

## Al-khalīl Ibn Ahmad: a pioneering linguist

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### Abstract:

This paper sheds light on the great role played by early Muslim scholars in the field of linguistics. The aim here is to refute the claim that Muslims did not contribute to this field. In fact, there were many important linguistic studies that can be classified as landmarks in linguistic thought. In this paper, I focus on a pioneering scholar, Al-khalīl Ibn Ahmad, who was renowned as the founder of the scientific study of poetic metre and musicology in the Arabic language and whose work was the basis of prosody in the Persian, Turkish, and Urdu languages.

Keywords: Al-khalīl- prosody- morphology- phonetics- phonology

الخليل بن أحمد: رائد في علم اللغة  
يوسف مختار الرملي  
الأكاديمية الليبية - مصراتة

### الملخص:

تسلط هذه الورقة الضوء على الأدوار المهمة التي اضطلع بها علماء اللغة المسلمون، ويهدف البحث إلى دحض المزاعم القائلة بأن العلماء المسلمين لم يسهموا في مجال علم اللغة. والواقع الملموس أنه كانت هناك دراسات لغوية عديدة يمكن تصنيفها علامات فارقة في مجال الفكر اللغوي. أركز في هذا البحث على أحد الرواد المتقدمين، وهو الخليل بن أحمد، المؤسس الحقيقي للدراسة العلمية لموازن الشعر والموسيقى في اللغة العربية، الذي تمثل دراساته البنية الأولى لدراسة العروض في اللغة التركية والفارسي والأوردية. الكلمات المفتاحية: الخليل بن أحمد- العروض - علم اللغة- الصرف - علم الأصوات - بحور الشعر.

### 1. Introduction

Some occidental scholars claim that Muslim scholars contributed nothing to linguistics and linguistic theory. For instance, Pedersen (1931, p. 4) claims "the ancient world [Greek and Rome] bequeathed to Europe a legacy heavy with misunderstanding of the history of language. ... The spread of

Christianity marks one of the stages in the history of European Linguistic Science ... it brought with it the first great expansion of the linguistic horizon ... " (quoted in Semān, 1968: 4). Pederson further says "... we have nothing to thank Muhammadanism for in this respect".

This quote illustrates Pedersen's stark prejudice against and denial of the important contributions of Muslim scholars, a stance which is easily refutable due to the abundance of scholarly writings by Muslim linguists.

A most influential linguist with groundbreaking contributions was Alkhali. His full name was Al-khalīl Ibn Aḥmad Al-farahīdī Alazdi. He was born in Oman at the end of the first century AH\*, and was a member of the Azd tribe. He was so famous and much highly regarded that it was said "Whoever should wish to look at a man created of musk and gold, let him look at Al-khalīl." This sentence is attributed to Sufyan Althawri, and it clearly shows the high status which Al-khalīl enjoyed. He was known as "the shining star of Arabic grammar". Despite his fame, he lived a simple ascetic life of solitude in a small hut.

He spent his early years in Oman. Then he moved to Basra in Iraq, where he was taught by Basran teachers. Later on he, through diligence and hard work, became the doyen of the Basra school of thought (Makhzūmi 1986: 91) (There were two main schools of linguistic thought: the Basran school and the Kufan school.)

## 2. Prosody

He was the first to subject the prosody of Arabic poetry to fine-grained phonological analysis. It is said that once he was in the market he heard a blacksmith beating on an anvil. This inspired him to write down the Arabic poetic metres. This anecdote shows that his invention of poetic metre was through mere coincidence. However, coincidence alone cannot be of much help. Such work must have been the result of great wit and erudition. Besides, his knowledge of music must have played a prominent role. In this respect, it should be noted that he did not focus on music for fun or for the sake of music itself as he was not known to frequent concerts or listen to

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\* Makhzūmi (1986: 43) says that Al-khalīl was born in 100 AH and died in 170 or 175 AH. It is curious that he does not say that he was born in Oman.

songs. By contrast, he studied music in order to gain more insights into the precise details of language which he treated as a collection of musical sounds (Makhzūmi, 1986: 251). He introduced and codified fifteen metres: Later on, Al-khalīl's student, Al-akhfash, was believed to have added the sixteenth: *almutadark*. However, Makhzūmi (1986: 187-88) presents three verses of poetry composed by Al-khalīl corresponding to the *mutadārak*. This, he argues, proves that *almutadārak* was introduced by Al-khalīl rather than by Alakhfash.

Golston and Riad say that Al-khalīl's "elaborate circle system remains directly influential in theories of metrics to this day, including the generative analyses of Halle (1966), Maling (1973) and Prince (1989)." But they present an alternative analysis, which they call Prosodic Metrics, and which "draws directly on the iambic nature of the [Arabic] language" (Golston and Riad, 1997: 111).

It is likely that the reason why Al-khalīl invented this discipline is not only to conserve the rhyme of the Arabic poetry so that it does not get affected and changed by the renovating poets of his time (the Abbasid era) who composed poetry that was not in harmony with the Arabic metre. Another reason could have been to defend the glorious Quran and rebut the false claims about it and to reveal its miraculous aspects. Some enemies of Islam claimed that the holy Quran was but poetry. Al-khalīl's contribution confirmed the divine source of the Quran and definitely showed that the Quran had nothing to do with poetry, nor had poetry anything to do with it. (Dandrawi, n.d: 11)

### 3. Morphology

Among Al-khalīl's interesting contributions is his introduction of the diminutive forms. The diminutive has a basic denotative meaning of smallness and several connotative meanings of (a) closeness in time or space (e.g. *buṣaid* "immediately after", *fuwaiq* "immediately above", (b) endearment (e.g. *bunai* "my son"), (c) contempt (e.g. *rujail* "deprecated man") (Watson, 2002: 189). He introduced the forms of the diminutive, saying that the diminutive forms are three: triconsonantal words take the form *fuṣayl*, quadriconsonantal words take *fuṣayṣil*, and pentaconsonantal *fuṣayṣīl*. He used these forms in analogy to the forms *fulays*, *durayhim*, *dunaynīr*, diminutive forms of *fil*, *dirham*, and *dinar*, respectively. He used these



linguists were Quran readers. Those early readers paved the way to the existence of Arabic phonetic and phonological research. This is because those readers made various observations and raised different issues concerning the pronunciation of some words from the Quran, resulting from differences between Arabic dialects and from mispronunciation by nonnative speakers of Arabic (Khalil, 1988: 3-4). However, those observations, which accumulated in a whole century, only took the form of a systematic study as a result of the efforts exerted by Al-khalīl, as can be found in the introduction to his book.

This book is his famous dictionary *Kitāb Al-Ḥain* "Book of the [Letter] 'Ayn", which is the first Arabic dictionary and the standard that is used today for the study of *ḥarakāt* (short vowels). He ordered it in an impressive way. Originally, the Arabic letters were arranged in alphabetical order, thus: ʔ b ḍ ḏ d, h w z, ḥ ṭ j, k l m n, s ṣ f ṣ̣, q r ṣ t, θ x ḏ, ḏ, ṣ, ḡ. On the contrary, Al-khalīl arranged his dictionary not alphabetically, but according to place of articulation. He divided it into five *makhārij* (outlets/places of articulation). The first letter he listed was ṣ. This is the letter the book is named after. The other letters are arranged as follows: ḥ, h, x, ḡ, q, k, ḍ, ṣ, ḏ, s, z, ṭ, d, t, z, ḏ, θ, r, l, n, f, b, m, w, j, ʔ. As can be seen, these letters are arranged from innermost to outermost, unlike the order given in the Arabic tradition.

Because this classification of sounds according to their place of articulation was unknown in the Arabic tradition before Al-khalīl, some researchers claim that Al-khalīl did not devise this classification. For example, Monin (1981: 106) says that there are some similarities between the work of Panini and the phonetic research of pioneering scholars like Al-khalīl. This claim can also be found in the Encyclopedia of Islamic Knowledge, which states "It seems that he [Al-khalīl] ordered it the same way the Sanskrit alphabet is ordered, beginning with gutturals" (p. 436). Moreover, Dhaif (1986: 38) claims that "it is likely that Al-khalīl learnt it from some Indians who happened to be in Basra at that time" (Gaddour, 2003: 16)

However, such claims can be invalidated on the grounds that Al-khalīl's work was not an exceptional piece of work in an inactive society. Rather, it was part of a wider intellectual activity taking place in a vigorous atmosphere. Even if we admit for the sake of the argument that Al-khalīl's work was borrowed, then what about other branches of knowledge contemporary to Al-khalīl? Shall we say that branches like lexicography, grammar, morphology, semantics, rhetoric, criticism, exegesis, and Islamic

law are also borrowed? Of course not, because Al-khalīl's era was full of scholars tackling the nooks and crannies of numerous branches of knowledge and books being authored by those scholars. There were leading researchers such as Ibn Jorajj in hadith, Abu Ṣamr Ibnul Ṣalāʾ in Quran readings, Malik and Shaffi in fiqh, and several others specializing in history, poetry and so forth (Gaddour, 2003: 16-17. See also Alʿush, 1941: 515; Makhzūmi 1986: 65-66).

As for Dhaif's claim that Al-khalīl might have learnt from Indian inhabitants of Basra, this probability is unconvincing. Dhaif based his assertion on the assumption that the Indians of Basra were well versed in the minute achievements of their scholars, whether those Indians were sailors, merchants or whatever. This is highly unlikely.

Versteegh (1997) also discusses this claim and says that "Most other examples of Indian influence that have been adduced have turned out to be spurious, so that it seems safe to conclude that the adoption of the phonetic order by Al-khalīl was, indeed, an autonomous development" (p. 20)

Finally, what supports the unlikelihood of Indian effect on Al-khalīl's work is the fact that his analyses are free of loan terms. Translated fields will definitely be full of terminology borrowed directly from the source language. For example, fields like philosophy, logic, chemistry, which were transmitted through translation, were replete with loans. Similarly, modern Arabic linguistic studies abound with foreign expressions. This is not true of Al-khalīl's description and classification of the Arabic sounds and their different places and manners of articulation (Gaddour, 2003). All this leads us to conclude that Al-khalīl's analyses and descriptions were his own.

#### 4.1 Sound analysis

In order to classify the sounds of Arabic, Al-khalīl isolated each sound from its environment, and then he "tried it out". Once he asked his students "how would you pronounce a vowel-less consonant like the [b] of *ʔidrib* or the [d] of *qad*? They answered "we say *baʔ*, *dal*". He replied "this way you are simply pronouncing the name of the consonant not the consonant itself. The best way is to say *ʔab*, *ʔad*, with a glottal soft catch." He added this glottal soft catch in order to be able to articulate a vowel-less consonant ([b], and [d] in this case) because it is not possible to produce a consonant which is not accompanied by a vowel. Adding a vowel after the consonant may cause it

deviate from its original point of articulation (Khalil, 1988: 15; Ibn Jinni, 2007: 7).

Isolating a consonant from its environment is a good way to know the real characteristics of that consonant, especially when it is in the vicinity of other consonants. This is because when sounds are adjacent they may influence one another by spreading or acquiring features that are not inherently theirs.

#### 4.2 Sound sequences

Al-khalīl noticed that certain sequences of sounds were permissible while other sequences were impermissible. This is what modern 'phonologists' dub phonotactics or 'phonotactic constraints.' He went on to say that phonotactic constraints are language-specific rather than cross-linguistic. That is, what is tolerable in a certain language may be intolerable in some other language, and vice versa.

He also dealt with the rules known today as lexical and postlexical phonological rules\*. For instance, he contends that *ʕ* and *ħ* cannot coexist in a single word, since they have adjacent places of articulation. However, he adds that blending may cause them to co-occur, as witnessed in *ħayʕala* 'call to prayer', which is a blend comprising *ħayya* 'come' and *ʕala* 'to'. This is an indication that he was aware that some phonological processes can take place only across a boundary. Likewise, he says that *ʕ* and *h* cannot co-occur in a single word in this order. However, he adds that they can be used in the same word if *h* occurs first, whether they are contiguous as in *kalʕihn* 'like wool' (Quran, 101: 4) or separate as in *alʕazha* 'a mean person who does not mingle with people' (Makhzūmi, 1986: 127). It should, however, be stressed here that the *ʕ* and *h* are separated in both of these words, not just in the latter one. The misconception that they are adjacent in *kalʕihn* is caused by the Arabic orthography "كالعَيْن". Nevertheless, the transcription clearly shows that the high front vowel *i* separates them. Another piece of evidence in support of the fact that there is a vowel between these segments is that the word is disyllabic, rather than monosyllabic when it comes to pronunciation and syllabification.

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\* Such rules are dealt with in lexical phonology, "a theory of phonology in which morphological and phonological rules are brought together within a single framework" (Crystal, 2008: 277).



A word is now in order concerning Al-khalīl's classification of  $\zeta$  and  $\hbar$  as having 'adjacent' places of articulation. Unlike Al-khalīl, Sibawayh says that these two segments are produced at the same place of articulation. Modern phonologists also say that they share the same place of articulation; both are pharyngeal sounds (Watson, 2002; Wright, 2007). In spite of the observation that Al-khalīl assigns  $\zeta$  and  $\hbar$  to different outlets, it seems that he does not believe that this difference is what makes these two segments distinct from one another. Instead, he attributes this distinction to other features that each of the segments has:  $\hbar$  is aspirated while  $\zeta$  lacks this feature. In this respect he says "if it were not for the aspiration accompanying the  $\hbar$ , it would be similar<sup>1\*</sup> to the  $\zeta$  due to its nearness to the  $\zeta$ " (Khalil, 1988: 25). What is interesting here is that although Al-khalīl realizes the difference in voicing between these two sounds ([+voice  $\zeta$ ] vs. [-voice  $\hbar$ ]), he ascribes the dissimilarity between them to aspiration, not to voicing.

We have just seen that Al-khalīl assigns  $\hbar$  and  $\zeta$  to different places of articulation. It should, nevertheless, be noted that he assigns these sounds to the same scope. Scope refers to a whole area within which a segment may be produced; this means that 'scope of articulation' is wider than and includes 'place of articulation.'

## Conclusion

This paper has cast light on a pioneering Muslim scholars, Al-khalīl, the founder of Arabic linguistic theory. The paper presented many of the works introduced by Al-khalīl, thus refuting the prejudiced claim that Muslim scholars contributed nothing to the linguistic studies. Moreover, the paper argued that Al-khalīl's work was his own, and thus excluded any foreign influence.

The paper has also shown that many of Al-khalīl's findings are compatible with the findings of modern linguist who utilize state-of-the-art equipment and technology. More research is needed in order to present the distinguished role played by early Muslim scholars in the field of linguistics as well as in other branches of knowledge.

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\* Notice that he says "similar to" not "indistinguishable from".



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