Vol. 3 No. 3 Edisi Mei - Juli 2026 E. ISSN. 3032-2472
Multidisciplinary Indonesian Center Journal (MICJO)
Journal page is available to
https://e-jurnal.jurnalcenter.com/index.php/micjo
Email: admin@jurnalcenter.com

THE EPISTEMOLOGY OF SHARAF SCIENCE: A HISTORICAL OVERVIEW AND ITS CONTRIBUTION TO ARABIC LINGUISTICS

EPISTEMOLOGI ILMU SHARAF: TINJAUAN SEJARAH DAN KONTRIBUSINYA TERHADAP LINGUISTIK ARAB

Muhammad Jamil[1], Ahmad Sirfi Fatoni[2]*
[1]Universitas Sumatera Utara, Email : muhammadjamil@usu.ac.id
[2*]Universitas Negeri Makassar, Email : ahmad.sirfi.fatoni@unm.ac.id

*email koresponden: ahmad.sirfi.fatoni@unm.ac.id

DOI: https://doi.org/10.62567/micjo.v3i3.2528

Abstract

Arabic morphology constitutes a fundamental branch of classical Arabic linguistics, focusing on morphological word transformation (tashrif) and derivational morphology. Despite more than a millennium of development, epistemological inquiry into ilmu sharaf — concerning its sources of knowledge, methods of rule formation, and scientific validity — remains considerably limited in contemporary academic literature, with existing studies tending toward normative and pedagogical orientations that neglect its fundamental philosophical dimensions. This article aims to examine the epistemology of ilmu sharaf from the philosophy of science perspective, tracing its historical genealogy from the early Islamic codification period through to modern Arabic linguistics, and analyzing its contributions to contemporary Arabic morphology. The research employed a qualitative library research method with historical, epistemological, and comparative-linguistic approaches, utilizing critical analysis of relevant primary and secondary sources. The findings reveal that ilmu sharaf possesses a robust epistemological foundation derived from the Qur'an, hadith, classical Arabic fushah poetry, and qiyas (analogical reasoning), and was developed through the methods of sima' (documentation), istinbath (inference), and ta'lil (rational justification) by linguists of the Bashrahn and Kufahn schools. Ontologically, its subject matter is morphological word transformation that produces semantic change; axiologically, it functions to preserve Arabic linguistic purity and facilitate Qur'anic comprehension. The contributions of ilmu sharaf to modern Arabic linguistics are demonstrably significant, particularly in the development of root-and-pattern morphology theory, derivational semantics, and Arabic natural language processing (NLP). These findings indicate that the classical sharaf tradition is not merely historically relevant but also carries important methodological implications for contemporary Arabic computational linguistics.

Keywords : Epistemology, Ilmu Sharaf, Arabic Linguistics, Arabic Morphology, Root-Pattern Morphology.

Abstrak

Morfologi Arab merupakan cabang fundamental linguistik Arab klasik, yang berfokus pada transformasi kata morfologis (tashrif) dan morfologi derivasional. Meskipun telah berkembang selama lebih dari satu milenium, penyelidikan epistemologis terhadap ilmu sharaf—mengenai sumber pengetahuannya, metode pembentukan aturan, dan validitas ilmiahnya—masih sangat terbatas dalam literatur akademis kontemporer, dengan studi yang ada cenderung berorientasi pada norma dan pedagogis yang mengabaikan dimensi filosofis fundamentalnya. Artikel ini bertujuan untuk mengkaji epistemologi ilmu sharaf dari perspektif filsafat ilmu, menelusuri silsilah historisnya dari periode

Multidisciplinary Indonesian Center Journal (MICJO)
Journal page is available to
https://e-jurnal.jurnalcenter.com/index.php/micjo
Email: admin@jurnalcenter.com

kodifikasi Islam awal hingga linguistik Arab modern, dan menganalisis kontribusinya terhadap morfologi Arab kontemporer. Penelitian ini menggunakan metode riset pustaka kualitatif dengan pendekatan historis, epistemologis, dan linguistik komparatif, serta memanfaatkan analisis kritis terhadap sumber primer dan sekunder yang relevan. Temuan ini mengungkapkan bahwa ilmu sharaf memiliki landasan epistemologis yang kuat yang berasal dari Al-Qur'an, hadits, puisi fushah Arab klasik, dan qiyas (penalaran analogis), dan dikembangkan melalui metode sima' (dokumentasi), istinbath (inferensi), dan ta'lil (pembenaran rasional) oleh para ahli bahasa dari mazhab Bashrahn dan Kufahn. Secara ontologis, pokok bahasannya adalah transformasi kata morfologis yang menghasilkan perubahan semantik; secara aksiologis, ia berfungsi untuk melestarikan kemurnian linguistik Arab dan memfasilitasi pemahaman Al-Qur'an. Kontribusi ilmu sharaf terhadap linguistik Arab modern terbukti signifikan, khususnya dalam pengembangan teori morfologi akar dan pola, semantik derivasional, dan pemrosesan bahasa alami (NLP) Arab. Temuan ini menunjukkan bahwa tradisi sharaf klasik tidak hanya relevan secara historis tetapi juga membawa implikasi metodologis penting bagi linguistik komputasional Arab kontemporer.

Kata Kunci : Epistemologi, Ilmu Sharaf, Linguistik Arab, Morfologi Arab, Morfologi Pola Akar.

1. INTRODUCTION

A. The Background to the Existence of Morphology

The Arabic language occupies a unique and strategic position within Islamic civilisation. It is not merely a medium of everyday communication, but also the language of revelation, the language of law, and the language of scholarship that has shaped Islamic intellectual civilisation for over fourteen centuries. The Qur'an, as the foundational text of Islam, was revealed in Arabic; consequently, a deep understanding of the structure of this language is an epistemological prerequisite for any endeavour in the interpretation and development of Islamic sciences (Versteegh, 2014). A consequence of the central position of the Arabic language is the development of a very rich Arabic linguistic tradition, encompassing various interrelated linguistic disciplines.

Among these Arabic linguistic disciplines, the science of sharaf (Arabic morphology) occupies a very fundamental position. The science of sharaf — which literally means the science of change (tashrif) — examines the morphological transformations of Arabic words: how a root word (jadzr) develops into various derivative forms carrying different meanings, ranging from verbs (fi'il), nouns (isim), and adjectives (shifah), to their complex derivatives. Scholars of the Arabic language regard the science of morphology as 'umm al-'ulum' (the mother of sciences), a position that reflects just how fundamental the role of this discipline is within the entire structure of Arabic linguistics (Ibn Jinni, 1952; Al-Suyuti, 2006).

The function of the science of morphology is not limited to the purely technical linguistic dimension. It has direct implications for the interpretation of the Qur'an (tafsir), the understanding of hadith, the analysis of Islamic law (fiqh), and the interpretation of classical Arabic literary texts. A change in the wazan (morphological pattern) of a word can dramatically alter its meaning, so that an error in understanding a word's morphology can lead to a fatal misinterpretation. In the tradition of usul al-fiqh, the distinction between the active (isim fa'il) and passive (isim maf'ul) forms in a Qur'anic verse has often been the starting point for significant differences of legal opinion (Al-Zarkasyi, 2006; Al-Razi, 1992).

Developments in contemporary Arabic linguistic studies have opened up new horizons in understanding this language system. Modern approaches from structural, generative, cognitive, and computational linguistics have been applied to analyse phenomena in the Arabic language, including its complex morphology. In this context, classical sharaf faces a serious intellectual challenge: are the rules established by classical Arabic linguists over the centuries still relevant and capable of engaging with modern linguistic theories? This question is not merely academic, but has practical implications

Multidisciplinary Indonesian Center Journal (MICJO)
Journal page is available to
https://e-jurnal.jurnalcenter.com/index.php/micjo
Email: admin@jurnalcenter.com

for the teaching of Arabic, the development of Arabic language technology, and the preservation of Islamic scholarly traditions.

B. Academic Issues

The study of morphology within the academic tradition—both in Indonesian Islamic universities and in the Arab world—has hitherto been dominated by normative and pedagogical approaches. This means that morphology is studied primarily as a set of rules to be memorised and applied, rather than as a system of knowledge possessing its own epistemological foundation worthy of critical and philosophical examination. Sharaf textbooks, ranging from basic level (Amtsilat al-Tashrifiyyah) to advanced level (Tashrif al-'Izzi, Syafiyah Ibn al-Hajib), generally present the rules deductively without explaining the epistemological basis underlying the formulation of these rules (Anwar, 2009; Ni'mah, 2007).

A more fundamental academic problem lies in the scarcity of studies that ask: where do these rules of morphology originate? Through what methodological procedures were these rules formulated? To what extent is the scientific validity of morphology as a system of knowledge epistemologically justifiable? These questions constitute fundamental questions of the philosophy of science, yet they are almost never raised systematically in either Indonesian or Arabic academic literature on the science of sharaf. Consequently, there is a significant gap between the intellectually rich classical sharaf tradition and modern academic demands for critical epistemological reflection.

C. Research Gap and Novelty of Research

A review of the existing academic literature indicates that research on the science of morphology generally focuses on three areas: (1) the description and analysis of the rules of morphology themselves; (2) pedagogical studies on the teaching of morphology; and (3) morphological analysis of specific Arabic texts using the framework of classical morphology. Works such as Al-Sharf al-'Arabi by Fakhr al-Din Qabawah (1988), Arabic Morphology and Phonology by Haywood and Nahmad (1962), and various articles in the Journal of Arabic Linguistics largely focus on the description of the Arabic morphological system or its pedagogical applications.

The studies that specifically examine the epistemological dimensions of the science of sharaf — that is, questioning the sources of knowledge, the methods of rule formation, and its scientific validity from the perspective of the philosophy of science — remain very rare. Sibawayhi's work in Al-Kitab touches upon methodology, but not within an explicit epistemological framework. Versteegh's (2014) *The Arabic Language* and Carter's (2016) *Sibawayhi* touch upon historical and methodological aspects, but do not develop a comprehensive epistemological analysis. In Indonesia, epistemological studies of the Arabic language generally focus on *nahwu*, whilst *sharaf* has yet to receive adequate epistemological attention.

The novelty of this article lies in its attempt to bridge this academic gap through four distinctive contributions: first, explicitly examining the science of sharaf from an epistemological perspective within the tradition of the philosophy of science, encompassing its ontological, epistemological and axiological dimensions; second, integrating historical-genealogical study with systematic philosophical analysis; third, building a conceptual bridge between the classical sharaf tradition and modern morphological theory, particularly root-pattern morphology; and fourth, identifying the relevance and contribution of the science of sharaf to contemporary Arabic linguistics, including Arabic natural language processing (NLP).

D. Research Questions and Research Objectives

Based on the above discussion, this article is designed to address three key research questions: (1) What is the historical genealogy and development of the science of sharaf from the early period of codification to the modern era? (2) What is the epistemology of the science of sharaf from the perspective of the philosophy of science, covering sources of knowledge, methods of rule formation, and its scientific validity? (3) What is the contribution of the science of sharaf to the development of Arabic linguistics, both within the classical tradition and in the context of modern and computational linguistics?

Multidisciplinary Indonesian Center Journal (MICJO)
Journal page is available to
https://e-jurnal.jurnalcenter.com/index.php/micjo
Email: admin@jurnalcenter.com

In line with these research questions, the objectives of this study are: (1) to trace and analyse the historical development of the science of sharaf chronologically and critically; (2) to examine the epistemology of the science of sharaf within the framework of the philosophy of science, including its ontological, epistemological, and axiological aspects; (3) to explain and analyse the contributions of the science of sharaf to Arabic linguistics across its various dimensions; and (4) to demonstrate the relevance of the science of sharaf to contemporary linguistic studies, including computational and digital linguistics.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

A. Epistemology: Concepts and Dimensions

Epistemology — from the Greek episteme (knowledge) and logos (science) — is a branch of philosophy that examines the nature, sources, scope and validity of human knowledge. By definition, The Liang Gie (1999) states that epistemology is the branch of philosophy that discusses the origin of knowledge, the sources of knowledge, the limits, nature, methods, and validity of knowledge. Jujun S. Suriasumantri (2005) further explains that epistemology encompasses fundamental questions regarding what constitutes knowledge, how it is acquired, and to what extent such knowledge can be trusted.

Within the Western philosophical tradition, epistemology has developed through two main opposing currents: rationalism and empiricism. Descartes, as a representative of rationalism, argued that valid knowledge stems from reason (ratio) operating deductively, independent of sensory experience which is prone to error. Conversely, Locke, Hume, and Berkeley, as representatives of empiricism, asserted that all human knowledge ultimately derives from sensory experience. Kant subsequently sought to synthesise these two currents by distinguishing between a priori knowledge (which precedes experience) and a posteriori knowledge (which depends on experience), as well as between the form contributed by reason and the matter contributed by the senses (Hamlyn, 1967).

In the tradition of Islamic philosophy, epistemology takes on a distinct character and is richer in its sources. Al-Farabi (870–950 CE) established a hierarchy of knowledge that places the active intellect (al-'aql al-fa'al) as the highest source of illumination for the human mind. Al-Ghazali (1058–1111 CE), in *Ihya' 'Ulum al-Din* and *Mi'yar al-'Ilm*, more comprehensively classified the sources of knowledge as including: the five senses (hawas), reason (aql), intuition (ilham), and revelation (wahy). Al-Ghazali explicitly rejected reliance on reason alone, and asserted that revelation, as the highest source of knowledge, cannot be contradicted by sound reason, even though it transcends its scope (Al-Ghazali, 1998). Ibn Khaldun (1332–1406 CE) in his Muqaddimah developed a concept of social epistemology that places historical experience and social observation as the basis of valid empirical knowledge (Ibn Khaldun, 2001).

The validity of knowledge in Islamic epistemology is determined by three fundamental criteria: correspondence with reality (al-muthabaqah ma'a al-waqi'), internal consistency (al-intizam al-dakhili), and confirmation by the authority of revelation (al-ta'yid al-sam'i). It is this third dimension that fundamentally distinguishes Islamic epistemology from Western epistemology, as it recognises revelation as a source of knowledge that is not only valid but also superior to other sources within a specific domain. This difference has direct implications for the epistemological understanding of Islamic sciences, including the science of morphology.

B. Sharaf Science: Definition, Scope and Key Concepts

The science of sharaf is defined by scholars of the Arabic language as the science that deals with changes in the form of Arabic words which do not result in a change in i'rab (grammatical syntax), but rather a change in wazan (pattern) that results in a change in lexical meaning. Al-Suyuthi, in Al-Muzhir, defines it as: “the science by which the structural conditions of sentences (words) are known, which are not related to i'rab and bina” (Al-Suyuthi, 2006: I/4). The material object of the science of sharaf is the Arabic word (kalimah) in all its transformed forms, whilst its formal object is the change in form (shighat) of the word that produces variations in meaning through systematic morphological patterns.

Multidisciplinary Indonesian Center Journal (MICJO)
Journal page is available to
https://e-jurnal.jurnalcenter.com/index.php/micjo
Email: admin@jurnalcenter.com

The scope of the science of sharaf encompasses several interrelated fields of study. First, tashrif (derivation): the process of deriving new words from a single root (jadzr) through the application of specific wazan patterns. Tashrif is divided into tashrif lughawi (word inflection based on grammatical conjugation: person, number, gender) and tashrif ishthilahi (lexical derivation that produces different word classes). Secondly, the concepts of mujarrad and mazid: a mujarrad word is one in which all letters are original without any additions (augmentation), whilst a mazid word is one that has had one, two, or three letters added to its original root, where each addition carries a distinctive nuance of meaning. Thirdly, the concept of bina' (phonological structure): the study of the sound patterns that form the framework of Arabic words.

The distinction between the science of morphology (sharaf) and the science of syntax (nahwu) needs to be clarified conceptually. The science of syntax (Arabic syntax) deals with the relationships between words within a sentence (jumlah), including the phenomenon of i'rab (case inflection), which indicates the grammatical function of a word within a sentence. The science of morphology, on the other hand, focuses on the internal structure of the word itself, regardless of its position within the sentence. Arabic linguists summarise this with the expression: "al-nahwu yata'allaqu bi awakhir al-kalimat wa al-sharfu bi awzaniha" (nahwu relates to word endings, sharaf relates to word patterns/wazan). In modern linguistic terminology, this distinction roughly corresponds to the difference between syntax and morphology, although there are some important conceptual differences.

C. The History and Genealogy of the Science of Sharaf

An understanding of the epistemology of the science of sharaf cannot be separated from the historical context of its emergence and development. The science of sharaf — like the entire discipline of Arabic linguistics — arose not solely from theoretical motivations, but from an urgent practical need: to preserve the purity of the language of the Qur'an amidst a rapid and massive process of Islamisation. The expansion of Islam in the 7th and 8th centuries CE brought the Arabic language into intensive contact with other languages — Persian, Aramaic, Coptic, Berber — which led to the widespread phenomenon of lahn (linguistic error) amongst non-Arab Muslims (Owens, 1990).

Tradition holds that Abu al-Aswad al-Du'ali (d. 688 CE) was the first to lay the foundations for the codification of the Arabic language by order (or at least under the inspiration) of Ali ibn Abi Talib. This codification process subsequently developed within two major intellectual centres that often held differing views: the Madrasah of Bashrah and the Madrasah of Kufah (Al-Zubaydi, 1984; Versteegh, 2014).

The Bashrah School, represented by figures such as Al-Khalil ibn Ahmad al-Farahidi (d. 791 CE) and his student Sibawaih (d. 793 CE), tended to adopt a more systematic and qiyasi (analogical) approach. Sibawaih systematised morphological analysis in his magnum opus, Al-Kitab, which remains the primary reference in Arabic linguistics to this day (Carter, 2016; Baalbaki, 2008). Ibn Jinni (d. 1002 CE) represented the intellectual pinnacle of the classical Arabic morphological tradition. His works Al-Khasa'is and Al-Mumti' fi al-Tashrif specifically address sharaf with extraordinary analytical depth, not merely compiling rules but also questioning the rationality behind them (Ibn Jinni, 1952; Daif, 1968).

D. Modern Arabic Linguistics and Morphology Science

Modern linguistics defines morphology as the branch of linguistics that studies the internal structure of words and the rules governing word formation. The Arabic language presents a far more complex and unique morphological system known in modern linguistics as non-concatenative morphology or root-and-pattern morphology. In this system, the root—which generally consists of three consonants (a trilateral root)—is combined with specific vowel and consonant patterns (patterns/templates) to produce words with different meanings. For example, the root k-t-b (connoting the meaning 'to write') can yield kataba, kitab, kuttab, maktub, maktabah, katib, and dozens of other derivations (McCarthy, 1981; Ryding, 2005).

The relevance between classical sharaf and modern Arabic morphology is significant. The concept of wazan (morphological pattern) in sharaf corresponds conceptually to the pattern or template

Multidisciplinary Indonesian Center Journal (MICJO)
Journal page is available to
https://e-jurnal.jurnalcenter.com/index.php/micjo
Email: admin@jurnalcenter.com

in modern root-and-pattern morphology. The concept of jadzr (root) corresponds to the root in modern linguistic terminology. The concepts of mujarrad and mazid reflect the distinction between base form and derived form in modern morphology. However, there are also important differences: modern linguistics analyses Arabic morphology within the framework of various formal theories (such as Lexical Phonology, Optimality Theory, and Distributed Morphology), whereas classical sharaf operates within a conceptual framework built upon the Arabic linguistic tradition itself.

2. RESEARCH METHOD

This research employs a qualitative approach in the form of library research. As a study focused on conceptual and historical analysis, the qualitative-library research methodology is an appropriate choice as it allows for in-depth exploration of relevant primary and secondary texts, without the limitations implied by quantitative approaches (Creswell, 2014; Zed, 2008). Library research in this context is not understood as research that merely compiles information, but rather as research that involves critical reading, comparative analysis, and interpretative synthesis of the collected materials.

The approach employed in this study is a methodological trinity, namely: (1) a historical approach, used to trace the genealogy and chronological development of the science of sharaf from its early formation to the modern period, whilst taking into account the surrounding socio-intellectual context; (2) an epistemological approach, used to examine the philosophical dimensions of the science of sharaf, encompassing its ontology, epistemology, and axiology within the framework of the philosophy of science; and (3) a comparative-linguistic approach, used to analyse the relationship between the concepts of classical sharaf and modern linguistic theories, particularly within the domain of morphology.

The research data sources are divided into two categories. Primary sources include: the works of classical Arabic linguists directly related to the science of morphology and its methodology, including Al-Kitab by Sibawaih, *Al-Mumti' fi al-Tashrif* and *Al-Khasa'is* by Ibn Jinni, *Al-Muzhir* by Al-Suyuthi, *Al-Shafi fi Sharh al-Kafiyah* by Ibn al-Hajib, as well as works on the philosophy of science by Al-Ghazali, Al-Farabi, and Ibn Khaldun. Secondary sources include: modern academic works on Arabic linguistics, Arabic morphology, Islamic epistemology, and the philosophy of science, in the form of both academic books and indexed national and international scientific journal articles.

The data collection techniques employed are documentation and systematic literature review. Data analysis is conducted through four sequential and interrelated stages: first, data reduction — selecting and focusing on the data most relevant to the research focus; second, categorisation — grouping data according to historical, epistemological, and linguistically contributory themes; third, interpretation — interpreting the categorised data within the context of the theoretical framework established in the literature review; and fourth, critical analysis — evaluating the arguments found in the literature, identifying their strengths and weaknesses, and developing a distinctive argumentative position in response to the identified issues.

3. RESULT AND DISCCUSSION

A. The Genealogy and History of the Science of Sharaf

1. Factors Leading to the Emergence of the Science of Sharaf

The science of sharaf did not emerge in an intellectual vacuum, but rather as a systematic response to very concrete historical pressures. An analysis of primary sources identifies at least three mutually reinforcing causal factors in the birth of this science. First, the theological-normative factor: the necessity of preserving the purity of the language of the Qur'an as the word of Allah, which must not be distorted, either in recitation (qira'ah) or in understanding (fahm). Second, the sociological-historical factor: the spread of lahn (linguistic errors) amongst non-Arab Muslims as a consequence of Islam's rapid expansion into regions with different linguistic traditions. Thirdly, intellectual-philosophical factors: the desire of Arab scholars to codify, understand, and preserve the Arabic

Multidisciplinary Indonesian Center Journal (MICJO)
Journal page is available to
https://e-jurnal.jurnalcenter.com/index.php/micjo
Email: admin@jurnalcenter.com

language system, recognised as a language possessing extraordinary structural and aesthetic excellence.

The widespread phenomenon of *lahn* in the early days of Islam has implications that go far beyond mere grammatical errors. It threatened the textual integrity of the Qur'an, opened the door to distortions in the interpretation of Islamic law, and had the potential to weaken the cultural identity of the Muslim community, which was in the process of formation. This intellectual urgency served as the driving force behind the systematic codification of the Arabic language, including the science of morphology (Al-Zubaydi, 1984; Owens, 1990).

It is important to note that the process of codifying the Arabic language did not proceed in a linear and seamless manner. It involved fierce intellectual debates between various schools of thought, particularly between Bashrah and Kufah, which reflected profound methodological differences regarding how linguistic rules should be determined and validated. These debates were not merely academic, but reflected fundamental epistemological differences regarding linguistic authority and the principles of linguistic analysis.

2. The Role of Bashrah and Kufah in the Development of Morphology

The Madrasah of Bashrah and the Madrasah of Kufah represent two distinct linguistic epistemologies, and their differences are not merely a matter of specific rules, but reflect paradigmatic differences regarding how linguistic knowledge is acquired and validated. Bashrah, with figures such as Al-Khalil and Sibawaih, adhered to a predominantly qiyasi (analogical-deductive) methodology: Arabic is, in principle, orderly and systematic, so that rules applicable to most cases can and should be applied analogically to other cases.

Kufah, by contrast, adopted a methodology that was more permissive towards exceptions. Kufahn linguists tended to accept a wider range of linguistic data from various sources — including Arabic dialects that Bashrah considered insufficiently authoritative — and were more cautious in making universal generalisations about grammatical rules. In modern epistemological terminology, this difference corresponds to the distinction between the deductive-rationalist and inductive-empirical approaches to constructing a system of knowledge. Paradoxically, the tension between these two approaches has actually enriched the Arabic linguistic tradition by encouraging deeper methodological reflection (Owens, 1990; Versteegh, 2014).

During the Abbasid period (750–1258 CE), the science of morphology underwent increasingly systematic development and codification. Strong support from the Abbasid government for intellectual activity — through Bayt al-Hikmah and active patronage of scholars — created conditions conducive to the development of linguistic sciences. Interaction with the Greek intellectual tradition through the translation movement also stimulated the development of Arabic linguistic methodology, although the tradition of sharaf retained its distinctive indigenous characteristics.

B. The Epistemology of Sharaf Science

1. Ontological Dimensions: The Object and Essence of Sharaf

Ontologically, the science of sharaf concerns two fundamental questions: what is its object of study, and what is the nature of the entities under examination? The material object of sharaf is the Arabic word (kalimah) in all its morphological variations; that is, a linguistic entity that is concrete in its usage yet abstract in its structure. The formal object of the science of sharaf — which distinguishes it from other disciplines of Arabic linguistics — is the change in the wazan (morphological pattern) of a word that produces variations in meaning, whether through derivation (isytiqaq) or through systematic phonological modification (i'lal, ibdal, idgham).

A deeper and more controversial ontological question is: are the rules of sharaf laws intrinsically inherent in the Arabic language itself (ontological realism), or are these rules conceptual constructs devised by Arab linguists to describe the patterns they observe in linguistic data (nominalism or constructivism)? Classical morphology scholars generally operate on the assumption of implicit realism: the rules they formulate are considered to reflect the 'authentic' nature of the Arabic language, rather than merely technical conventions that could be replaced by other conventions.

Multidisciplinary Indonesian Center Journal (MICJO)
Journal page is available to
https://e-jurnal.jurnalcenter.com/index.php/micjo
Email: admin@jurnalcenter.com

A different ontological perspective emerges when we examine the tradition of sharaf through the epistemological lens of modern philosophy of science. From this perspective, the rules of sharaf can be understood as abstract models devised by linguists to explain the regularities they observe in linguistic data. This tension between the ontological realism of the classical Sharaf tradition and the methodological constructivism of modern linguistics is one of the most fascinating issues in the dialogue between classical Arabic linguistic tradition and modern linguistics — a dialogue that has not yet received adequate academic attention in Indonesian literature.

2. Epistemological Dimensions: Sources of Knowledge and Methods of Rule Formation

An epistemological analysis of the science of morphology requires us to clearly identify: where do the rules of morphology originate, and through what methodological procedures are these rules formulated and validated? The answers to these questions are not merely historical in nature, but also concern the epistemological foundations of the science of morphology as a system of knowledge.

The first and most authoritative source of knowledge in the science of sharaf is the Qur'an. The Qur'an's status as the highest-quality and most mutawatir Arabic text makes it an unrivalled linguistic corpus. The morphological forms found in the Qur'an possess normative status: they are not merely examples of good Arabic usage, but the very standard of linguistic correctness in Arabic itself (Al-Zarkasyi, 2006). This indicates that the epistemology of the science of morphology recognises revelation (wahy) as the primary source of linguistic knowledge — a characteristic that fundamentally distinguishes it from modern linguistics, which is descriptive and secular in nature.

The second source of knowledge is the Prophet's hadith and the sayings of the Companions. The linguists of Bashrah applied strict criteria to hadith data: they used only those hadiths considered to have a strong chain of transmission and whose wording had not been altered (riwayah bil-ma'na) as linguistic evidence (Owens, 1990; Carter, 2016). The third source of knowledge is classical Arabic poetry (al-shi'r al-'arabi). Pre-Islamic and early Islamic Arabic poetry is regarded as a highly valuable linguistic document because it records the use of Classical Arabic by native speakers who had not yet been influenced by intensive linguistic contact with non-Arabs.

As for the methods of rule formation in the science of sharaf, these encompass four interrelated epistemological procedures. First, sima' (listening/documentation): the recording and documentation of Arabic language data from authoritative sources — Arab linguists travelled far into the interior of the Arabian Peninsula to listen to and record the use of Arabic by native speakers considered to be the purest. Second, qiyas (analogical reasoning): the application of a rule pattern proven to apply to one class of words to another class of words considered to share relevant characteristics. Third, istinbath (extraction/inference): the procedure of extracting rules from existing linguistic data through systematic observation of recurring patterns — an inductive process, moving from data to rules. Fourth, ta'lil (rational justification): the process of providing a rational explanation as to why a rule applies in a certain way; this is the most 'philosophical' epistemological dimension within the sharaf tradition.

The scientific validity of the science of morphology is determined by three mechanisms that operate synergistically: the authority of native Arabic speakers (a rule is considered valid if it is supported by data from native speakers whose fluency and linguistic authenticity are recognised); the consensus of linguistic scholars (ijma' al-lughawiyyin); and rational coherence (al-intizam al-'aqli), which can be demonstrated through convincing reasoning.

3. The Axiological Dimension: The Values and Functions of Sharaf Science

Axiology — the branch of philosophy that examines the values and purposes of a discipline — is an equally important dimension in understanding the epistemology of the science of sharaf. An analysis of the tradition of sharaf identifies at least four fundamental axiological functions.

First, the interpretative (hermeneutic) function: the science of sharaf is an irreplaceable epistemological instrument in the interpretation of the Qur'an. Determining the meaning of a word in the Qur'an often depends critically on its morphological analysis: whether the word is an isim fa'il or

Multidisciplinary Indonesian Center Journal (MICJO)
Journal page is available to
https://e-jurnal.jurnalcenter.com/index.php/micjo
Email: admin@jurnalcenter.com

an isim maf'ul, whether it is a masdar or a fi'il, whether it is of the wazn fa'ala or af'ala — each of these differences in wazn can result in significant differences in meaning (Al-Zarkasyi, 2006).

Secondly, the bayani (explanatory) function: the science of sharaf serves to explain the differences in meaning resulting from morphological changes. This explanatory function positions the science of morphology as a powerful tool for semantic analysis within the Arabic linguistic tradition. Thirdly, the preservative function: the science of morphology serves to preserve the purity and integrity of the Arabic language from distortion caused by foreign influences and uncontrolled natural evolution, reflecting the belief that Arabic possesses an ideal form that must be maintained. Fourthly, the ta'limiyah (educational) function: the science of sharaf provides a systematic pedagogical framework for teaching Arabic to non-native speakers through the wazan and tashrif systems, which enable structured and efficient learning.

C. The Contribution of Sharaf Science to Arabic Linguistics

1. The Contributions to the Morphology and Semantics of Modern Arabic

The contribution of the science of sharaf to modern Arabic morphology is twofold: directly, as a corpus of data and rules that serve as the starting point for modern analysis; and indirectly, as an intellectual tradition that shapes perspectives on the Arabic language. The theory of root-and-pattern morphology (RaP morphology), which has become the dominant analytical framework in modern Arabic morphology, is in fact a modern formalisation of linguistic intuitions developed by classical Arabic linguists over the centuries. When McCarthy (1981) and later Prunet et al. (2000) developed a formal analysis of Arabic morphology using a prosodic framework, they were essentially providing a mathematical formalisation of a system that had already been implicitly understood by the science of sharaf.

More specifically, the concept of wazan in the science of sharaf corresponds conceptually to what is known as a 'template' or 'prosodic template' in modern RaP morphology theory. Sibawaih, Ibn Jinni, and other classical Arabic linguists have codified thousands of wazan with extraordinary precision — an intellectual achievement which, when evaluated from a modern linguistic perspective, demonstrates a very high level of analytical depth for a tradition that developed long before the birth of modern linguistics as a discipline (Ryding, 2005; Holes, 2004).

The contribution to Arabic semantics is no less significant. The science of sharaf has developed a highly sophisticated system for linking morphological changes with lexical changes in meaning. This system — which can be understood in modern terms as a theory of derivational semantics — demonstrates that the meaning of an Arabic word cannot be understood in isolation from its morphological form. The wazn maf'al/maf'il, for example, generally denotes a place (isim makan) or an instrument (isim alah); the wazn fa'il denotes the agent; the wazn fa'ul denotes the intensity of a quality — a system of form-meaning relationships that constitutes an extraordinary contribution to the understanding of Arabic lexical semantics.

2. The Contributions to the Theory of Derivation

The theory of derivation *(isytiqaq)* developed within the tradition of sharaf is a highly original and sophisticated intellectual contribution. Arabic linguists developed three levels of derivation: isytiqaq al-saghir (minor derivation) refers to the relationship between words derived from the same triconsonantal root; isytiqaq al-kabir (major derivation), introduced by Ibn Jinni, refers to the relationship between words whose consonantal roots are permutations of one another — a concept that predates modern phonological ideas about abstract roots; and isytiqaq al-akbar (major derivation), which refers to relationships between words that share only some consonants, approximating what modern historical-comparative linguistics terms etymological kinship.

From a modern cognitive linguistic perspective, the derivation theories of sharaf reflect important intuitions about how Arabic speakers organise their lexicon mentally. Psycholinguistic research on Arabic language processing has shown that native Arabic speakers do indeed represent word roots separately from vowel patterns in their mental memory, and that the process of recognising Arabic words involves the simultaneous morphological decomposition into roots and patterns

Multidisciplinary Indonesian Center Journal (MICJO)
Journal page is available to
https://e-jurnal.jurnalcenter.com/index.php/micjo
Email: admin@jurnalcenter.com

(Deutsch et al., 1998; Frost et al., 1997). These psycholinguistic findings provide strong empirical validation — from a modern scientific perspective — for the morphological analysis system developed by the science of sharaf over more than a thousand years.

3. The Relevance to Computational Linguistics and Arabic NLP

The aspect of Sharaf that is most relevant to contemporary challenges is its significance for the development of Arabic language technology, particularly in the fields of Natural Language Processing (NLP) and Artificial Intelligence (AI) in Arabic. The morphological complexity of the Arabic language makes morphological analysis a highly critical component of any Arabic NLP system — more critical than in most other languages.

The principles of Arabic morphology have directly influenced the design of computational Arabic morphological systems developed over the past two decades. The Buckwalter Arabic Morphological Analyzer (Buckwalter, 2002) constructs Arabic morphological representations based on principles that directly inherit the traditions of wazan and jadzr from Arabic morphology. More modern systems such as MADAMIRA (Pasha et al., 2014), Farasa (Abdelali et al., 2016), and various deep learning-based analysers continue to use root-and-pattern representations derived from the classical sharaf tradition as their morphological foundation.

In the context of Arabic AI, the role of morphology is becoming increasingly relevant alongside the development of Arabic-language Large Language Models (LLMs) such as AraGPT2 (Antoun et al., 2020) and AraBERT (Baly et al., 2020). The question of whether Arabic tokenisation should be carried out at the word, morpheme, root, or sub-word level is directly linked to theoretical questions regarding morphological units of analysis that have been discussed within the tradition of sharaf. This demonstrates that the dialogue between the classical tradition of sharaf and modern computational linguistics is not only historically relevant but also practically productive.

4. An Epistemological Critique of Classical Sharaf Science

A comprehensive and critical analysis of the epistemology of the science of sharaf necessitates an acknowledgement of its epistemological limitations. The first limitation relates to the normative nature of the data corpus: the fact that the science of sharaf constructs its rules primarily on the basis of Classical Arabic, which is regarded as ‘pure’, results in the system’s inability to adequately describe the dialectal variations present in the Arabic language.

The second limitation relates to the principle of qiyas, which serves as the dominant procedure for the extension of rules. Although qiyas is a powerful epistemological tool, it operates on the assumption that Arabic is internally regular and consistent. In reality, like all natural languages, Arabic contains many irregularities and anomalies that cannot be adequately explained through the procedure of qiyas alone.

The third limitation—the most relevant from the perspective of the philosophy of science—is the lack of clarity in the distinction between description and prescription. Classical morphology operates on a normative logic: it does not merely describe how Arabic is used, but rather prescribes how Arabic ought to be used. This conflation of description and prescription results in some rules of sharaf reflecting a particular linguistic ideology rather than the actual reality of Arabic usage. This criticism is not intended to diminish the value of the science of sharaf, but rather to encourage more critical and productive epistemological reflection in the future development of this tradition.

4. CONCLUSION

The analysis conducted in this article yields a number of findings and conclusions which collectively address the three research questions posed. Firstly, historically, the science of sharaf did not emerge as an autonomous academic discipline of a purely theoretical nature, but rather as an organised response to very concrete socio-theological pressures, namely the threat of lahn to the integrity of the language of the Qur’an. Its formation took place gradually and dialectically: through an intellectual struggle between the qiyasi-rationalist Madrasah of Bashrah and the more sima'i-

Multidisciplinary Indonesian Center Journal (MICJO)
Journal page is available to
https://e-jurnal.jurnalcenter.com/index.php/micjo
Email: admin@jurnalcenter.com

empirical Madrasah of Kufah, resulting in a rich tradition that accommodated the productive tension between two distinct linguistic epistemologies.

Secondly, epistemologically, the science of sharaf possesses a solid and multi-layered philosophical foundation. Ontologically, it articulates its object of study—changes in word patterns—as a real and systematic entity. Epistemologically, it acknowledges the plurality of knowledge sources: revelation (the Qur'an) as the supreme source, hadith and the sayings of the Companions as secondary authoritative sources, and classical Arabic poetry as an empirical corpus; whilst its methodological framework synergistically combines empirical (sima'), deductive-analogical (qiyas), inductive (istinbath), and rational-explanatory (ta'lil) procedures. Axiologically, the value of the science of morphology is articulated through four fundamental functions: exegetical, explanatory, preservational, and educational.

Thirdly, the contribution of Sharaf to Arabic linguistics has proven to be significant, multi-dimensional, and enduring, extending into the contemporary linguistic context. In modern Arabic linguistics, the concepts of wazan and jadzr from Sharaf form the foundation of root-and-pattern morphology theory. In computational linguistics and Arabic NLP, the principles of Sharaf directly influence the design of Arabic morphological analysis systems, which are a critical component in the development of contemporary Arabic language technology. These findings collectively demonstrate that Sharaf is not a dead intellectual legacy, but rather a living, relevant tradition that continues to contribute to the development of Arabic linguistics across its various dimensions.

Academic Recommendations

Firstly, for further research, more specific epistemological studies are required on certain aspects of the science of sharaf that have not yet received adequate attention, such as: the epistemology of the concept of syudzudz (anomalies) in the classical sharaf tradition; a comparative analysis of the methodology of qiyas in the science of sharaf and in ushul fiqh; as well as a study of how the tradition of sharaf responds to morphological phenomena in modern Arabic that are not covered by classical rules.

Secondly, in the context of the digitisation of sharaf, a serious project is required to digitise and formalise the rules of sharaf in a format usable by NLP and AI systems for modern Arabic, including the development of computer ontologies for Sharaf concepts, the creation of a structured Arabic morphological lexicon, and the development of Arabic morphological analysis algorithms informed by classical Sharaf rules.

Thirdly, in the context of integrating classical and modern Arabic linguistics, collaborative research programmes are required that systematically build conceptual bridges between the classical tradition of Shoruf and modern linguistic theories, whilst avoiding two symmetrical errors: the reduction of Shoruf to a mere primitive version of modern linguistics, and the rejection of modern linguistics on the grounds of contradiction with the classical tradition.

5. REFERENCES

Abdelali, A., Darwish, K., Durrani, N., & Mubarak, H. (2016). Farasa: A fast and furious segmenter for Arabic. Proceedings of NAACL-HLT 2016, 11–16. https://doi.org/10.18653/v1/N16-3003

Al-Farabi, Abu Nasr. (1996). Ihsa' al-'Ulum. Tahqiq: Uthman Amin. Maktabah al-Anglo al-Misriyyah.

Al-Ghazali, Abu Hamid. (1998). Mi'yar al-'Ilm fi Fan al-Manthiq. Dar al-Kutub al-'Ilmiyyah.

Al-Ghazali, Abu Hamid. (2005). Ihya' 'Ulum al-Din (Jilid I). Dar al-Ma'rifah.

Al-Khalil ibn Ahmad al-Farahidi. (1988). Kitab al-'Ayn. Tahqiq: Mahdi al-Makhzumi wa Ibrahim al-Samarrai. Dar al-Hilal.

Al-Razi, Fakhr al-Din. (1992). Al-Mahsul fi 'Ilm Ushul al-Fiqh. Mu'assasah al-Risalah.

Al-Suyuthi, Jalal al-Din. (2006). Al-Muzhir fi 'Ulum al-Lughah wa Anwa'iha (2 Jilid). Dar al-Kutub al-'Ilmiyyah.

Al-Zarkasyi, Badr al-Din. (2006). Al-Burhan fi 'Ulum al-Qur'an (4 Jilid). Dar al-Hadith.

Multidisciplinary Indonesian Center Journal (MICJO)
Journal page is available to
https://e-jurnal.jurnalcenter.com/index.php/micjo
Email: admin@jurnalcenter.com

Al-Zubaydi, Abu Bakr. (1984). Tabaqat al-Nahwiyyin wa al-Lughawiyyin. Tahqiq: Muhammad Abu al-Fadl Ibrahim. Dar al-Ma'arif.
Antoun, W., Baly, F., & Hajj, H. (2020). AraGPT2: Pre-trained transformer for Arabic language generation. Proceedings of the 4th Workshop on Open-Source Arabic Corpora and Processing Tools, 12–20.
Anwar, M. (2009). Ilmu Sharaf. Sinar Baru Algensindo.
Baalbaki, R. (2008). The legacy of the Kitab: Sibawayhi's analytical methods within the context of the Arabic grammatical theory. Brill.
Baly, F., Khaddaj, A., Hajj, H., Shaban, K., & Habash, N. (2020). AraBERT: Transformer-based model for Arabic language understanding. Proceedings of the LREC 2020 Workshop on Language Models and Contextual Representations for Arabic NLP, 9–15.
Booij, G. (2012). The Grammar of Words: An Introduction to Morphology (3rd ed.). Oxford University Press.
Buckwalter, T. (2002). Buckwalter Arabic morphological analyzer version 1.0. Linguistic Data Consortium.
Carter, M. G. (2016). Sibawayhi. I.B. Tauris.
Creswell, J. W. (2014). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (4th ed.). SAGE Publications.
Daif, Shawqi. (1968). Al-Madaris al-Nahwiyyah. Dar al-Ma'arif.
Deutsch, A., Frost, R., Pollatsek, A., & Rayner, K. (1998). Morphological effects in word recognition in Hebrew: Evidence from parafoveal preview. Journal of Experimental Psychology: Human Perception and Performance, 24(4), 1184–1198. https://doi.org/10.1037/0096-1523.24.4.1184
Frost, R., Forster, K. I., & Deutsch, A. (1997). What can we learn from the morphology of Hebrew? A masked-priming investigation of morphological representation. Journal of Experimental Psychology: Learning, Memory, and Cognition, 23(4), 829–856. https://doi.org/10.1037/0278-7393.23.4.829
Habash, N. Y. (2010). Introduction to Arabic Natural Language Processing. Morgan & Claypool Publishers.
Hamlyn, D. W. (1967). History of Epistemology. In P. Edwards (Ed.), The Encyclopedia of Philosophy (Vol. 3, pp. 8–38). Macmillan.
Haspelmath, M., & Sims, A. D. (2010). Understanding Morphology (2nd ed.). Hodder Education.
Haywood, J. A., & Nahmad, H. M. (1962). A New Arabic Grammar of the Written Language. Lund Humphries.
Holes, C. (2004). Modern Arabic: Structures, Functions and Varieties (2nd ed.). Georgetown University Press.
Ibnu Jinni, Abu al-Fath Uthman. (1952). Al-Khasa'is (3 Jilid). Tahqiq: Muhammad Ali al-Najjar. Dar al-Kutub al-Misriyyah.
Ibnu Jinni, Abu al-Fath Uthman. (1999). Al-Mumti' al-Kabir fi al-Tashrif. Tahqiq: Fakhr al-Din Qabawah. Maktabah al-Ma'arif.
Ibnu Khaldun. (2001). Muqaddimah Ibnu Khaldun. Tahqiq: Abdullah Muhammad al-Darwish. Dar Ya'rib.
Jujun S. Suriasumantri. (2005). Filsafat Ilmu: Sebuah Pengantar Populer. Pustaka Sinar Harapan.
Maamouri, M., Bies, A., Buckwalter, T., & Mekki, W. (2004). The Penn Arabic dependency treebank: Building a large-scale annotated Arabic corpus. NEMLAR International Conference on Arabic Language Resources and Tools, 8(2), 466–467.
McCarthy, J. J. (1981). A prosodic theory of nonconcatenative morphology. Linguistic Inquiry, 12(3), 373–418.
Ni'mah, Fuad. (2007). Mulakhkhas Qawa'id al-Lughah al-'Arabiyyah. Dar al-Tsaqafah al-Islamiyyah.
Owens, J. (1990). Early Arabic Grammatical Theory: Heterogeneity and Standardization. John Benjamins.

Multidisciplinary Indonesian Center Journal (MICJO)
Journal page is available to
https://e-jurnal.jurnalcenter.com/index.php/micjo
Email: admin@jurnalcenter.com

Pasha, A., Al-Badrashiny, M., Diab, M., El Kholy, A., Eskander, R., Habash, N., Pooleery, M., Rambow, O., & Roth, R. (2014). MADAMIRA: A fast, comprehensive tool for morphological analysis and disambiguation of Arabic. Proceedings of the 9th Language Resources and Evaluation Conference (LREC'14), 1094–1101.

Prunet, J. F., Béland, R., & Idrissi, A. (2000). The mental representation of Semitic words. Linguistic Inquiry, 31(4), 609–648. https://doi.org/10.1162/002438900554497

Qabawah, Fakhr al-Din. (1988). Al-Sharf al-'Arabi: Ahkam wa Ma'an. Maktabah al-Ma'arif.

Ryding, K. C. (2005). A Reference Grammar of Modern Standard Arabic. Cambridge University Press.

Sibawaih, Abu Bishr 'Amr ibn Uthman. (1988). Al-Kitab (5 Jilid). Tahqiq: 'Abd al-Salam Harun. Maktabah al-Khanji.

The Liang Gie. (1999). Pengantar Filsafat Ilmu. Liberty.

Versteegh, C. H. M. (2014). The Arabic Language (2nd ed.). Edinburgh University Press.

Zed, M. (2008). Metode Penelitian Kepustakaan. Yayasan Obor Indonesia.