

The Study of Vowel Quality by Early Arab and Muslim Phoneticians

M.H. Bakalla
Riyadh, Saudi Arabia

1. Introduction

In a previous paper of mine entitled 'The contribution of the Arabs and Muslims to the study of vowel length' (Bakalla, 1978), I tried to present the analysis of vowel quantity of Classical Arabic as it was originally given in the early Arabic sources stretching over more than 10 centuries beginning with the 7th Century A.D. In the present paper I will try to present the analysis of vowel quality in early Arabic sources. No attempt is made here at exhaustive coverage of this phenomenon in the literature of the Islamic countries or through the Islamic periods. Rather a bird's eye view of the salient features is selected from various sources with references to their authors. It is also beyond the scope of this paper to trace the origin and development of the present phenomenon regarding vowel quality and related matters; such treatment deserves a separate paper.

2. Vowel system

The first point to be discussed here is the triangular concept of the vowel system of Arabic, in particular Classical Arabic. Arabic was analysed as having three basic vowels. They are the long vowels [a:], [i:], [u:]. They were commonly called *ḥurūf*. The same term was also given to the consonants of Arabic. Thus the term refers to the written representation of the vowels and consonants. Ibn Sina or Avicenna (died 428 A.H./1037 A.D.) differentiates between the two categories by calling the vowel *muṣawwit* and the consonant *sāmit* (Ibn Sīnā 1963:42). The use of the two terms indicates the contrast between 'vocalic' and 'nonvocalic' nature of speech elements. Literally *muṣawwit* means sound or sonorous sound while *ṣāmit* means silent or non sonorous sound.

3. Long vs. short vowels

In the 10th Century A.D. Ibn Jinnī (1954:19f) drew the distinction between the long vowels and the short vowels as is clearly stated in the following:

'The short vowels *ḥarakāt* are parts of the long vowels *ḥurūf*

madd wa līn, namely, the *ʔalif* [a:], the *wāw* [u:], and the *yāʔ* [i:]. Just as those *hurūf* are three, so are the *ḥarakat* three in number. These are the *fathah* [a], the *kasrah* [i], and the *ḍammah* [u]. Early grammarians used to call the *fathah* the small *ʔālif*, the *kasrah* the small *yāʔ*, and the *ḍammah* the small *wāw*. In this regard they were correct.'

Here Ibn Jinnī seems to consider the quality as the distinguishing factor between long and short vowels for he continues to state:

'To demonstrate the fact that short vowels are but parts (or fractions) of the corresponding long vowels *hurūf*:- If you lengthen (*ʔa* [ba^cta]) the short vowel, the corresponding long vowel will occur as a result. For example, a in ^c*amr*, if lengthened, ā will occur and you will say ^c*āmra*; likewise, i in ^c*inab* will become ī as in ^c*īnab*; and so u in ^c*umar* will become ū as in ^c*ūmar*. Had the short vowels not been parts of these long counterparts, the long vowels would have not been anticipated or been produced from them." (Ibn Jinnī 1954:20).

The term given to the lengthening of vowels is *ʔi* [bāṣ]. A long vowel is called *ḥarf madd wa līn* where *madd* refers to lengthening and *līn* is special quality of the vowel for being produced without any hindrance or obstruction.

4. Quality differences

The early Arab and Muslim phoneticians were aware of the differences in quality between the vowels themselves. Ibn Jinnī (1954:8) states:

'The *hurūf* or sounds which are produced with the articulators held apart are three [a:], [i:], and [u:]. The most open and the softest of them is [a:]. Further the sound which occurs in [a:] is different in quality from the sounds [i:] and [u:]. Conversely the sound which occurs in [i:] is different in quality from [a:] and [u:]. The reason for the differences is that in each of the three cases the vocal tract has a different configuration.'

Ibn Sīnā (1963:49) describes the articulation of the vowels as follows:

'The long vowel [a:] and the short vowel [a] are produced by a smooth emission of the air-stream without any interference. The long vowel [u:] and the short vowel [u] are produced with little interruption of the air-stream at, and narrowing, of the lips, along with slight gentle propulsion upwards on the way out. The long vowel [i:] and its sister short vowel [i] are produced with

little interruption and narrowing of the point of articulation, along with a gentle propulsion downward.'

5. Consonants and vowels

In their description of the phonological or phoneme inventory of Arabic, the early Arab and Muslim phoneticians distinguished between the two main types of sounds or phonemes including consonants and vowels. The first type is called basic and includes the long vowels discussed above, namely [a:], [i:] and [u:]. The corresponding short vowels are already parts of the respective long ones. There were other varieties of vowels which were discussed in the early literature. Of relevance here are the two long vowels [e:] known as *ʔalif ʔimālah* or 'umlaut' and [a:] known as *ʔalif tafxim* or 'emphatic or velarized' [a:]. According to Ibn Jinnī (1954:51) they are both acceptable and readily used in the standard language. As for *ʔalif ʔimālah*, he mentions the vowel which is between *ʔalif* [a:] and *yāʔ* [i:] as in *ṣālim* → [ṣe:lim], *ḫatam* → [xe:tim]. As for *ʔalif tafxim* Ibn Jinnī gives the following description:

'*ʔalif tafxim* is that which is between [a:] and [u:] as in their pronunciation of *salām alayk* and *qāma Zayd*. This is why the symbol [u:] was given in the writing of *ṣalāt zakāt* and *ḥayāt*, because [a:] was pronounced in the direction of [u:].'

6. Variants

There is another class of largely short vowels which are not normally marked in writing. Ibn Jinnī (1954:58f) considers them as a consequence of vocalic harmony or vowel assimilation *tajānus aṣ-ṣawt*. Hence they were treated as secondary sounds or variants. Some of these are [i], [u], [ε] and [æ]. These varieties and others are treated in more detail in Bakalla (1982).

7. Conclusion

In conclusion, the contribution of the Arab and Muslim phoneticians are both numerous and interesting. This paper has only pointed out some of the salient features in one small area of their analysis of the vowel system. It is meant to point to the problems rather than solve them. Definitely further investigation is necessary before a final assessment can be made.

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