Research article: The Diachronic Change of /xw/ Consonant Cluster in Persian, Sorani Kurdish, Hawrami, and Kalhori Kurdish: An Optimaity Theoretic Analysis

Mehdi Fattahi[1]
Bahman Heidari[2]

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Abstract

Languages change is an inevitable phenomenon which may come with phonological implications. In Optimality Theory, first put forth by Prince and Smolensky (1991), language is seen as an inventory of universal violable constraints, the permutation of which might vary from one language to another. The present study aims to put forward a typological comparison among four Iranian languages of Farsi, Sorani Kurdish, Hawrami, and Kalhori Kurdish in terms of the change they have undergone in initial consonant cluster /xw/ at the beginning of certain words, assuming /xw/ as the proto-form and input. The version of Optimality Theory incorporated in this article is that of the Parallel one (McCarthy, 2008) in which the Generator can enforce unlimited number of modifications to the input. The candidates produced by the Generator, then, go through the filter of the Evaluator, consisting of language-specific permutation of markedness and faithfulness constraints.

In order to collect the data, the authors have used librarian sources as well as carrying out field study, interviewing 10 native speakers of each of the aforementioned languages. Since the study is not sociolinguistic in nature, there was no restriction on the age of the consultants. The forms elicited from these native speakers were persistent. The collected data were, then, transcribed and relevant information was extracted through a preliminary observation. It was revealed that with regard to syllables beginning with the consonant cluster /xw/, followed by a vowel, only the following combinations are valid in each of the languages. The assumed input for the three given forms below in each row are /xwa/, /xwɑ/, and /xwi/ respectively.

Farsi: [xo], [xɑ], [xi]
Sorani Kurdish: [xwi], [xwɑ], [xwi]
Hawrami: [wa], [wɑ], [wi]

[1] Assistant Professor of General Linguistics. Razi University, Kermanshah, Iran (corresponding author); m.fattahi@razi.ac.ir
[2] PhD candidate of General Linguistics. Razi University, Kermanshah, Iran; mehdifattahi3@gmail.com

Kalhori Kurdish: [xwa], [xwɑ], [xy]

The above forms show the reactions each of the four language under study has regarding how much /xw/ plus a following vowel is tolerated, with Farsi and Hawrami showing no tendency to maintain the cluster, in complete contrast to Sorani Kurdish, in which /xw/ is left intact. One can roughly see the same thing in Kalhori Kurdish, with only one difference of /xwi/ changed into [xy]. The non-back high round vowel of [y] clearly has inherited features from both /w/ and /i/.

In this study, the analysis of the diachronic change of /xw/ consonant cluster was conducted considering four constraints of *COMPLEX SYLLABLE, a markedness constraint against any syllable bigger than CVC; MAX(initial), which disfavors any candidate with the initial consonant deleted; MAX[round], a faithful constraint demanding that candidates should retain their round feature; and UNIFORMITY, which demands that candidates avoid coalesce. Through the analysis of the collected data from an Optimality-theoretic point of view, the permutation of these constraints was determined in each of the languages under study as follows:

Farsi: $\text{MAX}_{\text{initial}}$, *CS >> MAX_{rnd}>> UNIFORMITY

Sorani Kurdish: $\text{MAX}_{\text{initial}}$, MAX_{rnd}, UNIFORMITY>> *CS

Hawrami: MAX_{rnd}, *CS, UNIFORMITY>> $\text{MAX}_{\text{initial}}$

Kalhori Kurdish: MAX_{rnd}, $\text{MAX}_{\text{initial}}$>> *CS >> UNIFORMITY

It can be deduced that except for Sorani Kurdish, these languages opt not to have any complex syllable and use the strategies of coalescence and deletion in order to prevent such syllables from being formed. This is evident in Sorani having all the faithfulness constraints crucially dominating the only markedness constraint of *COMPLEX SYLLABLE, while the same constraint is active and never crucially dominated in the three other languages. Also, Kalhori Kurdish and Farsi are the only languages in which UNIFORMITY is dominated by the other constraints, which results in validating coalescence as a strategy to be adopted so that /xw/ would be avoided. However, regardless of the strategy Farsi, Hawrami, and sometimes Kalhori Kurdish seem to adopt what these languages apparently share is their unwillingness to entirely do away with roundness. Hawrami keeps this feature at the cost of dropping the initial consonant of /x/, as a result of the faithful constraint of MAX(initial) being crucially dominated. Farsi, although merging /w/ and /a/ into [o], retains roundness. Kalhori Kurdish makes use of coalescence, forming the sound [y], which obviously borrows the roundness of the second segment in /xw/.

It must be mentioned that in order to come up with a comprehensive analysis, we might need to involve more than these four constraints in some of these languages. However, to simplify the presentation of the analysis, and more importantly, to fixate on the difference these languages have in terms of constraint permutation, this article sticks to these four constraints and shows how the difference in permutation of constraints can lead to phonological systems of languages diverging from one another.

Keywords: Consonant Cluster, Optimality Theory, Phonolgocial Change, Kurdish, Hawrami, Persian.