

Prosodic Analysis of Ezafe Construction in the Framework of Prosodic Phonology

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Received: 04/07/2017

Accepted: 08/05/2019

Abstract

In this study, the prosodic pattern of Ezafe construction has been investigated under the framework of prosodic phonology. Prosodic phonology is a framework which evinces that a purely phonological constituent structure lies between syntax and phrasal phonetics (Pierrehumbert & Beckman, 1988). While this phonological constituent structure is independent of the syntactic constituency, it is related to it by a module of the syntactic-prosodic constituency. Syntactic-prosodic constituency requires that the morpho-syntactic categories ought to be matched to phonological categories, regarding ALIGNMENT constraint which requires syntactic categories to be edge-aligned (right or left) with the head of phonological constituents (Selkirk, 2011). In this framework, heads are marked by their prominence by which it means that the most prominent element in a prosodic constituent is the phonological head of that constituent (Truckenbrodt, 1995). Those edge-aligned constituents make a hierarchical order in a strict manner with respect to each other, the strict layer hypothesis, in which a purely formal phonological mechanism specifies how constituents of the different prosodic levels form a prosodic hierarchy. In Persian, Kahnemuyipour (2003) investigated the prosodic structure of phonological constituents within the prosodic phonology framework. He proposed that within the phonological words, the right-most syllable, and within the phonological phrases, the left-most phonological word, and within the intonational phrases the right-most phonological phrase, and within the utterances, the left-most intonational phrase is merit of receiving the prominence and therefore should be regarded as the head of their phonological constituents.

Since the Ezafe construction is a unique linguistic phenomenon which can only be found in Persian, a great deal of dispute in previous studies can be found about the prosodic structure of this construction. While a number of researchers like

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Eslami (2005), Bijankhan and Abolhasanizadeh (2011) and Mahjani (2003) only investigated the phonetic realization of Ezafe construction within the autosegmental-metrical phonology framework, within the prosodic phonology framework, Kahnemuyipour (2003) based on Ghomeshi (1996) takes the nouns and adjectives in an Ezafe construction, to be non-projecting base-generated X0 elements, and therefore, proposed that the entire Ezafe construction is mapped into a single phonological word. Although Kahnemuyipour's proposal was remarkably novel; he did not implement any laboratorial experiment to supporting his claim, but his own intuition furthermore, considering the whole Ezafe construction as a single complex word is not intertwined with Persian speaker's intuition. With this regard in this research, a laboratorial experiment is manipulated in order to figure out the prosodic level of the entire Ezafe construction within the prosodic phonology framework.

In so doing, we arranged an articulatory experiment included three sentences which differed due to their Ezafe construction's length (from two to four words per each Ezafe construction) and we asked six men and six women of native Persian speaker to read aloud those sentences twice.

- 1) / nazar-e davar hame ra fegeftzade kard /
- 2) / bavar-e baradar-e ?azar besijar adjib-o garib bud /
- 3) / xabar-e xab-e bad-e bahar dar hameje fahr pijfid /

We recorded their voices in a soundproof booth in the University of Tehran within the PRAAT environment and then after we extract the fundamental frequency of each stress bearing syllable within Ezafe construction. Since we assume that each [+N] element in Ezafe construction with its adjoined Ezafe vowel construct a clitic group which is itself an allatone of phonological phrase (Hekmati, 2016); now we want to find the place of Ezafe construction in the hierarchy of prosodic structure as a whole. The most probable option for the whole Ezafe construction would be an intonational phrase, because theoretically when we combine a number of phonological phrases we would expect to generate the next upper level of the prosodic hierarchy, intonational phrase. The phonetic counterpart of the intonational phrase is final lowering in which the fundamental frequency of the final stress bearing syllable is significantly lower than its previous counterparts (Pierrehumbert & Beckman, 1988). Comparing the fundamental frequency amount of the final stress bearing syllable of Ezafe construction with its non-final counterparts reveals that the fundamental frequency of the final stress bearing syllable of Ezafe construction is significantly lower than its counterparts ($p < 0.001$).

Having a lower rate of F0 in the final stressed vowel of the last phonological phrase compare to F0s of the stressed syllables of all the phonological phrases of Ezafe construction in which peak delay causes the movement of F0 peak of stressed syllable to the following syllable led us to map the Ezafe construction as a whole to an intonational phrase. This analysis can explain the cause of auditory prominence of each element in the Ezafe domain. Each phonological phrase in Ezafe domain absorb the secondary stress and the final word in Ezafe domain absorb the primary stress as the intonational phrase.

Keywords: Prosodic phonology, Peak delay, F0, Secondary stress