

Universal Grammar of Thought: Logic in The Teachings of Al-Farabi

Abdullakhanova Gulbahor

Candidate of Philosophical Sciences, Associate Professor of the Department of Philosophy at Tashkent State Economic University, Republic of Uzbekistan

Received: 12 Feb 2026 | Received Revised Version: 28 Feb 2026 | Accepted: 20 Mar 2026 | Published: 08 Apr 2026

Volume 08 Issue 04 2026 | Crossref DOI: 10.37547/tajas/Volume08Issue04-02

Abstract

This article is devoted to a comprehensive analysis of the logical legacy of the outstanding Eastern thinker Abu Nasr al-Farabi, known in history as the "Second Teacher." The study centers on his innovative concept of a "universal grammar of thought." The author explains how al-Farabi succeeded in legitimizing logic as an independent, transcultural discipline, transcending the narrow confines of ethnic languages and Arabic grammar. The work details the two-level structure of cognition introduced by the thinker: tasawwur (conception) as the act of comprehending the essence of things and tasdiq (judgment) as a tool for verifying truth. It is argued that this pair of categories became the foundation for the entire subsequent Eastern Peripatetic tradition.

Particular attention is paid to the classification of logical methods - from apodictic to poetics - and their role in the formation of reliable knowledge (yaqin). The study goes beyond pure theorizing, illuminating the political dimension of logic. Using one of al-Farabi's fundamental works, "Treatise on the Opinions of the Inhabitants of the Virtuous City" [3], it demonstrates how the logical apparatus serves as an "intellectual glue" and a tool of social hygiene, allowing the ruler to transform abstract truths into ethical guidelines for society through rhetoric and imagery.

The methodological basis of this work is a synthesis of a historical-philosophical approach, comparative analysis, and a systems method. The article analyzes the works of such prominent researchers as M. Khairullaev, A. Kasymzhanov, A. Sagadeev, R. Walzer, and D. Black. The author concludes that al-Farabi's logical system is not only a historical monument but also a relevant methodological basis for the development of modern critical thinking.

Recommendations are offered for integrating the thinker's ideas into modern educational programs to combat cognitive biases and strengthen intercultural dialogue in a globalized world.

Keywords: Al-Farabi, logic, universal grammar, tasawwur, tasdiq, virtuous city, Aristotelianism, theory of knowledge, rhetoric, apodictics.

© 2026 Abdullakhanova Gulbahor. This work is licensed under a Creative Commons Attribution 4.0 International License (CC BY 4.0). The authors retain copyright and allow others to share, adapt, or redistribute the work with proper attribution.

Cite This Article: Abdullakhanova Gulbahor. (2026). Universal Grammar of Thought: Logic in The Teachings of Al-Farabi. The American Journal of Applied Sciences, 8(04), 12–17. <https://doi.org/10.37547/tajas/Volume08Issue04-02>

1. Introduction

Al-Farabi, known in the scholarly world as the "Second Teacher" (an honorary title), left humanity a vast and unique intellectual legacy, touching on nearly every field

of knowledge during his lifetime. Among this legacy, his thoughts on logic occupy a prominent place. He sought not simply to provide a highly technical commentary on Aristotle's works on logic, but to transform this science into a "universal grammar of thought."

During his lifetime, a clear trend of clashing cultures and languages was observed, requiring a search for a unified foundation for understanding the world. Al-Farabi understood that the science of logic played a major role in this process. He considered logic the highest canon, capable of allowing the human mind to distinguish truth from error in any field of knowledge.

The scholar succeeded in finding a compromise between logical structure and linguistic features, dividing the cognitive process into two levels: conception (*tasawwur*) and judgment (*tasdiq*).

Al-Farabi was convinced that logic is the guiding star capable of leading a person out of the chaos of opinion toward certain knowledge and, subsequently, toward supreme happiness within the framework of the "virtuous city."

The purpose of this article is to provide a comprehensive historical and philosophical analysis of Abu Nasr al-Farabi's logical teachings as a holistic system, substantiate its role as a "universal grammar of thought," and identify the mechanisms for integrating this system into the epistemological and sociopolitical structure of the "virtuous city."

To achieve this goal, the following objectives were set in the work:

- To reveal the concepts of *tasawwur* (representation) and *tasdiq* (judgment) as fundamental levels of cognition.
- Show how al-Farabi succeeded in distinguishing between logic and linguistics, granting the former the status of an autonomous and transcultural science.
- Analyze the hierarchy of logical methods (from apodicticism to poetics) in the context of social governance.
- Substantiate the relevance of the ideas of the "Second Teacher" for contemporary critical thinking and interdisciplinary research.

2. Literature Review

Interest in al-Farabi's rich scientific heritage has been shown by many scholars from both the West and the East. Among those who paid special attention to the study, translation, and analysis of his logical works were M.M. Khairullaev, A.Kh. Kasymzhanov, A.V. Sagadeev, Richard Walzer, Deborah Black, Shukri Abed, A.N.

Nysanbaev, Zh.A. Altaev, and others.

For instance, the Uzbek scholar M.M. Khairullaev is one of the leading researchers of al-Farabi's legacy. He authored a major work, *Farabi, the Era and Teaching*, in which he details how the thinker adapted Greek logic to meet the demands of the Eastern Renaissance [6]

Another researcher, A.Kh. Kasymzhanov, specializing in the history of Peripateticism, emphasizes in his work *Abu Nasr al-Farabi* (from the "Thinkers of the Past" series) that logic is the foundation of al-Farabi's entire worldview. He notes: "Farabi succeeded not just in transferring Greek thought to Eastern soil, but in creating an original methodology of cognition based upon it" [5]

A.V. Sagadeev, a prominent specialist in Arab-Muslim philosophy, believes that al-Farabi's works allow researchers to better understand the dispute between logicians and grammarians (the debate between "Greek logic" and "Arabic grammar"). According to him, "...logic in Arab-Muslim philosophy was conceived as a kind of 'court' over language, allowing concepts to be cleared of ambiguity and linguistic accidents" [7]

Richard Walzer is a British scholar and specialist in the history of Arabic and ancient philosophical thought. He has presented al-Farabi's philosophical ideas to Western readers in an accessible and understandable form, while also demonstrating their connection with the philosophy of eminent ancient Greek scholars Plato and Aristotle. In his major work, *"Al-Farabi on the Perfect State"*, Walzer points to the connection between al-Farabi's logic and his views on politics. In this book, Walzer writes that "...the thinker's logical apparatus serves not only for academic reasoning but is the foundation for building a harmonious political order". [8]

Canadian philosopher Deborah Black wrote *"Logic and Aristotle's Rhetoric and Poetics in Medieval Arabic Philosophy"*, where she demonstrates why al-Farabi included rhetoric and poetics within logic. She argues that "...the inclusion of poetics and rhetoric within the logical disciplines was a conscious step for al-Farabi toward creating a comprehensive theory of human knowledge." [4]

Shukri Abd is an American-Israeli scholar who explored al-Farabi's views on the interaction of universal logic and the specific Arabic language in his book, *"Aristotelian Logic and the Arabic Language in Alfarabi"*. Shukri Abd believes that "...al-Farabi succeeded in overcoming the

resistance of the linguistic environment, transforming Arabic into a flexible tool for expressing the most complex syllogistic constructions." [1]

3. Methods

Given the specific characteristics of the topic, this study utilized a combination of approaches that allowed for a comprehensive examination of al-Farabi's concept of a "universal grammar of thought."

The theoretical basis for the study was formed by the works of Russian and international scholars in the fields of the history of Eastern philosophy, classical logic, and comparative linguistics. The historical-philosophical method was chosen as the primary method.

The methodological basis of the study also included the following general scientific methods of inquiry:

- Comparative-analytical method: used to compare the categorical apparatus of formal logic and grammar.
- The method of logical analysis: used to deconstruct the key concepts of "tasawwur" (representation) and "tasdiq" (judgment).
- A systems approach: allowed us to examine al-Farabi's logical teachings not as an isolated discipline, but as an integral part of his socio-political and epistemological system.
- Synthesis and generalization: used to form a holistic conclusion about the role of logic as a link between language, science, and social order.

4. Discussion

"He who begins the study of science
without knowledge of logic is like one
who tries to walk a dark
road without a lamp."

Al-Farabi [2]

In the system of sciences studied by al-Farabi, logic is given a special, so-called preparatory place. That is,

according to the thinker, this field of knowledge precedes all other sciences, as it is a tool for verifying the truth of human reason. For example, while mathematics studies quantitative indicators and physics studies motion, logic studies the very laws by which the human intellect functions.

During al-Farabi's time, one of the most difficult questions was posed: was Greek logic necessary if the Arabs already had their own perfect grammar? As A.V. Sagadeev emphasizes, Farabi's contemporaries often confused the rules of language with the rules of thought. Al-Farabi, however, proposed a brilliant distinction, which Shukri Abd calls an attempt to overcome "linguistic determinism." This distinction is based on the following:

- Grammar is the rules specific to a particular people and their language (Arabic, Greek, Persian, etc.). It regulates the correct pronunciation and combination of words.
- Logic is a "universal grammar," the rules of which are the same for all people, regardless of their language.

That is, grammar studies the outer shell (the words of a particular people), while logic studies the essence (the universal laws of thought common to all people). Logic relates to intellect in the same way that grammar relates to language. This concept demonstrates that al-Farabi succeeded in granting logic an autonomous status, i.e., transforming it into an independent science, transcending ethnic and linguistic boundaries.

Al-Farabi believed that logic is more than just strict formulas. He distinguished five types of logical methods depending on their purpose:

1. Apodictic (Proof) – leads to true knowledge. This, according to the thinker, is the pinnacle of logic.
2. Dialectic – the search for probabilistic knowledge through debate.
3. Sophistry – false reasoning that appears true.
4. Rhetoric – the art of persuasion.
5. Poetics – influencing the imagination through imagery.

Type of reasoning	Goal	Degree of Certainty
Apodictic	Truth	100% (Science)

Dialectic	Opinion / Consensus	Probability
Rhetoric	Convincing the Crowd	Emotional Belief
Sophistry	Deception / Winning an Argument	Apparent Truth
Poetics	Figurative Influence	Imagination

Al-Farabi also adapted Greek terms related to logic (subject, predicate, syllogism) to Arabic, creating a scientific lexicon that is still used today.

Al-Farabi believed that logic is based on two fundamental pillars through which information is transformed into knowledge:

- Tasawwur (representation)
- Tasdiq (judgment).

Al-Farabi introduced these two concepts to substantiate his theory of knowledge, which he closely linked to logic. These concepts later became classics for all subsequent Eastern philosophy.

Tasawwur (Concept): This is the act of simply grasping the essence of a thing (for example, when we understand the meaning of the word "world"). According to D. Black, this stage is critically important, as it is where the mind forms basic concepts without judging their truth. That is, this is the first step, "grasping" the essence of an object without passing a verdict on its truth or falsity. What it is: when an image or concept arises in the mind (for example, "moon," "dignity," "musician"). At the stage of tasawwur, there is no affirmation. So, if you simply say "white snow," it's tasawwur. You understand what's being said, but you haven't proven or disproved anything yet. And the key here is definition (hadd). It must be precise, cutting out the unnecessary and leaving only the essence of the thing itself.

Tasdiq (Judgment/Verification): This is the next level (the second stage), where we connect concepts and assert their truth or falsity (for example: "Snow is white," "Justice is good," or "The world is knowable"). This is where the syllogistic (qiyas) method—the heart of al-Farabi's logic—comes into play. Tasdiq is impossible without prior tasawwur. You cannot judge something you

don't understand. A syllogism, according to al-Farabi, is a chain of reasoning that leads from known propositions to a new, previously unknown conclusion.

Al-Farabi emphasized that the goal of logic is to lead a person from simple ideas to reliable judgment (yaqin). For science, it is important that we strive for absolute tasdiq through proof. Religion and politics, however, insist that we often use tasdiq based on persuasion or imagination (rhetoric), which is also important for governing a "virtuous city," but is a step below pure science.

By dividing knowledge into tasawwur and tasdiq, al-Farabi creates a coherent hierarchy of intellectual activity. While tasawwur is responsible for filling the mind with categories and meanings, tasdiq becomes a tool of verification, transforming a set of concepts into a system of living, substantiated knowledge.

Thus, logic acts not simply as a formal law, but as a filter that purifies human beliefs from accidental errors. Logic is also a discipline that purifies the mind at the stage of conceptual formation and guarantees the accuracy of conclusions at the stage of judgment.

For al-Farabi, logic also has a political dimension. In his major socio-political work, a utopian one, entitled "Treatise on the Opinions of the Inhabitants of the Virtuous City" [2] the philosopher argues that a ruler must master the highest logic (apodictics) in order to discern the true good. However, to govern the people, he uses rhetoric and poetics, translating complex truths into the language of understandable images and symbols. Thus, logic becomes the "glue" that holds together the ideal society.

Al-Farabi constructs a clear vertical line of truth descending from the philosopher-ruler to the ordinary

citizen. He identifies three levels of "logical influence":

1. **Apodictic (Proof):** this is the level of the elite and the ruler. Here, pure reason and strict syllogisms reign. The ruler perceives the truth "as it is," without embellishment or metaphor.
2. **Rhetoric (Persuasion):** For those not trained in higher logic, the ruler uses probabilistic arguments. This is not a lie, but a simplification of the truth to the level of common sense, so that people can agree with the state's course.
3. **Poetics (Imagination):** the most popular level. Here, truth is clothed in vivid images, myths, and symbols. If a person cannot understand the formula of goodness with reason, they must experience it through "imitation" (mimesis) in art or religion.

For al-Farabi, logic in politics is like medicine. A physician knows anatomy (logic) to treat the body. A ruler knows the "anatomy of knowledge" (tasawwur and tasdiq) to heal the souls of his citizens. Logic allows the ruler to determine which beliefs in the city are "healthy" (leading to happiness) and which are "sick" (leading to discord). Thus, logic becomes an instrument of social hygiene.

5. Conclusion

Thus, al-Farabi's concept of a "universal grammar of thought" is a unique synthesis of ancient rationality and Eastern cultural tradition. By examining the mechanisms of cognition through the prism of the concepts of tasawwur and tasdiq, introduced into science by the thinker, we see not just a dry methodology, but a living system for the development of human intellect.

The following conclusions can be drawn:

Linguistic legitimization: Al-Farabi successfully overcame the narrow confines of the linguistic determinism of his time. By establishing logic as a science transcending ethnic and linguistic boundaries, he created a universal scientific lexicon that allowed Arabic to become the global language of science for many centuries.

The two-tiered structure of cognition: the introduction of the categories of tasawwur (conception) and tasdiq (judgment) allowed the philosopher to create a clear hierarchy of intellectual activity. Logic in this system acts as a "filter," which at the first stage ensures the

precision of definitions (through hadd), and at the second, the reliability of conclusions (through qiyas).

Sociopolitical integration: Al-Farabi's logic is not limited to the scholar's study. In "Treatise on the Opinions of the Inhabitants of the Virtuous City" [2] it becomes the foundation of state governance. The philosopher demonstrated that an ideal society is impossible without a logical ruler capable of transforming abstract truths into ethical guidelines for the people through rhetoric and poetics.

6. Recommendations

For the educational process: integrating al-Farabi's ideas on "tasawwur" into modern critical thinking courses is recommended. Teaching students to clearly grasp the essence of a subject before making a judgment is an effective method for combating cognitive biases and manipulations in an age of information overload.

For interdisciplinary research: a promising direction is exploring the connection between al-Farabi's "universal grammar" and modern cognitive sciences, which explore how language structure influences the formation of conceptual models of the world.

For cultural dialogue: Al-Farabi's work should be viewed as a historical example of a successful intellectual bridge between East and West, which is extremely relevant for the search for common rational foundations in the modern multicultural space.

References

1. Abed S.B. Aristotelian Logic and the Arabic Language in Alfarabi. Albany. 1991. p. 132.
2. Al-Farabi. (1963). Introductory Sections on Logic (D. M. Dunlop, Trans.). The Islamic Quarterly, 8(1/2), 22–35.
3. Al-Farabi. Treatise on the Views of the Inhabitants of the Virtuous City // Philosophical Treatises. - Alma-Ata: Nauka, 1970. pp. 191–377.
4. Black D.L. Logic and Aristotle's Rhetoric and Poetics in Medieval Arabic Philosophy. - Leiden, 1990. p. 115.
5. Kasymzhanov A.Kh. Abu Nasr al-Farabi. - Moscow, 1982. p. 102.
6. Khairullaev M.M. Farabi, the Era and Teaching. - Moscow: Nauka, 1975. 354 p.
7. Sagadeev A.V. Eastern Peripateticism. - Moscow: UDN Publishing House, 1988. p. 64.

8. Walzer R. Al-Farabi on the Perfect State: Abu Nasr al-Farabi's Mabadi' Ara' Ahl al-Madina al-Fadila. - Oxford: Clarendon Press, 1985. pp. 12–15.