

THE BEGINNING OF PHONOLOGICAL TERMINOLOGY IN ARABIC

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0.00 Preliminaries

Arabic lexicography has been recognized as one of the most productive linguistic traditions, certainly among the early linguistic attempts at language codification. Arabs were fascinated with the words of their language and have been known to produce a plethora of mini-lexica on different topics. They have also been known to have produced comprehensive dictionaries of the language on a large scale. These dictionaries were not mere collections of words or phrases in a haphazard manner, rather the Arabs developed elaborate linguistic schemes for the classification of their lexical items according to norms that reveal a prior analysis of Arabic down to its minor details. One salient feature of Arabic linguistic tradition is that it did not develop its linguistic analyses in isolation, that is, it did not develop its phonology or phonetics as completely autonomous of the other components of the language, nor did it develop its morphology or syntax semi-autonomously. Neither did it develop its lexica in a vacuum. One is struck by the manner in which these linguists integrated the various aspects of language analysis into a coherent system. These same linguists developed their phonetics, morphology, syntax, lexicon in tandem and in a harmonious symbiosis. One can say that they found all aspects of language as part of the integrated whole and wove them into their analyses in a manner that reveals their study and mastery of the language in its wholeness.

Since this presentation is limited to a very small area of Arabic language studies, it will not be possible to go into detail about the intricacies of how the Arabs developed their lexica. (Darwīš, 1956; Hayward, 1965) It is sufficient to say that this study is about the beginnings of this tradition, and its focus is the work of two prominent members

of the Baṣran School of Linguistics who have left us sufficient evidence to warrant a comment on their contributions to the lexicon of phonology in Arabic. It is clear from the literature on Arabic that the design of the system that the Arabs left behind has been transmitted in its wholeness by the subsequent generations of Arabs to us, but it has not been so faithfully rendered in its other presentations, i.e. its translations or its non-native commentaries. The attempt has been, in the interest of clarity and of rendering the Arabic tradition and terminology familiar to non-Arabic readers, to translate or render the concepts as close as possible to the terms of the target language. In the process, the imagery, the relations, the dichotomies and all the effect these terms and concepts have in the source language, have been culturally neutralized and homogenized in the target language so that their originality has been clouded and their uniqueness lost in this process of transmission. One need not distort a tradition in order to understand or make it understood. There is ample evidence that linguists have thrived on diversity even within the same tradition. Let us mention just few examples to illustrate the point that linguists have been respectful of the different approaches to the study of language and have preserved those approaches by accepting their methodologies, their terminologies and their resultant analyses as genuine contributions to the growth of the discipline.

Linguists have not altered the approach to the study of language by the linguists of the Geneva School. Indeed we have Saussurian linguistics in its original format and its original terminology. In addition to all other discussions about the Geneva School, a lexicon for the Saussurian terminology has been drawn up to establish the legitimacy of that tradition. e.g. (Engler, 1968). The same may be said of other versions of the same structuralist tradition as exemplified by the Prague School of linguistics (Vachek, 1960), and the American tradition of linguistics (Hamp, 1957), among others. Even within the same School we are not prone to change one development to accommodate the other as, for example, the various versions of the Prague School developments when one compares the approaches of Nicolai Trubetzkoy (1969), Roman Jakobson (1951) and André Martinet (1960). Even the same term may have

new incarnations within the same school, e.g. the "bilateral opposition" of Trubetzkoy as compared with the "binary opposition" of Jakobson. In more current developments in linguistics, we would not erase the distinction between stratificational (1966), Firthian (1946) or transformational (Chomsky & Halle 1968) approaches to linguistics in the name of simplification or clarity.

The type of tolerance for diversity and respect for the choice of terms and conceptual framework accorded these and other school of thought we want extended to the Arab tradition. It has been the frequent practice among Arabists, both Arabs and non-Arabs, to link the Arab linguistics with some other tradition and in the process of transmitting it, translate it into as close as possible a replica of the purported source(s), whether East or West (Wild, 1962, 1965; Danecki, 1978, 1985; Versteegh, 1977). Even when no explicit mention of the sources of the linguistic tradition for the Arabs are made, often the choice of terminology employed in discussing the contribution of the Arabs to linguistics betrays the writer's belief towards its derivative nature. It is the contention of this presentation that there are elements of this tradition that are genuinely native and show no dependence nor borrowing from any other source except the native genius of its creators. This native creativity we find fully fledged in the very early stages of Arabic linguistic writings in the major centres of language studies of Baṣra, Kūfa and Baġdād of second century of *hiġra*, the eighth century of the common era. One should state at the outset that it is an honour for the Arabs to be associated with such great traditions as that of the classical Greece, or India in any intellectual endeavour, but such a linkage need to be made only on the basis of documentary evidence that forge a recognized commonality among the traditions. Such documentary trail leading to these sources is not plentiful in linguistic matters, it is plentiful, however, in the development of philosophy, medicine, and other disciplines among the Arabs and has been acknowledged by the Arab borrowers, translators, teachers and commentators freely and unabashedly.

1.00 al-Ḥalīl

In phonetic and phonological studies Arab creativity was shown in the manner in which they described the sounds of the language, the features they selected for such a description and the oppositions they employed to determine the relationships of the system. To be more focused, the works of al-Ḥalīl b. Aḥmad al-Farāhīdī (d. 791) and Sibawayhi (d. 793), two Baṣran linguists, are our primary sources. One can not discuss the whole of their output even in a narrow area of linguistics, since they wrote so extensively, but a selection of few basic concepts of phonetics and phonology from these two early pioneers will show their originality and contribution to Arabic linguistics that has all the marks of uniqueness that one associates with native genius.

1.10 al-Ḥalīl's Terminology

1.11 *ḥayyiz* / *mahrağ* 'Locale / Exit'

In the description of the letters of Arabic al-Ḥalīl developed his own methodology, and selected his own set of parameters to describe every letter of the Arabic Alphabet. (al-Ḥalīl, *K. al-ʿayn* I, 47-60). These articulatory parameters that he selected are conceptually dissimilar to any other set that we know of. They are genuinely articulatory since they divide the oro-pharyngeal tract into eight discrete areas each called a *ḥayyiz* 'locale' which is "a section set off by itself" (al-Ḥalīl, *K. al-ʿayn* III, 275), and within each locale he ascribed a certain number of the letters of Arabic as their proper production targets each called a *mahrağ* 'exit'. Within this system every letter is assigned its own exit and there is no overlapping of exits among the letters. These two terms, despite their appropriateness, have not been adopted in the literature on phonetics of Arabic, rather, Arabic is described more frequently by the less descriptive terms of point and manner of articulation approach which is foreign to the Arab thinking and tradition.

1.12 *ṣaḥīḥ* / *mu'tall* 'Strong / Weak'

From the description of the each letter, al-Halīl subdivided the inventory of the letters of Arabic into two unequal groups. Those that have locales and exits and those that do not. The letters that have both are the *ṣaḥīḥ* 'strong' letters, and the letters that have neither are the *mu'tall* 'weak' letters. The following chart 1. is based on al-Halīl's analysis.

Division of Letter by al-Halīl

Letters			
Strong		Weak	
locale	exit	locale	exit
throat	ʿ, ḥ, h, ḥ, ġ	cavity	w, alif, y, ' ,
uvula	q, k		
soft palate	g, š, ḍ		
apex	š, s, z		
alveolum	ṭ, d, t		
gingiva	z, ṭ, ḍ		
laminum	r, l, n		
lip	f, b, m		

chart 1.

It is not necessary to comment on the divisions of the oro-pharyngeal channel. These divisions are what has become familiar descriptions of sound systems generally. The only warning that one would wish to make is that one need to think in Arab terms of locale / exit and not

in terms of point and manner of articulation. Here locales are distinct from each, and so are the exits. Each Exit is unique to its letter. Exits should not be identified with overlapping points of articulation since they are conceived not as common targets but as individual narrowings along the speech channel.

In addition to the classification of the letters according to locale / exit and strong / weak in the above chart, al-Halīl re-groups some of the letters into more comprehensive classes that go beyond the articulatory production mechanisms to features that they share as shown in chart 2. below:

Not all these features have survived in the transmission, but one can see that attempts were made at broader and broader subclassifications of the letters based on the subdivisions of shared common features.

1.13 *ḍulq, ḍalāqa* 'fluency, eloquence' [r,l,n,f,b,m]

This is a feature that groups together the letters that the natives felt marked fluency and eloquence due to the mobility of the producing organs involved, i.e. at the edges of the organs, and the speed with which such letters may be produced. (al-Ḥalīl, *K. al-ʿayn* V, 134).

1.14 *ṣutm* 'uvular-velar' [q,k,g,ṣ,d]

This is a feature that distinguishes a certain group of letters from the throat letters though close to them (al-Ḥalīl, *K. al-ʿayn* VII, 107).

1.25 *mutbaq* 'covered' [m]

This feature is not fully utilized by al-Ḥalīl and does not include all the covered letters that will be listed in *Sībawayhi*.

1.26 *ṭulq, ṭalāqa* 'free' [ʿ,q]

This is a unique feature, since the occurrence of any of the free letters in a word adds to its beauty and richness of resonance. (al-Ḥalīl, *K. al-ʿayn* I, 53), hence it is for its aesthetic appeal. As he says: "A person of free tongue, the one who is endowed with freedom and eloquence, and a tongue is free and eloquent, that is, continuous" (*ibid.*, V, 102).

1.17 *murtafiʿ* 'high' [q,k,g,ṣ,d,ṣ,t,d,t]

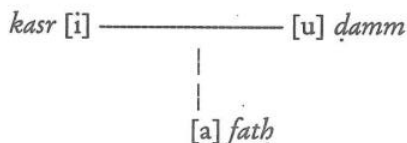
This feature groups together all the letters that make contact with any part of the palate.

In many of these classifications we have features that look not only to the commonality of productions and physiological proximity but features that go beyond physiology to the effect that the presence of

these letters has in the listener and the frequency of their occurrence in words.

1.20 *ḥaraka / sukūn* 'motion / stillness'

In the literature this opposition is invariably represented by vowel / consonant opposition respectively. It is obviously a misrepresentation of the concept of this opposition. For the Arab linguists, the primary opposition was that of stillness and motion. "Stillness is the absence of motion" (al-Ḥalīl, *K. al-ʿayn* V, 312). All the letters listed in the above charts are silent letters. They can be set in motion by *fath* 'open [a]' *ḍamm* 'close [u]' or *kasr* 'break [i]'. This opposition is maintained to this day in the Arabic linguistic writings except among those most slavishly imitative of other traditions.



2.00 Sībawayhi

It is time to discuss some of Sībawayhi's phonetic / phonological terminology. In many ways, in his treatment, we have a more complete listing of features that will complement his teacher's, and the two will become standard in the discussions and analyses of Arabic. I am taking the contribution of Sībawayhi as complementary to that of his teacher. This harmonious combination of the contributions of the teacher and student makes it necessary to take them as a single system, the totality of whose features are to be drawn from these two sources.

In this section I will only list the features that Sībawayhi treatment adds to that of al-Ḥalīl, and will not repeat the classifications and the descriptions of the letters. This is not to say that the two treatments are identical. They are not. This is not the place to discuss their differences. We only wish to concentrate on the terminology that these two men brought into the sphere of the linguistic phonetics.

In the above chart one notices that the features do not repeat the list of al-Ḥalīl, except for the *mutbaq* 'covered', where al-Ḥalīl listed only [m] under this feature, while Sībawayhi lists the balance of the 'covered' letters.

2.10 *mağbūr* / *mahmūs* 'loud / muted'

These terms have not been without controversy (Fleisch, 1961: 219ss). There is a great deal of discussion about the two terms *mağbūr* / *mahmūs*. They lend themselves to the pair of current terms "voice / voiceless" easily, because when one examines the letters associated with these two terms, one is given little choice but to chose "voice / voiceless" from among the options of the inventory of the current phonetic terms. However, if one were to abide by the definition of "voice / voiceless" as the characterization of the vibratory cycles of the vocal folds, it is inconceivable how these two terms could possibly mean "voice / voiceless" for the eight century Arabs. One can find no evidence that the eighth century linguists, or even anatomists associated the laryngeal vibrations with the voicing as we define it. Even in the tenth century, in the treatise of Ibn Sīnā, no such function is attributed to the larynx (Ibn Sīnā, *Risāla*). It is inaccurate then to translate these two terms as "voice / voiceless" to mean what was meant by the Arabs. But translate we must, and a solution need to be found. One reasonable way of determining the meaning of these concepts is to appeal to the contemporary eighth century sources that define or describe them for us. We do have a contemporary source in *Kitāb al-ʿayn* by al-Ḥalīl himself. al-Ḥalīl states (*K. al-ʿayn* III, 388-9) *kalām ġahīr wa-ṣawtun ġahīr ay ʿālīn*: 'speech that is *ğahīr* and a sound that is *ğahīr* is loud', and further on he states *al-ğuhūr, aṣ-ṣawtu l-ʿālī*: '*ğuhūr* is the loud sound'. It is clear that the description is impressionistic and the impression is that this type of sound is 'loud', as opposed to *mahmūs* 'muted, whispered'. As he states *al-hamsu ḥassu ṣ-ṣawti fī l-fami mimmā lā iṣbāʿa labu min ṣawti ṣ-ṣadri, wa-lā ġahāra fī l-mantiq, wa-lākinnahū kalāmūn mahmūs fī l-fami ka-s-sirrī*: 'al-hams is the sensing of sound in the mouth without the enrichment from the sound of the chest, nor loudness of expression;

it is rather whispered in the mouth like a secret'. This is sufficient to indicate that they are not discussing the functions of the laryngeal folds in the process of phonation, hence voice / voiceless translation is erroneous, rather loud / muted are the appropriate ones.

2.12 *šadīd* / *raḥw* 'tight / loose'

In this opposition there is a sense of the closure being tight or not so tight. This, however, need not mean stop / fricative as they are used in the current terminology, as a look at the list of letters that come under these two terms will indicate. al-Ḥalīl defines *šadīd* as having *šidda* 'tightness' and *ṣalāba* 'solidity' (*K. al-ʿayn* VI, 213) while he defines *raḥw* like the loosening of a neckband.

2.13 *mutbaq* / *munfatih* 'covered / open'

The relevance of this opposition is only obvious when both terms are taken together. *Mutbaq* 'covered' is achieved when the upper and the lower articulators are approximated in a particular manner in the production of one of the letters, while in the 'open' they are not so approximated as the selection of the letters that fit one or the other feature indicates.

The balance of the terms in chart 3. can not be addressed in this short presentation. They need less elaboration as they are self-explanatory.

3.0 Conclusions

The discussion of the early phoneticians imposes on us constraints that limit our freedom of imposing on the phoneticians of earlier generations concepts that only later advances in our science have made possible. Former descriptions of speech segments may satisfy our common sense and obvious observations, but they can not be endowed with the knowledge of physiology, anatomy or what intrusive technology has made possible for us but was not available to them. In the above discussion, an attempt was made to keep this maxim in mind and to give the

terminology of the eighth century Arab phoneticians its authentic content and its proper understanding.

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