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Vowel Mutation in Hindko: Optimality Theory Analysis

¹Shahid Hussain Mir* ²Dr. Ameer Sultan

1. Lecturer, English, University of Kotli, Azad Jammu and Kashmir, Pakistan
2. Lecturer, Department of English, International Islamic University, Islamabad, Pakistan

*Corresponding Author   shahid.mir54@gmail.com

ABSTRACT

Vowel mutation is a productive process for forming new words in Germanic languages. The current study examines the vowel mutation process in Hindko, which is an Indo-Aryan dialect. The main focus of the paper is to analyze the process of vowel mutation resulting in derivations in Hindko. For the current study, the data was collected using a discourse-centered method. The study uses optimality theory as framework to identify the structural constraints on input and output vowel mutation. The study discovers that through this process, words of various categories can be formed in Hindko. The results of the study show that the causative verbs can be formed by lengthening the /o/ and /a/ in Hindko to make them de-verbal. In addition, the study also reveals that /a/ derives a noun from a verbal root in the language. The study recommends a spectrographic analysis of vowel mutation for further exploration of the phenomenon in the language.

| Keywords: | Causative Verbs, Derivation, Optimality Theory, Process, Spectrographic, Vowel Mutation |

Introduction

Grierson (1968) discusses the brief introduction of the Hindko language; he states that the language was used by the people living on mountains, and because of its association with mountaineers, it is called Hindko. Shackle (1980) states that "Hindko" is a term that refers to the communities residing in south Asian regions and speaking the language. Shackle (1980) says that speakers of Hindko are called Hindko speakers. Ahmed (2008) describes the language as one of the oldest languages spoken in south Asian countries, and he also states that Hindko traces can be found dating back to 1500 BC. Haroon (2011) states that Hindko language refers to socially and culturally diverse communities, and he states that based on its diversity, it is a complete language. Mir (2012) also discusses the features of Hindko that make it a complete language. Nawaz and Afsar (2014) state that Hindko speakers reside beside the Indus River.

In literature, Hindko has not been given much attention. Addelton's (1986) work describes the Hindko dialects, the region where the language is spoken, and statistics about the speakers. Rensch (1992) briefly discusses the origin of the language, and he explains the lexical and syntactic features of Hindko and the differences and similarities with other dialects spoken in the region and their mutual intelligibility.

Awan (2008) states that Hindko is a language spoken in the south Asian region and that it has distinct features from other regional languages spoken in the region. Haroon (2011) states that the Hindko language refers to socially and culturally diverse communities, and he states that based on its diversity, it is a complete language. Haroon (2011) states that Hindko is commonly known as a language, as most of the studies refer to it as such. Mir (2012) also discusses the features of Hindko that make it a complete language. Nawaz and Afsar (2014) state that Hindko speakers reside beside the Indus River. Moreover, Nawaz and Afsar (2013) study the syllable structure of the Hindko dialect, and they briefly describe the syllable structure of Hindko spoken in the Hazara region.

Mir (2012) states that there are many word formation processes in the Hindko language that can be used to derive new words in different categories. Mir (2012) states that in Hindko, affixation is a word formation process through which new words are derived, and this process is very productive in the language. He states that different types of affixes are used to derive new words and perform morphological and syntactic functions.

Vowel mutation is a word formation process used to form new words, especially in Germanic languages like English. Wolfe (1976) discusses that mutation is a feature of languages having certain phonological constraints in the CV structure. In addition, Reh (1993) states that western Nilotic shows some important and complex types of vowel mutation, and these patterns are applied in different languages of the world to form new words. The current study aims to investigate the process of vowel mutation in Hindko and how the process is productive in generating new words.

Literature Review

Vowel mutation is a phonological process in Germanic languages. Anderson (1985) explains that vowel mutation is a distinctive feature of these languages, e.g., Anderson (1985) describes the mutation process in Portuguese like /fiz/ becomes /fez/, "I did," and */fetsi/ becomes /fitsi/, "He did." Anderson (1985) also states that the mutation process is still productive in these languages. He describes how the mutation process is fruitful in the central Venetian language, where vowel changes can result in a new word of a different category and, in some cases, change the tense. However, this linguistic process is sometimes also called an umlaut. Ringe (2009) states that vowel mutation is also known as umlaut or, in Germanic languages, I-mutation. Ringe (2009) states that it is simply achieved by changing the internal sounds, especially vowels. He states that in Celtic languages, the process is known as "affection." Ringe (2009) states that mutation is usually used to alter the particular vowels within the words to derive new linguistic units in Germanic languages. Spencer et al. (1998) state that mutation is a significant phonological process in Germanic languages because it is productive and visible in the morphological segmentation of these languages.

Vowel mutation is not simply a vowel change. Hooper (1976) discusses that vowel mutation is a complex process in which, besides vowel alteration, many other phonological processes are involved. Hooper (1976) states that in Athabascan languages, the mutation process is used to achieve certain grammatical targets like tense and aspect. In these languages, vowel mutation shows derivation and tense by changing the word internally. Hamano (1998) states that in Indo-European languages, ablaut and umlaut are the phonological processes, which refer to a similar kind of phenomenon but are slightly different from mutation. Kula (2000) describes that in Indo-European languages, the variation in vowels in the input and the output is found in many daughter languages, and the process is used to perform grammatical functions only.

Bauer (2004) states that in Indo-European languages mutation means vowel alternation and that it is used to perform grammatical functions like showing tense, e.g., sang becomes sung, etc. So far, no study has been done to investigate the mutation process from a derivation perspective in Hindko. The current study hypothesis is that mutation is not just used for performing grammatical functions but also for derivation purposes, like in Hindko. The study explains the productivity of mutation in Hindko from an optimization perspective.

Material and Methods

The purpose of the study is to explain the vowel mutation processes and their productivity in Hindko. The nature of the study is descriptive. The study used the ordinary speech of Hindko speakers to collect the data. The conversations were recorded in public places like hotels and marriage ceremonies. A diary was used to note the sentences and words spoken by the native speakers. Orthographic techniques were applied to the transcription. The data analysis was done using the optimality theory to determine the constraints on vowel mutation described by Hannahs (2007).

Results and Discussion

A) 'o' as causative Derivational

By lengthening the vowel 'o' in the root causative verbs can be derived in Hindko. In this context. it works as de-verbal.

   1. a) tor (you move) __   toor (cause of movement)

 ' Tuu gadii **toor** ' 'drive the car'

 b) moR (you turn)__mooR (cause of turn)

'Etho e moR_____' etho **mooR** '

'turn from here'____ ' cause of turn'

c) goR (lay down)_____gooR (cause of laying)

'Tuu Tala goR' ' Tuu as ko Tala gooR'

 'you lay down'   'you make him lay down'

Table 1
Lengthening of /o/

Input goR---[gooR]		*Medial /o/	*Non-final /o/	IDENT-IO
a.	geR		*!	
b.	gooR			*

The above data given in 1 (a-c) illustrates that by lengthening the root vowel 'o' a new word of the same category is derived e.g 'moR' is root which is imperative but when length of the root vowel is increased the outcome is 'mooR' which shows the cause of turn. The alternations in (1), along with the necessary distinction of the non-alternating in (2), are accounted for in a mono-stratal optimality theoretic analysis in Hannahs (2007). According to the study there, it is not necessary to include either stress or morphological complexity, as some earlier theories have done, in order to account for the essential alternations. Instead, reference to phonological position alone is adequate. The interplay of a high-ranking structural constraint against schwa in the last syllable, an input-output fidelity constraint on vowel characteristics, and a restriction against a high center rounded vowel produces the proper outcomes most often.

B) 'a' as de-verbal

By lengthening the vowel 'a' in the root causative verbs can be derived in Hindko. In this context it works as de-verbal.

   2. a) Char (graze) ___ chaar (cause of grazing)

'bakrii ko **chaar** anR' ---'Get the goat graze'

b) baR (enter) _____ baaR (cause of entrance)

'chokhraan ko andar **baaR** ' make the animals enter'

c) saR (burn) _____saaR (cause of burn)

' agii bich saR aj' ' agii bich saaR aj'

Table 2
Lengthening of /a/

Input SaR---[SaaR]		*Medial /a/	*Non-final /a/	IDENT-IO
c.	SeR		*!	
➡ d.	SaaR			*

The above data given in 2 (a-c) shows that in Hindko language by lengthening the root vowel 'a' a new word of the same category is derived e.g 'char' is root which is imperative but when length of the root vowel is increased the outcome is 'chaar' which shows the cause of grazing.

C) **'a' as de-Nominal**

By lengthening the vowel 'a' in the root words of nominal category can also be derived. In this context it works as de-Nominal. It adds meaning to root.

3. a) kaR (stall of woods)_____ kaaR (bigger stall of woods)

' Alama sunR lokRian da **kaaR** laya' ' Alam gathered the stall of woods'

b) jaR (root) _____ jaaR (bigger root)

'moko rah bich **Jaar** ak thaya ' I found a bigger root in the way'

c) phar (a Piece of wood) _____ Phaar (a Bigger piece of wood)

Aslam sunR boty bicho ak phaar kapeya___ 'Aslam cut a big piece of wood from the tree.

Within the OT theoretical framework, the following tableaux of the /a/ vowel lengthening/mutation can be derived in Hindko by means of structural constraints on the input and the output:

Table 3
Lengthening of /a/

Input JaR---[JaaR]		*Medial /a/	*Non-final /a/	IDENT-IO
e.	JeR		*!	
➡ f.	JaaR			*

The above data given in 3 (a-c) depicts that in Hindko language by lengthening the root vowel 'a' a new word of the nominal category is derived e.g 'kaR' is root which is noun shows 'small stall of woods' but when length of the root vowel is increased the outcome is 'kaaR' which gives the meaning 'a bigger stall of woods'.

D) **'a' as noun derivational**

By lengthening the vowel 'a' in the verbal root words of nominal category can also be derived.

4. a) kaT (you wool)_____ kaaT (instrument use for wooling   )

' maRii **kaaT** kutha hy ' Where is my wooling instrument?

b) kap   (cut)   _____ kaap (a piece of grass land)

'Yara maRy naal ey **kaap** mar choR ' Dear help me in cus of this piece of land'

c) Nach (dance)_____ naach (dance)

'Moko apraan **naach** das' ' show me your dance'

Within the OT theoretical framework, the following tableaux of the causative can be derived by means of structural constraints on the input and the output:

Table 4
lengthening of /a/

Input Nach---[Naach]	*Medial /a/	*Non-final /a/	IDENT-IO
g. Nech		*!	
⟹ h. Naach			*

The above data given in 4 (a-c) shows that in Hindko lengthening the root vowel 'a' a new word of the nominal category is derived from verbal roots e.g. 'Nach' is root which imperative sense 'you dance' but when length of the root vowel is increased the outcome is 'naach' which gives the meaning 'dance' and is noun in the language.

Conclusion

The findings of the study show that in Hindko language vowel mutation is a productive process of forming new words of various categories. The data shows that in the language unlike Germanic languages derivations can occur e.g. in the language by lengthening the vowel /o/ and /a/ causative verbs can be formed. Moreover, data indicates that by lengthening the /a/ in the root a new word of nominal category can be derived from verbal roots. In addition, data shows that in the language word formation is not simply concatenation of affixes but root internal changes can also be productive for deriving new words.

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