

Received: 02/15/2025

Accepted: 05/20/2025

Published Online: 06/25/2025

Corresponding author:
Rahma Kezouli

Email: r.kezouli@crstdla.dz

Citation : Kezouli, R., (2025). Origins and Sources of Phonetic Terms in Al-Khalil's Work through the Introduction of the Kitāb al-'Ayn *AL-Lisaniyyat*, 31(1), 5-23.



This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution *AL-Lisaniyyat* © 1971 by *Scientific and Technical Research Center for the Development of the Arabic Language* is licensed under *Attribution-Non-commercial 4.0 International*

Origins and Sources of Phonetic Terms in Al-Khalil's Work through the Introduction of the Kitāb al-'Ayn

*Rahma Kezouli**

Scientific and Technical Research Center for the Development of Arabic Language CRSTDLA, Tlemcen Unit, Tlemcen, Algeria.

ABSTRACT

This study delves into the genesis of phonetic terminology among Arab scholars, commencing with the burgeoning of the Arabic lexicon industry. A seminal figure in this domain, Al-Khalil ibn Ahmad al-Farahidi, catalysed this evolution with his seminal work, " Kitāb al-'Ayn" This research illuminates the myriad factors fostering this advancement, including the linguistic richness of Arabic, the heterogeneity of its dialects, and the foundational contributions of the Holy Quran and Arabic poetry.

From this fertile intellectual terrain emerged the discipline of phonology, as evidenced by the phonetic discourses in the introduction of "Kitāb al-'Ayn" which broached previously unexplored phonetic issues. The focal point of this inquiry, "The Origins and Sources of Phonetic Terms in Al-Khalil's Introduction to the Kitāb al-'Ayn" seeks to unearth the origins of Al-Khalil's phonetic lexicon, scrutinizing these terms through both linguistic and scientific lenses.

Keywords: origins, sources, phonetic, Al-Khalil's work, introduction of the Kitāb al-'Ayn.

أصول ومصادر المصطلحات الصوتية عند الخليل من خلال مقدمة كتاب العين

الملخص:

يعالج هذا البحث نشأة المصطلح الصوتي عند العرب، والتي تزامنت مع ظهور صناعة المعاجم العربية الكبرى، ويعتد الخليل بن أحمد الفراهيدي رائد هذه الصناعة من خلال تأليفه لكتاب "العين"، كما سنبين الظروف والعوامل التي ساهمت في ذلك من ثراء العربية، واختلاف اللهجات فيها، وما يرد به القرآن الكريم والشعر العربي من مادة أولية، وهذه الصناعة أوجدت علماً جديداً هو علم الأصوات؛ إذ حوت مقدمة كتاب "العين" قضايا صوتية هامة لم يسبق أن عولجت من قبل.

وحاولنا في بحثنا الموسوم بـ "أصول ومصادر المصطلحات الصوتية عند الخليل من خلال مقدمة كتاب العين" البحث عن المصادر التي أخذ منها الخليل مادته الصوتية، مع تحليل هذه المصطلحات من جانبين اللغوي والعلمي.

كلمات مفتاحية: الأصول- المصادر- المصطلحات الصوتية- الخليل- مقدمة كتاب العين.

Origines et sources des termes phonétiques dans l'œuvre d'Al-Khalil à travers l'introduction du Kitāb al-‘Ayn.

Résumé :

Cette étude se penche sur la genèse de la terminologie phonétique parmi les érudits arabes, en commençant par l'essor de la conception des grands dictionnaires arabes. Une figure marquante dans ce domaine, Al-Khalil ibn Ahmad al-Farahidi, a catalysé cette évolution avec son ouvrage fondateur "Kitāb al-‘Ayn". Cette recherche met en lumière la myriade de facteurs favorisant ce progrès, notamment la richesse linguistique de l'arabe, l'hétérogénéité de ses dialectes et les contributions fondamentales du Coran et de la poésie arabe. De ce terrain intellectuel fertile a émergé la discipline de la phonologie, comme en témoignent les discours de l'introduction de "Kitāb al-‘Ayn", qui abordaient des questions phonétiques jusqu'alors inexplorées.

Le point central de cette étude, intitulée "Les origines et les sources des termes phonétiques dans l'introduction du Kitāb al-‘Ayn d'Al-Khalil", vise à mettre au jour les origines du lexique phonétique d'Al-Khalil, en examinant ces termes à la fois sous un angle linguistique et scientifique.

Mots clés: Les origines- Les sources- Les termes phonétiques- Al-Khalil- introduction au livre Kitāb al-‘Ayn.

Introduction

Language manifests as a sequence of sounds, articulated by speech organs into coherent forms and structured sequences, serving as an indispensable vehicle for linguistic communication. Ibn Jinni (died 392 AH) encapsulates this notion, stating, "Language comprises sounds through which people articulate their intentions". (Ibn Jinni, 2006).

Fundamentally sensory and emotive, language must transcend its innate emotional and sensory constructs to function as a scientific instrument reflecting sophisticated intellectual concepts. This transition requires the distillation of language into precise, abstract symbols devoid of any impurities.

These symbols then represent ideas and concepts with clarity, specificity, and without the risk of ambiguity, confusion, or misleading synonyms and metaphors that could lead to misinterpretation and obscure meanings. (Talbi, 1983) This imperative has prompted scholars to rigorously define their terminologies, recognizing that discrepancies among intellectuals frequently stem from terminological differences.

Such terminology, necessitated by the demands of specialized scientific discourse, establishes a connective tissue among scholars. A term, therefore, not only encapsulates the essence of a particular science but also distinguishes it from others, defining its unique characteristics. Thus, the lexicon of a science represents its zenith, embodying its cognitive truths and distinguishing each discipline distinctively from others. (Al-Masadi, 2003).

Scientific terms necessarily follow the establishment of a science, requiring the naming of new terms. Scholars choose words from the language that suit these terms based on the relationship between the linguistic meaning and the terminological meaning. Thus, a term is defined as: "A field of study that examines the relationship between scientific concepts and the linguistic terms that express them, (Al-Kasimi, 1980) possessing both linguistic and terminological implications.

Before delving into the origins of terminological thinking among Arab grammarians and linguists and the stages their terminology has evolved through, it is pertinent to understand the meaning of the term 'terminology' both linguistically and technically.

1. Concept of Terminology:

1.1 Language

The term 'terminology' in Arabic traces its etymological roots to the verb 'to agree' (اصطاح), which itself originates from the word for 'peace' (صلح). Ancient Arabic lexicographers provide insights into this derivation; Al-Azhari (died 370 AH) describes 'peace' as "the act of establishing harmony among people, where righteousness opposes corruption; to reconcile and to make peace are seen as synonymous actions". (Al-Azhari, 2004). This interpretation is echoed in the works of both Ibn Manzur and Al-Zubaidi, who convey similar meanings.

1.2 Technically

The evolution of the term 'terminology' within the scholarly tradition often shows a blending with the term 'convention', with the two terms frequently used interchangeably. This usage persisted until the maturation of sciences within the Arab-Islamic civilization, when 'convention' came to specifically denote the lexicon agreed upon by experts to articulate the scientific concepts of their respective fields.

The term 'terminology' also evolved, gaining a precise definition from its associative verb 'to agree' (اصطاح), which began to signify the consensus on the naming of previously unnamed concept (Hijazi, (n,d)) This semantic development is well-documented across centuries. Al-Jahiz observes, "Expressions were chosen to convey specific meanings, and these terms were derived from the vernacular of the Arabs. (Al-Jahiz, (n,d)). They agreed upon names for concepts previously unnamed in Arabic, thus setting a precedent for those who would follow, serving as exemplars for successors".

This nuanced use of language is also reflected in the titles and themes of various scholarly works. Al-Razi Ahmad bin Hamdan (died 322 AH), for example, titled his book "The Adornment in Islamic Words". Similarly, Ali bin Yusuf al-Amidi's work "Al-Mubin in Explaining the Words of the Philosophers and Theologians" uses 'expressions' to discuss terminological concepts. (Hijazi, (n,d)).

The formulation of a term is inherently a collaborative process, not restricted to an individual but rather a consensus among multiple parties. Al-Jurjani (died 816 AH) articulates this concept: "A term is the outcome of an agreement among

people to designate a specific name to something, thereby relocating it from its original context," illustrating how the term 'terminology' has permeated modern scholarly discourse. (Al-Jurjani, 2003).

Numerous contemporary definitions have emerged, with one prominent definition being: "The science that examines the methodologies leading to the establishment of a scientific and technical lexicon, focusing on the relationship between scientific concepts and the linguistic terms pertinent to a particular field of knowledge". (Karoui, 2008).

Another definition posits that a 'terminology' is "a word that scholars have collectively agreed to use to denote a scientific concept, where convention bestows upon the word a new meaning, distinct from its original or everyday significance". (Chahabi, 1995).

2. The Emergence of the Science of Terminology among Arabs:

The inception of any scholarly discipline is invariably influenced by an amalgamation of conducive conditions. These conditions span cultural, social, and geographical factors, creating an environment ripe for the development of new areas of study. (Al-Yasin, 1980).

"Such an environment, when it aligns perfectly with the emergence of decisive motivations, catalyzes the birth of a new discipline at the hands of those deeply entrenched in that particular sphere of knowledge (Al-Yasin, 1980), "explains Cheikh Ibn Hami. This phenomenon was clearly observed in the evolution of Arab linguistic studies, propelled by a constellation of factors including the linguistic richness and maturity of Arabic, the variety of its dialects, and the seminal contributions of the Holy Quran and Arabic poetry. These elements, combined with the intellectual and psychological readiness of rulers and scholars, cultivated the fertile ground necessary for linguistic studies to thrive.

Cheikh Ibn Hami further clarifies, "The diligent efforts of scholars in composing works, dedicating nights to study, and devoting days to writing on the sciences of Tajweed, the mastery of the articulations and qualities of letters, stemmed not from mere academic pursuit, but from a deep-seated fear of linguistic corruption that could arise as non-Arabs assimilated with Arab populations. This concern was especially pronounced for those in regions where Islam and the Quran were introduced centuries later, and where Arabic was adopted in an altered form". (Ibn Hami , (n,d)).

As the Arab scholarly community delved into the realms of grammar, morphology, and recitation, one of the earliest pursuits was the 'Collection of Language'. This foundational step was crucial, as the establishment of linguistic rules can only proceed after the comprehensive gathering of linguistic data.

Mohammad Hassan Abdel Aziz comments, "It was a logical progression for Arabic scholars to first collect the language's lexicon before formulating its grammatical rules. Historical analysis suggests that grammatical studies, in the technical sense, commenced subsequent to the collection of language. This process involved analyzing the amassed linguistic data, categorizing it, and deriving foundational theories and rules". (Mohammed Hasan, 2009).

This scholarly endeavor led to the flourishing of dictionary-making among Arabs, a significant aspect of linguistic research since the early centuries of the Hijra. Pioneering this movement was Al-Khalil ibn Ahmad al-Farahidi with his seminal dictionary, "Kitāb al-ʿAyn" setting a monumental precedent in the compilation of major Arabic dictionaries. (Jaafar kazaz, 1981).

Despite significant advancements in the field, it must be acknowledged that linguists preceding and contemporary to Al-Khalil were not able to fully master the Arabic language with a precise craftsmanship based on thorough induction. Al-Khalil, however, contemplated deeply about creating a comprehensive resource that would encapsulate the entire Arabic lexicon, ensuring no word or expression was omitted. Guided by a critical and inquisitive mindset, he took methodical scientific steps and grounded his approach in a meticulous mathematical framework.

The development of the science of terminology did not occur abruptly but was facilitated by the aforementioned conducive conditions, which supported the language of the Holy Quran and shielded it from the distortions that emerged across Arab lands due to the confluence of diverse cultures. Scholars who have explored the genesis and evolution of terminology concede that its early stages are somewhat nebulous, with difficulties in pinpointing the exact moment the term was first coined or its initial application.

This ambiguity arises because the term was documented only in later stages of linguistic studies among Arabs, notably in the works of Sibawayh. However, the presence of the term in Sibawayh's book does not imply that he or his immediate predecessors like Al-Khalil and Yunus were the originators of these linguistic terms; it is more plausible that some terms were already in use by earlier grammarians, which were then adopted and expanded upon by Al-Khalil and subsequent scholars as their studies in linguistics progressed.

(Ibn Faris, 1963).

From an early stage, the Arabic language adapted the use of terminology, which, post-Islam, evolved to accommodate Islamic concepts. Ibn Faris remarks, "During the pre-Islamic era, Arabs inherited their languages, literatures, rituals, and offerings from their ancestors. With the advent of Islam, exalted be His praise, came profound changes: old religions were abrogated, established practices were nullified, and words shifted in usage with new additions, laws enacted, and conditions stipulated, thus the new superseded the old". (Ibn Faris, 1963).

This principle is particularly relevant to what are now recognized as "Islamic terms." Ibn Faris elucidates this transition by categorizing the use and implications of terms into two aspects: the linguistic and the legal, exemplified in his statement, "In prayer, there are two names: linguistic and legal." This dual categorization underscores the multifaceted nature of terms as they adapt to both secular and sacred realms. (Ibn Faris, 1963).

As a result of these developments, there emerged a specific need to precisely understand "Islamic words" as jurists, interpreters, and hadith scholars engaged in deriving rulings, abstracting rules, and compiling texts. (Al-Siyouti) Initially, "terminologies" or "terms" were used to denote that specific knowledge of religious rulings, which later evolved to encompass agreed-upon concepts across various scientific disciplines. (Kadour, 2001).

The scientific term thus became a product of the scholarly endeavor recognized within our Arab heritage, with the sciences of Arabic and Islamic jurisprudence being among the earliest to be formally established (Al-Razi, 1957) Al-Razi in his book "The Adornment" documents no fewer than three hundred Islamic technical terms that acquired new meanings during and after the advent of Islam. Consequently, Arabic transcended its traditional role as the language of poetry to become a language of scholarly composition and culture. (Fahmi Hijazi) With Arabic entering the realm of scholarly composition, many words were endowed with innovative meanings. These new meanings assigned by scholars to certain words, or the creation of entirely new words following the conventions of Arabic, are what we now refer to as scientific terminologies. (Bourouba, 1989).

This development sparked a heightened interest in the Arabic language and its sources, such as poetry and dictionaries, leading to the significant evolution of a scientific lexicon for the first time in an environment that had predominantly favored literary and poetic expressions. Translation also played a

crucial role by instilling a scientific ethos among the people of that era through the introduction of new knowledge and the necessity to coin new terms and vocabulary. (Kadour, 2001) This scientific renaissance in the Arab world, fueled by interactions with other cultures and exposure to their sciences, necessitated specific scholarly efforts regarding terminologies to address the growing unfamiliarity with their meanings, especially those terms pertaining to what were considered foreign sciences by the ancients. (Al-Khwarizmi, (n,d).

Thus, composing in terminologies became a distinct trend among the currents of scientific, linguistic, and encyclopedic scholarship. This trend manifested in various forms, such as Al-Khwarizmi's (died 387 AH) classifications of sciences or the specific terminologies of a single science, like the definitions in grammar by Al-Rummani (died 384 AH), Al-Jabrani (died 668 AH), and Al-Fakihi (died 972 AH). Similarly, terminologies of Sufism by Ibn Arabi (died 638 AH) and Al-Qashani (died 730 AH) were developed, along with those concerning the terminologies of medicine, astronomy, agriculture, and engineering. (Kadour, 2001)

3. The Kitāb al-‘Ayn and the Phonetic Terminology

As previously noted, the impetus to study phonetics was predominantly religious, with the goal of preserving the sanctity of the Quran by ensuring the accuracy of its pronunciation and enhancing the quality of its recitation. Al-Khalil ibn Ahmad al-Farahidi was a pioneer in this endeavor, utilizing his deep understanding of phonetics to compile the first exhaustive dictionary of the Arabic language, which meticulously documented every word and expression. The introduction to his seminal work, "Kitāb al-‘Ayn", addressed phonetic concepts that had not been previously explored, underscoring his innovative contributions to the science of phonetics. The editor of "Kitāb al-‘Ayn" remarked, "This introduction contains early phonetic insights that were not achieved by other languages until several centuries after Al-Khalil's time". (Al-Farahidi, (n,d)). The scholarly discourse surrounding the "Kitāb al-‘Ayn" remains vibrant, as it continues to evoke debate and scrutiny. Questions regarding the attribution of the book to Al-Khalil, the originality of the phonetic science within it relative to other cultures, and the influence of translations on its content are among the issues raised. However, these discussions are beyond the scope of this study, which focuses specifically on the phonetic terminologies introduced in the book's preface.

Al-Khalil was meticulous in defining phonetic terms with scientific precision. He used the term 'nickname' to denote specific phonetic categories, explaining, "From the roots are twenty-five pure letters grouped under two nicknames: the emphatic and the softened. (Al-Andalusi, 1985). This categorization reflects a nuanced understanding of the articulation and characteristics of sounds, distinct from the traditional alphabetical order used by other Semitic languages. In his dictionary, Al-Khalil arranged sounds based on their points of articulation, a method that diverged from the alphabetical sequence attributed to the Semites. Arabic, sharing twenty-two letters with Hebrew, also includes unique letters such as thā', khā', dhāl, dād, ghayn, and hamzah, highlighting its distinct phonetic inventory. (Fakhri, (n,d)).

4. Analysis of Phonetic Terminologies in the Introduction of the "Kitāb al-‘Ayn":

The introduction of "Kitāb al-‘Ayn" is seminal as the first linguistic text to incorporate such an extensive array of phonetic terminologies, featuring one hundred and seventy terms or technical expressions pertinent to phonetics, as identified through modern classifications. This foundational text covers a wide range of phonetic principles, including discussions on the speech apparatus and its organs, definitions of the phonetic system, the fundamentals of phonetic language, and the categorization of sounds into consonants and vowels. (Kadour, 2001).

It also delves into phonetic shaping, which involves the combination of letters, their structural properties, and the formation of words that mimic natural sounds, topics that demand extensive scholarly exploration to be fully appreciated.

Several studies have scrutinized the phonetic terminologies introduced in "Kitāb al-‘Ayn" providing statistical analyses and elucidating the meaning of each term. Notably, Ahmed Mohamed kadour embarked on a novel analysis by tracing the linguistic and scientific origins of these terms, viewing them as words embodying both linguistic and scientific dimensions. This approach aligns with our methodology in this study. Prior to a detailed examination from these perspectives, it is crucial to highlight some key terminologies: space, exit, gradient, letter, essential, slippery, throaty, explosive, whispered, dental, silent, inner, and hollow.

4.1 Linguistic Perspective Analysis

Certain contemporary scholars have posited that Al-Khalil's arrangement of sounds may have been influenced by the phonetic systems used by Sanskrit grammarians in India. This hypothesis is supported by various arguments, including the precocious development of Arabic linguistic sciences, which might suggest an integration of advanced linguistic concepts from other civilizations. (Monin, 1999).

George Monan, in his book "History of Language Science", references "Fuller", who identified several points of convergence between the methodologies of Panini and the linguistic frameworks established by the inaugural generation of Arab grammarians, including Al-Khalil. Furthermore, the English orientalist John Haywood considers multiple influences, proposing, "Perhaps it was the Greeks who inspired the Arabs with the idea of the dictionary, whereas the Indians might have provided the phonetic alphabet that Al-Khalil, the musical mathematician, adeptly employed". (Brockelmann, 1977).

It is widely acknowledged that the Arabs were not the pioneers in the field of lexicographical composition; indeed, they were preceded by civilizations such as the Assyrians, Chinese, Greeks, and Indians, each of whom developed dictionaries for their respective languages. However, this historical precedence does not necessarily suggest that the Arabs were influenced by or mimicked these earlier efforts in their lexicographic endeavors. Rather, the development of linguistic dictionaries in the Arab world was marked by innovation and originality, driven by distinctly Arab motivations.

Chief among these was the desire to serve the language of the Quran, the sacred text of Islam and a foundational document of the religion, by protecting Arabic from dilution and shielding it from foreign linguistic errors. Moreover, the Arabs had limited access to these ancient foreign dictionaries, which further supports the notion of independent development. (Al-Yasin, 1980).

This delay in Arab scholarly achievements does not imply a lack of originality or an emulation of studies from other civilizations. Instead, similar circumstances and motivations likely led to the independent emergence of linguistic science in various centers of civilization, each manifesting its own unique features and advancements. The occurrence of similarities in scholarly work across different nations does not necessarily denote influence; rather, similar conditions may foster the inception of comparable studies or compositions across multiple regions. Creativity and innovation are not the sole province of any single intellect or nation; rather, studies may arise independently

in various parts of the world. (Al-Yasin, 1980).

Moreover, a thorough examination of the “Kitāb al-‘Ayn” reveals an absence of foreign material, unlike in Al-Khwarizmi's work, Mafatih al-'Ulum, which includes discussions on sciences imported from Greece and India, such as logic, philosophy, and medicine. Al-Khwarizmi's book also incorporates grammatical terms covering syntax, morphology, and phonetics in its section on religious and Arabic sciences, much of which is derived from Al-Khalil's own contributions. (Kadour, 2001) This indicates that the linguistic foundations laid by Al-Khalil are authentically Arabic, drawing extensively from the regions of Hejaz, Najd, and Tihama, areas inhabited by Arabs renowned for their linguistic purity well into the end of the second century. (Mohammed Hasan, 2009).

Scholars consistently affirm that all terms related to jurisprudence and Arabic sciences employed by Arab scholars are original, having emerged from Arab intellectual and cultural developments post-Islam, coinciding with and evolving alongside the emergence of these sciences. (Ababna, 1984).

Furthermore, Al-Khalil's usage of Arabic terms to describe the speech apparatus in his phonetic studies, as noted in the texts on human creation, particularly in the book by Thabit ibn Abi Thabit, illustrates this point. The remainder of the phonetic terms are also intrinsically linked to Arabic semantic fields, consistent with their linguistic meanings as found in all Arabic dictionaries, underscoring the indigenous nature of Al-Khalil's lexicographical work. (Kadour, 2001)

The distribution of phonetic terms within "Kitāb al-‘Ayn" is categorized as follows:

- Simple form terms total sixty-four.
- Compound form terms are one hundred and five, subdivided into fifty-two additive compounds, thirteen descriptive compounds, and approximately forty attributive compounds.
- Nouns are classified into eighty-five uninflected and fifty-seven derived nouns, further broken down as:
 - Five terms from comparative adjectives.
 - Seven terms from passive nouns.
 - Eleven terms from superlative nouns.
 - Fourteen terms from locative nouns.
 - Thirteen terms from relational nouns.
- Verbs presented in the text number thirty-two, predominantly in the past tense. (Kadour, 2001)

From an analysis of the phonetic terminologies' structure in the introduction of "Kitāb al- 'Ayn" several observations can be made:

- The formulation of terms appears nascent, evidenced by numerous unaltered nouns directly transferred from everyday language, such as "letter", "throat", "cavity", "space", and "air."
- Attributive structures are prevalent, forming phrases that elucidate the meanings of terms which might otherwise remain ambiguous.
- There is no definitive evidence that Al-Khalil himself derived the discussed nouns, as these include well-recognized names such as "inner", "silent", and "enthusiast".
- Terms potentially attributed to Al-Khalil's innovative efforts might include "essential", "slippery", and "throat-related".
- Additive and descriptive constructions are numerous, serving as necessary linguistic strategies in the absence of extensive derivation.
- The semantic roots of these terms predominantly lie within the sensory semantic field, as most terms relate to sensory perceptions rather than abstract mental concepts. Most terms are identified through one of the senses, while the terminological methodology employed involves repositioning based on new and specific conventions.
- Concerning the linguistic origins of these terms, Dr. Ahmad Mohammad Kadour suggests that they generally fall into the "born" category, indicating that most were recognized or their scientific significance defined during the middle of the second Hijri century, a period marked by the flourishing of sciences among Arabs and Muslims. Although these terms are typically linked to the era known as the "born", they have been assimilated into Arabic, driven by the urgent need for precise scientific and legal language. Initially widespread among scholars of language and law, these terms have become prevalent in scientific texts, which have since become primary sources of knowledge following the decline of oral traditions.

Some researchers argue that the presence of these terms in Al-Khalil's work supports their origins during his time, suggesting he documented the roots of Arabic in his dictionary. However, the standard view holds that Arabs cited in their speech did not address these terms, thus classifying them as "born". (Kadour, 1993)

It is also unlikely that Al-Khalil narrated these terms from his teachers or invented them himself, as scholars of foundational principles are generally

reluctant to base arguments on the language of scholars, no matter how eloquent, if they postdate the era of direct transmission. These terms, closely tied to the language and religion, are considered more credible and accessible to people because of their proximity to both. Yet, those among the language community who retained their Bedouin eloquence and remained outside the new scientific discourse often understood little of the terms used by grammarians and linguists (Kadour, 2001).

4.2 Scientific Perspective Analysis

In exploring the scientific perspective related to the phonetic terms, it is important to acknowledge the Arab knowledge of human anatomy, sensory capabilities, and the mechanics of the human body, as reflected in terms related to the speech apparatus, including the throat, mouth, and lips. This acknowledgment challenges the commonly held view of the Arabs in the pre-Islamic era as primarily nomadic and unlearned.

Historical and linguistic evidence suggests that the Arabs were not simply desert dwellers by choice; rather, invasions and conflicts pushed them into the arid deserts from the more fertile parts of the Arabian Peninsula. The linguistic inventory pertaining to fields like creation, botany, medicine, astronomy, and urban development points to a legacy of sophisticated knowledge, contradicting notions of their supposed ignorance (Kadour, 2001).

Thematic dictionaries reveal a semantic richness and linguistic wealth that underscore a well-established intellectual tradition. Dr. Mohammad Hussein Al-Yaseen supports this view, noting that Arabs compiled extensive dictionaries covering diverse topics such as animals, insects, birds, camels, sheep, horses, wild beasts, milk, beverages, journeys, and dwellings. (Al-Yasin, 1980).

The term "illiteracy" often attributed to pre-Islamic Arabs should more accurately be interpreted as a lack of familiarity with writing rather than an absence of knowledge or culture. The significant eloquence, precision in meanings, and variety of knowledge among the Arabs were such that Allah challenged them through the Quran, which was a testament to their linguistic capabilities and served as a catalyst for a resurgence in Arab civilization. This resurgence was further facilitated by increased security, which promoted trade, reduced conflicts, and transformed Hajj seasons into times of gathering and convergence. (Al-Yasin, 1980).

Regarding the influence of foreign knowledge, particularly through translation, there is no substantial evidence of such in the phonetic terms used

by Al-Khalil. Manfred Ullman's assertion that Al-Khalil organized his dictionary, "Kitāb al-‘Ayn" based on Indian phonetic systems lacks concrete evidence. (Kadour, 1998). Al-Biruni noted the significant cultural and linguistic barriers between the Islamic world and India, which were further compounded by religious differences and the geographic and political outcomes of Islamic conquests.

These factors contributed to a distinct separation between Muslim and Indian civilizations. Additionally, suggestions that Al-Khalil was influenced by Greek knowledge through translations by Hunayn ibn Ishaq (Mazen Al-Wa'ar, 1427) are chronologically implausible, as Al-Khalil died before Hunayn was born (Kadour, 1998) Al-Khalil's contributions were made before the peak of the translation movement in Baghdad, which occurred from about 205 to 256 AH, well after his death in 175 AH.

Consequently, if Al-Khalil had borrowed from foreign sources, some record of this would likely have persisted among his contemporaries or subsequent scholars, yet none is mentioned. (Kadour, The Originality of Phonetics in Al-Khalil Through the Introduction of the (Kitāb al-‘Ayn, 1998). This absence of evidence reinforces the conclusion that Al-Khalil's work was primarily grounded in indigenous Arabic intellectual and linguistic traditions. (Mohammed Hasan, 2009).

This dynamic scholarly environment, fostered by Islam's encouragement of knowledge acquisition as a fundamental duty for every Muslim, was not confined to Arabs alone but extended to all, regardless of ethnicity, wealth, gender, or social standing. This principle catalyzed a broad-based renaissance that not only bridged diverse cultures but also laid the foundations for sustained intellectual growth visible even in contemporary times. (Kadour, 2001).

Al-Khalil, along with subsequent Arab linguists, delved into the study of letters as distinct sounds produced by the speech apparatus. They meticulously identified the articulatory positions of these sounds, described their attributes, and analyzed the impact of their combinations in forming speech. This early research, while not formally classified under the traditional sciences like rhetoric, grammar, or Tajweed, clearly demarcates phonetics as a distinct and well-defined field of study. The research was so advanced that if Tajweed, which focuses on the recitation of the Quran, were not strictly religious in its application, it might well have been recognized as the science of phonetics within Arabic studies.

Dr. Ahmad Mohammad Kadour reflects on this topic, noting that

phonetics, from an epistemological standpoint, has not been precisely defined within the Arabic heritage due to several factors. It lacks established theoretical foundations, its topics intersect with various other disciplines, and its formal recognition as a standalone field remains unconsolidated. Consequently, phonetic information, despite its richness and diversity, is categorized more as general knowledge rather than a defined science, similar to the way semantic, lexicographic, and terminological data are treated. (Al-Sayegh, 2007). However, the opportunity now exists to elevate this body of knowledge to the status of a recognized science.

By collecting, classifying, studying, and applying rigorous linguistic and scientific frameworks to these phonetic insights, there is potential to refine and enhance our understanding, positioning phonetics alongside esteemed disciplines such as grammar, morphology, and rhetoric in the pantheon of Arabic linguistic sciences. This process of formalization could further enrich the linguistic legacy and continue the tradition of intellectual exploration and expansion initiated centuries ago. (Kadour, 2001).

From the comprehensive analysis discussed, it is evident that Al-Khalil's contributions to phonetic terminologies were instrumental in founding a new linguistic field, prompting extensive scholarly research and exploration. The profound impact of his intellectual contributions is well-documented, as shown by the extensive usage of his terminologies by his contemporaries in their phonetic studies. For instance, Sibawayh, who died in 180 AH, incorporated many of Al-Khalil's terms in his seminal work "Al-Kitab", albeit without crediting Al-Khalil directly.

Ibn Duraid, who died in 321 AH, referenced parts of the introduction in his work "Al-Jamhara", while Al-Azhari, who died in 370 AH, extensively documented the introduction and its contents in "Tahdhib al-Lugha". Ibn Jinni, who died in 392 AH, also derived substantial benefit from the introduction in his book "The Secret of the Craft of Grammar", noting terms such as slickness and silence. Additionally, Maki bin Abi Talib Al-Qaysi, who died in 437 AH, explicitly attributed many terms to Al-Khalil in his book "Al-Ra'ayah", and Abou Hayyan Al-Andalusi, who died in 745 AH, included numerous narratives from the introduction of "Kitāb al-‘Ayn" in his "Tadkhirat al-Nohat." (Kadour, 2001)

5. conclusion

This brief overview reinforces that the phonetic terms introduced in "Kitāb al-

‘Ayn" are authentically Arabic, both linguistically and in terms of knowledge. They are distinctively free from influences of foreign sciences that were later translated into Arabic and represent pioneering concepts without precedent in earlier linguistic foundations.

Moreover, these terms have demonstrated remarkable vitality and adaptability, being extensively employed across various disciplines, notably in phonetic studies and their practical applications, such as in the science of Tajweed. The structure of these terms also underscores the richness of spoken Arabic, showcasing its capacity for semantic and terminological development without reliance on extensive derivation, verbal innovation, or borrowing from external sources. (Kadour, 2001).

Al-Khalil's phonetic terminologies not only laid the groundwork for the field of Arabic phonetics but have also been recognized as significant scientific contributions, with their true value and utility only recently being fully appreciated by contemporary science.

Références

1. Ababna, J. (1984). *The status of Al-Khalil ibn Ahmad in Arab grammar*. Amman, Jordan :Dar Al-Fikr for Publishing and Distribution.
2. Abdel Aziz, M. H. (2009). *Research sources in linguistic studies of phonetics, morphology, grammar, lexicology, and language jurisprudence with explanatory models*. Cairo: Adab Library.
3. Al-Andalusi, A. H. (n.d.). *Tadhkirat Al-Nahawin* (A. Abdel Rahman, Ed.). Yarmouk University: Al-Risalah Foundation.
4. Al-Azhari. (2004). *Tahdhib al-Lugha* (A. A. Mukhaymer, Ed.; Vol. 3).Beirut: al-Kutub al-Ilmiyah
5. Al-Farahidi, A. (n.d.). *Kitāb al-‘Ayn* (M. Al-Makhzoumi & I. Al-Samarrai, Eds.; Vol. 1). Iraq: Ministry of Culture and Information.
6. Al-Jahiz. (n.d.). *Al-Bayan wa al-Tabyin* (A. Haroun, Ed.; Vol. 1). Beirut: Dar al-Jil.
7. Al-Jurjani. (2003). *Al-Ta'rifat* (M. B. A. Al-Soud, Ed.; 2nd ed.). Beirut: Dar al-Kutub al-Ilmiyah.
8. Al-Kasimi, A. (1980). General theory of the development, standardization, and documentation of terminology. *Journal of the Arabic Tongue*, (18). <https://allissanalarabi.org/front/numbers/show/117>
9. Al-Khwarizmi. (n.d.). *Mafatih Al-Ulum*. Egypt : Administration of Muniriya Printing.
10. Al-Razi. (1957). *Kitab Al-Zeenah* (2nd ed.). Cairo
11. Al-Sayegh, A. A. (2007). *The phonetic term in Arab studies*. Beirut: Contemporary Thought House.
12. Al-Siyouti. (n.d.). *Al-Muzhir in the sciences of language and its types* (M. A. J. Ali, M. Al-Bajawi, & A. Al-F. Ibrahim, Eds.; Vol. 1). Cairo

13. Al-Wa'ar, M. A. (1427AH). Linguistic thinking among Arab geographers and travelers in light of contemporary geographical linguistics. *Arab Heritage Journal*, (104). Retrieved from <https://archive.alsharekh.org/Articles/171/16175/363024>
14. Al-Yasin, M. H. (1980). *Linguistic studies among the Arabs until the end of the third century*. Beirut :Dar Maktabat Al-Hayat.
15. Bourouba, M. (1989). *Phonetic terminologies among Arab grammarians and linguists* [Unpublished master's thesis]. Faculty of Arts and Humanities, University of Aleppo.
16. Brockelmann, C. (1977). *History of Arabic literature* (A. H. Al-Najjar & R. A. Tawab, Eds.). Dar Al-Ma'arif.
17. Chahabi, M. (1995). *Scientific terminologies in the Arabic language in the old and modern times* (3rd ed.). Beirut: Dar Sader.
18. Hijazi, M. F. (n.d.). *Linguistic foundations of terminology*. Cairo: Gharib Library.
19. Hijazi, M. F. (n.d.). *The science of the Arabic language*. Cairo : Gharib Publishing House.
20. Ibn Faris. (1963). *Al-Sahibi in the jurisprudence of language and its issues and the customs of the Arabs* (M. Al-Shuwaimee, Ed.). Beirut: Badran Foundation for Printing and Publishing.
21. Ibn Hami. (n.d.). *Malahn Al-Qurra* (M. A. O. ben Omar, Ed.). Beirut Dar Al-Fikr.
22. Ibn Jinni. (2006). *Al-Khasa'is* (M. A. Al-Najjar, Ed.). Beirut :Alam al-Kutub.
23. Kadour, A. M. (1993). *Introduction to the jurisprudence of the Arabic language*. Beirut :Contemporary Thought House.

24. Kadour, A. M. (1998). *The originality of phonetics in Al-Khalil through the introduction of the Kitāb al-‘Ayn*. Damascus :Dar Al-Fikr.
25. Kadour, A. M. (2001). *Linguistics and the prospects of linguistic studies*. Beirut :Contemporary Thought House.
26. Karoui, Z. (2007). *Phonetic and grammatical terminologies of the Basrians in the 2nd and 3rd Hijri centuries* [Unpublished doctoral dissertation]. Faculty of Arts and Languages, University of Mentouri, Constantine. Algeria
27. Kazaz, A. J. (1981). *Linguistic studies in Iraq in the first half of the 20th century*. Beirut :Dar Al-Tali'a for Printing and Publishing.
28. Matihri, S. (2003). The morphological term in Ibn Al-Hajib's Shafiyyah. *Journal of Terminology*, (2)
29. Monin, G. (1999). *History of linguistics from its origin to the end of the 20th century* (B. Al-Din Salem, Trans.). Syria: Directorate of Books and University Publications.
30. Saleh, F. M. (n.d.). *The Arabic language in performance, pronunciation, writing, and orthography*. Beirut: Dar Al-Kutub Al-Ilmiyah.
31. Talbi, A. (1983). *Philosophical terminologies*. National Book Foundation.
32. Zahira Karoui, *Phonetic and Grammatical Terminologies of the Basrians in the 2nd and 3rd Hijri Centuries*, doctoral thesis, Faculty of Arts and Languages, University of Mentouri, Constantine, Algeria, 2007-2008.