



Initial Consonant Cluster Epenthesis in Turkish and its Implications to EFL

Türkçe’de Hece Başında Ünsüz Kümelenmesinde Ses Türemesi ve İngiliz Dili Eğitimine Etkisi

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The phonological structure of Turkish does not allow word-initial consonant clusters. That is, the syllable onset position of borrowed vocabulary requires the insertion of an epenthetic high vowel. This changes the syllable structure by the addition of an extra syllable to the word. In Turkish schools, all grammar teachers teach those borrowed words as if they were one syllable words. However, the situation is different phonologically since these are not one syllable but two syllable words. Borrowed words such as *tren* (English *train*), *plan* (English *plan*) are pronounced with the insertion of the high vowel [i] and therefore become two syllable words. Our goal in this paper was to analyse such borrowed words drawing syllable diagrams in order to prove that these loan words actually consist of two syllables in Turkish. The diagrams were illustrated in phonetic transcription. We also concluded that Turkish initial consonant cluster epenthesis might affect Turkish EFL learners’ pronunciation of English words in their foreign language classes.

Key Words: Epenthesis, consonant clusters, onset, Turkish.

Özet

Türkçe’nin fonolojik yapısı hecenin başında ünsüz kümelenmesine izin vermez. Yani Türkçe’ye başka dillerden ödünç yoluyla giren sözcüklerin hece başlangıcı konumlarında Türkçe’de yüksek ünlü ses eklemesi görülür. Bu durum sözcük yapısına ilave bir hece katarak hece yapısını da değiştirir. Türk okullarında dil öğretmenleri yabancı dilden ödünç alınan bu tür sözcükleri sanki onlar tek heceli sözcükmüş gibi öğretir. Ancak fonolojik açıdan durum böyle değildir; Türkçe’de bu tür sözcükler tek heceli değil çift heceli telaffuz edilirler. Örneğin İngilizce’den ödünç alınan “tren” veya “plan” gibi sözcükler yüksek ünlü ‘i’ sesinin ilavesiyle çift heceli olarak telaffuz edilirler. Bu çalışmadaki amacımız hece diyagramları yoluyla bu tür sözcüklerin Türkçe’de tek heceli değil de çift heceli telaffuz edildiğini göstermektir. Diyagramlar fonetik transkripsiyonlar kullanılarak hazırlandı. Sonuç olarak Türkçe’de hece başlangıcı konumlarında bulunan ünsüz kümeleyicilerindeki ses türemesinin Türk öğrencilerinin İngilizce derslerindeki telaffuzlarını etkileyebileceği değerlendirilmektedir.

Anahtar Kelimeler: Ses türemesi, ünsüz kümeleyici, hece başlangıç konumu, Türkçe.

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1. Introduction

In linguistic typology we see that languages are classified in terms of their genetic affiliations, phonology, morphology and syntax. One of the most renowned theories in phonology put forward by in 1993 is the Optimality Theory (Prince & Smolensky, 2004). Kaun (1999) argues that only one subset of Optimality Theory constraint which can be applied to all phonological phenomena in all languages is enough when we are to examine a particular language. In order to clarify this statement Vaux (2001) draws our attention to the phenomenon of vowel intrusion in onset or coda clusters. According to Vaux consonant epenthesis has been widely investigated in the recent phonological literature; while some scholars associated it with some by constraint based and some others with rule-based theories. Kaun (1999) also argues that constraints which never play any role in the pronunciation of native vocabulary and are available to speakers in that we see the role of constraints in the pronunciation of loanwords with consonant clusters. Furthermore, Harrison (1999) suggested that even in the production of native vocabulary by a certain group of native speakers we may observe the operation of phonological constraints that are not apparent in the regular lexicon.

For example, Harrison (1999) argues that when Tuvan speakers -a Turkic language spoken in the Republic of Tuva in south-central Siberia in Russia-reduplicate they replace the vowel in the first word with an [a] or [u] as shown in the following examples:

<u>base</u>	<u>base-reduplicant</u>	<u>gloss</u>
nom	nom-nam	‘book’
er	er-ar	‘male’
eet	eet-aat	‘river delta’
is	is-as	‘footprint’
qis	qis-qas	‘kız’
xol	xol-xal	‘kol’
at	at-ut	‘name’
aar	aar-uur	‘heavy’

This similarity in reduplicates is explained by referring to the faithfulness constraint of the optimality theory, which is phrased as ‘the reduplicant must be identical to the base’. These examples also show that Tuvan speakers use rounding harmony in reduplicant i.e they use a rounded vowel in the reduplicated word. However, in the pronunciation of some inflected words a miscellaneous picture appears: while some speakers utter words like *ari-uru* (bee) or *aazi-uuzi* (mouth), some utter *ari-uri* or *aazi-uuzi*.

Harrison (1999) informs us that Tuvan speakers seem not be aware of the fact that in their regular lexicon and morphology rounding harmony fails to obtain if the potential trigger is long. That is why when they asked to produce reduplicates in novel contexts the speakers produce form in which RH fails to apply if the trigger is long. So Harrison argues that some

phonotactic constraints that may be entirely dormant and play a passive role in the native lexicon or morphology can be activated in word games, reduplicants, and loanwords.

Vaux (2001) tries to show whether that the choice of productive epenthetic consonant in a given language is predictable from the interaction of independently-motivated inventory and well-formedness constraints (thus as the Optimality Theory argues choice of epenthetic consonant in a given language is “natural) or that rule based theories predicting rules to insert synchronically arbitrary segments (thus it is claimed phonology is not ‘natural’) are correct. Referring to various languages Vaux argues that phonology is governed by rules, that is, rule-based predictions are correct regarding the addition of vowel sound into consonant clusters and optimality theory accounts of consonant epenthesis are far from revealing the basic insight which rule-based phonology enjoys.

So far our focus has been on epenthesis in the production of certain words by speakers of certain speakers, that is, the attention of the audience has been drawn to articulatory phonetics. However, epenthesis cases are observed even in acoustics. Dupoux and colleagues (1999) compared Japanese listeners with French listeners in their perception of consonant clusters. They argue that phonotactic properties of Japanese (very reduced set of syllable types) induce Japanese listeners to perceive “illusory” vowels inside consonant clusters in VCCV stimuli. They tested the acoustic properties of stimulus words without any vowels (e.g. ebzo) to a full vowel between the consonants (e.g. ebuzo). They found that Japanese, but not French participants reported the presence of a vowel [u] between consonants, even in stimuli with no vowel.

Kabak and Idsardi (2003) disagree with Dupoux and colleagues on the following grounds:

- Japanese and French comparison does not seem appropriate because while French allows coda consonants without much limitations Japanese being a predominantly CV language only license coda consonants under a very set of restricted conditions.
- That the Japanese speakers’ perception of an epenthetic vowel in degraded samples or even in stimuli with no vowel can be explained referring to The Consonantal Contact Hypothesis which predicts perceptual epenthesis as a consequence of consonantal contact restriction in the L1 (in this case in Japanese) of the listener.
- The Coda/Onset Identity hypothesis assumes that perceptual arises if illicit consonantal sequence violates the L1 syllable structure.

Based on their empirical evidence Kabak and Idsardi (2003) claim that sequentially illicit consonantal sequence is not sufficient to induce perceptual epenthesis. On the contrary perceptual epenthesis is caused by a syllable structure violation.

Epenthesis applied in coda clusters has drawn the attention of researchers as well. Delatorre (2006) has directed her attention to the employment of epenthesis in regular past tense forms verbs in English by Brazilian speakers. Some of her findings are as follows:

- (a) the preceding consonantal context induced more epenthesis than the preceding vocalic context
- (b) Obstruent sounds (stops, fricatives, and affricates) induced more epenthesis than sonorants, which induced more epenthesis than vowels and nasals, which induced more epenthesis than liquids.
- (c) Three-member clusters induced more epenthesis than the less marked two-member clusters.
- (d) And lastly, Delatorre gets the twenty six participants to read ten paragraphs. The paragraphs contained verbs with –ed ending forming consonantal clusters. Following to the paragraph, the researcher also provided the participants with a few other words with the same homophonic ending as the verbs seen in the paragraphs. For example, in one paragraph the participants read the sentences containing verbs like used, mapped, camped, jumped, robbed and they were also given the contrastive words like spend, friend, found. As a result, she found no epenthesis in contrastive words.

Hooper (1976) argues that optimal syllable structure obstruent sounds* occupy the word initial position in the onset. Obstruent sounds are to be followed by nasals which can be followed by liquids and which can be followed by glides. The nucleus is always occupied by a vowel sound. The reverse order is to be observed in the word-final clusters. So the following hierarchy of sounds for optimal syllable structure is shown as:

Optimal syllable-initial	obstruents	↑
↓	nasals	↑
↓	liquids	↑
↓	glides	↑
↓	vowels	Optimal syllable-final

Epenthesis is not solely a phenomenon observed within consonant clusters at the onset or coda position that is epenthesis is not restricted with intrasyllable positions; on the contrary we can see examples of epenthesis even at inter syllable positions where one syllable ends with a consonant sound and the following syllable begins a consonant sound as well. Rose and Demuth (2006) investigated aspects of English and Afrikaans loanword incorporation into the southern Bantu language Sesotho and they especially focused specifically on the process of vowel epenthesis both at intrasyllable and intersyllable positions. They argued that epenthetic vowels generally match the input vowel on the left of the epenthetic site as seen in the example of the suitcase:

suitcase [su:tkejs] [suth^hukeisi] ‘suitcase’”

*Consonant sounds have three basic features: the place of articulation, manner of articulation and voicing. Regarding manner of articulation, consonant sounds are divided into two major classes: obstruent and sonorants. While the stops, the fricatives, and the affricates constitute the obstruent group of sounds, the sonorants are the vowels, liquids, glides, and nasals.

However, when the vowel preceding the epenthesis site is /a/ the added vowel is different as in the example of ‘patroon’

patroon [patRuwn] [patironı] ‘pattern/cartridge’

Also when the /s/ appears between the epenthetic site and the vowel to its left, the coronal vowel /ɪ/ is epenthésized, instead of the expected labial vowel as shown in the examples below:

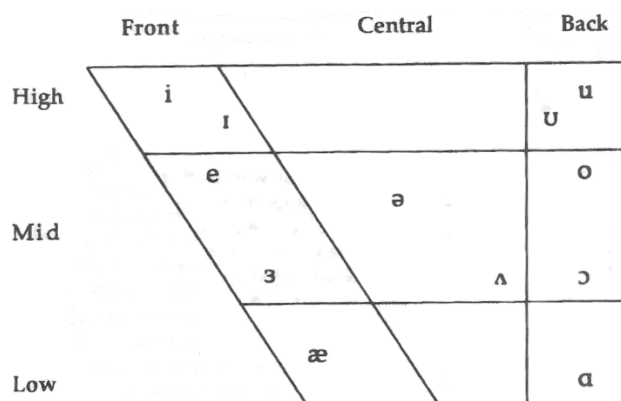
football [fɒtbɔl] [futubɔlɔ] ‘football’

mosterd [mɒstɜRt] [mositrɪdɔ] ‘mustard’

Epenthesis in Turkish

While there are seven short and five long vowel sounds in English (e, æ, ʌ, ʊ, ɒ, ə, ɪ, i:, ɜ:, ɔ:, u: ɑ), there are eight vowels in Turkish.

Fig 1. Vowels in English



In the following table we can see the words exemplifying the long and short vowel sound in English:

Table 1: Vowels in English

Iɪ	ɪ	ʊ	uː
sheep	ship	book	too
e	ə	ɜː	ɔː
bed	teacher	Bird	sort
æ	ʌ	ɑː	ɒ
cat	up	part	on

Zimmer and Orgun (1999) provide the vowel inventory of Turkish. The following examples and chart give us the inventory and articulatory features of vowels in Turkish.

Table 2: Vowels in Turkish

i	y	e	œ
kil	kül	kel	göl
‘clay’	‘ashes’	‘bald’	‘lake’
a	u	u	o
kal	kıl	kul	kol
‘stay’	‘hair’	‘slave’	‘arm’

The phonotactic structure of the Turkish language does not allow initial consonant clusters; therefore, borrowed words that originally have initial consonant clusters undergo resyllabification through epenthesis. This is because the effect of L1 is quite strong for Turkish EFL learners when they come across words with word-initial consonant clusters.

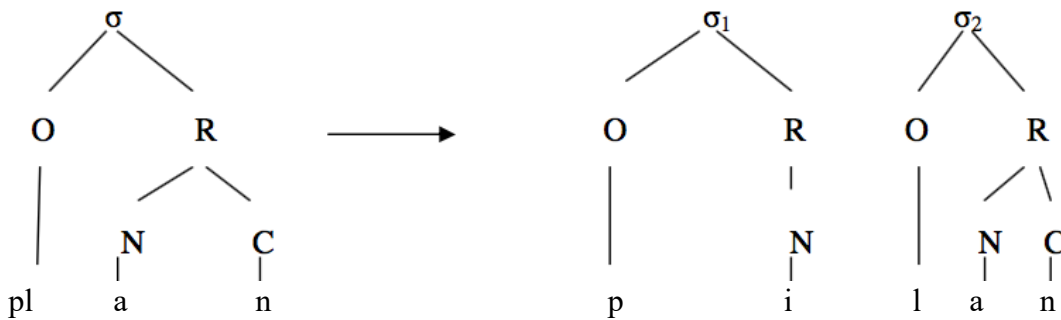
According to Yavas (1979) regressive rounding harmony is observed in epenthesis examples of Turkish speakers, that is, when the vowel in the loan word with initial consonant cluster is round the epenthetic vowel also becomes round as shown in the following examples:

- a) Fülüt ‘flute’
- b) Gurup ‘group’
- c) Buluz ‘Blouse’

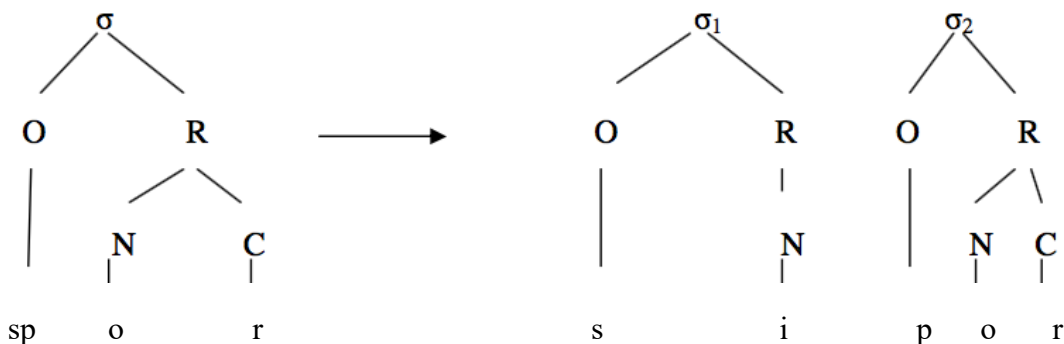
However, different patterns are observed when the potential trigger is non-high as shown in the following examples:

- a) Bıronz (not ‘buronz’) ‘bronze’
- b) Filört (not ‘fülört’) ‘flirt’

In their analyses of epenthesis in consonant clusters, Carlisle (1998) and Abrahamsson (1999), who both looked at Spanish speakers’ epenthesis of English consonant clusters, had found that the frequency of epenthesis was higher for three-member onsets than two-member onsets. In his study on phonological errors of Turkish speakers, however, Ülkersoy (2007) did not observe any such implication since the frequency of epenthetic forms was not greater in three member lateral consonant clusters than two member ones. Below are two examples showing the realization epenthesis in loanwords in Turkish.



or as in the case of ‘spor’



Benzer (2010) combed through the Turkish Language Institution’s ‘Spelling Guide’ published in 2005. He found that there are 801 loanwords in the guide with either word initial consonant cluster or word-final consonant clusters. In the historical process, we have seen the addition of vowel sound either preceding or succeeding the first consonant sounds in the

words. Thus, station has become ‘istasyon’; spirit has become ‘ispirto’; although sports had become ‘ispor’ in the past it has been spelt ‘spor’ during recent years.

2. Conclusion

When we have a look at the syllable structure of Turkish we see five different syllables with the following structures:

- V
- CV
- CVV
- CVC
- CVCC

Therefore, when Turkish speakers face with loanwords having initial consonant clusters, they quite naturally parse the signal using the available native syllabic categories. Since there are no syllable categories containing consonant clusters in initial positions Turkish speakers tend to add vowel inside those clusters. That’s why Dupoux et al (1999) argue that native phonological categories do not consist of only single phonemes; and supra-segmental phonological features are effective not only in producing the speech but also in parsing the native and non-native speech.

Saussure (2011) argues that how a word is spelled is to be determined by the way it is pronounced not by the way it is written. He is strongly against the imposition of writing on pronunciation: ‘But the tyranny of writing goes even further. By imposing itself upon the masses, spelling influences and modifies language. This happens only in highly literate languages where written texts play an important role. Then the visual images lead to wrong pronunciations; such mistakes are really pathological’ (p.31). Those 801 loanwords in Turkish are written without any vowel sound within the initial consonant clusters but they are pronounced with the addition of vowel sounds to break up the consonant clusters. Thus Benzer (2010) also suggests that loanwords in Turkish which are pronounced with the addition of high vowel should be spelled the way they are pronounced and this change in the spelling would not cause any problem.

We also suggest that instead of teaching those loanwords as words with single syllables we have to teach our students that those words in Turkish consist of two syllables. Since Turkish speakers treat those words as they are two syllable or multisyllabic words, in Turkish classes students’ attention should be drawn to the fact even if those words are written in Turkish dictionaries or spelling guides with initial consonant clusters, in practice Turkish speakers add vowel inside the clusters.

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