Non- Prototypical Reduplication in Odia

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Abstract: The paper discusses in detail echo formations and expressives found in the Odia language and the strategies for forming them. The complex semantic structure as well as the wide semantic and conceptual space they occupy, make them complex categories that have been ignored both by Western and Asian linguists because they are a prototypical grammatical feature not fitting the traditional grammar writing (Abbi, 2018). Odia has morphological fixed segmentism with the variants /ph/ and /m/. Morphological fixed segmentism is a kind of affixation, and so it resembles affixing morphology generally.

[gaɽɪ > gaɽɪ phaɽɪ 'car and other transport' ; ʧɪra > ʧɪra mɪra ' torn and such']

This paper endeavours to find the reason behind this particular choice of phonemes by Odia speakers. Furthermore, the paper investigates if Odia base-reduplicant structures follow the Syllable Contact Law (Vennemann, 1988). According to the Syllable Contact Law, sonority should fall across syllable boundaries. This paper proves that Odia base-reduplicant structures follow the Syllable Contact Law as rise in sonority across syllable boundaries is a marked feature in Odia.'

Keywords: Odia, Reduplication, Echo words, Expressive, Fixed segmentism, Sonority.

About the Author

Suhasini Dash is a PhD scholar in the Department of Phonetics and Linguistics, The English and Foreign Languages University, Hyderabad. Her research interest lies in the phonology and morphology of Odia (an Indo Aryan Language spoken in the eastern state of Odisha). She primarily uses the Optimality Theoretic framework in her research. There has not been much work done in Odia with regards to phonology and morpho-phonology and she aims to change that and in the process contribute to a more lucid understanding of her mother tongue from a linguistic perspective. She has presented papers in both national and international conferences in order to shed light on the same.

1. Introduction

Reduplication involves the repetition of the whole or part of a lexical item carrying a semantic modification. Reduplication is a purely morphological process in linguistics where affixation takes place whereas phonology treats reduplication not as a process of affixation but as a process where segmental changes occur from the base to the reduplicant. The position of the reduplicant may vary from language to language i.e. it may attach to the stem or base as a suffix or prefix. In Odia, the reduplicant gets attached as a suffix. The process involves the repetition of the base or stem either completely /ʧɔk ʧɔk/ 'the dazzling effect of lightning' or partially /pɔɽʰa pɔɽʰɪ/ ' to study and such' in Odia.

Odia is an Indo-Aryan language spoken primarily in the state of Odisha. The standard variety of Odia is called Mughalbandi which is being discussed in this paper. The strategies for forming echo formations in Odia, their semantic features, and sonority in expressives have not been discussed in previous works and hence will be discussed in this paper exhaustively. Abbi (2018) has extensively discussed echo formations in relation to their structure and semantics and the analysis of Odia echo words will be modelled on her work. Odia has morphological fixed segmentism, which is a kind of affixation. Fixed segmentism means an invariant segment appears where copying might have been expected (McCarthy *et al.*, 1999).

Reduplication is a pan Indian phenomena and hence many linguists have worked on it by analyzing different languages. Apte (1968) dealt with reduplication, echo words and onomatopoeias in Marathi and has classified them separately. Singh (1969) talks about how echo words in Hindi are classified under partial reduplication and he has also studied echo words by giving examples from different word classes. Bhaskararao (1977) discusses reduplication, echo words which he classifies as partial reduplication and onomatopoeias in Telugu. Mohan (2008) discusses echo constructions in Indian languages such as Hindi, Bengali, Marathi, Tamil, Telugu and Kannada. He has attempted to study echo formations at the sub lexical, lexical and phrase level.

A major work which focuses on reduplication in Odia is by Dattamajumdar (1999). This work is based on the pattern of reduplication present in Odia, Assamese and Bengali and points out the differences between them through a contrastive study. When it comes to Odia, Dattamajumdar has not only discussed the types of reduplication that exists in Odia but also the semantic features of reduplicated structures like nouns, verbs, pronouns nominal modifiers and verbal modifiers, numerals and interjections.

Kar and Bhattamishra (2017) have discussed the types of reduplication present in Odia and the framework they have used to represent reduplicative structures is the Optimality Theoretic framework. They have also attempted to establish the constraint hierarchy for reduplication in Odia. Their work focuses on the phonological factors which determine the shape of the reduplicant and studies the relationship between the base and the reduplicant in expressives and echo words using Optimality theoretic constraints, which are used to analyze base - reduplicant structures.

As evident from the information above, not much work has been done on Odia reduplication. The few works which have analyzed Odia reduplication have majorly conducted a contrastive study and thus have not analyzed echo formations and expressives from a generative point of view. This paper not only employs the generative perspective but also discusses fixed segmentism and how it functions in Odia base reduplicant structures. This sheds light on how echo formations in Odia operate and why there is no phonological reason for having contrasting phonemes in echo formations. Moreover, expressives have also been analyzed using the Syllable Contact Law which has not been attempted by previous works.

The paper is organised in a way that it presents the ideas from general to specific. First a concept is explained and then it is substantiated with Odia examples in order to describe how it operates. Section 2 discusses echo formations, their features and semantics. Section 3 gives all possible types of base reduplicant structures in Odia; structures where the consonant is overwritten and the ones where the vowel is overwritten. Then section 4 discusses the methodology used to conduct the study and gives a brief overview of phonological rules. Section 5, discusses the rules for these changes to occur. Section 6 elaborates on morphological fixed segmentism in Odia. The next section, section 7, discusses expressives and its types in a compact manner and section 8, describes sonority in Odia in great detail. Finally, section 9 concludes the major findings of the paper.

2. Echo Formations (EFs)

An echo formation (EF henceforth) can be defined as a partially repeated form of the base word where the reduplicator is a canonically copied form of the base with slight alteration. The alternation is brought about either by replacing the initial sound or initial syllable of the base word [reduplicant] by a replacer phoneme or a replacer syllable in the copied material. The entire construction of reduplicant and reduplicator constitutes an echo construction or echo formation. The copied element may be referred to as an 'echo word' (Abbi, 2018). He also discusses the five ways of forming echo formations in South Asian languages and we will see below how many of them apply to Odia.

1. Languages that allow the initial sound of the base word to be replaced by some specific sound that is unique to that language belong to the Indo Aryan, Indo Iranian, and Munda languages. In each language, there is some specific unique sound that plays the role of the replacer sound. Thus, this unique sound replacer is an identity marker of that language and there are several legends in each speech community that exposes interesting ways to find out the identity of a speaker by identifying the way s/he forms the echo word.

In Odia, the replacer sounds are /pʰ/ and /m/.

2. In Tamil, a Dravidian language, the word for 'tiger' is puli which becomes puli gili 'tiger etc.' after going through the EF process. The initial syllable /pu/ is replaced by another syllable /gi/ keeping intact the canonical shape of the base word. Thus, if the base word is /cv-x/ (where cv is the initial syllable of the word and the -x is the sequel), the EF of it would be /gi-x/. This replacer syllable /gi-/ is prefixed to all the echo words including those which have an initial open syllable. Thus, /v-x/ will result in a /v-x gi-x/ configuration. Odia does not have such constructions in reduplication.

3. The third strategy is to have the reverse order of the reduplicant and reduplicator. It has been observed that some languages such as Telugu, but not Tamil, offers not many but few examples of echo word preceding the base and not following it, unlike the prototypical pattern in South Asian languages. Odia too has a limited set of reverse reduplication constructions but they have adapted and do not belong to the native Odia vocabulary. Consider:

(1)

    a) samna > amna samna 'in front of each other'
    b) pakʰɔ > akʰɔ pakʰɔ 'nearby'
    c) pʰaltu> altu pʰaltu 'to emphasize on how absurd something is'

4. There is a fourth strategy that is followed in forming echo words in South Asian languages, viz. vowel alteration of the initial syllable of the base word and copying the other elements of the word. Odia also has constructions where there is vowel alternation in the last vowel of the word.

(2)

    a) bɔʈɑ > bɔʈɑ bɔʈɪ 'grinding and such'
    b) pɔɽʰɑ > pɔɽʰɑ pɔɽʰɪ 'studying and such'

5. The fifth strategy is forming echo words by expressive morphology.

(3)

    a) ʈʰo ʈʰo – ' expressive for loud laughter'
    b) gɔm gɔm – 'expressive for sweating profusely'

2.1 Other features of Echo Formations

These were discussed by Abbi (2018).

1. EFs is a single lexical category but not a single structural category. Each constituent of EF can take various inflectional and derivational affixes making them multiple structures. However, the whole construction stands for one specific meaning.
2. The echo word has neither an individual occurrence nor any meaning of its own in the language. It acquires the status of a meaningful element only after it is attached to the base.
3. Functionally, all content words can be echo formed. This applies to Odia too.

(4)

    a) pɔɽʰɑ pɔɽʰɪ - 'to study and such' (verb)
    b) akʰɪ pʰakʰɪ- 'eye and such' (noun)
    c) kɔɭa mɔɭa- 'black and such' (adjective)

2.2 Semantics of Echo formations

One to one correspondence of the structure with its associated meaning gives us system-iconicity across languages (Abhi, 2018).

Most important, EFs are (i) encode one – or more – schematic meanings and (ii) may involve more than one conceptual-semantic domain. These can be regarded as semantically "rich" categories or semantically elaborate grammatical categories (Kuteva 2009; 2010) since they relate to more than one conceptual-semantic domain simultaneously. Let us consider various shades of meaning underlying EFs. The semantic field of the EFs can be represented as a cluster of the following meaning components. The foremost use of these constructions is to represent **generality** and **plurality** such as *ʧa pʰa* in Odia refers to related items like 'tea and snacks'. All languages of South Asia below the Himalayan region –, i.e. excluding the Tibeto-Burman and Tai Kadai families, share this semantic construct by EF suggesting an areal nature of the construction. Closely related to the concept of 'plurality' is the fact that the same EF may generate a **superordinate** structure enfolding many subordinate ones under it. For instance, in South Asian languages, there are no equivalents for English words like 'furniture' and 'stationary'. Names for any object belonging to these collective nouns can be echo formed to represent the superordinate structure, e.g., the same word *ʧa pʰa* that we cited above in a different context means 'tea, coffee, cigarettes etc' and is not necessarily restricted to 'tea and biscuits'. This facility of creating a superordinate structure exists in all South Asian languages. They are also used to **lessen the effect** of the base word especially when used in a verbal category for example *bɔʈa bɔʈɪ* 'grinding and such'. EFs may also be used to **increase the intensity** of echo construction is formed by vowel alternation for example *dʰum dʰam* 'pomp and show'.

3. Echo Formations in Odia

1) Onset in the reduplicant changes to /pʰ/ and where the word begins with a vowel the phoneme /pʰ/ is added in the form of an onset

(5)

Table 1 shows reduplicant is /pʰ/ in this type of EFs

base	Gloss	Reduplication	Gloss
a) gɑɽɪ	'car'	gɑɽɪ pʰɑɽɪ	'Car and such'
b) gʰɔnʈɪ	'bell'	gʰɔnʈɪ pʰɔnʈɪ	'bell and such'
c) ʧa	'tea'	ʧa pʰa	'tea and such'
d) gʰora	'horse'	gʰora pʰora	'horse and such'
e) ʧɪnɪ	'sugar'	ʧɪnɪ pʰɪnɪ	'sugar and such'
f) ɑɭu	'potato'	ɑɭu pʰɑɭu	'potato and such'
g) ɪʈa	'brick'	ɪʈa pʰɪʈa	'brick and such'
h) ɔda	'ginger'	ɔda pʰɔda	'ginger and such'

In the above data (Table 1), we can see that the fixed segment in reduplicant is /pʰ/. There is no phonological environment that induces the reduplicant to become /pʰ/. It can occur before any vowel and replace any phoneme. In case the base begins with a vowel, the reduplicant is always a /pʰ/

(2) **Onset in the reduplicant changes to /m/**

(6)

Table 2 showing reduplicant is /m/ in this type of EFs.

Base	Gloss	Reduplication	Gloss
a) ʧɪrɑ	'torn'	ʧɪrɑ mɪrɑ	'torn and such'
b) sukʰɪlɑ	'dry'	sukʰɪlɑ mukʰɪlɑ	'dry and such'
c) ɖʰelɑ	'stone'	ɖʰelɑ melɑ	'stone and such'
d) kʰɔʈɔ	'bed'	kʰɔʈɔ mɔʈɔ	'bed and such'
e) galu	'liar'	galu malu	'liar and such'

From the above data, we see examples where /m/ is the reduplicant. There is no explanation as to why some words choose /pʰ/ and the others choose /m/. This phenomenon can only be explained by stating that Odia has fixed morphological segmentism where the reduplicant has affixal status and hence contrasts exist with no possible phonological conditioning for these choices.

In case the base begins with /pʰ/, the reduplicant is always /m/. For example let us consider the examples below.

(7)

a. pʰɔʇɔ mɔʇɔ ' fruits and such'

b. pʰulo mulo ' flowers and such'

c. pʰɔrua mɔrua ' sindoor box and such'

(3) Reduplication where the vowel changes word finally in the reduplicant

(7)

Table 3 shows /a/ > /ɪ/ word finally

Base	Gloss	Reduplication	Gloss
a) bɔʈa	'grind'	bɔʈa bɔʈɪ	'grinding and such'
b) pɔɽʰa	'study'	pɔɽʰa pɔɽʰɪ	'study and such'
c) kʰodʒa	'search'	kʰodʒa kʰodʒɪ	'search and such'
d) dekʰa	'looking'	dekʰa dekʰɪ	'looking and such'
e) rɔga	'anger'	rɔga rɔgɪ	'anger and such'

From the above data we can see that in echo words where the base ends with the central and low vowel /a/, the final sound in the reduplicant changes to the front and high vowel /ɪ/. This can be seen as a case of complete dissimilation as /a/ is a low vowel and /ɪ/ is a high vowel.

(4) Alteration of a vowel word medially

(8)

Table 4 showing /u/, /o/, /ɔ/ > /a/ word medially

Base	Gloss	Reduplication	Gloss
a) ʧup	'quiet'	ʧup ʧap	'quiet and such'
b) bʰul	'wrong'	bʰul bʰal	'wrong and such'
(c) dʰum	'pomp'	dʰum dʰam	'pomp and such'
(d) dʰɔŋɔ	'manner'	dʰɔŋɔ dʰaŋɔ	'manner and such'
(e) gol	'healthy'	gol gal	'healthy and such'

From the above examples we can see that the medial vowel irrespective of vowel quality changes to the low and central vowel /a/ but on closer inspection of the data given above we see that the medial vowel of the base is always a back vowel which changes to the low and central vowel /a/ thereby exhibiting vowel fronting.

4. Methodology

The data has been collected from both primary and secondary sources. The data is qualitative in nature. The researcher has collected the primary data from the spontaneous speech of native Odia speakers and from her own speech as she herself is a native speaker of Odia. The data was collected from 10 native Odia speakers; 6 females and 4 males. Their age range was from 20-80 and all of them speak the standard variety of Odia which is spoken in the Khordha and Cuttack district. The participants' speech was recorded and later transcribed manually. The table presented below displays the categorization of the participants of the study.

Table 5 gives details of the interviewees

Age Groups	No of participants	Sex	Native odia speaker of the standard variety
20-40	3	Females	✓
40-60	4	Males	✓
60-80	3	Females	✓

The secondary data has been collected from previous works on Odia reduplication and other grammar books which discuss reduplication.

For the analysis, after transcribing, the changes from the base to the reduplicant have been encapsulated using phonological rules. Phonological rules are the formal representations of a phonological or morphological process in a language. They are generally used in Generative phonology. Goldsmith (1995) defines phonological rules as mappings between two different levels of sound representation; abstract level and surface level.
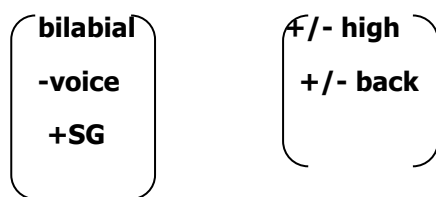
Hayes (2009) describes them as 'generalizations' about the different ways a sound can be pronounced in different environments. They help in identifying in a clear and concise manner the environment which triggers the phoneme change. Phonological rules can be written using distinctive features and the symbols of the International Phonetic Alphabet.

Hayes (2009) also discusses a few characteristics of phonological rules.

- **Language specificity** : a phonological rule present in one language may not be present in other languages.
- **Productivity** : They can be applied to new words
- **Untaught and unconscious** : speakers apply these rules without being aware of it and they acquire the rules early in life without any explicit teaching.
- **Intuitive** : The rules give the speakers intuitions about what words are 'well formed' or 'acceptable'.
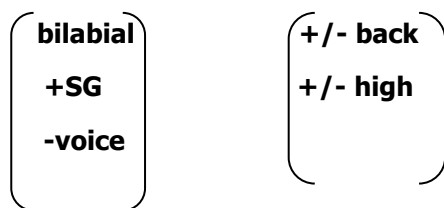
5. Rules for echo formations in Odia
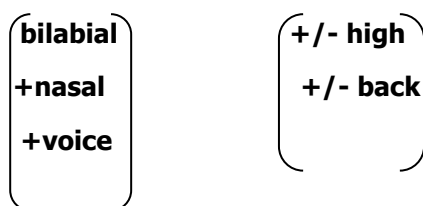
(9) a. C → pʰ   / ____   V

$$
\begin{bmatrix} \text{bilabial} \\ \text{-voice} \\ \text{+SG} \end{bmatrix} \qquad \begin{bmatrix} \text{+/- high} \\ \text{+/- back} \end{bmatrix}
$$

A consonant sound changes into /pʰ/ when it is followed by any vowel irrespective of vowel quality

b.   ɸ   → pʰ   /   # V

$$
\begin{bmatrix} \text{bilabial} \\ \text{+SG} \\ \text{-voice} \end{bmatrix} \qquad \begin{bmatrix} \text{+/- back} \\ \text{+/- high} \end{bmatrix}
$$

When a base begins with a vowel, then the first phoneme in the reduplicant is /pʰ/

c. C → m   /   __ V

$$
\begin{bmatrix} \text{bilabial} \\ \text{+nasal} \\ \text{+voice} \end{bmatrix} \qquad \begin{bmatrix} \text{+/- high} \\ \text{+/- back} \end{bmatrix}
$$

A consonant sound changes into /m/ when it is followed by any vowel

d. a →   ɪ   /   __ #

$$\begin{bmatrix} +\text{low} \end{bmatrix} \quad \begin{bmatrix} +\text{high} \end{bmatrix}$$

The back, low vowel /a/ becomes the high, front vowel /ɪ/ in certain base reduplicant structures in Odia. This can be seen as a case of complete dissimilation.

e. u/o/ɔ →   a   /   C__ C

$$\begin{bmatrix} +\text{back} \end{bmatrix} \begin{bmatrix} \text{central} \end{bmatrix}$$

The back and high vowel /u/ changes to the central and low vowel /a/. The position of the tongue changes from back to central. This is a phenomenon of vowel fronting.

6. Morphological fixed segmentism

Fixed segmentism is a phenomenon where a reduplicative morpheme contains segments that are invariant rather than copied. There are two types of fixed segmentism; phonological and morphological. Phonological fixed segmentism is studied under the OT (optimality theory) rubric of *Emergence of the Unmarked*. In contrast morphological fixed segmentism is a kind of affixation, so it resembles affixing morphology (McCarthy *et al.*, 1999).

Fixed segmentism, the likes of which are seen in Odia has a morphological basis. The /pʰ/ and /m/ act as an affix that appears simultaneously along with the reduplicative copy and overwrites part of it (McCarthy and Prince 1986, 1990).

6.1 Evidence for the affixal status of the fixed segment.

- Affixes are permitted to contain marked structures and contrasts among them are also possible.
  For example /pʰ/ being an aspirated phoneme is definitely more marked than its unaspirated counterparts. Odia reduplicants have both /pʰ/ and /m/ as overwriting strings and hence it also fulfils the criteria of contrasts and there is no phonological explanation as to why /pʰ/ is chosen in some cases and /m/ in others.

- The overwriting strings always occur in the peripheral position and this is so because they act as affixes. Infixation can also be seen in overwriting strings.
  In Odia, an affix consisting of just the vowel /a/ overwrites the nucleus; /gol/ 'healthy' > /gol gal/ 'healthy and such'.

- Overwriting morphemes can alternate by suppletion or allomorphy just like affixes. (McCarthy *et al*, 1999). This is not prominently seen in Odia reduplication and is quite rare; /moʈa/ > /moʈa soʈa/ ' fat and such', /gɔpɔ sɔpɔ/ 'story and such'.

7. Expressives

The term expressives is an umbrella term for onomatopoeias, sound symbolism, ideophones and imitatives. *Onomatopoeias* are generally thought to be those lexical items that may or may not be reduplicated and which represent sounds, for example, ka ka 'cawing of a crow'. *Sound symbolism* is considered a "phenomenon in which the affective component of meaning exceeds the referential component in a particular utterance" (Vatte, 1969), for example, bʰɔk bʰɔk 'expressive for vomiting vigorously'. Not all expressives can be considered 'acoustic symbols' as not all of them describe noises. They are neither 'lexically discrete' nor are they as iconic as they are made to appear. *Imitatives,* or *mimic words* (Abbi, 1975) are compounds that represent natural sounds and feelings verbally, for

example, ʧɔk ʧɔk 'expressive for the dazzling effect of lightning'. *Ideophones* are words "displaying phonological symbolism of any kind (acoustic, articulatory, structural) and having distinct morpho-syntactic properties; according to Diffloth (1976), "ideophones include onomatopoeias as a subclass", for example, gɔm gɔm 'expressive for sweating profusely'.

The majority of expressives in Indian languages are reduplicated and constitute a single lexical category. Expressives can express all five senses of perception, i.e. of smell, sight, touch, hearing and taste. Consider for example some words from Odia and other Indian languages. Dhundari data is taken from *Reduplication in Dhundari* (Asad, 2018).

A. Sense of hearing or acoustic noises

    (10) a. ɖʰo ɖʰo   'sound of firing'
             b. su su   'sound of wind blowing'

B. Sense of sight

    (11) a. ʧɔk ʧɔk   'dazzling effect of lightning'
             b. ʤʰɔk ʤʰɔk   'shining'

C. Sense of touch

    (12) a. ʧɪp ʧɪp   'sticky'
             b. ta:tɪ ta:tɪ   'hot' (dhundhari)

D. Sense of smell

    (13) a. poɖa poɖa   'burnt smell'
             b. mɔhɔ mɔhɔ   good smell'

E. Sense of taste

    (14) a. kəʈər kəʈər   'crunchy' (Dhundhari)
             b. bʰur bʰurɪ   'brittle'   (Dhundhari)

Expressives are not only restricted to perceptual sensory sounds but can also be used to describe feelings, situations and attributes. Expressives are most commonly used to describe disorder, confusion and untidiness.

8. Sonority in Odia

Through the decades sonority has been defined differently by different scholars. Selkirk (1984) defines it in terms of the degree of opening and hence vowels are the most sonorous as they are most open. Vowels are followed by glides, liquids, nasals, fricatives, affricates and plosives in decreasing order of sonority. Ladefoged (1993) defines sonority as the perceptual saliency or loudness of a particular sound. The focus of this section is to see if the sonority in Odia base and reduplicant rises or falls across a syllable boundary. The term for this phenomenon is **Syllable Contact Law** (Venneman, 1988)

"A syllable contact A\$B is more preferred, the greater the sonority of the offset and less the sonority of the onset B."

The sonority of segments should fall across syllable boundaries as it is cross linguistically preferred in languages. The markedness of a coda onset sequence increases with sonority rise and decreases with sonority drop (Gouskova, 2003).

 (15) **a. if sonority ↑ across ϭ.ϭ = Syl Contact Law violated**

     b. if sonority ↓ across ϭ. ϭ = Syl Contact Law followed

I will now give examples from complete reduplication and echo words in Odia and see if they follow the Syllable contact Law or not.

Odia mostly prefers open syllables hence the sonority in most cases falls across the syllable boundary as vowels are the most sonorous sounds but there are exceptions in this case also.

Expressives such as onomatopoeias which are reduplicated in Odia will be discussed below to show how in certain cases Odia violates the syllable contact law.

(16)

Table 6 representing expressives in Odia either following or violating the syllable contact law

	Expressive	Gloss	Syllable contact law
a)	tʰo tʰo	Expressive for loud laughter	Sonority decreases
b)	pʰ ɔr pʰ ɔr	Expressive for the fluttering of bird's wings	Sonority decreases
c)	gɔm gɔm	Expressive used to describe sweating profusely	Sonority decreases
d)	rɔtʃ rɔtʃ	Expressive for the sound of chopping	Sonority increases
e)	tʃɔk tʃɔk	Expressive for the dazzling effect of lightning	Sonority increases

From the above table 6 it is clear that in certain expressives, Odia violates the Syllable contact law as sonority increases across syllable boundaries; in (d) /tʃ/ is an affricate and /r/ is a liquid (the sonority of affricates is less than liquids and in (e) /k/ is a plosive and /tʃ/ is an affricate (plosives are the least sonorous).

In cases where the onset changes in echo word formation and where the final vowel in the word changes, Odia follows the syllable contact law as the words always end with a vowel; which means they are open syllables. Hence the sonority always decreases thereby obeying the syllable contact law. The simple explanation for this is that vowels are the most sonorous and hence if a consonant is present as the onset of the adjacent syllable, the sonority will definitely fall.

Cases in echo word formation where the vowel changes word medially also follow syllable contact law in most cases even though some of the examples given in table (8) do not end with a vowel but rather a consonant. For example tʃup tʃap (quiet and such) where the sonority rises as /p/ being a plosive is the least sonorous sound, in others i.e examples (b) and (e) the coda is /l/ which is a liquid and the onset of the adjacent syllable is a plosive /bʰ/ and /g/ respectively, hence sonority falls as liquids are more sonorous than plosives.

From the above discussion it can be concluded that the rise in sonority across the syllable boundary in base reduplicant constructions in Odia is a marked feature as most base-reduplicant structures follow the Syllable Contact law.

9. Conclusion

The paper elaborates the reduplication processes prevalent in Odia. To begin with, the paper gives an account of echo formations and their characteristic features. It then moves on to briefly discuss their semantics and structural attributes and how morphologically enriching they are, even though they never appear in written speech. Using examples from the Odia language, the paper has proved that Odia echo formations have fixed segmentism, specifically morphological fixed segmentism, which is a type of affixation. This is the reason why Odia has contrasting phonemes /pʰ/ and /m/ as the reduplicant. The affixal status of the overwriting strings has also been proved with evidentiary support.

Further, the study briefly discusses expressives in Odia and also takes sonority into account to prove that in base reduplicant constructions, Odia follows the Syllable Contact Law in most constructions though exceptions also

exist. Since Odia prefers open syllables, the syllable contact law is followed in most cases but certain echo words and most expressives generally have closed syllables; this is where the syllable contact law comes into play. These are the only cases where exceptions can be found and therefore, violation of the syllable contact law is a marked feature in Odia.

　　　To conclude, this paper discusses echo formations in great detail from a phonological point of view and states certain phonological rules under which the base - reduplicant change takes place. The sonority of expressives has also been discussed using the Syllable Contact Law. More work can be done on reduplication in Odia, by discussing the types of reduplication that occur in other grammatical categories ie., verbs, quantifiers, adjectives or wh- questions etc.

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