The Development of Interdental Consonants in the Neo-Aramaic Dialects of the Aqra Region

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Abstract

This paper is a study of the reflexes of historically interdental consonants in the Neo-Aramaic dialects spoken in the region of Aqra in northern Iraq. These dialects can be classified broadly into those of the villages lying to the north of the Aqra mountain and those of the inhabitants of the region to the south of the mountain. It is shown that there are a wide range of reflexes in the various dialects of this region. Moreover, within individual dialects there is some degree of variation in the reflexes. Most of these can be explained as the result of articulatory phonetic processes. Some of the variations give us insight into the historical layering of the reflexes. There are a few cases of variation that are likely to be the result of dialect mixing.

Keywords

NENA dialects – Aqra dialects – stop consonants – consonant reflexes – allophone reflexes – minimal pairs
1 Preliminary Remarks on Interdental Consonants in NENA

In earlier Aramaic the stop consonants /b/, /g/, /d/, /k/, /p/ and /t/ (generally referred to as bgdkpt consonants) developed fricative allophones after vowels, which can be represented as *[w], *[ʁ], *[ð], *[x], *[f] *[θ]* respectively. These allophones have different reflexes across the various dialects of the North-Eastern Neo-Aramaic (NENA) subgroup. NENA is a highly diverse subgroup of over 150 dialects spoken by Christians and Jews originating from towns and villages east of the Tigris River in northern Iraq, south-eastern Turkey and western Iran. In NENA these fricative allophones became phonemicised, with the result that minimal pairs are found with stops and fricatives, e.g., NENA Qaraqosh:

\[\text{šata} \text{‘year’}—\text{šaθa} \text{‘fever’} \]

\[\text{guda} \text{‘wall’}—\text{guða} \text{‘churn’} \]

This phonemicisation has come about since the phonetic process of lenition of stops to fricatives after vowels ceased to operate at some point in the earlier history of NENA. Subsequently, by separate processes, bgdkpt stops developed in post-vocalic position. The processes that resulted in a stop after a vowel include:

(i) The monophthongisation of a diphthong before a stop, e.g.,

Qaraqosh \[ \text{ganota} \text{‘thief’} < *\text{gannāwta} \]

(ii) Cases where an originally geminated stop has lost its gemination, e.g.,

Qaraqosh \[ \text{šata} \text{‘year’} < *\text{šattā} \]

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1 The term NENA was coined by R. Hoberman, ‘The History of the Modern Aramaic Pronouns and Pronominal Suffixes’, *JAOS* 108 (1988), pp. 557–575.

2 For an overview of NENA dialects, see G. Khan, ‘The North-Eastern Neo-Aramaic Dialects’, *JSS* 52.1 (2007), pp. 1–20; G. Khan, ‘North-Eastern Neo-Aramaic’, in S. Weninger, G. Khan, M.P. Streck, and J.C.E. Watson (eds.), *The Semitic Languages: An International Handbook* (Berlin: De Gruyter Mouton, 2011) pp. 708–724; G. Khan, ‘The Neo-Aramaic Dialects and Their Historical Background’, in D. King (ed.), *The Syriac World* (London: Routledge, 2018) pp. 266–289; G. Khan, ‘The Neo-Aramaic Dialects of Northern Iraq’, in G. Haig and G. Khan (eds.), *The Languages and Linguistics of Western Asia: An Areal Perspective* (The World of Linguistics, 6, Berlin: De Gruyter, 2018) pp. 305–353; G. Khan, ‘The Neo-Aramaic Dialects of Western Iran,’ in *The Languages and Linguistics of Western Asia*, pp. 481–582.

3 G. Khan, *The Neo-Aramaic Dialect of Qaraqosh* (Studies in Semitic Languages and Linguistics, 36, Leiden: Brill, 2002) pp. 33–35.

4 Khan, *The Neo-Aramaic Dialect of Qaraqosh*, pp. 33–38.
(iii) Cases where a stop bgdkpt root consonant occurring after a consonant in a verbal inflection has been extended to all inflections of the verbal root. This includes inflections where this root consonant occurs after a vowel, e.g.,

Qaraqosh  štələ 'he drank', but šətə 'he drinks'

(iv) The shift of a fricative bgdkpt to a stop by a process of dissimilation from an adjacent fricative, e.g.,

Qaraqosh  ʾida 'hand', but ʾidaθa 'hands'

In this paper we shall be concerned specifically with the fate of the interdental consonants /θ/ and /ð/. As can be seen from the examples cited above, the Qaraqosh dialect on the Mosul plain has preserved the interdental consonants. The NENA dialects that have preserved the interdentals are situated in the western half of the NENA region, including those of the Mosul plain, the Duhok region, Sapna valley and Barwar in Iraq, and those of the Tyare and Txuma regions of southeastern Turkey. One factor that is likely to have contributed to the preservation of the interdentals in these areas is contact with spoken Arabic dialects, many of which have interdentals in their sound inventories. Close contact with the diocesan centres where the historical interdentals were used in church language may be another factor.

In most other areas of NENA, the original interdentals have been lost. This is the general situation in the eastern half of NENA. This change has occurred due to more intense contact with non-Semitic languages that do not have interdentals. Nowadays the major contact language is Kurdish, though at an earlier period the NENA dialects were in contact with Gorani. Gorani is now spoken only in a few isolated pockets in the region, but it was far more widespread some centuries ago. It has left its mark on NENA dialects that are no longer in direct contact with it.

There are a variety of non-interdental reflexes of the historical interdental consonants across the NENA dialects, the majority of these are attested, as remarked, in the eastern sector of NENA. The reflexes differ according to region and religious community. NENA was spoken by Christian and Jewish communities. It is a feature of NENA that its Christian dialects differ, often radically, from the Jewish dialects of the same region. In many cases, the Christian dia-

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5 S. Procházka, ‘The Arabic Dialects of Northern Iraq’, in The Languages and Linguistics of Western Asia, pp. 243–266 (247–248).
6 G. Haig, ‘The Iranian Languages of Northern Iraq’, in The Languages and Linguistics of Western Asia, pp. 267–304 (297).
7 D.N. MacKenzie, ‘The Origins of Kurdish’, Transactions of the Philological Society 60.1 (1961), pp. 68–86.
lects of one region have different reflexes of interdentals from those of the Jewish dialects.8

As remarked, the loss of interdentals in various NENA dialects has brought their phoneme inventories closer to those of the non-Semitic contact languages, all of which lack interdentals. The most common process involves merger of the interdentals with other consonants that have a direct match in the inventories of the contact languages.

These are typically stops or sibilants. In many cases this merger is symmetrical, e.g., all the interdentals merge with stops (\(\theta, \vartheta > t, d\)) or sibilants (\(\theta, \vartheta > s, z\)).

Sometimes, however, there is asymmetry. This is found in several NENA dialects. In such cases, it results in the reflex of the unvoiced interdental being weaker than that of the voiced interdental. In some dialects, the unvoiced interdental is preserved while the voiced one shifts to a stop. For example, in C. Ankawa \(xa\theta\alpha\) (< *‘aḥāθā) ‘sister’, \(i\deltaa\) (< *‘i\deltaa) ‘hand’, the unvoiced interdental becomes a sibilant, while the voiced becomes a stop, e.g., in J. Nerwa \(xasa\) (< *xa\θa) ‘sister’, \(i\deltaa\) (< *i\δa) ‘hand’. Alternatively, the unvoiced interdental undergoes debuccalisation while the voiced becomes a stop, e.g., Jilu +\(xa\) ‘sister’ (< *xa\θa),9 \(i\deltaa\) (< *i\δa) ‘hand’.

One unusual outcome is the shift in some Jewish Neo-Aramaic dialects of both the interdentals \(\theta\) and \(\vartheta\) to the lateral \(l\).10 The Neo-Aramaic dialects that have this latter outcome were spoken in areas where in neighbouring Iranian and Turkic languages a /d/ following a vowel or sonorant undergoes lenition, known as ‘Zagros d’, resulting in it being realised as an approximant or as sonorant.11 There is evidence that in the Neo-Aramaic dialects concerned the two interdentals first shifted to the voiced stop *\(d\) before finally becoming a lateral sonorant /l/.12 The sonorant /l/ can then be regarded as lenition of the *\(d\). Such lenition, therefore, is likely to be due to the ‘perceptual magnet effect’13 of the

8 In what follows, Christian dialects are indicated by the abbreviation C. and Jewish dialects by the abbreviation J.
9 The superscribed symbol + denotes suprasegmental pharyngealisation.
10 H. Mutzafi, ‘Trans-Zab Jewish Neo-Aramaic’, BSOAS 71.3 (2008), pp. 411–412; Khan, ‘The Neo-Aramaic Dialects of Northern Iraq’, p. 314; Khan, ‘The Neo-Aramaic Dialects of Western Iran’, p. 486.
11 P. Mahmoudveysi and D. Bailey, ‘Hawrāmī of Western Iran’, in The Languages and Linguistics of Western Asia, pp. 533–568 (§ 3.1); E. Anonby and M. Taheri-Ardali, ‘Bakhtiari’, in The Languages and Linguistics of Western Asia, pp. 445–480 (§ 2.1).
12 G. Khan, The Jewish Neo-Aramaic Dialect of Urmī (Gorgias Neo-Aramaic Studies, Piscataway: Gorgias, 2008) pp. 29–31.
13 Cf. J. Blevins, ‘Areal Sound Patterns: From Perceptual Magnets to Stone Soup’, in R. Hickey (ed.), The Cambridge Handbook of Areal Linguistics (Cambridge: Cambridge University Press, 2017) pp. 88–121.
weakened Zagros \(d\), whereby Neo-Aramaic speakers match this perceptually with the sonorant \(/l/\) in their existing sound inventory.

It is also noteworthy that interdentals are not only prone to loss through contact but also do not spread by contact. This contrasts with some other sounds in languages that spread into the sound inventories of neighbouring languages. These include pharyngeals and unaspirated stops.\(^{14}\) Their diffusion has resulted in the enrichment of the consonantal inventories of the languages of the region. A factor that may have facilitated their spread is their salience.\(^{15}\) The failure of interdentals to spread, in contrast, can be correlated with their lack of salience.\(^{16}\)

There is sometimes considerable variation in the reflexes of interdentals within specific areas of the NENA dialect zone, and individual dialects often exhibit variation across the lexicon. In this paper we shall focus on this variation of reflexes specifically in the Christian dialects in the environs of the town of Aqra.

2 The Reflexes of Interdental Consonants in the Dialects of the Aqra Region

The informants who supplied the material for this study come from various areas of the Aqra region, where different dialects were spoken. The following were all interviewed by Aziz al-Zebari:

1. Asmar Gewargis Eliya (village: Gerbish; female; age at time of interview: 82; interviewed in Duhok, 2015).
2. Benyamen Sliwa (village: Sanaye; male; age at time of interview: 85; interviewed in Baghdede [Qaraqosh], 2016).
3. Khatun Matti Gewargis (village: Bimeshmesh; female; age at time of interview: 90; interviewed in the village of Hezarjut, 2015).
4. Emmanuel Gewargis Eliya (village: Gerbish; male; age at time of interview: 88; interviewed in Duhok, 2016).
5. Estephan Yalda Denkha (village: Kherpa; male; age at time of interview: 80; interviewed in Sweden, 2017)

\(^{14}\) G. Haig and G. Khan, ‘Introduction’, in *The Languages and Linguistics of Western Asia*, pp. 1–30.

\(^{15}\) Blevins, ‘Areal Sound Patterns’.

\(^{16}\) I. Maddieson, ‘Glottalized Consonants’, in M.S. Dryer and M. Haspelmath (eds.), *The World Atlas of Language Structures Online* (Leipzig: Max Planck Institute for Evolutionary Anthropology, 2013), http://wals.info/chapter/7.
These dialects can be classified broadly into those of the villages lying to the north of the Aqra mountain and those of the inhabitants of the region to the south of the mountain. Those lying to the north are situated in an area known as Nəxla and include the villages of Dinarta, Upper Gerbish, and Sanaye. Their inhabitants are descendants of families from the villages of Geppa, Bimeshmesh, Arena, and Qalunta (known in Kurdish as Shkafte, Harene, Bameshmesh, and Kalate respectively). These villages were abandoned in the 1880s, except for Bimeshmesh, which was abandoned in the 1930s. The dialect area lying to the south of the Aqra mountain includes the town of Aqra and the villages of Kherpa, Kharjawa, Nuhawa, Barrake, Sharmen, and Malaberwan.

The nena dialects of the Aqra region have generally lost interdentals and exhibit a variety of sound shifts of these consonants. The main shifts are as follows:

| Location          | *θ | *ð |
|-------------------|----|----|
| Nəxla area        |    |    |
| Bimeshmesh        | /h/| /z/|
| Dinarta           | /h/| /z/|
| Gerbish           | /h/| /z/|
| Sanaye            | /h/| /z/|
| South of the Aqra mountain |    |    |
| Aqra town         | /θ/ | /d/ |
| Kherpa            | /s/ | /z/ |
| Kharjawa          | /s/ | /z/ |
| Nuhawa            | /s/ | /z/ |
| Barrake           | /s/ | /z/ |
| Sharmen           | /s/ | /z/ |
| Malaberwan        | /s/ | /z/ |

As can be seen, there is a fundamental split between the reflexes of the Nəxla area and the area south of the Aqra mountain (SAM). In dialects in the SAM area, both the unvoiced and voiced interdentals shift to grooved sibilants, viz. /s/ and /z/ respectively, e.g.,
This shift is attested in various dialects across the NENA area in apparently independent parallel developments, e.g., Peshabur,17 Marga, Christian Sanandaj, Jewish Zakho, and Jewish Nerwa.

The dialect spoken in the town of Aqra is an exception to this generalisation, since the reflex of historical *θ is /θ/ or /s/, e.g., beθa ~ besa ‘house’, and the reflex of historical *ð is the stop /d/, e.g., ‘ida ‘hand’.

In the Naxla area the reflex of the unvoiced *θ is generally the unvoiced laryngeal continuant /h/. This shift is found also in some NENA dialects of the Baz region.18 The reflex of the voiced interdental *ð, however, is /z/, as in the SAMS dialects.

The explanation as to why the voiced interdental in the Naxla region was not weakened to a laryngeal, in parallel to the weakening of the unvoiced interdental, is likely to be the difference in glottal setting of voiced and unvoiced consonants. When voiced consonants are produced, the glottal folds are brought together slightly, causing turbulence in the flow of air, which produces voice. By contrast the glottal folds are further open when an unvoiced consonant is produced, allowing a free flow of air.19 The greater degree of closure of the glottal folds in a voiced interdental would have been a constraint against weakening the articulation to the laryngeal continuant /h/. Examples of *θ > /θ/ in Naxla are:

beθa ‘house’ < *bayθa
deθa ‘sweat’ < *dayθa < *daθa
zeθa ‘olive tree’ < *zayθa
sureθa ‘Christian woman’ < *surayθa
xtθa ‘lower’ < *taθtayθa
maθa ‘village’ < *maθa
šaθa ‘fever’ < *šaθa

17 E. Coghill, ‘The Neo-Aramaic Dialect of Peshabur’, in R. Kuty, U. Seeger, and S. Talay (eds.), Nicht nur mit englensungen: Beiträge zur semitischen Dialektologie. Festschrift für Werner Arnold zum 60. Geburtstag (Wiesbaden: Harrassowitz, 2013) pp. 37–48 (38).
18 H. Mutzafi, ‘The Neo-Aramaic Dialect of Maha Khtaya d-Baz. Phonology, Morphology and Texts’, JS 45.2 (2009), pp. 293–322.
19 J.C. Catford, A Practical Introduction to Phonetics (Oxford Textbooks in Linguistics, Oxford: Oxford University Press, 2nd ed., 2001) pp. 35–38.
Within the Nəxla dialects, however, the weakening of the interdental to the laryngeal /h/ is blocked in some words.

In the following cases an /s/ occurs instead of /h/ when preceded by the velar stop /k/:

\[
\begin{align*}
\text{ksɛha} & \quad \text{‘hen, chicken’ < } *\text{kθay}\text{a} \\
\text{ksawa} & \quad \text{‘book’ < } *\text{kθawa} \\
\text{ksule} & \quad \text{‘he wrote’ < } *\text{kθiwle} \\
\text{kasəw} & \quad \text{‘he writes’ < } *\text{kaθəw}
\end{align*}
\]

This suggests that the reflex /h/ developed by the process *θ > *s > /h/, with an intermediary stage with the sibilant *s, corresponding to the general reflex of *θ in the Sam dialects.

The reason for the blocking of the shift of *s > h after /k/ may be that /k/ is an aspirated stop [kʰ] and such a shift would have made the consonant indistinguishable from the aspiration following /k/. The /s/ was maintained in all inflections of k-s-w ‘to write’.

The verb ‘to die’ has different reflexes of *θ in its various inflections:

\[
\begin{align*}
\text{/h/} & \\
\text{mihle} & \quad \text{‘he died’ < } *\text{miθle} \\
\text{mihta} & \quad \text{‘dead’ (fs) < } *\text{miθta}
\end{align*}
\]

\[
\begin{align*}
\text{/s/} & \\
\text{mayəs} & \quad \text{‘he dies’ < } *\text{mayəθ} \\
\text{hole bəmyasa} & \quad \text{‘he is dying’ < } *\text{myaθa}
\end{align*}
\]

This phenomenon is highly unusual, since root consonants of verbs generally have a single reflex of the historical consonant across all verbal inflections. See, for example, the discussion above about the /t/ radical in the verb šty ‘to drink’.

A further irregularity regarding the verb ‘to die’ in the dialects of the Nəxla area is the existence of the variant form mitle ‘he died’ < *miθle. Here *θ shifts to
the alveolar stop /t/ rather than the pharyngeal /h/ before a /t/ or alveolar lateral /l/. The same shift is found in the word nahitta ‘ear’ < *naθyaθta. This can be interpreted as a result of an original *θ shifting to a stop /t/ by a partial assimilation to the following non-fricative alveolar consonant. Such a phenomenon is attested in other NENA dialects, e.g., Barwar.20 The existence of the variants mihle and mittle ‘he died’ in the Naxla dialects, and the occurrence of /s/ in some inflections of the verb, e.g., mayəs ‘he dies’, may be the result of dialect mixing. Several villages in the Naxla area were destroyed in the nineteenth century and their populations migrated to neighbouring villages, e.g., the village of Arena across Mount Pires, overlooking the Great Zab River.

In several words in the Naxla dialects an emphatic (i.e., pharyngealised) /ṣ/ occurs instead of /h/, e.g.:

\[
\begin{align*}
\text{ṛaṣəx} & \quad \text{‘it boils’} < *\text{raθəḥ} \\
\text{ʾaṣra} & \quad \text{‘country’} < *\text{aθra} \\
\text{qarṣa} & \quad \text{‘cold’} < *\text{qarθa} \\
\text{paṣəx} & \quad \text{‘he opens’} < *\text{paθəḥ} \\
\text{maṣəṣ} & \quad \text{‘he listens’} < *\text{masyəθ}
\end{align*}
\]

The pharyngealisation of the sibilant reflex /ṣ/ in these words is likely to have arisen by the spreading of pharyngealisation from an adjacent pharyngealised consonant. These include the historical emphatic *ṣ (as in ṃaṣəṣ < maṣyəθ) and the sonorant *r or labial *m. Sonorants and labials are liable to acquire pharyngealisation in NENA.21 Verbal roots that exhibit this shift maintain the /ṣ/ throughout all inflections. The process of pharyngealisation involves the retraction of the tongue root, resulting in the constriction of the upper pharynx with increased muscular tension. The constriction of the pharynx would have obstructed the flow of air of the laryngeal continuant /h/, and the muscular tension would have strengthened the articulation of the grooved sibilant. Both articulatory conditions blocked the shift to /h/.

The reflex /x/ of *θ is attested in the following in the environment of emphatic /ṛ/:

\[
\begin{align*}
\text{qxaṛa} & \quad \text{‘knot’} < *\text{qəθra} \\
\text{qxaṛre} & \quad \text{‘he knotted’} < *\text{qθərre} \\
\text{baxṛa} & \quad \text{‘behind’} < *\text{baθra}
\end{align*}
\]

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20 G. Khan, The Neo-Aramaic Dialect of Barwar (Leiden: Brill, 2008) p. 45.
21 G. Khan, The Neo-Aramaic Dialect of the Assyrian Christians of Urmi, vol. 1 (Studies in Semitic Languages and Linguistics, 86, Leiden: Brill, 2016) pp. 122, 127.
The explanation for this exceptional reflex is also based on the articulatory gestures of the adjacent pharyngealised consonant /ṛ/. The constriction of the pharynx that takes place as a coarticulation of the /ṛ/ would have narrowed the flow of air, which resulted in the velar fricative /x/ rather than /h/. In principle one may have expected the outcome to be /s/ (i.e., *θ > /ṣ/), as in the previous set of examples, which was also induced by the pharyngealised environment. Here we can hypothesise the development *θ > *ṣ > /x/ in a pharyngealised environment, i.e., a pharyngealised *ṣ has lost its coronal articulation by a process of partial debuccalisation.

When following the high vowels /i/ and /u/ and followed by another vowel, *θ shifts to the glides /yy/ and /ww/ respectively:

\begin{itemize}
  \item šaqiyya ‘water channel’ < šaqiθa
  \item šusiyya ‘plait’ < *suṣiθa
  \item miyya ‘dead (ms)’ < *miθa
  \item pəṣxuwwa ‘happiness’ < *pəṣxuθa
  \item güruwwa ‘manhood’
\end{itemize}

3 Concluding Remarks

This short survey of the reflexes of interdental consonants in the nena dialects of the Aqra region has revealed a considerable diversity. There is a clear regional split between the northern sector of the region and the southern sector with regard to these reflexes. In general, the debuccalised reflexes of the northern sector are similar to those of the Baz dialects, which were spoken north of the Aqra region in southeastern Turkey. There is not, however, a clear areal continuum from the Baz region to the Aqra region, since closer dialects north of Aqra, such as those of Bədyəl (*θ > /t/, *ð > /d/) and Txuma (*θ = /θ/, *ð = /ð/), do not have debuccalised reflexes. This would suggest that the debuccalised reflexes of the northern Aqra region are independent developments. Likewise, there is not a clear areal continuum of the sibilant reflexes of the southern Aqra region with nena dialects lying south of Aqra. Sibilant reflexes are found in the C. Sulemaniyya, but not in dialects in the intervening area such as C. Shaqlawa and C. Koy Sanjak, both of which exhibit stop reflexes (*θ > /t/, *ð > /d/).

Our survey has revealed also that one particular reflex of an interdental is by no means generalised unconditionally across the entire lexicon of a dialect. Rather individual dialects exhibit variation in the reflexes. Most of the variation can be explained on phonetic grounds. It was argued that certain articulatory gestures conditioned the development of various reflexes. One conclusion of
this examination was that the variation can sometimes cast light on the historical layering of different reflexes. The debuccalised reflexes of the northern region, for example, seem to have developed historically from sibilant reflexes. This is further evidence that the debuccalisation is an independent development from that of the Baz dialects, which do not exhibit any sibilant reflexes. It was suggested that some variation within individual dialects arose by dialect mixing due to the convergence of populations from different villages.

The study has shown the importance of a close examination of the diverse reflexes of the historical sound inventory of nena across the lexicon of individual dialects.