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Lenition in Phonological Patterns of Persian

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Abstract

In Persian, a rule which is called [v]–weakening converts the fricative [v] to the approximant [w], whenever it occurs in the coda of a syllable after the vowel [a]. A subsequent rule shifts the vowel [a] to [o] before this [w]. For example, the root [rav] "go" is realized as such in [mi-rav-am] "I am going", but is modified in the imperative [bo-row] "Go". Similarly, the [v] of [nov] emerges in the syllable onset in [nov-in] "new", but appears as [w] in the coda of [now–ruz] "New year". [v]- weakening fails to affect syllable–final [v], whenever it forms the first half of a syllable.

Keywords: Lenition, fortition, approximant, onset, coda.

Introduction

The process of lenition is related to the different degrees or types of stricture in the speech organs.

The major stricture types of consonants are three: stop, fricative, and approximant (Catford, 1988, p. 64). In stop, the articulations are formed with complete closure which can be seen in [p] [b],[k]. The articulatory channel for a fricative is so narrow that the airflow through it is always turbulent, and hence noisy, like: [v], [f], [s]. The articulatory channel for an approximant, however is a little wider than that of a fricative, just to the extent that airflow through the channel is non-turbulent when it is voiced, like: [w], [i], [l]. Sound changes from left to right on the stop–fricative-approximant dimension are known as lenition or weakening while changes from right to left are fortition or strengthening. In other words, lenition involves the change from a stop to a fricative, a fricative to an approximant, a voiceless sound to a voiced sound, or a sound being reduced to zero.

The consonant [w] is not considered a phoneme in modern Persian (Samareh, 1364, P. 97). Sadeghi (1365) says that [w] is one of those segments, which is used in hiatus in Persian. Vowel sequences (v+v) are phonologically unstable. Affixation creates such a hiatus. One response is to separate the vowels by a consonant.

Lenition is used in phonology to refer to a weakening in the overall strength of a sound, whether diachronically or synchronically (Crystal, 1992, P.143). Postvocalic context

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is the most typical environment for lenition in cross-linguistics (Kenstorwicz, 1994, P. 35). In this article, the process of lenition in Persian is studied.

Data Presentation

In this part, some data from Persian are presented. These data are collected from Keshani (1372). They are divided into three parts. In the first one, the consonant [v] is located in the coda of the syllable. In the second part, it is geminated, and finally, in the third part, the geminated form of [v] is compared with two [v]s in the morpheme boundary.

(1) a.

[row]	"go"
[dow]	"run"
[xosrow]	"proper name" (used as first name)
[derow]	"reaping harvest"
[bešenow]	"hear"(imp.)
[šow]	"becoming"
[bedžow]	"chew" (imp.)
[džow]	"barley"
[now]	"new"
[now-ruz]	"New-year's Day"
[now-zad]	"New-born; child"

b.

[ravan]	"flowing, going"
[davan]	"running"
[xosravi]	"propername" (used as a second name)
[deravidan]	"to harvest"
[mišenavam]	"I am hearing"
[šavande]	"becoming possible"
[džavidan]	"to chew"
[džovin]	"made of barly"
[novin]	"modern"

(2) a adj.

[džavv-i]	"atmospheric"
[qolovv-i]	"exaggeration"
[?adovv-i]	"related to enemy"
[?olovv-i]	"lofty"
[mardžovv-i]	"hoped for"

b.

*džow	"atmosphere"
*qolow	"exaggeration"
*?adow	"enemy"
*?olow	"loftiness"
*mardžow	"hoped for"

(3) a

[qovvat]	"power"
[davvar]	"revolving"
[morovvat]	"fairness"
[?avval]	"first"

b.

*qowvat	"power"
*dawvar	"revolving"
*morowvat	"fairness"
*?awval	"first"

(4) a

*[xosrav-var]	"kinglike or kingly"
*[pa-dav-var]	"runner like"
*[piš-rav-var]	"leader like"

b.

[xosrow-var]	"kingly"
[pa-daw-var]	"runner like"
[piš-row-var]	"leader like"

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Data Analysis

The data in (1-a) show that in Persian the fricative consonant is realized as the approximant [w] in the coda of a syllable. A subsequent rule shifts the vowel [a] to [o] before the glide [w]. In fact, a kind of assimilation takes place between the glide [w] and the previous vowel [a] in their features. For example, the root [rav] "go" is realized as such in [mi-rav-am] "I am going", but is modified in the imperative form [bo–row] "go". Similarly, the [v] of [nov] emerges in a syllable onset in [nov-in] "new", but appears as [w] in the coda of [now-ruz] "new year". The following rules show these processes.

(5) Lenition rule:

$$v \rightarrow w / \underset{[-cons]}{\overset{\delta}{|}} — \$$$

$$\begin{bmatrix}+Labial\\+continuant\\+voiced\\-nasal\end{bmatrix} \rightarrow \begin{bmatrix}+consonant\\+high\\+back\end{bmatrix} \Big/ \underset{[-consonant]}{\overset{\delta}{|}} \quad — \$$$

Rule (5) shows that the fricative [v] changes to the glide [w] in the coda of a syllable immediately after the vowel.

In this rule the symbol δ stands for syllable and $ shows the border of the syllable.

(6) Assimilation rule:

$$a \rightarrow o / — w \ \$$$

$$\underset{\begin{bmatrix}+Low\\-back\end{bmatrix}}{\overset{v}{|}} \longrightarrow \underset{\begin{bmatrix}-low\\+back\\-hgih\end{bmatrix}}{\overset{v}{|}} \Big/ — \underset{\begin{bmatrix}+high\\+back\end{bmatrix}}{\overset{c}{|}} \quad \$$$

Rule (6) shows the assimilation between the head of the syllable and the approximant in the coda in [+back] and [+high] features and raises the vowel in the head from [+Low] to [-Low, -high]. In Persian the feature [high] is gradient, which has three levels as [+Low, -Low-high, +high]

According to the above rules, the derivational form of [row] "go" is obtained from the underlying form like this:

(7) / # rav # / underlying representation (UR)

raw	lenition rule (5)
row	assimilation rule (6)
[row]	phonetic representation

In this process, two rules are used with the first one feeding the second one.

The data in (1-b) shows that the fricative [v] is not weakened in the onset of the syllable. In the complex word [nov-in], the fricative [v] is located in the onset of the second syllable, and preserves its underlying from.

The data in (2-a) and (3-a) resist the process of lenition. In these data the fricative [v] is geminated. Geminate consonants behave exceptionally. Within generative phonology, the work of Kenstowicz (1994) has uncovered two exceptional properties of these kinds of segments. The first one is "integrity" and the other one is "inalterability".

"In many languages geminates form a tight bond that resists disruption by phonological rules." (Kenstowicz, 1994, p. 410) There are two aspects to this integrity of geminates. First, geminates characteristically repel insertion of an intervening segment. Second, geminates often escape rules whose application would modify one half of the geminate while leaving the other unchanged. In the literature these aspects of geminate behavior have been called "inseparability" and "inalterability", respectively.

The data in (2) and (3) shows that [v]–weakening fails to affect syllable-final [v] whenever it forms the first half of a geminate. In examples, the geminated segment [vv] is clearly inalterable.

If we compare the data in (2) & (3) with the data in (4), it is easy to find the solution for this problem.

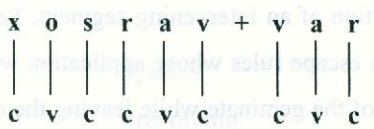
A hint toward a resolution of the problem lies in the observation that only tautomorphemic [vv] sequences escape the rule. There are several Persian suffixes that begin with [v] phoneme, such as the adjectival [-var] meaning "like" or "having the qualities of, when one of these suffixes is added to a stem ending in an underlying [v], a [v-v] sequence is created, such as the data in (4).

Just as in [qovvat], the underlying stem-final [v] in [xosrav+var] occupies syllable coda. But this time it systematically undergoes the rule, turning to [w] in [xosrow+var]. Thus, heteromorphemic [vv] sequences may be inputs to the [v]→[w] rule. But tautomorphemic ones resist this process. Tautomorphemic geminates exhibit the integrity phenomenon while heteromorphemic ones do not. The proposed explanation appealed to the OCP (Obligatory Countur Principle) and limited its scope of application to the morpheme.

The result was that a tautomorphemic sequence of the same segments is represented by one multiply linked segment while heteromorphemic sequences have single linking in the underlying representation, which are shown in (8a) and (8b) respectively.

(8) (a)

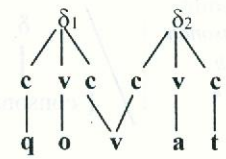
(b)



The Persian data thus suggest that inalterability is a property of multiply linked representation. This is a good result since now the phenomenon begins to make sense. The fricative [v] in (8-a) is subject to two contradictory instructions. Since it occupies the coda, the [v]→[w] rule requires it to change to [w]. But since it also occupies the onset of the following syllable, it cannot be [w], because [w] is otherwise barred from the onset position. Given this contradictory set of instructions, two outcomes are possible a priori. We might expect the rule to overapply even though just one of the legs of the geminate satisfies it. Alternatively, the rule might be suspended even though one portion of the multiply linked representation dose satisfy it. The latter strategy seems to be the one that universal grammar imposes and is precisely the inalterability phenomenon. This line of reasoning suggests the following general constraint on rule application. In order to change the feature condition of a segment [v], every skeletal slot linked to [v] must satisfy the rule. This constraint imposes a uniformity condition on rule application.

It will block postvocalic lenition of the geminated fricative [v] in "qovvat" since the right leg is not postvocalic on the skeletal tier, and it is dominated by δ_2.

(9)



However, the rule will apply to the coda [v] of (8-b) since this segment is linked to just one single skeletal slot and hence satisfies the above constraint.

The nonlinear diagrams used in (8) and (9) are taken from Goldsmith (1999).

Conclusion

In Persian, the process of lenition of fricative [v] to approximant [w] takes place when [v] is in the coda after the vowel [a]. This rule will be the input of another rule which changes the [a] to [o]. If the fricative [v] is geminated, the lenition process is blocked. Gemination or doubling is a context that inhibits lenition and promotes fortition. Thus, in Persian the postvocalic fricative [v] systematically fails to change to the approximant [w] when it geminates.

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