

## ILLUSTRATIONS OF THE IPA

## Azerbaijani

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The Azerbaijani, Azerbaijanian or Azeri language belongs to the western group of the southwestern, or Oghuz, branch of the Turkic language family and is mainly spoken in Azerbaijan and Iran. Azerbaijani is the official language of the Republic of Azerbaijan and over 80% of its population use it as their first language (Johanson 2010). Among non-Persian languages in Iran, Azerbaijani, with approximately 15–20 million native speakers, has the largest number of speakers (Crystal 2010). In total, more than 50 million people speak Azerbaijani (Khalilzadeh 2013).

Generally, Azerbaijani can be divided into two dialectal groups: northern dialects in the Republic of Azerbaijan and southern dialects in Iran. Among these dialects, the dialect of Tabriz, in the north-west of Iran, serves as the norm for Iranian Azerbaijani speakers (Menges 1951, Johanson 1998) while the standard dialect in Azerbaijan is based on the urban dialect of the capital Baku (Johanson 2010). The present illustration is based on the urban variety of Tabriz dialectal region (Figure 1).

Since Azerbaijan's independence from the Soviet Union in 1991, northern Azerbaijani uses the Latin alphabet. Iranian Azerbaijani, on the other hand, has always used and continues to use Arabic script. The orthographic version of the recorded passage in the present paper was written using Arabic script. The transcription of the reading passage is based on the speech of a 28-year-old male native speaker who was born and raised in Tabriz, and who has always used the Tabrizi dialect for daily communication. The vowel plot is based on recordings from 20 male and 23 female native Azerbaijani speakers from Tabriz (Ghaffarvand Mokari & Werner 2016).



Figure 1 Location of Tabriz in the map of Iran.

## Consonants

	Labial	Labio-dental	Dental	Alveolar	Post-alveolar	Palatal	Velar	Glottal
Plosive	p b		t d			(c) ʃ	(k) g	
Affricate				ts dz	tʃ dʒ			
Nasal	m		n					
Tap				r				
Fricative		f v		s z	ʃ ʒ		x y	h
Approximant				l		j		

p	/pul/	‘money’	b	/bul/	‘find’
t	/ata/	‘dad’	d	/adam/	‘human’
ts	/tsæm/	‘fog’	dz	/dzæm/	‘sum’
tʃ	/tʃor/	‘blind’	dʒ	/dʒor/	‘grave’
c	/ciladz/	‘clutch’	ʃ	/ʃæfæh/	‘nice’
k	/makaroni/	‘pasta’	g	/gul/	‘pray’ (imperative)
m	/mal/	‘property’	n	/nal/	‘horseshoe’
r	/sari/	‘yellow’	v	/livan/	‘glass’
f	/furlsa/	‘brush’	z	/zor/	‘force’
s	/sor/	‘suck’	ʒ	/aʒ/	‘hungry’
ʃ	/aʃ/	‘open (IMP)’	ɣ	/oɣlan/	‘boy’
x	/oxlar/	‘arrows’	j	/jol/	‘way’
h	/haʃsar/	‘key’			
l	/livan/	‘glass’			

Plosives, affricates and fricatives (with the exception of /h/) show a distinction between voiced and voiceless e.g. /b/ vs. /p/, /v/ vs. /f/. Generally, stops become devoiced in coda position, e.g. [d̥zoraβ] ‘socks (NOM)’ vs. [d̥zoraβi] ‘socks (ACC)’. The voiceless stops are aspirated.

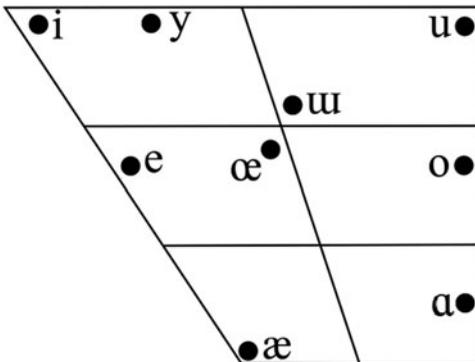
Most of the consonants can occur in onset position while there are restrictions on the occurrence of some consonants in coda position. In the colloquial language in southern dialects, the affricates /t͡s/, /d͡z/ and /t͡ʃ/ are not allowed in coda position. When these consonants appear in coda position, /t͡s/ and /d͡z/ are realized as /ʃ/, while /t͡ʃ/ is realized as /h/, e.g. /guʃt͡s/ > /guʃ/ ‘leg’, /oruʃd͡z/ > /oruʃ/ ‘fast (N)’ and /tyʃ/ > /tyh/ ‘hair’ (Rasekhi 2014). The affricates /t͡s/, /d͡z/ and /t͡ʃ/ are allowed in onset position (e.g. /t͡sæm/ ‘fog’, /d͡zæm/ ‘sum’, /t͡ʃor/ ‘blind’). In southern dialects, the affricates /t͡ʃ/ and /d͡ʒ/ in initial position of borrowed words are realized as /t͡s/ and /d͡z/, respectively.

Consonant lenition occurs in stems ending in /t͡ʃ/ and /x/ (and /c/ for northern dialects) when they are followed by suffixes. Stem-final /t͡ʃ/ changes to /j/ before a suffix beginning with a vowel, e.g. /t͡sitsit͡ʃ/ ‘small’ > /t͡sitsijin/ ‘the small’, and stem-final /x/ changes to /y/ before a suffix beginning with a vowel, e.g. /uʃax/ ‘child’ > /uʃayun/ ‘your child’ (Erfani 2012). In the colloquial language in most of the southern dialects, the velar /x/ is usually pronounced as a uvular [χ] in word-final position.

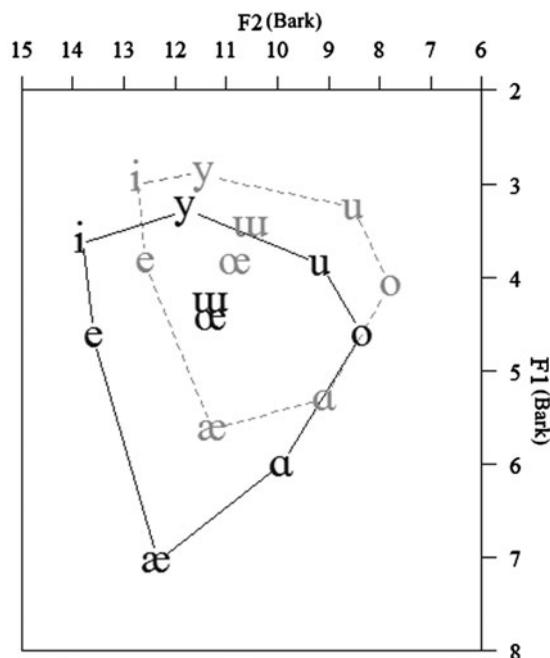
Generally in southern dialects, /c/ and /k/ are only available in borrowed words, like /c/ in /cilad͡z/ ‘clutch’ and /k/ in /makaroni/ ‘pasta’. The velar consonants /k/ and /g/ are palatalized to /c/ and /j/ (similarly to Turkish) when they precede or follow a front vowel (e.g. /makaroni/ ‘pasta’ – /cilad͡z/ ‘clutch’ and /gul/ ‘pray (IMP)’ – /jæʃæh/ ‘nice’). In southern dialects, the velar plosives /k/ and /g/ are in complementary distribution with the palatal stops /c/ and /j/, respectively. The southern realizations of the phoneme /c/ in words of the northern dialect are /t͡s/ and /t͡ʃ/ in onset and intervocalic positions, e.g. /citsic/ is pronounced as /t͡sitsit͡ʃ/ ‘small’ and /citat͡ʃ/ is pronounced as /t͡ʃitab͡ʃ/ ‘book’.

The voiced velar fricative /ɣ/ does not appear in word-initial position in native words and most of the words beginning with /ɣ/ are Arabic words that have been borrowed through Persian, e.g. /ɣubar/ ‘grief’ (Lee 2008). In southern dialects like Tabrizi, /ɣ/ in initial position is mostly pronounced as /g/ (e.g. /gubar/ ‘grief’).

**Vowels**



i	/bil/	‘know’	æ	/bœl/	‘divide’
y	/d͡ʒyl/	‘flower’	o	/bol/	‘abundant’
u	/bul/	‘find’	æ	/d͡ʒæɫ/	‘come’
ʊ	/gul/	‘pray (IMP)’	ɑ	/bal/	‘honey’
e	/bel/	‘back’			



**Figure 2** Distribution of mean values of Azerbaijani vowels in  $F1 \times F2$  (Bark) space produced by 20 male and 23 female Azerbaijani speakers (Ghaffarvand Mokari & Werner 2016). Grey vowel labels and dashed lines are for male speakers and black vowel labels and lines are for female speakers.

**Table 1** Categorization of Azerbaijani vowels based on the front/back and round/unround features.

	Back	Front	Back	Front
Round	/o/	/œ/	/u/	/y/
Unround	/ɑ/	/e/ /æ/	/ɯ/	/i/

Azerbaijani has nine vowels, /æ ɑ o e œ u u i y/, with no length distinction. The acoustic vowel space of these nine vowels is presented in Figure 2. Vowel lengthening may appear in conservative pronunciation of Arabic or Persian loanwords. In words borrowed from Arabic, the lengthening of a vowel sometimes replaces a glottal stop in the original form, e.g. Arabic /mæʔna/ is produced as /mæ:na/ ‘meaning’ with lengthened /æ/ in Azerbaijani (Schönig 2015).

Vowel harmony is a type of phonological process found in other Turkic languages that restricts which vowels may co-occur in a word. Vowels in Azerbaijani words must be in harmony with one another in terms of front versus back (fronting harmony), and rounded versus unrounded (rounding harmony); however, loanwords do not follow this rule. Categorization of Azerbaijani vowels based on the front/back and round/unround features are presented in Table 1. In Azerbaijani the realization of harmony on the basis of the feature [round] is rather limited and this type of harmony happens mostly when the vowels of the word are [back] (Khalilzadeh 2015).

Suffixes harmonize according to the features of the preceding vowels (e.g. /cifin/ ‘your bag’, /quuzun/ ‘your daughter’, /d̪ɜœzyn/ ‘your eye’ and /golun/ ‘your arm’). In other words, if the first vowel in a word is a front rounded vowel such as /y/ or /œ/, then all other vowels

in that word must also be /y/ or /œ/ since these are the only two front rounded vowels in Azerbaijani. Low vowels are only affected by fronting harmony, e.g. /sɪzdæn/ ‘from you’, /burdan/ ‘from here’. The mid vowels occur primarily in initial syllables, and thus are not subject to vowel harmony (Erfani 2012).

All vowels can be found in word-initial position except /u/. Generally, /o/, /œ/ and /e/ can occur only in the first syllables of native words but other vowels can occur in every syllable of the word.

### Prosodic features

Syllables in Azerbaijani are V, VC, CV or CVC. Stress in Azerbaijani mostly falls on the final syllable of words except in some cases with imperative verbs and negative suffixes, where the stress falls on the first syllable (e.g. /d̪zæti/ ‘bring’, /d̪zɛtmæ/ ‘don’t go’). In southern dialects, sentence intonation is influenced by Persian in marking polar questions with rising intonation rather than by means of an interrogative particle (Schönig 2015). However, declaratives and *wh*-questions normally have a fall in pitch at the end. Sentences consisting of several phrases have a rising pitch at the end of each phrase, except the last phrase. Successive phrases show a gradual stepwise fall in pitch. In yes–no questions there is no final fall and the last phrase is higher in pitch than the others.

### Transcription of recorded passage

Below is the English passage of ‘The North Wind and The Sun’ followed by the phonemic transcription of its Azerbaijani translation and the orthographic version of this translation. The transcription is based on the recorded passage which is available online along with this IPA illustration.

#### English version of the passage

The North Wind and the Sun were disputing which was the stronger, when a traveller came along wrapped in a warm cloak. They agreed that the one who first succeeded in making the traveller take his cloak off should be considered stronger than the other. Then the North Wind blew as hard as he could, but the more he blew the more closely did the traveller fold his cloak around him, and at last the North Wind gave up the attempt. Then the Sun shone out warmly, and immediately the traveller took off his cloak. And so the North Wind was obliged to confess that the Sun was the stronger of the two.

#### Phonemic transcription

ʃumal jelinæn d̪zɪn bæhs elirdilæɾ t̪ʃi hansɪ daha d̪zɪzɪlydi || t̪ʃi o zæman bir isti æbajæ byrynmyʃ musafir ordan d̪zɛtsirdi || belæ anlɑʃduɫar t̪ʃi hæɾ hansɪ ævvældæ bɑʃardi musafirin æbasun t̪suxarda | obirsindæn daha d̪zɪzɪlydi || o zæman ʃumal jeli bɑʃarduxd̪zɑ æsmayɑ bɑʃladi || amma hæɾnægædr artux æsduxd̪zɑ | musafirde æbasun dærasinæ byrd̪zælirdi || sonunda ʃumal jeli æsmayɪ buraxdi || sora d̪zɪn isti ʃæfæxlænmayɑ bɑʃladi | væ bilafasilæ musafir æbasuni t̪suxartdi || væ ʃumal jeli mædzbur oldi etiraf elijæ t̪ʃi | d̪zɪn it̪ʃisinin arasunda daha d̪zɪzɪlydi ||

#### Orthographic version

شیمال یلین گون بحث ائلیردیله کی هانسی داهه گوجلودور. کی او زمان بیر ایستی عبايه بوروموش موسافیر اوردان کچیردی. بئله انلاشدیلار کی هر هانسی اوولده باشاردی موسافیرین عباسین چیخارتدا اویریسیندن داهه گوجلودور. او زمان شیمال یئلی باشاردیقجا اسماغه باشلادی. اما هرئقدر آرتیق اسدیقجا، موسافیره عباسین دوره سیننه بورگلیردی. سونوندا شیمال یئلی اسماغی بیراحدی. سونرا گون ایستی شفقلماغه باشلادی و بلافاصله موسافیر عباسینی چیخارتدی. و شیمال یئلی مجبور اولدی اتیراف ائلیه کی گون ایکسینین آراسیندا داهه گوجلودور.

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## References

- Crystal, David. 2010. *The Cambridge encyclopedia of language*. Cambridge & New York: Cambridge University Press.
- Erfani, Parisa. 2012. *Azeri morphosyntax: The influence of Persian on a Turkic language*. Ph.D. dissertation, Simon Fraser University.
- Ghaffarvand Mokari, Payam & Stefan Werner. 2016. An acoustic description of spectral and temporal characteristics of Azerbaijani vowels. *Poznań Studies in Contemporary Linguistics* 52(3), 503–518.
- Johanson, Lars. 1998. Iranian elements in Azeri Turkish. In Ehsan Yarshater (ed.), *Encyclopaedia Iranica*, vol. 3, 248b–251a. London & New York: Routledge and Kegan Paul.
- Johanson, Lars. 2010. In Keith Brown & Sarah Ogilvie (eds.), *Concise encyclopedia of languages of the world*, 110–113. Oxford: Elsevier.
- Khalilzadeh, Amir. 2013. Vowel harmony: A comparative study of Turkey's and Azerbaijani Turkish. *Procedia – Social and Behavioral Sciences* 7(25), 929–935.
- Khalilzadeh, Amir. 2015. A study on vowel harmony in the dialects of Azerbaijan Turkish in Iran. *International Journal of Languages' Education and Teaching* 3(2), 343–352.
- Lee, Sooman N. 2008. *A grammar of Iranian Azerbaijani*. Seoul: Thaeheaksa.
- Menges, K. H. 1951. Research in the Turkic dialects of Iran: Preliminary report. *Oriens* 4(1), 273–279.
- Rasekhi, Vahideh. 2014. Markedness and coda conditions in Azeri. *The Tenth Workshop on Altaic Formal Linguistics* (WAFL 10), Cambridge, MA, 1–12.
- Schönig, Claus. 2015. Azerbaijani. In Lars Johanson & Éva Ágnes Csató Johanson (eds.), *The Turkic languages*, 248–260. New York: Routledge.