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### Early Arabic Phonetical Theory. Phonetics of al-Ḥalīl Ibn Aḥmad and Sībawaihi

It is to be doubted that factors of religious nature influenced the evolution of Arabic phonetical science. One should note, however, that the recitation of Qur'ānic text (*tağwīd*) must have had left some impact on the Arabic phonetical theories, although it is almost certain that at the early stages of Arabic phonetical science (i.e. in the 8th century) no stimuli of religious character were really significant for its development.

The first thing to be noted is the purely theoretical character of early Arabic phonetical theory. There are no traces whatsoever of its practical use. It is only much later that theoretical studies were to be applied for practical purposes, most probably during the 10th century, when the *tağwīd* literature flourished.

Also there is hardly an evidence to show that phonetical studies were cultivated before Sībawaihi or — for that matter — al-Ḥalīl Ibn Aḥmad. An elaborated theory appeared unexpectedly and it is supposed to have been put forward by al-Ḥalīl Ibn Aḥmad, Sībawaihi's teacher. Al-Ḥalīl who died about 175/791, is said to have been the author of *Kitāb al-'ain* — *Dictionary of the letter 'ain*<sup>1</sup>. This dictionary is preceded by a short treatise on theoretical phonetics very well known in the form quoted by al-Azharī in *Tahdīb al-luġa*<sup>2</sup>.

Discussion whether al-Ḥalīl was really the author of *Kitāb al-'ain*, is not a new one. A thorough exposition of all the earlier arguments was given by as-Suyūṭī

<sup>1</sup> According to other traditions the authorship of *Kitāb al-'ain* was ascribed to al-Lait Ibn al-Muẓaffar. Its fragments were published at the beginning of this century by Anastās al-Karmalī in "Luġat al-'arab" No. 4, Pt., 2, 1914, p. 57—63. The text of *Kitāb al-'ain* was published by 'Abd Allāh Darwīš in 1969 (Baghdad).

<sup>2</sup> All my quotations refer to the following edition: Abū Maṣṣūr Muḥammad Ibn Aḥmad al-Azharī, *Tahdīb al-luġa*, vol. I. Ed. by 'Abd as-Salām Hārūn and Muḥammad 'Alī an-Nağğār, Cairo 1964.

in his *al-Muzhir*<sup>3</sup>. The general tone of these Arabic discussions is that of doubt and even negation of his authorship.

I would like to throw some light on this problem from an entirely different point of view. I hope to establish some facts which result immediately from the phonetical texts of al-Halīl Ibn Aḥmad and Sībawaihi. Both texts were already analysed by Stefan Wild<sup>4</sup> — who, however, did not consider them from the point of view of their interrelations. And this point proves to be extremely interesting as far as the theories of both authors are concerned.

Sībawaihi devoted to phonetics some parts of his *al-Kitāb*, but not even once did he mention the sources of his phonetical knowledge. At the same time it must be borne in mind that in many other instances Sībawaihi quoted the names of his informants, and — among them — al-Halīl Ibn Aḥmad<sup>5</sup>, who not only solved a number of grammatical problems, but also is supposed to be the author of an integral phonetical theory.

Even a furtive glance at the theories of al-Halīl Ibn Aḥmad and Sībawaihi proves that they hardly could have been interrelated; they appear to be quite independent from one another as far as the general presentation of facts is concerned. How could Sībawaihi, a pupil of al-Halīl<sup>6</sup>, omit his teacher's theory? If there was something like al-Halīl's phonetical theory, Sībawaihi would have mentioned it in some way or other. And since he did not mention it, I would be inclined to consider Sībawaihi's text as earlier than that ascribed to al-Halīl, and therefore al-Halīl's theory as being of later origin and compiled by some other scholar. I would rather not embark here the question whether al-Halīl was the author of *Kitāb al-'ain* or not, since it lies outside the scope of the present study.

From the juxtaposition and comparison of both phonetical theories result some very definite differences which — in my opinion — prove their total independence.

First of all, al-Halīl's theory is fragmentary, while that of Sībawaihi appears to be uniform. The fragmentary construction of the extant al-Halīl's text may well result from the fact that they represent two different texts with highly significant repetitions. On the other hand, the author twice enumerates articula-

<sup>3</sup> As-Suyūṭī, *al-Muzhir fī 'ulūm al-luġa wa-anwā'ihā*. Ed. by Muḥammad Aḥmad al-Maulā, 'Alī al-Baġāwī and Muḥammad Abū Faḍl Ibrāhīm, Cairo n.d., vol. I, pp. 77—86. Al-Azharī ascribes *Kitāb al-'ain* to al-Laiṭ Ibn al-Muzaffar; cf. S. Wild, *Das Kitāb al-'Ain und die arabische Lexikographie*, Wiesbaden 1965, p. 75.

<sup>4</sup> S. Wild, op. cit.

<sup>5</sup> Al-Halīl Ibn Aḥmad was quoted by Sībawaihi 410 times — cf. Wolfgang Reuschel, *Al-Ḥalīl Ibn Aḥmad, der Lehrer Sībawayhs, als Grammatiker*, Berlin 1959, p. 9.

<sup>6</sup> A thorough analysis of the relationship between al-Halīl and Sībawaihi is presented in the quoted work by Reuschel.

tion points and each time the classification he proposes is different<sup>7</sup>. In the first variant the consonants *ḥ* and *ǧ* have their own common articulation point, while in the second they are treated together with laryngeal phonemes (*ḥalqiyya*): ‘ and *ḥ*.

At another place *al-Halīl* mentions “closed” phonemes (*ḥurūf muṭbaqa*, lit. closed letters), he does not, however, explain what is meant by this term<sup>8</sup>. In the consequent and rather meticulous texts of the Arab grammarians such an inconsistency can not be explained by itself, and only fragmentary character of extant texts can account for it.

In the shorter fragment *al-Halīl* states that *ǧ* and *q* are articulated at the uvula (!)<sup>9</sup>, though at another place he treats both phonemes separately: *q* as uvular and *ǧ* as palatal<sup>10</sup>. These examples prove the fragmentary character of extant *al-Halīl*’s theory — or rather pseudo-*al-Halīl*’s theory, as the one quoted by *al-Azharī* hardly could be *al-Halīl*’s.

Notwithstanding their fragmentary structure and lack of uniformity, the extant texts show that *al-Halīl*’s theory is more sophisticated than that of *Sībawaihi*.

First, *al-Halīl* knows a number of terms to define articulation points, which *Sībawaihi* does not even mention:

- a) *ḥayyiz* — articulation region,
- b) *mabda’* — beginning of articulation, the point where articulation begins,
- c) *madraǧa* — starting point (moment) of articulation,
- d) *maḥraǧ* — point of emission<sup>11</sup>.

The terminology used to define articulation points is therefore more accurate and precise in the fragmentary theory of *al-Halīl*. *Al-Halīl* knows the uvula (*lahāt*) which *Sībawaihi* does not even mention. This is a very important fact, since the uvula is an organ participating in articulation of three Arabic sounds: *ḥ*, *ǧ* and *q*<sup>12</sup>. From the fact, that *Sībawaihi* does not know this articulator, we may draw the conclusion that his theory is less elaborate than the theory of *al-Halīl*. This is yet another fact showing that *Sībawaihi* was not acquainted with his teacher’s (?) works, which — considering the close relations between both grammarians — seems paradoxical.

<sup>7</sup> *Al-Azharī*, op. cit., p. 44, 48—49.

<sup>8</sup> *Ibid.*, p. 49.

<sup>9</sup> *Ibid.*, p. 44: *fa-ammā maḥraǧ al-ǧīm wa-al-qāf fa-bain ‘akadat al-lisān wa-bain al-lahāt fi aqṣā al-fam*. This we may treat either as a mistake or explain it by the fact that *ǧ* was here described in its Egyptian pronunciation, which is quite possible.

<sup>10</sup> *Ibid.*, p. 48: *wa-āl-qāf wa-āl-kāf laḥawīyya wa-āl-ǧīm wa-āš-šin wa-ād-dād šaǧariyya, wa-āš-šaǧar — maḥraǧ al-fam*.

<sup>11</sup> *Ibid.*, p. 48.

<sup>12</sup> *Al-Azharī* (*al-Halīl*) classifies *ḥ* and *ǧ* together with ‘, *ḥ*, *h*, ‘ and calls them laryngeal (*ḥalqiyya*), while *q* is grouped together with *k* and defined as uvular (*lahawīyya*).

Al-Halīl knows also a term for the alveola — *niṭ'a*; Sībawaihi, defining alveolar sounds, had to use a complicated system of relational notions<sup>13</sup>.

Al-Halīl knows quite a number of terms used also by Sībawaihi, but not all of them. For example, he knows nothing about the classification of phonemes according to the type of articulatory obstruction. Thus the extant fragments are not sufficient to reconstruct a closed system of classification (if such a classification existed, which is doubtful).

It is significant that al-Halīl does not differentiate between two groups of sounds very important for Sībawaihi: *mahmūs* and *maǧhūr* (easily identified as voiced and voiceless). This classification is essential for Sībawaihi and is very clearly described and defined by him<sup>14</sup>.

The sounds: *r*, *l* and *n* al-Halīl calls *dalqiyya* (liquid? — term not appearing in Sībawaihi's *al-Kitāb*). Sībawaihi treats these consonants separately as follows: *l* is *munḥarif* ('bent'), *n* — *ma'a-āl-ḡunna* 'with nasal resonance' and *r* — *mukarrar* 'vibrating'.

Here too, al-Halīl uses more general notions and more abstract ideas to define three different sounds treated by Sībawaihi separately. Hence the conclusion that al-Halīl's theory is more general, more abstract than the theory of Sībawaihi. And such a conclusion would be contradictory to the heretofore accepted views on the history of Arabic grammatical science.

Another point has to be raised here viz. the problem of ranging sounds accordingly to their articulation points. Al-Halīl begins with the '*ain*<sup>15</sup>, and proceeds to classify the sounds from those articulated at the back to those having front articulation. It has to be noted, however, that the "letter" '*ain* is not the rearmost phoneme in Arabic, since *hamza* (') and *h* are articulated laryngeally, while '*ain* is pharyngeal, and therefore these two are the rearmost phonemes of Arabic.

Pseudo-al-Halīl's classification of pharyngeal and laryngeal sounds is rather ambiguous, and his knowledge in this matter is inferior to that of Sībawaihi. In the first fragment al-Halīl states: *wa-ammā maḥraǧ al-hamza fa-min aqṣā al-ḥalq* "the articulation point of hamza is at the rear of the throat"<sup>16</sup>. In the second fragment he does not mention the *hamza* at all, and '*ain* is defined here as the rearmost phoneme<sup>17</sup>. On the other hand, *h* is said to be articulated a little closer to the

<sup>13</sup> Cf. for example: *wa-min taraf al-lisān bainahū wa-bain mā fuwaiq at-tanāyā maḥraǧ an-nūn*, i.e.: "between the edge of the tongue and what is placed immediately above the central incisors is the articulation point of *n*." (Sībawaihi, *al-Kitāb*, Būlāq 1317 H, vol. II, p. 405.)

<sup>14</sup> In my unpublished Ph. D. thesis: *Indian elements in Sībawaihi's "al-Kitāb"*, I attempted to prove that the categories of *mahmūsa* and *maǧhūra* are related to the Indian concept of *prayatna* — articulatory effort.

<sup>15</sup> Al-Azharī, op. cit., p. 49: *wa-aqṣā al-ḥurūf kullihā al-'ain*.

<sup>16</sup> Ibid., p. 44.

<sup>17</sup> Ibid., p. 49; cf. note 15.

mouth than *h*. The passage containing the description of articulation points for these two sounds is rather complicated and not clear: *tumma al-hā'*; *wa-laulā hatta fi-āl-hā'* — *wa-qāla marrātan: hahha fi-āl-hā'* — *la-aṣbahat al-hā' li-qarab mahrağ al-hā' min al-hā' fa-hādihi at-talāta fi hayyiz wāhid*. "Then comes *h*; were it not for the *hatta* (— or as he, scil. al-Halīl, once said: *hahha* —) in the phoneme *h*, it would have been like *h*, since the articulation point of *h* is near to that of *h*. These three phonemes have a common articulation region"<sup>18</sup>.

A careful reading of these passages seems to prove that the theory was adapted to an already existing classification of sounds: that of *Kitāb al-'ain*.

It is also interesting to note that the aptitude of *hamza* to change is disapproved of from lexicological point of view, and therefore it could not be treated as a letter beginning a dictionary. Here is al-Halīl's own opinion in this matter: *wa-hiya [i.e. hamza] mahtūta mađgūta, fa-idā ruffiha, lānat wa-ṣarat al-yā' wa-āl-alif wa-āl-wāw 'alā ġair tariqat al-hurūf aṣ-ṣiḥāh*<sup>19</sup>. It is quite certain that a phoneme of such characteristics hardly can be regarded as suitable for lexicological purposes<sup>20</sup>.

And it is Sībawaihi's theory which is built according to the facts and deep knowledge of the Arabic phonetical system, while al-Halīl is pragmatic: for him the objective of composing a good dictionary is of primary importance. This objective determines even the method of classifying sounds!

In short, both classifications differ from each other as they pursue different objectives. Sībawaihi's idea was to give a thorough theoretical description of the system, while al-Halīl's theory, a later one, was build up for the sake of an already existing system recorded in what was called *Kitāb al-'ain*.

This superficial comparative analysis of both phonetical systems — that of al-Halīl and that of Sībawaihi — no doubt permits to arrive at the conclusion that Sībawaihi's phonetical theory is earlier than that of al-Halīl Ibn Aḥmad. The facts known by Sībawaihi are less elaborated than the theory contained in al-Halīl's fragments. On the other hand, the fragmentary structure of al-Halīl's text in no way hinders to disclose its highly abstract construction. Therefore it is quite probable that it was a later one. A better knowledge of articulatory organs, more systematic and sophisticated division into articulatory points (only 9 *hayyiz* in al-Halīl's theory vs. 16 *mahrağ* defined by Sībawaihi) — all this seems to prove that al-Halīl's theory is posterior to Sībawaihi's.

The argument put forward by Stefan Wild that greater number of articulation points in Sībawaihi's presentation proves its more elaborate character<sup>21</sup>

<sup>18</sup> Ibid., p. 48.

<sup>19</sup> Ibid., p. 44.

<sup>20</sup> Cf. also as-Suyūṭī, *al-Muzhir*, vol. I, p. 95: *sami'tu man yadkur 'an al-Halil annahū qāla: lam abda' bi-āl-hamza li-annahā yulḥiqhā an-nağṣ wa-at-tağyir wa-al-hađf*. "I heard someone mentioning that al-Halīl said: I did not begin with hamza, because it may be deficient, changing and elided".

<sup>21</sup> S. Wild, op. cit., p. 40.

does not hold. Sībawaihi's description is chaotic when he comes to the front articulators. This might be well explained when considering Sībawaihi's theory as being a replica of the Indian system, and hence less independent than the pseudo-al-Halīl theory.

A close look at both systems of description helps arriving at the conclusion that the text of al-Halīl is superior to Sībawaihi's system not only as far as the details are concerned, but also owing to its more abstract character and the solid theoretical reasoning which seems quite independent from external (non-Arabic) influences. This is particularly true for the classification of articulatory points. In this instance Sībawaihi's arrangement looks sometimes like a rather confused classification of sounds, while al-Halīl or pseudo-al-Halīl, though very fragmentary, is nevertheless elegant, each sound has its well defined place in the theory.

In general, I would be inclined to think that early Arabic phonetical theory developed already in the first period of the history of Arabic grammar, i.e. in the 8th century, and in an almost unchanged form survived up to present time. This is certainly the theory of Sībawaihi; later works quote it almost literally<sup>22</sup>. On the other hand al-Halīl's theory was a later one, but it could not have been of very much later origin, since its appearance was closely related to the beginnings of lexicography and to *Kitāb al-'ain* which can not be regarded as al-Halīl's own work.

<sup>22</sup> Cf. for example the commentary of as-Sirāfī (d. 978) who quotes Sībawaihi almost literally (G. Troupeau, *Le commentaire d'al-Sirāfī sur le chapitre 565 du «Kitāb» de Sibawayhi*, "Arabica", vol. I, fasc. 2, 1958, pp. 168—182). This is also true for the following classical works: az-Zağğāğī (d. 948) *Al-Ġumal*, Paris 1958, pp. 375—378; az-Zamahšarī (d. 1143) *Kitāb al-Mufaṣṣal fi-ān-nahw*, ed. J. P. Broch, Christiania 1840, pp. 188—190; Ibn Ya'īš (d. 1245), *Šarḥ al-mufaṣṣal*, ed. G. Jahn, Leipzig 1886, vol. II, pp. 1456—1467; here are to be found some elements of pseudo-al-Halīl's theory, as for example such terms as *niṭ'a* p. 1467 and other.