The Jewish Neo-Aramaic Dialect of Sanandaj

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The Jewish Neo-Aramaic Dialect of Sanandaj

Geoffrey Khan

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For Danny Avrahami

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PREFACE

This volume is a description of the Neo-Aramaic dialect spoken by the Jews of Sanandaj in western Iran. This belongs to a subgroup of Jewish dialects in Iran that were spoken from Bokan in the North to Kerend in the South. The volume, therefore, complements my previous book in this series on the Jewish Neo-Aramaic dialect of Urmi, which is the main dialect in the subgroup of Jewish dialects in Iran that were spoken to the North of Bokan.

The data for the volume were gathered in a series of fieldtrips to Israel over the last four years. On some occasions I conducted fieldwork sessions together with Hezy Mutzafi, the co-editor of the Gorgias Neo-Aramaic series, who has also gathered a considerable amount of data on the dialect, especially on its lexicon. I should like to thank Hezy for reading an earlier draft of the book and for giving me many important comments.

The fieldtrips were undertaken as a component of a project at the University of Cambridge that aims to document systematically the North-Eastern Neo-Aramaic dialect group. This project was funded from 2004 until 2009 by the Arts and Humanities Research Council, whose support is gratefully acknowledged.

My work would not have been possible without the kind cooperation of numerous people from among the surviving speakers of the dialect. I should like to express my gratitude to all of my informants, who include Dr. Bahruz Qamran, Ḥabib Nurani, Victoria Amini, Eli Avrahami, David Avrahami, Dr. Yeskel Paz and his wife Negar Paz.

I would like to register my particular gratitude to Danny (Daryuš) Avrahami and his sister Sarah. Danny and Sarah, who came to be my close friends, offered me warm hospitality in Rehovot and enthusiastically helped me at all stages of the project. Danny arranged for me many recording sessions with other speakers of the dialect from Sanandaj. He is passionately devoted to the preservation of his native Neo-Aramaic dialect. He runs a radio phone-in programme every week for speakers of the dialect, which has attracted considerable interest. Danny is an accomplished poet and has composed numerous poems in Neo-Aramaic. He has kindly agreed for me to

include in this volume a poem he has written concerning his language, which makes an emotional plea for it to be preserved for future generations. It is hope that this volume will help to keep the knowledge of it alive in the years to come.

Geoffrey Khan
Cambridge, October 2009

INTRODUCTION

THE JEWS OF SANANDAJ

The town of Sanandaj, or Səna as it is known in Kurdish, is the capital of the mountainous province of Kurdistan in Iran. There was a small village on the site until the 17th century, when the governor of the region, Suleyman Khan Ardalan, built a castle known as Səna-dij ('Səna fortress'), which became the basis of the town. The region remained a semi-autonomous frontier province ruled by the Ardalan dynasty down to the middle of the 19th century.

A Jewish community moved to the town in the 17th century from a village known as Qalʿat Ḥasan-ʾābād. As in many of the Jewish communities of the region, the learned Jews in Sanandaj practiced Qabbala and many were followers of Sabbatai Zevi (Ben-Yaʿqov 1980: 148). At the beginning of the twentieth century the Alliance Israélite Universelle came to the region and established a school in the town in 1903. According to the Alliance there were approximately 1,800 Jews (480 families) in Sanandaj at this period (Tsadik 2007: 9).

In 1916 there was a famine in the town, exacerbated by hoarding of grain (McDowall 1996: 108; O'Shea 2004: 217), which resulted in the deaths of thousands of inhabitants including many from the Jewish community. A large number of the Jews fled the town at this difficult period to Hamadan and Kermanshah or to Iraq. In 1936 there were approximately 1,000 Jews in Sanandaj (Ben-Yaʿqov 1980: 148).

By the beginning of the 1950s the community had increased to 4,000 (Ben-Yaʿqov 1980: 149). In 1952 about 1,000 Jews emigrated to the newly founded State of Israel. Over the subsequent two decades there was a gradual emigration of the Jews from the town either to Tehran or abroad, mostly to Israel. After the Iranian Revolution in 1979 most of the remaining Jews left Sanandaj, the majority settling in Los Angeles in the USA and the remainder in Israel or Europe. Today only about half a dozen elderly Jews are reported to be still living in the town.

Fig. 1 Sanandaj

Fig. 2 Pupils and teachers of the Jewish schools, Sanandaj, January 1947

In the twentieth century the majority of the Jews of Sanandaj were small merchants, such as cloth-sellers, grocers and haberdashers. Some were peddlers of goods who travelled around the local villages. There were some merchants who imported goods from abroad. A few educated Jews were medical doctors or dentists.

The homes of the Jews were concentrated in a special quarter of the town, though some of the merchants' shops were interspersed with those of the Muslims. The relations of the Jews with the Sunni Muslim Kurds of the town were excellent. Informants tell of the warm friendship between Muslim and Jewish families. In addition to a rabbinical school (*qăraula*), there were Jewish schools in the town for boys and girls.

THE DIALECT OF THE JEWS OF SANANDAJ

The Affiliation of the Dialect

The Neo-Aramaic dialect of the Jews of Sanandaj belongs to the North-Eastern Neo-Aramaic (NENA) group of dialects, which is a linguistically very diverse group spoken by Jews and Christians East of the Tigris river in south-eastern Turkey, northern Iraq and western Iran. It is a general feature of NENA that the dialects spoken by the Jews differ from those spoken by the Christians, even where the two communities lived in modern times in the same geographical location. This applies to the NENA dialects of the Jewish and Christian communities of Sanandaj, which exhibit fundamental differences in their structure. Recognition of this is reflected by the fact that the Jews referred to their dialect as *lišana nošan* 'our language' or *hulaula* 'Jewish'. The following comparative list illustrates some selected divergences in phonology, morphology and lexicon:[1]

J. Sanandaj	C. Sanandaj	
belá	*bésa*	'house'
ʾilá	*ʾída*	'hand'
laḥmal	*latəmal*	'the day before yesterday'
ʾāt (c.)	*ʾayət* (m.), *ʾayat* (f.)	'you (sing.)'
bronăxun	*ʾəbroxən*	'your (pl.) son'
kéna	*kasen-yen*	'I (m.) am coming'
hiya-y	*gi-ʾisele*	'He has come'
qəṭlale	*təm-qaṭəlla*	'He killed her'
pəma	*kəma*	'mouth'
zbota	*ṣpesa*	'finger'
roxa	*poxa*	'wind'

[1] Here and in the following lists the abbreviations J. = Jewish and C. = Christian are used. The data on C. Sanandaj are taken from Panoussi (1990).

rába	*kabíra*	‘very, much’
ʾăta	*da*	‘now’
gny	*dmx*	‘to sleep’

The Jewish Sanandaj dialect is more closely related to the NENA dialects of other Jewish communities in the region than to the speech of the Christians of Sanandaj. It shares a number of features not found in Christian NENA with the Jewish dialects spoken East of the Great Zab river, the so-called trans-Zab dialects (Mutzafi 2008). Two conspicuous distinctive features of the Jewish trans-Zab group are the shift of the interdental consonants **t̲* and **d̲* to */l/* and the general placement of the stress in word-final position. These are illustrated in the following:

**bayt̲ā* ‘house’, **ʿeḏ̲ā* ‘festival’

Trans-Zab Jewish NENA

J. Sanandaj	*belá*	*ʾelá*
J. Urmi	*belá*	*elá*
J. Arbel	*belá*	*ʾelá*

Jewish dialects West of the Zab

J. Amedia	*béθa*	*ʾéda*
J. Dohok	*béθa*	*ʾéða*
J. Zakho	*bésa*	*ʾéza*

Another distinctive feature of trans-Zab Jewish NENA that is found in Jewish Sanandaj is the collapse of gender distinction in the 3rd person singular independent pronoun, with the 3rd person singular masculine pronoun being used to express also the 3rd person feminine singular, e.g.

Trans-Zab Jewish NENA

J. Sanandaj	*ʾo*	(3c.)
J. Urmi	*o*	(3c.)
J. Arbel	*ʾo*	(3c.)

Jewish dialects West of the Zab

J. Amedia	*ʾawa* (3ms.)	*ʾaya* (3fs.)
J. Zakho	*ʾawa* (3ms.)	*ʾaya* (3fs.)

Despite such shared features, the trans-Zab Jewish dialects differ from one another in a number of respects. Some general remarks will here be made concerning the affiliation of Jewish Sanandaj within the trans-Zab subgroup.

The Iranian Sub-groups of NENA

The closest relatives of Jewish Sanandaj are the Jewish dialects of western Iran spoken in an area ranging from Kerend in the South up to Bokan in the North and extending East as far as Bijar. This is a distinct sub-group of Jewish NENA, which exhibits a considerable degree of homogeneity. It includes also the Jewish dialect of the town of Khanaqin, which is situated in the adjacent region of Iraq close to the Iranian border. The dialects of this subgroup differ noticeably from the Jewish dialects spoken further North in Iran in the region ranging from Sablaġ to Salmas, which themselves form a considerably homogeneous sub-group. These two clusters of dialects may be termed the western Iranian (WI) subgroup and the north-western Iranian (NWI) subgroup respectively. In the region of the western Iranian subgroup Kurdish is spoken by the Muslim population whereas the predominant language of the Muslims in the region of the north-western Iranian subgroup is Azeri Turkish.[2]

The dialects of these subgroups for which data are available include:

Western Iranian	North-Western Iranian
Bijar	Sablaġ
Bokan	Salmas
Kerend	Solduz
Khanaqin	Šəno
Qarah Hasan	Urmi
Qasr-e Širin	
Sainqala	
Sanandaj	
Săqəz	
Tikab	

[2] Hopkins (1999: 313) refers to these groups as Kurdistan Jewish and Azerbaijan Jewish respectively.

Fig. 3. Jewish NENA dialects

Some linguistic research has already been carried out on the dialects of the western Iranian subgroup. These include a series articles by Simon Hopkins that concern general features of the Iranian NENA dialects (Hopkins 1989, 1993, 1999) or treat specifically features of the dialect of Kerend (Hopkins 2002; 2005: 74-77). Yafa Yisrael wrote a Ph.D. dissertation on the phonology and morphology of the spoken dialect of Săqəz (Yisraeli 1998) and has published some articles relating to the traditional written form of this dialect (Yisraeli 1997, 2003, 2009). Some aspects of the dialects have been described by Hezy Mutzafi in his work on the classification of the trans-Zab dialects (Mutzafi 2008). The only publication relating specifically to the Jewish dialect of Sanandaj, as far as I know, is a short and faulty word-list appearing in the fifth volume of J. de Morgan's *Mission scientifique en Perse* (de Morgan 1904). It appears that de Morgan was not even aware that the dialect was Aramaic, but rather represented it as a degenerate Iranian dialect (Hopkins 1999: 320).

Some of the conspicuous differences between the western Iranian (WI) and north-western Iranian (NWI) subgroups of NENA are as follows:

(i) Intransitive Preterite

WI	NWI	
qímna	*qə́mli*	'I rose'
qimét	*qə́mlox*	'You (ms.) rose'
qim	*qə́mle*	'He rose'

In WI the subject of the preterite of intransitive verbs is expressed by S-suffixes, i.e. the suffixes that are used to express the subject of present base verbs (*qemna* 'I rise', *qemet* 'You rise', *qem* 'He rises'). In NWI such verbs are inflected with L-suffixes.

(ii) Intransitive Perfect

WI	NWI	
qimá-y	*qim*	'He has risen'
qimtá-ya	*qíma*	'She has risen'
qimtá-yat	*qímat*	'You (fs.) have risen'

In WI the perfect of intransitive verbs is formed by inflecting the resultative participle with the copula. In NWI this is expressed by the past base inflected with S-suffixes.

(iii) Progressive Present

WI	NWI	
gărəš	*garošle/garoše*	'He is pulling'
garšena	*garošlen/garošen*	'I am pulling'

In WI the progressive is expressed by the present base of the verb, whereas NWI uses a construction consisting of the infinitive inflected with the copula, which exhibits various degrees of contraction.

(iv) Direct Object of Perfect

WI

šwawi baxti nšəqta-ya

'My neighbour (m.) has kissed my wife'

(*nšəqta-ya* = fs. resultative participle + 3fs. copula)

NWI

šwawi baxti nšiqella

'My neighbour (m.) has kissed my wife'

(*nšiqella* = ms. resultative partciple + 3ms. copula + 3fs. object suffix)

In both dialect groups a transitive perfect is expressed by a resultative participle inflected by the copula. The alignment of the components of the clause, however, is different. In WI the resultative participle and copula agree with the undergoer of the action, whereas in NWI these agree with the agent.

(v) Present Copula

	WI	NWI
3ms.	*-ye*	*-ile*
2ms.	*-yet*	*-ilet*
1ms.	*-yena*	*-ilen*

In NWI the present copula has an */l/* element throughout the paradigm, whereas this is lacking in WI.

*(vi) Reflexes of *d̲ and *t̲*

Although both WI and NWI share the feature of the shift of the interdental fricatives **d̲* and **t̲* to */l/*, there are exceptions to this process in a few lexical items. WI and NWI differ in the distribution of these exceptions:

	WI	NWI	
**ʾiḏā*	*ʾila*	*ida*	'hand'
**ʾəḏmā*	*ʾəlma*	*ədma*	'brother of husband'
**k-awəḏ*	*kol*	*god*	'He does'
**la-ṯəmmal*	*laḥmal*	*lalummal*	'the day before yesterday'

(vii) Lexical differences

Some lexical differences that are consistent throughout the two subgroups are illustrated below:

WI	NWI	
tḥy	*mštx*	'to find'
gny	*⁺dmx*	'to sleep'
poxa	*kolga*	'shade'

roxa	*poxa*	'wind'
čəkma	*kəmma*	'how much?'
doka	*loka*	'there'

Differences within the Western Iranian Sub-group

Although the WI sub-group to which J. Sanandaj belongs exhibits a general homogeneity, a few small differences among these dialects can be identified.

Some differences relate to phonetic processes. In most such cases the J. Sanandaj dialect tends to have undergone some kind of phonetic weakening in comparison with other dialects. A few examples are as follows:

*(i) *xzy*

In the verb 'to see', which has the historical form **xzy*, the consonant **z* has been weakened to zero in J. Sanandaj but is retained in other dialects of the sub-group:

**xăze* 'He sees'

J. Sanandaj	*xăe*
J. Bijar	*xăze*
J. Săqəz	*xăze*
J. Bokan	*xăze*
J. Kerend	*xăze*
J. Qasr-e Širin	*xăze*
J. Khanaqin	*xăze*

*(ii) *xdr*

The verb **xdr* 'to become', which had an original **d* in the trans-Zab dialects of NENA, has lost this consonant in J. Sanandaj:

**xădər* 'He becomes'

J. Sanandaj	*xar*
J. Bijar	*xar*
J. Săqəz	*xar*
J. Kerend	*xăər*
J. Qasr-e Širin	*xăər*
J. Bokan	*xădər*

As can be seen, the 3ms. of the present base contracts also the short **ə* vowel of the second syllable, resulting in a monosyllabic form. It shares this

degree of contraction with J. Bijar and J. Săqəz, but other dialects of the sub-group exhibit lesser degrees of contraction. In J. Kerend and J. Qasr-e Širin the **d* is elided but the following short vowel is not contracted. In J. Bokan the original medial consonant has been retained.

(iii) Consonant Gemination

In J. Sanandaj there is a general weakening of the gemination of consonants that can be reconstructed as existing in proto-NENA. This is the case, for example, with the gemination of a consonant after the short vowel */ə/*, which is preserved in other dialects of the WI sub-group:

**ləbba* 'heart'

J. Sanandaj	*ləba*
J. Săqəz	*ləbba*
J. Bokan	*ləbba*
J. Kerend	*ləbba*
J. Qasr-e Širin	*ləbba*
J. Khanaqin	*ləbba*

(iv) Contraction of Diphthongs

In all dialects of the WI sub-group there is a general contraction of the original diphthongs **aw* and **ay* to */o/* and */e/* respectively. In a few contexts, however, J. Sanandaj exhibits contraction of the sequence **aw* and **ay* where they have been preserved in other dialects of the sub-group. This applies, for example, to the independent demonstrative pronouns. J. Sanandaj and dialects spoken further North exhibit contraction, whereas dialects spoken South of Sanandaj have uncontracted forms:

**ʾawa* 'that one', **ʾaya* 'this one'

J. Sanandaj	*ʾoa*	*ʾea*
J. Săqəz	*ʾoa*	*ʾea*
J. Bokan	*ʾoya*	*ʾaya*
J. Kerend	*ʾawa*	*ʾaya*
J. Qasr-e Širin	*ʾawa*	*ʾaya*
J. Qarah Hasan	*ʾawa*	*ʾaya*
J. Khanaqin	*ʾawa*	*ʾaya*

Genitive Particle

J. Kerend and the closely related dialect spoken by the small Jewish community of Qarah Hasan differ from J. Sanandaj and all other dialects of the sub-group in the complete loss of the genitive particle **d*. This particle is preserved in most dialects in genitive pronominal constructions. In J. Kerend and J. Qarah Hasan constructions are used with the independent pronoun without explicit genitive marking:

	'his house'	'my house'
J. Sanandaj	*bela d-o*	*bela didi*
J. Săqəz	*bela d-o*	*bela didi*
J. Bokan	*bela d-o*	*bela didi*
J. Tikab	*bela d-o*	*bela didi*
J. Qasr-e Širin	*bela d-o*	*bela didi*
J. Khanaqin	*bela d-o*	*bela didi*
J. Kerend	*bela ʾo*	*bela ʾana*
J. Qarah Hasan	*bela ʾo*	*bela ʾana*

THE INFLUENCE OF KURDISH AND PERSIAN

The Jewish Sanandaj Neo-Aramaic dialect is extensively influenced by Kurdish and Persian (Farsi). Kurdish was spoken in and around the town of Sanandaj by the Muslim population. The Jews would have been exposed to Persian as an official language in schools and government administration. Most Jews were able to communicate fluently in Kurdish and Persian as well as in Neo-Aramaic. The results of this influence are found in all levels of the grammar and in the lexicon.

Chapter 13 presents statistics for the proportion of loanwords in lists of the core vocabulary. Outside of the core vocabulary the extent of influence from Kurdish and Persian is greater, especially in the categories of nouns and adjectives. Many speakers prefer to employ Persian numerals in conversation, although the original NENA equivalents are still in use.

Due to the lack of any systematic research on the Kurdish dialect of Sanandaj, it is not possible at the moment to make a detailed study of the impact of the Kurdish dialect on the grammatical structure of the NENA dialect. Some features of the NENA dialect that have clearly been induced by contact with Kurdish and/or Persian may, nevertheless, be noted here:

(i) The general placement of stress in word-final position and the retraction of stress in vocative nouns (§1.6.1.).

(ii) The lack of gender distinctions in personal and demonstrative pronouns.

(iii) The use of the Iranian *izafe* particle in nominal annexation constructions between a head and dependent noun, e.g. *ʾasər-e šăbat* 'the eve of Sabbath' (§4.19.), and in attributive constructions between a noun and an adjective, e.g. *bela-e rŭwa* 'a big house' (§8.8.1.).

(iv) The Kurdish definite article affix *–ăke* (§8.2.).

(v) The extensive use of the Kurdish postverbal suffix *–o* (< *-awa* §9.12.).

(vi) The existence of two past tense conjugations, a simple past consisting of a past stem and inflectional endings and a compound perfect consisting of a resultative participle and an enclitic form of the verb 'to be', as is found in Kurdish and Persian.

(vii) The ergative type alignment of these past tense conjugations (§9.13.2., §9.13.3.), which is a feature of Kurdish.

(viii) The normal placement of the direct object before the verb, as in Kurdish and Persian.

INFORMANTS AND TEXTS

The material for this grammar was gathered in the course of various rounds of fieldwork conducted in Israel over the last four years. The text corpus in this volume contains transcriptions of the speech of the following informants, all of whom were born in Sanandaj in the 1930s or 1940s and are native speakers of the dialect:

Ḥabib Nurani	Informant A
Yeskel Paz	Informant B
Negar Paz	Informant C
Victoria Amini	Informant D
Danny Avrahami	Informant E

These texts are largely free of interferences from Israeli Hebrew. In the rare cases where this occurs, the Hebrew words are marked by enclosing them by the superscribed letters $^{H \ldots H}$. The numerous loanwords from Kurdish and Persian are not marked, but sections of speech in these languages, which occasionally occur, are indicated by the superscribed letters $^{K \ldots K}$ and $^{P \ldots P}$ respectively. Some informants who were educated in the school of the Alliance Israélite Universelle on some isolated occasions use French words,

which are marked by the superscribed letters $^{F \cdots F}$. The original recordings of the texts can be heard at the website of the NENA database project in Cambridge (nena.ames.cam.ac.uk).

The principal data regarding the morphology of the dialect were established by means of a questionnaire, for which the main informants were Danny Avrahami and his sister Sarah. These two informants were the main source of the supplementary vocabulary that does not appear in the recorded texts.

THE GRAMMAR

The grammatical description follows the general format of my previous grammars of NENA dialects. Sections are devoted to the phonology, morphology and syntax of the dialect. The chapter on phonology makes greater use of instrumental acoustic measurements than is the case in my other grammars, especially with regard to vowel quality. The syntax is largely based on material published in the text corpus that is placed after the grammar. As in my previous grammars, the transcription of the texts indicates intonation group boundaries and distinguishes between nuclear and non-nuclear stress. In many cases these details are necessary to understand the syntax fully. The volume contains a chapter on the lexicon. The main purpose of this is to arrange a selection of the recorded lexicon into semantic fields to facilitate future comparative research on the lexicon of the NENA dialects. Full glossaries of all recorded lexical items are included at the end of the volume. These include all material that was gathered during the fieldwork. Verbs are presented in a glossary arranged by root and the remaining lexical items are put in a general glossary arranged alphabetically. Where possible, the origin of loanwords is indicated. In some cases, however, their origin cannot be verified.

1. PHONOLOGY

1.1. CONSONANT PHONEMES

1.1.1. Phoneme Inventory

	Labials	Dental/ Alveolar	Palato-alveolar	Velar	Uvular	Pharyngal	Laryngal
Stops							
Unvoiced	*p*	*t*		*k*	*q*		ʾ
Voiced	*b*	*d*		*g*			
Emphatic		*ṭ*					
Affricates							
Unvoiced			*č*				
Voiced			*j*				
Fricatives							
Unvoiced	*f*	*s*	*š*	*x*		*ḥ*	*h*
Voiced	*w*	*z*	*ž*	*ġ*		ʿ	
Emphatic		*ṣ*					
		ẓ					
Nasal	*m*	*n*					

Lateral							
Plain		*l*					
Emphatic		*ḷ*					
Rhotic							
Trill/Tap		*r*					
Trill		*ř*					
Emphatic		*ṛ*					
Approximant			*y*				

Some of these consonants occur predominantly in loanwords or loan verbal roots from Kurdish and Persian. These include the following:

/č/, e.g. *parča* (Kurd.) 'material, fabric', *čamča* 'spoon' (Kurd.), *čəngāḷ* 'fork' (Kurd.), *čqy* 'to dig' (Kurd.).

/f/, e.g. *səfra* 'cloth' (Pers. < Arab.), *făqaṭ* 'only' (Pers. < Arab.), *fhm* 'to understand' (Pers. < Arab.).

/ġ/, e.g. *šoġḷ* 'profession' (Pers. < Arab.), *ġer* 'other (than)' (Pers. < Arab.).

/j/, e.g. *jəle* 'clothes' (Kurd.), *jgər* 'anger' (Kurd.), *jəns* 'material' (Pers. < Arab.).

/ř/, e.g. *řang* 'colour' (Kurd./Pers.), *řag* 'vein' (Kurd./Pers.).

/š/, e.g. *pžgn* 'to scatter' (Kurd.), *žān* 'pain' (Kurd.).

/ẓ/, e.g. *ẓolm* 'injustice' (Kurd./Pers. < Arab.)

1.1.2. Notes on the Phonetic Realization of the Consonants

1.1.2.1. /p/, /t/, /k/

These unvoiced stops are generally pronounced with some aspiration before vowels, e.g. *pex-ó* [pʰeːˈxoː] 'It cools', *tărá* [tʰaˈra] 'door', *kól* [kʰoːl] 'He does'. There is no aspiration when they follow an unvoiced fricative in a cluster, e.g. *skitá* [skiːˈta], *baxtá* [baxˈta] 'woman'. The consonants may be pronounced aspirated also in word-final position, particularly at the end of an intonation group, e.g. *wardé ḥafšè-yatˈ* [yatʰ] 'You are a flower of the courtyard'.

1.1.2.2. /ṭ/, /ṣ/

The consonants */ṭ/* and */ṣ/* are historically emphatics and were originally pronounced with pharyngalization, i.e. the retraction of the back of the tongue into the pharynx. In the current state of the dialect, however, the consonants */ṭ/* and */ṣ/* are in most cases realized without any clear pharyngalization. This can be demonstrated by instrumental acoustic analysis. Pharyngalization of a consonant segment is reflected in spectographs by the lowering ('flatting') of high frequency energy, specifically by the lowering of the second formant (Ladefoged and Maddieson 1996: 360-363), in the transition to the adjacent vowels and also, if the consonant is voiced, in the consonantal segment. In most environments there is no significant difference in the second formant (F2) frequency between sequences of */ṭ/* or */ṣ/* and adjacent vowels, on the one hand, and equivalent sequences containing the corresponding non-emphatic consonants */t/* and */s/*. In what follows the mean F2 frequency is given for the transition points between these sets of unvoiced consonants and the following vowels:

ṣiwa	'wood'	*/ṣi/* F2 =2245
ʾəsiri-o	'They were tied'	*/si/* F2 = 2255
xaṣe	'backs'	*/ṣe/* F2 = 1898
serăke	'the moon'	*/se/* F2 = 1941
máṭe	'He arrived'	*/ṭe/* F2 = 2072
tema	'It (f.) finishes'	*/te/* F2 = 2037
pliṭa	'It (f.) came out'	*/ṭa/* F2 = 1618
tlita	'hung'	*/ta/* F2 = 1603
ṭura	'mountain'	*/ṭu/* F2 = 1523
xăetun	'You see'	*/tu/* F2 = 1557

The stop */ṭ/* is pronounced with aspirations before vowels in the same environments as */t/* is aspirated, e.g. *ṭurá* [tʰuːˈra] 'mountain'.

Occasionally syllables containing */ṭ/* or */ṣ/* are realized with a significant lowering of F2 frequency compared to corresponding syllables with */t/* and */s/*. This is encountered mainly in the environment of */l/* or */m/*, e.g.

ṭălăbe	'seeking'	*/ṭăl/* F2 = 1408
talga	'snow'	*/tal/* F2 = 1818

zmaṭela	'It (f.) is full'	*/aṭ/* F2 = 1202
bate	'houses'	*/at/* F2 = 1653
qăṭəl	'He (m.) kills'	*/ṭəl/* F2 = 1460
təlyen	'They are hung'	*/təl/* F2 = 2124
ṣalmax	'Your (fs.) face'	*/ṣa/* F2 = 1579
săroqe	'to comb'	*/sa/* F2 = 2023

This suggests that the historical pharyngalization of the consonants */ṭ/* and */ṣ/* remains as a potential feature that may be conditioned by certain phonetic environments but generally remains unrealized. It has been decided to represent */ṭ/* and */ṣ/* consistently in the transcription according to their historical distribution, despite the fact that in the majority of cases they are phonetically indistinguishable from non-emphatic */t/* and */s/*. An exception to this transcription practice is made in cases where the word contains a pharyngal consonant */ʿ/* or */ḥ/*. In such words a historical **ṭ* or **ṣ* is never pronounced with pharyngalization, e.g. *taʿna* 'load' (< **ṭaʿnā*), *tḥy* 'to find' (< **ṭʿy*). This neutralization of emphasis appears to have arisen by a process of dissimilation from the pharyngal.[3]

Minimal pairs can be identified that are distinguished only by one of these historically emphatic consonants, e.g.

təpla 'She sneezed' : *ṭəpla* 'drop'

1.1.2.3. /l̩/

Unlike the historical emphatics */ṭ/* and */ṣ/*, which have largely lost their emphatic quality, the innovative emphatic */l̩/* is regularly realized with pharyngalization. This emphatic is phonemically distinct from */l/*, as is demonstrated by several minimal pairs, e.g.

lala	'maternal uncle'	*l̩al̩a*	'lung'
mala	'village'	*mal̩a*	'trowel'
mila	'dead'	*mil̩a*	'circumcision'
năqole	'to extract (forbidden parts of an animal)'	*năqol̩e*	'to dance'
pela	'radish'	*pel̩a*	'eyelash'

[3] Cf. the remarks of Hezy Mutzafi regarding emphasis neutralization in the Jewish Koy Sanjak dialect (Mutzafi 2004: 27).

The pharyngalization of */l/* is demonstrated instrumentally by the fact that it consistently has a significantly lower second formant than */l/*. This lowering of F2 is discernible also in the surrounding vowels, especially */a/* and back vowels. Adjacent high front vowels generally do not exhibit a significant difference in the mean frequency of F2, although it tends to be lower in the onset phase. This is shown in the following F2 readings for one of the minimal pairs:

nă̈qole */o/* F2 = 1050, */l/* F2 = 1690, */e/* F2 = 1378
nă̈qoḷe */o/* F2 = 878, */ḷ/* F2 = 1099, */e/* F2 = 1471

1.1.2.4. /m/

In some words this labial consonant is realized with pharyngalization, which is reflected acoustically by the lowering of the second formant. Since no minimal pairs are available, this emphatic */m/* is not distinguished in the transcription, e.g.

tămā̆m [taˈmˤɑːˤmˤ] ‘all’ */ma/* F2 = 1013
xmála [xmɑːˈla] ‘porter’ */ma/* F2 = 1342

1.1.2.5. /w/

The phoneme */w/* is realized as a labio-dental [v] in most cases, e.g. *ṣiwa* [siːˈva] ‘wood’, *hă̈we* [haˈveː] ‘May he be’, *hewalé* [heˑvaːˈleː] ‘(that) he could’. The friction is sometimes reduced and it is pronounced as a labio-dental approximant [ʋ]. This is heard mainly after back consonants, e.g. *dóqwa* [ˈdoˑqʊa] ‘He used to hold’, *gwərté-ya* [gʊərˈteːja] ‘He has married her’. It tends to be realized as a bilabial continuant [w] when in contact with a sibilant, e.g. *šwawá* [ʃwɔːˈwʌ] ‘neighbour’, when it is between two instances of the low vowel */a/*, e.g. *šată̈wáe* [ʃɑˑtʰaˈwaːe] ‘years’, or when it is adjacent to back rounded vowels, e.g. *rŭẅá* [ruˈwa] ‘big’, *yătúwa* [yaˈtʰuːwa] ‘He used to sit’.

1.1.2.6. /r/

The */r/* phoneme is generally realized as a voiced alveolar trill [r]. There is a certain degree of variation in the number of periods of vibration of the tongue tip. In word-internal position, however, it is sometimes realized as a single tap [ɾ] with no vibration, e.g. *ʾəsiri-ó* [ʾəsiˑɾiːˈjoː] ‘They were tied’, or even an alveolar approximant [ɹ], e.g. *baṣirtá* [basiɹtʰa] ‘grape’.

1.1.2.7. /ř/

This phoneme, which occurs only in loanwords from Kurdish, is a voiced alveolar trill that has a greater number of periods of vibration than is typical for */r/*, e.g. *řangú* [rːaŋˈguː] 'their colour', *řag* [rːag] 'vein'.

1.1.2.8. /ṛ/

This emphatic phoneme has only been identified in the word *zoṛa* 'water jar', which has an Aramaic etymology. It has apparently developed in this word to distinguish it from the adjective *zora* 'small'.[4] The emphatic quality of */ṛ/* in *zoṛa* is discernible acoustically. It is a voiced alveolar trill that is realized with a certain degree of pharyngalization. This causes a significantly lower F2 in the consonantal segment and in the adjacent vowel transitions. In the following, the F2 reading of the transition from */o/* to */ṛ/* and from */ṛ/* to */a/* is given together with the F2 at the equivalent points in the word *zora*:

z	*o*	*ṛ*	*a*
	1131		1206

z	*o*	*r*	*a*
	1526		1770

In some realizations of the word *zoṛa*, moreover, speakers pronounce the trilled */ṛ/* with a greater number of periods of vibration than */r/*.

1.1.2.9. /n/

Normally this is realized as an alveolar nasal [n]. Before velar consonants it is a velar nasal [ŋ], e.g. *řangú* [rːaŋˈguː] 'their colour', *mangól* [maŋˈgoːl] 'like'.

[4] The phenomenon whereby an */r/* or other consonant in one of a pair of homophones is pronounced emphatic in order to distinguish meaning has been found in other NENA dialects; cf. Khan (2008b: 59).

1.1.2.9. /q/

This is normally realized as an unvoiced uvular stop, e.g. *baqá* [bɑːˈqɑ] ‘to’. After a vowel or */w/*, it is occasionally realized as an unvoiced uvular fricative, e.g. *qoqé* [qoːˈχeː] ‘pots’, *šəwqá-y* [ʃɪfˈχaj] ‘He has left’.

1.2. PHONETIC PROCESSES RELATING TO VOICING

The voiced consonants have a tendency to be devoiced when in contact with unvoiced consonants, e.g.

rabtá [rapˈta] ‘big’	cf. *raba* [ˈrɑːba] ‘much’
năwagta [nawakˈta] ‘granddaughter’	cf. *năwaga* [nawaːˈga] ‘grandson’
ʿayzta [ʕajsˈta] ‘good’ (fs.)	cf. *ʿayza* [ʕajˈza] ‘good’ (ms.)
šwawta [ʃwʌfˈta] ‘neighbour (fs.)’	cf. *šwawa* [ʃwʌːˈwʌ] ‘neighbour (ms.)’

An original voiced affricate **j* [ʤ] in some words loses its stop onset when devoiced in contact with a following unvoiced consonant. This applies regularly to the following, in which the devoiced consonant is represented as */š/* in the orthography:

haḷušta ‘a plum’	cf. *haḷuje* ‘plums’
ḥašta ‘job, work’	cf. *ḥajyale* ‘jobs’

All unvoiced consonants have a tendency to be voiced when in contact with a voiced consonant across a word boundary in the same intonation group in fast speech, e.g.

*šarbàt mélu baqí*ˈ [ʃarˈbad ˈmeːluˑ] (A:23) ‘They brought sherbet’
xá năfar-áč mangál [nafaˈrɪʤ maŋˈgal] (A:16) ‘A person like ...’

Voiced consonants tend to be devoiced at the end of words, e.g.

*šoḷtáli d-o-làg*ˈ [doˑˈlak] (A:24) ‘I threw it on that side’

This is regularly the case with the 3ms. and 3fs. suffixes *–ef* and *–af* (< **-ew, *-aw*) and the devoicing is represented in the transcription. This devoicing is retained when particles with the form of a vowel are attached after the suffix, e.g. *doqnef-ó* ‘I hold it again’.

1.3. HISTORICAL BACKGROUND OF THE CONSONANTS

1.3.1. The *BGDKPT* Consonants

*1.3.1.1. *b*

The reflex of the fricative allophone of **b* in earlier Aramaic is the consonant */w/*, which is generally realized as a labio-dental [v] (see §1.1.2.5.). This is found after both vowels and consonants, e.g.

dənwe	'flies'	< **dinb̲ē*
gwənye	'eyebrows'	< **gb̲īnyē*
hiwlox	'you gave'	< **hīb̲-lox*

The diphthong */aw/* that developed from **ab̲* has contracted to */o/*, e.g.

gora	'man'	< **gab̲rā*

When **b̲* was preceded by a high vowel, the sequence has contracted to */u/*, e.g.

duša	'honey'	< **dib̲šā*

*1.3.1.2. *p*

The reflex of **p* is, as a general rule, the stop */p/*, including in post-vocalic positions,e.g.

kepa	'stone'	< **kēpā*

The form *noš–*, which acts as the base of the reflexive pronoun (§2.5.) is related etymologically to the form *napšā* 'soul' of earlier Aramaic. It is easier, however, to regard its immediate background as being the form **nab̲šā* with the voiced fricative **b̲*. The *p̄* in the form *napšā* would have developed by devoicing of an original **b̲*.

*1.3.1.3. *t*

The usual reflex of the original fricative allophone of this consonant **t̲* is the lateral */l/*, e.g.

mala	'village'	< **māt̲ā*
bela	'house'	< **bayt̲ā*

In a few words the reflex of *t̲* is the unvoiced pharyngal fricative */ḥ/*, e.g.

ʾaḥra	‘town’	< **ʾat̲rā*
təlḥa	‘three’	< **tlāt̲ā*
láḥmal	‘the day before yesterday’	< **lā t̲immal*
năḥale	‘ears’	< **nāt̲āt̲ā*

Such words must have been originally pronounced with suprasegmental pharyngalization, originating no doubt from the consonants *r*, *l* or *m*. The pharyngalization was subsequently lost as a suprasegmental feature but left a vestige in the pharyngal segment */ḥ/*: *ʾaḥra* < *ˁʾat̲ra* < *ʾat̲rā*.

In some plural forms of nouns the reflex of *t̲* is zero, e.g.

malăwáe	‘villages’	< **māt̲awāt̲ā*

*1.3.1.4. *d*

The usual reflex of the original fricative allophone of this consonant *d̲* is the lateral */l/*, e.g.

ʾila	‘hand’	< **ʾīd̲ā*
qlila	‘key’	< **qd̲īlā*

In some words the reflex of the consonant is */z/*. This has developed from the stop **d* in post-vocalic position, e.g.

koza	‘liver’	< **koda*
guza	‘wall’	< **guda*
šeza	‘almond’	< **šeda*

The articulation of the consonant has been further weakened in a few cases to zero, e.g.

xar	‘He becomes’	< **xădər*
šar	‘He sends	< **šădər*
bi-zóa	‘more’	< **bi-zoda*
qóme	‘tomorrow’	< **qădome*
Kursān	‘Kurdistan’	< **Kurdəstān*

*1.3.1.5. *k*

The fricative allophone of **k* has been preserved in many cases, e.g.

băxe	‘He weeps’	< **bāk̲ē*

The fricative */x/* occurs also where a diphthong has contracted to a vowel, e.g.

kəxwa	'star'	< **kawkḇā*

*1.3.1.6. *g*

The velar fricative allophone of **g* has in most cases been weakened to zero, e.g.

pela	'radish'	< **paḡlā*
šrata	'lamp'	< **šrāḡtā*
reš-o	'He wakes'	< **rāḡiš* + Kurd. suffix

This process of weakening of the velar fricative **ḡ* is likely to have involved an intermediate stage in which the velar shifted to the pharyngal **ʿ*. The pharyngal is preserved in the word *loʿa* 'inside', the development of which can be reconstructed as *loʿa* < **l-ʿoya* (by metathesis, this being the form of the word in J. Amedia) < **l-ḡoya*. The preservation of the pharyngal would have been conditioned by a pharyngalized pronunciation of the word, no doubt facilitated by the */l/*, though this has now been lost. The word is still pronounced with suprasegmental emphasis in J. Urmi (+*lwa*).

1.3.2. Emphatic Consonants

1.3.2.1. /ṣ/ and */ṭ/*

As remarked in §1.1.2.2., the original pharyngalization of the emphatic consonants */ṣ/* and */ṭ/* is generally weakened. This is reflected by the fact that a word-final historical **-ṭa* is sometimes interpreted as the feminine ending *-ta*, as shown by the following words, in the plural forms of which the *-ta* is replaced by a plural ending:

xmata f.	*xmaye* pl.	'needle'	**mḥaṭa* m.
sita f.	*siye* pl.	'span'	**siṭa* m.

In at least one case an original emphatic sibilant **ṣ* has become affricated:

ʿyč	'to knead'	< **ʿṣṣ*

The pharyngalization of the original **ṣ* has here conditioned the preservation of the initial pharyngal consonant (§1.3.3.4.).

1.3.2.2. /ḷ/

Emphatic */ḷ/* occurs mainly in loanwords from Kurdish and Persian, e.g.

ʾaspāḷ	‘goods, merchandise’
ʾăwaḷ	‘first, beginning’
băxeḷi	‘jealousy’
gaḷa	‘leaf’
haḷwa	‘sweets’
ḥămaḷa	‘porter’
jangāḷ	‘forest’
mangaḷ	‘brazier’
pătiḷa	‘container’
puḷe	‘money’
qaḷi	‘carpet’
zuxāḷ	‘coals’

It is found in a number of words of NENA origin. In such cases it corresponds to */r/* in other dialects, e.g.

pšiḷa	‘melted’	< *pšira*
joḷe	‘urine’	< *jore*
ḷaḷa	‘lung’	< *rala*
nuqḷe	‘sweets’	< *nuqre*
maḷa	‘trowel’	< *mara*
tuḷa	‘twig’	< *tura*

Note also its occurrence in the following Hebrew word:

miḷa	‘circumcision’	< *mila*

1.3.3. Laryngals and Pharyngals

*1.3.3.1. *ʾ*

The reflex */ʾ/* of a historical laryngal stop is found only in word initial position:

ʾăxəl	‘He eats’	< *ʾ*āxəl*
ʾăra	‘land’	< *ʾ*arʿā*

An initial laryngal stop *ʾ in some words shifts to a laryngal fricative */h/*, e.g.

hămər	‘(that) he says’	< *ʾămər*

hezəl	'(that) he goes'	< *ʾezəl*
he	'(that) he comes'	< *ʾe* < **ʾaṯe*
hol	'(that) he does'	< *ʾol* > *ʿābeḏ*
hit	'there is'	< *ʾiṯ*
hema	'which?'	< *ʾema*
heka	'where?	< *ʾeka*

The verbs in which this development is attested belong to the class of verbs that distinguish the realis from the irrealis by attaching an initial *k-/g-* prefix. This realis marking prefix is used also with some verbs that have a historical initial */h/*, e.g. *hwy* 'to be'. The */h/* in the initial */ʾ/* verbs may, therefore, have arisen by analogy with such initial */h/* verbs:

hwy	*hăwe*	*kwe*
ʾmr	*hămər*	*kmər*

The shift of */ʾ/ > /h/* is not, however, attested in all initial */ʾ/* verbs that take the realis suffix, e.g.

ʾăxəl	'(that) he eats'	*kxəl*	'He eats'
ʾăle	'(that) he knows'	*kă̊e*	'He knows'

This suggests that the shift has been lexicalized for certain lexical items only.

In non-initial position a historical laryngal *ʾ has been elided, e.g.

huláe	'Jews'	< **huḏaʾe*	< **yhūḏāʾē*
máe	'water'	< **maʾe*	

*1.3.3.2. *h*

A historical laryngal fricative **h* is preserved in word initial position,

huláe	'Jews'	< **huḏaʾe*	< **yhūḏāʾē*

In non-initial position it is generally elided, e.g.

sala	'witness'	< **sahḏā*
dewa	'gold'	< **dehwa*
băura	'bright'	< **băhura*

*1.3.3.3. *ḥ*

The unvoiced pharyngal fricative **ḥ* has shifted to the velar fricative */x/*, e.g.

xmara	'ass'	< **ḥmārā*

qamxa	‘flour’	< **qamḥā*
xamša	‘five’	< **ḥamšā*

The original pharyngal has been preserved in words and verbal roots of Aramaic stock that contain */q/* or a historical emphatic or emphaticized consonant, e.g.

ḥnq	‘to be throttled, to drown’

In the words *tḥy* ‘to find’ and *tsḥ* ‘to stuff, pack’ the */ḥ/* has developed from the voiced pharyngal **ʿ*:

tḥy	‘to find’	< **ṭʿy*
tsḥ	‘to stuff, pack’	< **dʿṣ*

Elsewhere the pharyngal occurs in loanwords from Kurdish and Arabic, e.g.

ḥăqe	‘He speaks’	< Arab.
ḥašta	‘work’	< Kurd. < Arab.
ḥaywān	‘animal’	< Kurd. < Arab.
na-raḥati	‘discontent’	< Kurd. < Arab.
ḥawša	‘courtyard’	< Kurd. < Arab.
ḥămām	‘bath’	< Kurd. < Arab.
ḥăna	‘henna’	< Kurd. < Arab.
zaḥamta	‘trouble’	< Kurd./Pers.

Hebrew and Rabbinic Aramaic words in the dialect also preserve the pharyngal pronunciation of the consonant *ḥet*, e.g.

šoḥet	‘ritual slaughterer’
məšpaḥa	‘family’
ḥoxma	‘wisdom’
ta-ḥayme	‘cemetery’
ḥănukae	‘Hanukkah’
ḥameṣ	‘leaven’
pəsḥa	‘Passover’
psḥ	‘to celebrate Passover’
ḥaliq	*ḥaroset*

*1.3.3.4. *ʿ*

In word initial position the reflex of an historical **ʿ* is normally the laryngal stop */ʾ/*, e.g.

ʾapra	‘soil’	< **ʿapārā*

ʾela	‘festival’	< **ʿēḏā*

In word-internal or word-final position the voiced pharyngal **ʿ* has been weakened to zero in most cases, e.g.

beta	‘egg’	< **bēʿtā*
tăra	‘door’	< **tarʿā*
zăra	‘wheat’	< **zarʿā*
šăme	‘he hears’	< **šāmaʿ*
bée	‘eggs’	< **bēʿē*
šoá	‘seven’	< **šoʿa* < **šaḇʿā*

The pharyngal has been retained in some words of Aramaic stock that contain */q/* or a consonant that was historically emphatic, e.g.

ʿaqəwra	‘scorpion’	< **ʿaqəḇrā* < **ʿaqərbā*
taʿna	‘load’	< **ṭaʿnā*
tamʿa	‘She tastes’	< **ṭāmʿā*

In words that preserve the pharyngal the historically emphatic consonant is never pronounced with pharyngalization (§1.1.2.2.).

This retention of the pharyngal does not regularly occur in words containing */q/* or a historical guttural, as shown by forms such as:

ʾărəq	‘He runs’	< **ʿārəq*
ʾapṣa	‘gallnut’	< **ʿapṣā*
ʾaqla	‘leg’	< **ʿaqlā*
ʾaqubra	‘mouse’	< **ʿaqubrā*

The occurrence of */ʿ/* in the loanword *ʿaql* ‘mind, intelligence’ produces a minimal pair demonstrating the phonemic opposition between */ʾ/* and */ʿ/*:

ʾaqlef ‘his leg’ : *ʿaqlef* ‘his mind’

Pharyngals are also preserved in environments where a consonant adjacent to the pharyngal became emphaticized at some stage of development. This is found especially in the environment of the sonorant consonants */m/, /b/, /l/* and */r/*, e.g.

dəmʿe	‘tears’	< **dəṃʿe*	< **dəmʿe*
gulʿa	‘kernel of fruit’	< **guḷʿa*	< **gulʿā*
maʿlela	‘eve of festival’	< *ṃaʿḷela*	< **maʿlē ʿeḏā*
pərtaʿna	‘flea’	< **pəṛtaʿna*	< **purtaʿnā*
zaʿra	‘barley’	< **zaʿṛa*	< **sʿārā*
blʿ	‘to swallow’	< **bḷʿ*	< *blʿ*
ʾəčʿa	‘nine’	< **ʾəçʿa*	< **tšʿā*

In some cases the labial */m/* became emphaticized independently. A non-etymological pharyngal has even developed in the environment of such emphaticized labials, as in the following case:

tmaʿnisar	'eighteen'	< *tṃanisar*
tmaʿni	'eighty'	< *tṃani*

This pharyngal is absent in the form *tmanya* 'eight'. The explanation may be that the pharyngal developed from an original laryngal in the sequence *Vʾ*, which replaced an original long vowel *V̄*. Since the first */a/* in *tmanya* is short, the laryngal did not arise:

tmaʿnisar	<	**tṃaʾnisar*	< **tmānisar*
tmaʿni	<	**tṃaʾni*	< **tmānī*

The alternation of */V̄/* with */Vʾ/* is attested in other NENA dialects, e.g. Qaraqosh (Khan 2002a: 43):

šata ~ *šaʾta*	'year'
šaθa ~ *šaʾθta*	'fever'

In the cases described above of the preservation of the pharyngal */ʿ/*, it would be more accurate to state that the */ʿ/* is potentially realized as a pharyngal. In some cases it is realized with less muscular tension as a laryngal [ʾ]:

tamʿa [tʰamʿa ~ tʰamʾa]	'She tastes'
ʾačʿa [ʾačʿa ~ ʾačʾa]	'nine'

The same allophonic alternation [ʿ] ~ [ʾ] applies to pharyngals in loanwords, e.g.

maʿlem [maʿləm ~ maʾləm]	'teacher'
ʿayza [ʿayza ~ ʾayza]	'good'

The phoneme */ʿ/*, therefore, may be said to have the allophones [ʿ] and [ʾ]. In the transcription it will be regularly represented as a pharyngal */ʿ/*.

In a few cases the reflex of a historical pharyngal **ʿ* in initial or medial position is the laryngal fricative **h*. This is found in a few verbs, e.g.

hol	'(that) he does'	< **ʿāḇəḏ*
păhər	'He yawns'	< **pāʿər*
šăhəl	'He coughs'	< **šāʿəl*
măhe	'He churns'	< **māʿē*

1.3.4. Weakening of **z*

It has been remarked in §1.3.1.4. that a post-vocalic **d* is weakened to zero in some words. The intermediate stage of this weakening is likely to be **z* (cf. *koza* 'liver' < **koda*):

xar < **xăzər* < **xădər* 'he becomes'

This is demonstrated by the fact that etymological **z* is sometimes weakened to zero in the same way, e.g.

xa̋e 'he sees' < **xāzē*

1.3.5. */č/*

Most cases of the affricate */č/* are found in loanwords from Kurdish or Persian. It is, however, found in a few words of Aramaic etymology. These include *ʿyč* 'to knead', in which the */č/* has developed from an original emphatic */ṣ/*. It can be assumed that at some stage the affricate was emphatic **ʿyč̣*. The presence of the pharyngal */ʿ/* has neutralized its emphasis (§1.1.2.2.). The affrication of emphatic sibilants is attested in other NENA dialects. In Barwar, for example, */š/* has developed into an emphatic */č̣/* in environments that induce emphasis, such as pharyngal and labial consonants, or */l/*, e.g. *č̣uwa* 'smooth' < **šʿūʿā*, *č̣ita* 'cream of yoghurt' < **šʿīʿtā*, *măč̣oye* 'to smooth' (< **mašʿōyē*), all of which are connected historically with the root **šʿʿ* (cf. Syriac *ša*ʿ 'to smooth'); *pč̣ala* 'to be crooked', *pč̣ila* 'crooked', which are derived from **pšl* (cf. Syriac *pšal* 'to twist'); *č̣lapa* 'to tear off (meat)' < **šlp* (cf. Syriac *šlap̄* 'to pull out', Jewish Babylonian Aramaic *šallep̄* 'to tear off') (Khan 2008b: 61-62).

Some cases of the affricate */č/* have developed from a fusion of **t* and **š*. This is the case in numeral *ʾəčʿa* 'nine' < *ʾətšʿa* < **təšʿā*. The preservation of the historical pharyngal */ʿ/* must have been conditioned by suprasegmental emphasis at some stage of the word's development. Indeed, in the some NENA dialects the affricate in this word is pronounced emphatic, e.g. Barwar *ʾəč̣č̣a* (Khan 2008b: 60).

The verb *čyr* 'to go around' may have developed by affrication of **k* > *č* from **kyr* (derived ultimately from **krr*, cf. Heb. *kirker* 'to go around, to whirl'). Such affrication of **k* is not found elsewhere in J. Sanandaj, although it is attested in numerous other NENA dialects. If the assumption is correct that the verb *čyr* has an Aramaic etymology, it is possible that the affrication has arisen by assimilation to the phonetic form of the semantically related Kurdish verb *čarxān* 'to go around, to turn'. The historical derivation of *čyr*, however, remains unresolved.

A */č/* is found in the particle *čəkma* 'how much?', 'a few'. This is derived historically from the combination of the elements *čə* + *kəmma*. Although the *kəmma* element is clearly Aramaic, the initial *čə-* may be identified as the Kurdish element *č(i)*, which occurs in various interrogative particles, e.g. *či* 'what', *čand* 'how many'.

1.3.6. */j/*

The phoneme */j/* occurs in a few words of Aramaic etymology. It is found in the verb *jnw* 'to snatch away, to kidnap', which is derived from Aramaic **gnb*. The palatalization of the **g* has apparently arisen to differentiate it semantically from its doublet *gnw* 'to steal'. The root *jhy* 'to become tired' is also of Aramaic origin, deriving from **šhy* with an initial palato-alveolar fricative. Elsewhere */j/* occurs only in loanwords.

1.4. CONSONANT GEMINATION

Consonant gemination has been completely lost. All NENA dialects have lost historical consonantal gemination in some contexts, but in J. Sanandaj this loss is systematic and occurs in contexts where other NENA dialects preserve it.

As in other NENA dialects, gemination is lost after */a/* and */u/* vowels occurring within words of Aramaic stock. The forms in the closely related dialects of J. Sulemaniyya and J. Săqəz are given for comparison:

J. Sanandaj	J. Sulemaniyya/J. Săqəz		
kaka	*kaka*	'tooth'	< **kakkā*
raba	*raba*	'much'	< **rabba*
guza	*guda* ~ *guza*	'wall'	< **guddā*

We may say that the gemination in these contexts was weakened in Proto-NENA. Unlike other documented NENA dialects, however, consonant gemination is lost within a word also after */ə/*. The gemination may be considered to have been preserved in this context in Proto-NENA and its loss to have been subsequent to this stage of development. The */ə/* vowel remains short, e.g.

J. Sanandaj	J. Sulemaniyya/J. Săqəz	
šəne	*šənne*	'years'
šəra	*šərra*	'navel'
dəma	*dəmma*	'blood'
ləba	*ləbba*	'heart'

təna	*tənna*	‘smoke’
xəma	*xəmma*	‘father-in-law; heat’

The */ə/* vowel may be stressed, as is the case in the following adverbial form:

J. Sanandaj	J. Sulemaniyya/J. Săqəz	
tə́mal	*tə́mmal*	‘yesterday’

Short */a/* and */u/* vowels before a consonant that was geminated in proto-NENA likewise remain short when the gemination of the consonant is weakened, e.g.

J. Sanandaj	J. Sulemaniyya/J. Săqəz	
lăxa	*laxxa*	‘here’
xălu	*xallu*	‘I (f.) wash them’
kŭle	*kulle*	‘all’

In other NENA dialects, and presumably in Proto-NENA, consonant gemination occurs when the initial consonant of a verbal suffix assimilates to the final radical of a verbal root or when the initial consonant of the suffix */l/* is identical to the final radical. In J. Sanandaj the gemination is weakened also in this context:

J. Sanandaj	J. Sulemaniyya/J. Săqəz		
garšéte	*garšátte*	‘you pull him	< **garšet–le*
garšắte	*garšátte*	‘you pull her	< **garšat–le*

In verbal forms, the weakening of gemination that arose historically by the attachment of affixes in some circumstances results in resyllabification of the word. This applies specifically to the patterns **CăCəC:V* and **CCəC:V*, which resyllabify as follows:

**CăCəC:V* > **CăCəCV* > *CaCCV*
**CCəC:V* > **CCəCV* > *CəCCV*

The stress in the resyllabified form is placed either on the penultimate or on the final syllable, e.g.

maqlé	‘He burns it’	< **măqəle*	< **măqəlle*
kawlí	‘He gives me’	< **kăwəli*	< **kăwəlli*
zábna	‘I sell’	< **zăbəna*	< **zăbə́nna*
šəqlí	‘I bought’	< **šqəli*	< **šqəlli*

When a geminated consonant is weakened after the long, or semi-long, vowels */i/* and */o/*, the vowel is retained and pronounced long, e.g.

wilé	'He made'	< **wille*
kpína	'I have become hungry'	< **kpinna*
kóna	'I do'	< **konna* < *kolna*

Gemination is preserved across a word boundary in stress groups such as the following:

har-reṭ	'He just trembles'

Loanwords preserve original gemination, e.g.

maṣṣa (Heb.)	'matzo'
kalla (Kurd.)	'head of an animal'

1.5. VOWELS AND SYLLABLE STRUCTURE

1.5.1. Vowel Phoneme Inventory

The following vowel qualities are phonemically distinct:

/i/ /u/

/e/ /ə/ /o/

/ɑ/

These oppositions are demonstrated by minimal pairs such as the following:

/i/ : /e/	*grəšli*	'I pulled'
	grəšle	'He pulled'
	qim	'He rose'
	qem	'He is rising'
/i/ : /ə/	*grišta*	fs. passive resultative participle
	grəšta	fs. active resultative participle
	míre	'He said'
	máre	'It ached'
/e/ : /ə/	*qeṭa*	'summer'
	qəṭa	'piece'

/e/ : /a/	*grəšle*	'He pulled'
	grəšla	'She pulled'
	mela	'She dies'
	mala	'village'
/a/ : /o/	*mala*	'village'
	mola	'death'
/o/ : /u/	*goran*	'our man'
	guran	'our men'
/o/ : /ə/	*zmorta*	'song'
	zmərta	'turban'
/u/ : /ə/	*grušle*	'Pull him!'
	grəšle	'He pulled'

1.5.2. The Quality of Vowels

The quality of the allophonic realizations of each vowel phoneme in a variety of environments was measured by establishing their first and second formant frequencies with the acoustic software Praat. Formant values were converted from Hertz to Barks. Barks are units of perceptual discriminability of frequency. The results were plotted on charts with the first formant (F1) on the y axis and the second formant (F2) on the x axis. The height of the vowels in auditory terms corresponds inversely to the F1 frequency, the higher the F1 the lower the vowel. The back-front relationship of vowels in auditory terms is indicated by the F2 frequency, the higher the F2 the more front the vowel. As is customary, the axes of the charts are inverted to produce a representation that corresponds to that of the traditional auditory space.

The mean acoustic quality of each of the vowel phonemes across samples of ten words for each vowel is represented in the chart below:

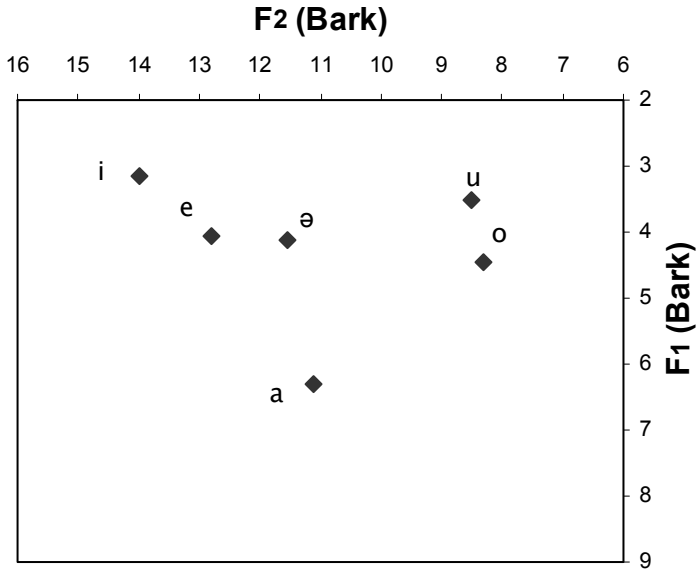

Fig. 1 Mean acoustic quality of the vowel phonemes

The acoustic scatter of the allophones for each phoneme in the sample is represented in the following sections.

1.5.2.1. /a/

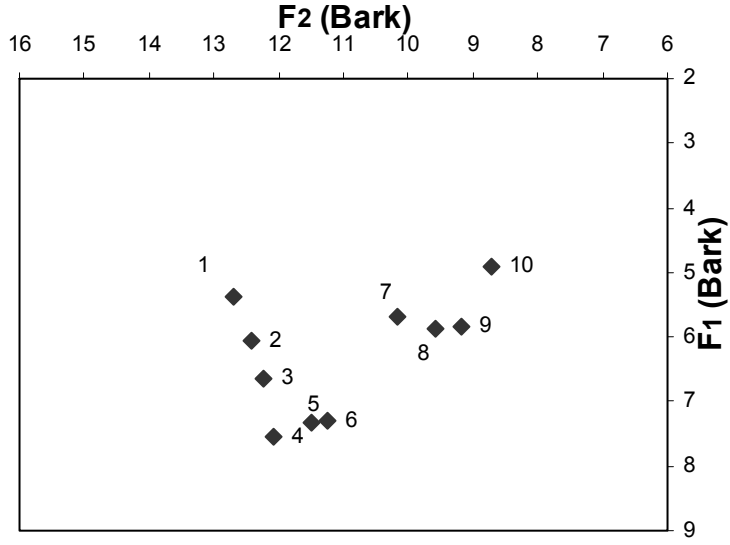

Fig. 2 Acoustic variation of */a/*

1 *šăména* 'I hear'
2 *didán* 'our'
3 *ʾăra* 'land'
4 *ʾaná* 'I'
5 *tatăwalán* 'our fathers'
6 *ḥăqén* 'They speak'
7 *tatăwalán* 'our fathers'
8 *báqef* 'to him'
9 *balé* 'wings'
10 *šwawá* 'neighbour'

It can be seen from the chart that the allophones of */a/* have a wide scatter. They cluster in a front group and a back group. The front group contains both short and long vowels. The highest realizations in the front group, in the region of [æ], occur in syllables containing */š/* and/or where the adjacent syllable has one of the high front vowels */e/* or */i/*, viz. *šăména* [ʃæˈmeːna] (1), *didan* [diːˈdæn] (2). The other front realizations are in the region of [a]. The back realizations are long vowels. Most of these are in the region of [ʌ], which occur adjacent to the labials */w/*, */b/*, the uvular */q/* and the laterals */l/* and */ḷ/*, viz. *tatăwalán* [tʰaːtʰawʌːˈlan] (7), *báqef* [ˈbʌːqef]

(8), *baḷé* [bʌːˈlʶeː] (9). The highest back quality, in the region of [ɔ], is found between two labial */w/* glides, viz. *šwawá* [ʃwɔːˈwʌ] (10).

1.5.2.2. /i/

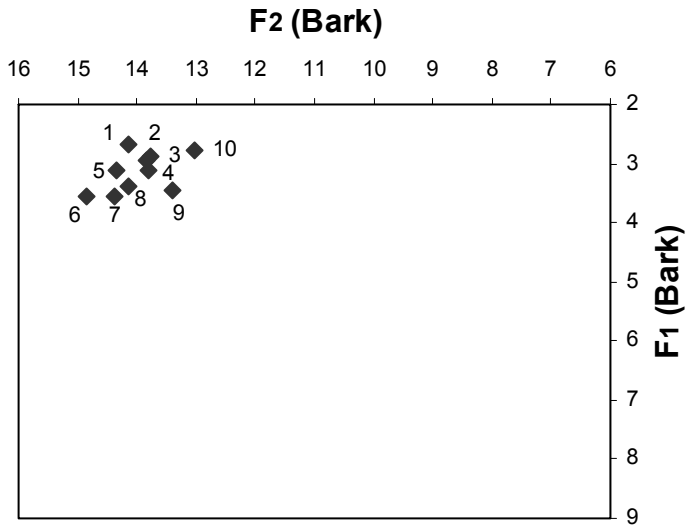

Fig. 4 Acoustic variation of */i/*

1 *l̰išaní* ‘my tongue’
2 *məndél̰i* ‘I threw’
3 *qarwí* ‘They approach’
4 *qăr̰irtá* ‘cold’
5 *pl̰it́á* ‘She went out’
6 *lišanín* ‘my tongue’
7 *d̰idán* ‘our’
8 *ṣ̰iwá* ‘wood’
9 *măqímna* ‘I raise’
10 *tlitá* ‘hung’

The realizations of this vowel cluster in the region of the close front quality [i]. These include both long vowels and short vowels, e.g. *qărirta* [qarirˈta] ‘cold’.

1.5.2.3. /e/

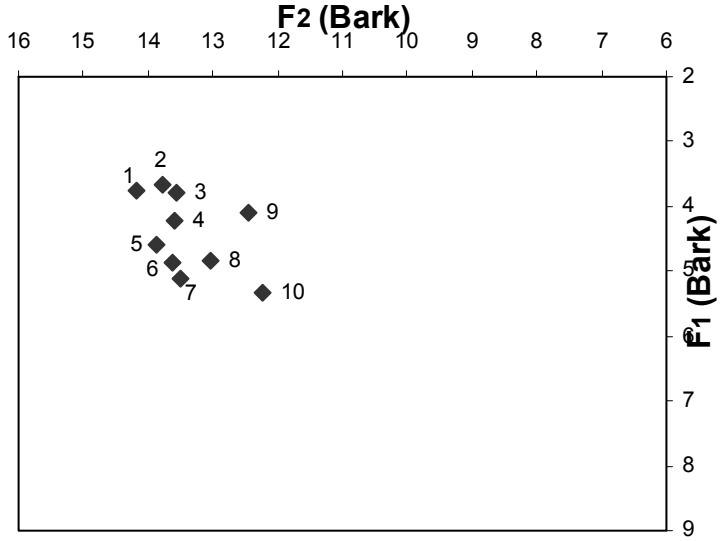

Fig. 3 Acoustic variation of */e/*

1 *lék̲a?* ‘where?’
2 *ge̲zə́l* ‘He goes’
3 *məndé̲li* ‘I threw’
4 *mə̆té̲* ‘He arrives’
5 *qoqé̲* ‘pots’
6 *šə̆mé̲na* ‘I hear’
7 *ʾorxé̲f* ‘his way’
8 *ʾaqlé̲f* ‘his foot’
9 *kəxwé̲* ‘stars’
10 *xét* ‘other’

Most realizations of this phoneme are in the region of [e] or slightly higher [ẹ]. The more centralized qualities are the realizations of */e/* in closed syllables, viz. *ʾorxéf* [ʾorˈxẹ̝ːf] (7), *xét* [xẹ̝ˑt] (10), and after the labial */w/*, viz. *kəxwé* [kʰə̹xˈvẹ̝ː] (9). It is pronounced with lowered on-glides and/or off-glides in contact with pharyngalized consonants, as in *baḷé* ‘wings’, although the centre of the vowel segment has the normal quality.

1.5.2.4. /ə/

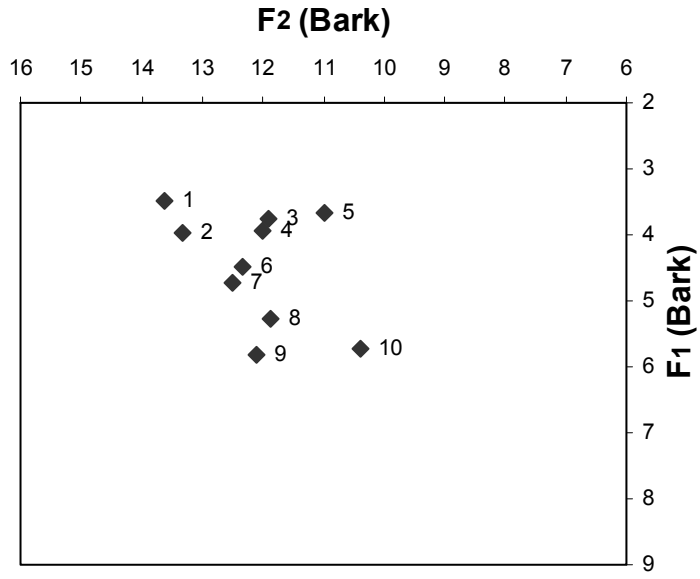

Fig. 5 Acoustic variation of */ə/*

1 *tə̲lyén* ‘They are hung’
2 *gezə̲́l* ‘He goes’
3 *pə̲rčé* ‘hair’
4 *zăbə̲́nu* ‘He sells them’
5 *lə̲báf* ‘Her heart’
6 *zăbə̲́nwa* ‘He used to sell’
7 *lə̲bá* ‘heart’
8 *ʾărə̲́qna* ‘I flee’
9 *măqə̲́l* ‘It burns’
10 *qăṭə̲́l* ‘He kills’

The majority of realizations of */ə/* are in the region of the close-mid qualities of [ɪ] or [ɘ], i.e. broadly speaking centralized forms of [e]. This explains why */ə/* alternates with */e/* in a stressed syllable of some forms, e.g. the 3ms. verbal pattern *qăṭə́l* ~ *qăṭél*.

The lower points in the cluster in the region of central [ə] occur in the environment of the uvular */q/*, viz. *ʾărəqna* [ʔaˈrəqna] (8) and *măqə́l*

[maˈqəl] (9). The furthest back of the lower points (10) occurs after a pharyngalized consonant, viz. *qăṭə́l* [qʌtˁəl].

The points in the chart for */e/* that are most centralized, i.e. (8)–(10) of Fig. 3, overlap in quality with the allophonic scatter of */ə/*. In such cases the two phonemes are distinguished phonetically only by length, in that in the words in question the */e/* vowel is pronounced long whereas all occurrences of */ə/* are short.

It should be noted that there is a marked tendency for an unstressed short vowel */ə/* to be devoiced, e.g.

qəṭá [qʰə̥ˈtʰa]	‘piece’
šəmá [ʃɪ̥ˈma]	‘heaven’
kəxwé [kʰə̥xˈveː]	‘stars’
qəṭmá [qʰə̥tʰˈma]	‘ash’
šəmšá [ʃə̥mˈša]	‘sun’
ptəltá [pʰɪ̥tʰlˈta]	‘tress’
məndéli [mə̥nˈdeːliˑ]	‘I threw’

If a consonant following */ə/* in a word initial *CəC* syllable is unvoiced, a historically voiced consonant before the */ə/* tends to be devoiced together with the vowel, e.g.

təqna	< **dəqna*	‘beard’

This devoicing, however, is not completely regular and short */ə/* sometimes has a vocalic realization in unstressed syllables, e.g.

ləbá [lɪˈba]	‘heart’
təlyén [tʰɪlˈjeːn]	‘They are hung’
nəxlá [nəxˈla]	‘rain’
ləxmá [ləxˈma]	‘bread’

Due to the aforementioned variations in the realization of */ə/*, an abstract morpho-phonemic transcription has been adopted whereby all words in question are transcribed with the symbol */ə/*. This is justifiable on the grounds that it has a potential vocalic realization, although in many cases it is phonetically devoiced and not audible, and that the */ə/* can be identified as part of the morphological pattern of the word.

1.5.2.5. /o/

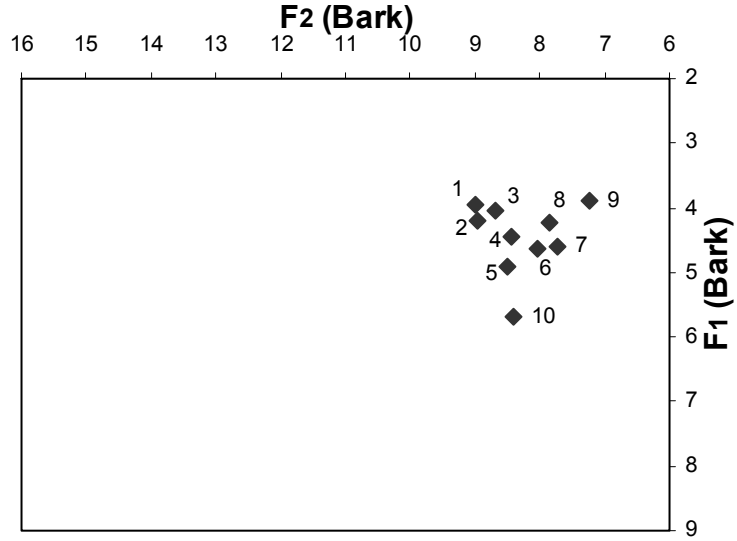

Fig. 6 Acoustic variation of */o/*

1 *go̲rá* ‘man’
2 *ʾəsiri-ó̲* ‘There were tied’
3 *zo̲rá* ‘small’
4 *baṣo̲ré* ‘small amount’
5 *ʾo̲-roxá* ‘that spirit’
6 *ʾo-ro̲xá* ‘that spirit’
7 *qo̲qé* ‘pots’
8 *qo̲má* ‘stature’
9 *tex-ó̲* ‘It diminishes’
10 *ʾo̲rxéf* ‘his way’

Long */o/* vowels cluster around the region of [o], e.g. *gorá* [goːˈra] (1), *qoqé* [qoːˈχeː] (7). The lowest point, which is in the region of [ɔ], is attested in a short */o/*, viz. *ʾorxéf* [ʔɔrˈxe·f] (10).

1.5.2.6. /u/

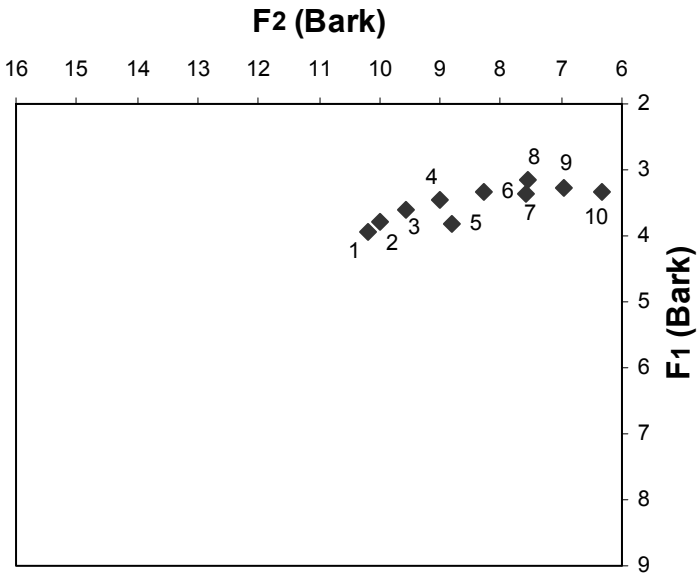

Fig. 7 Acoustic variation of */u/*

1 *nuqlé* ‘sweets’
2 *rŭwá* ‘big’
3 *kŭle* ‘big’
4 *ṭurá* ‘mountain’
5 *mirwálu* ‘They had said’
6 *guzé* ‘walls’
7 *guptá* ‘cheese’
8 *huláe* ‘Jews’
9 *řangú* ‘their colour’
10 *ʾaxtún* ‘you (pl.)’

The realizations of */u/* occur in the region of close-mid [u] and the more centralized quality [ʊ]. The centralized [ʊ] tends to occur in short vowels, where stressed, e.g. *kŭle* (3), or unstressed, e.g. *nuqlé* (1), *rŭwá* (2). Some short */u/* vowels, however, are realized further back, e.g. *guptá* (7). The realizations that are furthest back are found in stressed long */u/* in final syllables, viz. *řangú* (9) and *ʾaxtún* (10).

We should also mention here the words *tʷka* ‘place’, *tʷkana* ‘shop’, *sʷka* ‘knitting needle/booth (at festival of Tabernacles)’, *geraqʷše* ‘rainbow’. These are reflexes of the historical forms **dukka*, **dukkana*, **sukka* and **gera-quše* The unstressed **u* is regularly devoiced, as well as the initial **d* in the case of *tʷka* and *tʷkana*. As a result, voice does not begin in these words before the vowel of the following syllable. A vestige of the original short **u* is retained in the presence of lip-rounding in the articulation of the consonant before the devoiced */u/*. This labialization is represented by a superscribed *w* in the transcription.

In some cases an original **u* has been reduced to */ə/* when short. This applies to the word *təla* ‘mulberry’ < **tūṯā*. The form *təla* could be explained as a back-formation from **tuṯta* ‘a mulberry’ with a singularizing feminine suffix (§4.13.2.), i.e. **tūṯā* + *ta* > *tuṯta* > *təṯta* > *təlta* (sing.) > *təle* (pl. by back-formation from singular). The singular *təla* would then have been formed from the plural *təle*.

1.5.3. Syllabic Patterns

The following syllabic patterns are attested:

CV	e.g. ***be.la***	‘house’
CCV	e.g. ***smi.xa***	‘standing’
CVC	e.g. *sə̆.**məx***	‘He stands’
CCVC	e.g. ***grəš**.le*	‘He pulled’
CVCC	e.g. ***tarz***	‘method’

At the beginning of a word a syllable must begin with at least a laryngal stop */ʾ/* consonant:

ʾăra	‘land’
ʾăxəl	‘He eats

A word initial */ʾ/* is generally elided when it is in contact with a prefixed particle that ends in a consonant, e.g. *b-áy* (< *b-ʾay*) ‘in this’ (A:56), *ba-d-éa* ‘in this’ (A:98); *g-o-belà* (< *g-ʾo*) ‘in that house’ (A:74).

Within a word two vowels may follow one another without an intervening glottal stop */ʾ/*. Such sequences should be analysed as diphthongs (V̯V, V̯V) rather than two separate syllable nuclei, e.g.

bă̯urá [CV̯V.CV]	‘bright’
dea̯rá [CV̯V.CV]	‘tambourine’

In such words this syllabification is reflected by the fact that the non-nuclear vowel of the diphthong has a tendency to be realized as a glide.

In word-final sequences of vowels the existence of the diphthong is reflected by the fact that stress that would normally be expected to be put on a final vowel nucleus (§1.6.) is retracted to the vowel preceding it, indicating that the final vowel is treated as non-syllabic, e.g.

huláa [CV.CV̯]	'Jew'
huláe [CV.CV̯]	'Jews'
xắe[CV̯]	'He sees'
bée [CV̯]	'eggs'
ʾóa [CV̯]	'that one'
ʾéa [CV̯]	'this one'

In cases where stress is put on the second vowel of the sequence in word-final position, the diphthong should be interpreted as rising V̯V. This is found in sequences where the first of the two vowels is */o/*. The non-syllabic status of */o/* is reflected by the fact that it is often realized as a semi-vowel [w], e.g.

čăroé [ʧarˈwe]	'to search'
šoá [ʃwa]	'seven'
ntoá [ntwa]	'high'

Sequences of three vowels with a medial */o/* occur in some infinitive forms. These should be interpreted as VV̯V, the medial vowel being the onglide of a diphthong, the phonetic realization of which is often the semi-vowel [w], e.g.

xăoé [xawe]	'to see'

All of these diphthongs in word-internal position have arisen by elision of segments, usually pharyngals or laryngals, between vowels, e.g.

băura	<	**băhura*	'light'
huláe	<	**hulaʾe*	'Jews'
bée	<	**beʿe*	'eggs'

The original word-internal diphthongs in words of Aramaic stock **ay* and **aw* have contracted to */e/* and */o/* respectively, e.g.

bela	'house'	< **bayṯā*
qeṭa	'summer'	< **qayṭā*
mola	'death'	< **mawṯā*
yoma	'day'	< **yawmā*

They are preserved, however, in loanwords, e.g.

škayta	'complaint' (Kurd. < Arab.)