THE PHONOLOGY OF PHARYNGEALS AND PHARYNGEALIZATION IN PRE-MODERN ARAMAIC

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When the method of comparative reconstruction is applied to modern Aramaic dialects, it affords a glimpse at a variety of Aramaic which existed between the latest classical Aramaic and the appearance of the modern dialects. In that variety of pre-modern Aramaic, the pharyngeal consonants (*ħ* and *ʿ*) interacted with the pharyngealized consonants (the "emphatics") according to regular, conditioned sound changes. Such a regular interaction of pharyngeals with pharyngealized sounds is unknown in other languages, although a similar interaction occurs in the same geographical region in Kurdish.

1. INTRODUCTION

OF ALL THE ANALYTICAL TECHNIQUES which have been developed in the nearly two centuries of modern work on language, none deserves to be called a classic more than the method of comparative reconstruction. A straightforward application of the comparative method can often shed new light on linguistic typology as well as on the history of peoples. In this paper I will apply the comparative method to a pair of modern Aramaic dialects, that of the Jews of Azerbaijan in northwestern Iran, documented in several works by Irene Garbell (1964, 1965a,b), and that of the Jews of Koy Sanjaq, in northern Iraq, for which I gathered information from speakers.[1] Though these two dialects are closely related to each other and perhaps mutually intelligible, they differ strikingly in their treatment of old Aramaic pharyngeal and pharyngealized consonants.[2] Linguists have assumed, as the phonetic terminology would suggest, that the relationship between pharyngeals and pharyngealization should be intimate, but in fact, in Arabic, the best-known language which has both, they interact only sporadically. Yet, at some time in the not-too-distant past, in a variety of Aramaic which was ancestral to the dialects of Azerbaijan and Koy Sanjaq, pharyngeals and pharyngealization interacted with each other with a regularity unknown in any other language.

The modern Aramaic dialects discussed in this paper belong to the group of Aramaic dialects spoken in the twentieth century in Azerbaijan and Kurdistan east of the Tigris River, that is, in northwestern Iran, northern Iraq, and adjacent parts of Turkey. In addition to

[1] The Jews of Koy Sanjaq, as apparently all the Aramaic-speaking Jews, have emigrated to Israel. My field work was conducted among speakers of the dialect now settled in Moshav Shtulah, Israel, a village in which most of the residents speak Aramaic, and where the language is still learned by children. I would like to thank Ṣaleħ, Nazimah, and Zeraḥ Eliyahu and other members of their family not only for the time they gave and the interest they took in my work on their language, but also for their extraordinary hospitality. My field work on Neo-Aramaic in Israel in 1976–1978 was supported by a fellowship from the Social Science Research Council. I would like to thank Jay Jasanoff for detailed, helpful discussion of this material.

[2] The term "old Aramaic" is used here to refer to the common Aramaic phonology best attested in Biblical Aramaic and Classical Syriac. The pharyngeals are voiced *ʿ* and voiceless *ħ* (traditionally represented among Semitists as *ʿ and ḥ*). The phonetics of pharyngealized sounds, such as the Arabic "emphatics," are described in section 2 of this paper. Pharyngealization is sometimes accompanied by additional coarticulations such as velarization and labialization, and is indicated here with a dot beneath. If the proto-Semitic emphatics were ejectives (glottalized), as in the Ethiopian branch today, and not pharyngealized, as in Arabic and Neo-Aramaic, then the distinguishing feature of these consonants had already become pharyngealization in Aramaic well before the changes described in this paper were taking place. See Dolgopolsky 1977 for one possible reconstruction of the history.

this group, which may be termed Northeastern Neo-Aramaic, other Aramaic languages are spoken today in three villages near Damascus, by Mandeans in southwestern Iran, and by the Ṭuroyo people in the Ṭur ʿAbdin region of Turkey, west of the Tigris. The Northeastern Neo-Aramaic dialects mentioned this paper are as follows: IRAQI JEWISH: Zakho (Z), ʿAmedia (Am.), Koy Sanjaq (KS), Sulaymaniyyah (Sul.); IRAQI CHRISTIAN: Alqosh (Al.); IRANIAN JEWISH: Azerbaijan (Az.); IRANIAN CHRISTIAN: Urmi (U). Note that the city of Urmi (formerly called Rezaiyeh) is in the province of Azerbaijan and the "Azerbaijan" dialect is spoken by the Jews of the city of Urmi as well as of other locales in the vicinity. That means that the dialects labeled "Urmi" and "Azerbaijan" are separated not by geography but by the social division that existed between the two religious communities.

The first impetus for the study of modern Aramaic came from the desire of European missionaries to carry their message to their supposedly benighted coreligionists in western Asia. Semitists on the other hand have been interested in modern Aramaic mostly for the light it could shed on the classical Aramaic languages. Thus, in a survey of progress in Aramaic studies, Franz Rosenthal, the dean of Aramaicists, writes, "It is one of the proudest boasts of Aramaicists that their language is known through continuous attestation from the beginning of the first millennium B.C. to the present. Thus, the existence of the modern spoken dialects gives a beautiful patina to the solid metal" (Rosenthal 1978: 88–89). It is therefore not surprising that, although much of the work done on modern Aramaic has been of a historical nature, there has been next to no attempt to reconstruct its linguistic history in more recent centuries—that is, the interval between the latest documents written by speakers of the classical Aramaic languages and the appearance of the modern dialects.

Though some attempts have been made to clarify puzzling Neo-Aramaic etymologies through the comparison of contemporary dialects (e.g., Sabar 1976 and Krotkoff 1981), and one systematic comparative study exists in Polotsky 1961: 11–17, the most extensive exercise in dialect comparison has been in the development of a practical orthography in the Syriac alphabet for the modern literary language. In theory, the missionaries decided to adopt the orthography of Classical Syriac as a basis for that of the new; words of Aramaic origin would be spelled exactly as in Classical Syriac (Maclean 1895:x–xi). Because the phonology of Classical Syriac was rather conservative, it was fairly similar to that of some stage of Aramaic ancestral to all the modern spoken dialects.[3] This decision had the benefit, among others, that the resulting spelling could be used with nearly equal ease by speakers of all dialects (Maclean 1895:xvi–xvii), the more so as the diacritical marks, which represent the details of vowels, certain consonant modifications, and even the elision of consonants, have a rather low saliency as compared with the etymological, chiefly consonantal, spelling.

In practice, the missionaries' spelling represents, in part, a comparative reconstruction based on the modern dialects,rather than a simple copying of the Syriac orthography. Maclean (1895:xvi–xvii) describes the procedure followed by the Archbishop of Canterbury's Mission Press at Urmi:

> The spelling of classical Syriac is taken as a basis. Thus when Old Syriac spelling gives the vernacular sound [allowing for altered diacritical signs], it is adopted, although some other perhaps simpler spelling also gives the sound. . . . When some districts follow Old Syriac and some depart from it, the words are spelt in preference according to the former. . . . But when all, or nearly all, the dialects differ from Old Syriac, the vernacular sound is followed. . . . The mark *talqana* (lit. *the destroyer*), which denotes a silent or fallen letter, is retained to a considerable extent, both because a letter thus marked may be sounded in some dialects though it has fallen in others, and also because a Syriac word thus marked may often be made intelligible to those who do not use it by the fact of its resemblance (to the eye) to the corresponding word in the classical language, which all who can read and write understand to some extent. . . . and moreover it is found that a word spelt etymologically is frequently capable of more than one pronunciation, and therefore suits the speech of several dialects.

Thus the modern spelling, which is now used widely by Assyrians in the Middle East and even the United States, constitutes an interdialectal written form composed of representations of sounds from the

[3] Because the modern dialects are not descended from Classical Syriac itself, a Syriac-based spelling for modern Aramaic represents not proto-Neo-Aramaic (the latest stage reconstructable as an ancestor of all the modern dialects) but rather a much earlier stage of Aramaic.

classical Aramaic inventory (with three new consonants), something very close to a reconstructed proto-Neo-Aramaic.[4]

In order to improve upon the achievements of the nineteenth-century missionaries, it is necessary first of all to base the reconstruction on more phonologically precise descriptions of more diverse dialects, and second to concentrate on a shallower time-depth by restricting the view to the modern dialects alone (and such relatively recent documents as the seventeenth-century manuscripts edited by Sabar, 1976), so that a picture can be gained of the stages of development between the classical varieties of Aramaic and the modern vernaculars.

2. THE TYPOLOGY OF PHARYNGEALS AND A PHARYNGELIZATION

Analyses of the Arabic pharyngeals and pharyngealized consonants by modern phonologists and phoneticians emphasize the similarity of the two sets of consonants.[5] For example, Jakobson's phonological analysis (1957) treats the two groups as characterized by the same distinctive feature, [+flat]. One would thus expect to find numerous cases of synchronic and diachronic interaction between the two sets in the many Semitic and non-Semitic languages and dialects which have them. It is a surprise, therefore, that (outside of Aramaic) such interactions are few and sporadic.[6]

In a meticulous study of pharyngeals and pharyngealization in Arabic, Elizabeth Card (1983) has shown that the two types, while similar, are by no means the same either articulatorily or acoustically, and so, to state the facts simply, the pharyngeals are certainly not "emphatic by nature" as some of the earlier scholars had suggested. First of all the pharyngeal constriction for ʿ and ḥ is much lower in the pharynx than the constriction for pharyngealized segments, at or below the epiglottis at the level of the fourth and fifth vertebrae for the former, in the upper pharynx at the level of the second vertebra for the latter. Moreover, the larynx is raised in the production of the pharyngeals, but not the pharyngealized segments (16–17). Second, the main acoustical characteristic of pharyngealization, a lowering of the second formant, is minimal or absent in the pharyngeals, which may even raise the first or second formant of adjacent segments (91, 95–96). Third, while pharyngealized segments have a striking effect on adjacent long *a*, rendering it back and sometimes slightly rounded (in acoustic terms lowering the second formant throughout its duration), there is no such effect for the pharyngeals (except for a slight transition between the consonant and vowel) (17–18). Fourth, the pharyngeal consonants themselves may undergo a lowering of the second formant in the presence of a pharyngealized consonant. Thus in the word *baʿḍ* 'some', the ʿ is phonetically pharyngealized, and quite different from the plain ʿ in *baʿd* 'after' (18–22).[7]

Because pharyngeals and pharyngealization function so differently from each other in Arabic, it is noteworthy that they interact regularly in several varieties of Neo-Aramaic.

Among the sounds of the world's languages, the pharyngeals ʿ and ḥ are quite rare. This fact alone would lead one to predict that languages which have these sounds might tend to lose them, and that languages which do not have them would be very unlikely to acquire them. These predictions are borne out by observed fact. Languages which have had pharyngeals and lost them include Akkadian, many south Ethiopian Semitic languages, Maltese, and many varieties of Aramaic in the first post-Christian millennium.[8]

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[4] Nöldeke, 1896: 313–315, criticizes this orthography, pointing out the inconsistencies which are unavoidable in an etymological spelling for a living language, inconsistencies which are all too familiar to those who have learned English.

[5] These writers are surveyed in Card, 1983: 13–17.

[6] Thus Blanc, 1953: 52–53, describes the occasional pharyngealization of consonants in northern Palestinian Arabic in the environment of pharyngeals, pharyngealized segments, and postvelars, such as *maʿraki* 'battle' from *maʿraka*. Brockelmann 1908: 166–168 lists a number of such cases in several Arabic dialects, all apparently sporadic, as well as a case of the glottal stop becoming ʿ under the influence of pharyngealized segments and sonorants. In the same manner, palatal consonants do not always palatalize; thus Turkish *y* has no effect on vowel harmony.

[7] There are evidently additional distinctions to be made in this territory. Dolgopolsky (1977: 1 note 1) suggests calling the Arabic coarticulation "uvularization" rather than "pharyngealization" "in order to distinguish it from lower pharyngealization such as we find in Daghestanian languages; the latter implies moving back the root of the tongue towards the back wall of the pharynx, which produces a quite different acoustic effect."

[8] Many speakers of modern Hebrew, perhaps most, lack pharyngeals, but this is not a direct reflection of the ancient phonology of Hebrew, since the pronunciation of modern

On the other hand, there are very few known cases of pharyngeals arising during the course of development of a language which previously lacked them. True, in a number of languages, velar or uvular consonants shifted to pharyngeals, merging with preexisting pharyngeal phonemes. Thus *γ* and ʿ merged as ʿ, or *x* and *ḥ* as *ḥ* (or both) in pre-Hebrew and pre-Aramaic, Ethiopian Semitic, Maltese, and some southern peninsular Arabic (Brockelmann 1908: 120–121). The uvular *q* became ʿ (perhaps via ʾ) in the Arabic of one northern Palestinian village (Haim Blanc, personal communication). On the other hand, there are only two known cases of pharyngeals arising during the known history of a language which lacked them: Nootka and a dialect of Breton (Jacobsen 1969).

The usual reflexes of Aramaic *ḥ* and ʿ in all Northeastern Neo-Aramaic are *x* and ʾ (though this ʾ [glottal stop] subsequently becomes *y* or zero in some dialects). However, Neo-Aramaic dialects in Iraq do have the sounds *ḥ* and ʿ in words borrowed from Arabic, Kurdish, and liturgical Hebrew or Classical Syriac. These words are plentiful and fully integrated into the Neo-Aramaic. In addition, these dialects have pharyngeals in a few native Aramaic words, so that it would be wrong to assume that they ever went through a stage without pharyngeals. It is these non-borrowed pharyngeals, those in native, vernacular Aramaic words, in a dialect in which they are unusually numerous, which are the subject of this paper.

3. PHARYNGEALS AND PHARYNGEALIZATION IN NEO-ARAMAIC

In the sound patterns of the various Neo-Aramaic dialects, pharyngealization is manifested in two different ways. Conservative dialects of Northeastern Neo-Aramaic, located mainly in Iraq, have preserved a series of pharyngealized consonants, and in fact added additional members to the old Aramaic pair *ṭ*, *ṣ*. ᶜAmedia, for example, has underlying pharyngealized *p ḇ ṃ ṭ ḍ ṣ ẓ ǯ ḷ ṛ*. As in vernacular Arabic, these pharyngealized consonants affect adjacent vowels and nearby consonants. No detailed study has been made of the assimilatory spread of pharyngealization within a word in conservative Neo-Aramaic, but such dialects are impressionistically similar to vernacular Arabic. According to Card (1983), who studied the phenomenon in Palestinian Arabic, pharyngealization spreads both rightward and leftward throughout a word unless blocked by one of the segments *ī*, *y*, *š*, and tense, word-final *i*, all of which are high and non-back. Thus a word may be pharyngealized throughout, such as *ḇxāṭṛāḳ* 'with your permission, goodbye', *ḇaṭṭāḳ* 'your ducks', *ṣōḍā* 'baking soda'. On the other hand, a word may have only one pharyngealized segment, such as *ṭīn* 'mud', or *bīḍ* 'white (plural)'. The facts in conservative Neo-Aramaic dialects, as those in other varieties of Arabic, are probably similar but not identical.

In the Neo-Aramaic dialects of Iran the domain of pharyngealization is the whole word (only rarely a syllable which is not a whole word). That is, a whole word is either pharyngealized or plain. This phenomenon, which has sometimes been called synharmonism, is described in Garbell, 1964 and 1965a: 33–34, Hetzron, 1969: 113–114, Ĩushmanov, 1938, Polotsky, 1961: 7–10, and Marogulov, 1967: 8–9. Further discussion and additional references appear in Tsereteli, 1982.

For these dialects, the term "pharyngealized" will be replaced by "flat," because pharyngealization is apparently a minor aspect of this long component. Garbell used the term "flat" (versus "plain"), Hetzron uses "labial" (versus "palatal"). Important phonetic aspects of flatness are velarization, labialization, and various details of place and manner of articulation of both consonants and vowels, including glottalization in the Jewish dialects of Azerbaijan. In Urmi, etymological *t* and *ṭ* continue to be distinguished, in flat words, as aspirated versus unaspirated respectively. Additional details, fascinating but irrelevant here, are given in the works cited.

The historical conditions which lead to a particular word's being flat differ in the two dialects of Iranian Neo-Aramaic for which detailed decsriptions exist. In both Urmi and Azerbaijan the presence in old Aramaic of *ṣ* or *ṭ* (but not *q*!) is sufficient to yield a flat word. In Urmi historical ʿ also produced a flat word.[9] In Azerbaijan ʿ alone was not sufficient, but the presence in the same word of two or more of the following consonants produced a flat word: the labials, *r*, *x*, *γ*, and historical *ḥ* and ʿ (now *x* and ʾ or zero respectively). The conditioning for words borrowed from Kurdish, Turkish, Arabic, or Hebrew depends on both consonants and vowel quality (Garbell, 1964). Because the conditioning factors are different in the Christian and Jewish dialects, cognate words may be flat in one, plain in the other.

In 1977 I had the opportunity to conduct linguistic field work on the hitherto undocumented Neo-Aramaic

Hebrew is based on the reading traditions and phonetic habits of non-native users of Hebrew in Europe.

[9] This is the strongest interaction of a pharyngeal and pharyngealization documented in any language.

TABLE 1
WORDS WITH ʔ IN KOY SANJAQ
FROM HISTORICAL ʕ

	Gloss	*Cl. S.*	*ʿAm.*	*Az.*	*KS*	*proto-AKS*
1.	festival	ʕeða	ʔeda	¨ela	ʔela	*ʔela
2.	cloud	ʕayba**		¨ewa	ʔewa	*ʔewa
3.	week	šavoʕa	šawwa	¨šwa	šoʔa	*šawʔa
4.	earth	ʔarʕa	ʔarʔa	¨ăra	ʔăra	*ʔăra
5.	eye	ʕayna	ʔena	¨ena	ʔena	*ʔena
6.	egg	biʕθa	beʔta	¨beta	beta	*beta
7.	eggs	bĭʕe	bĕʔe	¨bee	beʔe	*beʔe
8.	sheep	ʕirba	ʔirba	¨irba	ʔirba	*ʔirba
9.	goat	ʕizza		¨izza	ʔizza	*ʔizza
10.	four	ʔarbʕa	ʔarba	¨arba	ʔarba	*ʔarba
11.	ten	ʕisra	ʔiṣra	¨isra	ʔisra	*ʔisra
12.	twenty	ʕisrīn	ʔisri	¨isri	ʔisri	*ʔisri
13.	seven	šavʕa	šoʔa	¨išwa	šoʔa	*šoʔa
14.	Friday	ʕruvta	ʔrota	¨arota	ʔĭrota	*ʔĭrota/ʔarota
15.	know	y-ð-ʕ	y-d-ʔ	¨Ø-y-l	y-ʔ-l	*y-ʔ-l/ʔ-y-l
16.	spin	ʕ-z-l	ʔ-z-l	¨y-z-l	ʔ-z-l	*ʔ-z-l
17.	thread	ʕizla		¨izla	ʔizla	*ʔizla
18.	pair	zawga	zoʔa	¨zoa	zoʔa	*zoʔa
19.	shave	g-r-ʕ	g-r-ʔ	¨g-r-y	g-r-y	*g-r-y
20.	hear	š-m-ʕ	š-m-ʔ	¨š-m-y	š-m-y	*š-m-y
21.	want	b-ʕ-y	b-ʔ-y	¨Ø-b-y	b-ʔ-y	*b-ʔ-y/ʔ-b-y

**Note: Nöldeke 1896:308.

dialect of Koy Sanjaq, Iraq. It quickly caught my attention that the dialect had ʕ in many more words than other known dialects of Northeastern Neo-Aramaic, and I set out to discover the phonological conditioning for what I assumed was a simple retention of old Aramaic ʕ. I was unable to find consistent phonological factors within Koy Sanjaq, but from a comparison with the cognate words in the Azerbaijan dialect of the Jews of the adjoining region of Iran, documented in Garbell 1965a (especially the glossary), it became clear that for each word containing ʕ in Koy Sanjaq (aside from obvious borrowings from Arabic or Hebrew), one of two conditions obtains: (1) there is a *q* later in the word, or (2) the cognate word in Azerbaijan is flat. Having noticed this, I proceeded to list all the words in Garbell's glossary which either (a) had ʔ or ʕ in old Aramaic, (b) begin with a vowel, (c) have an intervocalic hiatus, or (d) have the glottal stop, a marginal phoneme in Azerbaijan. I then elicited the Koy Sanjaq cognate of each. Thirty-nine such pairs of Azerbaijan and Koy Sanjaq cognates were found. Of these, sixteen had ʕ in Koy Sanjaq, the remaining twenty-three having either ʔ, *y*, or zero. The cognate sets are listed in Tables 1 and 2. For comparison, the words are accompanied with their cognates (when such exist) in Classical Syriac and the Neo-Aramaic dialect of ʿAmedia, which preserves ʔ (whether from original ʔ or ʕ) in more environments than does either Koy Sanjaq or Azerbaijan. The rightmost column in the tables will be explained below. In Table 1 are the words which have ʔ in Koy Sanjaq in the relevant position.[10] The Azerbaijan cognates are all plain, not flat, and the words do not contain *q*. In Table 2, group A, are the words which have ʕ in Koy Sanjaq, as well as in old Aramaic as exemplified by Classical Syriac. Each word either contains *q* or is flat in Azerbaijan.

[10] The symbol ˚ marks flat words, and ¨ marks plain words, following Hetzron (1969). Normally, in all dialects, vowels are short in closed syllables, long or semi-long in open syllables. Exceptions to this are marked with ¯ or ˘. Following Garbell, the phonetic glottal stop in Azerbaijan words is not marked when initial or intervocalic. Classical Syriac vowels are

TABLE 2
WORDS WITH ʿ IN KOY SANJAQ

	Gloss	*Cl. S.*	*ᶜAm.*	*Az.*	*KS*	*proto-AKS*
A. ʿ FROM HISTORICAL ʿ IN FLAT WORDS						
1.	finger	ṣivʿa	ṣăboʾta	°zbota	ẓboʿta	*ẓboʿta
2.	wool	ʿamra	ʾaṃṛa	°amra	ʿamra	*ʿaṃṛa
3.	carry	ṭ-ʿ-n**	ṭ-ʾ-n	°t-y-n	ṭ-ʿ-n	*ṭ-ʿ-n
	ʿ FROM HISTORICAL ʿ BEFORE *q*					
4.	scorpion	ʿqarva		¨aqirwa	ʿaqirwa	*ʿaqirwa
5.	mouse	ʿuqbra		¨aqubra	ʿaqubra	*ʿaqubra
6.	bottom	ʿiqqara	ʿaqra	¨iqra	ʿaqra	*ʿiqra/ʿaqra
7.	run	ʿ-r-q	ʾ-r-q	¨y-r-q	ʿ-r-q	*ʿ-r-q
8.	old	ʿattiqa		¨atuqa	ʿaṭuqa	*ʿatuqa/-ṭ-
9.	grief	ʿāqθa	ʿeqo	°aqa		*ʿaqa
10.	narrow	ʿayyiqa	ʾiqa	¨iqa	ʿiqa	*ʿiqa
B. ʿ NOT FROM ARAMAIC ʿ, IN FLAT WORDS AND BEFORE *q*						
11.	water	mayya	ṃae	°mae	măʿe	*ṃaʿe
12.	pomegranate	rummana	ʿaṛmota	°armota	ʿaṛṃoṇta	*ʿaṛṃota
13.	pomegranates		ʿaṛmone	°armonye		*ʿaṛṃon(y)e
14.	leg		ʾaqla	¨aqla	ʿaqla	*ʿaqla
15.	cut		č-y-q	¨č-q-y	č-ʿ-q	*č-ʿ-q**
16.	inside	l-ɣaw(wa)**	l-ʿoya	°lwa	loʿa	*l̤oʿa
C. PROBLEMS						
17.	enter	ʿ-v-r	ʾ-w-ṛ	°w-y-r	y-ʾ-r	
18.	awaken	r-ɣ-š**	r-ʾ-š	°r-y-š	r-ʾ-š	
19.	nine	tišʿa	ʾičʾa	¨ičča	ʾičʿa	
20.	ninety	tišʿ īn	ʾičʾi	¨ičči	ʾičʿi	

**Notes: (3) not a borrowing from Arabic, because Arabic *ṭ-ʿ-n* does not mean 'carry'; (15) from Kurdish *čagu* 'pocket knife', but note that the facts presented in section 4 suggest that there might exist alternative forms *čaʿgu* or *čaʿku*; (16) the derivation of Z. *l-ʿoya* from Aramaic *l-ɣaw-* was suggested by H. J. Polotsky (class lecture), comparing it with Z. *l-warya* 'outside' from *l-varr-*; (18) Nöldeke (1896:315) proposes an old Aramaic etymon *r-ʿ-š*.

The evidence presented in Tables 1 and 2, group A, would be sufficient to suggest that old Aramaic ʿ had been retained in Koy Sanjaq just if the word contained *q* or was flat in some common ancestor of the Koy Sanjaq and Azerbaijan dialects, otherwise becoming ʾ (and thence sometimes *y* or zero). The words in Table 2, group B, show that the picture is more complex. Each word in group B has ʿ in Koy Sanjaq, and either *q* or flatness in Azerbaijan, being thus just like the words in group A. However, the words in group B either have no certain Aramaic etymon ('leg'), are definitely borrowed from Kurdish ('cut'), or the Aramaic etymon does not contain ʿ.

On the basis of these facts, one can reconstruct the following state of affairs in a variety of Aramaic which was an ancestor of both the Koy Sanjaq and the Azerbaijan dialects, and which will be referred to as proto-Azerbaijan-Koy-Sanjaq (proto-AKS). The conservative type of pharyngealization prevailed, in which the historically pharyngealized consonants plus several others were pharyngealized and caused the assimila-

transcribed according to their Nestorian form. Consonant gemination is not represented in the Syriac orthography, but is indicated here in accordance with the interpretation of the standard grammars and the evidence of the modern dialects. Stress is generally penultimate in Amedia, final in Azerbaijan and Koy Sanjaq. Exceptions occur in all dialects, but happen not to appear in the words cited in this paper.

TABLE 3
WORDS WITH *ħ* IN KOY SANJAQ

ħ NOT FROM *ħ*, IN FLAT WORDS

	Gloss	*Cl. S.*	*ᶜAm.*	*Az.*	*KS*
1.	thirsty	ṣahya		°sihya	siħya
2.	village	ʔaθra	ʔaθra	°ʔahra	ʔaħra
3.	ear		naθa	°nahala	nħala

tory pharyngealization of neighboring segments but not necessarily of whole words. The dialect had both ʔ and ʕ phonetically, but the two were in complementary distribution: in words containing pharyngealization, or in which there was a following *q*, ʕ appeared, otherwise ʔ. That is to say, words fell into two classes: (a) those with a flat segment or *q*, and possibly ʕ, but not ʔ, and (b) those with neither *q* nor a pharyngealized segment, and possibly containing ʔ, but not ʕ. In the development from this system to modern Koy Sanjaq, the only changes which took place were minor variations in the distribution of pharyngealized segments, some being lost and perhaps some gained. In the development from the hypothesized ancestor language to modern Azerbaijan, the changes were more drastic. In any word containing a pharyngealized segment (and *q* did not count as pharyngealized, nor did the pharyngeals *ħ* and ʕ) flatting spread throughout the word. Furthermore, ʕ was lost entirely, becoming ʔ in some positions, and disappearing, along with etymological ʔ, in others.

The history of the word for 'water' is particularly interesting. Classical Syriac had *mayya*, grammatically plural. When the already rare plural ending *-ayya* was subsequently lost from the language, the word was reshaped as **mayye* in some dialects of Northeastern Neo-Aramaic. (Not all: Urmi still has *¨miyya*, with final -a.) From **mayye*, the regular phonology of ᶜAmedia and Azerbaijan would yield **mae*. However, for unknown reasons the word acquired pharyngealization, as did its cognates in many varieties of vernacular Arabic, producing forms like modern Am. *ṃae* [ṃáːe], Az. °*mae* [ṃaʔéˑ]. Subsequently, at the stage of proto-AKS, the phonetic glottal stop became ʕ. In Koy Sanjaq the ʕ was preserved, but the word lost its pharyngealization, yielding *măʕe*.

There are several apparent exceptions to these generalizations. The following four words have ʔ in Koy Sanjaq, although the Azerbaijan cognate is flat: KS *ʔaman* 'safety', *qbaʔa* 'smock', *ħqaʔa* 'to speak', *qraʔa* 'to read'. The first three are borrowings from Arabic. In the fourth word, *arqa*, the glottal stop was not present in old Aramaic; it arises intervocalically in Koy Sanjaq, and the same is probably true of *qbaʔa* and *ħqaʔa*, so that they are not actually exceptions to the generalization. Four other words are harder to explain away, and are listed in Table 2, group C. Two of the words ('enter' and 'awaken') have ʔ in Koy Sanjaq though they are flat in Azerbaijan. In the case of 'enter', there has been a realignment of the first two segments of the root in each dialect, so that it is not clear whether the Koy Sanjaq ʔ is a reflex of an old Aramaic segment or is rather a phonologized hiatus. The word 'awaken' is a true exception; perhaps it became flat in Azerbaijan for unknown reasons after the separation of the two dialects. The other two words are the numerals 'nine' and 'ninety', which have ʕ in Koy Sanjaq though the Azerbaijan cognates are plain. These words may have been pharyngealized in the proto-language,[11] and subsequently lost their pharyngealization in Azerbaijan, perhaps under the influence of the following numeral 'ten', Az. *¨isra*, KS *ʔisra*. Thus only 'awaken' remains as an unequivocal exception to the generalization.

The voiceless correlate of ʕ is *ħ*, a sound found in Old Aramaic as well as some of the modern dialects discussed here. A search was made for Azerbaijan-Koy-Sanjaq cognate pairs involving *ħ*, but the number of pairs found was necessarily much smaller than the number of pairs for ʕ. This is because the regular reflex of old Aramaic *ħ* in all of Northeastern Neo-Aramaic is *x*. The historical change of *ħ* to *x* would not naturally give rise to a synchronic relationship parallel to that of ʕ and ʔ; in terms of synchronic phonetics, the parallel voiceless relationship would be between *ħ* and *h*. Nevertheless, three words were found in Koy Sanjaq containing *ħ* for which the cognates in Azerbaijan have

[11] Against this guess it must be pointed out that the old Aramaic form *tišʕa* contains only one consonant which contributes to flatness in Azerbaijan; normally two are required.

TABLE 4
ARAMAIC WORDS WITH ʿ AND ḥ IN ZAKHO AND AMEDIA

	Gloss	*Cl. S.*	*ʿAm., Z.*	*Az.*	*KS*
1.	thigh	ʿaṭma	ʿuṭma	°itma	
2.	gall nut	ʿapṣa	ʿapṣa		
3.	inside	l-γaw(wa)	l-ʿoya	°lwa	loʿa
4.	fart	ʿ-r-ṭ	mʿ-r-ṭ	°m-r-t	
5.	curse	ṣ-ʿ-r	mṣ-ʿ-r		
6.	deep	ʿammuqa**	ʿămuqa		
7.	grief	ʿāqθā	ʿeqo	°aqa	ʿiqa
8.	old	ʿattiqa	ʿătiqa	¨atuqa	ʿaṭuqa
9.	spear	rumḥa	rumḥa		
10.	to distance oneself	r-ḥ-q	r-ḥ-q		
11.	bottom	ʿiqqara	ʿaqra	¨iqra	ʿaqra
12.	pomegranate	rummana	ʿarmota	°armota	ʿarmota
13.	pomegranates		ʿarmone	°armonye	

**Note: Cl. S. *ʿ*ammuqa* 'deep' is unattested, but cf. ʿ*ammiqa* 'deep' and ʿ*ammuquθa* 'depth'.

h.[12] These are displayed in Table 3. The forms in the more phonologically conservative ᶜAmedia and Classical Syriac have either *θ* or *h*, showing that the Koy Sanjaq forms with *ḥ* are innovations.[13] All three words are flat in Azerbaijan, suggesting that the same factor which conditioned the voiced pharyngeal ʿ also conditioned the voiceless pharyngeal *ḥ*.

There are, however, two words which weaken the hypothesis regarding *ḥ*. The numeral 'three' is Az. °*taha*, but KS *ṭ̣aha* (cf. Classical Syriac *tlaθa*, Am. *ṭ̣aha*); Koy Sanjaq has *h*, and not *ḥ*, although the word is flat in Azerbaijan. However the dialect of Sulaymaniyyah, very similar to that of nearby Koy Sanjaq, has *ṭ̣iḥa*, with *ḥ*. Conversely, 'work' is Az. ¨*hašta*, KS *ḥašta*; here Koy Sanjaq has *ḥ*, although the Azerbaijan cognate is not flat. This word is probably an old borrowing from Arabic *ḥājat-*; the presence of *ḥ* in the Koy Sanjaq form may be due to continuing contact with Arabic.

Until this point we have not raised the question of when this reconstructed proto-language may have existed, nor how many of the modern dialects are descended from it. Koy Sanjaq is located only about eighty miles from the nearest Azerbaijan-type dialect, both are spoken by Jews, and no Aramaic lying geographically between the two has been documented. Thus, as far as we know, Koy Sanjaq and Azerbaijan may form a single, contiguous dialect cluster. Therefore it is not implausible that proto-AKS is a relatively recent stage, ancestral to these two dialects and no others. On the other hand, it may belong to a more remote past, and in fact be ancestral to most or all of the Northeastern Neo-Aramaic dialects, and thus amount to proto-Northeastern-Neo-Aramaic. There is some evidence that this may be so. In some dialects of northwestern Iraq, at the other end of the Northeastern Neo-Aramaic territory from Azerbaijan, there are sporadic occurrences of ʿ and *ḥ* in environments like those established for proto-AKS. In the Jewish dialect of Zakho, for example, H. J. Polotsky (MS) has shown that ʿ and *ḥ* appear in a number of words of Aramaic origin in the environment of pharyngealized segments or *q*. The words in Zakho and the almost identical ᶜAmedia dialect are listed in Table 4. My use of the term proto-AKS should not be taken to imply that only a Stammbaum point of view, and not wave-like

[12] In flat words, Az. *h* is described as "more or less pharyngealized" (Garbell 1965a: 33). Does that mean [ħ]?

[13] The Azerbaijan and Koy Sanjaq forms for 'ear' give a proto-AKS form **ṇḥaḷa*. Because Aramaic *θ* regularly becomes *l* in Azerbaijan and Koy Sanjaq, this coincides with the presumable form **nhaθa*, unattested in the singular, though the plural *nhaθyaθa* appears in the Alqosh dialect (Maclean, 1901: 219 s.v. *nata*) and in a seventeenth-century Jewish text from Nerwa, in Turkish Kurdistan (Sabar, 1983: 322, second line from the bottom; cf. the glossary on p. 333). Therefore **nhaθa* should be the starting point for any attempt to explain the ᶜAmedia *naθa* and Urmi ¨*nata*, as well as the forms in dialects which lose *θ* entirely, such as those cited by Maclean (ibid.) and Nöldeke, 1896: 316.

diffusion, is applicable to these facts. The true questions are when and where the sound changes and synchronic relationships between ʔ and ʿ obtained, and which modern dialects show their effects. Clearly the selection of pharyngeals in the environment of pharyngealization and *q* is prevalent throughout Neo-Aramaic in Iraq. In order to determine whether Azerbaijan and Koy Sanjaq are particularly closely related, a study will have to be made of a great variety of structural features.

4. AN AREAL FEATURE IN ARAMAIC AND KURDISH

In proto-AKS, words were divided into two classes: (a) those with pharyngealization or *q*, and possibly ʿ but no ʔ, and (b) those with neither pharyngealization nor *q*, and with ʔ possible but no ʿ. This is structurally analogous to the system in a variety of Kurdish in Iran, described in Kahn 1976. In this variety of Kurdish, ʿ is always in free variation (more precisely, stylistic variation) with the pharyngealization of an oral consonant in the same syllable. For example, the word for 'fresh' may be pronounced either *ṭæzi* or *tæˁzi* (but not **ṭæˁzi*). Only one consonant may be pharyngealized, but there is some variation in the selection of which consonant is pharyngealized in any particular utterance of a word. Thus, for 'sheep' both *pæz* and *pæẓ* are possible, for 'metal cup' both *ṭas* and *taṣ*. (The variation is not random; consonants are arrayed in a hierarchy of preference for pharyngealization.) What this means in terms of the lexicon of Kurdish is that words are divided between two classes: (a) those with variation between pharyngealization and ʿ (but not both), and (b) those with neither. The similarity with proto-AKS is striking: in both languages ʿ and pharyngealization are treated as in some sense equivalent IN THE LEXICON BUT NOT PHONETICALLY. The similarity extends to the detail that *q* behaves only partially like the pharyngealized consonants in both languages. Although the uvular *q* does not count as pharyngealized in Neo-Aramaic (in that words with *q* may be either flat or plain), it does condition the presence of ʿ and *ħ*. In Kurdish, *q* counts phonologically as the flat counterpart of *k* only in the phonology of borrowing from Arabic. Because of the restriction that no more than one pharyngeal(ized) segment may appear in a word, when an Arabic word containing more than one such segment is borrowed into Kurdish, one possible effect is that an Arabic *q* may appear in Kurdish as *k* (Kahn, 1976: 87–88).

Kurdish and Neo-Aramaic have long been in close contact. In Kurdistan, Christians and Jews speak Aramaic, and Muslims speak Kurdish; most speakers of Aramaic also speak Kurdish as a second language. Moreover, extensive structural influence of Kurdish on Azerbaijan Neo-Aramaic has been documented (Garbell, 1965b). It is therefore not surprising that Kurdish and proto-AKS share the area feature that ʿ and *q* and pharyngealization are counted in some sense as equivalent. It is an open question in which of the two languages, Kurdish or Aramaic, the feature originated. Gernot Windfuhr has suggested[14] that the presence of pharyngeals and pharyngealization in Kurdish is more likely due to the millennia-old presence of Aramaic than to the relatively recent Arabic influence. In his opinion, too, the number of words in Kurdish containing pharyngeals or pharyngealization is so small that their structural impact on another language, such as Aramaic, is not likely. While Kahn, 1976, mentions more than seventy-five such words, most are borrowings from Arabic and extremely few are native Indo-Iranian.

Irene Garbell (1964) has argued on the basis of entirely separate facts that Azerbaijan Neo-Aramaic had a Kurdish substrate, i.e., that a Kurdish-speaking Jewish population at some time in the past adopted a Neo-Aramaic dialect which then developed into the modern dialects of Azerbaijan. Garbell's argument is based on the traditional pronunciation of Hebrew among speakers of Azerbaijan Neo-Aramaic, and relies on the improbable assumption that the tradition underwent no significant influence from other Jewish communities. Therefore it is by no means proven that today's Azerbaijani Neo-Aramaic-speaking Jews had Kurdish-speaking ancestors. Nevertheless, the long-term, mutual influence of Kurdish and Aramaic is certain, and the reconstruction demonstrated above of proto-AKS adds to Garbell's list of areal features a structural phenomenon which was part of neither the Indo-European heritage of Kurdish nor the Semitic system of old Aramaic.

5. CONCLUSIONS

It has been shown that the facts of Neo-Aramaic as spoken by the Jews of Koy Sanjaq, Iraq, and of Iranian Azerbaijan point to the existence of a stage of Aramaic which was the common ancestor of both, in which ʿ and ʔ were in complementary distribution, conditioned by the presence or absence, respectively, of

[14] This was in the discussion of a presentation of this paper at the North American Conference of Afroasiatic Linguistics in Baltimore in March 1983.

a pharyngealized consonant or *q* in the word. Similar facts suggest, though with less reliability, that the same was true of *ħ* and *h*. The same system may be ancestral to other dialects of Neo-Aramaic, as distant geographically and linguistically as those of northwestern Iraq. Furthermore, this relationship between ʿ, pharyngealization, and *q* is an instance of an areal feature in coterritorial Aramaic and Kurdish. This set of facts is significant in the following ways:

(1) It provides, for the first time, some evidence about the structure of a historical stage of Aramaic between the latest classical Aramaic and the appearance of Neo-Aramaic.

(2) It is a rare case of the REGULAR phonological interaction of pharyngeals and pharyngealization, rare in spite of the fact that most phonological theories would predict such interaction.

(3) It is a rare case of pharyngeals arising in the process of historical change. Jacobsen (1969: 152) proposed a tentative typological generalization that pharyngeals arise (in languages which had none) only if the language has both ejectives (glottalization) and an opposition of velar *k* and uvular *q*. If this generalization holds true, the fact that proto-Semitic or Afro-Asiatic had pharyngeals is evidence that the "emphatic" consonants were at first ejectives, as in the Ethiopian Semitic languages today, rather than pharyngealized, as in Arabic and Aramaic. However, the evidence presented in this paper reduces the strength of Jacobsen's generalization. This case is not strictly speaking a counterexample to Jacobsen's generalization, because Neo-Aramaic probably had pharyngeals in at least a few words at the beginning of the period with which we have been concerned, and in fact throughout its history. Nevertheless it has been shown here that pharyngeals may arise under the influence of pharyngealization, not just glottalization, changing from a marginal feature of the language to a pervasive one.

(4) The similarity between reconstructed Neo-Aramaic and Kurdish is located not at the phonetic or phonological level but in the structure of their lexica, in the criteria for what is a possible contrast between any two words. This raises two questions: how can languages influence each other in such an abstract way, and do the other languages of the area, such as Anatolian Arabic and Azeri Turkish, also share the feature?

Let me put in a word here for descriptive studies of Neo-Aramaic. We need precise, detailed descriptions of a great variety of Neo-Aramaic dialects, not for their own sake, though salvage linguistics has a kind of conservationist cachet, but in order to make possible a comparative and historical project of great potential richness.

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