aims to demonstrate that scientific cosmopolitanism is not only epistemological but also reflects social practices that build community cohesion. The initial argument of this research is based on the assumption that the development of science in Baghdad was not born from individual genius or textual translation alone, but from the co-production of knowledge based on social networks. The contribution of this research is expected to enrich the study of intellectual history through a sociological perspective, while also offering inspiration for contemporary models of interfaith interaction.

Method

This research employs a qualitative method with a historical-sociological approach, defined operationally as an effort to reconstruct the dynamics of interfaith knowledge exchange in 9th-century Baghdad through a critical analysis of the social context, scientific institutions, and intellectual networks of Muslims, Jews, and Christians. Primary data sources include manuscripts and works of Abbasid-period figures such as al-Kindī, Ḥunayn ibn Isḥāq, and Patriarch Timothy I, as well as Greek-Syriac translated texts documented in institutions like Bayt al-Ḥikmah. In contrast, Secondary sources consist of modern studies, historical philology, and interdisciplinary research related to Islamic intellectual cosmopolitanism. Data collection techniques are carried out through systematic literature studies, which involve searching digital catalogs such as Fihrist, *al-Maktaba al-Shāmila*, and WorldCat, accompanied by external and internal criticism to ensure the authenticity and validity of the texts. Data are classified and documented with thematic recording to identify forms of interaction such as translation, scientific dialogue, and patronage. Data analysis was conducted in two stages: first, a historical-descriptive analysis was undertaken to reconstruct the political, institutional, and social context; second, a sociological analysis was based on the concept of inter-community interactions and structures of knowledge authority, reinforced by thematic coding. The final stage involved an integrative interpretation that combined historical and sociological findings to explain how interfaith intellectual exchange contributed to the development of a shared scholarly tradition in 9th-century Baghdad, thereby ensuring credibility through cross-comparison and source triangulation.

Results and Discussion

Socio-Political Conditions of 9th Century Baghdad: A Sociological Perspective

The socio-political conditions of 9th-century Baghdad were not merely characterized by institutional stability, but rather by the construction of power that consciously shaped the epistemic landscape and enabled scientific cosmopolitanism to flourish (Turdiyev & Wekke, 2024). The consolidation of Abbasid power through a centralized bureaucracy and an established tax system must be understood not merely as an economic foundation but as a political strategy to create an epistemic

security space that attracted interfaith intellectual communities. The caliph's patronage of knowledge was not neutral; it was a legitimizing mechanism that portrayed the ruler as both a protector of rationality and a guardian of orthodoxy (Rusydi, Saepudin, & Murodi, 2023). In the context of the sociology of science, this policy reflects the state's efforts to control and regulate knowledge production, thereby strengthening its political hegemony (Hasanah, 2022).

The Abbasid translation program was not simply a linguistic transfer of Greek, Persian, and Indian heritage, but also a process of epistemological negotiation involving the selection of ideas (Montgomery, 2018). Institutions like Bayt al-Ḥikmah became arenas where Muslim, Jewish, and Christian scholars acted as knowledge brokers, not merely as text technicians. However, their intellectual work was subject to court patronage, which determined which discourses were safe for publication and which needed to be filtered to maintain theological orthodoxy (Algeriani & Mohadi, 2017). Herein lies the paradox of Abbasid cosmopolitanism: scholarly inclusivity went hand in hand with ideological control. Translation policies enriched Arabic scholarly vocabulary, but also constructed an epistemic hierarchy in which rationality must remain rooted in the legitimacy of sharia.

The diversity of Baghdad's communities—comprising Arab and Persian Muslims, Nestorian Christians, Jews, Mandaeans, and Zoroastrians—did not necessarily create intellectual harmony. This plurality became a social dynamic that forced the formation of new forms of interaction, both cooperative and competitive (Demir, 2021). Spaces such as bimaristans, observatories, and scientific assemblies were not only sites of dialogue but also arenas of epistemic debate (Saliba, 2007). Baghdad's cosmopolitanism must be understood not simply as a melting pot of cultures, but as a dialectical process in which religious authority, philosophical rationality, and empirical experience negotiated for recognition. Non-Muslim scholars often incorporated terminology and concepts from their traditions, forming a scientific hybridity that enriched Arab-Islamic discourse while challenging the exclusivity of scholarly identity (Gibson, 2022).

Beyond formal structures of power, non-state patronage networks such as merchant families, city officials, and manuscript collectors played a significant role in fostering the social mobility of scholars (Kennedy, 2005). Bookstores, scriptoriums, and intellectual markets provided alternatives to authority outside the palace, forming symbolic markets where intellectual work was tested not only doctrinally but also through its reception by the reading public (El-Hibri, 2010). Within Bourdieu's (1993) framework, 9th-century Baghdad can be understood as an arena for the exchange of cultural capital, where Jewish and Christian scholars not only survived but also built reputations through their scholarly contributions.

The development of observational and experimental scientific practices, particularly in astronomy, medicine, and pharmacy, demonstrates that Baghdad was moving beyond textual traditions toward an empirical epistemology (Perović, 2021).

However, this process was not without resistance; the boldness of scientists such as Ḥunayn ibn Isḥāq and Ṡābit ibn Qurra in applying experimental methods was often criticized by jurists concerned about the liberalization of reason (Olszok, 2023). Interfaith collaboration in the development of technical terminology demonstrates that Arabic became a lingua franca that was renegotiated, not imposed solely. Terms such as nous, logos, or psyche were translated with local theology and metaphysics in mind, creating a new semantic order resulting from interfaith co-production (Şenel, 2025).

Thus, the socio-political conditions of 9th-century Baghdad must be understood as the result of a dialectic between power and knowledge. Scientific cosmopolitanism did not arise from pure harmony, but from a productive tension between state control and the epistemic freedom of the scientific community. Political stability provided the infrastructure, but socio-religious dynamics fostered creativity. Baghdad became a center of civilization not because it was free from conflict, but because it was able to transform conflict into intellectual energy. This was the foundation that enabled the city to have a long-lasting impact on the transformation of global science.

Intellectual Contributions of Muslims, Jews, and Christians in the Exchange of Knowledge

The intellectual development of 9th-century Baghdad cannot be understood solely in terms of the supremacy of Muslim scholars, but rather through the epistemic networks formed among Muslims, Jews, and Christians in a socio-political environment that opened up space for the negotiation of ideas. Muslim scholars such as al-Shāfiʿī and al-Kindī were indeed key pillars in the articulation of Islamic law and philosophy. Still, their development of the *istinbāṭ* methodology and synthesis of reason and revelation did not take place in a closed space, but rather through engagement with the Hellenistic corpus and interactions with Christian translators and Jewish philosophers (Şenel, 2025). The development of *fiqh* and *kalām* also reflected epistemological boundary-work, namely the effort to filter, examine, and then integrate external ideas into the framework of *tawḥīd* (Zhussipbek & Nagayeva, 2019). Al-Kindī, for example, not only "adapted" Aristotle, but also helped create a new form of Islamic philosophy that asserted that rational truth is not bound by a particular religion (Alagab, 2025).

Christian scholars, particularly Nestorians, played a fundamental role not as passive transmitters of the Greek heritage, but as active epistemological partners reinterpreting classical texts in Arabic (Messis & Papaioannou, 2021). In the Bayt al-Ḥikmah, figures such as Ḥunayn ibn Isḥāq not only translated Galen and Hippocrates but also developed a methodology for philological criticism that Muslim scholars later adopted. Their activities reflected a two-way exchange: while Muslim scholars absorbed Greek logical and medical terminology, Christian scholars adapted their thinking to the evolving Arabic scientific terminology (Treiger, 2022). This

relationship was not entirely harmonious, as there were debates about theological content and boundaries, such as the filtering out of metaphysical content contradicting Islamic creed (Gutas, 1998). Here, Baghdad's cosmopolitanism emerged as an arena for epistemic negotiation: authority was determined not by religious identity, but by the consistency of argument and mastery of scientific texts.

Jewish scholars also formed a crucial link in Baghdad's intellectual network, particularly in the fields of logic, rational theology, and mathematics. Figures such as Saadia Gaon participated in *kalām* debates, applying Aristotelian logic to defend the tenets of Jewish monotheism, creating an intellectual dialectic that intersected with the Muʿtazilite and Ashʿarite debates (Jacobs, 2020). The presence of Jewish physicians and mathematicians in Abbasid hospitals and courts demonstrates that scholarship operated within a professional trajectory that transcended theological boundaries. However, their participation also exposed social tensions—despite their caliphate's patronage, their intellectual legitimacy was nonetheless tested through public debate and textual examination (Gibson, 2022).

Institutions such as Bayt al-Ḥikmah, Baghdad hospitals, and discussion assemblies became key sociological spaces where the exchange of ideas occurred through patterns of collaboration, resistance, and the reproduction of scientific authority. The Bayt al-Ḥikmah served not only as a center for translation but also as an epistemic arena where the boundaries of knowledge were negotiated (Bahri, 2025). Scholars from different religions gathered in assemblies to debate Aristotelian cosmology or Galen's theory of bodily humors, and epistemic decisions were determined through scientific consensus, not religious dogma (Havrda, 2017). However, this collaborative idealism was also accompanied by mechanisms of control—for example, the supervision of metaphysical texts by scholars or the rejection of Greek fatalistic doctrines (Ali & Almulla, 2023). These interactions demonstrate that Baghdad cosmopolitanism was not a static state of harmony, but rather a social dynamic that produced new syntheses through productive conflict.

Baghdad's intellectual diversity achieved historical significance when the results of this synthesis were disseminated to Europe through Latin translations in Toledo and Sicily (Hasanah, 2022). However, the knowledge that migrated to the West was no longer pure Greek philosophy, but rather knowledge that had undergone Islamic rationalization and Judaeo-Christian commentary (Bennison, 2010). This means that Baghdad's contributions to global science did not emerge from a single community, but from layers of knowledge constructed through generations of interfaith debate. This transformation confirms that Baghdad's scientific cosmopolitanism was not simply a historical episode, but an epistemological model for how diversity can give birth to a new global order.

The Impact of Cosmopolitanism in Baghdad on the Development of Global Science

The scientific cosmopolitanism of 9th-century Baghdad not only reflected interfaith triumphs but also represented an epistemic transformation that formed the foundation of a global knowledge system. Intellectual centers, such as Bayt al-Ḥikmah, served as spaces of scientific negotiation, where Greek, Persian, and Indian works were not simply translated but critiqued and synthesized within an Islamic rational framework (Fauzan & Setiawan, 2022). Figures such as al-Kindī, Ḥunayn ibn Isḥāq, and Ṡābit ibn Qurra debated technical terms, adapting philosophical and scientific vocabulary to Arabic through a process of conceptual interpretation (Gutas, 1998). Baghdad's cosmopolitanism was not passive tolerance, but rather a process of epistemic hybridization involving methodological disputes and terminological clarifications, demonstrating that the integration of knowledge was a collective socio-intellectual project that transcended religious boundaries.

The transmission of knowledge from Baghdad to Andalusia and Sicily marked the beginning of the movement of ideas across civilizations. The translation tradition in Toledo, with figures such as Gerard of Cremona, Dominicus Gundissalinus, and Michael Scot, attests to the transformation of Arabic knowledge into Latin (Akasoy, 2020). Gerard translated over 70 works, including Ibn Sīnā's *al-Qānun fī al-Ṭibb* and al-Khwārizmī's *al-Jabr wa al-Muqābala*, which were later used at the Universities of Salerno and Montpellier (Zieme, 2023). In Sicily, under King Frederick II, the works of Ibn Rushd and al-Fārābī were translated and incorporated into the law and philosophy curricula (Kurmanaliyeva, 2021). This process was not a mechanical transfer, but an epistemological adaptation—concepts such as natura, intellectus agens, and demonstratio underwent terminological transformations in Latin scholasticism. Thus, the influence of Baghdad can be traced through traces of reconstructed technical terminology in the texts of Thomas Aquinas and Siger of Brabant (Passos & Eduardo, 2024).

Traces of Baghdad cosmopolitanism were also evident in 12th-13th-century European philosophical and theological debates. Latin Averroism, fueled by Ibn Rushd's reading of Aristotle, sparked academic controversy at the University of Paris. In 1277, Étienne Tempier issued the *Condemnatio Parisiensis*, which rejected 219 philosophical propositions, some of which derived from the doctrines of Ibn Sīnā and Ibn Rushd, such as the eternity of nature and the single intellect (Piché, 2018). This conflict demonstrated that Baghdad's ideas were not passively accepted but triggered an epistemic crisis that gave rise to a new synthesis of faith and reason within scholasticism. Thomas Aquinas adapted Ibn Sīnā's concepts of *esse* and *actus* in the *Summa Theologica*, demonstrating a creative internalization, rather than imitation (Gui, 2023). Thus, Baghdad cosmopolitanism possessed a dialectical dimension that fostered innovation, rather than merely accumulating knowledge.

The social dimension of Baghdad cosmopolitanism was evident through collaborations and tensions between scholarly communities. Nestorian Christians, such as Ḥunayn ibn Isḥāq, clashed with some Muslim scholars over their use of Aristotelian logic (Gutas, 1998), while Jewish translators, like Ibn Tibbon, faced internal criticism within their communities for adopting Islamic philosophy (Levy, 2018). Interactions across communities were not always harmonious, but were fraught with epistemic negotiations. The concept of *adab al-Baḥṡ wa al-Munāẓara* emerged as an ethical code for scholarly debate, signaling that plurality requires intellectual governance (Nasr, 1987). In this context, Baghdad cosmopolitanism was not a multicultural utopia, but rather a social laboratory that trained scholarly communities to manage differences through rational methodologies and discursive norms.

Baghdad's legacy reached early institutions of higher education in Europe. The universities of Bologna, Paris, and Oxford systematically incorporated texts by Ibn Sīnā and Ibn Rushd into their curricula for medicine and philosophy (Makdisi, 1981). At Oxford, Ibn Rushd's commentary on *De Anima* was required reading until the 15th century (Ogden, 2021). The movement of manuscripts from the libraries of Cordoba to Latin centers demonstrated the changing status of knowledge: from the property of a particular civilization to a universal asset (Clark, 2011). Thus, the intellectual rise of the Renaissance cannot be understood without the intermediary of Baghdad as a hub of civilization that integrated knowledge from the East and channeled it to the West. This demonstrates that Baghdad served not only as a repository of knowledge but also as a catalyst for intellectual globalization.

In a contemporary context, Baghdad's cosmopolitan model offers a critical reflection on the development of science in the global era. Contrary to modern narratives about the secularization of science, Baghdad demonstrates that scientific progress can thrive in a pluralistic religious environment characterized by dialogue, rather than domination. Modern scientific forums such as UNESCO, the World Science Forum, and CERN reflect Baghdad's legacy: cross-identity collaboration for the sake of scientific truth. However, the most important lesson from Baghdad is not the romanticism of tolerance, but rather the recognition that science develops through productive conflict, open criticism, and epistemic encounters between cultures.

Thus, the impact of Baghdad's scientific cosmopolitanism does not stop in the past, but lives on as a paradigm for the global knowledge system. Baghdad taught that knowledge is never born in isolation, but rather from encounters across languages, religions, and authorities. Baghdad's legacy is the idea that the universality of knowledge is not uniformity, but a network of interpretations that allows difference to become a source of creativity. From a sociological perspective, Baghdad is evidence that civilization is built not by the domination of one

community, but by a collective willingness to share, question, and construct a shared world through reason.

Conclusion

Scientific cosmopolitanism in 9th-century Baghdad became a social space where knowledge production was fostered through interactions among Muslim, Jewish, and Christian communities, without negating their respective religious identities. The findings of this study confirm that the exchange of knowledge in philosophy, medicine, and mathematics did not occur linearly or exclusively, but rather through complementary social relations supported by institutional structures such as the Bayt al-Ḥikmah and the patronage of Abbasid power. Theoretically, this study reinforces the sociological view that science is a social construction formed through networks, cultural capital, and interactions between groups. Practically, the Baghdad experience offers a model of interfaith scientific collaboration relevant to contemporary pluralistic societies. However, this study suffers from limitations in access to non-Muslim primary sources and the possibility of bias from dominant narratives that do not fully capture the dynamics of minority groups. For further research, comparative studies with other centers of knowledge, such as Córdoba and Cairo, interdisciplinary analysis of scientific networks, and exploration of the roles of marginalized actors are needed to provide a more comprehensive picture of scientific cosmopolitanism.

Bibliography

Abidin, M. Z. (2022). Dinamika Gerakan Salafi dan Paradoks Kosmopolitanisme Islam: Problema Terminologis, Sejarah dan Ajaran [The Dynamics of the Salafi Movement and the Paradox of Islamic Cosmopolitanism: Terminological, Historical, and Teaching Problems]. *Tashwir: Jurnal Penelitian Agama dan Sosial Budaya*, *10*(1), 11–35. https://doi.org/10.18592/jt.v10i1.7280

Akasoy, A. (2020). Arabic Texts: Philosophy, Latin Translations of. In H. Lagerlund (Ed.), *Encyclopedia of Medieval Philosophy: Philosophy between 500 and 1500* (hal. 171–178). Dordrecht: Springer Netherlands. https://doi.org/10.1007/978-94-024-1665-7_47

Alagab, A. H. A. (2025). The Philosophical Methodology of Aristotle and Al-Kindi: A Comparative Study. *South Asian Research Journal of Humanities and Social Sciences*, *7*(01), 35–41. https://doi.org/10.36346/sarjhss.2025.v07i01.010

Algeriani, A. A.-A., & Mohadi, M. (2017). The House of Wisdom (Bayt al-Hikmah) and Its Civilizational Impact on Islamic libraries: A Historical Perspective. *Mediterranean Journal of Social Sciences*, *8*(5), 179. https://doi.org/10.1515/mjss-2017-0036

Ali, I., & Almulla, K. (2023). Philosophy versus theology in medieval Islamic thought. *HTS Teologiese Studies / Theological Studies*, *79*(5), 1–8. https://doi.org/10.4102/hts.v79i5.9305

Arnzen, R. (2021). Aristotle's ›Physics‹ VIII, Translated into Arabic by Ishaq ibn

Hunayn (9th c.). In *Introduction, Edition, and Glossaries*. Boston: De Gruyter. https://doi.org/10.1515/9783110582086

Ashoor, I. A. (2020). Scientific and administrative traditions in the old Baghdad teacher and their impact on the current schools. *Journal of University of Anbar for Humanities*, *17*(4), 3071–3101. https://doi.org/10.37653/juah.2020.171021

Axelson, T. (2023). Baghdad in My Shadow (2019): a Political Thriller in a Multireligious Europe: Gender Emancipation and Fundamentalism in a Fictive Iraqi Diaspora Community in London. *Journal of Religion, Media and Digital Culture*, *11*(2), 149–170. https://doi.org/10.1163/21659214-bja10063

Bahri, S. (2025). Kontribusi Peradaban Islam terhadap Sains dan Teknologi: Refleksi untuk Masa Depan Digital [The Contribution of Islamic Civilization to Science and Technology: Reflections for a Digital Future]. *Arba: Jurnal Studi Keislaman*, *1*(2), 111–128. https://doi.org/10.64691/arba.v1i2.10

Bennison, A. K. (2010). The Necklace of al-Shifā: Abbasid Borrowings in the Islamic West. *Oriens*, *38*(1–2), 249–273. https://doi.org/10.1163/187783710X536734

Berger, A., & Golan, O. (2024). Online religious learning: digital epistemic authority and self-socialization in religious communities. *Learning, Media and Technology*, *49*(2), 274–289. https://doi.org/10.1080/17439884.2023.2169833

Bourdieu, P. (1993). *The Field of Cultural Production: Essays on Art and Literature*. Cambridge: Polity Press.

Clark, J. G. (2011). Monastic Manuscripts and the Transmission of the Classics in Late Medieval England. *Vehicles of Transmission, Translation, and Transformation in Medieval Textual Culture*, 335–352. https://doi.org/10.1484/M.CURSOR-EB.1.100272

Demir, S. (2021). Over early Madrasas of Medieval Islamic Geography and Its Components. *MANAS Sosyal Araştırmalar Dergisi*, *10*(3), 1678–1691. https://doi.org/10.33206/mjss.825800

El-Hibri, T. (2010). *Parable and Politics in Early Islamic History: The Rashidun Caliphs*. New York: Columbia University Press.

Fauzan, E. H., & Setiawan, A. M. (2022). The Birth of the Three Great Islamic Kingdoms in the Middle Ages (1250-1800 AD). *El Tarikh : Journal of History, Culture and Islamic Civilization*, *3*(1), 57–76. https://doi.org/10.24042/jhcc.v1i1.10682

Gibson, N. P. (2022). Knowledge Collaboration among Jews, Christians, Zoroastrians, and Muslims in the Abbasid Near East: Introduction. *Medieval Worlds*, *17*, 59–72. https://doi.org/10.1553/medievalworlds_no17_2022s59

Giuffrida, G., Németh, A., & Proverbio, D. V. (2023). An Arabic-Greek Codex of Ptolemy's Handy Tables from the Eighth Century: Reassessment of the Arabic Winds List and the Horizon Diagram in Vat. sir. 623. *The Vatican Library Review*, *2*(1), 1–41. https://doi.org/10.1163/27728641-00201006

Griffel, F. (2020). Kalām. In H. Lagerlund (Ed.), *Encyclopedia of Medieval Philosophy: Philosophy between 500 and 1500* (hal. 1033–1042). Dordrecht: Springer Netherlands. https://doi.org/10.1007/978-94-024-1665-7_286

Gui, L. (2023). Being and Essence of Creation in Liber de Causis and Aquinas's Reception. *Religions*, *14*(11), 1407. https://doi.org/10.3390/rel14111407

Gutas, D. (1998). *Greek Thought, Arabic Culture: The Graeco-Arabic Translation Movement in Baghdad and Early 'Abbasid Society (2nd–4th/8th–10th Centuries)*. London: Routledge.

Hasanah, U. (2022). Islamic Intellectual Development during the Abbasid Dynasty (750 AD-861 AD). *El Tarikh : Journal of History, Culture and Islamic Civilization*, *3*(1), 1–11. https://doi.org/10.24042/jhcc.v3i1.11700

Havrda, M. (2017). Body and Cosmos in Galen's Account of the Soul. *Phronesis*, *62*(1), 69–89. https://doi.org/10.1163/15685284-12341319

Hussain, H. A., & Qasim, H. M. (2024). Contribution of Islamic Civilization to the Scientific Enterprise of the Modern World. *Journal of Religious and Social Studies*, *4*(1), 1–15. https://doi.org/10.53583/jrss07.01.2024

Jacobs, J. (2020). Saadia Gaon. In H. Lagerlund (Ed.), *Encyclopedia of Medieval Philosophy: Philosophy between 500 and 1500* (hal. 1743–1747). Dordrecht: Springer Netherlands. https://doi.org/10.1007/978-94-024-1665-7_455

Kennedy, H. N. (2005). *When Baghdad Ruled the Muslim World: The Rise and Fall of Islam's Greatest Dynasty*. Cambridge: Da Capo Press.

König, G. (2018). The Pahlavi Literature of the 9th Century and Greek Philosophy. *Iran and the Caucasus*, *22*(1), 8–37. https://doi.org/10.1163/1573384X-20180103

Kurmanaliyeva, A. D. (2021). "A Comparative Study of Reason and Revelation in Relation to Natural and Divine Law in al-Farabi and Ibn Rushd." In R. C. Weller & A. M. Emon (Ed.), *Reason, Revelation and Law in Islamic and Western Theory and History* (hal. 123–133). Singapore: Springer Singapore. https://doi.org/10.1007/978-981-15-6245-7_6

Levy, I. (2018). The Andalusi Literary & Intellectual Tradition: The Role of Arabic in Judah Ibn Tibbon's Ethical Will. *AJS Review: The Journal of the Association for Jewish Studies*, *42*(1), 226–228. https://doi.org/10.1353/ajs.2021.0059

Lim, P. C. H. (2021). Learning from Muslims and Jews: In Search of the Identity of Christ from Eighth-century Baghdad to Seventeenth-century Hague. *Church History*, *90*(4), 753–775. https://doi.org/10.1017/S0009640721002857

Makdisi, G. (1981). *The Rise of Colleges: Institutions of Learning in Islam and the West*. Edinburgh: Edinburgh University Press.

Messis, C., & Papaioannou, S. (2021, Juli). Arabic (S. Papaioannou, Ed.). *The Oxford Handbook of Byzantine Literature*. Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199351763.013.21

Montgomery, S. L. (2018). Mobilities of science: The era of translation into Arabic.

Isis, *109*(2), 313–319. https://doi.org/10.1086/698236

Nasr, S. H. (1987). *Traditional Islam in the Modern World*. London: KPI.

Ogden, S. R. (2021). Averroes's Unity Argument Against Multiple Intellects. *Archiv für Geschichte der Philosophie*, *103*(3), 429–454. https://doi.org/10.1515/agph-2018-0038

Olszok, C. (2023). Salīm Barakāt's Weird Ecology. *Comparative Literature*, *75*(4), 415–436. https://doi.org/10.1215/00104124-10752755

Passos, S., & Eduardo. (2024). Leo Strauss, The Latin Averroists and the Eternity of the World. *History of Political Thought*, *45*(1), 39–60. https://doi.org/10.53765/20512988.45.1.39

Perović, S. (2021). Observation, Experiment, and Scientific Practice. *International Studies in the Philosophy of Science*, *34*(1), 1–20. https://doi.org/10.1080/02698595.2021.1978038

Piché, D. (2018). Parisian Condemnation of 1277. In H. Lagerlund (Ed.), *Encyclopedia of Medieval Philosophy: Philosophy between 500 and 1500* (hal. 1–9). Dordrecht: Springer Netherlands. https://doi.org/10.1007/978-94-024-1151-5_370-2

Rahman, H., & Sudirman, S. (2024). From Bayt al-Hikmah to Algebra: The Intellectual Legacy of the Islamic Golden Age. *Journal of Islamic Thought and Philosophy*, *3*(2), 170–186. https://doi.org/10.15642/jitp.2024.3.2.170-186

Rusydi, I., Saepudin, D., & Murodi, M. (2023). The Golden Age of Islamic Intellectuals and The Development of Science During The Abbasid Dynasty. *Tafkir: Interdisciplinary Journal of Islamic Education*, *4*(4), 599–609. https://doi.org/10.31538/tijie.v4i4.726

Saliba, G. (2007). *Islamic Science and the Making of the European Renaissance*. Cambridge: MIT Press.

Şenel, S. (2025). Science Expanding Amid Political Challenges: Translation Activities During the al-Mutawakkil 'Alā'llāh Period (232–247 H/847–861 CE). *Religions*, *16*(4), 430. https://doi.org/10.3390/rel16040430

Treiger, A. (2022). From al-Biṭrīq to Ḥunayn: Melkite and Nestorian Translators in Early ʿAbbāsid Baghdad. *Mediterranea, International Journal on the Transfer of Knowledge*, *7*(Thematic Section), 143–181. https://doi.org/10.21071/mijtk.v7i.13666

Turdiyev, B. S., & Wekke, I. S. (2024). Illuminating the Legacy of Al-Farabi, Ibn Sina, and Al-Biruni: Exploring Political and Legal Philosophies in Transoxiana. *Asian Journal of Basic Science & Research*, *6*(2), 159–166. https://doi.org/10.38177/ajbsr.2024.6212

Wang, C. (2024). The House of Wisdom: Intellectual Achievements of the Abbasid Caliphate. *International Journal of Education and Humanities*, *13*(1), 335–339. https://doi.org/10.54097/3d4fv023

Worthing, M. W. (2024). Nestorian Christian Contributions to Medicine in the Golden Age of Islam Under the Abassid Caliphs of Baghdad 786-1258 CE. *Acta*

Medica Martiniana, *24*(3), 116–126. https://doi.org/10.2478/acm-2024-0015

Zhussipbek, G., & Nagayeva, Z. (2019). Epistemological Reform and Embracement of Human Rights. What Can be Inferred from Islamic Rationalistic Maturidite Theology? *Open Theology*, *5*(1), 347–365. https://doi.org/10.1515/opth-2019-0030

Zieme, S. (2023). Gerard of Cremona's Latin translation of the Almagest and the revision of tables. *Journal for the History of Astronomy*, *54*(1), 3–33. https://doi.org/10.1177/00218286221140848