

Opaque vowel epenthesis in Turkish nominal clauses

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Introduction. This paper discusses a case of opaque over-application of a vowel epenthesis rule in some morphological environments in Turkish. We argue that this correlation between phonological opacity and morphological structure can be straightforwardly understood modelling it in a Stratal OT framework.

Data. Some two hundred disyllabic roots in Turkish exhibit a high vowel/zero alternation in the second syllable; the high vowel does not occur if a vowel-initial suffix immediately follows the root ((1); examples from Clements & Sezer 1982: 243, Göksel & Kerslake 2005: 18).

(1)	<i>nom. sg.</i>	<i>3 sg. poss.</i>	<i>abl.</i>	
	kojún	kojn-ú	kojun-dán	‘bosom’
	hyk ^l ým	hyk ^l m-ý	hyk ^l ym-dén	‘judgement’
	sabúúr	sabr-ú	sabuur-dán	‘patience’
	nehír	nehr-í	nehir-dén	‘river’

The most convincing explanation for this alternation is in terms of epenthesis: a vowel is inserted between the final two consonants of the forms in the first column of (1a) because they cannot be syllabified as a coda: Turkish allows CC clusters in codas only if they are sonorant+obstruent, fricative+stop or stop+s sequences; Clements & Sezer 1982: 245; Erguvanlı Taylan 2015: 48-50. Interpreting the alternating vowels in (1) as epenthetic, the underlying form of e.g. [kojún] ‘bosom’ is /kojn/, that of [nehír] ‘river’ is /nehr/, and so on; the epenthetic vowel’s values for [back] and [round] are determined by the first vowel (space precludes a full argument against a deletion analysis; we refer the reader to Clements & Sezer 1982: 244-246; Özçelik 2024: 107-112).

Problem. However, epenthesis unexpectedly occurs before a small class of vowel-initial suffixes, all of them unstressed (stress is otherwise usually word-final in Turkish); cf. for example the presence of epenthesis before the 1st person marker (2, 3rd column) vs. its absence before the 1st person possessive suffix (2, 2nd column).

(2)	<i>nom. sg.</i>	<i>1 sg. poss.</i>	<i>1 sg. person marker</i>	
	kojún	kojn-úm	kojún-um	‘bosom’
	hyk ^l ým	hyk ^l m-ým	hyk ^l ým-ym	‘judgement’
	sabúúr	sabr-úm	sabúúr-um	‘patience’
	nehír	nehr-ím	nehír-im	‘river’

The forms in (2, 3rd column) exhibit a pattern of opaque over-application. Their epenthetic vowel is apparently unnecessary under a purely phonological conditioning: given e.g. the root /nehr/ ‘river’ and the affixation of /Im/ ‘1.SG’, the expected surface form would be *[nehrim] ‘I am a river’. In this hypothetical form, the suffixal vowel would allow the final consonant of the cluster to be syllabified into the onset of the following syllable, thereby eliminating the structural motivation for epenthesis.

Analysis. We argue that the apparent exceptionality of epenthesis over-application can be readily accounted for as the outcome of a serial interaction between phonology and morphology. Specifically, we propose that in Turkish, both epenthesis and word stress are word-level phonological operations whose outputs are retained at the phrase-level. This retention is a principled consequence of the Stratal OT framework (see e.g. Kiparsky 2000; Bermúdez-Otero 2018), which allows for the appearance of phonological objects at the word level before they undergo phrase-level evaluation.

We start by observing that the forms in the second column of (2) are all inflected nouns, whereas those in the third column of (2) are all nominal clauses. Thus, there is a clear non-phonological conditioning of epenthesis: it applies transparently within morphological words, but opaquely within larger constituents.

We model epenthesis as well as stress assignment as word-level processes (3), adopting familiar constraints such as ALIGN-R(Stress, PhWord) to account for right-edge stress, and MAX(C), DEP(V) and SONSEQ (‘Sonority must rise in onsets and fall in codas’) to derive epenthesis (for space reasons, constraints governing vowel harmony and stop+s clusters are omitted. The former does not bear directly on the issues discussed here, and /s/ in the latter can be treated as an appendix – cf. Özçelik 2024: 122-125).

(3)

Word level	ALIGN-R(Stress)	MAX(C)	SONSEQ	DEP(V)
Input: nehr				
néhr			*!	
néj		*!		
néhir	*!			*
nehir				*

The output of word-level morphology is the input of phrase-level phonology, which in the case of e.g. [nehír]-Im already contains a (stressed) epenthetic vowel. Both the vowel itself and its stress are preserved by standard faithfulness constraints (4).

(4)

Phrase level	IDENT-IO(Stress)	MAX(V)	ALIGN-R(Stress)
Input: nehir-Im			
nehir-ím	*!		
nehrím	*!	*	
nehirim			*

Conclusions. The apparent over-application of epenthesis in Turkish is not an idiosyncratic exception, but a systematic result of the interaction between phonology and morphology/syntax. By adopting a Stratal OT framework, we show that both epenthesis and stress appear at the word level before being passed to the phrase-level phonology, where high-ranking faithfulness constraints protect these earlier outputs. This analysis not only provides a solution to a case of phonological opacity in Turkish, but sheds light on the nature of phonological patterns sensitive to non-phonological boundaries and phonology/morphology interactions.

References

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