

**Extended Abstract**

**Investigating the Phonological Process of Consonants' Assimilation in  
Kalhori Kurdish Dialect Based on the Optimality Theory**

**Maryam Tafaraji Yeganeh<sup>1</sup>**

Assistant Professor of Linguistics, Department of  
Linguistics, Ilam University  
[yeganeh.maryam@gmail.com](mailto:yeganeh.maryam@gmail.com)

**Nemat Jahanfar**

Master of General Linguistics, Ilam University  
[nematjahanfar@gmail.com](mailto:nematjahanfar@gmail.com)

**Introduction**

Kalhori dialect is one of the Kurdish languages, whose speakers mainly live in Ilam, Kermanshah, Hamedan and Kurdish regions of Iraq (Jehan Far, 2:1395). Kalhori dialect, like other dialects, has a special phonetic and phonological systems, in some cases it is different from other Iranian dialects although it may have common points with other dialects and Persian language. One of the common phonetic and phonological processes in this dialect is the assimilation process, in which a phonetic unit is influenced by another phoneme in one or more features and becomes similar or completely similar to it. The present study investigates the Kalhori consonants assimilation within the framework of the optimality theory and try to answer following questions: Which types of consonant assimilation are there in Kalhori dialect? How can the assimilation process be analyzed based on the constraints in the theory of optimality? The cited linguistic data were obtained through interviews with native speakers of this language and using the author's intuition. Firstly, the types of assimilation in the Kurdish language were extracted, and then analyzed according to the ranking of the global limitations proposed in optimality theory and finally it has been analyzed.

**Research Method, Background and Purpose**

The purpose of the present study is to describe the assimilation process in the Kalhori dialect based on the optimality theory. This is a descriptive-analytical research and its data was collected through field method, interview, observation and reference to written sources.

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<sup>1</sup> Corresponding Author

Various studies have been done about assimilation process such as Hawkin (1984), Ledfoged (1982) and Katemba (1993), they believe that assimilation is the most common phonological process among languages, in which the adjacent sounds will become same or completely the same. Paget (1996), Bakovich (2000, 2007) and Pinros (2007) have discussed the limitations of the assimilation process according to OT.

In the Persian, Samre (1385), Haq-Shanas (1386), Ali-Najad (1395), Mashkoh Al-Dini (1377) and Modresi Qavami (1392) have briefly discussed about the assimilation process. Mahoutian (1390) and Kurd-Zafranloo (1388) have discussed about assimilation process in the framework of generative phonology.

Jam (2008) explained phonetic processes in the framework of OT. In Kalhari dialect, no research has been done about assimilation process. Zahedi (1392) and Ilati (1396) investigated the phonological processes of Sanandji and Saqzai Kurdish in the framework of the optimality theory. Jahan-Far (2015) and Tafarji Yeganeh and Jahan-Far (2016) investigated the repetition process in Kalhori dialect according to OT.

## Discussion and Review

In this section, the different types of consonant's assimilation process of in Kalhori dialect is analyzed According to optimality theory.

Nasal place assimilation: In Kalhari, the consonant /n/ is assimilated with the oral consonant after it, in the place of articulation. The variability of the phoneme /n/ is such that even if the consonant after it is labial and dental or bilabial, /n/ loses its phonetic identity and change into another phoneme, i.e. /m/ (Smare: 73, 1385).

Nasal place assimilation in Kalhori occurs in the following ways:

Assimilation of the anterior consonant /n/ with the bilabial voiced consonant /b/: in the Kalhori dialect, whenever the anterior consonant /n/ occurs before the bilabial voiced consonant /b/, it will be changed into bilabial nasal /m/.

AGREE is the cause of place of articulation assimilation. Nasal place assimilation occurs when the [place] AGREE constraint dominates the [place] IDENT constraint.

The place of articulation assimilation of the nasal consonant /n/ with prepalatal stop consonants: In Kalhori, whenever the anterior- nasal consonant /n/ is placed before the prepalatal consonants /C/ and /ʃ/, it becomes prepalatal [ɲ].

The place of articulation assimilation of the nasal consonant /n/ with palatal consonants:

In Kalhori, whenever coronal - nasal consonant /n/ is placed before the palatal consonants /g/, /k/ and /x/, it becomes a soft palatal form [ɲ].

The place of articulation assimilation of the nasal consonant /n/ with the uvelar consonant /q/:

In Kalhori dialect, whenever the coronal- nasal consonant /n/ is placed before the uvelar consonants /q/, it change into the uvelar consonant [N].

The place of articulation assimilation of the nasal consonant /n/ / and stop consonant /b/:

In Kalhori, in addition to the place of articulation assimilation, which leads to the production of labial, pre-palatal, palatal, and uvular nasal, the assimilation of coronal nasal consonants and voiced -stop-bilabia also occurs.

Assimilation of coronal voiced obstruent /d/ with coronal voiced consonant /n/:

In this case, the obstruent voiced consonant /d/ is completely assimilated with its previous nasal consonant /n/ in terms of manner of articulation.

Assimilation of coronal stop /t/ with coronal- fricative /s/:

In this type of assimilation which occurs in the consonant cluster /-st-/, the coronal- stop consonant /t/ is assimilated with fricative consonant /s/. So, the manner of articulation feature [+continuous] expands from fricative consonant to stop consonant.

### Conclusion:

The findings show that in Kalhori, there are various types of consonant assimilation, which includes the place of articulation assimilation of /n/ with /b/, palatal and uvular consonants and bilateral assimilation of /n/ with /b/, and the assimilation of the voiced coronal stop with coronal nasal, and assimilation of /n/ with /s/.

To analyze this process according to OT, based on most of the researches carried out in this field, it is assumed that the assimilation process occurs by the AGREE [F] group of constraints. This markedness constrain requires that the adjacent phonetic units be the same in [F] feature.

The reliability constraint of IDENT [F] is against the markedness constraint and requires that the phonological features of corresponding units in input and output have the same value.

To analyze the types of nasal place of articulation assimilation, ranking [place]IDENT<<[place]IDENTREL<<[place] AGREE , for two-way assimilation of nasal-coronal consonants with bilabial -stop -voiced , ranking NOCO [manner]AGREE<<[ place] AGREE, and for assimilation of coronal- stop voiced consonants with nasal-coronal , ranking [nasal] IDENT-<< [nasal]AGREE<<[nasal] IDENT- σ1 and for assimilation of coronal – stop consonants with coronal fricative consonants, the classification of [cont]IDENT >> [cont] >>AGREE [cont] IDENT- σ1 is proposed.

**Key word:** *Assimilation, Kalhori Kurdish dialect, Optimality theory, Constraints*

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