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Early Arabic Phonetical Theory.
Phonetics of al-Halîl Ibn Āhmād 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 (taḡwid) must have had 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 taḡwid literature flourished.

Also there is hardly an evidence to show that phonetical studies were cultivated before Sībawaihī or — for that matter — al-Halîl Ibn Āhmād. An elaborated theory appeared unexpectedly and it is supposed to have been put forward by al-Halîl Ibn Āhmād, Sībawaihī’s teacher. Al-Halîl who died about 175/791, is said to have been the author of Kitāb al-‘ain — Dictionary of the letter ‘ain1. This dictionary is preceded by a short treatise on theoretical phonetics very well known in the form quoted by al-Azhari in Tahdīb al-luğa2.

Discussion whether al-Halîl was really the author of Kitāb al-‘ain, is not a new one. A thorough exposition of all the earlier arguments was given by a s-Suyūṭī

1 According to other traditions the authorship of Kitāb al-‘ain was ascribed to al-Laṭīf Ibn al-Muẓaffar. Its fragments were published at the beginning of this century by Anastās al-Karmālī in “Luġat al-‘arab” No. 4, Pt., 2, 1914, p. 57—63. The text of Kitāb al-‘ain was published by ‘Abd Allāh Dārwīs in 1969 (Baghdad).
in his *al-Muzhir*[^3]. 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-Hālīl* Ibn Aḥmad and Sībawayhi. Both texts were already analysed by Stefan Wild[^4] — 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.

Sībawayhi 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 Sībawayhi quoted the names of his informants, and — among them — *al-Hālīl* Ibn Aḥmad[^5], 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-Hālīl* Ibn Aḥmad and Sībawayhi 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 Sībawayhi, a pupil of *al-Hālīl*[^6], omit his teacher’s theory? If there was something like *al-Hālīl*’s phonetical theory, Sībawayhi would have mentioned it in some way or other. And since he did not mention it, I would be inclined to consider Sībawayhi’s text as earlier than that ascribed to *al-Hālīl*, and therefore *al-Hālīl*’s theory as being of later origin and compiled by some other scholar. I would rather not embark here the question whether *al-Hālīl* was the author of *Kitāb al-ʿain* 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-Hālīl*’s theory is fragmentary, while that of Sībawayhi appears to be uniform. The fragmentary construction of the extant *al-Hālīl*’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-


[^4]: S. Wild, op. cit.


[^6]: A thorough analysis of the relationship between *al-Hālīl* and Sībawayhi is presented in the quoted work by Reuschel.
tion points and each time the classification he proposes is different. In the first variant the consonants 等地 and 皆 have their own common articulation point, while in the second they are treated together with laryngeal phonemes (halqiyya):  and 等地.

At another place 等地- santa mentions “closed” phonemes (hurûf mu'ḥaqa, lit. closed letters), he does not, however, explain what is meant by this term. 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 等地- santa states that 皆 and 皆 are articulated at the uvula (l), though at another place he treats both phonemes separately: 皆 as uvular and 皆 as palatal. These examples prove the fragmentary character of extant 等地- santa’s theory—or rather pseudo-等地- santa’s theory, as the one quoted by 等地- santa hardis could be 等地- santa’s.

Notwithstanding their fragmentary structure and lack of uniformity, the extant texts show that 等地- santa’s theory is more sophisticated than that of سبء- وايحي.

First, 等地- santa knows a number of terms to define articulation points, which سبء- وايحي does not even mention:

a)  hayyyis — articulation region,
b)  mabda’ — beginning of articulation, the point where articulation begins.
c)  madrağa — starting point (moment) of articulation,
d)  mahraḡ — point of emission.

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

7 等地- زاري, op. cit., p. 44, 48–49.
8 Ibid., p. 49.
9 Ibid., p. 44:  fa-ammā mahraḡ al-ḡim wa-al-qāf fa-bain ‘akadat al-lisān wa-bain al-laḥāt fi aqṣā al-fam. This we may treat either as a mistake or explain it by the fact that 皆 was here described in its Egyptian pronunciation, which is quite possible.
11 Ibid., p. 48.
12 等地- زاري (ال- santa) classifies 等地 and 皆 together with 等地,  hely, and calls them laryngeal (halqiyya), while 皆 is grouped together with 各地 and defined as uvular (lahawiyya).
Al-Halil knows also a term for the alveola — ni‘a; Sibawahi, defining alveolar sounds, had to use a complicated system of relational notions\(^\text{13}\).

Al-Halil knows quite a number of terms used also by Sibawahi, 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-Halil does not differentiate between two groups of sounds very important for Sibawahi: mahmūs and mağhūr (easily identified as voiced and voiceless). This classification is essential for Sibawahi and is very clearly described and defined by him\(^\text{14}\).

The sounds: \(r\), \(l\) and \(n\) al-Halil calls dalqīyya (liquid? — term not appearing in Sibawahi’s al-Kitāb). Sibawahi treats these consonants separately as follows: \(l\) is munharif (‘bent’), \(n\) — ma‘a-āl-γunnā ‘with nasal resonance’ and \(r\) — mukarrar ‘vibrating’.

Here too, Al-Halil uses more general notions and more abstract ideas to define three different sounds treated by Sibawahi separately. Hence the conclusion that Al-Halil’s theory is more general, more abstract than the theory of Sibawahi. 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-Halil begins with the ‘āin\(^\text{15}\), 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” ‘āin is not the rearmost phoneme in Arabic, since hamza (‘) and \(h\) are articulated laryngeally, while ‘āin is pharyngeal, and therefore these two are the rearmost phonemes of Arabic.

Pseudo-Al-Halil’s classification of pharyngeal and laryngeal sounds is rather ambiguous, and his knowledge in this matter is inferior to that of Sibawahi. In the first fragment Al-Halil states: wa-ammā maḥrağ al-hamza fa-min aqṣā al-ḥalq “the articulation point of hamza is at the rear of the throat”\(^\text{16}\). In the second fragment he does not mention the hamza at all, and ‘āin is defined here as the rearmost phoneme\(^\text{17}\). On the other hand, \(h\) is said to be articulated a little closer to the

\(^{13}\) Cf. for example: wa-min taraf al-lisān bainahū wa-bain mā fuwaq al-tanāyā maḥrağ an-nūn, i.e.: “between the edge of the tongue and what is placed immediately above the central incisors is the articulation point of \(n\).” (Sibawahi, al-Kitāb, Bilāq 1317 H, vol. II, p. 405.)

\(^{14}\) In my unpublished Ph. D. thesis: Indian elements in Sibawaihi’s “al-Kitāb”, I attempted to prove that the categories of mahmûs and mağhūra are related to the Indian concept of ḥarattma — articulatory effort.

\(^{15}\) Al-Ａzhari, op. cit., p. 49: wa-aqṣā al-ḥurūf kullihā al-‘ain.

\(^{16}\) Ibid., p. 44.

\(^{17}\) 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: \( \text{\textit{tumma al-ha\textquoteright}}; \text{\textit{wa-laula ha\textquoteright fi-al-ha\textquoteright}} \) — \( \text{\textit{wa-qala marrat\textquoteright: ha\textquoteright ha\textquoteright fi-al-ha\textquoteright}} \) — \( \text{\textit{la-asba\textquoteright al-ha\textquoteright li-qarab ma\textquoteright trag al-ha\textquoteright min al-ha\textquoteright fa-hadihi al-talata fi hayyiz wahid.}} \) "Then comes \( h \); were it not for the hatta (— or as he, scil. al-Halil, once said: \textit{ha\textquoteright ha\textquoteright}) 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.\(^{18}\)

A careful reading of these passages seems to prove that the theory was adapted to an already existing classification of sounds: that of Kit\( \text{\textit{ab al-	extquoteright ain.}} \)

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-Hal\( \text{\textit{il}} \)'s own opinion in this matter: \( \text{\textit{wa-hiya [i.e. hamza] mahtita mad\textquoteright gu\textquoteright, fa-id\textquoteright ruffiha, l\textquoteright nanat wa-s\textquoteright rat al-y\textquoteright wa\textquoteright al-alif wa\textquoteright al-waw \textquoteleft al\textquoteright qair tariqat al-hur\textquoteright as\textquoteright sih\textquoteright h.}} \)\(^{19}\) It is quite certain that a phoneme of such characteristics hardly can be regarded as suitable for lexicological purposes\(^{20}\).

And it is Sibawaihi's theory which is built according to the facts and deep knowledge of the Arabic phonetical system, while al-Hal\( \text{\textit{il}} \) 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. Sibawaihi's idea was to give a thorough theoretical description of the system, while al-Hal\( \text{\textit{il}} \)'s theory, a later one, was build up for the sake of an already existing system recorded in what was called Kit\( \text{\textit{ab al-	extquoteright ain.}} \)

This superficial comparative analysis of both phonetical systems—that of al-Hal\( \text{\textit{il}} \) and that of Sibawaihi—no doubt permits to arrive at the conclusion that Sibawaihi's phonetical theory is earlier than that of of al-Hal\( \text{\textit{il}} \) Ibn Ah\( \text{\textit{mad}} \). The facts known by Sibawaihi are less elaborated than the theory contained in al-Hal\( \text{\textit{il}} \)'s fragments. On the other hand, the fragmentary structure of al-Hal\( \text{\textit{il}} \)'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-Hal\( \text{\textit{il}} \)'s theory vs. 16 mahra\( \text{\textit{g}} \) defined by Sibawaihi)—all this seems to prove that al-Hal\( \text{\textit{il}} \)'s theory is posterior to Sibawaihi's.

The argument put forward by Stefan Wild that greater number of articulation points in Sibawaihi's presentation proves its more elaborate character\(^{21}\)

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\(^{18}\) Ibid., p. 48.

\(^{19}\) Ibid., p. 44.

\(^{20}\) Cf. also \textit{as-Suyuti}, al-Muzhir, vol. I, p. 95: \textit{sami\textquoteright tu man yaddkur 'an al-Halil annah\textquoteright qa\textquoteright: lam abdu' bi-\textquoteright hamza li-annah\textquoteright yulhiqu\textquoteright an-naq\textquoteright wa-at-tagyr wa-\textquoteright al-\textquoteright hadf.} "I heard someone mentioning that al-Halil said: I did not begin with hamza, because it may be deficient, changing and elided".

\(^{21}\) S. Wild, op. cit., p. 40.
does not hold. Sībawāhi’s description is chaotic when he comes to the front articulators. This might be well explained when considering Sībawāhi’s theory as being a replica of the Indian system, and hence less independent than the pseudo-
al-Hālīl theory.

A close look at both systems of description helps arriving at the conclusion that the text of al-Hālīl is superior to Sībawāhi’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 Sībawāhi’s arrangement looks sometimes like a rather confused classification of sounds, while al-Hālīl or pseudo-al-Hālīl, 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 Sībawāhi; later works quote it almost literally\(^{22}\). On the other hand al-Hālīl’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-Hālīl’s own work.

\(^{22}\) Cf. for example the commentary of as-Sīrāfi (d. 978) who quotes Sībawāhi almost literally (G. Troupeau, Le commentaire d’al-Sīrāfi 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-Zāgāghī (d. 948) Al-Gumal, Paris 1958, pp. 375—378; az-Zamaḥṣarī (d. 1143) Kitāb al-Mufassal fi-ān-naḥw, ed. J.P. Broch, Christiania 1840, pp. 188—190; Ibn Yā‘ālī (d. 1245), Ṣarḥ al-mufassal, ed. G. Jahn, Leipzig 1886, vol. II, pp. 1456—1467; here are to be found some elements of pseudo-al-Hālīl’s theory, as for example such terms as niṣ’a p. 1467 and other.