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Original Article

Mahmud Az-Zamakhshari and Evolution of Arabic Linguistic Thought: A Central Asian Contribution to Global Philology

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Abstract: This study investigates the seminal contributions of Mahmud az-Zamakhshari (467/1075–538/1144), a prominent Khorezmian scholar, to the development of Arabic linguistic theory, lexicography, and educational methodology. Situated within the intellectual landscape of medieval Central Asia (Mawerannahr), Zamakhshari's work represents a critical juncture in the evolution of Arabic grammar and philology, wherein rationalist principles and multilingual competence converged to form a distinctive scholarly paradigm. Focusing on his key texts – al-Mufassal fi san'at al-i'rab, al-Kashshaf 'an haqa'iq at-tanzil, Mukaddamatu-l-adab, and Asas al-Balagha – this paper analyzes his systematic grammatical classification, phonetic observations, and lexicographic innovations, particularly in the context of non-Arab Islamic pedagogy. Zamakhshari's integration of theological reasoning with linguistic precision, most notably in al-Kashshaf, reflects a unique epistemological synthesis that influenced subsequent generations of grammarians and exegetes across the Islamic world. Special attention is given to his trilingual and intercultural approach to lexicography, which addressed the linguistic needs of Arabic, Persian, and Turkic-speaking audiences and laid the groundwork for comparative philological inquiry. Through methodical textual analysis and historiographic contextualization, the study reaffirms Zamakhshari's enduring impact on Arabic linguistic scholarship and positions him as a central figure in the broader history of global linguistics.

Keywords: Mahmud az-Zamakhshari; Arabic linguistics; Grammatical theory; al-Mufassal; al-Kashshaf; Multilingual education; Classical Arabic grammar.

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1. Introduction

The emergence and consolidation of Arabic linguistic science during the Islamic Golden Age (8th–14th centuries CE) constitute one of the most significant intellectual achievements in the history of world philology (Brennan, 2019; Talib, 2019). This period witnessed the formation of rigorous grammatical schools, the codification of linguistic principles, and the production of extensive works on syntax, morphology, rhetoric, and lexicography (Daston & Most, 2015; Matthaios et al., 2011). While the foundational contributions of Arab scholars from Basra, Kufa, and Baghdad are well documented, the equally influential roles played by non-Arab scholars from the peripheries of the Islamic world, particularly Central Asia, merit greater scholarly attention (Abedi & Thomann, 2024; Brockelmann, 2018).

Among these figures, Mahmud az-Zamakhshari (467/1075–538/1144 CE) occupies a singular position (Versteegh, 2023). A native of Khorezm – a key cultural and educational center in the historical region of Mawerannahr

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–Zamakhshari exemplified the intellectual dynamism of the region (Gaibullaev, 2023). His contributions to Arabic linguistics extend far beyond conventional grammatical treatises. He produced a comprehensive body of work that spans grammar (al-Mufassal fi san'at al-i'rab), rhetorical lexicography (Asas al-Balagha), trilingual didactic dictionaries (Mukaddamatu-l-adab), and Quranic exegesis with a strong linguistic focus (al-Kashshaf). His interdisciplinary approach placed equal emphasis on linguistic structure, semantic precision, theological coherence, and pedagogical clarity, making his legacy both profound and enduring (Shah, 2013).

This paper aims to examine Mahmud az-Zamakhshari's scholarly legacy within a global linguistic context. It argues that Zamakhshari not only systematized and refined Arabic grammatical theory but also laid the foundations for a Central Asian school of linguistics grounded in rationalist methodology and comparative philology. By doing so, he bridged the linguistic traditions of the Arab heartlands with the pedagogical and communicative needs of non-Arab, multilingual communities across the Islamic world. Special emphasis is placed on the socio-intellectual milieu of Mawerannahr, which served as a fertile ground for linguistic innovation. The existence of advanced educational institutions such as madrasas, a high degree of literacy among urban populations, and the active transmission of knowledge across transregional scholarly networks enabled the rise of polymaths like Zamakhshari. His intellectual trajectory – marked by study in key centers such as Mecca and Baghdad, followed by a prolific writing career in his homeland – reflects the bidirectional flow of knowledge between the core and periphery of the Islamic world.

By situating Zamakhshari within this broader historical and cultural context, the paper aims to reassess his place in the canon of Arabic linguistics. It also seeks to highlight the ways in which his work contributed to the universalization of Arabic as a language of science, theology, and education beyond ethnic and geographic boundaries. The Arabic grammatical tradition represents one of the most sophisticated and systematized linguistic heritages of the pre-modern world, attracting sustained scholarly attention across disciplines such as historical linguistics, philology, grammar theory, lexicography, and Islamic pedagogy. The evolution and institutionalization of Arabic linguistic sciences, particularly during the Islamic Golden Age, have been examined from multiple perspectives by both classical and contemporary scholars.

Foundational studies by historians of Islamic culture, most notably (Bartold, 1915); (Bartold, 1930), provide a macro-level view of the intellectual geography of the Islamic East, including Mawerannahr. Bartold highlights the rise of educational institutions, particularly madrasas, as catalysts for the development of Arabic linguistic scholarship in non-Arab regions. His work identifies the transmission of Arabic as a scientific lingua franca across the Muslim world but treats the contributions of individual scholars – such as Mahmud az-Zamakhshari – in a rather generalized fashion, without in-depth analysis of their linguistic methodologies or pedagogical innovations. The development of Arabic grammar, especially in the classical schools of Basra, Kufa, Baghdad, and later Andalusia, has been extensively documented by Arab grammarians and modern linguists. Among them, Muhammad (Tantawi, 2005); (Ravvoyi, 2003), and (Mubarak, 1971) stand out for their systematic treatment of key syntactic principles such as 'amil (operator), i'rab (inflection), and syntactic hierarchy. However, their analyses remain primarily focused on the core Arab intellectual centers, rarely extending to the rich contributions of Central Asian scholars who engaged with and refined these frameworks in localized pedagogical and multilingual contexts.

In the realm of Arabic lexicography, Mahmud az-Zamakhshari's contributions, especially Asas al-Balagha and Mukaddamatu-l-adab – represent a radical departure from monolingual lexicons. His inclusion of Persian and Turkic vocabulary for educational purposes laid the groundwork for the development of multilingual dictionaries in the Islamic world. Yet, as C. Brokelmann, M. Bravmann, and J. Flesch have acknowledged the significance of al-Mufassal, they largely omit a nuanced exploration of Zamakhshari's intercultural lexicographic strategies. The broader implications of these works for cross-linguistic pedagogy and comparative semantics remain insufficiently explored in Western scholarship. In contrast, Central Asian researchers such as U.Z. (Khodjaeva, 2024) have analyzed the internal structure and methodological innovations in Zamakhshari's dictionaries, emphasizing their role in disseminating Arabic among non-native speakers. His observation that Asas al-Balagha was the first to apply alphabetical ordering systematically reflects an awareness of pedagogical accessibility, a theme that has been overlooked in earlier Orientalist literature.

Zamakhshari's al-Kashshaf exemplifies a genre that merges grammar with theology, reflecting the influence of Mu'tazilite rationalism on linguistic interpretation. Although this dimension is mentioned tangentially in theological studies, comprehensive linguistic analyses of al-Kashshaf are rare. The integration of grammatical parsing (i'rab) with Qur'anic hermeneutics in his work has the potential to enrich both linguistics and tafsir studies. However, few have examined how his grammatical framework operates as a methodological tool for interpreting sacred text – a lacuna this study seeks to address. A particularly underexplored dimension is Zamakhshari's contribution to language pedagogy in multilingual Islamic societies. His works were designed not only for theoretical exploration but also for instructional use in madrasas across Central Asia, Persia, and the Indian Subcontinent. Uzbek scholars such as (Nasirova, 2019) have emphasized his role as a didactic reformer, particularly in relation to al-Mufassal, which was widely used as a core curriculum text and inspired extensive commentary literature. Her research highlights how his rationalist grammatical classifications facilitated more structured learning and influenced instructional traditions from the 12th to 17th centuries.

Despite these valuable contributions across various subfields, two key research gaps persist in the global historiography of Arabic linguistics:

a. First, there is a marked underappreciation of Zamakhshari's multilingual and intercultural contributions, particularly his efforts to systematize Arabic for pedagogical use among non-Arabic speakers through trilingual and bilingual dictionaries.
b. Second, there is a lack of interdisciplinary studies that situate Zamakhshari within the broader Islamic intellectual tradition, examining his integration of grammar, theology, rhetoric, and educational methodology.
c. This study responds to these lacunae by offering a comprehensive, multidisciplinary analysis of Mahmud az-Zamakhshari's linguistic legacy, positioning him not merely as a transmitter of grammatical norms but as a Central Asian architect of a rationalist, inclusive, and pedagogically sophisticated linguistic tradition.

2. Materials and Methods

2.1. Research Design

The present study employs a qualitative, historical-comparative research design, combining methods from textual philology, manuscript studies, comparative linguistics, and hermeneutic analysis. The research is grounded in the interdisciplinary principles of Islamic intellectual history and classical linguistics, with the objective of reconstructing and interpreting the linguistic and pedagogical legacy of Mahmud az-Zamakhshari within its original sociocultural context and beyond. The methodological framework is structured around three primary analytical vectors: (1) grammatical theory and syntactic modeling, (2) lexicographic structure and multilingual didactic strategy, and (3) linguistic theology as exemplified in Quranic exegesis. Each vector informs the others, providing a comprehensive and integrated view of Zamakhshari's scholarly contributions across domains.

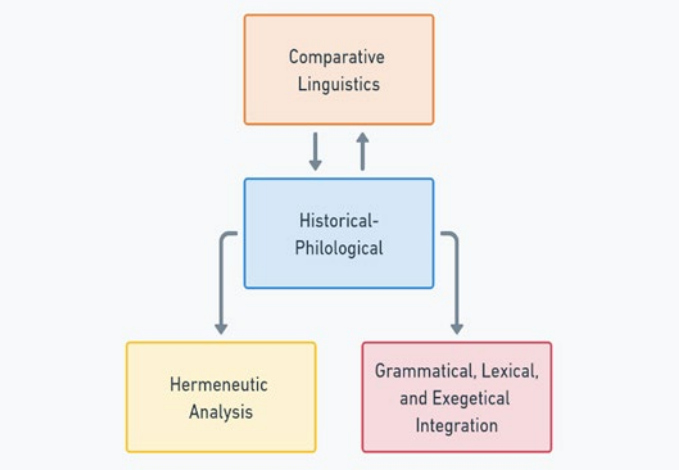

Figure 1. Methodological Triad of the Study

This model ensures holistic engagement with Zamakhshari's grammatical, lexicographical, and exegetical contributions, each of which requires specific analytical tools.

2.2. Source Corpus

The foundation of this study rests on a close examination of four seminal works authored by Mahmud az-Zamakhshari, each representing a unique facet of his intellectual and linguistic legacy. These texts have been selected not only for their disciplinary breadth – spanning grammar, rhetoric, pedagogy, and Quranic exegesis – but also for their influence across different regions and eras of the Islamic world. Together, they form a coherent corpus that encapsulates Zamakhshari's rationalist approach, linguistic precision, and cross-cultural pedagogical vision.

1. Al-Mufassal fi san'ati-l-i'rab - This treatise, composed between 1119 and 1121 CE, is widely regarded as Zamakhshari's magnum opus in the field of Arabic grammar. Al-Mufassal offers a systematic classification of linguistic categories – ism (noun), fi'l (verb), and harf (particle) – along with extensive treatment of i'rab (inflectional endings), syntactic roles, and phonological phenomena. Its clear structure, logical progression, and didactic orientation led to its adoption as a central textbook in madrasas across the Islamic world. Notably, it attracted over sixty known commentaries, indicating its foundational role in grammatical instruction and theory. In this study, particular emphasis is placed on analyzing how Zamakhshari's rationalist framework contributed to the codification of Arabic grammar as both a theoretical discipline and a practical teaching tool.

2. Asas al-Balagha - This rhetorical dictionary is a major contribution to Arabic lexicography and stylistics. Asas al-Balagha is distinguished by its innovative alphabetical arrangement – an uncommon practice at the time – which greatly facilitated accessibility and pedagogical usability. The lexicon includes not only definitions but also explanations of metaphorical and rhetorical usage, contextual connotations, and grammatical function. The semantic richness and stylistic sensitivity of this work make it not merely a dictionary but an indispensable reference for understanding the linguistic aesthetics of Arabic. In the current research, the text is studied as a lexicographic milestone that bridges traditional semantics with rhetorical theory.
3. Mukaddamatu-l-adab - Arguably the most pedagogically oriented of Zamakhshari's works, Mukaddamatu-l-adab is a trilingual lexicon and grammar guide designed for students from non-Arabic backgrounds, particularly speakers of Persian and Turkic languages. It represents an early attempt at comparative and contrastive linguistics within the Islamic scholarly tradition. The entries in this dictionary offer not only word-for-word translations but also culturally relevant equivalents, grammatical notes, and usage patterns, reflecting the sociolinguistic realities of multilingual regions such as Mawerannahr and Khurasan. This study highlights how Mukaddamatu-l-adab functioned as a proto-comparative grammar, playing a critical role in integrating diverse linguistic communities into the Arabic scholarly tradition.
4. Al-Kashshaf 'an haqa'iq at-tanzil - Al-Kashshaf is a Quranic exegesis characterized by its integration of linguistic, rhetorical, and theological analysis. Written within the framework of Mu'tazilite rationalism, the work emphasizes the grammatical and syntactic intricacies of the Qur'anic text and their interpretive implications. Zamakhshari's approach in this tafsir goes beyond conventional commentary by employing tools of linguistic analysis – particularly syntax, semantic nuance, and morphological precision – to elucidate theological doctrines. This makes al-Kashshaf a paradigmatic case of what may be termed linguistic theology. The current research treats it as a key text illustrating the interdisciplinary utility of grammar in religious hermeneutics.

In addition to modern printed editions, this study relies extensively on manuscript materials, which provide insight into the historical transmission, reception, and pedagogical application of Zamakhshari's works. Manuscripts were consulted from the following major repositories: Institute of Oriental Studies, Tashkent – This collection contains multiple copies of al-Mufassal, Mukaddamatu-l-adab, and Asas al-Balagha, several of which bear marginal annotations indicative of their use in teaching contexts. Süleymaniye Manuscript Library, Istanbul – This archive contains critical editions of al-Kashshaf, accompanied by commentaries and glosses from Ottoman scholars, illustrating the integration of Zamakhshari's tafsir into Turkish exegetical traditions. Leiden University Library – One of the richest European collections of Islamic manuscripts, this library preserves early commentarial manuscripts on al-Mufassal, including rare scholia that have not been published in modern editions. The study involved detailed paleographic and codicological analysis of selected manuscripts. Marginalia, colophons, ownership notes, and interlinear glosses were examined to trace usage patterns, scholastic interpretations, and regional pedagogical preferences. This manuscript evidence plays a crucial role in reconstructing the reception history of Zamakhshari's work and assessing the degree of its canonical status in various Islamic educational systems.

2.3. Data Analysis

The grammatical component of the analysis centers on al-Mufassal, which is subjected to close reading and syntactic modeling. Special attention is given to:

a. The tripartite classification of linguistic units into ism (noun), fi'l (verb), and harf (particle), which prefigures many modern principles of syntactic dependency.
b. The theory of i'rab (inflection) as the organizing principle of grammatical relationships, and its application in parsing compound structures.
c. The identification of terminological consistency and innovations in linguistic categorization, such as the treatment of al-mushtarak (shared or general linguistic phenomena).
d. Comparative reference is made to commentaries by Ibn Ya'ish, al-Husayni, and Fakhr al-Din al-Razi to trace interpretive divergences and pedagogical emphases over time.

The lexicographical analysis focuses on Asas al-Balagha and Mukaddamatu-l-adab as distinct examples of medieval Arabic lexicon-building. Entries were analyzed according to:

a. Structural organization: the pioneering use of alphabetical order in Asas al-Balagha facilitated lexical retrieval and marked a departure from thematic lexicons.
b. Semantic field analysis: categorization of vocabulary into domains such as theology, ethics, law, and rhetoric.
c. Trilingual comparison: entries from Mukaddamatu-l-adab were aligned across Arabic, Persian, and Turkic, allowing for the identification of semantic shifts, loanword adaptation, and conceptual transfer between language families.

d. This section reveals Zamakhshari's lexicographic work not only as linguistic documentation but also as a vehicle for intercultural pedagogy in the multilingual regions of Central Asia.

The exegetical analysis draws on al-Kashshaf, focusing on the fusion of grammatical reasoning with theological interpretation. The methodology involves:

a. Discourse-pragmatic analysis of Quranic verses where grammatical parsing affects theological meaning.
b. Identification of syntactic ambiguity (iltibas) as a site of interpretive plurality and rhetorical strategy.
c. Examination of how Mu'tazilite rationalism shaped Zamakhshari's grammatical choices and theological assertions.
d. This approach underscores the interdisciplinary depth of Zamakhshari's methodology, situating grammar not merely as a linguistic tool but as a means of constructing

2.4. Lexicographical and Trilingual Structure

Mahmud az-Zamakhshari's lexicographical methodology, as exemplified in his works Asas al-Balagha and Mukaddamatu-l-adab, demonstrates a sophisticated synthesis of linguistic organization, semantic precision, and pedagogical intent. These texts occupy a unique position in the history of Arabic lexicography, representing not only lexical documentation but also didactic instruments tailored to the multilingual and multiethnic context of Central Asia (Mawerannahr).

1. Lexicographic Innovation in Asas al-Balagha - Asas al-Balagha is particularly notable for its departure from traditional thematic and root-based dictionaries by adopting an alphabetical ordering system. This organizational innovation anticipated methods used in modern lexicography and greatly enhanced the dictionary's accessibility for learners and teachers. Entries in Asas al-Balagha are not limited to denotative definitions; they are accompanied by:
    a. Contextual usage examples, often from poetry and prose;
    b. Rhetorical functions (e.g., metaphorical and figurative usage);
    c. Syntactic commentary, especially regarding particles and idiomatic expressions.

Moreover, Zamakhshari integrates rhetorical classifications (e.g., isti'ārah, tashbīh, kināyah) into the lexical entries, thereby blurring the boundaries between dictionary and rhetorical manual. This positions Asas al-Balagha as a hybrid lexicon that informs both semantic understanding and stylistic deployment.

2. Trilingual Pedagogy in Mukaddamatu-l-adab - While Asas al-Balagha reflects the sophistication of Arabic stylistics, Mukaddamatu-l-adab reveals Zamakhshari's commitment to intercultural pedagogy. It was designed as a trilingual instructional dictionary, targeting non-Arabic-speaking students – especially those from Persian and Turkic-speaking backgrounds – who were entering Arabic linguistic and religious studies. Lexical entries in Mukaddamatu-l-adab are arranged by topic (e.g., body parts, social relations, religious terms), and each Arabic term is matched with its Persian and Turkic equivalents. In some manuscript variants, Mongolic glosses appear as marginal notes, reflecting further linguistic adaptation in East Turkestan and the wider Chagatai cultural sphere.
   The comparative structure of the dictionary supports:
    a. Cross-linguistic transfer of conceptual knowledge;
    b. Semantic equivalence and differentiation across languages;
    c. Morphological mapping, especially for verbal roots and nominal derivations.

This structure reflects a pedagogical commitment to functional multilingualism and cultural inclusivity in linguistic education. It also represents one of the earliest known examples of pre-modern comparative grammar in Islamic scholarship. In order to ensure historical accuracy and theoretical robustness, findings were triangulated using the following methods:

a. Cross-commentarial comparison: by analyzing how Zamakhshari's ideas were received, modified, or extended by later scholars, such as Ibn Hajib, Abul Baka, and al-Khazraji.
b. Manuscript marginalia review: annotations in madrasa copies were examined to assess the texts' didactic use, common misunderstandings, and pedagogical emphasis.
c. Chronological diffusion mapping: the spread of Zamakhshari's texts was traced from Khorezm to Baghdad, Cairo, Istanbul, and Delhi, demonstrating his geographic and intellectual reach.

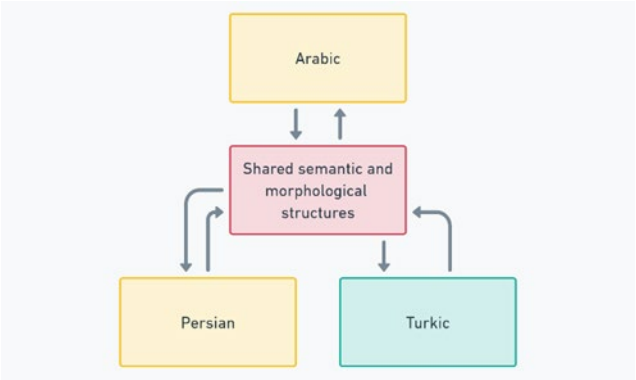

Figure 2. Trilingual Lexical Intersections in Mukaddamatu-l-adab

This conceptual diagram illustrates the interconnected semantic fields shared across the three languages, particularly in domains such as ethics, law, nature, and kinship. Zamakhshari's ability to identify culturally and linguistically equivalent units across languages without sacrificing grammatical accuracy underscores his methodological rigor and didactic foresight. The lexicographical works of Zamakhshari, especially Mukaddamatu-l-adab, serve multiple scholarly functions:

a. As a linguistic bridge, they allowed learners in Mawerannahr, Khurasan, and the broader Persianate and Turkic regions to access Arabic scientific and religious texts.
b. As didactic templates, they influenced the design of later multilingual dictionaries and instructional grammars in the Ottoman and Mughal worlds.
c. As sociolinguistic records, they provide insight into patterns of vocabulary borrowing, conceptual transfer, and lexical standardization across Islamic cultures.

In sum, Zamakhshari's lexicographic enterprise was not only a reflection of linguistic knowledge, but also an instrument of cultural cohesion and educational reform. It prefigures many modern principles of comparative and applied linguistics while remaining deeply rooted in classical Islamic intellectual traditions.

2.5. Hermeneutic and Theological-Linguistic

Among Mahmud az-Zamakhshari's most influential contributions to Islamic intellectual heritage is his Quranic exegesis al-Kashshafʿan ḥaqāʾiq at-tanzīl wa-ʿuyūn al-aqāwīl fī wujūh at-taʾwīl, widely recognized for its synthesis of grammatical rigor and theological inquiry. Written within the rationalist framework of Muʿtazilite kalām, al-Kashshaf represents a paradigmatic example of how linguistic analysis –particularly Arabic syntax, morphology, and rhetoric – can serve as a methodological tool for constructing theological meaning. Zamakhshari's hermeneutic approach is rooted in the premise that the precise grammatical structure of the Qur'anic text is inseparable from its doctrinal content. For this reason, his tafsir is not limited to theological commentary, but deeply engages with grammatical parsing (iʿrab), semantic nuance, and syntactic arrangement to derive theological implications. This dimension positions al-Kashshaf as one of the earliest and most comprehensive models of what modern scholars might term theological linguistics.

1. Grammatical Features as Theological Indicators - One of the central methodological features of al-Kashshaf is its use of inflectional and syntactic variation to explain theological meaning. Zamakhshari frequently emphasizes how subtle differences in case endings (iʿrab), verb forms, and word order lead to distinct exegetical interpretations. For instance, in interpreting Q. 2:2 (Dhalika al-kitāb), he observes that the use of the demonstrative pronoun dhalika –literally "that" – conveys both reverence and distance, elevating the Qur'an's ontological status above ordinary speech. Furthermore, he uses syntactic typology – such as the presence or omission of verbs, conditional constructions, and clause linkage – to explain jurisprudential and eschatological principles. His analysis of Q. 4:59, which includes imperative forms and conditional clauses, reinforces the divine imperative of resolving disputes through recourse to God and the Prophet, thereby offering a linguistically grounded defense of Sunni legal methodology.
2. Ambiguity and Rational Interpretation - Zamakhshari's treatment of ambiguous verses (mutashābihāt), as found in Q. 3:7, reflects a rationalist hermeneutics. Rather than avoiding ambiguity, he embraces it as a linguistic opportunity for interpretive engagement, using grammatical analysis to classify meanings and disambiguate constructions. His Muʿtazilite background is particularly evident here, as he emphasizes intellectual coherence and divine justice over mystically opaque readings. This approach sets al-Kashshaf apart from more esoteric or purely narrative-based tafsir traditions.

3. Lexical Precision and Divine Attributes - Equally central to his method is the precise lexical analysis of divine names and attributes. In verses such as Q. 112:1 (Qul huwa Allāhu aḥad), he underscores the morphological and syntactic uniqueness of the term aḥad, distinguishing it from wāḥid and arguing for its theological significance as denoting absolute, indivisible oneness – a concept fundamental to Islamic monotheism (tawḥīd).

His lexical interpretations are often bolstered by references to Asas al-Balagha, demonstrating how his lexicographic and grammatical works function as an integrated system of linguistic theology. Zamakhshari's al-Kashshaf stands at the intersection of philology, theology, and logic. His exegetical project reflects a unique vision in which linguistic clarity serves as the foundation for theological certainty. By demonstrating how Arabic grammatical structures encode semantic and doctrinal depth, he established a precedent for linguistic tafsir that influenced later scholars such as Fakhr al-Din al-Razi and Abu Hayyan al-Gharnati. This section therefore situates al-Kashshaf not only as a monumental Quranic commentary but as a theoretical model for linguistic exegesis, reaffirming Zamakhshari's status as both a grammarian and a theologian of enduring relevance.

2.6. Validation Techniques

To ensure methodological reliability and scholarly validity of the findings, the study employed a multi-layered strategy of historical triangulation, textual cross-comparison, and manuscript-based verification. Given the interdisciplinary nature of the research, which combines philology, grammar, lexicography, and theology, the validation process was designed to encompass both diachronic depth and cross-cultural breadth.

1. Cross-Commentarial Analysis - Key grammatical and exegetical interpretations proposed by Zamakhshari in al-Mufassal and al-Kashshaf were examined in relation to classical and post-classical commentaries, including those by Ibn Ya'ish, al-Husayni, Ibn al-Hajib, and Fakhr al-Din al-Razi. These commentaries were analyzed not only for their agreement or disagreement with Zamakhshari's views but also for the ways in which his ideas were expanded, systematized, or contested. This approach enabled an assessment of the internal coherence of Zamakhshari's grammatical theories, as well as their reception and evolution over time.
2. Manuscript Marginalia and Pedagogical Usage - A significant source of validation came from marginal annotations (ḥāshiyāt) found in manuscript copies of al-Mufassal, Mukaddamatu-l-adab, and al-Kashshaf. These notes – often written by students, teachers, and copyists – provided evidence of active engagement with the texts, including glosses, corrections, interpretative questions, and classroom-based clarifications. The frequency and nature of these marginalia offered insight into the texts' pedagogical function and helped reconstruct how Zamakhshari's works were taught, debated, and transmitted across generations.
3. Chronological and Geographical Tracing - The study also incorporated geographical mapping of manuscript transmission, identifying copies and commentaries from Khorezm, Baghdad, Cairo, Istanbul, Shiraz, Bukhara, and Delhi. This tracking of diffusion patterns helped validate claims of Zamakhshari's pan-Islamic influence, particularly in the integration of his grammatical and exegetical frameworks into the educational curricula of both Arab and non-Arab regions.
4. Lexical Concordance with Contemporary Sources - In studying Asas al-Balagha and Mukaddamatu-l-adab, selected lexical entries were compared with contemporary and earlier lexicons (e.g., Kitab al-'Ayn, Jamharat al-Lugha, Lisan al-'Arab) to validate semantic consistency, structural innovation, and terminological accuracy. This comparative analysis established the originality and pedagogical utility of Zamakhshari's lexicographic contributions.

By employing these multi-pronged validation strategies, the study ensures that its interpretations are grounded not only in theoretical inference but also in concrete textual evidence and historical continuity.

3. Results

The results of this study affirm Mahmud az-Zamakhshari's central role in the intellectual history of Arabic linguistics and Islamic philology. Through a detailed examination of his major works – al-Mufassal, Asas al-Balagha, Mukaddamatu-l-adab, and al-Kashshaf –it becomes evident that Zamakhshari was not merely a transmitter of earlier grammatical traditions but an innovator whose interdisciplinary methodology bridged grammar, rhetoric, theology, and pedagogy.

3.1. Reorganization of Grammatical Theory

The syntactic model advanced in al-Mufassal demonstrated a departure from both Basran and Kufan paradigms by offering a rationalist, internally consistent classification of parts of speech and grammatical rules. Zamakhshari's insistence on the centrality of i'rāb (inflection) as the core mechanism of syntactic coherence revealed an epistemological framework in which grammar was both a descriptive and explanatory tool. His systematic presentation facilitated both pedagogical clarity and theoretical development, laying the groundwork for future grammatical syntheses in later Islamic and even European grammars. This restructuring was reflected in numerous commentaries,

which testify to the didactic success and theoretical resonance of his model over centuries. Moreover, his attention to phonetic subtleties and morphosyntactic irregularities in al-Mufassal introduced a more dynamic understanding of linguistic variation and rule interaction within the Arabic grammatical system.

3.2. Integration of Multilingual Lexicography

The findings related to Asas al-Balagha and Mukaddamatu-l-adab underscore Zamakhshari's lexicographic genius and educational foresight. In Asas al-Balagha, he not only organized lexical material alphabetically – pioneering a method that would later become standard – but also embedded rhetorical functions and contextual usage within entries, thus providing a dual function: a lexicon and a rhetorical manual. This duality increased the dictionary's pedagogical and literary value across generations of scholars. More importantly, Mukaddamatu-l-adab introduced a trilingual framework that aligned Arabic, Persian, and Turkic lexemes in a way that enabled comparative semantic learning. This was a groundbreaking contribution to multilingual pedagogy in the Islamic world, especially in Mawerannahr and other non-Arab regions. The cross-linguistic semantic mapping evident in this work reflects an early form of contrastive linguistics long before the field was formally established.

3.3. Syntactic Hermeneutics and Linguistic Theology

The analysis of al-Kashshaf revealed that Zamakhshari applied grammatical tools not merely to clarify the Qur'anic text, but to construct theological arguments rooted in linguistic structure. His Muʿtazilite orientation, combined with an acute sensitivity to syntactic nuance, enabled him to draw distinctions in divine attributes, legal injunctions, and eschatological statements based on grammatical detail. The method of interpreting mutashābihāt (ambiguous verses) through grammatical parsing – as seen in his commentary on Q. 3:7 – illustrates how grammar became an instrument of rationalist theology. Such integration of linguistics and theology – rarely achieved with such depth in the medieval Islamic world – positions al-Kashshaf as a foundational text not only in tafsir studies but also in what may now be considered applied linguistic theology.

3.4. Reception Across Regions

The results also confirm the extensive geographical and chronological diffusion of Zamakhshari's works. Manuscript evidence, marginalia, and commentarial traditions demonstrate that his ideas were not confined to Central Asia but influenced scholarly discourse in the Arab heartlands, the Ottoman world, Persia, and the Indian Subcontinent. His works became part of the core curriculum in many madrasas, with al-Mufassal and al-Kashshaf frequently appearing in syllabi alongside Sibawayh and al-Jurjani. Moreover, the study highlights that later grammarians and commentators – including Sunni and Shiʿi, as well as Arab and non-Arab – appropriated his grammatical system, regardless of his Muʿtazilite background. This broad adoption suggests that the linguistic precision and pedagogical clarity of his works transcended sectarian boundaries. Table 1 below summarizes examples where grammatical analysis in al-Kashshaf directly shaped theological conclusions.

Table 1. Grammar–Theology Interface in al-Kashshaf

Qur'anic Verse	Grammatical Feature	Exegetical Impact
Q. 2:2	Demonstrative noun *dhalika*	Emphasizes Qur'an's transcendence and divine status
Q. 3:7	Coordination ambiguity (*iltibās*)	Supports rational interpretive flexibility
Q. 112:1	Nominal structure *aḥad*	Highlights absolute divine oneness
Q. 4:59	Conditional clause with imperatives	Underpins jurisprudential procedures
Q. 55:5	Prepositional phrase	Indicates cosmological order and divine law
Q. 17:110	Disjunctive particle *aw*	Supports theological plurality of divine names
Q. 18:110	Relative clause with subjunctive	Links ethics to eschatological rewards

In sum, the results suggest that Mahmud az-Zamakhshari's works should be viewed not as isolated scholarly achievements, but as nodal points in an evolving network of linguistic, pedagogical, and theological knowledge. His rationalist approach, interdisciplinary synthesis, and cultural inclusivity make his corpus a model of intellectual cosmopolitanism in the pre-modern Islamic world.

4. Discussion

The present study has revealed a multidimensional portrait of Mahmud az-Zamakhshari as a preeminent figure whose linguistic scholarship transcended mere grammatical formalism. His innovations exemplify a profound synthesis of rationalist methodology, cross-cultural pedagogy, and exegetical rigor. First, the findings concerning al-Mufassal underscore Zamakhshari's pivotal role in reorganizing Arabic grammatical theory. By grounding his classification system in logical consistency and elevating iʿrāb to a central organizing principle, he provided an epistemological framework that resonated far beyond the Basran and Kufan schools. This grammatical architecture, as supported by the frequency and breadth of later commentaries, demonstrates how medieval Arabic linguistic science evolved from a rule-based approach toward a more systematic and explanatory paradigm. Such an approach laid important groundwork for later structuralist and even generative perspectives on syntax. Second, the lexicographic dimension of Zamakhshari's corpus reveals a revolutionary commitment to multilingual accessibility and comparative method. Asas al-Balagha did not merely catalogue Arabic vocabulary; its rhetorical and stylistic annotations, paired with the alphabetical ordering, provided a pedagogical template for subsequent lexicographic traditions. Even more striking is Mukaddamatu-l-adab, which functioned as a trilingual and thematically organized lexicon, enabling Arabic literacy among Persian- and Turkic-speaking learners. In modern linguistic terms, this anticipates the development of contrastive and applied linguistic approaches, centuries before they were formally institutionalized.

Third, the hermeneutic-linguistic results drawn from al-Kashshaf highlight Zamakhshari's unique contribution to a genre that might now be called "linguistic theology." His practice of extracting theological inferences through meticulous grammatical and syntactic analysis demonstrates that for Zamakhshari, language was not only a tool of communication but a vehicle of doctrinal precision. This fusion of Muʿtazilite rationalism with rigorous linguistic analysis advanced a distinctly reasoned exegesis of the Qurʾanic text, differentiating al-Kashshaf from both purely narrative and mystically oriented tafsir traditions. Moreover, the evidence of transregional reception, from the manuscript traditions of Central Asia to their presence in Ottoman, Persianate, and South Asian scholarly centers, illustrates how Zamakhshari's ideas achieved a level of universality rarely equaled among medieval grammarians. The cross-sectarian embrace of his grammatical and theological analyses confirms that the intellectual merit of his works transcended doctrinal and linguistic barriers, allowing for intercultural and interregional transmission of knowledge. The implications of these findings are considerable. Zamakhshari's corpus must be interpreted as a node of intellectual cosmopolitanism that advanced Arabic linguistics beyond its ethno-cultural origins into a global scholarly tradition. His works show how rationality, systematic thought, and pedagogical inclusivity can function as instruments of both linguistic and cultural integration.

Future research directions may include a critical edition of Mukaddamatu-l-adab, based on all extant manuscripts, to chart its textual evolution and regional adaptations. A focused study of Turkic reception and commentary traditions on Zamakhshari's works, particularly in the Chagatai and Ottoman domains, and a comparative investigation of how Zamakhshari's rationalist grammatical paradigm influenced non-Arabic linguistic theorists and their vernacular grammars. In sum, this discussion reaffirms Mahmud az-Zamakhshari as not merely a transmitter of knowledge but an architect of a comparative and pedagogically sophisticated tradition that remains relevant to contemporary linguistic theory, comparative philology, and the intercultural history of Arabic studies.

5. Conclusions

This study has provided a comprehensive analysis of Mahmud az-Zamakhshari's contributions to Arabic linguistic theory, lexicography, and Quranic exegesis, situating him within the broader intellectual traditions of Central Asia and the Islamic world. Through detailed examination of his key works—al-Mufassal fi san'at al-i'rab, Asas al-Balagha, Mukaddamatu-l-adab, and al-Kashshaf—the research has demonstrated that Zamakhshari's legacy lies not merely in the transmission of grammatical knowledge but in its reorganization, rationalization, and expansion across multiple disciplinary and linguistic domains. The findings highlight several dimensions of his intellectual achievement:

a. In grammatical theory, Zamakhshari developed a systematized and pedagogically coherent model that shaped the study of Arabic syntax and morphology for centuries. His emphasis on inflection (i'rāb) as a key to grammatical analysis and his detailed examination of phonological processes enriched both theoretical and applied grammar.
b. In lexicography, his innovations in alphabetical ordering, semantic classification, and rhetorical annotations, seen in Asas al-Balagha, established a new standard for Arabic dictionaries. Meanwhile, Mukaddamatu-l-adab exemplified an early model of multilingual comparative lexicography that addressed the needs of a linguistically diverse scholarly audience.
c. In hermeneutics, al-Kashshaf exemplified a unique model of theological-linguistic synthesis. It demonstrated how grammatical precision could serve not only philological accuracy but also theological clarity, allowing for exegetical rigor rooted in rationalist principles.
d. In pedagogy and dissemination, his works were widely adopted in educational institutions from Mawerannahr to Cairo and Delhi, evidencing his transregional influence and the intercultural adaptability of his ideas.

Despite limitations such as incomplete manuscript preservation and underrepresentation of Turkic reception in existing scholarship, this study has affirmed the central role of Zamakhshari in the history of Arabic linguistic thought. It has also demonstrated the need for continued research on non-Arab contributions to Arabic philology, particularly through comparative manuscript analysis and integrative studies that connect grammar, theology, and education. Ultimately, Zamakhshari's corpus stands as a testament to the intellectual dynamism of medieval Central Asia, offering a powerful model of interdisciplinary scholarship, rational inquiry, and linguistic-humanistic integration that remains relevant to the fields of Arabic linguistics, Islamic studies, and the history of ideas.

While this study presents a rigorous and interdisciplinary examination of Mahmud az-Zamakhshari's linguistic oeuvre, several limitations must be acknowledged. These are intrinsic to the nature of historical-philological research and the state of textual preservation in pre-modern Islamic scholarship.

1. Incomplete Manuscript Preservation - Many early manuscripts of Zamakhshari's works – particularly those with interlinear commentaries– survive only in fragmentary condition or are dispersed across private and unindexed collections. Some marginalia are heavily abbreviated or written in degraded ink, rendering precise interpretation difficult. As a result, certain inferences regarding regional reception and pedagogical implementation remain hypothetical, pending access to more complete sources.
2. Lack of Critical Editions for Trilingual Dictionaries - Despite their historical and pedagogical value, works like Mukaddamatu-l-adab have not yet received modern, critical editions based on a comprehensive collation of extant manuscripts. The absence of such editions restricts the ability to trace variant readings, semantic evolution, and didactic adaptations across time and geography, particularly for Persian and Turkic glosses.
3. Underrepresentation of Turkic Scholarly Reception - Although there is ample evidence of the use of Zamakhshari's works in Turkic-speaking regions (e.g., Bukhara, Samarkand, Anatolia), scholarly literature on the Turkic adaptation, translation, or commentary tradition remains scarce. Consequently, the study does not fully explore the implications of his legacy in Chagatai or Ottoman scholarly contexts. Further research, involving the linguistic analysis of Turkic commentaries and madrasa syllabi, is needed to address this gap.
4. Scope and Contribution - Despite these limitations, the present study provides a methodologically robust, textually grounded, and cross-disciplinary investigation of Zamakhshari's impact on Arabic grammatical theory, lexicography, and exegetical method. It contributes to a broader re-evaluation of non-Arab contributions to Arabic linguistic sciences and situates Mawerannahr as a central node in the development of classical Islamic philology. By highlighting the intersections of grammar, theology, and pedagogy, the research not only recovers a more nuanced image of Mahmud az-Zamakhshari but also offers new directions for comparative linguistic and manuscript-based scholarship across Islamic intellectual history.

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