

Turkish-influenced phonological features of the Istanbul Armenian dialect

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Abstract. Istanbul Armenians form an ethnic minority in the city of Istanbul. The majority of Istanbul Armenians speak Turkish monolingually or predominantly, with a subset still speaking Western Armenian, an Indo-European language. The Istanbul subdialect of Western Armenian has noticeable differences in phonology compared to other Armenian groups. The peculiar accent in Istanbul Armenian is attributed to phonological properties that arose from contact with Turkish, which are found in Turkish but largely absent in other Western Armenian groups. We describe these properties, specifically: vowel quality, stop aspiration, word-final obstruent devoicing, lateral velarization, word-final rhotic frication, and optional word-final lateral frication.

Keywords. Armenian; Turkish; Istanbul; phonetics; phonology; language contact; Bolsahay; Bolsahayeren

1. Introduction. Armenians form an ethnic minority in Istanbul. Istanbul Armenians call themselves *Bolsahay* (բօլսահայ) after the Armenian words for Istanbul *Bolis* (Բոլիս) and Armenian *Hay*. Their subdialect of Armenian is called *Bolsahayeren* (բօլսահայերէն).

Armenian is an Indo-European language with two standard varieties: Western and Eastern Armenian. Western Armenian developed in Istanbul in the 1800s, and Eastern Armenian in Yerevan/Tbilisi (Balabanian 2024; Manoukian 2023; Dolatian 2024:§2). The two standard dialects have differences in their phonology and phonetics (Seyfarth et al. 2024). Western Armenian was spoken widely by Istanbul Armenians until the Armenian Genocide. Western Armenian is now scattered across diaspora groups in the Middle East, Europe, and elsewhere.

Historically the Istanbul community had triglossia, with knowledge of Turkish, Standard Western Armenian, and a distinct dialect of Armenian called Istanbul Armenian (Աճառյան 1941). Over time the community shifted from that specific dialect to Standard Western Armenian. But nowadays the majority of Istanbul Armenians speak Turkish monolingually or predominantly (almost 82%). A subset still speaks Western Armenian (Մելքոնյան 2010:48,98; Panorama.am 2010). But this Istanbul subdialect of Western Armenian has noticeable differences in accent when compared to other Armenian groups. To clarify, the term ‘Istanbul Armenian’ can refer to either a) the non-standard dialect of Armenian spoken in the late 1800s and early 1900s which is distinct from Standard Western Armenian (Աճառյան 1941), or b) the subdialect of Standard Western Armenian that is now spoken by Armenians in Istanbul. Throughout this paper, we refer to the second meaning.

The current form of Armenian used in Istanbul is often described as having a peculiar accent by Armenians outside of Istanbul, and by these speakers themselves. We describe this accent in terms of phonological properties, which we argue is caused by contact with Turkish.

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This work is preliminary and exploratory rather than conclusive. The phonological data that we discuss are as follows:

1. Istanbul Armenian has impressionistically different vowel quality than other (sub)dialects of Armenian. (Section 3.1)
2. Voiceless stops and affricates are aspirated in Istanbul Armenian, while voiced stops and affricates have prevoicing. (Section 3.2)
3. Word-final obstruents are devoiced. (Section 3.3)
4. The lateral /l/ has a dark or velarized allophone [ɫ] when part of a syllable with a back vowel. (Section 3.4)
5. The rhotic /r/ is fricated word-finally, to the extent that it sounds like /ʃ/. (Section 3.5)
6. The lateral /l/ is sometimes fricated word-finally. (Section 3.6)

We argue that all of these properties arose from contact with Turkish. These properties are found in Turkish but largely absent in other Western Armenian (sub)dialects that we know of.

2. Methodology and data. Data primarily comes from a word list elicitation. The second author (TT) is a native speaker of Istanbul Armenian. She elicited the word list from herself and from two other female natives. We primarily use examples from the second author's elicitation. The word list recordings are available as supplementary materials.¹

The word list included near-minimal pairs for each phoneme, taken from Seyfarth et al. (2024). Other words were added to explore different allophonic processes present in Istanbul Armenian.

Linguistic background for the speakers of Istanbul Armenian as follows. All 3 speakers are female. Age range is between 19-34. Armenian is the first acquired language for all speakers. Each speaker uses Armenian on a daily basis. Armenian is used by the household for each speaker. However, Turkish is predominant outside of the house. Quite often they codeswitch between Turkish and Armenian.

Recordings were conducted with mobile phones. We gave the speaker a copy of the word list. The speaker read the list with a constant pace. The microphone of the mobile phone is kept 20 cm away from the speaker. The speaker repeated each token three times. The mp4 files were then transferred into WAV files through Audacity, and unnecessary background noises are cleaned from the sound files, and the sound files were then exported to process and annotate over Praat.

3. Phonological properties likely caused by language context.

3.1. VOWEL QUALITY. Both Western Armenian and Eastern Armenian have a simple vowel inventory of /a, e, i, o, u, ə/.² Istanbul Armenian has the same vowel set.

Impressionistically, in the first author's experience, Istanbul Armenians are noticeable in their speech because of the vowels sound more centralized and sound more like Turkish. We've come across other linguists who work on Turkish (or even non-linguists who speak

¹ <https://osf.io/64huq>

² Western Armenian and the Istanbul subdialect also have a vowel /ɣ/ that's absent in Eastern Armenian. For its diachronic origin, see Dolatian (2024:150).

/ɑ/	k ^h ah	‘throne’	գահ
/e/	lexi	‘bitter’	լեղի
/i/	lip ^h anan	‘Lebanon’	Լիբանան
/u/	ut ^h ə	‘eight’	ութը
/o/	oxi	‘raki’	օղի
/ə/	əset	‘to say’	ըսել

Table 1. Vowels in Istanbul Armenian

Turkish), and when we presented them with audio samples of Istanbul Armenian, they thought the speech sounded like Turkish.

Multiple acoustic factors could cause this Turkish-like perception of Istanbul Armenian vowels. For example, pitch contours, vowel duration, stress cues, formant movements, general prosody and so on. For exploratory purposes in this paper, we explore formant quality. Other possible similarities such as acoustic prosody must be further investigated.

Acoustically, we perceive Istanbul Armenians vowels to be more centralized when compared to Lebanese Western Armenian and Standard Eastern Armenian. Centralization is most audible for /ɑ/ (Fairbanks 1958:2). To explore this impression, we compared data from Toparlak (2019) against vowel measurements from our own Istanbul Armenian word list. We show data from the 3 female Istanbul speakers. We did the following:

1. Accessed the raw data on Lebanese Western Armenian from Toparlak (2019). Information about this data source can be found in Seyfarth et al. (2024).
2. Took the average F1 and F2 of 3 female Lebanese Western Armenian speakers.
3. Ran the Montreal Forced Aligner (McAuliffe et al. 2017) on our Istanbul Armenian word list recordings, using the English model and the cross-language methodology described in Dolatian (2023a) and Chodroff et al. (2024).
4. Corrected the boundaries created by the forced aligner.
5. Ran a Praat script (from Julianne Kapner) to extract formant measurements (from the vowel midpoint) from the Istanbul word list,
6. Used <https://www.visiblevowels.org> by Fryske Academy to generate the vowel plots in Figure 1.

Table 2 lists the average formants. Due to possible coarticulation, after the automatic extraction, we have eliminated vowel tokens whose F1 and F2 formants were out of the general F1/F2 range (Table 3). We haven’t used any normalization method.

In terms of tokens, Beirut Armenian had 6093 vowel tokens in total. From 6093, we excluded 293 tokens to fit within the the general F1/F2 range in the Table 3. Istanbul Armenian has 4002 vowel tokens, of which we removed around 300 tokens.³

³ We unfortunately lost the excel sheet that we used when we first created the Istanbul vowel spaces. But we remember the number of excluded tokens was around 300. As of writing, we don’t have time to recreate the vowel spaces again to be fully sure of how many Istanbul tokens were discarded. However, the original annotated data and raw measurements are still available.

	Istanbul		Lebanese	
	F1	F2	F1	F2
e	551	2136	504	2202
i	378	2578	346	2553
o	509	1115	451	1101
u	308	985	357	1020
ɑ	770	1550	722	1513
ə	479	1577	480	1651

Table 2. Average F1 and F2 (Hz) for Istanbul Armenian (from the word list) and Lebanese Armenian (from Toparlak 2019)

	F1 (Hz)	F2 (Hz)
e:	400-500	1900-2300
i:	240-300	2200-3000
o:	400-500	800-1000
u:	250-350	600-900
ɑ:	700-850	1100-1300
ə:	500-600	1200-1600

Table 3. Formant range during data cleaning process.

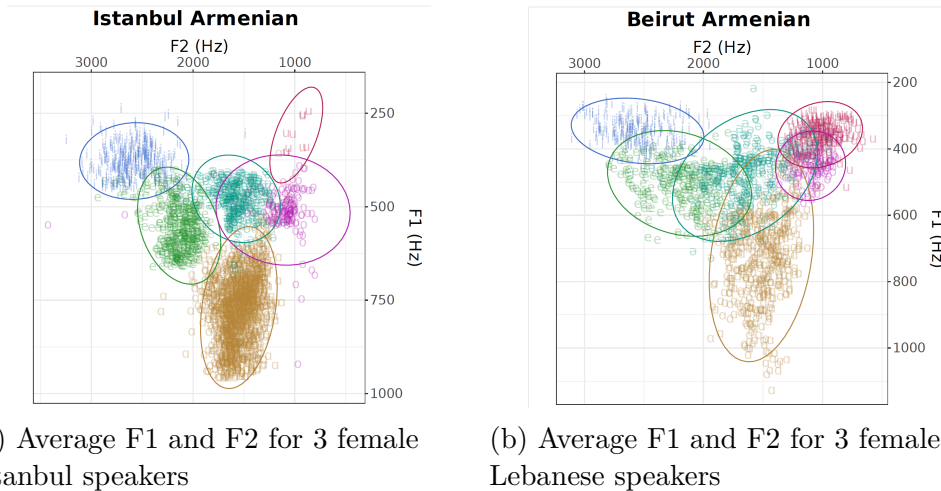


Figure 1. Average first and second formant frequencies for the six vowels in Istanbul Armenian (1 female) and Lebanese Armenian (3 females; from Toparlak (2019))

The results show that Istanbul vowels are produced with a more retracted tongue position. The distribution of the schwa [ə] shows overlap with close front vowel [e] in Lebanese and is more widespread compared to that of Istanbul. The vowel space of the Istanbul [ə], on the other hand, is narrower and more distinct from mid-central vowels. However, its lower and more front position also shows that it is not identical to the close-back unrounded vowel of Turkish.

Vowel quality differences in Istanbul Armenian is likely because of language contact

with Turkish. Turkish has vowel centralization or vowel lowering rules (Göksel & Kerslake 2004:10-11; Yavuz & Balci 2011:40-41). The low vowel is controversially back (Underhill 1976:13; Kornfilt 1997:490; Göksel & Kerslake 2004:10; Lewis 2000:12) central (Zimmer & Orgun 1992; Yavuz & Balci 2011:36), or even a mid vowel [ʌ] (Kopkallı-Yavuz 2010). Future work should ideally extract the vowel space of Istanbul Armenian and of Turkish, both by bilingual Armenian speakers and by monolingual Turkish speakers.

3.2. STOP AND AFFRICATE ASPIRATION. Armenian has widespread (sub)dialectal variation in the laryngeal qualities of stops and affricates, meaning variation in the acoustics of voice onset time. The laryngeal qualities for Istanbul Armenian match the qualities found in Turkish.

For example (Table 4), Eastern Armenian has a three-way contrast in voicing with pre-voiced stops (-VOT), voiceless unaspirated stops (0VOT), and voiceless aspirated stops (+VOT): D, T, T^h (Vaux 1998; Dum-Tragut 2009). Affricates display the same contrast. In contrast, Western Armenian has a 2-way contrast of phonemic voiced vs. voiceless, but the exact phonetic contrast depends on regional subdialect. In Lebanese Western Armenian, the contrast is manifested as prevoiced stops (-VOT) vs. voiceless unaspirated stops and affricates (0VOT): D-T (Kelly & Keshishian 2019). While American Western Armenian uses voiceless unaspirated (0VOT) vs. voiceless aspirated stops (+VOT): T-T^h (Kelly & Keshishian 2021), and likely does not aspirate its affricates (Seyfarth et al. 2024:457). This variation is because of language contact, with Lebanese Armenians using the voicing values of Lebanese Arabic while American Armenians using the voicing values of American English (Kelly & Keshishian 2021). In contrast, Istanbul Armenian has the contrast of prevoiced (-VOT) vs. voiceless aspirated (+VOT) for stops and affricates: D-T^h.

	Eastern Yerevan	Western			
		Lebanon	US	Istanbul	
տասը	tasə	dasə	tasə	dasə	‘ten’
դասի	dasi	tasi	t ^h asi	t ^h asi	‘of class’
թագ	t ^h ag	tak	t ^h ak ^h	t ^h ak ^h	‘crown’
ծախս	tsaχs	dzaxs	dzaxs	dzaxs	‘cost’
ծագ	dzak ^h	tsak	ts ^h ak ^h	tsak ^h	‘cub’
ցանց	ts ^h ants ^h	tsants	tsants	ts ^h ants ^h	‘list’

Table 4. Laryngeal qualities across Armenian

To illustrate, we manually measured the voice onset time for word-initial stops and affricates in the Istanbul Armenian word list (Table 5). For each sound, we had 3 tokens from TT. We measured the aspiration for voiceless affricates by measuring the entire frication.

Sound	VOT	Example word		
p ^h	32.13	[p ^h ak ^h]	‘yard’	փակ
t ^h	63.10	[t ^h an]	‘yogurt drink’	թան
k ^h	78.41	[k ^h am]	‘nail’	գամ
ts ^h	145.036	[ts ^h ay]	‘pain’	ցալ
tʃ ^h	131.055	[tʃ ^h ayk ^h]	‘effort’	ջանք
b	-99.32	[baʃaʒ]	‘stock’	պաշար
d	-126.50	[dants ^h]	‘pear’	տանձ
g	-75.87	[gaʒan]	‘station’	կայան
dz	-68.37	[dʒaʒ]	‘tree’	ծառ
dʒ	-96.58	[dʒaʃ]	‘foot’	ճաշ

Table 5. Average voice onset time (ms) for word-initial stops and affricates from the Istanbul Armenian word list

The D-T^h contrast in Istanbul Armenian is likely due to how stops and affricates are aspirated in Turkish (Kornfilt 1997:483; Ögüt et al. 2006). Turkish voiceless stops and affricates are aspirated word-initially and intervocalically, and some report word-finally (Underhill 1976:12; Göksel & Kerslake 2004:4-5; Kallestinova 2004; but Petrova et al. 2006).

3.3. WORD-FINAL DEVOICING OF OBSTRUENTS. Word-finally, Eastern Armenian and Lebanese Western Armenian allow voiced obstruents with no synchronic word-final devoicing (Table 6). But Istanbul Armenian has a rule of word-final devoicing that is absent in other Western Armenian subdialects. This rule of devoicing applies word-finally, not necessarily utterance-finally.

		Eastern	Lebanese WA	Istanbul WA		
‘duck’	/bad/	[bad]	/pat/	[pat]	[p ^h at ^h]	բադ
‘free’	/azat/	[azat]	/azad/	[azad]	[azat ^h]	ազատ

Table 6. Word-final voiced obstruents exist in Eastern Armenian and Lebanese Western Armenian, but not Istanbul Western Armenian

Table 7 illustrates this. If a word ends in an underlyingly voiced obstruent in Istanbul Armenian, that obstruent surfaces as devoiced. If a suffix is added onto that word, the obstruent is no longer word-final and surfaces as voiced. To illustrate, we include words with word-final underlyingly voiceless obstruents.

/p/	/tʃap/	[tʃ ^h ap ^h]	‘size’	չափ
/b/	/gab/	[gap ^h]	‘link’	կապ
	/gab-er/	[gabeɾ̥]	‘links’	կապեր
/t/	/kavat/	[k ^h avat ^h]	‘cup’	գավաթ
/d/	/bad/	[bat ^h]	‘wall’	պատ
	/bad-er/	[badeɾ̥]	‘walls’	պատեր
/k/	/kaʁak/	[k ^h aʁak ^h]	‘country’	քաղաք
/g/	/dag/	[dak ^h]	‘under’	տակ
	/dag-en/	[dagen]	‘from under’	տակէն
/ts/	/tats/	[t ^h ats ^h]	‘wet’	թաց
/dz/	/tsadz/	[ts ^h adz ^h]	‘low’	ցած
	/tsadz-ov/	[ts ^h adzoy̆]	‘with low’	ցածով
/tʃ/	/χatʃ/	[χatʃ ^h]	‘cross’	խաչ
/dʒ/	/hadʒ/	[hatʃ ^h]	‘pleased’	հաճ
	/hadʒ-ov/	[hadʒoy̆]	‘with pleasure’	հաճով
/v/	/nav/	[nav̆]	‘boat’	նաւ
	/nav-er/	[naveɾ̆]	‘boats’	նաւեր
/s/	/tas/	[t ^h as]	‘class’	դաս
/z/	/haz/	[haz̆]	‘cough’	հազ
	/haz-al/	[hazaɫ]	‘to cough’	հազալ
/ʃ/	/eʃ/	[eʃ]	‘donkey’	էշ
/ʒ/	/paʒ/	[p ^h aʒ̆]	‘tax’	բաժ
	/paʒ-inner/	[p ^h aʒinneɾ̆]	‘portions’	բաժիկներ
/χ/	/naχ/	[naχ]	‘first’	նախ
/ʁ/	/vaʁ/	[vaʁ̆]	‘early’	վաղ
	/vaʁ-ə/	[vaʁə]	‘tomorrow’	վաղը

Table 7. Synchronic word-final devoicing of obstruents in Istanbul Armenian

For stops and affricates like /b/, the devoicing manifests as a complete loss of voicing plus aspiration (Figure 2). We transcribe them as voiceless aspirated like /p^h/.

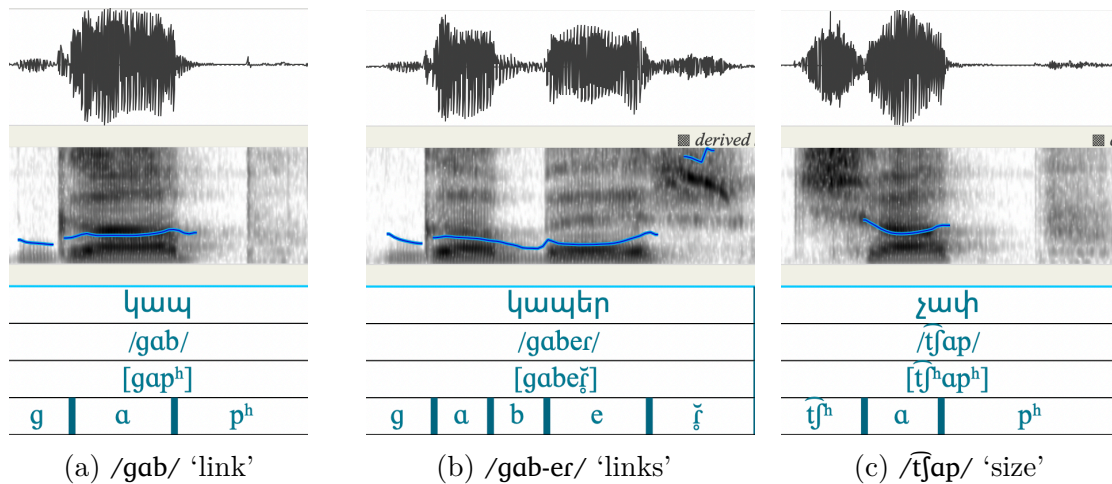


Figure 2. Example spectrogram and wave form for word-final devoicing of stops

For fricatives like /z/, we can impressionistically still hear and see some voicing on the spectrogram (Figure 3). So we transcribe a devoiced /z/ as [z̥].

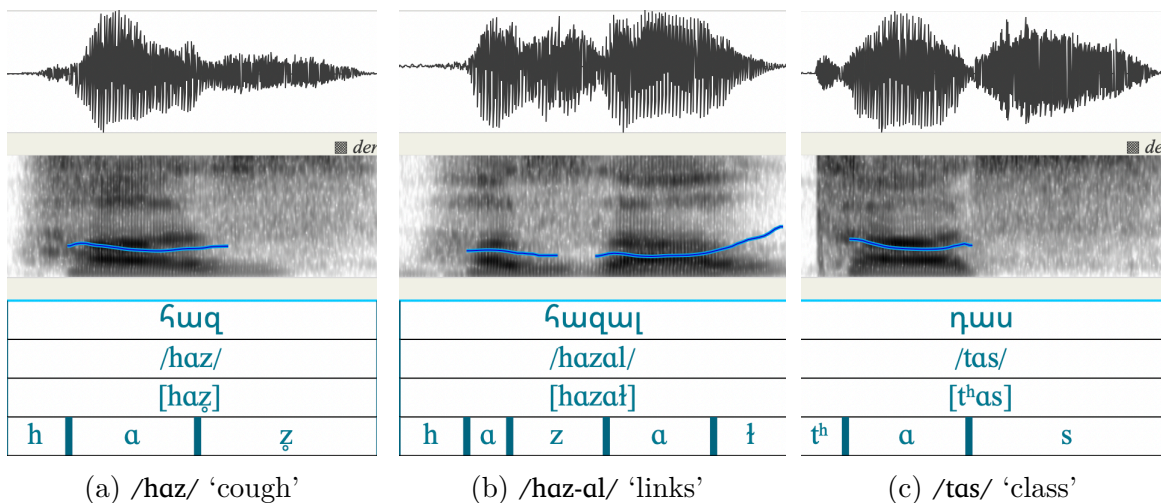


Figure 3. Example spectrogram and wave form for word-final devoicing of fricatives

For stops and affricates, the devoicing is complete. But for fricatives, it seems it can be partial, but more data is needed.

Among sonorants, nasals do not display word-final devoicing. The liquids /r, l/ do have some devoicing (Sections 3.5, 3.6).

Turkish likewise has word-final devoicing. Devoicing is fully neutralizing (Kopkallı-Yavuz 1993:128) but some words exceptionally keep their final voicing (Göksel & Kerslake 2004:15; Inkelas & Orgun 1995). Fricatives seem to show partial devoicing (Tunçer & Samyay 2023). The liquid devoicing patterns are also found in Turkish and we discuss them in the liquid sections (Sections 3.5, 3.6). The Istanbul Armenian pattern likely developed as a borrowed phonological rule from Turkish.

3.4. VELARIZATION OF LATERAL L. The liquid /l/ is a clear lateral in Lebanese Western Armenian and Yerevan Eastern Armenian, meaning an alveolar lateral (Seyfarth et al. 2024:459; ԽԱՂԱՍՏՐԴԱՆ 1988:184).⁴ For Istanbul Armenian, the lateral has two allophones: a dark or velarized [ɫ] when it's in a syllable with a back vowel, and a clear /l/ elsewhere (Table 8).⁵

Front	'tongue'	Eastern	Lebanese Western	Istanbul Western	լեզու ծռել
	'to bend'	lezu tserel	lezu dzərel	lezu dzərel	
Back	'good'	lav	lav	ɫav	լավ տալ
	'to give'	tal	dal	daɫ	

Table 8. Dark and clear laterals in Istanbul Armenian

This is again due to Turkish. The Turkish lateral is dark when the syllable has a back vowel, while clear if the syllable has a front vowel. But there are exceptions occur. There are complications in word-initial and word-final positions (Clements & Sezer 1982:233-238; Kornfilt 1997:486; Göksel & Kerslake 2004:8-9; Yavuz & Balci 2011:25-26; Canalis & Dikmen 2020; Zobarlar 2022; Washington & Kontovas 2026, in press).

Istanbul Armenian has borrowed this allophonic process from Turkish but has generalized it. Specifically, the generalization is that velarization in Istanbul Armenian is caused only by tautosyllabic and adjacent back vowels, without exceptions or lexical conditioning.

In Turkish, it is common to find a word-initial clear /l/ followed by a back vowel because of loanwords: [lokum] 'Turkish delight' (Yavuz & Balci 2011:25). But in Istanbul Armenian, the velarization is more systematic. When word-initial or word-final, the dark /l/ is used when adjacent to a back vowel (Table 9).

⁴ In Eastern Armenian, Russian loanwords can have a palatalized [lʲ] (Dum-Tragut 2009:17).

⁵ Classical Armenian had a phonemic distinction between a clear lateral /l/ and dark /ɫ/ (Macak 2017). The reflex of the Classical clear lateral is the modern Armenian lateral /l/, while the reflex of the Classical dark lateral is modern /ɫ/. Istanbul Armenians thus show the following diachronic change: Classical phonemic /l/ vs. /ɫ/, to modern Armenian /l/ vs. /ɫ/, to modern Istanbul Armenian [l, ɫ] vs. /ɫ/. To emphasize, the clear /l/ is not a palatalized /lʲ/ in Western Armenian or Istanbul Armenian.

	#_V		V_#	
e	/ler/	‘mountain’	/tel/	‘string’
	[leŋ]	լեռ	[t ^h el]	թել
i	/lidz/	‘lake’	/dzil/	‘bud’
	[litʃ ^h]	լիճ	[dzil]	ծիլ
a	/lats/	‘cry’	/kal/	‘to come’
	[ʔats ^h]	լաց	[k ^h aʔ]	գալ
o	/loʁal/	‘to swim’	/alkol/	‘alcohol’
	[ʔoʁaʔ]	լողալ	[aʔk ^h oʔ]	ալքոլ
u	/lur/	‘news’	/tul/	‘rest’
	[luŋ]	լուր	[t ^h uʔ]	դուլ
ə	/ləman/	‘complete’	/ansambəl/	‘ensemble’
	[ʔəman]	լման	[ansambəʔ]	անսամալ

Table 9. Distribution of clear and dark /l/ when word-initial or word-final

When the lateral is intervocalic, the dark /ʔ/ is used if the lateral precedes a back vowel. It doesn’t matter whether the preceding vowel is back or front. Allophony is based on how the lateral is in the same syllable as a back vowel.

	/e/	/i/	/a/	/o/	/u/	/ə/
/e/	aʃts ^h eɫ	ʔəsɛlik ^h	mɛʔan	ʒɛʔok ^h	vajɛʔum	mɔrt ^h ɛʔə
	‘to visit’	‘hearing’	‘pen’	‘clever’	‘pleasure’	‘the skinning’
/i/	ɑɟɛɫɛɫ	ɫɛɫiɟ	ɫɛɫan	ʔɛɫɔɟ	ɫɑɟɛɫum	ɫɔrtɛɫɫ
	‘to shave’	‘bud’	‘spindle’	‘kilo’	‘shaving’	‘the living’
	ɑʔɫɛɫ	ʔɫiɟ	ʔɫan	ʔɫɔɟ	ɑʔɫum	ɑʔɫɛɫ
	‘to walk’	‘wave’	‘green’	‘plum’	‘for grinding’	‘the spoon’
/o/	ɑʔk ^h ɔɫɛ	ʔɔɫik ^h	ɫɔʔaʔ	ɑʔk ^h ɔʔɔɟ	mɔʔɫɫɫɫɫ	k ^h inɛmɔʔə
	‘from alcohol’	‘tomato’	‘dollar’	‘with alcohol’	‘addiction’	‘the alcoholic’
/u/	sulɛɫ	hulɛɫ	t ^h uʔanaʔ	ʒuʔɔɟ	t ^h uʔum	t ^h uʔə
	‘to whistle’	‘July’	‘to eaken’	‘with deaf’	‘smelting’	‘the bull’
/ə/	ɫzɛɫɛɫ	p ^h əlɛɫ	səʔak ^h	gəʔɔɟ	p ^h əʔuŋ	t ^h ɛʔɛsɛɫ
	‘to bud’	‘to collapse’	‘arrow’	‘round’	‘hill’	‘to not listen’
	ʔɫɛɫ	ʔɫɫɫɫ	uʔaɟ	ɫɫɫ	ɫɫɫ	ɫɫɫ

Table 10. Distribution of clear and dark /l/ when intervocalic

Complex onsets are generally avoided (like Turkish), so a VCCV sequence is typically syllabified as /VC.CV/. When the lateral is a coda (VL.CV), it likewise has the dark allophone if next to a back vowel. When the lateral is part of a complex coda with a glide

(VGL), we find the same patterns. The presence of a palatal glide in a coda doesn't cause an onset lateral to become front (LVG).

eL.CV	avelnaʃ	'to increase'	աւելնալ
iL.CV	gat ^h ilneǰ	'drops'	կաթիլներ
aL.CV	ʃaʃgel	'to carry'	շալկել
oL.CV	voʃga	'Volga'	Վոլկա
uL.CV	k ^h uʃba	'sock'	գոլկայ
əL.CV	əʃaʃ	'sock'	ըլլալ
ajL	k ^h ajʃ	'wolf'	գայլ
ujL	ǰzujʃ	'lazy'	ծոյլ
Laj	ʃajɲ	'wide'	լայն
Luj	ʃujɲ	'light'	լոյս

Table 11. Distribution of the clear and dark /l/ when a word-medial coda

This allophony is also productive. When a vowel-initial suffix is added to a word that ends in a lateral (VL-V), the lateral's quality can change because it's now part of a new syllable.⁶

	'to read'		'to extinguish'		
no change back vowel	gar.t ^h aʃ	կարդալ	ma.ril	մարիլ	
	gar.t ^h aʃ.nis	կարդալնիս	ma.rel.nis	մարելնիս	+ plural possessive
	gar.t ^h a.ʃu	կարդալու	ma.re.ʃu	մարելու	+ genitive
	gar.t ^h a.ʃoɣ	կարդալով	ma.re.ʃoɣ	մարելով	+ instrumenta
	gar.t ^h a.ʃə	կարդալը	ma.ri.ʃə	մարիլը	+ definite
	gar.t ^h a.ʃət	կարդալդ	ma.ri.ʃət ^h	մարիլդ	+ 1SG possessive
front vowel	gar.t ^h a.ʃəs	կարդալս	ma.ri.ʃəs	մարիլս	+ 2SG possessive
	gar.t ^h a.le	կարդալէ	ma.re.le	մարելէ	+ ablative

Table 12. Productive alternation in lateral velarization

In sum, lateral velarization is a productive property of Istanbul Armenian. This process is not reported in other Armenian dialects, and it is likely caused by contact with Turkish.

3.5. WORD-FINAL RHOTIC FRICATION. The Armenian rhotic /r/ is phonetically often fricated or spirantized in Armenian when it is a syllable coda. Word-finally, it can devoice and sound similar to [ʃ] sometimes (ԽԱՀԱՄԻՅԱՆ 1988:108, 187; Vaux 1998:17). But the frication and devoicing are not categorical and systematic enough to make them predictable allophones: [r ~ r̥ ~ ʃ]. Such frication is reported for both Eastern Armenian and Lebanese Western Armenian (Seyfarth et al. 2024).

Impressionistically in Istanbul, a word-final realization of /r/ as [ʃ] that sounds like [ʃ] seems more common than for non-Istanbul dialects (Table 13).

⁶ In verbs, the /i/ theme vowel changes to /e/ when certain vocalic suffixes are added, due to a type of outwardly-sensitive phonologically-conditioned allomorphy (Dolatian 2023b).

_V			V_V			V_		
rafi	‘Raffi’	Րաֆֆի	barap^h	‘empty’	պարապ	baṙ	‘dance’	պար
ramgagan	‘democratic’	ռամկակակ	jereḅa	‘child’	երեխայ	ḍziṙ	‘orbit’	ծիր
			ḅazaros	‘Lazarus’	Ղազարոս	at^hoṙ	‘chair’	աթոռ

Table 13. Distribution of rhotics in Istanbul Armenian

We illustrate the frication in Figure 4.

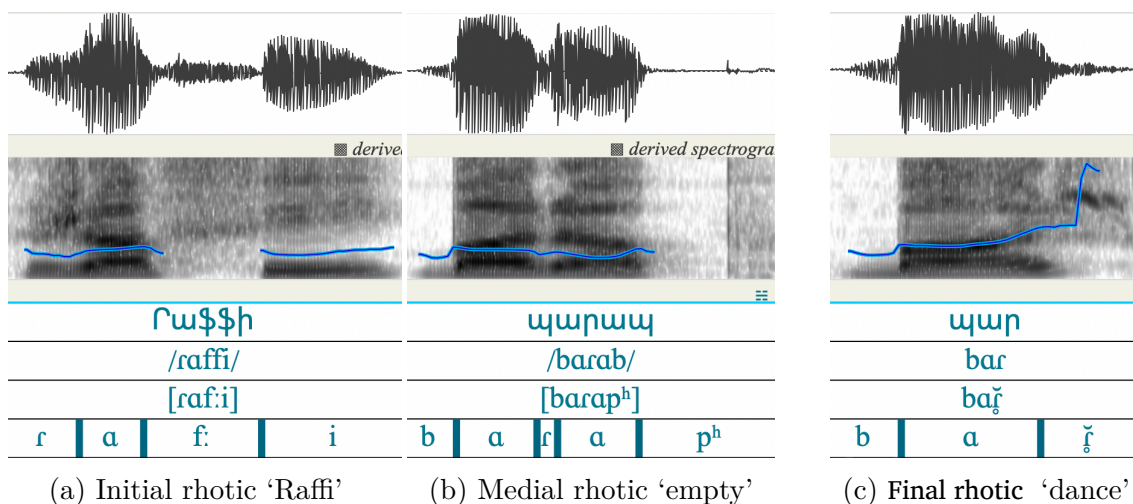


Figure 4. Example spectrogram and wave form for rhotic frication

This alternation is likely because of contact with Turkish. The Turkish rhotic is fricated (Lewis 2000:13). As a basic description, the rhotic is devoiced word-finally (Kornfilt 1997:487; Göksel & Kerslake 2004:9). More detailed descriptions are that the Turkish rhotic is a flap [r] intervocalically, a voiced fricated flap [r̥] word-initially, and a devoiced fricated flap [r̥̥] word-finally (Yavuz & Balci 2011:25; Kutlu 2018). Though recent work suggests the Turkish rhotic is simply a fricative word-finally and not a fricated flap (Nichols 2016).

3.6. WORD-FINAL LATERAL FRICATION. For the Turkish lateral /l/, it is reported that word-finally this sound can be optionally fricated (Kornfilt 1997:487; Kutlu 2018:4).

No such frication is reported for Eastern Armenian or Lebanese Western Armenian. For Istanbul Armenian, our main consultant TT does not fricate her word-final lateral. However, we have come across one speaker who sometimes does this (Figure 5). Data is from a publicly-accessible podcast.⁷

4. Discussion and conclusion. This study provides the first systematic documentation of the phonological properties of Istanbul Armenian. There is no previous work on this specific subdialectal accent. Our findings show that speakers consistently employ certain Turkish phonological patterns in their Armenian speech. This represents a clear case of a phonological accent emerging through sustained and intense language contact.

⁷ <https://podcasts.apple.com/us/podcast/lara-narin-anun-kaghak-jash/id1516845248?i=1000556098470>, episode “Lara Narin”, time 177s, or 2min and 57s. Note how /k/ is unaspirated after /s/.

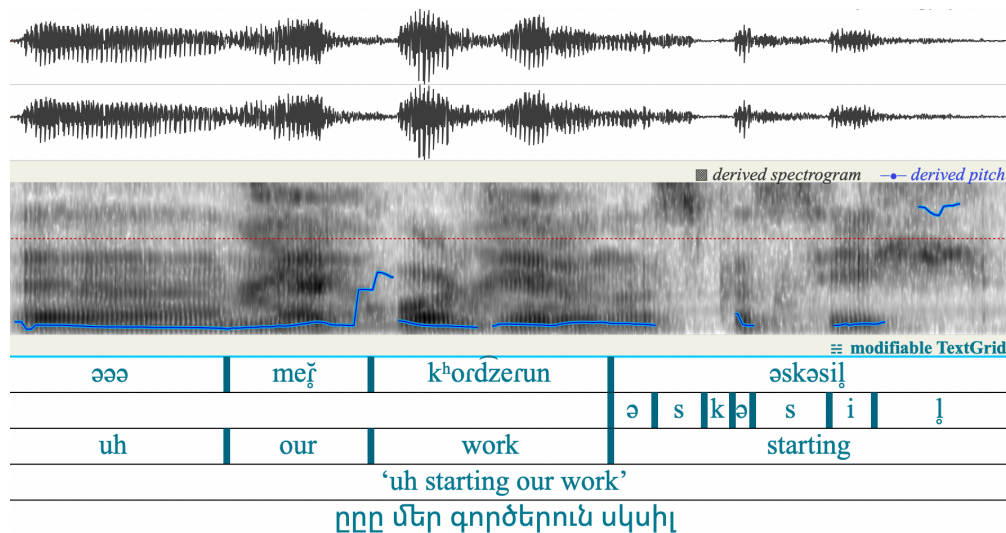


Figure 5. Example of lateral frication in [əskəsil]

We argue that Istanbul Armenian displays phonetic and phonological influence from Turkish. Contact with Turkish shapes several features of Istanbul Armenian, including velarization, aspiration, and related processes.

Many of these contact-induced properties parallel those found in Istanbul Greek, such as lateral velarization (Hadodo 2019), aspiration (Hadodo 2020:55), and final rhotic devoicing (ibid. 55). For a broader overview, see Hadodo (2024), and for discussion of social indexing in Istanbul Greek, see Hadodo (2025).

In our experience, Istanbul Armenians are readily recognized by other Armenians due to their characteristic use of velarization and Turkish-influenced vowel quality. It is thus likely that Istanbul Armenians are socially indexed on the basis of this distinctive accent.

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