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Lenition of voiced stops in Kurdish

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Abstract: Contemporary Kurdish variety groups exhibit considerable variation with respect to the lenition of voiced stops. This paper presents a first systematic overview of lenition across major varieties of Kurdish, drawing on published data and a recent questionnaire developed for studying phonological variation within Kurdish. Following recent studies on lenition, a distinction is made between lenition as a process related to earlier stages of language and lenition as a synchronically active process. Analysing diachronic sound changes in Kurdish as well as the synchronic lenition phenomena in its dialects, we conclude that while at earlier stages, Kurdish varieties favoured the lenition of voiced stops across different phonological environments, synchronically, lenition of voiced stops tends to be phonologically active only in the southernmost dialects of Central Kurdish and neighbouring Southern Kurdish and Gorani dialects, and with a limited extent, in the westernmost outliers of Northern Kurdish. It is argued that the synchronic lenition in the Gorani contact zone arose through innovation in Gorani and spread to Kurdish through substratum interference or originated in diffusion from Southern Kurdish.

Keywords: approximantisation; delocalisation; elision; fricativisation; perceptual magnet effect

1 Introduction

Lenition is usually broadly defined as a type of weakening process between sounds (Salmons 2021: 37). A most typical instance would thus be one of 'voicing', whereby, for example, a voiceless stop /t/ changes to a voiced stop /d/. Such phenomena, along with others such as sound assimilation, are among the most common segmental interactions (Odden 2005: 239; Salmons 2021: 37). As processes stemming from and interacting with the phonological system of language, they are tightly connected to sound contexts, requiring thus a minute description and analysis of the sound

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distributions in any language. As with any change, lenition is also crucial in understanding the historical development of a language.

Kurdish is also characterised by a large number of lenition phenomena. Lenition has been studied as part of almost any treatment of Kurdish phonology, whether synchronic (e.g., Haig and Öpengin 2018; MacKenzie 1961a; McCarus 2009; Öpengin 2016) or diachronic, with the aim to situate Kurdish within Iranian dialectology (e.g., MacKenzie 1961b; Paul 2008). However, to the best of our knowledge, a systematic approach to lenition phenomena in Kurdish has not been undertaken. The present study aims to identify instances of lenition both in the history of the language and in current Kurdish varieties across the vast zones they are spoken. Some description of the history of Kurdish and the current distribution of its major varieties is thus in order.

Kurdish refers to a group of West Iranian varieties spoken at the intersection of western Iran, northern Iraq, north-eastern Syria, and south-eastern Turkey (see Figure 1). Kurdish is generally divided into three major subgroups: Northern Kurdish (NK), Central Kurdish (CK), and Southern Kurdish (SK). NK, otherwise called Kurmanji, is the largest group regarding the number of speakers and geographical span. CK (or Sorani) has long been promoted as a standard language in the semi-autonomous Kurdish region of Iraq. SK is spoken in Ilam and Kermanshah provinces in the Iranian side, and neighbouring areas in Iraq. Each major variety is further divided into dialect groups. NK

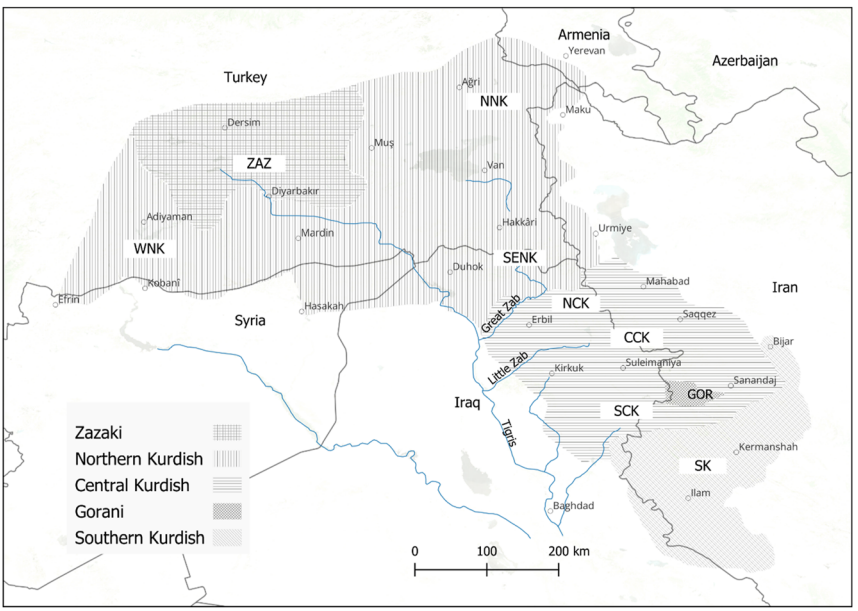

Figure 1: Approximate geographical distribution of five main groups generally known as Kurdish.

dialects are generally divided into three main zones (see Figure 1) as Northern, South-Eastern, and Western (Haig and Öpengin 2018). CK can be classified into three zones: Northern CK dialects bordering the NK zone; Southern CK dialects bordering the Gorani and SK dialects; and Central dialects, spoken between Sulaymaniyah and northern dialects. The situation of SK dialectology is even more complex. Fattah (2000) classifies SK into seven "important branches", roughly corresponding to the urban localities in which the varieties are spoken.

When used in a broader sociolinguistic sense, the term Kurdish also encompasses related West Iranian languages, Zazaki and Gorani. While sharing features with Kurdish, these languages exhibit developments that differentiate them from Kurdish (Paul 2008). Nevertheless, these two groups have had a significant role in the development of Kurdish. For instance, MacKenzie (1961b) suggests that the split between NK and CK is the result of the convergence of a part of Kurdish with Gorani, resulting in the formation of CK. In this study, we use the term 'Kurdish' to encompass 'linguistically Kurdish varieties' NK, CK, and SK, while the term 'Kurdic' also encompasses closely related West Iranian languages Zazaki and Gorani that belong to the Kurdish socio-cultural sphere. Zazaki is assumed to be internally classified into three subgroups: Northern Zazaki, spoken around Dersim; Southern Zazaki, spoken around Siverek; and Central Zazaki, spoken around Bingöl and Muş. Gorani dialects are generally classified into two groups: conservative Hawrami dialects, spoken in the mountainous Hawraman region, and peripheral Gorani dialects, scattered across the SK and CK speech zones, especially in Iraq.

In traditional Iranian philology, the Kurdic group belongs to the Northwestern branch of Iranian languages. Within Kurdic, Zazaki and Gorani exhibit Northwestern features *par excellence*, whereas Kurdish lies at an intermediate position between the Northwestern and Southwestern poles (Paul 1998). Varieties of Kurdic do not descend directly from any known Middle West Iranian (Middle Persian, Parthian) or Old Iranian (Avestan, Old Persian) languages.

To identify both inheritance and possible convergence effects, we investigate lenition processes not only in 'linguistically Kurdish' varieties of Northern, Central and Southern Kurdish but also in other two major varieties of Gorani and Zazaki, which, in addition to being part of the geographical Kurdish zone, are historically and socio-culturally closely related to Kurds (see Haig and Öpengin 2014 for a discussion on defining Kurdish).

The five-way distinction between Kurdic language groups allows us to set a point of departure for studying lenition. However, the linguistic history of the region is more complex. It is generally supposed that Gorani was once spoken in a much larger terrain and that the remaining Gorani islands in Figure 1 reflect an earlier linguistic situation in the region (see MacKenzie [1961b] and Khan and Mohammadirad [2023] for a recent discussion). This is corroborated by reports of language shift from the vernaculars of

Gorani to CK and SK in recent history (cf. Leezenberg 1992; Mahmoudveysi 2016; Mohammadirad 2024). This has significance for our discussion here since phonological features are expected to be transferred as substratum effects through a process of language shift into the recipient language (see Section 5).

Data from these five major Kurdic varieties are further compared with contemporary Western Iranian languages and Middle and Old Iranian stages. The diachronic development of language in relation to lenition cases is described by incorporating findings of previous studies but primarily by composing our comparative tables. The synchronic data on Kurdic varieties, on the other hand, comes from three sources: (i) a questionnaire developed within the framework of the "ALHOME" project at the University of Cambridge[1] for studying morphosyntactic and phonological variation within Kurdic[2] (the phonological section of the questionnaire covers, among other features, the reflexes of voiced stops in different positions within the word in 57 dialects within the Kurdic-speaking zone); (ii) descriptive grammars and available text corpora of individual dialects;[3] (iii) the authors' first-hand native knowledge of contemporary dialects of Kurdic. The transcription of the Iranian data follows the standard system in Iranian philology (cf. MacKenzie 1971), where vowel length is marked by a macron, regardless of the status of length as phonemically contrastive in investigated dialects. Other symbols differing from IPA equivalents are as follows: *č* [ʧ], *j* [ʤ], *š* [ʃ], *ž* [ʒ], *y* [i], ʿ [ʕ]. Emphatics are marked by an underneath dot, while aspiration, where contrastive, is marked by an apostrophe. Examples brought from other languages have their original transcription unmodified.

The article is structured as follows. Section 2 presents definitions and key distinctions made in lenition literature, especially along the lines of positional conditions on lenition and its differential status as belonging to a completed diachronic process versus a synchronically active process. Section 3 presents a number of lenitions in the history of Kurdish, though admittedly, in the absence of deeper-historical attestation of Kurdish, the analysis is necessarily superficial and speculative. In Section 4, we present three

1 See: https://www.ames.cam.ac.uk/research/project/echoes-vanishing-voices-mountains-linguistic-history-minorities-near-east (accessed 7 February 2024).

2 The questionnaire was developed by Geoffrey Haig and Masoud Mohammadirad in 2022.

3 The consulted corpora per language and variety are as follows:

Zazaki: Siwerek and Kor (Hadank and Mann 1932).

NK: Turʕabdîn (Ritter 1969); Urfa (Sträuli 2021); Erzurum and Muş (Haig et al. 2015); Bahdini (Khan et al. 2022).

CK: Warmawa, Suleimaniye, Bingird, and Pizhdar (MacKenzie 1962); Shaqlawa (Khan et al. 2022); Mukri (Öpengin 2016).

SK: Fattah (2000); Bijar (Mohammadirad 2022).

Gorani: Hawrami (MacKenzie 1966; Mohammadirad in preparation); Peripheral Gorani dialects (Mann and Hadank 1930); Gawrajui (Mahmoudveysi et al. 2012); Zarda (Mahmoudveysi and Bailey 2013).

processes of lenition with synchronic relevance, proceeding from the history of the change to a minute description of the phonological environments triggering or blocking the change and its geographical expansion. Finally, Section 5 discusses the outcomes concerning the conditions of lenition and the contact effects on lenition.

2 Lenition: conditions and constraints

Lenition, as defined above, in practice, subsumes various types of sound changes, such as voicing (e.g. *p* > *b*), spirantisation or fricativisation (e.g. *b* > *v*), approximantisation (e.g. *b* > *w*), debuccalisation (i.e. a segment's losing of its oral articulation to become glottal, e.g. *x* > *h*), and loss or complete elision (e.g. *w* > ø) (Blevins 2004: 145; Honeybone 2012: 775). One can add to these other phenomena involving weakening, such as deaspiration where an aspirated sound loses its aspiration to become unaspirated (e.g. p^h > *p*). Despite their apparent diversity, these are seen as instances of a single phenomenon of 'lenition' (Bauer 2008: 606). Honeybone (2012: 775) lists three reasons for the continued use of the term in this general sense: one significant difference of lenition from other segmental changes is that the 'place of articulation' of the segment undergoing the change remains unchanged, except in debuccalisation; lenition usually applies to a whole natural class of segments (e.g. all voiceless stops); and finally, they are cross-linguistically common.

Several aspects are claimed to be shared in all these types of change, such as loss of segmental material, increase in sonority, and ease of articulation. However, a more principled description of the interconnectedness of such sound changes relies on a notion of phonological 'weakness' on a continuum, along which sounds are assumed to progress diachronically. Thus, the so-called 'lenition trajectories' have been proposed, such as in Lass (1984: 178), where lenition is conceived broadly as any change along the sonorisation and 'opening' dimensions (i.e. stops > affricate > fricative > approximant > zero).

Various crosslinguistic sound changes have been documented to illustrate these overarching descriptive tenets of lenition trajectories and phonological environments. Spirantisation of stops has been observed in various Romance languages (Carvalho 2008), including some Romance dialects of Italy (Marotta 2008). Describing the spirantisation in the dialects of Tuscany, Marotta (2008) observes that while in the northern Italian dialects, voiceless stops weaken via voicing, in the central Tuscany dialects, lenition through spirantisation applies to all stops, both voiced and voiceless, with *p, b, t, d, k, g* changing to *ɸ, β, θ, ð, x/h, ɣ*, respectively. The phonological environment conditioning the process is a postvocalic position, such as *maɣro* 'thin' (cf. Standard Italian *magro*), which is a typical weak position. Lenition is thus blocked after consonants and in gemination. Crucially, the scope of lenition is the utterance or intonational phrase (Marotta 2008: 242) crossing over lexical boundaries such as *la θɛsta* 'the head' (cf. Standard Italian *la tɛsta*).

Besides the direction of the alternation in the sounds, the phonological environments have also been observed as crucial determinants of lenition (Escure 1977, cited in Bauer 2008: 616). For instance, Lavoie (2001: 31–32) shows that voicing is cross-linguistically common only in intervocalic positions. Phonological environments are thus divided into "weak" and "strong" positions (Honeybone 2012: 775). In line with the notions of lenis and fortis, weak positions promote lenition, whereas strong positions disfavour lenition, instead retaining or promoting fortis.[4]

Weak positions include intervocalic positions as well as codas. The intervocalic position is further divided into stronger and weaker environments. A strong environment occurs when the vowel following the segment is stressed. In other words, the segment is foot-initial [v__ý], e.g. Gorani *ʕāyát* < *ʕādát* 'habit, custom'. The weak environment is in place when the vowel following the segment is unstressed, that is when the segment is foot-medial ([ý__v], e.g. foot-medial glottalization of voiceless alveolar stop (*t* > *ʔ*) in the Cockney dialect of English: *wáter* > *wáʔer*). The relevant coda positions are pre-consonantal [__.c], e.g. SK *qayr* < *gadr* 'esteem', and post-vocalic word-final [__#], e.g. SK *yāy* < *yād* 'memory'.

On the other hand, strong positions disfavouring lenition are the two types of syllable onsets as word-initial [#__] and post-coda environments [c.__], e.g. Gorani /řoj.yār/ < /řoj.gār/ 'sun'. Lenition in the post-coda slot is sensitive to the sonority of the preceding consonant; this can explain the lenition of *g* to *y* in *řojyār*.

Crucially, certain lenition types occur more in certain weak environments. Thus, while fricativisation occurs intervocalically, debuccalisation is common in the coda position. As a predictive implication, a case of lenition may occur in both weak and strong positions but never only in strong ones.

A third and final aspect of lenition to be considered here is its relation to diachrony and synchrony. As a synchronic process, lenition is seen in the surface distribution of the segment, much like typical instances of allophony conditioned by the environment, without being part of the underlying representation. As a diachronic process, however, the change involves "the reanalysis of underlying representations based on surface forms" (Honeybone 2012: 774). Thus in the so-called "medial-*d* spirantisation" (i.e. /d/ > /ð/, as in *moder* > *mother*) in late-Middle English period, the change has become part of the underlying representation in all varieties of English and, although phonological environments ultimately shape it, the relevant

4 A significantly different approach is adopted in Bauer (2008), where lenition is not seen as weakening per se but rather as "the failure to reach a phonetically specified target" (2008: 612), thereby allowing both instances of weakening (such as voicing) and fortition (such as devoicing) to be seen as lenition. Furthermore, although acknowledging the role of phonological position as an influence on the phonetic changes that occur, she does not consider a position as having a determining role in lenition (Bauer 2008: 617). A broader discussion of these theoretically interesting controversies on the nature of lenition is, however, beyond the scope of the present study.

phonological environment does not trigger the same change: that is, it occurred in words with a following rhotic, but excluded intervocalics as Middle English *sadel* – Present-Day English *saddle*, or preconsonantal codas (*wedlock*) and geminates (*bladder*), leading to the fact that the two sounds in question are contrastive in the language. It should be noted that the historical or completed cases of lenition and the synchronic processes are seen as different stages in the life cycle of phonological processes, not as essentially distinct phenomena (Bermúdez-Otero and Trousdale 2012; Honeybone 2008; Honeybone 2012).

A synchronic process of lenition in English concerns the so-called 'flapping', found in most American English dialects, whereby an alveolar stop *t, d,* is changed to an alveolar flap [ɾ] in (foot-medial) intervocalic position, as in ['bɑɾəm] 'bottom' and ['mɑɾəm] 'madam' (Honeybone 2012: 777). This lenition clearly follows from both the lenition trajectory and phonological environments since a flap is more sonorous than stops, while the environment is the weaker/unstressed intervocalic position.

In the immediate Kurdish region, a case of historical lenition fitting more neatly into the 'natural class' behaviour of leniting sounds is the fricativisation of Neo-Aramaic interdental stops. Here the historical interdentals /t/ and /d/ initially had fricative [θ] and [ð] as allophones in postvocalic environment, yet in time they became 'phonemicised', thus became part of the underlying representation, giving these two sets of sounds contrastive status, illustrated by the pairs *šata* 'year' – *šaθa* 'fever' and *guda* 'wall' – *guða* 'churn' (Khan 2018a: 312).

Given this background, in this paper, we distinguish between lenition as a diachronic process versus a synchronic process across Kurdic. The main criterion for considering a lenition process as diachronic/old is that all varieties have undergone it. In contrast, synchronic lenition is an ongoing process, shown by the fact that it continues to be an active process in particular dialects while it has stopped being a phonological process in others. As it will be seen, such an approach proves to be useful in understanding the lenition processes within Kurdic varieties under investigation. Nonetheless, the picture is unclear in some cases, and borderline cases are attested. For instance, it is not easy to tell the age of a borrowed word in Kurdic and whether its lenited segment falls under the diachronic or synchronic lenition. The Turkish borrowing for 'father' shows lenition in most of NK and CK, and SK, as *bāv*, *bāwk*, and *bāwg*, respectively, except for the Trans-Zab Kurdish dialects, which correspond to the south-eastern NK and northern half of CK, where the /b/ is preserved, as *bāb*. Similarly, *sag* 'dog', presumably borrowed from Persian, exhibits variation in the realisation of post-vocalic *g* in modern varieties of Kurdic (see example 25). Here, the lenition of *g* depends on the period in which individual Kurdic varieties have borrowed *sag*, with varieties with the non-lenitied *g* probably borrowing it later than varieties with lenited and/or elided *g*.

Our study focuses on the lenition processes in intervocalic and postvocalic slots. As stated, these are weak contexts which favour lenition cross-linguistically. The non-initial lenited voiced stops in Kurdish are derived from non-initial Old Iranian voiceless stops *p/t/k* that develop into non-initial Middle Iranian voiced stops *b/d/g*. Wherever relevant, the study also touches on the lenition of voiced stops in strong contexts, that is in word-initial, pre-consonantal, and post-coda slots. To this end, we examine respective lenition processes as much as possible diachronically, synchronically, and across different phonological environments.

3 Lenition in the history of Iranian and Kurdish

This section presents some cases of lenition in Kurdish with diachronic relevance. Some of these cases are often cited by scholars working on Iranian languages to define Kurdish as a phylogenetic group within Iranian dialectology (e.g. MacKenzie 1961b). The oft-cited cases of historical change are that the Middle Iranian word-medial and word-final /m/, along with the older *xm* and *šm* combinations, is lenited to a fricative /v/ in NK and a bilabial-velar approximant /w/ in CK, though the latter as a secondary development from an earlier /v/ (MacKenzie 1961a: 220, 1961b: 70). The lexical items in (1) illustrate this change:

(1)	Gloss	NK	CK	Modern Iranian	Cognates and reconstructed forms
	'name'	*nāv*	*nāw*	G. *nāmē*; Z. *nāma*	Av. *nāman-*
	'groom'	*zāvā*	*zāwā*	G. *zamā*	Pth. *zāmād*
	'tail'	*dūv*	*dū*	NP *dom*	Pth. *dūmb*
	'arrow'	*kavān*	*kawān*	G. *kamān*	
	'guest'	*mēvan*	*mēwan*	G. *mēmān*; Z. *maymā*	
	'mouth'	*dav*	NCK *daw*; SCK *dam*[5]	G. *dam*	
	'step'	*gāv*	*hangāw*	G. *hangām*; Z. *gām*	MP *gām*; Av. *gāman-*
	'eye'	*čāv*	*čāw*	G. *čam*; Z. *čim*	
	'seed'	*tōv*	NCK *tōw*; SCK *tōm*	G. *tōxm, tōm*; Z. *tōğum*	MP *tōhm*; Pth. *tōhm, tōxm*

In some cases, the lenition cycle is completed with zero, as in south-eastern NK and CK *zistan* (Cf. NP. *zemestān*) 'winter'.

5 The variant *dam* is attested in Central and Southern CK dialects of Sanandaj, Sulaymaniyah, Jaffi, etc.

This feature was identified by MacKenzie (1961b) as one of the sole isoglosses distinguishing Kurdish as a phylogenetic group. There are, however, many native words which do not follow this change. For instance, the root for the word 'tail' in (1) has gone through lenition in Kurdish, but as a stem in the word *dūmāhīk* 'end, rest' in the south-eastern NK dialects, the bilabial nasal is retained. As lexical stress is usually assigned to a final syllable in Kurdish, this resistance to lenition may have to do with the absence of lexical stress in the syllable. Still, its cognate forms in other NK and CK dialects appear with lenited bilabial-velar approximant as *dāwī* and *duwāyī*, respectively, making an only stress-based explanation unsatisfactory.[6] Likewise, although the Middle Persian word *čašm* 'eye' (Av. *čašmān-*) has given the form *čāv/w* 'eye' in Kurdish, with lenition, it has retained the bilabial nasal in *čam* 'river', which could etymologically go back to the MP word *čašmag* 'spring, source'. The word *čamāndin* 'to bend' in south-eastern NK and CK has resisted lenition, unlike its cognate *tawāndin* in the rest of NK. Alternatively, it could be that *čam* and *čamāndin* did not undergo lenition because they are loanwords from other Iranian languages such as Persian or Gorani, though neither exists in modern Persian.

The same type of varied outcomes also appear in several other items. Thus, although lenited in the root *jāw* 'fabric' (cf. Persian *jāme*), the sound is retained in a derived word *jamadānī* 'male headband'. In the same vein, *m* is not lenited in other words such as *zamāwand* 'wedding' (which is based on the word *zāwā* 'groom'), *gōm* 'pond', *zōm/zōma* 'camping site', *sāmāł* 'clear sky', etc. Despite these exceptions, there are enough reflexes of the sound illustrating the lenition *m (xm, šm)* > *v* in Kurdish.

This sound change is considered to be active for some time after the arrival of Islam among the Kurds since it applied to certain religious Arabic borrowings too, such as *silāv/slāw* 'salam' (< *salām*) and *jivāt* 'community, council' (< Ar. *jamāʕat*), but also many general words such as *havīr/hawīr* (< *khamīr*). More recent borrowings, or re-borrowings, did not show the change, as *ʻalimāndin* 'teach, educate' (< *ʕlm*), and *jamāʻat/jimāt* 'community'[7] or yet the Armenian borrowing *āmān* 'plate' (< աման – *aman*).

6 The NK *zimān* 'tongue' seems like an exception but it is an 'irregular' development from an earlier North West Middle Iranian **hizwān* (cf. Paul 2008).

7 Although some dialectal variation is also involved, the Arabic borrowings *jimāʻat* and *jivāt* in Kurdish illustrate two different periods of borrowing with some semantic differentiation. The variant *jivāt* was borrowed earlier, when the change *m* > *v* was active in Kurdish, and has attained a more specialized meaning of 'small group, council, company'. In contrast, *jamāʻat* was borrowed at a later stage when the change *m* > *v* had stopped. It has a more general meaning that is closer to the Arabic source word (see Öpengin 2020: 468, for discussion).

Another case of lenition is *f* > *v/w*, with in some cases, a complete elision of a coda-initial *f*:

(2)		‘fall’	‘mad’	‘cave’
	NK	*kat-*	*šēt*	*škaft*
	CK	NCK *kawt-*; SCK *kaft-*	*šēt*	*aškawt*
	SK	*kaft-*	*šīt*	—
	G.	*kawt-*	*šēt*	*aškawt*
	Z.	*kawt-*	—	*kāf*
		cf. MP *ōft-*	cf. NP *šifte* (?)[8]	cf. NP *šekāft* ‘hole’; Pth. *škeft* ‘hard’

Yet another case of lenition concerns the omission of *š* in the coda (sometimes clusters), triggering developments that sometimes lead to a /h/ (3). It is thus challenging to claim a change *š* > *h*. This change has not happened in Gorani and Zazaki, which retain the source consonant except in the reflexes of the word for ‘ewe’, but the north-western Zazaki dialects have the expected variant as *mēšin*:

(3)		‘ear’	‘ewe’	‘yesterday’[9]
	NK	*guh*	*mih*	*duh*
	CK	*gwē*	—	*dwē-*
	SK	*gūš*	*mīya*	*düaka*
	G.	*gōš*	*máya*	*hīzī*
	Z.	*gōš*	*mī*	—
		NP *gūš*	NP *mīš*	Classical Persian *dūš* ‘yesterday night’

4 Lenition in current Kurdish: three instances with synchronic relevance

In this section, we present three cases of lenition within Kurdic that are relevant both diachronically and in the synchronic status of dialects. To this end, voiced stops /b/, /d/, and /g/ are examined across the Kurdish speech zone for their lenition diachronically and synchronically. In each case, different phonological environments are considered, highlighting the contexts that favour lenition across Kurdic. Given the parallel chronology of these voiced stops in Iranian languages, it could be said that *Middle Kurdish sounds /b/, /d/, and /g/ would have come from *Old Kurdish *p *t *k. When discussing the lenition of these sounds in the early history of Kurdish, we mean to interpret the changes to the voice stops in the period roughly following

8 The connection to Persian *šifte* is conjectural.

9 The term for ‘yesterday’ in Zazaki is the non-cognate *vīzēr*.

*Middle Kurdish, though, admittedly, it is impossible to date precisely when those changes occurred (see Section 2 for discussion of relevant issues).

4.1 Voiced bilabial stop /b/

Word-initially, /b/ in CK and NK dialects corresponds to /w/ in earlier Iranian periods. As seen in (4), CK and NK fortify *w* in line with Persian, whereas Zazaki patterns with Gorani in retaining the original sound. However, the SK dialects pattern with Gorani. MacKenzie (1961b: 76) notes that the retention in these dialects should be due to Gorani influence.

(4)		'wind'	'snow'	'spring'	'rain'
	NK	***b**ā*	***b**afr*	***b**ihār*	***b**ārān*
	CK	***b**ā*	***b**afr*	***b**ahār*	***b**ārān*
	SK	***w**ā*	***w**afr*	***w**ahār*	***w**ārān*
	G.	***w**ā*	***w**afr*	***w**ahār*	***w**ārān*
	Z.	***w**ā*	***w**afr*	___[10]	***w**ārān*
		cf. YAv. ***v**āta*;	cf. YAv. ***v**afra*;	cf. MP ***w**ahār*;	cf. MP ***w**ārān*;
		NP ***b**ād*	NP ***b**arf*	NP ***b**ahār*	NP ***b**ārān*

4.1.1 Lenition of /b/ in earlier stages

In the earlier history of Kurdic, relevant phonological environments for the lenition of /b/ include intervocalic and post-vocalic positions. Intervocalically, historical /b/ gets lenited throughout Kurdic. As seen in (5), the outcomes of lenition are usually fricativisation (i.e. /v/) in NK and Zazaki and approximantisation (i.e. /w/) in the rest of Kurdic. However, the latter can again be a secondary development from an earlier /v/.

(5)		'prosper'	'shepherd'	'to write'	'to sleep'
	NK	*āv**v**ā*	*ši**v**ān*	*ni**v**is-*	SENK *ni**v**istin*
	CK	*āw**w**ā*	*šu**w**ān*	*nū**v**s-*	NCK *nū**v**stin*
	SK	*āw**w**ā*	*šu**w**ān*	*nü**v**s-*	___
	G.	*āw**w**ā*	*šu**w**āna*	*nv**v**īs-, nw**v**īs*	___
	Z.	*āv**v**ā*	*ši**w**āna*	*nu**v**s-*	___
		MP *āb**b**ād*	MP *šu**b**ān*	MP *ni**b**ēs-*	MP *ni**b**astan*
			< Av. *fšu-pāna-*	< Old Ir. **ni-**p**aik-*	

10 Zazaki has a similar form *wusār* whose etymology is different.

Another context historically relevant for the lenition of /b/ is the post-vocalic position. At an earlier stage, the lenition of /b/ or its voiceless counterpart /p/ is attested across the board within Kurdic, as the reflexes of Old Iranian *āp* 'water' and *x^vapna* 'sleep' show in (6).

(6)

	'water'	'sleep'
NK	*āv*	*xaw*
CK	*āw*	*xaw*
SK	*āw, aw*	*xaw*
G.	*āvī, āwī*	—
Z.	*āw*	—
	'water' cf. OIr. *ap*; P. *āb*	cf. Av. *x^vapna*; NP *xāb*

This change has also affected frequently used Arabic borrowings of earlier stages. Based on tentative etymological analyses, the word *avīn* 'love' probably derives from the present stem of the verb *ḥabīn-*, itself from the Arabic root *ḥabba*, albeit in connection with the Kurdish verb *vīyān* 'to want'. But some Arabic borrowings, probably from later stages and less frequently used, do not show this change, such as *ābūrī* 'livelihood, economy', from Arabic *'ubūr* (عبور).

A potential candidate for the historical lenition of /b/ is the post-coda position. This concerns the lenition of /b/ in the Persian borrowing *kadbānū* 'housewife'. As inferred from (7), /b/ most probably underwent lenition following an initial lenition or elision of /d/. Note that lenition applies here in most varieties, except in the Northern dialects of CK and neighbouring NK dialects.

(7)

	'housewife' cf. NP *kadbānū*
NK	*kavānī*; SENK *kābānī*
NCK	*kābān, kaybānū*
SCK	*kaywānū*
SK	*kaywānū*
G.	*kaywānū*
Z.	—

4.1.2 Lenition of /b/ as a synchronic process

The relevant phonological environments for the lenition of /b/ in the synchronic stage of Kurdic dialects are post-coda, intervocalic, post-vocalic, and pre-consonantal positions. Starting with the post-coda slot, consider the lenition of /b/ in the following more recently borrowed lexical items across varieties. The word for 'soldier' is specific to the varieties spoken in Iran.

(8)		‘sherbet’	‘soup’	‘soldier’
	Z.	*šar**b**at*	*šōr**b**a*	___
	NK	*šar**b**at*	*šōr**b**a*[11]	*sar**b**āz*
	NCK	*šar**b**at*	*šōr**b**ā*	*sar**b**āz*
	SCK	*šar**w**at*	*šōr**w**ā*	*sar**w**āz*
	SK	*šar**w**at*	*šūr**w**ā*	*sar**w**āz*
	G.	*šar**w**at*	*šōr**w**ā*	*sar**w**āz*
		cf. NP *šar**b**at*	___	cf. NP *sar**b**āz*

As can be seen, there is a tendency in Kurdic dialects across the CK/SK border to lenite /b/, a pattern also shared in Gorani dialects. These could point either to a Gorani substrate within the Kurdic dialects to the south of the larger Kurdish zone, or an innovation of a synchronic process started in SK and spread to Gorani and CK dialects (see Section 5).

Intervocalic lenition of /b/ is a synchronic feature of some NK dialects, Gorani, SK, and southern dialects of CK. In NK, lenition is seen in the northern and westernmost dialects (Haig and Öpengin 2018: 214).[12]

(9)		‘one unit’	‘because of’	‘(If s/he) sees (it).’	‘Do not say!’	‘melon’
	NK general	*ħa**b**ak*	*sa**b**ā*	*bi**b**īna*	*ma**b**ēža*	*za**b**aš*
	Western NK	*ħa**w**ak*	*sa**w**ā*	*bi**w**īni*	*ma**w**ē*	*za**w**aš*
	Northern NK	*ħa**v**ak*	*sa**v**ā*	*bi**v**īna*	*di**v**ē* ‘he says’	*za**v**aš*

In the Mardin dialect of NK, the stem-initial /b/ of *bīn-* ‘see’ changes to /v/ in present indicative and subjunctive inflections, as in *di**v**īnim* ‘I see’ (cf. NK *di**b**īnim*) and *bi**v**īnim* ‘that I see’ (cf. NK *bi**b**īnim*).

In the rest of Kurdish, intervocalic lenition lumps SK and southern CK together against northern CK dialects. Note that Gorani dialects retain historical /w/ in these contexts and are thus irrelevant to our discussion.

(10)		‘it rains’	‘I take’	‘I see’
	NCK	*da**b**ārē*	*da**b**am*	*da**b**īnim*
	SCK	*a**w**ārē*	*a**w**am*	*a**w**ēnim*
	SK	***w**ārē*	***w**am, a**w**am*	*d**ü**nim, a**ÿ**nim*
		MP ***w**ār-* ‘to rain’	Av. ***b**ar-* ‘to carry’	___

The same tendency is seen for intervocalic lenition of /b/ in modern borrowings. Interestingly, though, conservative Gorani dialects resist lenition, contrary to peripheral Gorani dialects (see Section 5 for explanations).

11 Though the more conservative southeastern NK dialects have a lenited form of the word as *šōrāwa*, used in the larger sense of ‘stew’.

12 Data for the northern NK dialect in the remainder of this section are taken from Cindi (2009 [1936]), a folklore volume containing tales collected among the Kurds in Armenia.

(11)

	‘news’ < Ar. *xa**b**ar*
NK	*xa**b**ar*; NNK *xa**v**ar*
CK	NCK *xa**b**ar*; SCK *xa**w**ar*
SK	*xa**w**ar*
G.	*xa**w**ar*; Hawr. *xa**b**ar*
Z.	*xa**b**ar*

The picture is more complex for the lenition of /b/ in the post-vocalic position, as data in (12) suggests. However, a tendency can be seen for the varieties in the south of the larger Kurdish zone to undergo lenition.

(12)

	‘book’ < Ar. *kitāb*	‘bad’ < Ar. *xarāba*	‘answer’ < Ar. *javāb*
NK	*kitē**b**, kitē**v**, kitē**w***[13]	*xarā**b***; NNK *xirā**v***	*jawā**b***; NNK *jā**v***
CK	NCK *kitē**b***; SCK *kitē**w***	NCK *xirā**p***; SCK *xirā**w***	NCK *jawā**b***; SCK *juwā**w***
SK	*kitā**w***	*xirā**w***	*juwā**w***
G.	Hawr. *kitē**b***; *kitā**w***	*xirā**w***; Hawr. *xirā**b***	*juwā**w***; Hawr. *juwā**b***
Z.	*kitāp*	____	____

Finally, let us consider lenition in the pre-consonantal environment of the coda slot [c__]. As shown in (13) for the loanwords *sabr* and *qabr*, lenition in this context distinguishes the southern varieties (except in core Hawrami varieties) from the more northern varieties.[14]

(13)

	‘patience’ < Ar. *ṣa**b**r*	‘tomb’ < Ar. *qa**b**r*
NK, NCK	*sa**b**r*	*qa**b**r*
SCK, SK, G.	*sa**w**r*	*qa**w**r*; Hawr. *qa**b**r*

4.1.3 Summary of lenition of /b/

The previous section laid out the contexts favouring /b/-lenition in Kurdic. It was seen that while in earlier stages, the lenition of /b/ was mainly restricted to intervocalic and post-vocalic slots, synchronically, some Kurdic dialects have additionally innovated the lenition of /b/ in post-coda and pre-consonantal environments.

As summarised in Figure 2, in intervocalic and post-vocalic positions, /b/-lenition is strongest in western NK dialects, southern CK dialects, SK, and Gorani. It is, however, notable that core Hawrami varieties tend to resist lenition in some of these

13 The variants *kitē**v*** and *kitē**w*** are found in the northern and western NK dialects, respectively.

14 However it is likely that historically /b/ lenited in preconsonantal coda position throughout Kurdish. There are at least two candidates illustrating this process: *gawra* ‘big’ deriving from Aramaic *gabrā* ‘man’; *goř* ‘tomb’ deriving from a Middle Iranian form that has *br* as its word-final coda (cf. Middle Persian *gabr* ‘hollow’ [MacKenzie 1971: 34]).

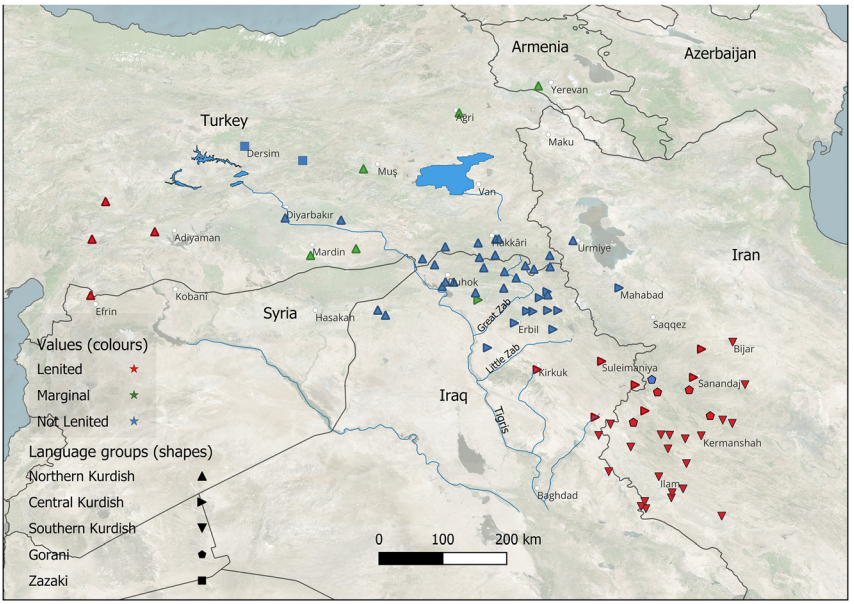

Figure 2: Postvocalic lenition of /b/ at the synchronic state of Kurdic.

contexts (see Section 5 for explanations). In northern NK dialects and in the south NK dialect of Mardin there is a tendency to lenite /b/ in highly specified context. In CK dialects spoken to the west of Erbil, which have recently been formed via a shift from Gorani, the fortition of /b/ is at work, tying in with the areal pattern.

In the pre-consonantal position, however, the split between the northern half of Kurdish and the varieties to the south is sharper, such that lenition is excluded in NK and the adjacent northern dialects of CK but allowed in the dialects to the south of this line, including thus southern CK, SK, and Gorani.

4.2 Voiced alveo-dental stop /d/

One of the significant features bringing Kurdic varieties together is the instability of the alveo-dental stop /d/ in specific contexts. For instance, the historical post-vocalic /d/ is regularly dropped in Kurdic (except following rhotics, see below), as in *zū* 'early' (cf. P. *zūd*), and intervocalic /d/ is lenited variously as an alveolar approximant /w/, glottal fricative /h/, lateral /l/, etc. This instability of /d/ stretches to Iranian languages in the southernmost sections of Zagros mountains in southwestern Iran (Windfuhr 1989) and has therefore been labelled 'Zagros *d*'. It is also attested to a lesser extent in

Central Plateau dialects (Krahnke 1976: 170–174). In addition, the unstable nature of intervocalic /d/ has spread through contact with non-Iranian languages spoken in the region, such as Turkic (Bulut 2018: 413–414) and Neo-Aramaic (Khan 2018b: 386). Here, we take a closer look at the contexts where /d/ is lenited across Kurdic, examining the distribution of lenition in these contexts.

4.2.1 Lenition of /d/ in earlier stages

Historically, the relevant contexts for the lenition of /d/ are intervocalic, post-vocalic, and – in the case of NK dialects – as a second segment within the syllable coda. Intervocalically, as shown in (14), /d/ gets lenited across all varieties, except occasionally in NK and some neighbouring NCK dialects, as the reflexes of the word for 'God' and 'almond' show – though a re-borrowing from Persian may be at play.

(14)		'almond' < Old Ir. *vātāma	'God' < Pth./MP *xwadāy*
	NK	*ba**h**īv*	*xu**d**ē*; WNK: *xwa^{y}ē*
	NCK	*bā**d**am, bā**y**am*	*xu**w**ā, xu**d**ā*[15]
	SCK	*bā**w**im*	*xu**w**ā*
	SK	*bā**y**im*	*xu**ł**ā, xu**d**ā*
	G.	*vámī, vā**h**am, bā**y**am*	*xu.ɪ^{ɤ}ā, xu**ł**ā*
	Z.	*vām*	____[16]

The outcomes of lenition for cognates of 'almond' are debuccalisation[17] (i.e. *d* > *h*) and approximantisation (i.e. *d* > *w*) though with intermediate steps. In conservative Gorani dialects and Zazaki, the consonant is omitted altogether, hence *vām* < **vādam*. In some NCK dialects /d/ is not lenited, as seen in the variants *bādam* 'almond' and *xudā* 'God', though the picture is not entirely clear due to the cultural influence of Persian.

The post-vocalic environment also historically favours lenition. Indeed, a feature common to all Kurdic is the apocope of historical post-vocalic word-final *d*, including the participle stem-final dental, as shown in (15):

---

15 Most dialects use *xuwā,* whereas *xudā* was attested in CK dialects of Rozhbayani and Kalakchi in Iraqi Kurdistan, which are the result of the shift from Gorani to Kurdish. It is notable, though, that the Kurdish dialects in this region are in contact with NK, which could be the source for borrowing *xudā*.

16 Zazaki has *homā* that is etymologically not related to *xudā*.

17 Likewise, in Kurmanji /d/ undergoes debuccalization in words such as *āvāhī* 'prosperity, building' (cf. MP. *ābādīh*), and *šāhī* 'happiness' (cf. NP. *šādī*).

(15)		‘wind’ cf. Av. *vāta*; NP *bād*	‘foot’ cf. Av. *pāda*	‘gave’ cf. Old. Ir. *dāta-[18]
	NK	*bā*	*pē*	*dā*
	CK	*bā*	*pē*	*dā*
	SK	*wā*	*pā*	*dā*
	G.	*vā*	*pā*	*dā*
	Z.	*vā*	*pāī*	*dā*

The deletion of /d/ in this environment is not specific to Kurdic but can also be seen in other west Iranian languages, e.g. Naeini (Central Plateau) *vā* < **vāta* ‘wind’; Luri *zi* < **zūd* ‘early’. Persian elides postvocalic /d/ in a limited number of contexts, e.g. *pā* < *pāy* < **pāda* ‘foot’. Windfuhr (1989: 254) suggests that the fricativisation of /d/ started already in Young Avestan. More recently, Korn (2021) assumes a similar change for Old Persian *čiy* < *čid* ‘thing’.

A final environment with historical relevance for investigating the lenition of /d/ is in a consonant cluster in the syllable coda, where the first segment is generally a flap /ɾ/. In such contexts, as exemplified in (16), the word-final *d* is elided in NK (except for some south-eastern NK dialects under CK influence – see Haig and Öpengin 2018), lenited to a velarised alveolar approximant [ɹˠ] in conservative Gorani dialects, but retained elsewhere.

(16)		‘did’	‘cold’
	NK	*kir*	*sār*
	CK	*kir**d***	*sār**d***
	SK	*kir**d***	*sar**d***
	G.	*kar**đ*** [kɛrɹˠ]	*sār**đ*** [sarɹˠ][19]
	Z.	*kar**d***	*sar**d***

It can be seen that NK has gone farthest with the lenition of /d/ following a rhotic in the syllable coda. In other words, the omission of /d/ in the underlying representation of NK can be reconstructed by contrast to the rest of Kurdic. The conservative dialects of Gorani are still at an early stage of lenition in this context, with /d/ being approximantized. It seems plausible to assume that historically in NK the approximantisation of /d/ in <rd> clusters occurred before its complete elision.

18 One of the reviewers brought to our attention the discrepant outcome of the stem-final dental in the Kurdish infinitives *dīt-in* ‘to see’ and *dā-n* ‘to give’, with the former retaining the dental but the latter dropping it. It is notable that in some SK dialects (and neighbouring CK dialects), the stem-final dental is lenited to an approximant, *dī**y**-in, dā**y**-in*.

19 The realisation of underlying /d/ as an alveolar approximant [ɹˠ] is predominantly attested in conservative Gorani dialects.

4.2.2 Lenition of /d/ as a synchronic process

At the synchronic state of Kurdic, the lenition of /d/ is limited to certain phonological slots and certain varieties. As a strong position, word-initially /d/-lenition is generally not allowed in Kurdic, as seen in (17).

(17)

	'hand'	'tree'	'mouth'
Z.	***d**ast*	***d**ār*	___[20]
NK	***d**ast*	***d**ār*	***d**av*
NCK	***d**ast*	***d**ār*	***d**aw*
SCK	***d**as*	***d**ār*	***d**am*
SK	***d**as*	***d**ār*	***d**am*
G.	***d**as*	***d**ār*	***d**am*

However, the Sulaymaniyah dialect of CK and neighbouring CK dialects in Iran exhibit a case of word-initial /d/-deletion caused by analogy. As can be seen in (18), in these dialects, there is a process of merging in the verbal domain, as a result of which the vocalic indicative formative *a-* is coalesced to the present stem of verbs *ē-* 'come' and *da-* 'give'. This results in a semivowel and subsequently dropping of the initial *a-*. It seems that the past stem of 'to give' results from morphological levelling based on analogy with the present stem.

(18)

yēm	'I come'	< cf. CK *ayēm* (< *a-* + *ē-* + *-m*)
yam	'I give'	< cf. CK *adam* (< *a-* + *da-* + *-m*)
yām	'I gave'	< cf. CK *dām* (< *dā-* + *-m*)

It was seen in the previous section that, historically, the intervocalic slot favours lenition across Kurdic. Synchronically, as shown in (19), while the lenition of /d/ has ceased to be active in NCK and NK dialects, it continues to be operative elsewhere. The relevant contexts are foot-medial, as in 'I give', 'old', and 'habit', and foot-initial, as in 'I did not see':

(19)

	'I give'	'old' < Ar. *qadīm*	'habit' < Ar. *ʕādat*	'I didn't **see** (him).'
NK	*di-**d**i-m*	*qa**d**īm*	*ʕa**d**at*	*min ná-**d**īt*
NCK	*da**d**am*	*qa**d**īm*	*ʕā**d**at*	*aw=im ná-**d**īt*
SCK	*ʔa**w**am, ʔa**y**am*	*qa**y**īm*	*ʕā**w**at, ʕā**d**at*	*aw=im ná-**d**īt,*[21]
				*aw=im ná-**w**ī*[22]
SK	*ʔa**y**am, dam*	*qa**y**īm, qa**d**īm*	*ʔā**y**at, ʔā**d**at*	*ná-**y**ī-m*
G.	*mi**ɹ**aw*	*qa**ɹ**īm, qa**y**īm*	*ʕā.**ɹ**at, ʕā**y**at*	*ná.**ɹ**īm*
Z.	*dānān*	___	*ʔā**d**at*	*mi nê-**d**īo*

20 Zazaki has the non-cognate form *fak*.

21 This form is attested in CK Sulaymaniyah.

22 This form is attested in the CK dialects of Sanandaj region.

As remarked in the previous section, the post-vocalic deletion of /d/ is a historical phonological rule bringing together major varieties of Kurdic. However, at the synchronic state of Kurdic, there is evidence that in more recent lexicon, post-vocalic /d/ still undergoes lenition. This is particularly true in SK, neighbouring CK dialects, and some Gorani dialects.

(20)		'much' cf. P. *zīyā**d***	'memory' cf. P. *yā**d***	'bad'
	NK	*zē**d**a*	___	___
	NCK	*zīyā**d***	*yā**d***	___
	SCK	*zīyā**w***	*yā**d***	*ba**w***
	SK	*zīyā**w**, zīyā**y***	*yā**y***	*ba**y***
	G.	*zīyā**y**, zīyā*	*yā**y***[23]	*ba**y***

The lenited /d/ in (20) could be interpreted as the early stage of the life cycle of phonological elision of /d/ post-vocalically. Extending this to the historical development of Kurdic, one could propose that post-vocalic /d/ was present in the early history of Kurdic. It might be that /d/ in this environment was lost following an initial lenition, like Persian *pā* < *pāy* 'foot'. In terms of the theory of lenition, one could say that the post-vocalic elision of /d/ has reached the underlying representation across much of Kurdic and has left its mark on all reference varieties. The occasional synchronic lenition of /d/ post-vocalically, as seen in (19), further illustrates the gradual process leading to its elision post-vocalically.

Relatedly, Kurdic varieties show synchronic variation in leniting /d/ in the pre-consonantal environment within the coda [c.__]. By way of example, consider the lenition of /d/ in the sequence <dr> in the syllable coda of the word for 'esteem' in (21):

(21)		'esteem' < Ar. *qa**d**r*
	Z.	*qa**d**r*
	NK	*qa**d**r*
	NCK	*qa**d**r*
	SCK	*qa**w**r*
	SK	*qa**y**r*
	G.	*qa**w**r*

As can be seen, this lenition of /d/ is part of a synchronic process that only affects the varieties spoken in the southern half of the wider Kurdic zone.

4.2.3 Summary of lenition of /d/

The lenition of /d/ is a phonological process operating both in the early history of Kurdic and synchronically – at least in some varieties. In the earlier synchronic state of

23 Attested in Gorani Gawrajuī (Mahmoudveysi et al. 2012: 139).

Kurdic, lenition is limited to intervocalic and post-vocalic environments. Synchronically, a section of dialects has also innovated lenition in pre-consonantal contexts.

In the intervocalic and postvocalic contexts, lenition is synchronically active in the southern half of CK dialects down to Gorani and SK speech zones. It was held that the post-vocalic lenition of /d/ in these varieties represents an early stage in the life cycle of post-vocalic /d/ within Kurdic. Lenition in these contexts has stopped being operative in Zazaki, NK and NCK varieties, dividing Kurdic into two halves where the isogloss boundary is CK dialects of the Sulaymaniyah region.

Finally, we looked at the lenition of /d/ following a rhotic at the syllable coda. It was seen that the omission of /d/ in this context has reached underlying representation only in NK. In cognate words from Hawrami dialects of Gorani, /d/ is approximantized due to a synchronic process. This reflects that the omission of /d/ in NK might have been preceded by a stage where it initially underwent lenition before finally getting elided.

Overall, in the southern regions of the Kurdic zone, the synchronic lenition of /d/ in pre-consonantal, intervocalic, and post-vocalic contexts remains a weakly conditioned change since it involves the change in the phonetic realisation in specific contexts or else, no contrastive phoneme has been added to the phonemic inventory of the language. Figure 3 represents the synchronic lenition of /d/ in the intervocalic environments.

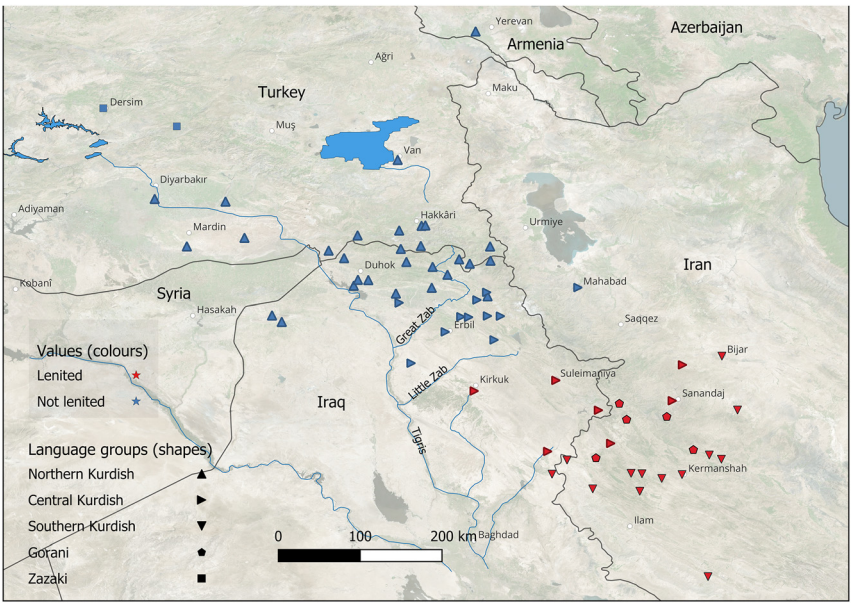

Figure 3: Lenition of /d/ in foot-initial slot [v__v́] as a synchronic process.

4.3 Voiced velar stop /g/

The voiced velar stop /g/ undergoes lenition to varying degrees in the history of Kurdic and within individual dialects. In some words, word-initial /g/ of CK and NK dialects corresponds to /w/ in earlier Iranian periods. As seen in (22), CK and NK fortify *w*, whereas Gorani and Zazaki tend to retain the historical /v/. Lexical borrowing plays a role in the distribution of w and /g/ word-initially. The term *wiłk* 'kidney' in SCK and SK is a borrowing from Gorani.

(22)

	'wolf'	'change'	'flower'	'kidney'	'walnut'	'rope'
NK	***g**ur*	***g**uhoř-*	***g**ul*	***g**určik*	***g**ūz*	***g**urīs, **w**arīs*[24]
CK	NCK: ***g**urg*; SCK: ***g**urū*	***g**oř-*	***g**uł*	NCK: ***g**určīla*; SCK: ***w**iłk*	***g**wēz*	***g**urīs*
SK	***g**urɤ*	***g**ūř-*	***g**uł*	***g**určik, **w**iłk*	***g**irdakān*	***g**wirīs*
G.	***v**arg*	***w**āryā-*	***v**iłī*	***w**iłk*	***w**azī, **h**ūzīya*	***w**arīsa*
Z.	***v**arg*	***v**iřyā-*	***v**il*	***v**elike*	***g**ozē, **g**oz*	*rasana*
	Av. ***v**əhrka*	<Old Ir. *harH	Pth. ***w**ār*; Av. ***v**arəδa-*	< Old Ir. *vərəṭka-	MP ***g**ōz*	< Old Ir. *vi-rais

4.3.1 Lenition of /g/ in earlier stages

The relevant contexts for the lenition of /g/ historically are intervocalic and post-vocalic environments. Additionally, some Kurdic varieties exhibit the deletion of /g/ as a second segment within a consonant cluster at the syllable coda.

In the historical lenition of /g/ intervocalically, /g/ appears at the onset of the stressed syllable.

(23)

	'oath'	'to look'	'mountain'	'fly, wasp'	'cry, lament'
NK	*sond, sūnd*	*ni**h**ēr-, nēr-*	*čī**y**ā*	*mōz*	___
CK	*swēnd*	*nwāř-*	*čī**y**ā*	*mōz*	___
SK	____	*nūř-, noř*	*čiɤā*	*mūz*	___
G.	___	___	___	*mōzī*	*gira**w**āy*
Z.	*sond, suwend*	___	___	___	___
	Pth./MP *sōgand*	Pth. *nigar-*	MP *čagād, čē**y**ād* 'summit'	Pth. *magas*	MP *gilagāy*

Similarly, varieties of Kurdic exhibit different degrees of historical lenition at post-vocalic position:

24 The general form in Kurmanji is *warīs*. The form *gurīs* is attested in varieties close to CK-speaking areas.

(24)

	‘dung’	‘pig’	‘vein’
NK	*řēx*	*māhū*[25]	*řa**h***
CK	*řēx*	*xū**g***, *xū*[26]	*řa**g***, *řa**w***[27]
SK	*řīx*	*xü*	*řa**g***, *řa**ɤ***[28]
G.	*řēx*	*xug*, *xū*[29]	*řa**g***, *řa**w***[30]
Z.	___	*xoz*, *xuz*[31]	___
	MP *rē**g***	Pth./MP *hū**g***	Pth. *rahag*; MP *ra**g***

The post-vocalic weakening of /g/ results more commonly in total deletion, thus *g* > ∅, but also in spirantisation (*g* > *x; g* > *z*) and approximantization (*g* > *w*). The analysis of the cognates of *řeg* ‘vein’ is somehow more complicated because it could be derived either from Middle Persian *rag*, in which case lenition applies, or from Parthian *rahag* (i.e. < **rah* + the diminutive suffix *-ag*), in which case the NK form should be considered a retention of historical post-vocalic *h* rather than /g/ being debuccalised.

A borderline case is the word ‘dog’, presumably borrowed from Persian *sag*. Here, Kurdish varieties exhibit variation concerning the lenition of the postvocalic *g*, as seen in (25). It seems that individual Kurdic varieties have borrowed *sag* in different periods, with varieties that borrowed it early on either elided *g* or lenited it. In contrast, the varieties that borrowed it in a historically more recent period have not undergone lenition.

(25)

	‘dog’ MP *sa**g***; Pth. *ispa**g***
NK	*ṣa*[32]
CK	*sa**g***, *ṣa*, *sa**y***, *sa**w***[33]
SK	*sa**ɤ***, *sa**g***
G.	___
Z.	___

A final slot favouring lenition at an earlier synchronic stage is the weakening of /g/ as the second segment in a consonant cluster at the syllable coda. The first segment is

25 Chyet (2003: 360) gives the translation ‘female pig’ < *mā* ‘female’ + *hū* ‘pig’. However, the more common word is *barāz* ‘boar’ in NK and CK, which is cognate with Middle Persian *warāz*.

26 The variant *xūg* is attested in northern dialects, *xū* is attested in southern dialects.

27 Attested in southernmost dialects of CK, e.g., Sanandaj.

28 The approximantized variant is attested in SK dialects such as Ghorveh, Bijar, Gahvareh, etc.

29 The variant *xū* is attested in Kandulei, see Mann and Hadank (1930: 242).

30 Attested in Gorani Zarda.

31 The word means ‘wild boar’ in Zazaki (see Hadank and Mann 1932: 154).

32 Specific to southeastern NK dialects.

33 The majority of dialects use *sag*; the *ṣa* variant is attested in two dialects spoken in neighbouring NK dialects in North Iraq. The variant *saw* is attested in the southernmost CK dialects, e.g. Sanandaj. The variant *say* is attested in the Bingird variety of CK (MacKenzie 1962: 138).

usually a rhotic. Evidence for lenition of /g/ in this context comes from the word for 'wolf' (< MP/Pth. *gurg*; Av. *vəhrka*) in modern dialects, which undergoes different degrees of lenition as shown in (26):

(26) 'wolf' < Av. *vəhr**k**a*

NK	*gur* (most NK dialects); *gur**g*** (southeastern varieties of NK)
NCK	*gur**g***
SCK	*gur**ū***
SK	*gwir**g**; gur**ɤ*** (Bijar, Gahvareh)
G.	*var**g*** (Hawrami); *vár**y**e* (Kandula); *wir**ɤ*** (Zarda), *wari**ɤ*** (Qal'eh)
Z.	*var**g**, vēr**g***

As can be seen, Kurdic dialects vary considerably concerning the treatment of /g/ as the second segment within a consonant cluster in the coda. At one end, the realisation remains /g/ in conservative Gorani dialects, Zazaki, and in northern dialects of CK and neighbouring southeastern NK dialects. At the other end, /g/ undergoes sonorisation in the southernmost dialects of CK and neighbouring SK and Gorani dialects, and even more radically, it is deleted in most NK dialects. Notably, the variant *vér**y**e* 'wolf' in Kandulei dialect of Gorani exhibits foot-medial lenition [v́-v], a cross-linguistically favoured environment for lenition.

4.3.2 Lenition of /g/ as a synchronic process

We now describe the lenition of /g/ synchronically, for which the relevant phonological contexts are word-initial, post-coda, and intervocalic slots.

Starting with synchronic lenition in word-initial contexts, in southern CK dialects and SK dialects in contact with Gorani, word-initial /g/ is lenited in the past stem of the verb *gut-* 'to say', derived from Old Iranian **gabt*. The equivalent stem in Gorani dialects is *vāt-, wāt-*, derived from Middle Iranian **wāxt.* It seems that in Kurdic dialects, most in contact with vernaculars of Gorani word-initial /g/ has been lenited through phonetic matching with the onset of the equivalent stem in Gorani.

(27) 'to say'

NK	*gōt-*
NCK	*gōt-*
SCK	*wut-*
SK	*wat-, wit-, hüt-*
G.	*vāt-*
Z.	*vāt-*

Relatedly, in the SK dialect of Bijar and Ghorveh, spoken in the north of SK speech zone word-initial /g/ occasionally gets lenited, e.g. *ɤirtim* 'I grabbed'.

Another synchronic context for the lenition of /g/ is the post-coda slot, which is generally resistant to lenition. As can be seen for cognates of 'fiancé', 'daytime, period', while there is a general tendency not to lenite /g/ in the post-coda slot, some dialects of SK, SCK and Gorani allow lenition in such an environment.

(28)		'fiancé' < *das(t)* + ***g****īrān/* ***g****irtī*	'daytime, era' MP *rozgār* < *roz* 'day' + *-**g**ār*
	NK	*dast**g**irtī*	___
	NCK	*dast**g**īrān*	*řožgār*
	SCK	*dazūrān*	*řožɤār*
	SK	*daz**ü**rān*	*řūžgār, řūžɤār*
	G.	*dasgīrān, daz**ü**rān*[34]	*řojyār*[35]

Another synchronically relevant context for the lenition of /g/ is the intervocalic context. As remarked, in earlier stages of Kurdish, the lenition of /g/ occurs across the board. However, at the synchronic state of dialects, intervocalic /g/-lenition tends to be the case towards the Gorani speech zone and the border area between SK and CK, where approximantisation of /g/ is the norm.

(29)		'(he, she, it) did not grab'	'if' cf. MP *agar*
	NK	*nàgirt*	*ha**k**a, hagar*
	NCK	*nàgirt*	*agar*
	SCK	*nàɤirt, na**w**irt*	*eɤár, a**w**ar*
	SK	*nàɤirt*[36]	*aɤár, ayar, ar*

The lenition of /g/ can be extended to cases when /g/ comes into contact with another consonant at the syllable boundary. This is exemplified via the imperative form of the verb 'to take, to grab' in (30):

(30)		'Don't grab!'
	NK	*nàgra* [næg.ræ]
	NCK	*nàgra*
	SCK	*nàɤra, na**w**ra*
	SK	*nàyra, nagra*
	G.	*nayra* (Gawrajū), *nàɤra*[37]

34 Attested in Gorani Gawraju (Mahmoudveysi et al. 2012: 160).
35 The variant means 'sun' in Hawrami.
36 Attested in Gorani Zarda (Mahmoudveysi and Bailey 2013: 13).
37 Attested in Gorani Zarda, Kandule.

4.3.3 Summary of lenition of /g/

The voiced velar /g/ is subject to lenition both in the early history of Kurdish and synchronically. The difference between the two periods is the extent of lenition within and across varieties, in the sense that while historically /g/-lenition was a process operating within Kurdic as a whole, synchronically, lenition is an active process only in the south of the wider Kurdic zone, where dialects of SK, CK, and Gorani converge, as illustrated in Figure 4.

In some cases, the lenition of /g/ across Kurdic dialects of the region could be attributed to Gorani influence. For instance, southern CK and SK dialects have lenited word-initial /g/ in the stem of the verb 'to say' through phonetic matching with the equivalent stem in Gorani. However, synchronically intervocalic lenition of /g/ seems to have been started in SK and spread to some Gorani and CK dialects in the region (see Fattah [2000: 100–101] for a list of SK dialects allowing lenition of /g/).

Overall, the picture emerging from the lenition of /g/ is similar to the one attested for the other voiced stops: Kurdish dialects bordering the SK and CK speech zones, along with some Gorani dialects, have innovated the lenition of /g/ in intervocalic as well as in post-coda positions, as a synchronic process.

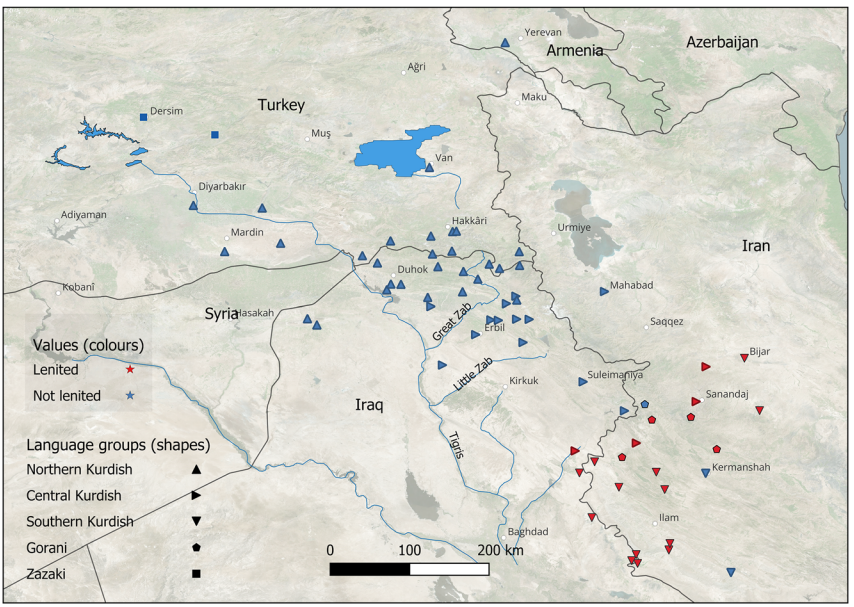

Figure 4: Lenition of /g/ in intervocalic contexts as a synchronic process.

5 Discussion

In this paper, we surveyed the phenomenon of lenition in Kurdish. The voiced stops /b/, /d/, and /g/ were examined for this purpose. Following the descriptive model in Honeybone (2012), we distinguished between lenition at an earlier history of language and lenition at the current state of varieties. We have gone into some details to break down the lenition of voiced stops in different contexts. These contexts comprise word-initial (including post-coda slot), intervocalic (both foot-initial and foot-medial contexts), and post-vocalic positions, as well as within coda pre-consonantal and post-consonantal slots.

At an early stage, lenition seems to be a shared innovation that brings Kurdic varieties closer to each other. This is true, especially about the historical lenition of voiced stops in the intervocalic position. The former slot has some relevance for the theory of lenition as Kurdic generally allows weakening in the foot-initial context [v_́v], which is not considered a felicitous context for lenition (Honeybone 2012: 776). Similarly, all Kurdic share the commonality of post-vocalic lenition of stops in inherited lexicon. The outcomes of lenition are total deletion for post-vocalic /d/, fricativisation and approximantisation for /b/, and deletion and approximantisation for post-vocalic /g/, depending on the variety.

While historically, the lenition of voiced stops tends to bring all Kurdic varieties together synchronically, it has stopped to be an active process in the current state of much of the NK and northern dialects of CK. On the other hand, the Kurdic dialects spoken in the CK/SK border zone and neighbouring Gorani dialects have innovated the lenition of stops in different syllabic slots as a synchronic process. The synchronic lenition of /b/ is active in western and northernmost NK dialects, much of SCK and SK dialects, and peripheral dialects of Gorani. In core Hawrami dialects, the lenition of /b/ is not attested. These facts are summarised in Table 1.

The synchronic lenition of /d/ occurs more systematically across Gorani dialects but fails to reach the southernmost SK dialects (Table 2).

Table 1: Lenition of /b/ as a synchronic process within Kurdic.

Contexts / Lenition of /b/	Intervocalic	Post-vocalic	Post-coda	Pre-consonantal
NK (NNK & WNK)	✓	✓	—	—
NCK	—	—	—	—
SCK	✓	✓	✓	✓
SK	✓	✓	✓	✓
G. (peripheral)	✓	✓	✓	✓
Z.	—	—	—	—

Table 2: Lenition of /d/ as a synchronic process within Kurdic.

Contexts / Lenition of /d/	Intervocalic	Post-vocalic	Pre-consonantal
NK	—	—	—
NCK	—	—	—
SCK	✓	✓	✓
SK	✓	✓	✓
G.	✓	✓	✓
Z.	—	—	—

Finally, the lenition of /g/ is limited to the immediate Gorani zone of influence and neighbouring SK and CK dialects, as seen in Table 3. This phonological process is limited to the peripheral Gorani dialects but fails to reach the mountainous Hawraman region. Within SK, the change is characteristic of northern and western dialects (see Figure 4). Due to restrictions on its phonotactics, /g/ does not appear in pre-consonantal and post-vocalic slots in the modern lexicon of Kurdic. Hence, these two contexts are absent in Table 3.

As seen from Tables 1–3, the lenition of /b/ is more widespread than that of /d/ and /g/, pointing to distinct development of lenition processes associated with /b/. The outcomes of lenition are approximantisation in the south of the wider Kurdish zone, and fricativisation in western dialects of NK. The typical environments for lenition in these dialects are not only those which favour lenition cross-linguistically – so-called 'weak positions' – including post-vocalic slot and (foot-medial) inter-vocalic slots, but also 'strong positions', those which disfavour lenition, including post-coda and pre-consonantal slots. Therefore, it can be said that the dialects in the southern half of the wider Kurdish zone have innovated the lenition of voiced stops as a synchronic process, not only in weak but also in strong positions.

Table 3: Lenition of /g/ as a synchronic process within Kurdic.

Contexts / Lenition of /g/	Intervocalic	Post-coda
NK	—	—
NCK	—	—
SCK	✓	✓
SK (N & W dialects)	✓	✓
G. (peripheral)	✓	✓
Z.	—	—

An overall picture emerges from the lenition of voiced stops at the synchronic state of Kurdic, allowing us to draw isoglosses, which separate the south of the wider Kurdish zone from the northern part. Interestingly, the southern half of the isogloss corresponds to the historical Gorani zone of speech. As discussed in Section 1, Gorani dialects were once more widespread in the region but gave way to Kurdish over time. It is thus possible that the lenition of voiced stops was first innovated in the vernaculars of Gorani and then spread to the vernaculars of southern CK and SK as a substratum feature. Note that for much of the contexts favouring lenition, Gorani dialects have historically retained the lenited segment. It is thus possible that Kurdish dialects of the region matched with the Gorani phonology through the mechanism Blevins (2017) refers to as the "perceptual magnet effect". An example case was the lenition of the historical /g/ word-initially for the stem *gut-* 'to say' in southern CK and SK through matching with the equivalent stem *wāt-* in Gorani.[38]

However, the above scenario only accounts for part of the data. It cannot explain why, at the synchronic state of dialects, conservative Gorani dialects resist lenition in some contexts, e.g., intervocalically. In contrast, peripheral Gorani dialects show the same effect of lenition as neighbouring CK and SK dialects. For example, intervocalic lenition of /g/ affects SK, peripheral Gorani dialects, and some SCK alike but does not reach conservative Hawrami dialects. Similarly, intervocalic and postvocalic /b/ (e.g., in Arabic borrowings such as *xa**b**ar* 'news' and *xarā**b**a* 'bad') undergo lenition in peripheral Gorani dialects but not conservative Hawrami dialects. Here, it is more plausible to assume that lenition was innovated in the vernaculars of SK and then spread northward and affected some peripheral Gorani dialects. Support for this claim comes from the fact that the extant peripheral dialects of Gorani have been kurdicised to a considerable extent in recent times. At any rate, the synchronic diffusion of lenition fails to reach the mountainous Hawraman region, where conservative dialects of Gorani are spoken. This then highlights the effect of geographical barriers on the diffusion of innovation.

We may thus conclude that the synchronic lenition of voiced stops was partly due to phonetic matching with Gorani dialects and partly due to the spread of lenition via SK dialects. It is hard to pin down the chronology of these two processes as much is unknown about the linguistic history of the region. Still, provisionally, it might be appealing to assume that given the larger geographical span of Gorani in the past, the first scenario historically preceded the second one.

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38 Support for this claim comes from the shift of Gorani speakers of the region during the last century or so to vernaculars of SK and CK. Mahmoudveysi (2016: 3) reports that the vernaculars of Bēwānījī, Rijābī, and Gāhwārāī localities around Kerend (Iran), which were investigated by Mann and Hadank (1930) as Gorani dialects, are now Southern Kurdish.

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List of abbreviations

Av.	Avestan
CK	Central Kurdish
G.	Gorani
Hawr.	Hawrami
MP	Middle Persian
NCK	northern Central Kurdish
NK	Northern Kurdish
NNK	northern dialects of Northern Kurdish
NP	New Persian
Old Ir.	Old Iranian
Pth.	Parthian
SCK	southern Central Kurdish
SK	Southern Kurdish
SENK	southeastern dialects of Northern Kurdish
WNK	western dialects of Northern Kurdish
YAv.	Young Avestan
Z.	Zazaki

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