



Patterns of Consonant Weakening and Alternation in Ganjami Odia

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Abstract

The paper focuses on the consonantal restructuring such as deletion, lenition in intervocalic positions and word-initial substitution in the Odia speech variety known as Ganjami Odia, which is mainly spoken in Ganjam and its neighbouring districts in Odisha state. Based on synchronic data collected from 88 adult vernacular speakers across eight contact-intensive localities, the distribution of /b/, /s/, /g/, /h/, and /m/ reduction alongside word-initial /l/ → /n/ substitution is analysed. The results present an interaction among phonetic reduction, morphological conditioning and language contact. The research region comprises the speakers of Odia (Indo-Aryan), Telugu and other Dravidian languages. The regular and constant contact between these speakers has consequently contributed to the regular sound changes and conventionalization of these reduced forms. The results include a verbal paradigm that provides a structural environment in which variable phonetic realisations can become regularised in the intervocalic positions in Ganjami Odia. This interpretation is consistent with the characterisation of Odisha as a mini-linguistic area, where prolonged multilingual interaction has encouraged phonological and grammatical convergence among Indo-Aryan, Dravidian, and Munda languages (Reddy, 2016). The language, therefore, demonstrates how sound changes can interact with grammatical structure and contact-induced convergence to produce stable dialectal patterns. Adopting an areal-convergence framework can reveal contact-induced change (François, 2011) and provide a more detailed account of the processes that shape the phonemic, syllabic, and morphological structure of Ganjami Odia.

1. Introduction

Odia (ISO 639 code – ori) (also known as Oriya) is the official language of the state of Odisha in India, which borders other states such as West Bengal, Chhattisgarh, Jharkhand, and Andhra Pradesh, each with a unique official language. There are three major varieties of Odia spoken in the bordering regions of Odisha, e.g. Sambalpuri Odia, Balasori Odia and Ganjami Odia. The Ganjami Odia region includes speakers of Odia (Indo-Aryan) and Telugu (Dravidian). Thus, Ganjami Odia depicts the linguistic texture of both languages. The regional Odia variety ‘Ganjami Odia’ manifests distinct phonological characteristics from Standard Odia.

The phonological segments in the collected data indicate that /s/, /h/, and /g/ are primarily deleted in verbal environments, whereas /b/ is more broadly distributed across the relevant forms. For example, forms of ‘come’ and ‘sit’ show the loss of /s/: Standard Odia /as-ibɔ/ ‘will come’ is realised as /aiɔ/ in Ganjami Odia, while Standard Odia /bɔs-ibi/ ‘will sit’ is reduced to /bɔi:/ in Ganjami Odia, with both /s/ and /b/ absent in the latter form. The sound /h/ may likewise be deleted in intervocalic positions, as in /rɔhila/ ‘stayed’ > /rɔi:la/ and /rɔhila/ >

/rɔi:lu/. The examples in Telugu language such as /ku:rtʃo/ ‘sit’ realised as /ku:/, similarly /tinu/ ‘eat’ > /ti:/, /tʃu:du/ ‘see / watch’ > /tʃu:/, /ra:ji/ ‘write’ > /ra:/ etc. present consonant reduction pattern across these verbs in imperative form.

The verbal examples of Ganjami Odia clearly specify both the scope and the limits of deletion. There are neither uniform nor unrestricted linguistic conditions in the consonant deletions. Rather, it is segment-specific, position-sensitive, and morphologically conditioned. Consonant deletion is generally evident in the community's casual speech. It refers to the fact that bilingual use or regular contact between Odia and Telugu has conventionalised variable phonetic realisation as stable dialectal forms over the period. It is interesting to note that lenition/deletion operates intervocal position in verb morphology, whereas, nasal substitution occurs in the word-initial position reflecting linguistic divergent characteristics in the contact zone.

An explanation can account for the distribution of the deletions in a language. It is likely to combine internal phonetic pressures with morphological and contact-related influences, as in Ganjami Odia. It is universally accepted that articulatory weakening usually occurs in intervocalic positions (Kirchner, 2001). However, there is a restriction found in several deletions to verbs and their recurrence across lexical roots. In fact, the accompanying vowel restructuring cannot be explained by universal lenition alone. The regular interaction between speakers of Odia and Telugu has contributed to vowel elongation. The morphological environments in these verb paradigms manifest sound changes that can be regularised. Repeated bilingual use of Odia and Telugu in the contact region has resulted in the stabilisation of phonetic variants as conventional forms within a particular set of paradigms. This interpretation is prevalent across Odisha's borders, thereby characterising it as a mini-linguistic area that has witnessed prolonged multilingual interaction and has subsequently encouraged phonological and grammatical convergence among Indo-Aryan, Dravidian, and Munda languages (Reddy, 2016). So, the sound change in Ganjami Odia can be best viewed as an outstanding result of contact-induced phonological restructuring. The interaction of intervocalic lenition, vowel reorganisation, morphological conditioning, and community-level bilingualism has shaped the phonological restructuring in Ganjami Odia.

In the present paper, an empirical account of these consonant patterns is highlighted to argue that phonological variations can not be explained solely due to universal phonetic ease. Rather, they reflect an interesting structured interplay between intervocalic lenition, morphologised paradigms and structural convergence within a multilingual linguistic area (Emeneau, 1956; Reddy, 2016). It is important to note that the core consonant inventory of standard and regional Odia consists of stops across five places of articulation (bilabial, dental, retroflex, palatal/post-alveolar affricate, and velar), contrastive voicing, and contrastive aspiration, alongside nasals (/m, n, ŋ/), liquids (/l, ɭ, r, ɽ/), and fricatives (/s, h/). Syllable structure is predominantly (C)V(C), with open syllables favored in unstressed positions. On the other hand, unstressed intervocalic positions (V_V) serve as the primary site for consonantal weakening.

2. Literature Review

The “Regularity Hypothesis,” as proposed in the traditional “Sound Law” paradigm, advocates that sound laws show no exceptions and follow a categorial process (Hall-Lew et al., 2021). There is a contrary view in which usage-based models acknowledge phonological change as the result of gradual development through the accumulation of phonetic variation, frequency effects, and repeated patterns of use. Ganjami Odia exhibits intervocalic consonant deletion, which in fact accounts for both of these perspectives. The consistent occurrence of deletions in the future-tense paradigm across multiple verb roots shows that it is not just a result of sporadic phonetic deletion. In fact, there is evidence of regular morphological and phonological restructuring. The competitive constraint-based frameworks can evaluate the

phenomenon by focusing on the interaction between syllable-structure constraints and their associated repair strategies .

In particular, the analysis asks whether the deletion results primarily from universal “LAZY-driven” gestural minimisation or from prosodic constraints strengthened by the local Dravidian contact environment (Kirchner, 2001). There is a need to establish the distinction, as the loss of a consonant is more than just an observed pattern of sound restructuring. A point to be noted is that the deletion of /b/ is accompanied by changes in the adjacent vowel sequence, including possible coalescence or compensatory lengthening. (Harrington et al., 2019) examines the lenition in casual structure by assessing whether hypoarticulation contributes to the development of segmental deletion. There is a need to determine whether consonant deletion reflects internal articulatory minimisation or the levelling of phonological distinctions within bilingual repertoires under contact-specific pressures (Chirkova & Gong, 2019). The framework for the present research provides the analysis of the results by examining whether the observed variation follows general gestural tendencies or exhibits the morphological conditioning and systematicity expected of an established dialectal pattern. The examples in Priva (2015) also show how intervocalic segments and their deletion rates are identified in the corpus.

2.1. Dravidian – Aryan Contact

South Odisha presents an interesting landscape of language contact areas that have witnessed prolonged interaction among Dravidian, Indo-Aryan, and Munda languages. Consequently, there are several instances of extensive lexical, syntactic, and phonological permeability. All these make South Odisha a particularly important landscape for investigating contact-induced structural change. The foundational work of Emeneau (1956) elaborates and specifically views India as a linguistic area by examining the convergent linguistic characteristics of Indo-Aryan and Dravidian spread across India. The sustained contact of Indo-Aryan with Dravidian language - especially Telugu in south Odisha has clearly shaped the phonological organisation of Ganjami Odia. It raises the question of how Dravidian linguistic features, including restrictions on word-final clusters and distinct vowel-patterning tendencies, may have led to prosodic reanalysis in this Indo-Aryan variety. The erosion of intervocalic consonant attributes contributes to the argument, given their systematic linguistic realisations in future-tense forms.

We consequently argue that the deletion pattern is more plausibly analysed as a structural adaptation shaped by contact than as the automatic result of universal gestural deletion. The targeted typological comparison can determine whether the pattern displays the restricted morphological distribution, paradigm-level regularity, and accompanying vowel restructuring associated with contact-induced convergence, or whether it follows a broadly predictable trajectory of phonetic weakening. (Blevins & Egurtzegi, 2022). The analysis also treats bilingual speakers as a crucial link between individual variation and community change. Repeated cross-linguistic interaction may initially produce variable phonetic realisations, but the subsequent conventionalization of these realisations can yield systematic consonant deletion across a morphological paradigm (Besters-Dilger et al., 2014). The Ganjami data, therefore, provide an empirical basis for evaluating how bilingual repertoires transform transient deletion into a stable phonological pattern.

As far as Odia dialectological research is concerned, the study has mainly focused on the varieties such as Sambalpuri and Baleswari, leaving Ganjami Odia comparatively under-examined and creating a substantial gap in the historical and comparative study of Odia phonology. Ganjami Odia is not only a speech variety of standard Odia but also an independent source of evidence for contact-induced change. There is a need for a shared-admixture model that can identify latent dialectal components and account for patterns that standard-based classifications may obscure (Cathcart, 2019). The extensive contact situation requires a strict approach when a tree-like explanation proves insufficient and when evidence of inherited

features, internal innovations, and externally induced restructuring is present in the same dialect. Some theoretical descriptions treat the presence of dialectal variation forms as residual or defective. However, the present research tries to combine historical phonetic evidence with synchronic acoustic analysis to determine how regional contact affects the evolution of phonemic inventories.

3. Methodology

The comparative method is applied to identify innovative phonological features in Ganjami Odia. It helps to establish distinct regular sound correspondences. It distinguishes inherited structural patterns from several divergent developments that are taking place and co-evolving within a language. The analysis of Ganjami Odia data involves identifying sociolinguistic variables. These are important for assessing the relationship between linguistic diversity and the social dynamics of speech communities.

3.1. Data Collection

The data-collection procedure was designed to capture geographic and sociolinguistic variation across South Odisha. The region is characterised by sustained contact between Indo-Aryan and Dravidian languages. The study sites were Rangeilunda, Digapahandi, Hinjilikatu, and Chatrapur in Ganjam; Paralakhemundi and Mohana in Gajapati; Daringbadi in Kandhamal; and Srikakulam in Andhra Pradesh. These locations represent contact-intensive areas relevant to the investigation of regional sound change. The sampling procedure accounted for ethnolinguistic vitality and related sociolinguistic factors to address differences in language use and community structure. Cluster analysis was incorporated into the selection procedure to reduce the number of survey sites systematically. This allowed the study to balance geographic representativeness with the specific requirements of a contact-focused investigation. The characteristics of the participants selected from these sites are presented in the following informant profile.

Table 1 – Profile of Informants

Sl. No.	Name of the Region	No. of informants – Male	No. of informants – Female
1	Rangeilunda, Ganjam	10	10
2	Digapahandi, Ganjam	5	5
3	Hinjilikatu, Ganjam	7	7
4	Chatrapur, Ganjam	5	5
5	Paralakhemundi, Gajapati	6	6
6	Mohana, Gajapati	5	5
7	Daringbadi, Kandhamal	4	4
8	Srikakulam, Andhra Pradesh	2	2
	Total	44	44

Informants for this study were drawn from diverse social strata. The sample included illiterate, monolingual individuals aged 40 to 55 whose speech showed no apparent influence from Standard Odia, thereby ensuring greater homogeneity in the data. In total, the study comprised 88 informants: 44 men and 44 women. This selection criterion was intended to minimise sociolinguistic interference and isolate vernacular features, providing a baseline that reflects sustained community-level linguistic patterns rather than transient code-switching.

4. Results

4.1. Productive deletion in future-tense morphology

Table 2 – Deletion of /b/ sound

Sl. No.	Odia	Glossing	Meaning		Ganjami Odia
1	/uɽ-iba/	Fly-FUT.1PL	(We) will fly	>	/uɽi:a/
2	/aŋ-iba/	Bring-FUT.1PL	(We) will bring	>	/aŋi:a/

Patterns of Consonant Weakening and Alternation in Ganjami Odia

3	/k ^h a-ibə/	Eat-FUT.3SL	(He) will eat	>	/k ^h ai:ə/
4	/kəɾ-iba/	Do-FUT.1PL	(We) will do	>	/kəɾi:a/
5	/pi-iba/	Drink-FUT.1PL	(We) will drink	>	/pi:a/
6	/so-ibə/	Sleep-FUT.3S	(He) will sleep	>	/soi:ə/
7	/natʃ-iba/	Dance-FUT.1PL	(We) will dance	>	/natʃi:a/
8	/rānd ^h -iba/	Cook-FUT.1PL	(We) will cook	>	/rānd ^h i:a/
9	/kānd-ibə/	Cry-FUT.3S	(He) will cry	>	/kāndi:ə/
10	/buli-ba/	Travel-FUT.1PL	(We) will travel	>	/buli:a/

The clearest and most systematic pattern in Table 2 is the deletion of /b/ in future-tense forms. Across the ten examples, /...iba/ becomes /...i:a/, while /...ibə/ becomes /...i:ə/. Because this pattern occurs with a range of verb roots, including “fly,” “bring,” “eat,” “do,” “drink,” “sleep,” “dance,” “cook,” “cry,” and “travel,” it cannot be attributed to a single lexical item. Its broad distribution suggests that /b/ deletion is associated with the future-tense structure rather than with individual words. The consistency of the pattern also indicates that it has progressed beyond simple phonetic reduction. Speakers may be acquiring these shortened forms as conventional realizations of the future-tense construction, reflecting regularization at the paradigmatic level. The synchronic distribution pattern of /b/ is consistent with Ganjami Odia.

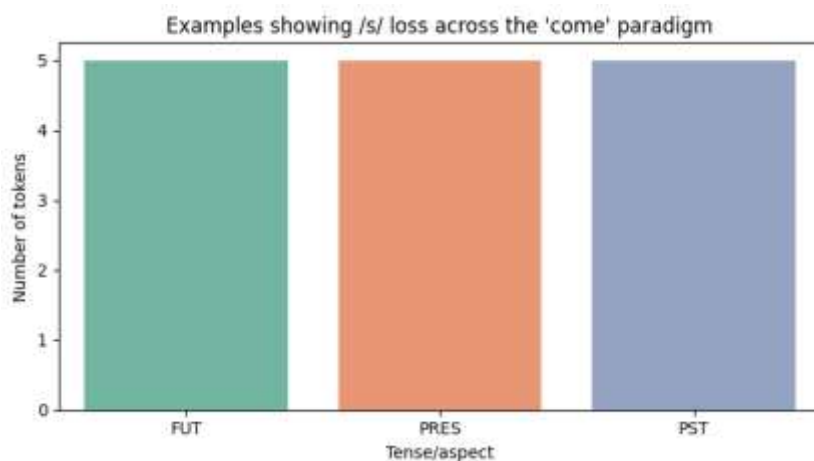
4.2. Morphological Conditioning and Root-Specific Deletion: The 'come' Paradigm

Table 3 – Deletion of /s/ sound

Sl No.	Odia	Glossing	Meaning		Ganjami Odia
1	/ʃ(mun) asibi/	Come.FUT.1S	(I) will come.	>	/ai:/
2	/ʃ(mun) asutʃi/	Come.PRES.1S	(I) am coming.	>	/au:tʃi/
3	/ʃ(mun) asili/	Come.PST.1S	(I) came.	>	/ai:li/
4	/ʃ(ame) asibu/	Come.FUT.1PL	(We) will come.	>	/ai:bu/
5	/ʃ(ame) asutʃu/	Come.PRES.1PL	(We) are coming.	>	/au:tʃu/
6	/ʃ(ame) asilu/	Come.PST.1PL	(We) came.	>	/ai:lu/
7	/ʃ(tu) asibu/	Come.FUT.2S	(You) will come.	>	/ai:bu/
8	/ʃ(tu) asutʃu/	Come.PRES.2S	(You) are coming.	>	/au:tʃu/
9	/ʃ(tu) asilu/	Come.PST.2S	(You) came.	>	/ai:lu/
10	/ʃ(tume) asibə/	Come.FUT.2S	(You) will come.	>	/ai:bə/
11	/ʃ(tume) asutʃə/	Come.PRES.2S	(You) are coming.	>	/au:tʃə/
12	/ʃ(tume) asilə/	Come.PST.2S	(You) came.	>	/ai:lə/
13	/ʃ(se) asibə/	Come.FUT.3S	(She/he) will come.	>	/ai:bə/
14	/ʃ(se) asutʃi/	Come.PRES.3S	(She/he) is coming.	>	/au:tʃi/
15	/ʃ(se) asila/	Come.PST.3S	(She/he) came.	>	/ai:la/

The two processes are the reduction of /em/ to /i/ and the voicing of /t/ to /d/. Their recurrence across several semantically related adverbial expressions suggests that these patterns are not merely phonetically conditioned alternations. Rather, the reduced forms appear to have become conventionalised within a restricted lexical and grammatical domain. Because the changes affect only a small set of frequently used expressions, they are best understood as cases of lexicalized or frequency-dependent change.

Figure 1.



This finding demonstrates that sibilant deletion in Ganjami Odia is not purely phonetic. Its restriction to particular verbs suggests that the change spreads through specific lexical items rather than operating as a uniform sound law. The pattern, therefore, reflects an interaction among articulatory reduction, lexical frequency, and morphological structure. Although contact with Telugu has been associated with phonological change in the Ganjami-speaking region, the available evidence does not establish how contact-induced pressures interact with the grammatical and lexical organization of Ganjami Odia.

4.3. Deletion in compound verbs

Table 4 – Compound Verbs

Sl. No.	Odia	Meaning		Ganjami Odia
1	/sɔri-gɔla/	Finished	>	/sɔi:la/
2	/hei-gɔla/	Done	>	/hei:la/

The forms in question provide direct evidence of /g/ deletion in a limited class of compound verbs along with verb /ɔ/ in /-gɔla/. However, the small data set does not justify treating this deletion as a general process occurring in all intervocalic positions in Ganjami Odia. Instead, it appears to be associated specifically with compound or serial-verb constructions, in which frequent use may promote phonological reduction and lexical cohesion.

The deletion may therefore result from the prosodic compression of compound verbs. As the component verbs become more closely integrated, the construction may be reanalysed as a single prosodic and lexical unit, weakening the segment at the point of compounding. This account explains both the consonant deletion and the accompanying vowel lengthening without assuming, in the absence of sufficient evidence, that /g/ deletion occurs uniformly in all intervocalic environments.

4.4. The weakening continuum

Table 5 – Deletion of /h/ sound

Sl. No.	Odia	Meaning		Ganjami Odia
1	/kɔhuni/	Elbow	>	/kɔuni/
2	/kɔhila/	Said	>	/kɔi:la/
3	/rɔhila/	Stayed	>	/rɔi:la/
4	/rɔhilu/	(You) Stayed	>	/rɔi:lu/

Table 5 shows the loss of consonant sounds in Ganjami Odia due to morphology, lexical frequency, phonological position, compound structure, and possibly local identity. The deletion of the sound segment /h/ occurs mainly in compound and internal verbal forms. The deletion of /h/ occurs when it is in the final position of a root verb, irrespective of whether it is in the present, past or future tense.

4.5 Deletion in frequent adverbial expressions

Table 6 – Deletion of /m/ sound

Sl. No.	Odia	Meaning		Ganjami Odia	Changes
1	/kemitɪ/	How	>	/kĩdi/	em > ĩ, t > d
2	/semitɪ/	Like that	>	/sĩdi/	em > ĩ, t > d
3	/dʒemitɪ/	The way/that	>	/dʒĩdi/	em > ĩ, t > d

The reduction of /em/ and the voicing of /t/ to /d/ recur across several adverbial expressions, indicating that these are not isolated phonetic alternations but reduced forms that have become conventionalized within a restricted lexical and grammatical domain. This small set of examples presents a semantically related, high-frequency item in lexicalised form. There is also a possibility of articulatory compression due to frequent use in conversation. Thus, deletion of /m/ promotes regular sound change in Ganjami Odia speech communities. This is a change in the sound /m/ that appears to be sensitive to sentence structure and lexical identity, affecting frequent adverbial expressions more readily than less frequent or structurally different forms.

4.6 Sound Change of /l/ to /n/

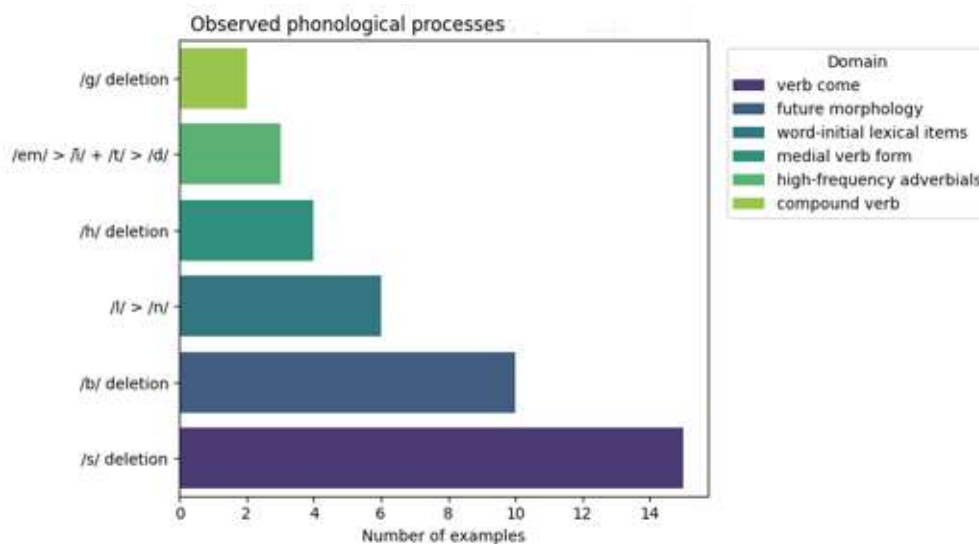
Table 7 – Sound change into /n/

Sl. No.	Odia	Meaning		Ganjami Odia	Changes
1	/luŋɔ/	Salt	>	/nuŋɔ/	/l/ > /n/ / #_V
2	/lokɔ/	Person	>	/nokɔ/	/l/ > /n/ / #_V
3	/ladʒɔ/	Shame	>	/nadʒɔ/	/l/ > /n/ / #_V
4	/latɔ/	Kick	>	/nata/	/l/ > /n/ / #_V
5	/lagibɔ/	Will feel/cost	>	/nagibɔ/	/l/ > /n/ / #_V
6	/lagila/	Felt (Past form)	>	/nagila/	/l/ > /n/ / #_V

The six examples in Table 7 demonstrate a consistent pattern in Ganjami Odia: word-initial /l/ is systematically replaced by /n/ before a vowel. /l/ > /n/ as a segmental alternations operates alongside the intervocalic lenition and deletion processes. The sound changes across these examples reflect a stable dialect feature involving consonant substitution rather than deletion or intervocalic attrition. The dialect-specific restructuring occurs in the word-initial position, affecting word onsets and thereby marking a distinct local variety associated with Ganjami identity. This is a result of contact-induced convergence in an area between Indo-Aryan and Dravidian languages. The sound changes from lateral to nasal across language families are a common phenomenon, as these two sound segments share phonetic features that facilitate perceptual confusion or reanalysis. As a result, we can conclude that /l/ → /n/ constitutes a regular word-initial substitution in Ganjami Odia.

5. Discussion

Figure 2. Distribution of Deletion Processes across Morphological Domains



Lexical frequency and lexical identity also play important roles. The deletions involving /s/, /g/, and the frequent adverbial expressions are more restricted, suggesting that high-frequency words and constructions undergo deletion earlier or more consistently than less frequent forms. The data consequently support a distinction between two pathways of change:

Paradigm-level change, exemplified by future-tense forms, and

Lexically diffusing change, exemplified by verbs such as “come” and by frequent adverbial expressions.

The affected consonants also tend to occur in environments that are especially vulnerable to deletion, including: intervocalic position; morpheme boundaries; compound verbs; frequent grammatical forms; and medial positions in connected speech. Articulatory ease and prosodic compression, along with social factors, have influenced the occurrence of these deleted forms. The data manifest a continuum between phonetic deletion and grammaticalization. The available data suggest that these forms are associated with the male and female speakers who are aged 44 to 55 and their rural, informal speech, and also who show a stronger sense of local identity. There has been regular and constant contact between speakers of Indo-Aryan and Dravidian languages, consequently giving rise to a distinct speech variety of Odia called Ganjami Odia.

6. Conclusion

There is evidence of a distinct Odia speech variety exhibiting selective consonant loss, lexical diffusion, and morphological restructuring. One prominent feature is the deletion of /b/ in the future-tense paradigm. On the other hand, the deletion of /s/ is highly consistent within the “come” paradigm but remains limited to a specific set of words. The examples involving /g/ and /h/ occur mainly in compounds or internal verbal forms, whereas the change from lateral /l/ to nasal /n/ constitutes a consistent word-initial substitution. One can claim that Ganjami Odia does not exhibit a single, uniform process of “consonant loss”. Rather, it displays several overlapping processes shaped by morphology, lexical frequency, phonological position, compound structure, and possibly local identity. The present research discusses the contact-induced convergence at the two levels: (a) passive consequence of attrition and (b) structurally motivated adaptation to long-term cross-linguistic interaction. The findings support the presence of social factors that affect linguistic variables in Ganjami Odia.

There is a need for research on the speech of the younger generation to determine the frequency and prevalence of these deletions in other long-term contact situations. It would be fascinating to examine the correlation between ongoing linguistic patterns and any regional policy.

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