Xẽλõk Sound Changes:
A Cheat Sheet

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While Xẽλõk is distinct enough from its Esperanto ancestor to be reasonably considered a separate language at this juncture, its orthography does not reflect this. While syntactic and semantic changes are reflected to a fairly reasonable extent in the orthography, phonological changes are not accounted for. As a reult, to reasonably approximate the pronunciation of a Xẽλõk word from how it is written, one must understand which sound changes have occurred from the 'original' (hereafter 'Zamenhofian') Esperanto.

Note that some sound changes listed apply only to the Lowlands dialect but not to the Highlands dialect, or vice-versa. This is indicated when it is the case.

Zamenhofian Esperanto Orthography

The Esperanto pronunciation of a word tends to be roughly equivalent to its spelling in IPA, with the following exceptions:

⟨c⟩	⟨ĉ⟩	⟨ĝ⟩	⟨ĥ⟩[1]	⟨ĵ⟩	⟨ŝ⟩	⟨r⟩	⟨ŭ⟩	⟨v⟩
/t͡s/	/t͡ʃ/	/d͡ʒ/	/x/	/ʒ/	/ʃ/	/ɾ/	/w/	/ʋ/

[1] This phoneme is only retained in a very few words at this point (e.g., *'eĥo'*, *'ĥaoso'*) and is elsewhere generally replaced with

Primary stress falls on the penultimate syllable, and secondary stress *tends* to fall on alternating syllables preceding it.

1 Sound Changes

0–100 AMC

/ʋ/ becomes [w] when it would fit in the sonority hierarchy of a consonant cluster and [v] elsewhere

$$\text{ʋ} \rightarrow \text{w} \;/\; \text{C\_V}$$
$$\text{ʋ} \rightarrow \text{v} \;/\; \textit{elsewhere}$$

e.g., *'kvarto'* [ˈkʋar.to] → [ˈkwar.to], *'evakui'* [ˌe.ʋaˈku.i] → [ˌe.vaˈku.i]

Stress moves to the last syllable of correlatives and finite forms of *'esti'*

e.g., *'tiel'* /ˈti.el/ → /tiˈel/, *'estas'* /ˈe.stas/ → /eˈstas/, etc., but *'estu'* remains /ˈe.stu/

/i/ and /u/ → /j/ and /w/ before a stressed vowel

e.g., *'duono'* [duˈo.no] → [ˈdwo.no], *'tiel'* [tiˈel] → [tjel], etc.

Nasals assimilate in place of articulation to a following obstruent

$$N \rightarrow m \ / \ \_\{p, b, f\}$$
$$N \rightarrow n \ / \ \_\{t, d, \widehat{t\int}, \widehat{d\ʒ}, s, z, \int, ʒ\}$$
$$N \rightarrow ŋ / \ \_\{k, g\}$$

e.g., *'enblovi'* [enˈblowi] → [emˈblo.wi]

Obstruents assimilate in voicing to a following obstruent

e.g., *'absolute'* [ab.soˈlu.te] → [ap.soˈlu.te]

Clusters of mixed sibilants assimilate to the last sibilant

e.g., *'disĵeti'* [disˈʒe.ti] → [diʒˈʒe.ti]

Vowel hiatuses are broken up by epenthetic consonants

- If both consonants are the same, the epenthetic consonant is a glottal stop.

[a.a] → [aʔa] [e.e] → [eʔe] [i.i] → [iʔi] [o.o] → [oʔo] [u.u] → [uʔu]

- If the first non-low vowel is front, the epenthetic consonant is [j]

[i.e] → [ije]	[i.a] → [ija]	[i.o] → [ijo]	[i.u] → [iju]
[e.i] → [eji]	[e.a] → [eja]	[e.o] → [ejo]	[e.u] → [eju]
[a.i] → [aji]	[a.e] → [aje]		

- If the first non-low vowel is back, the epenthetic consonant is [w]

[o.i] → [owi]	[o.e] → [owe]	[o.a] → [owa]	[o.u] → [owu]
[u.i] → [uwi]	[u.e] → [uwe]	[u.a] → [uwa]	[u.o] → [uwo]
[a.o] → [awo]	[a.u] → [awu]		

Velar obstruents become palatal before front vowels

$$k \ g \rightarrow c \ ɟ \ / \ \_\{i,e\}$$

e.g., *'kilogramo'* [ˌki.loˈgra.mo] → [ˌci.loˈgra.mo]

Vowels shift closer to glides when they precede them

Back vowels are fronted before /j/, and front vowels are rounded before /w/. Low vowels are raised to mid prior to either glide and are fronted before /j/ and backed and rounded before /w/.

$$u \rightarrow y \ / \ \_j$$
$$o \rightarrow ø \ / \ \_j$$
$$a \rightarrow e \ / \ \_j$$
$$a \rightarrow o \ / \ \_w$$
$$e \rightarrow ø \ / \ \_w$$

e.g., *'kajto'* [ˈkaj.to] → [ˈkej.to], *'abelujo'* [ˌa.beˈlu.jo] → [ˌa.beˈly.jo], *'vojo'* [ˈvo.jo] → [ˈvø.jo], *'ambaŭ'* [ˈam.baw] → [ˈam.bow], *'eŭropa'* [ewˈro.pa] → [øwˈro.pa]

100–200 AMC

When glides occur as the lone onset of a syllable, they become fricatives

Based on the maximum onset principle, this generally only occurs intervocalically or word-initially.

$$\text{j w} \rightarrow \text{ʝ v} \ / \ \$\_\text{V}$$

e.g., *'ejakuli'* [ˌe.jaˈku.li] → [ˌe.ʝaˈku.li] but *'ajna'* [ˈaj.na] → [ˈej.na] but *'antaŭa'* [anˈto.wa] → [anˈto.va]

Glides disappear after vowels but provide compensatory lengthening

$$\text{V}^{+front}\text{j} \rightarrow \text{V:}$$
$$\text{V}^{+round}\text{w} \rightarrow \text{V:}$$

Note that this change *only* occurs when the glide part of the same syllable as the vowel in question—if the glide is instead the lone onset of the following syllable, it is affected by the previous sound change instead.

e.g., *'kajto'* [ˈkej.to] → [ˈkeː.to], *'tuj'* [tyj] → [tyː], *'vojmontrilo'* [ˌvøj.monˈtri.lo] → [ˌvøː.monˈtri.lo], *'ambaŭ'* [ˈam.bow] → [am.boː] , *'eŭropa'* [øwˈro.pa] → [øːˈro.pa]

Glottal stop and glottal fricative merge

$$/ʔ/ \rightarrow /\text{h}/$$

e.g., *'heroo'* [heˈɾo.ʔo] → [heˈɾo.ho]

LOWLANDS: Standalone obstruents are voiced intervocalically

$$\text{p t c k t͡s t͡ʃ f s ʃ h} \rightarrow \text{b d ɟ g d͡z d͡ʒ v z ʒ ɦ} \ / \ \text{V\_V}$$

e.g., *'ŝipo'* [ˈʃi.po] → [ˈʃi.bo]

Intervocalic geminates become single occurrences of the consonant in question

$$\text{C}^1\text{C}^2 \rightarrow \text{C}^1 \ / \ \text{C}^1 \ = \ \text{C}^2$$

e.g., *'disŝuti'* [diʃˈʃu.di] → [diˈʃu.di]

LOWLANDS: Non-glottal fricatives are affricativized after nasal consonants

$$\text{f s ʃ v z ʒ} \rightarrow \text{p͡f t͡s t͡ʃ b͡v d͡z d͡ʒ} \ / \ \text{N\_}$$

e.g., *'komforti'* [komˈfoɾ.ti] → [komˈp͡foɾ.ti], *'bronza'* [bɻ̥on.za] → [bɻ̥on.d͡za]

Vowels are nasalized before nasal consonants, and nasal consonants are deleted when they precede obstruents

$$\text{VN} \rightarrow \tilde{\text{V}} \ / \ \_\text{P}$$
$$\text{VN} \rightarrow \tilde{\text{V}}\text{N} \ / \ \textit{elsewhere}$$

e.g., *'ankaŭ'* [ˈɒn.koː] → [ˈɒ̃.koː]

200–300 AMC

Ablaut

If the last vowel in a word is rounded, the preceding vowel is rounded (regardless of intervening consonants). e.g., *'kato'* [ˈka.to] → [ˈkɒ.to], *'iros'* [ˈi.ros] → [ˈy.ros], *'ekzemplo'* [ekˈsẽm.plo] → [ekˈsø̃m.plo]

If the last vowel in a word is front, the preceding vowel is fronted (regardless of intervening consonants). e.g., *'havis'* [ˈha.vis] → [ˈhæ.vis], *'ofte'* [ˈof.te] → [ˈøf.te], *'seksumi'* [sekˈsũ.mi] → [sekˈsỹ.mi]

$$\mathrm{V}^{-front} \rightarrow \mathrm{V}^{+front} \ / \ \_(\mathrm{C(C)})\$(\mathrm{C(C(C))})\mathrm{V}^{+front}\#$$
$$\mathrm{V}^{-round} \rightarrow \mathrm{V}^{+round} \ / \ \_(\mathrm{C(C)})\$(\mathrm{C(C(C))})\mathrm{V}^{+round}\#$$

$$/\mathrm{i}/^{+round} = [\mathrm{y}]$$
$$/\mathrm{e}/^{+round} = [\mathrm{ø}]$$
$$/\mathrm{a}/^{+round} = [\mathrm{ɒ}]$$
$$/\mathrm{a}/^{+front} = [\mathrm{æ}]$$
$$/\mathrm{o}/^{+front} = [\mathrm{ø}]$$
$$/\mathrm{u}/^{+front} = [\mathrm{y}]$$

HIGHLANDS: Word-initial syllables consisting of an obstruent or nasal, a vowel, and then a continuant in the syllable coda undergo metathesis of the schwa and continuant

$$\mathrm{C_1VC_2} \rightarrow \mathrm{C_1C_2V} \ / \ \#\_(\mathrm{C})\$$$
$$\mathrm{C_1} = \text{obstruent or nasal}, \ \mathrm{C_2} = \text{continuant}$$

e.g. *'forkuri'* [forˈku.ɾi] → [froˈku.ɾi]

300–400 AMC

/ɾ/ disappears in the coda and the preceding vowel, if short, undergoes compensatory lengthening

$$\mathrm{V}ɾ \rightarrow \mathrm{V}ː \ / \ \_(\mathrm{C})\$$$

e.g., *'forkuri'* (Lowlands) [forˈku.ɾi] → [foːˈku.ɾi]

l-vocalization occurs when l occurs in the coda of a syllable

$$\mathrm{l} \rightarrow \mathrm{w} \ / \ \mathrm{V}\_(\mathrm{C})\$$$

e.g., *'bulbo'* [ˈbul.bo] → [ˈbuw.bo]

HIGHLANDS: Standalone obstruents are voiced intervocalically

$$\mathrm{p\ t\ c\ k\ \widehat{ts}\ \widehat{tʃ}\ f\ s\ ʃ} \rightarrow \mathrm{b\ d\ ɟ\ g\ \widehat{dz}\ \widehat{dʒ}\ v\ z\ ʒ} \ / \ \mathrm{V}\_\mathrm{V}$$

e.g., *'ŝipo'* [ˈʃy.po] → [ˈʃy.bo] (identical in Lowlands), *'disŝuti'* [diˈʃy.ti] → [diˈʒy.di] (cf. Lowlands [diˈʃu.di]), *'ankaŭ'* [ˈɒ̃.koː] → [ˈɒ̃.goː] (cf. Lowlands [ˈɒ̃.koː])

Unstressed short vowels become schwa

e.g., *'Esperanto'* [ˌe.speˈrɒ̃.to] → [ˌe.spəˈrɒ̃.tə], *'tajfuno'* [teːˈfu.no] → [teːˈfu.nə]

LOWLANDS: After a nasal vowel, voiced stops become nasal stops

$$\text{b d ɟ g} \rightarrow \text{m n ɲ ŋ} \;/\; \tilde{\text{V}}\_$$

e.g., *'embrio'* [ə̃ˈbrʏ.ʝə] → [ə̃ˈmrʏʝə]

400–500 AMC

500–600 AMC

600–700 AMC

700–800 AMC

800–900 AMC

900–1000 AMC

2 Sparky's Transcription

I'll probably make an in-world orthography later, but regardless of whether I do, I need a roughly phonetic or phonemic transcription which I can use to not have to constantly write in IPA. That'll go here once I actually make it lol.

3 Pronunciation Example

The following is the Zamenhofian Esperanto text of the Lord's Prayer. Given that the text is highly ritualized, it has not been affected by the grammatical and lexical changes to the language, but it remains pronounced differently in the different dialects due to the sound changes that have occurred.

Zamenhofican Esperanto c. 0 AMC

Patro nia, kiu estas en la ĉielo,
sanktigata estu Via Nomo.
Venu Via regno.
Fariĝu Via volo,
kiel en la ĉielo, tiel ankaŭ sur la tero.

Nian panon ĉiutagan donu al ni hodiaŭ.
Kaj pardonu al ni niajn ŝuldojn,
kiel ankaŭ ni pardonas al niaj ŝuldantoj.
Kaj ne konduku nin en tenton,
sed liberigu nin de la malbono.

Ĉar Via estas la regno kaj la potenco
kaj la gloro eterne.

Amen.

ˈpa.tɾo ˈni.a
ˈki.u ˈe.stas en la t͡ʃiˈe.lo
ˌsank.tiˈga.ta ˈe.stu ˈvi.a ˈno.mo
ˈve.nu ˈvi.a ˈɾe.gno
faˈɾi.d͡ʒu ˈvi.a ˈvo.lo
ˈki.el en la t͡ʃiˈe.lo
ˈti.el ˈan.kaʊ̯ sur la ˈte.ɾo

ˈni.an ˈpa.non ˌt͡ʃi.uˈta.gan
ˈdo.nu al ni hoˈdi.aʊ̯
kaj̯ paɾˈdon.u al ni ˈni.aj̯n ˈʃul.doj̯n
ˈki.el ˈan.kaʊ̯ ni paɾˈdo.nas
al ˈni.aj̯ ʃulˈdan.toj̯
kaj̯ ne konˈdu.ku nin en ˈten.ton
sed ˌli.beˈɾi.gu nin de la malˈbo.no

t͡ʃaɾ ˈvi.a ˈe.stas la ˈɾe.gno
kaj̯ la poˈten.t͡so
kaj̯ la ˈglo.ɾo eˈteɾ.ne

ˈa.men

c. 100 AMC

c. 200 AMC

c. 300 AMC

c. 400 AMC

c. 500 AMC

c. 600 AMC

c. 700 AMC

c. 800 AMC

c. 900 AMC

c. 1000 AMC