



Phoneme Form Transformation In The Affixation Process Of Tialo Language: A Morphophonemic Study

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ABSTRACT

This study examines morphophonemic transformations during the affixation process in Tialo, a regional language spoken in Tomini District, Parigi Moutong Regency, Central Sulawesi. Utilizing a qualitative descriptive approach with a distributional analysis method, data were collected from five native speakers through observation, elicitation, interviews, and audio recordings. The analysis identifies four types of phoneme transformations: (1) phoneme reduction (62 instances), primarily triggered by confixes such as *po-...-ane* and *po-...-one*; (2) phoneme substitution (18 instances), predominantly associated with the suffix *-a*; (3) phoneme addition (9 instances), triggered by the prefixes *mo-* and *moM-*; and (4) phoneme position shifts (6 instances), consistently resulting from the infix *-in-*. Ultimately, these findings highlight phoneme reduction as the most dominant morphophonemic characteristic in Tialo affixation.

KEYWORDS

Affixation;
Morphophonemics;
Phoneme;
Phoneme Alteration;
Tialo Language.

ABSTRAK

Penelitian ini mengkaji transformasi fonem berdasarkan wujud morfofonemik dalam proses afiksasi bahasa Tialo, sebuah bahasa daerah yang dituturkan di Kecamatan Tomini, Kabupaten Parigi Moutong, Sulawesi Tengah. Penelitian menggunakan pendekatan deskriptif kualitatif dengan metode distribusi. Data dikumpulkan dari lima penutur asli melalui observasi, teknik pancing, wawancara, dan perekaman. Hasil penelitian menunjukkan empat jenis transformasi fonem berdasarkan wujud morfofonemik: (1) pengurangan fonem, ditemukan 62 data, dipicu terutama oleh konfiks *po--ane* dan *po--one*; (2) penambahan fonem, ditemukan 9 data, dipicu oleh prefiks *mo-* dan *moM-*; (3) penggantian fonem, ditemukan 18 data, dipicu terutama oleh sufiks *-a*; dan (4) pergeseran posisi fonem, ditemukan 6 data, secara konsisten dipicu oleh infiks *-in-*. Temuan ini menunjukkan bahwa pengurangan fonem merupakan bentuk transformasi morfofonemik yang paling dominan dalam afiksasi bahasa Tialo.

KATAKUNCI

Afiksasi;
Bahasa Tialo;
Morfofonemik;
Transformasi Fonem;
Wujud Perubahan.

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1. Introduction

Language is the primary communication instrument that enables humans to convey thoughts, ideas, and feelings in a structured manner. Without language, social interaction between humans cannot take place effectively. The scientific study of language is known as linguistics. Putri et al. (2024) defines linguistics as a system of meaningful sound symbols produced by the human speech organs, which are arbitrary and conventional. In general, linguistics is divided into two major branches: macro linguistics, which relates language to external factors such as psychology and sociology, and micro linguistics, which focuses on the internal structure of language, including phonology, morphology, syntax, and semantics.

In the realm of micro linguistics, morphology and phonology are closely related. Morphology studies the internal structure of words, the mechanisms of formation, and changes in word form Putri et al. (2024), while phonology examines the sounds of language produced through speech (Zulfa, 2023). The confluence of these two fields gave rise to the study of morphophonemics, a branch of linguistics that studies sound changes resulting from the combination of morphemes in the word formation process. Soeparno (in Firman 2017) classifies morphophonemics based on two perspectives: the nature of sound changes, which include assimilation, dissimilation, and fusion; and the forms of sound changes, which include phoneme reduction, phoneme addition, phoneme substitution, and shifting of phoneme or morpheme positions. This classification based on form is the focus of the analysis in this study.

Tialo is a regional language in Central Sulawesi spoken by the people of Tomini District, Parigi Moutong Regency. This language has distinctive morphophonemic characteristics, including the change of phonemes /p/ to /m/, /s/ to /ɲ/, and /t/ to /n/ when certain nasal prefixes are attached to the root word. However, the sustainability of Tialo is currently facing a serious threat. The Central Sulawesi Provincial Language Center (2025) noted that the number of active young speakers of Tialo continues to decline, exacerbated by the dominance of Indonesian in everyday life. This condition makes efforts to document the language of Tialo increasingly urgent, in line with the mandate of Law Number 24 of 2009 concerning the National Flag, Language, and Symbols.

Several previous studies have examined the Tialo language, including Wahidin et al. (2017) who studied verb-forming affixes and Ulinsa et al. (2024) who described affixes as verb markers. However, these two studies have not touched on the morphophonemic aspect in depth. Morphophonemic studies in other languages in Indonesia, such as those conducted by Amini et al. (2023) in the Batak Angkola language and Silaban (2024) in Indonesian novel texts, prove that these studies are productive and relevant to be developed in other regional languages. Based on these research gaps, this study aims to describe the forms of phoneme transformation based

on morphophonemic forms in the affixation process of the Tialo language as a contribution to the documentation and preservation of regional languages in Indonesia.

2. Method

This study uses a qualitative descriptive approach, which aims to describe linguistic phenomena as they occur naturally. The study was conducted in Tomini District, Parigi Moutong Regency, Central Sulawesi, involving five native Tialo speakers selected using purposive sampling. Informants were selected based on the criteria of active use of Tialo in daily life, consistent linguistic competence, and willingness to participate. The informants' backgrounds included village secretaries, village officials, traditional community leaders, village heads, and village administrative officers. This diversity of social backgrounds ensures that the data obtained reflects the authentic use of Tialo in everyday life.

Data collection was conducted through several complementary techniques: (1) observation to document natural language use; (2) semi-structured interviews to obtain affixed word forms; (3) a fishing technique to elicit the emergence of certain affixation patterns; (4) a listening technique using participatory (*Simak Libat Cakap*) and non-participatory (*Simak Bebas Libat Cakap*) approaches; (5) audio recording to ensure transcription accuracy; and (6) field notes for systematic documentation. All recordings were conducted with the consent of the informants (Aurlani et al., 2024; Johan et al., 2023).

Data analysis used a distributional method with the Smallest Element Description (SED) technique (Sudaryanto, 2015). The analysis stages include: (1) inventorying all words containing affixation processes; (2) classifying data based on the type of affixation including prefixes, suffixes, infixes, and confixes; (3) breaking down affixed words into their smallest elements; (4) identifying and classifying phoneme transformations based on morphophonemic form; and (5) drawing conclusions regarding each transformation pattern found. Data validity is guaranteed through technical triangulation by cross-referencing findings from observations, interviews, recordings, and field notes, as well as member checking with informants.

3. Results and Discussion

Based on the analysis of 155 linguistic data obtained from five native Tialo speakers in Tomini District, 95 data contained phoneme transformations based on morphophonemic form and became the focus of analysis in this article. The four types of transformations are classified based on Soeparno's theory (in Firman (2017) including phoneme reduction, phoneme replacement, phoneme addition, and shifting

the position of phonemes or morphemes. These four types of transformations are systematic and repetitive, following the typical phonological patterns in the Tialo language. A general overview of the forms of phoneme transformations based on form along with examples of the data is presented in Table 1 below.

Table 1. Forms of Phoneme Transformation Based on Form in the Affixation Process of Tialo Language

N	Basic Word	Affix	Affix Words	Morphophonemic Processes	Morphophonemic Type
1	Mano (eat)	Confixes po- + -ane	Poanoane (dining place)	The phoneme /m/ is removed	Phoneme reduction
2	Longo (listen)	Prefix mo-	Mo'olongo (listening)	Addition of the phoneme /'o/	Addition of phonemes
3	Sindorope (slurp)	Suffix -a	Sindoropa' a (slurping command)	The phoneme /e/ is replaced by /a/	Phoneme replacement
4	Bogate (heavy)	Infix -in-	Binogatane (heavier)	The phoneme /e/ which was originally close to the phoneme /t/ shifted to be close to the phoneme /n/, and there was the addition of the phoneme /an/	Phoneme position shift and phoneme addition

The four types of phoneme transformation are described in detail in the following subchapters.

3.1. Phoneme Reduction

Phoneme reduction is the most dominant type of phoneme transformation in the Tialo language affixation process, with 62 data points. Phoneme reduction is characterized by the failure to realize a particular phoneme in the base word after the affixation process takes place. The phoneme that undergoes reduction can be a vowel or consonant phoneme that is in a specific position in the base word. This pattern is triggered by various types of affixes, especially the confixes po- + -ane, po- + -one, and me- + -ane. Representative data are presented in the following table.

Table 2. Phoneme Reduction Patterns in Tialo Language Affixation

N	Basic Word	Affix	Affix Words	Description	Phonetic Transcription
1	Dului (help)	Prefix moN-	Mondulu (helping)	The phoneme /i/ in the base word is omitted, when no morphophonemics occur then the sound should be Mondului	/mondulu/
2	Mano (eat)	Confixes po- + -ane	Poanoane (eating place)	The phoneme /m/ in the basic word is omitted, when no morphophonemics occur then the sound should be Pomanoane	/poanoane/
3	Simbui (flush)	Confixes me- + -ane	Mesimbu'ane (flushing each other)	The phoneme /i/ in the basic word is omitted, when no morphophonemics occur then the sound should be Mesimbui'ane	/mesimbu?ane/
4	Leleya'a (open)	Prefix mo-	Molele'e (opening)	The phoneme /ya/ in the base word is removed, and the phoneme /a/ changes to the	/molele?e/

				phoneme /e/, when no morphophonemic changes occur, the sound should be Moleleya'a	
5	Eipati (forgot)	Suffix -one	Eipato ne (forgetfulness)	The phoneme /i/ in the base word is omitted, when no morphophonemics occur then the sound should be Eipato ne	eipato ne

Based on the data in the table, phoneme reduction occurs systematically in various forms of affixation, whether involving prefixes, confixes, or suffixes. The phonemes that undergo reduction are not always located adjacent to the affix but can appear anywhere within the root word. From a phonological perspective, phoneme reduction in Tialo is categorized as an elision process, which is the removal of certain sounds to simplify the phonological structure of the affixed word and maintain fluency of pronunciation according to Tialo's phonotactic patterns. This differs from Indonesian, which generally retains the phonemes of the root word during affixation, making the dominance of phoneme reduction a morphophonemic characteristic of Tialo.

3.2. Phoneme Replacement

Phoneme substitutions were found in 18 instances during the Tialo affixation process. In this pattern, certain phonemes in the base word are not retained but replaced by other phonemes after the affix is attached. Phoneme substitutions occur systematically and are most often triggered by the suffix -a, as well as certain prefix and confix combinations. Representative data are presented in the following table.

Table 3. Phoneme Replacement Patterns in Tialo Language Affixation

N	Basic Word	Affix	Affix Words	Description	Phonetic Transcription
1	Sindorope (slurp)	Suffix -a	Sindoropa' a (slurping command)	The phoneme /e/ in the basic word is replaced by the phoneme /a/, when no morphophonemics occur then the sound should be sindorope' a	/sindoropa' a /
2	Bali'e (move)	Suffix -a	Balia' a (command to move)	The phoneme /e/ in the basic word is replaced by the phoneme /a/, when no morphophonemics occur then the sound should be bali'e' a	/balia' a /
3	Mano (eat)	Prefix i-	In ano (eaten)	The phoneme /m/ in the basic word is replaced by the phoneme /n/, when no morphophonemics occur then the sound should be imano	/ in ano/
4	Bato'i (tie)	Prefix moM-	Momb ato'e (binding)	The phoneme /i/ in the basic word is replaced by the phoneme /e/, when no morphophonemics occur then the sound should be Mombato'i	/ momb ato'e/
5	Lambote (remember)	Confixes mo- + -a	Molamb ota' a (reminding)	The phoneme /e/ in the basic word is replaced by the phoneme /a/, when no morphophonemics occur then the sound should be Molambote'a	/ molamb ota' a /

Based on the data in the table, phoneme substitutions occur in various positions within

the root word, both at the initial and final phonemes. The replaced phonemes are generally vowels that adapt to the sound characteristics of the attached affix. From a phonological perspective, this phoneme substitution is a form of sound adjustment resulting from the interaction between the phonological structure of the root word and the affix. The replacement phoneme generally has close articulatory characteristics to the phoneme it replaces, so this change does not alter the lexical meaning of the root word, but only adjusts the sound form to be more harmonious after the affixation process.

3.3. Addition of Phonemes

Nine phoneme additions were found in the Tialo language affixation process. Unlike phoneme reduction and replacement, this affixation process creates new phonemes that were not previously present in the base form. These additional phonemes emerge as a result of interactions between the base word and the attached affixes, and are triggered primarily by the prefixes *mo-*, *moM-*, and the confixes *pine- + -ane* and *poN- + -ane*. Representative data are presented in the following table.

Table 4. Phoneme Addition Patterns in Tialo Language Affixation

N	Basic Word	Affix	Affix Words	Description	Phonetic Transcription
1	Longo (listen)	Prefix <i>mo-</i>	Mo'olongo (listening)	The addition of the phoneme /'o/ when the prefix <i>mo-</i> is attached, if no morphophonemics occur then the sound should be Molongo	/moʔoloŋo/
2	O:te (slaughter)	Confixes <i>poN- + -ane</i>	Pongko:tane (slaughterhouse)	The addition of the phoneme /k/ when the confixes <i>poN-</i> and <i>-ane</i> are attached, if no morphophonemics occur then the sound should be Pongo:teane	/poŋko:tane/
3	Ja'e (damaged)	Prefix <i>moM-</i>	Mominja:'e (damage)	The addition of the phoneme /in/ when the prefix <i>moM-</i> is attached, if no morphophonemics occur then the sound should be Momja:'e	/mominjaʔe/
4	Ja'e (damaged)	Prefix <i>pina-</i>	Pina'aja:'e (damaged)	The addition of the phoneme /in/ when the prefix <i>pina-</i> is attached, if no morphophonemic change occurs then the sound should be pinaja:'e	/pinaʔaja:ʔe/
5	Si:ge (look)	Confixes <i>pine- + -ane</i>	Pinesisi:gane (center of attention)	The addition of the phoneme /si/ when the prefixes <i>pine-</i> and <i>-ane</i> are attached, and the phoneme /e/ in the base word is removed if no morphophonemics occur, then the sound should be Pines:igeane	/pinesisi:gane/

Based on the data in the table, the addition of phonemes occurs in various types of affixation, and the added phonemes vary, including vowels, consonants, and specific phoneme clusters. The appearance of these additional phonemes is not random, but rather follows a specific pattern related to the phonological character of the affix and the structure of the base word. From a phonological perspective, the addition of

phonemes in Tialo is categorized as an epenthesis process, namely the insertion of additional sounds to facilitate pronunciation and maintain articulation stability after the affixation process. This phenomenon demonstrates the morphophonemic uniqueness of Tialo, as it differs from Indonesian, which generally does not add new phonemes during the affixation process.

3.4. Phoneme or Morpheme Position Shift

Positional shifts of phonemes or morphemes were found in six instances in the Tialo affixation process, and were consistently triggered by the infix -in-. In this pattern, certain phonemes in the base word are neither removed nor replaced, but instead only change position after the affixation process. This shift places the phoneme in a different sound environment than its original position. Representative data are presented in the following table.

Table 5. Phoneme Addition Patterns in Tialo Language Affixation

N	Basic Word	Affix	Affix Words	Description	Phonetic Transcription
1	Tambase (wash)	infix -in-	Tinambas <u>ane</u> (washed)	The phoneme /e/ in the basic word which should be positioned next to the phoneme /s/ is shifted to be next to the phoneme /n/, and there is the addition of the phoneme /an/, if there is no morphophonemic then tinambase should be	/tinambas <u>ane</u> /
2	Bogate (heavy)	infix -in-	Binogat <u>ane</u> (heavier)	The phoneme /e/ in the basic word which should be positioned next to the phoneme /t/ is shifted to be next to the phoneme /n/, and there is the addition of the phoneme /an/, if there is no morphophonemic then it should be binogate	/binogat <u>ane</u> /
3	Kasare (coarse)	infix -in-	Kinasar <u>ane</u> (roughed up)	The phoneme /e/ in the basic word which should be positioned next to the phoneme /r/ is shifted to be next to the phoneme /n/, and there is the addition of the phoneme /an/, if there is no morphophonemic then it should be kinasare	/kinasar <u>ane</u> /
4	Sau'e (scoop)	infix -in-	Sinau' <u>ane</u> (scooped)	The phoneme /e/ in the basic word which should be positioned next to the phoneme /u/ is shifted to be next to the phoneme /n/, and there is the addition of the phoneme /an/, if there is no morphophonemics then it should be sinau'e	/sinau' <u>ane</u> /
5	gonggole (hug)	infix -in-	Ginonggol <u>ane</u> (hugged)	The phoneme /e/ in the basic word which should be positioned next to the phoneme /l/ is shifted to be next to the phoneme /n/, and there is the addition of the phoneme /an/, if there is no morphophonemic change then it should be ginonggole	/ginonggol <u>ane</u> /

Based on the data in the table, the phoneme /e/ in the base word consistently experiences a positional shift after the infix -in- is inserted. The phoneme /e/, which was

originally adjacent to a certain phoneme in the base word, after the affixation process becomes adjacent to the phoneme /an/, which is an additional sound after the infix -in- is attached. This shift does not change the identity of the phoneme /e/, but only changes its position in the word structure. From a phonological perspective, this shift in the position of the phoneme or morpheme is related to the process of sound reorganization due to the entry of the infix into the base word, without involving the removal or replacement of sounds. The consistency of the appearance of this pattern across all the infix -in- data indicates that the shift in the position of the phoneme or morpheme is a mandatory phonological consequence when the infix is attached to the base word in Tialo.



Figure 1. Interview with informants (Tribal Leader)

The four types of phoneme transformations based on form found in this study align with the morphophonemic classification proposed by Soeparno (in Firman, 2017). These findings also align with the research of Simaremare et al. (2024), who found phoneme changes, phoneme additions, and phoneme deletions in Indonesian texts, and Amini et al. (2023), who found a similar pattern in the Batak Angkola language. This proves that these four types of phoneme transformations are universal and can be found in various languages in Indonesia.

However, Tialo exhibits several characteristics that distinguish it from other languages. First, phoneme reduction is the most dominant transformation in Tialo, with 62 data points, while in Indonesian, assimilation is the most prominent transformation. Second, the positional shifts of phonemes or morphemes in Tialo are exclusively triggered by the infix -in- and always involve the phoneme /e/, demonstrating a highly regular and predictable pattern. Third, the addition of phonemes in Tialo produces phoneme clusters that are not commonly found in Indonesian affixation processes. However, it should be noted that phoneme substitutions in Tialo are more limited than the other three types of transformation, because their occurrence does not always

follow a completely systematic pattern and tends to depend on the specific affixation context. These peculiarities reflect that the morphophonemic system of Tialo has its own phonological character that must be understood within the framework of the Tialo language system itself, not as a form of deviation from the rules of other languages.

4. Conclusion

Based on the analysis and discussion, this study concludes that the affixation process in Tialo produces four types of phoneme transformations based on morphophonemic form. First, phoneme reduction is the most dominant form, with 62 instances, triggered primarily by the confixes *po-* + *-ane* and *po-* + *-one*. Second, phoneme substitution occurs in 18 instances, triggered primarily by the suffix *-a*, although its occurrence is more limited and does not always follow a completely systematic pattern. Third, phoneme addition occurs in 9 instances, triggered by the prefixes *mo-* and *moM-* as well as several confixes. Fourth, phoneme or morpheme position shifts occur in 6 instances, consistently triggered by the infix *-in-*. These four transformation patterns are systematic and follow the phonological rules of Tialo, reflecting its unique morphophonemic characteristics, distinguishing it from Indonesian and other regional languages.

Theoretically, the findings of this study enrich the morphophonemic study of regional languages in Indonesia, particularly as a scientific reference in understanding the variation of morphophonemic processes in regional languages in Central Sulawesi. Practically, the results of this study can be used as teaching materials in morphology and phonology courses, especially to provide real examples of morphophonemic processes in regional languages to linguistics students. From a policy perspective, this research is expected to be a consideration for the government and educational institutions in designing Tialo language preservation programs, considering that this language faces the threat of extinction due to the decline in active young speakers.

This study focuses solely on phoneme transformations based on morphophonemic form; therefore, phoneme transformations based on properties have not been examined in depth in this article. Therefore, it is recommended that further research examine phoneme transformations based on characteristics in the Tialo language, or examine both aspects simultaneously in one more comprehensive study, so as to obtain a more complete picture of the morphophonemic system of the Tialo language as a whole.

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