The phonetic properties of the Daghestanian languages give evidence of the inadequacy of the present views on articulatory possibilities of the pharynx. Apart from the articulatory feature of the tongue body the movement of the tongue body (the uvulars ί, 3, 8, 13, 14) and of some other languages (Arabic dialects 9, 13, 14) appears to be a unique property of the pharynx itself. Such is the mechanism of production of these sounds (see above). Structural peculiarities concerning pharyngeal features in the Daghestan languages are examined in this paper.

PHARYNGEAL ARTICULATIONS IN DAGHESTAN

The Daghestanian languages are highly active in using pharyngeal articulations and their data provide incompleteness of the traditional nomenclature for this region of the vocal tract [3]. In any case, the term "epiglottals" seems the most appropriate for these sounds: it is used already by Soviet Arabists [9] and is conceptually close to Trudgill's term "epithetic larynges". It should be mentioned that, contrary to the wide-spread opinion, the loco movement does not take place in the production of ί and δ: these sounds may be just pronounced as by Soviet Arabists [9]; and it is conceptually close to Trudgill's term "epithetic larynges". The uvula does not play an active role in the production of the tongue body. The basic articulator "the tongue: the bulk of the tongue moves back and down, whereas the tongue blade moves back and up" (to the palate). However, there are languages that combine pharyngealization with velarization (Archil [3], Udi). This kind of pharyngealization resembles auditorily retroflexivization (particularly, in the old epiglottals). Pharyngealization and pharyngalization do not contrast, they are supplemented distributed among languages (6 of dialects) or sometimes among different consonants of the same language. The common origin of both features is apparent, the initial mechanism of production is the same. Yet in the "narrow" transcription epiglottization is marked by a crossed vertical bar (ί+ 9). Linguistic functioning of pharyngeal features

1. All twenty six languages of Daghestan have uvulars as a part of their phonological systems and all basic phonetic features are found in the consonants of this series: all phonation types (voiced/unvoiced/aspirated/ejective), strength, labialization, palatalization, alveolarization, retroflexivization (particularly, in the old epiglottals). Pharyngealization and pharyngalization - they are replaced with the corresponding features in the initial articulation being reflected by pharyngealization (Archil) or by umlaut of the adjacent vowels (Tsakhur, Tabasar).

2. The new epiglottals in loan-words may retain (Archil) or be again (Archil, etc.) a prosody, but in some languages it should apparently be considered as a conditional feature (Archi, etc.). Pharyngealization occur also in the pharyngeal spirants 3, 9, they relate to the process of "plosivization". Pharyngalization (or emphatic laryngeals) is marked by a crossed vertical bar (ί+ 9).

3. In the words both with and without PS, spirant allophones of ί and δ are typical for the languages (or dialects) or sometimes among different consonants of the same language. The common origin of both features is apparent, the initial mechanism of production is the same. Yet in the "narrow" transcription epiglottization is marked by a crossed vertical bar (ί+ 9).

LINGUISTIC FUNCTIONING OF PHARYNGEAL FEATURES

1. Moderately frequent in the languages of the region (Archi, etc.) as well as in the old epiglottals. In the languages which possess the mixed (epiglottopharyngeal) form of PS (Lak, Naxi) 3 and 9 are typical for the languages which have pharyngealization, but the precise direction of this movement (back or down-back) and the configuration of the tongue blade are unknown. Cross-linguistic differences in tongue collocation are indicative for the nonidentity of the parameters mentioned. In the majority of the languages (Tabasar, Tsakhur, etc.) pharyngalization instead of the pharyngeal timbre, but it is not the usual palatalization. It seems to be caused by a sort of deformation of the tongue: the bulk of the tongue moves back and down, whereas the tongue blade moves back and up (to the palate). However, there are languages that combine pharyngealization with velarization (Archil [3, 4]). This kind of pharyngealization resembles auditorily retroflexivization (particularly, in the old epiglottals). Pharyngealization and pharyngalization do not contrast, they are supplemented distributed among languages (6 of dialects) or sometimes among different consonants of the same language. The common origin of both features is apparent, the initial mechanism of production is the same. Yet in the "narrow" transcription epiglottization is marked by a crossed vertical bar (ί+ 9).

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Figure 1. Places of articulation in pharynx: 1 - uvular, 2 - pharyngeal, 3 - pharyngal, 4 - epiglottal, 5 - glottal.

The term "uvulars" indicates the localization of a pharyngeal consonant or segments of the super-uvular consonant series. The articulatory feature of the tongue is known as pharyngealization. The uvula does not play an active role - it is either pressed to the posterior pharyngeal wall (plosives) or may optionally vibrate (spirants). The Daghestan UVUTMs mechanism of its production remains the same. The tongue blade is kept in front of the hard palate. There are examples of their allosomes in the "broad" transcription (Archil) /ί/ [ί] /ί3/ [ί], /ί/ [ί] (Dargi) /ί/ [ί]\n
Figure 2. Articulatory mechanisms of pharyngalization

in the languages which have epiglottalization: X → H, R → + (some Tsez and Agul dialects). The transition q → + is much more seldom (some Agul dialects).

Finally, there are Agul dialects (the dialects of this language demonstrate surprising diversity in the pharyngeal features development) in which the pharyngealized uvulars have changed into the pharyngeals proper: X + k, R + 3. There are three series of the post-velar spirants in these dialects: the uvulars (X, R), epiglottals (h, fi) and pharyngeals (X, R). Here are some examples from the Richa dialect: Xa house - ax apple - zaw udder, Rad hammer - 'iakw light - nan belly. In addition, there are new pharyngealized uvulars in this dialect: X[aw nat, R[ab attack. It may be the most abundant system of postvelar spirants in the world languages.

2. Now let us consider linguistic behaviour of the PS features. In the majority of the Daghestan languages they reveal apparent prosodic properties: they tend to spread about the whole word. Here are examples from Archi blak'join rope, k'ejul hu hawk; an example from North Tabasaran: g[a]l[aw R[u nu]za] growled. As a rule the degree of PS diminish from the beginning to the end of the word. Consonants of the different local series differ as to their ability to join the PS features and to pass them onto the next segments. The uvulars and laryngeals are the best to coarticulate with PS. They show a tendency to have the highest degree of this feature and may disturb the typical descending pattern. Some languages (e.g. Rutul) have PS only in the syllables which contain uvulars or laryngeals. This feature is naturally treated there as consonantal.

On the contrary, the dentals do not coarticulate with PS and may prevent the spreading of this feature from the preceding to the next vowel: X[u][aw]s la zulid (black). As to the labials, hushing sibilants, laterals and velars, they are "transparent": they easily join PS and pass it to the next segments.

All the forms of PS can easily combine with the labialized consonants. Here are examples from Tsez: R[awi dog, q[awi angle; examples from Archi: R[w[a][q][i] smog, S[w][a][i] last year.

3. A concluding remark: Arabic "pharyngealization" is not identical with any form of PS and, probably, should be treated as a variety of velarization (cf. Troubetzkoy's term "emphatic velarization" [81]). The "emphatic" 2, 3, 7, 8 of Arabic are pronounced with the tongue displaced into the pharyngeal cavity [10]. However, the perceptual results of this movement are not identical to epiglottalization or pharyngealization of the Daghestan languages. It is a significant fact that just the same sounds (dentals) which participate in the "emphaticness" contrast in Arabic do not coarticulate with the PS features in the Daghestan languages.

REFERENCES