The Ezafe Morpheme in Persian: An XP-external Clitic

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ABSTRACT. This article investigates the prosodic structure of Ezafe constructions in Persian. Kahanmuyipour (2003) proposes that Ezafe constructions should be treated as phonological words. The present study based on phonetic observations and phonological evidence argues that each lexical word present in an Ezafe construction constraint onset. This paper also suggests that the prosodic status of weak function words such as the Ezafe projections can be best explained by adopting a new constraint, namely Max-XP.

Keywords: Ezafe, Persian, prosodic structure, XP-external clitics, syntax-phonology interface

1. Introduction

Persian is considered to be a “mixed-headed” SOV language in which both head-initial and head-final phrases can be observed (Zepter 2003). Verb phrases are always head-final, while in non-verbal categories, a head can have both preceding and following modifiers. When the head is followed by certain complements and modifiers, an unstressed morpheme /e/ appears between the head and its following material. The term used for this morpheme traditionally has been Ezafe, a loanword from Arabic literally meaning “adding.” It generally semantically vacuous and is criticized to its preceding lexical word as an affixal clitic (Hosseini 2012). Ezafe can appear in the following contexts:

1. Between a noun and a modifier:
   - ədān-e bad
     - person-EZ bad
     - “bad person”

2. Between a noun and a possessor:
   - pedar-e dārād
     - father-EZ PR
     - Davud’s father’

3. Between a noun and its complement:
   - xarīdān-e nān
     - buying-EZ bread
     - “buying bread”

4. Between an adjective and its complement:
   - nārēnjī-ye rōsān
     - orange-EZ light
     - “light orange”

5. Between a preposition and its complement:
   - nazārik-e bāsār
     - near-EZ market
     - “near the market”

Ezafe is a feature of certain Western Iranian languages such as Persian and Kurdish (Samvelian 2007). It is also present in Urdu, a language highly influenced by Persian. Following sections review the existing suggestions on the prosodic structure of Ezafe constructions and make a new proposal by adopting Optimality Theory.
2. Previous studies

The syntax of Ezafe constructions has been a controversial matter in Persian linguistics and many proposals have been made to explain their structure. Ghomeshi (1996) following Samtian (1983) proposes that Ezafe constructions are formed by base-generated Xθ adunction, and thus nouns and adjectives are not projected in these constructions. Consequently, all the elements in the Ezafe domain are Xθ’s, and the Ezafe construction cannot be considered as an XP. Kahnemuyipour (2000) in a minimalist approach adopts this idea and suggests that in an Ezafe construction, the adjectives (or modifiers) are located in the heads of functional projections above NP.

Persian is known to have only one stress at word level, which occurs on the rightmost syllable of lexical words. Kahnemuyipour (2003) claims that in an Ezafe construction, the final lexical word is prosodically more prominent than the others in the construction. In (6), an example from Kahnemuyipour (2003), the last syllable of the rightmost lexical word (gondê) is perceived more prominently. According to Kahnemuyipour (2003), since Ezafe constructions have rightmost prosodic prominence, and since they are syntactically Xθ-level elements, the whole Ezafe construction should be treated as a single Phonological Word (PWord):

(6) sag-e styâd-e gondê → (sag-e styâd-e gondê) "big black dog"

Ito and Mester (2012:297) based on Kahnemuyipour’s analysis suggest that the Ezafe construction in Persian can be regarded as a recursive PWord rather than a plain one.

3. Prosodic structure of Ezafe constructions

The account in Ghomeshi (1996) and Kahnemuyipour (2000) that takes the Ezafe construction to be a string of non-projected Xθ’s may be syntactically grounded, but is not compatible with the phonological facts of the language. Prosodic prominence in Persian is culminating at word level, i.e. there can be only one prominent syllable per PWord, and there are no secondary stresses at word level (Kahnemuyipour 2003). However, in case of Ezafe constructions, there are audible prominences on the last syllables of every lexical word present in the construction. For instance, in (6), there are audible prominences on the words sag and styâd as well as the final word gondê. The claim that the final word in an Ezafe construction is perceived more prominently than the others is accurate, but the actual reason for this extra prominence is not what is claimed in the previous studies. As discussed in Bolinger (1966), Silverman and Pierrehumbert (1990) and Ladd (1996), there are several audible prominences (pitch accents) in an utterance, the final pitch accent is perceived more prominently. If we utter an Ezafe construction such as (6) in isolation, the Ezafe construction will form an utterance, and the final pitch accent of this utterance (the one on the word gondê) will be perceived more prominently. In fact, this claim is easily justifiable: if we put a phrase like (7) in a non-final position of a carrier sentence, the final word of the construction (gondê) will not be perceived more prominently anymore. This is shown in (7), in which the utterance-level prominence will be associated with the intransitive verb mi-ragy-e and all the three words in the Ezafe construction will have the same degree of prominence.

(7) sag-e styâd-e gondê mi-ragy-e "The big black dog is dancing"

Since each lexical word present in an Ezafe construction has an audible prominence, the whole Ezafe construction cannot be regarded as a single PWord. Treating Ezafe constructions as recursive PWords is also not supported by this observation, because in that case, all PWords except the minimal one will have more than one audible prominence, which is not acceptable for a PWord in Persian. The fact that each lexical word in an Ezafe construction has its own audible prominence is readily observable in the pitch contour of utterances of these constructions. This can be seen in figure (9), which shows the pitch contour of an utterance of the sentence in (8) uttered by a female native speaker. The Ezafe construction in (8) was embedded in a carrier sentence.

(8) barkâr-e ârum-e mo'addabe-e leyâd brother-EZ calm-EZ polite-EZ PR ‘Leyla’s calm and polite brother’

In sum, actual prosodic behavior of Ezafe constructions suggests that they cannot be regarded as either recursive or plain PWords.

We adopt the overall analysis of Persian prosodic structure in Kahnemuyipour (2003) which postulates two levels of audible prominence in Persian utterances. Phonological Phrase (PPhrase) stress is assigned to the leftmost PWord in it, and Intonational Phrase stress is assigned to the rightmost PPhrase in it. According to this account, although Persian does not have secondary stresses at word level, it allows secondary stresses at utterance level: all PPhrase heads are assigned with secondary stress, while the head of the final PPhrase is assigned with a primary stress. Thus, all the words that bear audible stress are necessarily PPhrase heads. If we look at Ezafe constructions closely, since every word in an Ezafe construction has an audible prominence, each of them must be a PPhrase head. In other words, each word in an Ezafe construction must be located on the leftmost edge of some PPhrase. Therefore, for an Ezafe construction containing three lexical words, there would be three possible prosodic structures: The structure shown in (10i) is a recursive structure in which each word present in the Ezafe construction is the leftmost PWord (the head) of a PPhrase. Another possibility is that each word forms a separate PPhrase as shown in (10ii), and the third structure is a combination of (10i) and (10ii), with one autonomous PPhrase on the left, and a recursive one on the right.

(10) i. (sag-e) (styâd-e) (gondê) II
ii. (sag-e) ( styâd-e) ( gondê)
iii. (sag-e) ( styâd-e) ( gondê)

First of all, there seems to be no independent phonological or phonetic evidence in Persian supporting the recursive structure in (10i). More importantly, the assumption in Prosodic Phonology is that only syntactic maximal projections of lexical elements can be mapped onto PPhrases and functional projections are not legitimate to coincide with PPhrases (Selkirk 1995, 2011).

The reason why in some languages syntactic maximal phrases do not precisely correspond to PPhrases is that some kind of prosodic markedness constraints outrank interface constraints that map syntactic phrases onto PPhrases. In the languages that prosodic and syntactic structures coincide with each other, interface constraints are ranked over prosodic markedness constraints. Therefore, in order to have a recursive structure as in (10i) firstly, a corresponding recursive syntactic structure similar to the one shown in (11i) is necessary in which a lexical maximal projection (hereafter XP) is embedded in another XP. Secondly, the prosodic markedness constraints need to be ranked lower than syntax-prosody interface constraints.
construction. The example in (14ii) has even undergone further lexicalization and has lost its Ezafe morpheme. Hosseini (2014) provides a detailed discussion on the interaction of givenness and lexicalization with the prosodic structure of Ezafe constructions.

4. XP-external clitics: An OT account

As we saw, the Ezafe morpheme does not belong to its adjacent XPs, but tends to cliticize to its preceding material. This paper uses the term “XP-external clitic” for the Ezafe morpheme and other weak function words that are syntactically not a part of their preceding or following XPs but prosodically cliticize to one of them. The Ezafe morpheme is not the only XP-external clitic in Persian. Persian has both XP-external enclitics and XP-external proclitics. For instance, the conjunction -o and -and is an XP-external enclitic very similar to the Ezafe morpheme, while the conjunctions wa and ya' or ya' or are XP-external proclitics. The goal of this section is to explain the prosodic structure of both types of XP-external clitics, including the Ezafe morpheme, within the framework of Optimality Theory. Since in the case of XP-external clitics the left and the right edges of XPs do not coincide with the left and the right edges of PPhrases, these structures will cause problems to any theory that suggests exact alignment or matching between XPs and PPhrases. In the next sections we will introduce two theories proposed in the framework of Prosodic Phonology and point out their problems in dealing with XP-external clitics.

4.1. Alignment

In her end-based theory of the syntax-prosody relation, Selkirk suggests that interface constraints demand alignment of the left or right edges of XPs with those of PPhrases (Selkirk 1986, 1995). This theory has been widely accepted and used in the past two decades. Kalmanniyaz (2003) adopts Selkirk’s edge alignment theory and argues that in Persian XPs are left-aligned with PPhrases. One piece of evidence he uses in his discussion is the existence of the conjunction -o which is not a part of its preceding NP but always prosodizes as an enclitic with it. He argues that postulating right-alignment of XPs with PPhrases in Persian will lead to the ill-formed structure in (15):

\[(15) \text{NP} \circ \text{NP} \rightarrow *\text{(NP}_p \circ \text{NP}_p}\]

He does not deal with the proclitic conjunctions of Persian such as wa and ya or ya' or, but if we take XP-external proclitics into consideration, left-alignment will also fail to derive the right prosodic structure:

\[(16) i. \text{NP} \circ \text{NP} \rightarrow *\text{(NP}_p \circ \text{NP}_p)\]

Therefore, neither left-alignment nor right-alignment can explain the prosodic structure of XP-external clitics. The tableau in (17) and (18) show that left-alignment derives the prosodic structure of the XP-external enclitics such as the conjunctions -o or the Ezafe morpheme correctly but fails to predict the structure of XP-external proclitics, while right-alignment will predict the structure of XP-external proclitics but fails to derive the structure of the XP-external enclitics. Please be noted that the two conjunctions have been used in these tableaux in order to emphasize their asymmetric behaviors and actually the conjunctions -o can be replaced by the Ezafe morpheme.
4.2. Match theory

Selkirk (2011) in her Match Theory of the syntax-prosodic constituency proposes that interface constraints call for a match between syntactic and prosodic constituents. She formulates the tendency of XPs to match with PPhrases in a syntax-prosodic interface constraint namely MATCH-XP. MATCH-XP can be interpreted as simultaneous right and left alignments of XPs with PPhrases, and it makes no preferences for a single edge alignment. Therefore, it seems to be more appropriate for a language like Persian in which both XP-external proclitics and enclitics are found. The constraint PARSE-INTO-φ requires all segments to be parsed into PPhrase. Ranking PARSE-INTO-φ over MATCH-XP will make correct predictions for both enclitics (the tableau in (19)) and proclitic (the tableau in (20)). The fact that vowel-initial XP-external enclitics phrase as enclitics rather than proclitics can easily be explained by postulating the constraint ONSET ranked lower than MATCH-XP.

(19) Input: $\begin{array}{c|c|c}
\text{XP} & \text{PARSE-INTO-φ} & \text{MATCH-XP} \\
\hline
\text{a. (XP fnc)XP}_n & \ast W & \ast \\
\text{b. (XP) fnc XP}_n & \ast W & \ast \\
\end{array}$

(20) Input: $\begin{array}{c|c|c}
\text{XP} & \text{PARSE-INTO-φ} & \text{MATCH-XP} \\
\hline
\text{a. (XP) fnc } (XP) & \ast W & L \\
\text{b. (XP) fnc } (XP) & \ast W & L \\
\text{c. (XP fnc XP)} & \ast W & \ast W \\
\end{array}$

However, if there are more than one XP-external function words, the ranking in (19) and (20) would not be able to derive the correct prosodic structure anymore. This is shown in the tableau in (21) for multiple XP-external enclitics, but the same problem exists with proclitics as well. The example in tableau (21) can be a complex Ezafe construction, similar to the one shown in (6), or three lexical words conjoined by the conjunction $\&$.

(21) Input: $\begin{array}{c|c|c|c}
\text{XP} & \text{fnc } [XP] & \text{PARSE-INTO-φ} & \text{MATCH-XP} \\
\hline
\text{a. (XP fnc)XP}_n & \ast W & \ast W & \ast W \\
\text{b. (XP) fnc XP}_n & \ast W & \ast W & \ast W \\
\text{c. (XP fnc XP)} & \ast W & \ast W & \ast W \\
\text{d. (XP fnc XP) fnc } (XP) & \ast W & \ast W & \ast W \\
\end{array}$

Candidate (21d) violates MATCH-XP as often as the winner does. In fact, if one assumes the OT constraints to be gradient, it may be possible to argue that candidate (21d) is less harmonic than candidate (21a), because the mismatch between the XPs and the PPhrases is more severe in candidate (21d) comparing to that in candidate (21a). However, following McCarthy (2003), this study does not postulate gradient constraints due to their ad hoc nature, and also due to the wrong predictions they make.

By examining the candidates in tableau (21) closely, we realize that the most appropriate constraint that can render candidate (21a) and win over (21d) is one which militates against a PPhrase containing two XPs. Indeed, a constraint with such functions has been proposed in the literature.

4.3. Map XP

Büring (2001) examines the syntactic and prosodic structures of focused double objects in German. In his Optimality Theory analysis, syntactic maximal phrases tend to coincide with Accent Domain (or AD, which is a term he uses for what we call PPhrases here). One of the AD formation constraints Büring (2001) proposes is the constraint called XP, which is defined in (22):

(22) XP: AD contains an XP. If XP and YP are within the same AD, one contains the other (where X and Y are lexical categories).

According to the definition in (22), two syntactic maximal projections XP and YP cannot be contained in a single PPhrase, unless one of them is embedded in the other in the syntactic representation. Therefore, the constraint XP will allow the prosodic phrasing in (23), but will ban the prosodic structures in (23i)-(23iv).

(23) i. (X [YP]) $\rightarrow$ (X YP)  
ii. (X fnc YP) $\rightarrow$ *(XP YP)  
iii. (fnc XP YP) $\rightarrow$ *(XP YP)  
iv. XP YP $\rightarrow$ *(XP YP)

In the present study, we adopt the constraint XP, but for more clarity, we will use the name ‘MAP-XP’ for it. MAP-XP is defined in (24):

(24) MAP-XP: Assign one violation mark for every PPhrase which contains two or more sister XPs.

The constraint MAP-XP requires each XP to be mapped onto some PPhrase, hence the name of the constraint. To compare Selkirk’s MATCH-XP with MAP-XP defined in (24), let us return to the tableau in (21). If we replace the constraint MATCH-XP in this tableau with MAP-XP, candidate (21a) will win over all the other candidates. This is shown in the tableau in (25).

(25) Input: $\begin{array}{c|c|c|c}
\text{XP} & \text{fnc } [XP] & \text{fnc } [XP] & \text{PARSE-INTO-φ} & \text{MAP-XP} \\
\hline
\text{a. (XP fnc)XP}_n & \ast W & \ast W & \ast W & \ast W \\
\text{b. (XP) fnc XP}_n & \ast W & \ast W & \ast W & \ast W \\
\text{c. (XP fnc XP) fnc } (XP) & \ast W & \ast W & \ast W & \ast W \\
\text{d. (XP fnc XP) fnc XP} & \ast W & \ast W & \ast W & \ast W \\
\end{array}$

In fact, the constraint MAP-XP is dominated in Persian, because no PPhrase contains more than one XP in these prosodic structures.

As mentioned previously, the constraint ONSET ranked lower than MAP-XP requires vowel-initial XP-external weak function words to prosodize as enclitics. The detailed ranking of ONSET with other constraints that determine the internal structure of PPhrases and PWords is beyond the scope of this paper and cannot be discussed here due to space limitations.

Interested readers are urged to refer to Hosseini (2014), which provides a comprehensive discussion on this matter and also explains the prosodic structure of Ezafe constructions and other syntactic phrases such as VP and DP uniformly by adopting the constraint MAP-XP.
Suprasegmental Nativation of English Loanwords into Fijian

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ABSTRACT. This paper deals with two patterns of suprasegmental nativation of English loanwords into Fijian. The first pattern is that the vowel on the antepenultimate syllable is shortened and that the stress inherited from English disappears (e.g. bihinei ‘beacon’ → bihinei) (Schütz 1985, 1990). The second pattern is that the vowel shortening on the final syllable occurs and that the stress is placed on the penultimate syllable containing an extrametrical epenthetic vowel (e.g. dokete ‘doctor’ → dokete) (based on Gatty 2009). The aim of this paper is to demonstrate that the suprasegmental nativation can be explained by demoting two adaptation-specific constraints, both of which are highly ranked in the constraint ranking of Fijian loanword adaptation. This paper will also show that the OT model presented here can predict whether loanwords will be nativized or not.

Keywords: Fijian, English loanwords, suprasegmental adaptation, nativation, Optimality Theory

1. Introduction

There has been an increasing awareness of loanword adaptation in terms of Optimality Theory (OT). A number of various models in the earlier literature (e.g. Davidson & Noyer 1996 for Spanish loanwords into Huave) incorporate adaptation-specific faithfulness constraints that require output to be identical to input as a source word of a given donor language, and provide an account of nativation of loanwords by re-ranking the faithfulness constraints low.

The aim of this paper is to demonstrate that the picture similar to the case of Huave is found in suprasegmental nativation of Fijian, which borrows words from English. We focus here on two nativized patterns in tisaylilic loanwords. The first pattern is that the vowel on the antepenultimate syllable is shortened and that the stress inherited from English disappears (e.g. bihinei ‘beacon’ → bikinei). The second pattern is that the vowel shortening on the final syllable occurs and that the stress is placed on the penultimate syllable which contains an extrametrical epenthetic vowel (e.g. dokete ‘doctor’ → dokete). I will show that the two nativized patterns are explained by demoting two adaptation-specific faithfulness constraints, both of which are highly ranked in the constraint ranking of loanword adaptation in Fijian.

The organization of this paper is as follows. Section 2 introduces five constraints on Fijian phonology. Section 3 explores several characteristics of suprasegmental adaptation in Fijian, and then discusses suprasegmental nativation with which this paper deals. Section 4 provides an OT analysis of the suprasegmental adaptation and the nativation. Section 5 concludes this paper.

2. Preliminaries

In this section, I will introduce five constraints on Fijian phonology. As exemplified in (1), biminoric feet are formed from the right edge of the word, except that degenerate feet would be formed (Hayes 1995). The primary stress position is placed on the penultimate mora (Blevins 1994). In OT terms, TROCHEE (TROC) and FOOT-BINARITY (mora) (FTBIN (m)) are highly ranked and never violated in Fijian. Also, Fijian involves ALIGNMENT-FOOT-RIGHT (Align-Fl-Right), which will be explained in Section 4.

(1) Native words of Fijian (Foot structures are denoted by parentheses)

(1) Native words of Fijian (Foot structures are denoted by parentheses)

(a) (lima) ‘five’ (b) (būi) ‘grandmother’

(ba[kawa]) ‘old’

tu(na)gai) ‘men’ se(gai) ‘no’

(mai(ka)(wa)) ‘worthless’

ma(ra)ma) ‘women’ (be)(ba) ‘moth’

(ma)(ka)(wa) ‘week’

Notes

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References


