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Phonological Processes in Bagri: A Descriptive Analysis of Reduplication

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Abstract

Bagri, a lesser-documented Indo-Aryan dialect spoken predominantly in parts of Rajasthan, Haryana, and Punjab, exhibits distinctive phonological processes contributing to its phonotactic structure and rhythm. This study investigates core phonological phenomena of Reduplication in Bagri. It explores how this process interacts to maintain phonological harmony, facilitate ease of articulation, and adhere to Bagri's phonotactic preferences. Using a descriptive linguistic approach of Auto segmental Phonology, this research captures the structural intricacies and underlying rules governing these processes in Bagri, thereby enhancing the typological understanding of Indo-Aryan languages.

1. Introduction

Bagri, a dialect belonging to the Western Rajasthani subgroup of Indo-Aryan languages, is spoken primarily in the northwestern regions of India, covering parts of Rajasthan, Haryana, and Punjab. Despite its wide geographic distribution and substantial number of speakers, Bagri remains underrepresented in mainstream linguistic research. Most existing studies on Indo-Aryan phonology tend to concentrate on Hindi, Urdu, Punjabi, and Bengali, thereby marginalizing dialects like Bagri, which exhibit unique structural features deserving of scholarly attention.

This article aims to describe the Reduplication that characterizes Bagri. By focusing on phenomena such as assimilation, vowel epenthesis, reduplication, and vowel shifting, this study seeks to provide a comprehensive account of Bagri phonology and highlight its divergence from and convergence with other Indo-Aryan languages.

2. Background of Research and Methodology

Bagri, a dialect belonging to the Western Rajasthani subgroup of Indo-Aryan languages, is spoken primarily in the northwestern regions of India, covering parts of Rajasthan, Haryana, and Punjab. Despite its wide geographic distribution and substantial number of speakers, Bagri remains underrepresented in mainstream linguistic research. Most existing studies on Indo-Aryan phonology tend to concentrate on Hindi, Urdu, Punjabi, and Bengali, thereby marginalizing dialects like Bagri, which exhibit unique structural features deserving of scholarly attention. This article aims to describe the reduplication that characterizes Bagri. By focusing on phenomena such as assimilation, vowel epenthesis, reduplication, and vowel shifting, this study seeks to provide a comprehensive account of Bagri phonology and highlight its divergence from and convergence with other Indo-Aryan languages.

This study adopts Goldsmith's auto segmental phonology (1976), which provides an analytical framework for understanding reduplication in Bagri as a multi-tiered phenomenon, rather than treating reduplication as a purely morphological operation. Auto segmental theory reveals how reduplication simultaneously manipulates independent phonological tiers, including segmental, tonal, and stress tiers. Goldsmith's auto segmental phonology posits that phonological representations consist of parallel, independently ordered tiers. These tiers are Skeletal Tier (CV-tier), segmental tiers, tonal tier, and stress or prosodic tier. These tiers represent templates of consonants (C) and vowels (V), as well as phonemes

and their features. Tone and stress are independent and associative, while metrical and prosodic structure are related. This analysis examines Bagri reduplication exclusively through the Goldsmith auto segmental lens, demonstrating how distinct reduplication types emerge from differential operations on the tier. To ensure comprehensive phonological coverage, the study uses selected lexical items from the standardized Swadesh list (core vocabulary resistant to borrowing). Moreover, there were terms unique to Bagri (e.g., agricultural tools, kinship terms, etc). The purpose behind using culture-specific terms is to capture the phonotactic patterns unique to Bagri, such as /tab≅r/ "child".

Data were collected from native Bagri speakers (N = 27) across four representative districts of Rajasthan (see Table). Participants were selected through stratified purposive sampling to ensure balanced demographic representation.

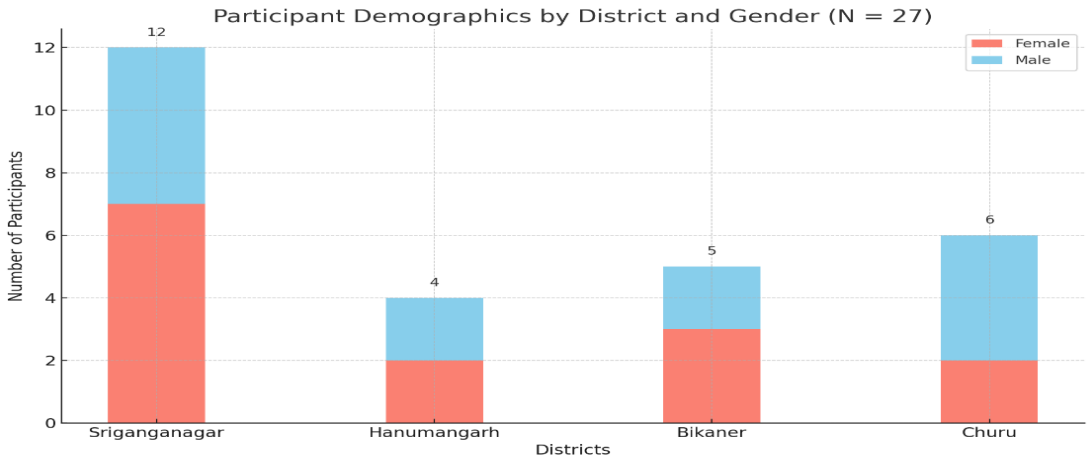

Figure 1: Demonstrating the data collected from various sources

3. Reduplication in Bagri

Reduplication in Bagri is often used to convey emphasis, plurality, or intensity, and it plays a significant morphological role in the dialect. Partial or complete repetition of the root word's syllables is applied based on semantic requirements. This is a common morphological phenomenon across many Indian languages, enriching Bagri's lexicon.

Base Form	Gloss	Reduplicated Form	Function
/na.no/	'small'	*na.no-na.no*	Emphasis (into small pieces)
/de. |o/	'give'	le. |o-de |o	Emphasis on giving

Table 1: Examples of Reduplication in Bagri

For instance, the reduplication of *"na.no" ("small") as "na.no-na.no"* intensifies the meaning, indicating a tiny size or quantity. This morphological strategy is critical in expressing varying degrees of meaning.

Complete reduplication

Bagri involves the full phonological copy of a root or word, typically used for semantic intensification or habitual aspect. From the auto-segmental perspective, this process represents a complete replication of the CV tier, segmental tier, tonal tier, and occasionally the prosodic tier, resulting in a structurally isomorphic second form.

Base Word	Reduplicated Form	Meaning	Segment change	Type
c&Hora	c&Hora-c&Hora	All boys	Same	Complete
mI□Ho	mI□Ho-mI□Ho	Kind of sweet	same	Complete
□ab↔r	□ab↔r-□ab↔r	All children	Same	Complete
admi	admi-admi	all men	same	Complete

kitab	Kitabã-kitabã	only books*	Same	Complete
c&Hori	c&Horijã-c&orrijã	all girls	Same	Complete
kar	karã-karã	all cars	Same	Complete

Table 2: Complete Reduplication (Total Reduplication)

In Feature Geometry, the second copy retains the complete [Root] structure, including [Laryngeal], [Supralaryngeal], [Place], and [Manner] nodes. There is no simplification or pruning of the tree. Instead, features like [±nasal], [±continuant], [±high], etc., are reinstantiated in the second item. This process illustrates a non-derivational duplication that is motivated semantically, rather than phonologically. Significantly, the prosodic structure may shift, often assigning secondary stress to the second form, revealing a suprasegmental effect even in identical segmental structures.

Base Form: c&Hora

Skeletal Tier: C V C V

| | | |

Segmental Tier: c&H o r a

Tonal Tier: (null for Bagri)

Stress Tier: σ (primary)

Reduplicated Form: c&Hora-c&Hora

Skeletal Tier: C V C V - C V C V

| | | | |- | | | |

Segmental Tier: c&H o r a c&H o r a

Tonal Tier: (null)

Stress Tier: σ (primary) σ' (secondary)

Complete reduplication in Bagri (e.g., 'c&Hora-c&Hora' "all boys", 'mI□Ho-mI□Ho' "kind of sweet") represents the most transparent autosegmental mechanism: simultaneous copying of skeletal, segmental, tonal, and stress tiers.

The crucial observation is that the skeletal and segmental tiers are faithfully replicated, but the stress tier undergoes modification: the reduplicant receives secondary (or reduced) stress in many contexts. This demonstrates that Goldsmith's framework captures how identical segmental content can receive distinct prosodic prominence through independent tier manipulation. Autosegmentally, this reflects the principle of tier independence: the copying operation on the segmental tier does not automatically determine stress assignment on the stress tier. Instead, language-specific constraints govern stress distribution, allowing the reduplicant to be phonemically identical to the base yet prosodically distinct.

Echo reduplication (n+nonsense rhyming)

In autosegmental phonology, echo reduplication operates via floating consonantal nodes that override the initial segment on the second copy. While the CV-tier remains fixed (i.e., same number of syllables and syllable weight), only the onset features are detached and replaced.

Word	**Reduplicated form**	**Meaning**	**Segment Change**	**Type**
ro∝◊i	ro∝◊i-rY∝i	food etc.	o→Y	Echo
paNi	paNi-pYNi	liquids etc.	o→Y	Echo
gaba	gaba-gYba	clothes etc.	o→Y	Echo
pisa	pisa-pYsa	money etc.	o→Y	Echo
beli	beli-bYli	friends etc.	o→Y	Echo
kItab	kItab-kItYb	books etc.	o→Y	Echo
ga |a	ga |a-gY |a	songs etc.	o→Y	Echo

Table 3: Echo reduplication

Autosegmentally, this reflects the principle of tier independence: the copying operation on the segmental tier does not automatically determine stress assignment on the stress tier. Instead, language-specific constraints govern stress distribution, allowing the reduplicant to be phonemically identical to the base yet prosodically distinct.

Base: roti

Skeletal Tier: C V C V

| | | |

Segmental Tier: r o □ i

Reduplicated (Echo): rY∝i

Skeletal Tier: C V C V (IDENTICAL to base)

| | | |

Segmental Tier: r Y □ i (onset copied; vowel undergoes backening)

Echo reduplication (e.g., ro□i 'bread', kitab-kitYb 'books', pa |i-pY |i 'liquids') presents a more complex autosegmental operation. The skeletal tier remains identical, but segmental content undergoes substitution, particularly in the onset position. Critically, the CV-skeleton is entirely preserved, ensuring that the reduplicant maintains syllabic structure and weight. However, the segmental tier exhibits selective copying: the onset [r] is retained, but the vowel undergoes a feature change [o]→[Y] (backing and rounding). Echo reduplication demonstrates that the skeletal tier constrains phonological output independently of segmental content. The reduplicant's phonotactic well-formedness is determined by its skeletal structure, not its segmental realization. This reveals a fundamental principle of autosegmental theory: structure and content can be dissociated.

Numeral reduplication

Numeral reduplication (e.g., *ek-ek* 'one each', *do-do* 'two each') involves segmentally identical forms but with altered suprasegmental structure. Autosegmentally, this reflects the insertion of floating intonational boundary tones between the two reduplicants.

Word	Reduplicated form	Meaning	Segment Change	Type
ek	ek-ek	One each	Same	numeral
do	do-do	Two each	Same	Numeral
kitta	kitta-kitta	How much to each	same	Numeral

Table 4: Numeral Reduplication

Numeral reduplication (e.g., *ek-ek* 'one each', *do-do* 'two each') involves segmentally identical forms but with altered suprasegmental structure. Autosegmentally, this reflects the insertion of floating intonational boundary tones between the two reduplicants.

Base Numerals: ek-ek

Skeletal Tier: V C # V C

| | | | |

Segmental Tier: e k e k

Intonational Tier: L% (base) H% (boundary tone; phrase boundary)

According to Goldsmith's framework, the intonational tier encompasses floating tones that mark the boundaries of prosodic phrases. The insertion of a mid-high boundary tone (or pause) between the two identical numerals creates pragmatic distinctiveness without segmental change. This demonstrates that reduplication can be a fundamentally prosodic phenomenon, where the significant morphological operation occurs at the suprasegmental tier rather than at the segmental tier.

4. Conclusion

Goldsmith's auto segmental phonology elegantly captures Bagri's reduplication diversity through a unified principle: tier-selective copying. Complete, echo, intensification, and numeral reduplication each emerge as distinct manipulations of independent phonological tiers rather than as ad hoc morphological rules. The CV-skeleton, segmental tier, and suprasegmental tiers operate with their own associative logic, allowing the same root or word to be reduplicated in phonologically distinct yet functionally coherent ways.

Reduplication type	**Skeltel tier operation**	**Segmental tier operation**	**Suprasegmental tier operation**	**Tier feature**
Complete	Fully copied (CVCVlCVCV)	Fully copied	Distinct stress placement	Full tire replication
Echo	Copied with vowel change (o→Y)	Selective (onset)	Retained from base	Skeletal independence
numeral	Fully copied	Fully copied	Intonation boundary	Floating tone insertion

Table 5: Reduplication strategies in Bagri

This analysis demonstrates that Bagri reduplication is not morphological happenstance but rather a systematic phonological phenomenon governed by universal principles of multi-tiered organization. Goldsmith's auto segmental framework reveals that morphosemantic functions—distributivity, intensification, non-specificity, and pragmatic marking—are fundamentally encoded in phonological structure through tier-specific operations.

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