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Phonological Variations between Odia and Sambalpuri: Optimality Theoretic Approach

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Abstract

This paper attempts to study the phonological variation between Odia and Sambalpuri, a variety of Odia using the Optimality Theoretic framework (Prince and Smolensky, 1993). Since Sambalpuri is a distinctively different variety, the paper primarily considers and discusses three phenomena, (i) the epenthesis of /r/ in the coda position in Sambalpuri verbs, (ii) the deletion of vowels (both monopthongs and diphthongs except /aɪ/) and (c) the lack of open syllables which makes Sambalpuri strikingly different form Odia Phonology. The phonological changes in Odia construction such epenthesis of /r/ as in /bʊlɪba:/> [bʊlba:r] 'to roam' and deletion of a word-medial and word-final vowel as in /pɔ.ɖhɪ.ba:/> [paɖʰ.ba:r] 'to study' and /bʰɔlɔ/> [bʰɔl] 'good' respectively in Sambalpuri show how Sambalpuri prefers closed syllables while Odia prefers Open syllables. Odia, this paper tries to put forth, examine and analyse the differences and similarities between the varieties using the OT approach in order to exhibit the difference. In addition to the changes which make the syllables of Sambalpuri different from those of Odia, other phonological changes such as Vowel harmony are also observed in certain constructions of Odia words. For instance when /soɪba: / > [sʊɪba:r] 'to sleep' the vowel /o/ becomes harmonious with the following high vowel /ɪ/ and raised to /ʊ/. However, the diphthong /aɪ/ is adapted without any harmony. Apart from some newly created constraints, some well-known constraints are also used like *CODA, CONTIG-IO and IDENT (asp) to capture the phonological changes occurring when an Odia word comes in contact and is used in Sambalpuri.

Keywords: Odia, Sambalpuri, phonological variation. Phonology, Optimality theory.

1. Introduction

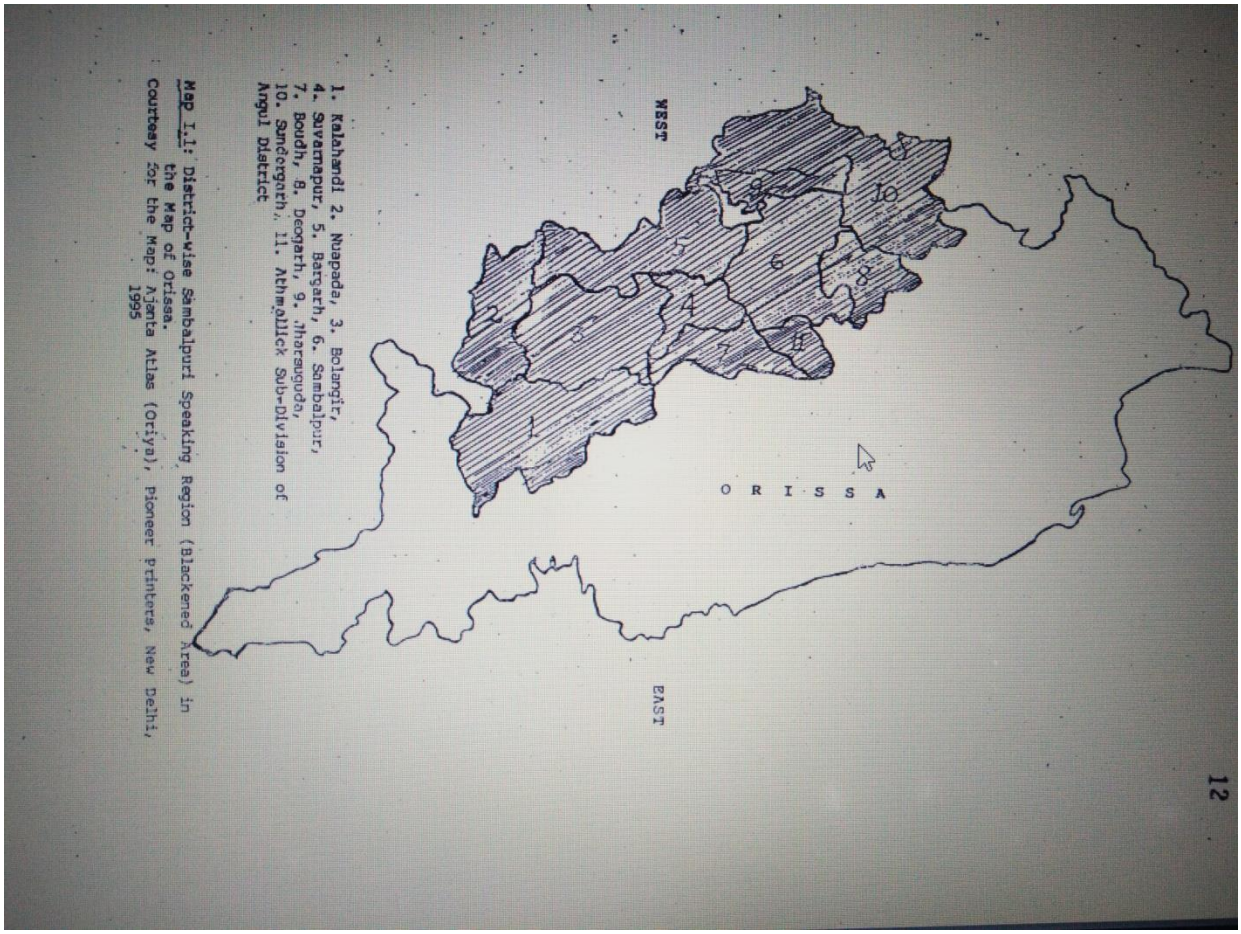
Odia is an Indo Aryan language spoken in the state of Odisha and parts of Chhattisgarh, West Bengal, Andhra Pradesh and Jharkhand. It is also designated a classical language (2014) and has many variations, Mughalbandi being considered the standard one. On the other hand Sambalpuri can be considered a variety because it shares certain similarities with Odia words but one must also keep in mind that it heavily influenced by Awadhi, Chhattisgarhi and Bagheli ([muɖ̈ri]< /muɖ̈ri/(ring), [bəɖ̈ba] < /bəɖ̈ba/(commit) are a few words borrowed from Chhattisgarhi and [pol] < /pol/ (bridge) and [cɪkən] < /cɪkən/ (slippery) are borrowed from Awadhi. Sambalpuri is spoken in Western Odisha and comprises the districts of Kalahandi, Nuapada, Bolangir, Suvarnapur, Bargarh, Boudh, Deogarh, Jharsuguda, and Sundergarh and in the border areas of Chhattisgarh. Sambalpur became a part of Odisha in the year 1905, before which it was a part of the Central Province (Sahu, 2001).

1.1 Language Contact

There are two types of language contact: direct and indirect; and to be able to differentiate between them we need to take the help of open and close class categories. When only open class categories are borrowed it is called indirect language contact, open class words are generally the lexicon and vocabulary of the language. Idioms and free floating words such as interjections and exclamations can also be borrowed without changing the structure of the language. The prototypically closed classes — morphology and syntax — are only affected if the type of contact is direct and intense. The reason for this is simple: speakers do not alter closed classes unless there is strong exposure to a new system. This means that a degree of bilingualism is necessary in a situation of face-to-face contact for the elements of one language's closed class to penetrate that of another language (Thomason, 2001).

It is believed that linguistically and culturally Sambalpuri people are more similar to Chhattisgarhi people than the Odia people (Sahu, 1982). Unlike Odia, Sambalpuri is a consonant ending language. This paper will use the Optimality Theory framework and show the phonological variation between the two varieties and attempt to explain why they exist.

1.2



Source: Sahu, Gobardhan. '*Generative Phonology of Sambalpuri-A Study'*. PhD thesis. Sambalpur: Sambalpur University, 2001.

The map above shows the location of Sambalpur and other Sambalpuri speaking regions in Western Odisha where Sambalpuri is spoken.

2. Research Questions

The paper aims to answer questions such as

1. What are the phonological changes occurring between Sambalpuri and Odia due to language contact.
2. Why is there an insertion of /r/ in the coda position at the end of the word in Sambalpuri words?
3. Why does the medial vowel get deleted in most syllables/words in Sambalpuri words?
4. Why does the last vowel present in the Odia word get deleted in most Sambalpuri words?

3. Literature Review

This paper talks about how the phonology of Sambalpuri is different from Odia and it tries to analyze the different phonological processes that make Sambalpuri different from Odia. One of the processes that we see is vowel deletion which is extremely prevalent in Sambalpuri. There are many reasons for vowel deletion one of them is when two consecutive vowels occur. This is dispreferred cross linguistically. This can be resolved by either deleting the first vowel or the second vowel according to the requirement of the language. Vowel deletion under hiatus can also be accompanied by compensatory lengthening. Vowel deletion can also occur between consonants and this is called Syncope which can be seen in many Sambalpuri verbs. Deletion can also target vowels at the absolute edges of words, usually when the affected syllable is unstressed or in some way non-prominent, this is yet another phenomenon which can be seen in Sambalpuri words. This is called Apocope and results in a word final closed syllable (Harris, 2011). The paper by John Harris on Deletion gives a very good insight into the different kinds of vowel deletion and under the contexts they appear. This paper aims to understand all the phonological variations occurring in Sambalpuri using the Optimality theory framework. Since OT is a considerably new framework there is hardly any work done in Sambalpuri. **.** *A Phonological Study of Sambalpuri* by Madhab Sahu (1982), *Evolution of Sambalpuri Language and its Morphology* by Ashok Kumar Dash (1990) *and Generative Phonology of Sambalpuri- A study* by Gobardhan Sahu (2001) are some of the works available on the phonology of Sambalpuri. They have served as a basic reading for this paper as the researcher is not a native speaker of the Sambalpuri language. These works show the phonological and morphological differences in between Odia and Sambalpuri but none of them have shown the differences using the optimality theory framework and that is what this paper attempts to do since OT is the most popular method used in phonology these days.

4. Data and Discussion

4.1 Word Medial Vowel Deletion

The medial vowel gets deleted when an Odia word is borrowed in Sambalpuri as Sambalpuri prefers closed syllables.

ODIA	SAMBALPURI	GLOSS
(a) /pɔɖ^{h} ɪba/	/paɖ^{h} bar/	“to study”
(b) /gad^{h} eɪba/	/gad^{h} bar/	“to bathe”
(c) /hɔsɪba/	/hɔsbar/	“to laugh”
(d) /bʊlɪba/	/bʊlbar/	“to roam”

(e) /ra:nd^{h} ɪba/	/ra:nd^{h} bar/	“to cook”
(f)) /k^{h} eɭɪba/	/k^{h} elbar/	“to play”

4.2 Exceptions to Word Medial Vowel Deletion

ODIA	SAMBALPURI	GLOSS
(a) /k^{h} aɪba:/	/k^{h}aɪba:r/	“to eat”
(b) /ga:ɪba:/	/ga:ɪba:r/	“to sing”
(c) /paɪba/	/paɪbar/	“to get”
(d) /haɪ/	/haɪ/	“yawn”
(e) /gaɪ/	/gaɪ/	“cow”

Here the vowel gets deleted word medially, the probable reason is that since Sambalpuri words prefer to end with consonants, the syllables also prefer to be closed syllables. There are exceptions to this case where certain adjacent vowels do not get deleted and are used as such. The adjacent vowels /aɪ/ is present in Odia words and remains as such when adapted in Sambalpuri. The vowels are not deleted and there is no harmony. The reason behind this is maybe that /aɪ/ is one of the diphthongs present in Hindi and hence that makes it acceptable in Sambalpuri as it is influenced by Awadhi and Chhattisgarhi.

4.3 Vowel Harmony

ODIA	SAMBALPURI	GLOSS
(a) /soɪba/	/suɪbar/	“to sleep”
(b) /k^{h} odʒɪba/	/k^{h} udʒbar/	“to search”

All the above examples also show insertion of the consonant /r/ word finally in Sambalpuri words. Here the vowel /o/ whenever succeeded by the vowel /ɪ/ becomes the vowel /ʊ/ due to vowel harmony.

4.4 Word Final Vowel Deletion

ODIA	SAMBALPURI	GLOSS
(a) /b^{h} ɔlɔ/	/b^{h} ɔl/	“good”
(b) /bag^{h} ɔ/	/bag^{h} /	“tiger”
(c) /kukurɔ/	/kukur/	“dog”

(d) /loko/	/lok/	“people”
(e) /gɔc^{h} ɔ/	/ga:c$^{h/}$	“tree”
(f) /mac^{h} ɔ/	/mac^{h}/	“fish”
(g) /p^{h} ʊlɔ/	/p^{h} ʊl/	“flower”

Here the final vowel gets deleted when a word is borrowed into Sambalpuri. This happens because like Chhattisgarhi and Awadhi, Sambalpuri also prefers closed syllables.

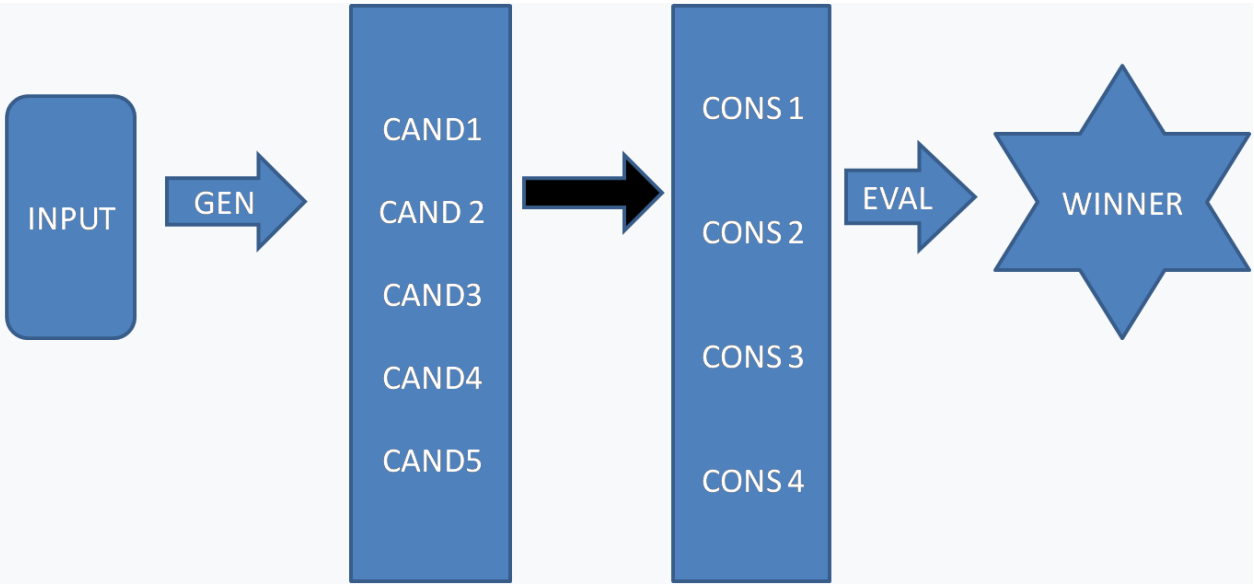
5. Methodology

The data for this research has been collected using both primary and secondary sources. The informants for collecting the data on Sambalpuri are the students of University of Hyderabad and The English and Foreign Languages University. Data has been collected from 3 boys and 1 girl all of whom are in the [18 -25] age group. The secondary sources are all the relevant work on Odia and Sambalpuri phonology like *Phonological Study of Sambalpuri* by Madhab Sahu (1982), *Evolution of Sambalpuri Language and its Morphology* by Ashok Kumar Dash (1990) *and Generative Phonology of Sambalpuri- A study* by Gobardhan Sahu (2001) and *Optimality Theory* by Rene Kager (1999) which have been published.

5.1 An Overview of OT

The Optimality theory framework was given by Prince and Smolensky in the year 1993. OT or more commonly known as Optimality Theory is a concept in generative phonology which was brought into the picture as a response to a “conceptual crisis at the center of phonological thought” (Prince and Smolensky, 1993). This theory became popular by Prince and Smolensky’s book *Optimality Theory: Constraint Interaction in Generative Grammar*”. OT is used not only in phonology but also in other fields of linguistics like syntax, historical linguistics, semantics and sociolinguistics. Alan Prince and Paul Smolensky are considered to be the pioneers of OT but it was expanded and explained in a structured way by John McCarthy and René Kager respectively. It is a constraint based approach and the constraints in OT are universal in nature, can be violated and their ranking can be changed depending on the language. The major components of OT are LEX, GEN, EVAL and CON. However, CON consists of two types of constraints: Markedness and Faithfulness. Markedness constraints demand that the output should be well formed whereas the Faithfulness constraints demand that the output should resemble the input. A tableau is created which has grammatical or phonological constraints which are ranked depending on the structure of the language. The ranking is not universal. The constraints are violated by the underlying representations of the surface form and the input candidate which incurs the least violation is chosen as the optimal output candidate. If the constraints which are high ranked are violated it is considered a fatal violation and is represented by this (*!) symbol.

5.2 A diagrammatic representation of OT



6. Optimality Theoretic Analysis

6.1 r- Insertion at the end of Sambalpuri Verbs and Word Medial Vowel Deletion

/pɔɖh ɪba/ changes to /pɔɖh.bar/ in Sambalpuri.

This phenomenon here is an example of Syncope. Syncope is the loss of a vowel or consonant from the interior of the word. Vowel deletion is a syllable-based condition and occurs when the structure of the syllable is not preferred by the language being discussed. The other phenomenon being discussed here is the addition of /r/ at the end of all Sambalpuri words. This phenomenon is called paragogue which is the addition of a sound at the end of the word (usually a vowel but consonants can be added too). The addition of a vowel is cross linguistically accepted and is seen in Dravidian languages like Tamil and Telugu too. **Examples** /eg/ (egg) in English becomes /egʊ/ because Telugu words prefer to have open syllables. Japanese syllables also traditionally end in a vowel or /n/ so when a foreign word is adopted it automatically has a parogogic effect: 'hotel' becomes 'hoteru' as /r/ is the default epenthetic consonant used intervocalically in Japanese.

The constraints used are *V]σ, r]#VERBS , IDENT(asp) and *CODA

***V]σ:** There must be no vowels at the end of the syllable.

r]#VERBS : Verbs in this language must end with a /r/ word finally.

IDENT (asp): The feature aspiration must be present in the input and output segments. (Kager,1999)

***CODA** : The syllable must have no coda. (Kager,1999)

Here the input is from Odia/pɔɖh ɪba:/ and it becomes /pɔɖh ba:r/ in Sambalpuri.

/pɔɖ^{h} ɪba:/	***V]σ**	**r]#$_{VERBS}$**	**IDENT (asp)**	***CODA**
a. pɔ.ɖ^{h} ɪ.ba	***!	*		
b. ☞pɔɖ^{h}.bar				**
c. pɔ.ɖɪ.ba	***!	*	*	
d. pɔɖ.bar			*!	**

The first candidate violates the constraints *V]σ and r] #VERBS because each of its syllables ends with a vowel and it does not end with /r/. The third candidate violates the constraints *V]σ r]#VERBS and IDENT (asp) as it does not have the aspiration feature intact. All of the above candidates violate higher ranked constraints they cannot be optimal candidates. The optimal candidate in this case is b) because it only violates *CODA which is lower ranked.

6.2. **/kh aɪba/** in Odia becomes /**khaɪbar/** in Sambalpuri

/ k^{h} aɪ.ba:/	r] #$_{VERBS}$	IDENT (asp)	*CODA
a) k^{h} aɪ.ba	*!		
b) ☞ k^{h}aɪ.ba:r			**
c) kaɪ.ba	*!	*!	
d) ka.bar		*!	*
f)kɪ.bar		*!	*

The higher ranked constraint *V]σ is not used in this table because this table shows the phenomenon where the adjacent vowels /aɪ/ do not get deleted and are borrowed as such. This is the exception to the rule in Sambalpuri.

Candidates a) and c) violate the constraints- r]#VERBS as Sambalpuri verbs end with /r/ but these candidates do not. Candidate d) and e) violate IDENT (asp) as the feature aspiration is not present in them. These candidates violate higher ranked constraints and cannot be the optimal candidate. The candidate who incurs minimal violation is candidate b) and hence it is the optimal candidate. It violates a constraint *CODA but since it is lower ranked it does not make a difference.

6.3 /k^{h} eɭɪba/ in Odia becomes **/k^{h} elbar/** in Sambalpuri.

/ k^heɭɪba:/	*V]σ	r] #VERBS	IDENT(asp)	*CODA
a) k^he.ɭɪ.ba:	***!	*!		
b) ☞ k^hel.bar				**
c) kel.ba:r			*!	**
d) k^heɭ.ba:		*!		*

The candidates a) violate the highest ranked constraint *V]σ thrice as there are open ended syllables in each word. Candidates a) and e) violate the constraint r]#VERBS as they being verbs must end with /r/ but that is not the case. Candidate c) and d) violates the faithfulness constraint IDENT(asp) and also the constraint *CODA. The optimal candidate in this case is b) as it incurs minimum violation by violating the lowest ranked constraint *CODA twice. Since it is lowest ranked its violation does not affect the candidate much.

Sambalpuri like Awadhi and Hindi does not have /ɭ/ and hence in order to replace it from the borrowed Odia words it uses the closest equivalent /l/.

6.4 Vowel Harmony

/soɪba/ becomes /sʊɪbar/ in Sambalpur

Here we get to see the case of regressive assimilation of vowels which happens from right to left and here the preceding sound is affected by its following sound. The vowel /ɪ/ affects the vowel /o/ and makes it a high vowel /ʊ/. This is called vowel harmony.

/soɪba/	Hiatus-Raising	r] #VERBS	CONTIG I-O	IDENT I-O
a) soɪ.ba	*!	*		
b) ☞ sʊɪ.bar				**
c) sɪ.ba:		*!	*!	*
d) sʊ.ba:r			*!	***

The constraints used are Hiatus Raising, r] #VERBS , CONTIG-IO and IDENT-IO

Hiatus Raising: In V1 and V2, maximize the height of V1. (Kager, 1999)

CONTIG I-O: The scope of this constraint has been increased and instead of no medial epenthesis and deletion the constraint here penalizes deletion and epenthesis but spares segment replacement. (Kager, 1999)

IDENT I-O: There must be correspondence between the segments of the input and output. (Kager, 1999)

Candidate a) violates the highest ranked constraint Hiatus-Raising as /o/ is not a high vowel. Candidate c) violates r]#VERBS as it does not end with /r/ being a Sambalpuri verb. Candidates c) and d) violate CONTIG I-O as there is medial epenthesis and deletion of a vowel. These candidates violate the higher ranked constraints and are hence not optimal candidates. Candidate b) is the optimal candidate as it incurs minimum violation by violating the lowest ranked constraint IDENT-IO.

6.5 Word-final Vowel Deletion

Also known as Apocope, this occurs at the end of word and refers to the deletion or loss of a sound usually a vowel and most likely the unstressed vowel. This happens due to syllabic requirements of the language. Sambalpuri being a consonant ending language deletes the word final vowel from Odia words in order for it to fit to the requirements of the concerned language.

/bagh ɔ/ becomes /bagh/ in Sambalpuri

/bag^{h} ɔ/	*V]σ	IDENT(asp)	IDENT I-O
a) bag^{h} ɔ	**!		
b) ☞ bag^{h}			*
c) ba:g		*!	**
d) ba:gɔ	**!	*	*

When Odia nouns are adapted in Sambalpuri then the last vowel is deleted in order for Sambalpuri words to have a coda.

Candidate a) and d) violate the highest ranked constraint twice because they are disyllabic words which end with a vowel and *V]σ constraint says that the syllables must not end with a vowel. Candidate c) violates IDENT (asp) because it does not have the feature aspiration. Candidate b) is the optimal candidate as it incurs minimum violation by violating only the lowest ranked constraint IDENT I-O.

7. Conclusion

Sambalpuri is a very good example of how contact induced changes affect a language. Language contact happens when two languages are in close proximity to each other over a long period of time. Earlier Sambalpur was part of the Central province but later in 1905 it became a part of Odisha and hence it has a lot of contact induced changes. It has been influenced by Odia over the years and acquired a lot of its characteristics and it has also been influenced by Awadhi and Chhattisgarhi. Sambalpuri has borrowed a lot of words from Odia but has simultaneously tried to maintain its syllable structure. In the case of verbs where Odia verbs ends with a vowel Sambalpuri verbs prefer to end with a consonant and hence add a /r/ or rhotic consonant at the

end of all verbs. In case of nouns, Odia being an abugida (alphasyllabary writing system) script ends with an inherent /ɔ/ sound in most cases. Sambalpuri deletes this /ɔ/ sound and prefers to end with a consonant. It also deletes vowels word medially and the /ļ/ in Odia is replaced by the /l/ in Sambalpuri

7.1 Limitations of the Study

This paper focuses only on some phenomena occurring when Odia words are borrowed into Sambalpuri. Vowel deletion and consonant insertion are mainly focused on. There may be many more changes happening which this paper hasn't talked about due to time constraints. For example what kind of changes takes place when the roots of the words are native and when they are non-native. This can give future researchers an idea about how to go about doing further research by answering some vital questions about the phonology of Sambalpuri.

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