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THE EVOLUTION OF THE CLASSIFICATION OF SCIENCES IN THE ISLAMIC INTELLECTUAL TRADITION

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Abstract: *The classification of knowledge has been a central concern in Islamic intellectual history, evolving from an Aristotelian framework to an indigenous model shaped by revelation and monotheistic epistemology. This study traces this historical development from early Muslim scholars such as Jābir ibn Ḥayyān to later figures such as Quṭb al-Dīn Shīrāzī. It highlights the shifting criteria and hierarchies of scientific classification. By using library research within a qualitative research framework and historical-philosophical approach, the study analyzes primary Arabic and Persian texts (e.g., al-Fārābī's Iḥṣā' al-'Ulūm, Ibn Sīnā's al-Shifā') alongside secondary sources through thematic and comparative analysis to map taxonomic patterns across centuries. Key findings reveal a progression from subject-based divisions (e.g., 'Alī's fourfold classification) to multidimensional models integrating rational, transmitted, and mystical sciences, prioritizing interdependence over disciplinary isolation. These Islamic models offer enduring insights for interdisciplinary dialogue, modern information science, and civilizational knowledge policy, recommending future exploration of Qur'anic and hadith-based criteria to enrich global epistemology.*

Keywords: *Classification of Sciences, Intellectual History, Islamic Epistemology, Knowledge Organization, Muslim Scholars.*

Abstrak: Klasifikasi ilmu pengetahuan telah menjadi perhatian utama dalam sejarah intelektual Islam, berkembang dari kerangka Aristotelian menuju model *indigenous* yang dibentuk oleh wahyu dan epistemologi monoteistik. Penelitian ini melacak perkembangan historis tersebut dari para cendekiawan muslim awal seperti Jābir ibn Ḥayyān hingga tokoh-tokoh kemudian seperti Quṭb al-Dīn Shīrāzī. Tulisan ini menyoroti pergeseran kriteria dan hierarki klasifikasi ilmu pengetahuan. Dengan menggunakan penelitian pustaka dalam kerangka penelitian kualitatif dan melalui pendekatan historis-filosofis, analisis ini mengandalkan teks primer Arab dan Persia (misalnya, *Iḥṣā' al-'Ulūm* karya al-Fārābī, *al-Shifā'* karya Ibnu Sīnā) di samping sumber sekunder untuk memetakan pola taksonomi. Temuan utama mengungkap transisi dari

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pembagian berbasis subjek (misalnya, klasifikasi Ali tentang empat kategori) menuju sistem multidimensi yang mengintegrasikan ilmu rasional, ditransmisikan, dan mistis. Kebaruan terletak pada demonstrasi bagaimana klasifikasi Islam memprioritaskan saling ketergantungan epistemologis dibandingkan isolasi disiplin barat, menawarkan wawasan untuk organisasi pengetahuan kontemporer. Kesimpulannya, model-model ini tetap relevan untuk dialog interdisipliner dan kontribusi Islam terhadap kebijakan ilmu pengetahuan global.

Kata-kata Kunci: *Cendekiawan Muslim, Epistemologi Islam, Klasifikasi Ilmu, Sejarah Intelektual, Strukturisasi Pengetahuan.*

Introduction

The human mind inherently organizes acquired knowledge for retrieval and application, a process rooted in cognitive mechanisms and amplified in Islamic thought by revelation-guided epistemological boundaries (Nasr 2005, 45–47). The exponential growth of scientific disciplines—evidenced by over 2.5 million annual peer-reviewed publications (STM Report 2023)—necessitates structured taxonomies to ensure efficient access, clarify interdependencies, and establish disciplinary priorities.

In the Islamic intellectual tradition, the classification of sciences emerged as a central concern from the 3rd/9th century onward, evolving from initial engagement with Greek philosophical schemes to sophisticated indigenous models shaped by a monotheistic worldview, transmitted knowledge, and the integration of reason with revelation. Muslim scholars across centuries—ranging from Jābir ibn Ḥayyān and al-Fārābī to Ibn Sīnā, Quṭb al-Dīn Shīrāzī, and later encyclopedists—developed comprehensive taxonomies that not only organized existing knowledge but also determined hierarchical relationships and pedagogical sequences (Bakar 2021, 210–12). Despite these rich contributions, contemporary knowledge organization systems, particularly in libraries and information centers of Muslim-majority countries, remain heavily influenced by Western ontological and value frameworks, often marginalizing Islamic classifications that emphasize epistemological unity and holistic integration (Guessoum 2023, 115–18).

This study traces the historical-philosophical evolution of science classification within the Islamic intellectual tradition, examining key criteria, models, and shifts across periods while highlighting their continuing relevance for modern information science and interdisciplinary dialogue. Employing qualitative library research with a historical-philosophical approach, the analysis draws on primary Arabic and Persian sources (e.g., al-Fārābī's in *Iḥṣā' al-'Ulūm*, Ibn Sīnā'si in *al-Shifā'*, and Quṭb al-Dīn Shīrāzī's in *Durrat al-Tāj*) alongside recent secondary literature, using thematic and comparative methods to map taxonomic developments and their implications for contemporary knowledge organization.

Theoretical and Historical Background

The classification of sciences in the Islamic intellectual tradition began with the reception and critical adaptation of Greek philosophical heritage. Plato reportedly divided knowledge into seven categories based on sources such as intellect, sense, and revelation (if the attribution is authentic), while Aristotle's tripartite scheme—theoretical, practical, and productive—became the most influential framework for subsequent classifications (Shahrouzī 2004, 78–82). Most early Muslim scholars adopted and expanded this Aristotelian model, incorporating newly developed Islamic disciplines while preserving its fundamental structure (Muḥammadī-Niyā 2006, 22–38; Bakar 2021, 210–15).

A foundational narration attributed to ʿAlī ibn Abī Ṭālib (d. 40/661) in *Biḥār al-Anwār* states: "*Knowledge is of four types: fiqh for religion, medicine for the body, naḥw (grammar) for the tongue, and nujūm (astronomy) for the knowledge of time*" (Majlisī 1984, 1:220). This concise, subject-based division is considered one of the earliest indigenous classifications in Islamic sources.

Jābir ibn Ḥayyān (d. ca. 200/815), often regarded as presenting the oldest systematic classification in Islamic civilization, departed from strict Aristotelianism in his *Kitāb al-Ḥudūd* by prioritizing empirical and operational criteria (Musadad 2015, 113–27; Ḥādī 2019, 34–50). Al-Kindī (d. ca. 252/866) organized Aristotle's corpus into logic, physics, psychology, and metaphysics, followed by the quadrivium of mathematics (Shahrouzī 2004, 112–19; Heryandi 2024, 370–81).

In the 3rd/9th century, al-Fārābī (d. 339/950) produced the seminal *Iḥṣā' al-'Ulūm* ("Enumeration of the Sciences"), systematically enumerating and defining the boundaries of each discipline with philosophical rigor (Fārābī 2002). Ibn Sīnā (d. 429/1037) further distinguished between rational (*'aqlī*) and transmitted (*naqlī*) sciences in *al-Shifā'* and his treatise on the divisions of the sciences (Akramī 2019, 45–60; Khasanah, Hamzani, and Aravik 2020, 993–1008). The Ikhwān al-Ṣafā' (4th/10th century) integrated mathematical, natural, and divine sciences in their *Rasā'il*, harmonizing philosophical and religious terminology.

Later Persian encyclopedic works, such as *Durrat al-Tāj* by Quṭb al-Dīn Shīrāzī (d. 710/1311) and *Nafā'is al-Funūn* by Muḥammad ibn Maḥmūd Āmulī, expanded classifications to twelve or more branches, reflecting the maturation of Islamic scientific traditions (Muḥammad-Niyā 2014, 95–110). Contemporary Muslim scholars have proposed new models, including ontological-epistemological frameworks (Ṣādiqī-Rashād 2010) and revelation-based four-dimensional taxonomies (Wāsiṭī 2009; Hallaq 2022, 312–18).

These historical developments illustrate a gradual shift from predominantly Aristotelian structures toward indigenous systems

that integrate reason, revelation, and mystical insight, prioritizing the interdependence of knowledge domains over strict compartmentalization (Guessoum 2023, 120–25).

Necessity of Classification of Sciences

Classification in any science is an efficient tool for knowledge and knowledge, and in one sense, it can be said that science is nothing but classification, the result of which is the multiplication of the one and the monotheism of the many. The history of science tells us that scientists, in addition to classifying the subject and belongings of their science, have also classified sciences and knowledge in the form of natural or artificial classifications. They are with each other. Also, the classification of books [and sciences] has been related to human knowledge because the need to understand and identify objects and facts has forced humans to classify (Moghadam 1994).

On the other hand, knowledge and human sciences are evolving and are always being added to human knowledge. Gradually, as the branches of science increase, the classification of science becomes more important. For this purpose, determining the place for new human sciences and knowledge will play an important role in the classification of sciences. And without the classification system of science, it is impossible to get the right, relevant information. An Irqā'ī devotee points out in this context that:

Classification constitutes an indispensable tool for organizing human knowledge, revealing hierarchical priorities, pedagogical sequences, and interdisciplinary connections among disciplines (Mustaghīmī 2008, 175–98). As knowledge domains expand exponentially, systematic taxonomies become essential for efficient retrieval, innovation, and policymaking (Fāḍā'ī-Irqā'ī 2010, 15–18).

Muslim scholars historically emphasized that without classification, "*knowledge recovery becomes impossible*" (Fāḍā'ī-Irqā'ī 2009, 15). Classification facilitates learning progression, identifies research gaps, strengthens interdisciplinary dialogue, and informs resource allocation in education, libraries, and scientific policy (Moghaddam 1994; Bakar 2021, 225–30).

These functions remain particularly relevant in contemporary contexts where fragmentation threatens holistic understanding. Recognizable issues form a wide spectrum, and while in this spectrum, some issues are closely related to others. Some other issues are distant and unrelated. On the other hand, learning some information depends on others, and at least, knowing one category means understanding another category of issues; they are far apart and alien from each other, and have little connection with each other. The tastes and talents of people are different in learning all kinds of issues and considering that some knowledge is

dependent on others, and teaching one depends on the other.

Therefore, scientists have been trying for a long time to categorize related and relevant issues to identify specific sciences and sciences, to classify different sciences on the other hand, and to clarify the need of each science for other sciences and, as a result, the superiority of one over the other. So firstly, those who have a special motivation or taste and talent can find their lost among countless problems and know the way to reach their goal, and secondly, those who want to learn different fields of information know where to start the path. To make it easier to learn other subjects and make them easier to learn. In this way, the sciences were divided into various parts and sections, and each section was placed in a certain class and order (Yazdī 2012, 1:245). Briefly, we can list these reasons for the necessity of the classification of sciences:

1. The classification of sciences makes it clear that the sciences have priority and priority about each other, as well as the observance of precedence and backwardness in the teaching and learning of sciences, clearer and clearer, and the types of connections and correlations of each science with other sciences and their merits and demerits. To be determined;
2. The classification of sciences, like a guide map, makes it easy to identify the general titles of sciences for those who want to find the science they are interested in.
3. The classification of sciences can explain the input and output principles of sciences relative to each other to speed up their recognition and identity.
4. The classification of sciences can facilitate and speed up scientific studies and research on scientific issues.
5. Classification of sciences can be useful for arranging books in the library and setting up their list.
6. The classification of sciences informs us about the progress of human knowledge and provides us with relevant information in the history of science (Mostaghimi 2008).

Based on the above studies, it can be concluded that the necessity of the classification of sciences, as the organization and classification of human knowledge, has been the concern of philosophers and scientists for a long time. This has many benefits, such as order and coherence, facilitating learning, ease of searching and retrieving information, encouraging innovation and scientific discoveries, strengthening interdisciplinary dialogue, application in education and training, application in libraries and information centers, application in research, and application in "Scientific Policy" which is briefly mentioned:

1. Order and coherence: The classification of science organizes a

huge amount of information and knowledge in the form of an orderly and classified structure. This helps to better understand the relationships and dependencies between different scientific disciplines and prevents confusion and confusion in the learning and research process.

2. **Facilitating learning:** The classification of science facilitates the learning process by grouping related subjects. By following the order in the classification, students and researchers can acquire knowledge step by step and more coherently.
3. **Ease of searching and retrieving information:** Classification of science makes it easier to search and retrieve information by creating order and hierarchy among different disciplines. For example, if you are looking for information on a specific topic, you can quickly and easily find the resources you need by referring to the relevant classification.
4. **Encouraging innovation and scientific discoveries:** The classification of science provides the ground for innovation and new scientific discoveries by revealing the gaps in human knowledge. By reviewing existing taxonomy and identifying topics that have not been thoroughly studied, scientists can seek new answers to scientific questions.
5. **Strengthening interdisciplinary dialogue:** Classification of science by revealing the relationships and dependencies between different scientific disciplines provides the context for interdisciplinary dialogue and the exchange of knowledge and ideas between scientists of different disciplines. This can help solve complex and challenging problems that require a comprehensive and interdisciplinary approach.
6. **Using in education:** classification of science is widely used in curriculum and educational planning, design of course headings, and selection of educational resources. By using the classification of science, it is possible to train students in a systematic and targeted manner.
7. **Using in libraries and information centers:** Classification of science plays a key role in organizing and managing information in libraries and information centers. By using the classification of science, information sources can be categorized and stored in an orderly and principled manner so that they are easily accessible to users.
8. **Using in research:** The classification of science is used in choosing the research topic, developing the theoretical framework and research methodology, and interpreting the research findings. By

using the classification of science, it is possible to carry out systematic and accurate research in various scientific fields.

9. **Using in scientific policy:** Classification of science is used in allocating financial and human resources to different scientific fields, compiling scientific development programs, and evaluating the performance of the country's scientific system. By using the classification of science, policymaking in the field of science and technology can be targeted and efficient.

The classification of science as an efficient tool has an important role in organizing, facilitating learning, searching, and retrieving information, encouraging innovation and scientific discoveries, strengthening interdisciplinary dialogue, application in education, libraries, and information centers, research, and scientific policy.

Classification of Science and Its Models

One of the topics that is always discussed in Islam and Islamic sciences is the classification and explanation of sciences. From Kindi in the 3rd century to Shah Valiullah Dehlavi in the 12th century, they have consistently described and explained this issue. Philosophers or scientists, jurists or theologians, Sunnis or Shiites were all mentioned in this great plan of science. The main motivation of this broad intellectual plan was to pay attention to the ways of maintaining the hierarchy of sciences and determining the place and scope of each science in the framework of the general plan of science (Nasr 2005; Abidin 2021; Hantoro 2022; Warno 2023, 333–52; Badrun et al. 2024; Hidayatullah et al. 2025).

Beyond being a historical debate among scholars, scientists, and philosophers, knowledge and its relationship to Islamic science have continued to evolve into the modern era. The discourse has even given rise to discussions on the relationship between science and religion, the dichotomy of science, and even debates about the Islamization of science (Mujib 2019,44–59; Aminy et al. 2023, 81–86; Munip 2024, 49–58).

Classification Models in the Islamic Intellectual Tradition

Islamic classifications of sciences exhibit considerable diversity in the number of divisions and underlying criteria, reflecting both historical development and differing epistemological priorities. The simplest models are binary, while the most comprehensive reach twelve or more branches.

1. Binary Classifications

One of the earliest and most persistent divisions distinguishes between the "sciences of the ancients" (*'ulūm al-awā'il*) or rational sciences and the "religious" or transmitted sciences (*'ulūm al-shar'iyya/naqlīyya*). This

dichotomy appears prominently in al-Khwārazmī's in *Mafātīḥ al-'Ulūm* (d. 387/997) and subsequent works (Khwārazmī 2010).

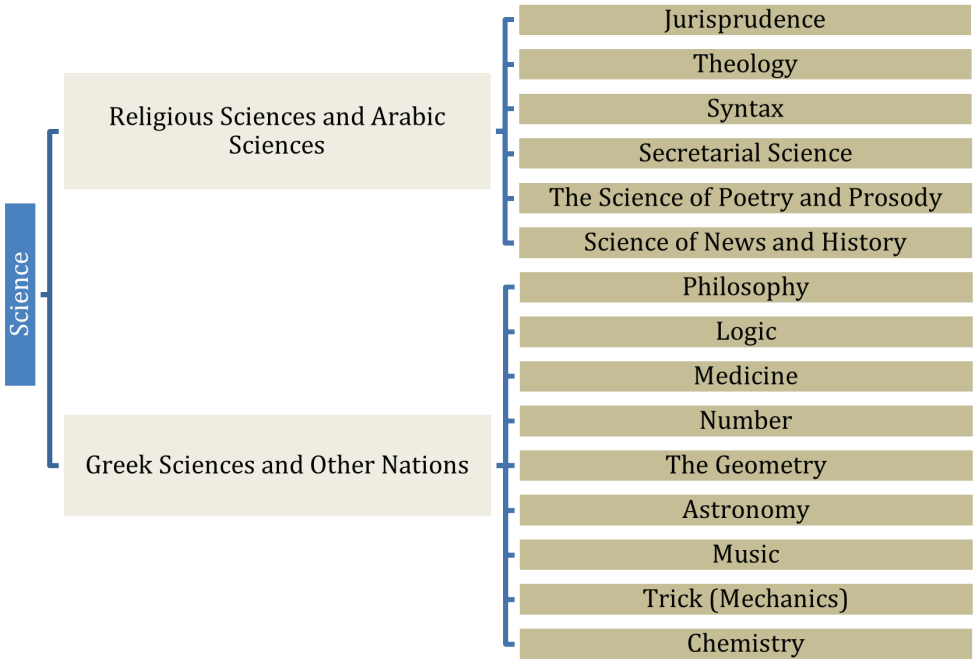

Figure 1. Khwārazmī's Binary Classification of Sciences (Author Adapted from Khwārazmī 2010).

2. Tripartite and Quadruple Models

The Brethren of Purity (Ikhwān al-Ṣafā') proposed a tripartite scheme encompassing mathematical, natural, and divine sciences, whereas a widely cited *ḥadīth* attributed to 'Alī divides knowledge into four practical domains: *fiqh*, medicine, grammar, and astronomy (Majlisī 1984, 1:220; Rum 2021; MEÇ.IN 2022).

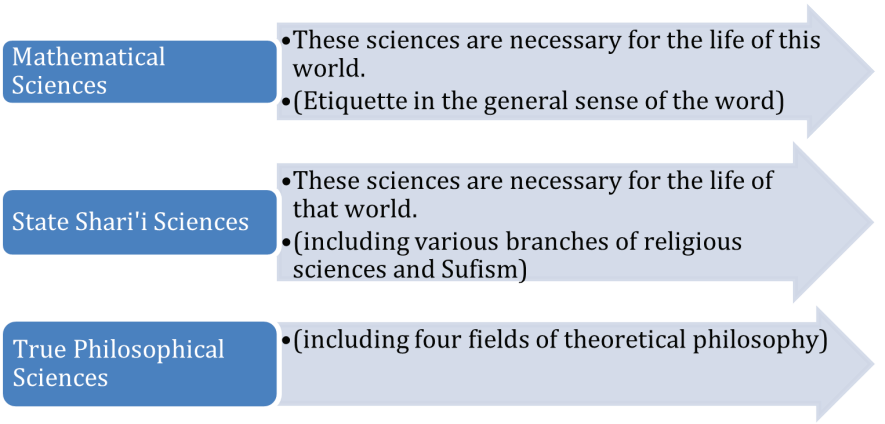

Figure 2. Tripartite Model of the Ikhwān al-Ṣafā' (Author's Elaboration Adapted from Majlisī 1984).

3. Multi-branch Classifications

Al-Fārābī's in Iḥṣā' al-'Ulūm (4th/10th century) enumerates five or six primary sciences with numerous subdivisions, establishing a standard that influenced later scholars (Fārābī 2002; Drajat 2015, 244–57; Gharamaleki, HosseiniEskandian, and Udin 2021, 122–41; Rozali and Lubis 2023, 54–63). Subsequent Persian encyclopedias, such as Quṭb al-Dīn Shīrāzī's in *Durrat al-Tāj*, expanded the framework to twelve branches (Muḥammad-Niyā 2014; Saparmin 2023, 1–14).

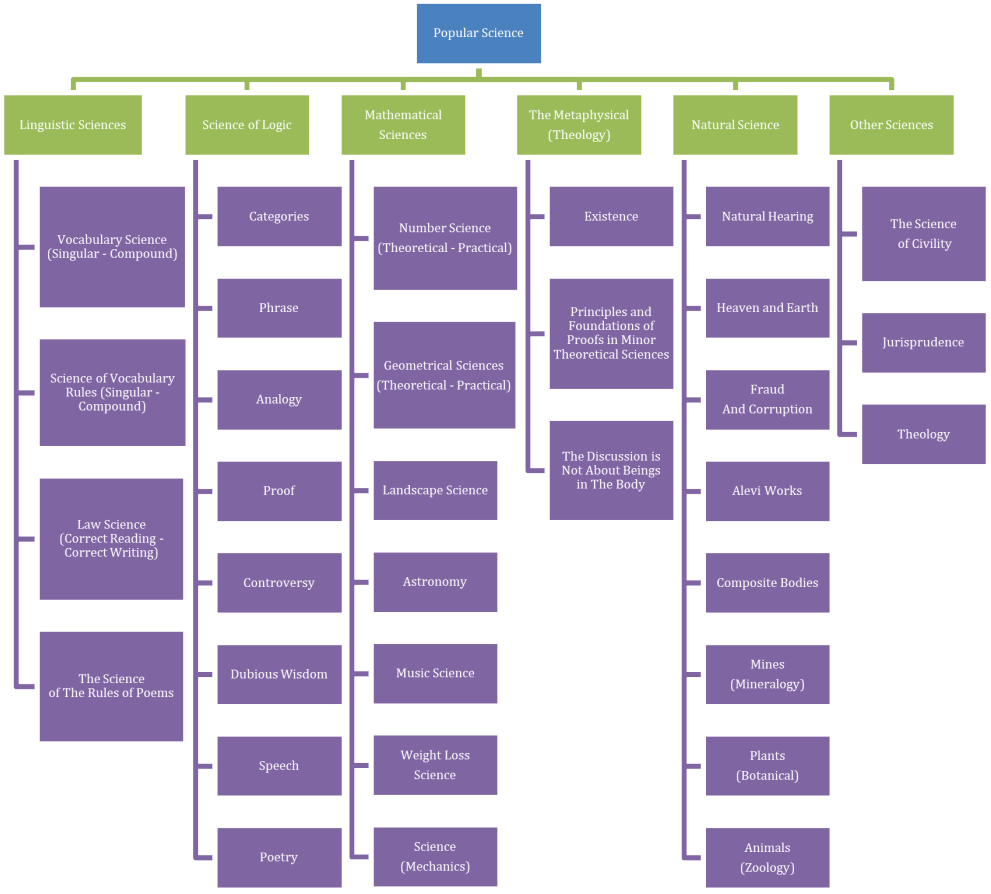

Figure 3. Al-Fārābī's Classification Scheme (Author Adapted from al-Fārābī 2002).

In summary, the classification of sciences in the Islamic intellectual tradition evolved from concise, revelation-rooted divisions (such as 'Alī's quadruple model and early binary schemes) to highly elaborate multi-branch systems that successfully integrated rational, transmitted, and mystical disciplines. The variation in the number of primary branches—from two to twelve or more—does not indicate inconsistency but rather reflects differing scholarly aims: pedagogical simplicity in some cases, comprehensive encyclopedic representation in others, and the demonstration of the ultimate unity of knowledge under monotheistic principles in many (Bakar 2021, 230–35; Guessoum 2023, 122–25; Muḥammad-Niyā 2014, 102–10).

Conclusion

The historical-philosophical trajectory of science classification in the Islamic intellectual tradition reveals a dynamic and sophisticated enterprise that began with critical adaptation of Greek frameworks and gradually matured into indigenous models deeply informed by revelation, monotheism, and the interdependence of rational and transmitted knowledge. From Imam ʻAlī's concise fourfold division to al-Fārābī's systematic enumeration and the expansive Persian encyclopedias of the later centuries, these taxonomies consistently prioritized epistemological unity and holistic integration over strict disciplinary isolation—a feature that continues to distinguish them from many modern secular systems.

The enduring relevance of these Islamic models lies in their capacity to foster genuine interdisciplinary integration, guide educational priorities, and inform knowledge organization in contemporary Muslim contexts. In an era marked by fragmentation and overspecialization, the holistic vision embedded in these classifications offers valuable insights for library and information science, curriculum design, and civilizational scientific policy.

Future research should systematically derive classification criteria directly from primary Qur'anic verses and authentic prophetic traditions, thereby developing comprehensive revelation-based frameworks capable of guiding the production of authentic Islamic human sciences and contributing to the reconstruction of Islamic civilization in the contemporary world.

REFERENCES

Abidin, Muhammad Zainal. 2021. "Dinamika Pemikiran Klasifikasi Ilmu dalam Khazanah Intelektual Islam Klasik." *Jurnal Ilmiah Ilmu Ushuluddin* 20 (1): 1–14. https://doi.org/10.18592/jiiu.v20i1.4679.

Akramī, Ayūb. 2019. "A Comparative Study of the Classification of Sciences in Islamic Civilization." *Ma'ārif* 151: 45–60.

Aminy, Aisyah, Salminawati Salminawati, Nurul Izzah Tanjung, and Rika Hidayana. 2023. "Gagasan Islamisasi Sains dalam Mengembalikan Semangat Umat Islam." *At-Tajdid: Jurnal Pendidikan dan Pemikiran Islam* 7 (1): 81–86. https://doi.org/10.24127/att.v7i1.2682.

Badrun, Muhammad, Alhafidh Nasution, Dandi Setiawan, and Nizhof Lubbi Ma'arif. 2024. "The History of Islamic Science and Its Characteristics: A Valuable Contribution to the Development of Islam in Modern Times." *JUSPI (Jurnal Sejarah Peradaban Islam)* 8 (1): 31–37. https://doi.org/10.30829/juspi.v8i1.17212.

Bakar, Osman. 2021. "Classification of Sciences in Islamic Thought: Historical and Contemporary Perspectives." Journal of Islamic Studies 32 (2): 210–235. https://doi.org/10.1093/jis/etab012.

Drajat, Amroeni. 2015. "Ihsha Al-Ulum Pengaruhnya Terhadap Pemikir Muslim dan Barat." *Journal Analytica Islamica* 4 (2): 244–57. https://doi.org/10.30829/jai.v4i2.468.

Fāḍā'ī-Irqā'ī, Ghulāmriḍā. 2008. "Duality in Science Categorization." Tehran: University of Tehran Press.

———. 2009. A New Plan in Science Categorization. Tehran: National Library and Archives of Iran.

———. 2010. "Innovation in Library Classification Systems." In Duality in Categorization, 12–25. Tehran: University of Tehran.

Fārābī, Abū Naṣr al-. 2002. *Iḥṣā' al-'Ulūm wa-l-Ta'rīf bi-Aghrāḍihā*. Edited by Ḥusayn Khudāyjām. Tehran: Scientific and Cultural Publications.

Gharamaleki, Ghorbanali Karimzadeh, Abdullah HosseiniEskandian, and Nur Hidayat Wakhid Udin. 2021. "Divine Revelation in the Philosophical Essays of Al-Fārābī in Comparison with the Mystical Thoughts of Ibn 'Arabī." *Teosofi: Jurnal Tasawuf dan Pemikiran Islam* 11 (1): 122–41. https://doi.org/10.15642/teosofi.2021.11.1.122-141.

Guessoum, Nidhal. 2023. "Revelation and Scientific Taxonomy: An Islamic Perspective." *Arabica* 70 (1–2): 112–30. https://doi.

org/10.1163/15700585-12341456.

Ḥādī, Muḥammad Fathī ʻAbd al-. 2019. "History of Changes in the Classification of Sciences in Islamic Civilization." *Āyina-i Pizhūhish* 125: 34–50.

Hallaq, Wael B. 2022. "Epistemological Shifts in Islamic Thought." *Islamic Law and Society* 29 (3): 300–25.

Hantoro, Ramandha Rudwi. 2022. "Klasifikasi Ilmu Pengetahuan Barat dan Islam Serta Konstribusinya dalam Dunia Akademik." *Tasamuh: Jurnal Studi Islam* 14 (1): 90–114. https://doi.org/10.47945/tasamuh.v14i1.412

Heryandi, M. Tubi. 2024. "Karekteristik Pengetahuan Inderawi Al-Kindi dan Al-Razi Tentang Konsep Pengetahuan Islam." *Benchmarking* 8 (2): 370–81. https://doi.org/10.30821/benchmarking.v8i2.25165.

Hidayatullah, Fajri Ismail, Zuhdiyah, Ismail Sukardi, and Muhamad Afdoli Ramadoni. 2025. "Concept of Science and Islamic Intellectual Movements." *AN NUR: Jurnal Studi Islam* 17 (1): 33–56. https://doi.org/10.37252/annur.v17i1.1665.

Ishaq, Usep Mohamad, and Wan Mohd Nor Wan Daud. 2017. "Ibn Al-Haytham's Classification of Knowledge." *Al-Jami'ah: Journal of Islamic Studies* 55 (1): 189–210. https://doi.org/10.14421/ajis.2017.551.189-210.

Khasanah, Nur, Achmad Irwan Hamzani, and Havis Aravik. 2020. "Klasifikasi Ilmu Menurut Ibn Sina." *SALAM: Jurnal Sosial dan Budaya Syar-i* 7 (5): 993–1008. https://doi.org/10.15408/sjsbs.v7i11.17739.

Khwārazmī, Muḥammad ibn Aḥmad. 2010. *Mafātīḥ al-ʻUlūm*. Edited by Ḥusayn Khudāyjām. Tehran: Scientific and Cultural Publications Center.

Majlisī, Muḥammad Bāqir. 1984. *Biḥār al-Anwār*. Vol. 1. Beirut: Dār Iḥyā' al-Turāth al-ʻArabī.

MEÇ.IN, Mahmut. 2022. "Ikhwān Al-Ṣafā 's Approach to the Science of Logic in the Context of Concept, Proposition and Syllogism." *Fırat Üniversitesi\Ilahiyat Fakültesi Dergisi* 27 (1): 37–52.

Mujib, Abdul. 2019. "Hakekat Ilmu Pengetahuan dalam Persfektif Islam." *Ri'ayah: Jurnal Sosial dan Keagamaan* 4 (01): 44–59.

Munip, Al. 2024. "Ilmu dalam Tinjauan Filsafat: Ontologi, Epistemologi, dan Aksiologi." *Al-Aulia: Jurnal Pendidikan dan Ilmu-Ilmu Keislaman*

10 (1): 49–58. https://doi.org/10.46963/aulia.v10i1.1875.

Musadad, Asep N. 2015. "Klasifikasi Ilmu Pengetahuan dalam Perspektif Jābir Bin Ḥayyān." *Kanz Philosophia: A Journal for Islamic Philosophy and Mysticism* 5 (2): 113–27.

Moghaddam, Muḥammad Bāqir. 1994. *An Introduction to the Classification of Sciences*. Qom: Library of Āyatullāh Marʿashī Najafī.

Muḥammadī-Niyā, Murtaḍā. 2006. "Aristotle's Influence on Islamic Classifications of Sciences." *Āyina-i Pizhūhish* 96: 22–38.

———. 2014. "Models of Sciences in Persian Encyclopedias." *Journal of Islamic Philosophy and Theology* 15: 89–110.

Mustaghīmī, Mahdīyah al-Sādāt. 2008. "A Comparative Study of Ibn Sīnā's Theory on the Classification of Sciences." *Pizhūhishhā-yi Falsafī-Kalāmī* 10 (37): 175–198.

Nasr, Seyyed Hossein. 2005. *Science and Civilization in Islam*. Translated by Aḥmad Ārām. Tehran: Scientific and Cultural Publications.

Rozali, M., and Nurul Syahrani Lubis. 2023. "Classification of Science in the Ihsha' Al-'Ulum (Encyclopedia of Science) Al-Farabi (870-950 AD)." *JUSPI (Jurnal Sejarah Peradaban Islam)* 7 (1): 54–63. https://doi.org/10.30829/juspi.v7i1.14998.

Rum, Muhamad. 2021. "Filsafat Jiwa Ikhwan Al-Shafa Sebagai Basis Konsep Pendidikan." *Kanz Philosophia: A Journal for Islamic Philosophy and Mysticism* 7 (1): 111–34. https://doi.org/10.20871/kpjipm.v7i1.135.

Ṣādiqī-Rashād, ʻAlī Akbar. 2010. "Ontological-Epistemological Model for the Classification of Sciences." Paper presented at the Conference on the Transformation of the Humanities, University of Tehran, Tehran, Iran, March 10–12.

Saparmin, Norzakiah. 2023. "A Brief Reflection on Islamic Astronomy in 13th Century, The Case of Quṭb Ad-Din Al-Shirazi." *Revelation And Science* 13 (1): 1–14. https://doi.org/10.31436/revival.v13i1.348.

Shahrouzī, Shams al-Dīn Muḥammad. 2004. *Risālat al-Shajara al-Ilāhiyya fī 'Ulūm al-Ḥaqā'iq al-Rabbāniyya*. Tehran: Institute for Philosophical and Theological Studies.

STM Report. 2023. "An Overview of Scientific Publishing." International Association of Scientific, Technical and Medical Publishers. https://www.stm-assoc.org/2023-stm-report/.

Warno, Nano. 2023. "Study Comparison on Knowledge by Presence in The Views of Ibn Sīnā, Suhrawardī, and Mullā Ṣadrā." *Kanz Philosophia: A Journal for Islamic Philosophy and Mysticism* 9 (2): 333–52. https://doi.org/10.20871/kpjipm.v9i2.291.

Wāsiṭī, ʻAbd al-Ḥamīd. 2009. *A Guide to Research on the Islamic Perspective on Science and Existence*. Mashhad: Institute for Strategic Studies of Islamic Sciences.

———. 2010. "Four-Axis Conical Model of Sciences." *Journal of Islamic Epistemology* 5 (2): 78–95.

Yazdī, Muḥammad Taqī Miṣbāḥ. 2012. *Āmūzish-i Falsafa*. Tehran: Enteshārāt-i Beynolmelalī-yi Sherkat-i Chap va Nashr-i affiliated with Sāzmān-i Tablīghāt-i Islāmī.

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