FORMATION OF *MA-* AND *PA-* ALLOMORPH: THE CASE OF SONORANT SEGMENTS' CLUSTERING

Muhammad Farris Imadi FUZE[1*]
Sharifah Raihan SYED JAAFAR[2]
[1,2] Universiti Kebangsaan Malaysia, Malaysia

[1]p127290@siswa.ukm.edu.my
[2]s_raihan@ukm.edu.my

Manuscript received 6 March 2023
Manuscript accepted 8 December 2023
**Corresponding author*
https://doi.org/10.33736/ils.5509.2023

ABSTRACT

The *maN-* and *paN-* are some affixes in Banjarese language that manifest the occurrence of homorganic nasal assimilation when forming allomorphs. But in some allomorphs, such as *ma-* and *pa-,* the nasal segment was completely deleted from the affixes. This study aims to provide a rational explanation for the deletion of the nasal segment in both allomorphs. A set of base words was obtained from a dictionary, and respondents were selected to recite each word, along with the derived word after it had received the affixes. The *ma-* and *pa-* were formed as a result of each prefix being followed by a sonorant segment, both consonant and vowel. This is different from the Malay language, which only allows nasal segments to be deleted when a sonorant consonant follows them. This study is hoped to add some value to the previous studies as well as become a pioneer for upcoming studies.

Keywords: Banjarese affix, nasal segment, nasal deletion, sonorant feature, clustering

Introduction

Banjarese People and Their Language

Banjarese is a traditional language with distinct characteristics for its speakers, serving as a symbol of the identity of the indigenous people of South Kalimantan, which has been passed down through generations as their local language (Ningsih, 2018). Banjarese

language (later known as BL) often acts as a language of communication between the people in Central Kalimantan, East Kalimantan, and North Kalimantan (Sunarti, 1978). According to Kawi et al. (1993), before the 16th century, BL was associated with a group of people with their own social culture called Kutai, a native ethnic group of the East Kalimantan region. It is believed that BL and the people themselves originated from Kalimantan Island. Furthermore, Daud (1997) highlighted that the Banjarese people were originally indigenous inhabitants of the majority of the South Kalimantan region. Figure 1 shows the map of Kalimantan Island, which is the ancestral homeland of the Banjarese people.

Figure 1

The Map of Kalimantan, Indonesia (Google Maps, n.d.)

Despite originating from Kalimantan, the Banjarese community can now be found in various locations, both in Indonesia and Malaysia. According to Lamry (2016), the Banjarese people migrated from their homeland on a large scale, and this migration is better known as "*madam*" in the BL, to Tanah Melayu (now known as Malaysia) at the end of the 19th century through the beginning of the 20th century. Most of them are known as "*perantau hilang"* (lost migrant) which refers to the act of continuing to live abroad and never returning to their homeland, South Kalimantan again. These people then set up a new settlement known as "*kampung Banjar"* (Banjarese village) and continued their traditional lifestyle as practised in South Kalimantan.

Even in the new environment, the BL continues to be used as a means of communication within the community. The community has also adapted to the new surroundings by utilising the local language to interact with the other communities and adhere to the new place's rules and regulations. BL can be categorised as part of the agglutinative languages, that use affixes to create new words. This characteristic is similar to some of the languages as Malay language and Indonesian. There are a few aspects to be considered when assuming a certain language to be an agglutinative language. Some of them include the number of morphemes in a word, which are two, the based word and the affix. Secondly, all affixes are considered bound morphemes, in which each of them has its respective function. Thirdly, the boundary between morphemes in a word is clear and visible.

Problem Statement

Local scholars have previously conducted studies on BL, primarily focusing on its semantic and pragmatic aspects. For example, a study by Abdul Wahab and NorHashim (2020) identified several words used by the Banjarese community in the Bagan Serai district. On the other hand, Wahyu (2020) has identified that the local wisdom of this community continues to grow and become part of the culture of this community.

BL is often related to the Malay language in terms of its existence. The high percentage of kinship between these two languages from their lexicostatistics aspect indicates that both are grouped at the same level of language family kinship (Abdul Wahab & Che Halin, 2021; Abdul Wahab, 2022). Hapip et al. (1981) stated that BL is part of the Malay language used in South Kalimantan. This, however, is not agreed upon by Suryadikara (1994) stating that the existence of the Malay language and the people originated from Sumatera. Adelaar (1985) believes that thousands of years ago, there was a Proto Malayic language that descended into the languages of Banjarese, Ibanese, Jakarta Malay, Standard Malay, and Minangkabau. Contrary to that belief, Yasin (2017) stated that BL is a language that was formed due to the interaction of three tribes, namely Malay, Javanese, and Dayak as indigenous tribes, in addition to the original vocabulary of the BL itself.

BL does have a lot of similarities with the Malay language, one of which is in how these languages develop their vocabulary inventories. As stated before, BL can be considered an agglutinative language, referring to a language that uses affixes to form a new word. The Banjarese affixes have been studied by a lot of scholars, especially those from Indonesia, the origin place of BL. Yayuk (2017) for example, has concluded that affixes do exist in the BL consisting of prefix, suffix, confix, and infix. Humaidi et al. (2017) analysed Banjarese affixes based on the word class that follows them, dividing the words into three classes: verbs, nouns, and adjectives. Similarly, Hapip et al. (1981) also divided the word classes into five categories: objects (O), countable words (Bl), verbs (K), state words (S), and adverbs (Kt).

Based on examples provided by previous scholars, it seems that some of the affixes can form various morphological forms yet still have the same semantic meaning. Scholars, on the other hand, rarely discuss these various morphological forms known as allomorphs. Hapip et al. (1981) have deliberated a bit about a process called morphophonemic, the formation of phonological variations within morphemes. They stated that allomorphs of *maN-* are *ma-, man-, maŋ-* and *mam-,* while *paN-* are *pa-, pan- , paŋ-* and *pam-.* On the other hand, Giovanni (2004) has listed six types of allomorphs for maN- which include the previously mentioned allomorphs plus two more, *maɲ-* and *maʔ-* . However, there is no discussion on *paN-* prefix provided by this scholar.

This morphophonemic process also has been discussed by Benjamin (2009) in his study on Austronesian affixes. Instead of calling the formation of allomorphs a morphophonemic process, this scholar called it nasal mutation. According to him, almost all modern grammarians of Malay and Indonesian treat *me-* and *-N-* as parts of a single prefix (*meN-)* that generates a nasal mutation in the initial consonant of the verb stem except when those stems begin with /l/ and /r/. Since BL comes from the same language group as Malay and Indonesian language, hence this statement is also applicable to this language. BL also shares most of its affixes with Malay and Indonesian languages. However, in Banjarese affixes, the central unrounded vowel /a/ is more favoured compared to the central unrounded vowel /ə/ like in the Malay and Indonesian languages.

The formation of allomorphs within the same affix is due to a process called homorganic nasal assimilation. That is when a nasal is homorganic with the consonant that goes after it, it will share the place of articulation of the following consonant (Katamba, 1989). Hasrah (2020) stated that homorganic nasal is not an unusual phenomenon that happens in Malay dialects throughout the Peninsular. To further strengthen this statement, Hamid and Syed Jaafar (2017) affirmed that homorganic nasal assimilation in the Malay dialect of Saribas happens when the nasal velar segment /ŋ/ at the prefix boundary takes some features (homorganically) from the base word consonant following it to form a derived word. According to Katamba (1989), the homorganic nasal assimilation in the Malay language happens automatically. It applies wherever a nasal is followed by another consonant in the same word.

This situation seems to apply to the study as both Banjarese prefixes, *maN-* and *paN-* end with a nasal segment. In addition, both, the Malay language, and BL are from the same language family, the Malayic language. Hence, homorganic nasal assimilation can also occur in BL. However, there could be other kinds of processes that could lead to the formation of allomorphs in BL. Rather than accepting the fact that homorganic nasal assimilation is the only process that forms allomorphs, this study aims to find out all the processes that contribute to the existence of allomorphs in some Banjarese affixes.

Hence, the objective of this study is to identify the existence of allomorphs in Banjarese affixes. To set the ground rules, this study will be focusing on the *maN-* and *paN-* only even though this topic has been discussed by previous scholars. The result of this study was compared with the existing data to ensure the validity of the data. Once all the allomorphs have been determined, the next objective will be to determine the factors

that influence the formation of these allomorphs, especially the *ma-* and *pa-.* This study aims to provide a rational explanation for the deletion of nasal segments in both allomorphs. To understand this morphological change, we will delve into the concept of distinctive features, which will shed light on why these affixes transformed.

Methodology

Research Design

This study was conducted based on a qualitative approach, a form of social action that stresses the way people interpret and make sense of their experiences to understand the social reality of individuals (Zohrabi, 2013). It makes use of interviews, diaries, journals, classroom observations and immersions, and open-ended questionnaires to obtain, analyse, and interpret the data content analysis of visual and textual materials and oral history (Mohajan, 2018). Hence, as the aim of this study is to analyse the formation of allomorphs in certain Banjarese affixes, this kind of approach seems appropriate to be used. The qualitative approach enables us to indicate the similarities and uniformity of the morphological forms of BL words collected through certain methods.

The sample for this study involved native speakers of BL in four different places across Malaysia and the demographic of the respondents is shown in Table 1.

Table 1
Respondent's Demographic Information

	Kuala Kurau Perak	Bagan Serai Perak	Batu Pahat Johor	Sabak Bernam Selangor
Gender				
Male	2	19	5	4
Female	0	5	2	3
Total = 40	**2**	**24**	**7**	**7**
Age				
25 and below	0	4	0	0
26 to 55	1	11	0	5
56 and above	1	9	7	2

Level of education				
Primary School	0	0	2	1
High School	2	16	5	5
STPM	0	3	0	0
Diploma	0	4	0	0
Bachelor's degree	0	0	0	1
Master's degree	0	1	0	0
Occupation				
Student	0	3	0	0
Self-employment	2	13	3	6
Wage earner	0	5	2	1
Retired	0	3	2	0

Instrument and Data Collection Procedures

This study was approved and was conducted according to the guidelines set by the Universiti Kebangsaan Malaysia Research Ethics Committee. Informed consent was obtained from respondents prior to the study.

The following are some of the methods used to collect data for this study: interview techniques and word lists. This study aims to identify the change of sound that occurs when a base word in BL goes through the derivation process. Hence, the use of the interview method is an appropriate way to collect this phonologically concerned data. This research adopted the unstandardised interview method, in which the interview does not engage a specific framework for questioning.

The conversation topics are based on a list of BL words prepared in advance, even before the interview started. Respondents were asked about the meaning of some words in BL and they explained the meaning in Malay language. For this purpose, individuals who are proficient in both languages, BL and Malay language, were selected as respondents. After learning about the meaning of the base word, the respondent were asked to pronounce the derived word that appears after the base word receives either the *maN-* or the *paN-* affix. Respondents were then asked about the meaning of the resulting derived word to compare the given meaning with the meaning found in the dictionary.

According to Omar (2008) the world list method requires an informant to answer every word prepared in the list. A word list (or lexicon) is a list of a language's lexicon (generally sorted by frequency of occurrence either by levels or as a ranked list) within some given text corpus, serving the purpose of vocabulary acquisition. The list should contain familiar words that are frequently being used in the community. Vaux and Cooper (1999) stated that the word lists used in dialect surveys typically include words for farm implements, natural phenomena, household items, and culture-specific concepts. These

kinds of words were found to be incredibly successful in eliciting both interest and useful vocabulary from non-urban informants.

Through this method, some Banjarese verbs in the form of base words were given to the respondents. The respondents then stated the derived word formed once the base word receives the *maN-* or *paN-* prefix. Contrary to the interview method, this word list method does not require the respondents to state the meaning of each word in the Malay language. The list of words used for this method is the same as the one used in the interview method. The list was created based on a Banjarese dictionary known as Kamus Bahasa Banjar Dialek Hulu-Indonesia that was published in South Kalimantan, Indonesia (Sugono, 2008). The Banjarese people are known to be native people in some of the South Kalimantan provinces (Imadduddin, 2016). Hence, the words listed inside this dictionary are deemed to be more original due to the fact that this dictionary was published in the area where the native speakers are. In addition to that, the dictionary also provided every word with its own derived word(s). This has further simplified the process of collecting data for this study while allowing a comparison to be made between the new data and the existing one in the dictionary.

Banjarese's Phoneme Inventory

All the data sets need to be compared first to see the similarities or differences. Various types of verbs were used in this study, each starting with a different initial segment. Two verbs will be representing each phoneme; one for the *maN-* prefix and another one for the *paN-* prefix. The data were categorised according to the initial segment of the base word. For example, the words / lapas/ and /limbah/ both have the same initial segment which is /l/. Hence, both words were listed in the same category. Table 2 and Figure 2 show the list of segments (phonemes) that exist in BL.

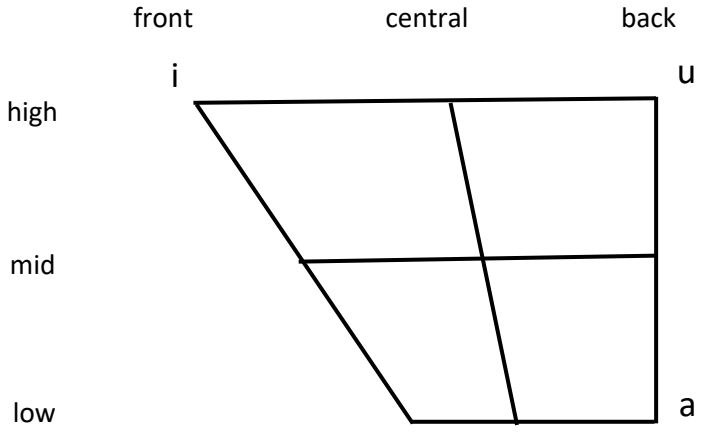
Table 2

Consonant Phonemes in the Banjarese Language (Acc. to Kamus Bahasa Banjar Dialek Hulu-Indonesia 2008)

	Bilabial		Alveolar		Palatal		Velar		Glottal	
	(-) voiced	(+) voiced	(-) voiced	(+) voiced	(-) voiced	(+) voiced	(-) voiced	(+) voiced	(-) voiced	(+) voiced
Plosive	p	b	t	d			k	g		
Nasal		m		n		ɲ		ŋ		
Trill				r						
Frikative			s		ʧ	ʤ			h	
Lateral				l						
Approx. Half Vowel	w					j				

Figure 2

Vowel Phonemes in the Banjarese Language (Acc. to Kamus Bahasa Banjar Dialek Hulu - Indonesia 2008)



The number of BL consonant phonemes is the same as the original consonant phonemes of the Malay language, which is 18 phonemes. However, BL seems to be lacking in vowel phonemes as it only has three (/a/, /i/, /u/) compared to Malay, which has six (/a/, /e/, /i, /o/, /u/, /ə/).

Distinctive Features

Phonemes were thought to be the ultimate constituents of language, as they are the smallest unit that a sound can be broken down into. However, in later years phonologists indicated that phonemes could further be divided into smaller constituents known as features (Roach, 2009). Nowadays, a feature is considered the most basic unit of phonological structure that distinguishes one sound from another within a language. Ladefoged (1993) stated that a feature is a phonetic property that can be used to classify sounds. Generally, features are used more in phonology than in phonetics since the study of phonology is concerned with sound relations and patterns. According to Fromkin et al. (2014), when a feature distinguishes one phoneme from another, it is a distinctive feature or, equivalently, a phonemic feature. Table 3 indicates each segment (consonants and vowels) that exists in BL along with their distinctive features.

Table 3

Distinct Features of Banjarese Segments (Phonemes)

Segment	Cons (±)	Syll (±)	Son (±)	Voice (±)	Cor (±)	Ant (±)	Cont (±)	Nasal (±)	Stri (±)	Lat (±)
/a/	-	+	+	+	-	-	+	-	-	-
/b/	+	-	-	+	-	+	-	-	-	-
/tʃ/	+	-	-	-	+	-	-	-	+	-
/d/	+	-	-	+	+	+	-	-	-	-
/g/	+	-	-	+	-	-	-	-	-	-
/h/	+	-	+	-	-	-	+	-	-	-
/i/	-	+	+	+	-	-	+	-	-	-
/dʒ/	+	-	-	+	-	-	-	-	+	-
/k/	+	-	-	-	-	-	-	-	-	-
/l/	+	-	+	-	+	+	+	-	-	+
/m/	+	-	+	+	-	+	-	+	-	-
/ŋ/	+	-	+	+	-	-	-	+	-	-
/n/	+	-	+	+	+	+	-	+	-	-
/ɲ/	+	-	+	+	+	-	-	+	-	-
/p/	+	-	-	-	-	+	-	-	-	-
/r/	+	-	+	+	+	+	+	-	-	-
/s/	+	-	-	-	+	+	+	-	+	-
/t/	+	-	-	-	+	+	-	-	-	-
/u/	-	+	+	+	-	-	+	-	-	-
/w/	+	-	+	+	-	-	+	-	-	-
/j/	+	-	+	+	+	-	+	-	-	-

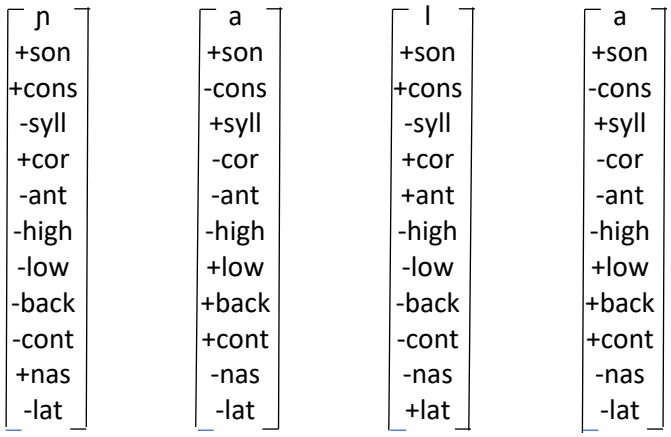
Notes: Cons – Consonant, Son – Sonorant, Ant – Anterior, Nasal – Nasal, Lat – Lateral, Syll – Syllabic, Voice – Voice, Cont – Continuant, Stri – Strident

Feature Geometry Theory

Feature geometry is a phonological theory that represents distinctive features as a structured hierarchy rather than a matrix or a set. Feature geometry grew out of autosegmental phonology, which emphasises the autonomous nature of distinctive features and the non-uniform relationships among them. Chomsky and Halle (1968) presented a theory known as segmental representation, in which each segment is decomposed into a simple list of binary-valued distinctive features. For instance, the word /ɲala/ (to light) as shown in Figure 3.

Figure 3

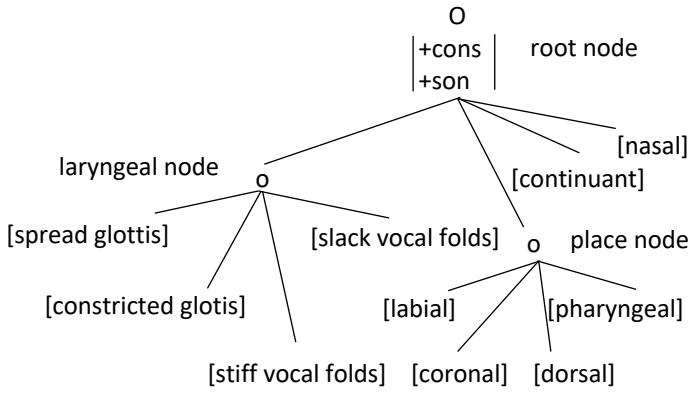
Set of Distinctive Features of Each Segment



There is no classification of the features inherent to the theory. In fact, various distinctions fall naturally into groups as mentioned before (major class features, cavity features, etc.). This grouping of features is not based so much on any similarity of articulatory or acoustic correlates as on the functional coherence of the feature groupings in particular act as a set in widely attested phonological processes (McCarthy, 1988). A geometry feature depicts the segregation of distinctive features onto different planes of phonological representation, called tiers. The coordination of gestures on the tiers is accomplished by association lines, which are links between the different levels. These lines are subjected to a single well-formedness constraint, the Line-Crossing Prohibition, in which no association lines between the same two autosegmental tiers may cross (McCarthy, 1988). Figure 4 shows the spreading of a geometry feature:

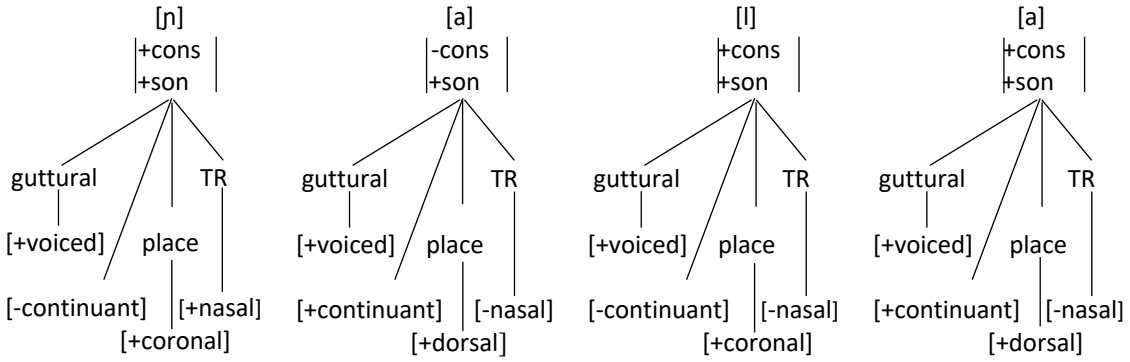
Figure 4

Feature Geometry Spreading



Hence, the features of /ɲala/ can be represented in Figure 5. The model begins with the Root node, the structural instantiation of a single segment. The Root node then spreads to imply the spread of all features dominated by the Root node, which for sure covers the entire set of features. According to McCarthy (1988), the spreading of the Root node will indicate total assimilation, an impeccably justified process cross-linguistically, while delinking of the Root node will indicate the deletion of the segment. In this proposed model, two major class features [sonorant] and [consonantal] differ from all other features in one important aspect; they arguably never spread, delink, or exhibit OCP (Obligatory Contour Principle) effects independently of all other features. The OCP is a constraint which prohibits the adjacent of identical elements. To make it simple, the major class features do not assimilate, reduce, or dissimilate except in conjunction with processes that affect the entire segment. Hence, both major class features should not be represented on separate tiers as dependents of the Root node (McCarthy, 1988). Otherwise, they would be expected to spread, delink, and so on just as the other features do.

Figure 5
Feature Geometry Spreading of Each Segment



Results and Discussion

The maN- and paN- Prefix in Banjarese Language

Yayuk (2017) has defined the meaning of the maN- and paN- prefix in one of her articles. The scholar also equates each of the Banjarese's affix with the affix that exist in Indonesian language.

The maN- Prefix

The prefix *maN*- in the Banjarese language has the grammatical meaning of becoming, leading to, producing, resembling, and giving (Yayuk, 2017). This *maN*- prefix consists of

four forms of allomorph which are *ma-, man-, maŋ-,* and *mam-.* Table 4 shows the allomorphic forms of this prefix once the derivation process took place.

Table 4
Allomorphic Forms of maN- Prefix

No.	Base Word	Gloss	Derived Word	Gloss
1.	ɲala	light up	ma+ɲala	lighting up
2.	dʒamur	dry	man+dʒamur	drying
3.	gandul	hitchhike	maŋ+gandɔl	hitchhiking
4.	babun	gendang (a musical instrument)	mam+babun	hitting the gendang

The paN- Prefix

The prefix *paN-* carries the meaning of a person who does, a person who likes to do, and a tool that does something (Yayuk, 2017). According to the data, this prefix seems to have four allomorphic forms, namely, *pa-, pan-, paŋ-* and *pam-.* Table 5 shows the form variation of this prefix once the derivation process takes place.

Table 5
Allomorphic Forms of paN- Prefix

No.	Based Word	Gloss	Derived Word	Gloss
1.	limbah	fall	pa+limbahan	a place where the water fall
2.	tʃatuʔ	beat	pan+tʃatɔʔ	beater (tool)
3.	gaduh	handle	paŋ+gadɔh	person who likes to be involved in other's business
4.	buŋkas	expose	pam+buŋkas	tool use to expose

Within these allomorphs listed for both prefixes, there is a change in the nasal segment at the coda position of the prefix. The nasal segment is either replaced with nasal bilabial /m/, nasal alveolar /n/, nasal palatal /ŋ/, or completely deleted. The change in the nasal segment could be due to a process known as assimilation, a phonological process in which a segment changes to resemble its neighbours more closely (McCarthy, 2003). Homorganic nasal assimilation, as defined by Katamba (1989), refers to the phenomenon where a nasal segment shares the place of articulation with the following consonant.

However, it seems that assimilation is not the only process that led to the formation of allomorphs for both affixes. This can be seen through the formation of *ma-* and *pa-* allomorph, in which the nasal segment was completely deleted. Hence, it is

impossible for us to assume that assimilation is the only process that takes place here. The *ma-* and *pa-* is formed when the prefixes are followed by a base word with initial unvoiced obstruent segments (/p/, /t/, /s/, /k/). However, in this case, it is the unvoiced obstruent segment that is deleted instead of the nasal segment. Hence, this is not considered for this analysis. The subsequent description of the nasal deletion process is divided into two parts; the first will be on the nasal, liquid, and semi-vowel segments, the second will be on vowel and glottal segments.

Liquid (/l/, /r/), Semi-vowel (/w/, /j/) and Nasal (/m/, /n/, /ɲ/, / ŋ/) Initial Bases

Table 6 indicates the list of base words that formed ma- and pa- allomorph respectively. When a nasal segment is placed next to a voiceless obstruent segment (/k/, /p/, /s/, /t/), homorganic nasal assimilation occurs, and the voiceless obstruent segment is deleted. This is due to a constraint against nasal/voiceless obstruent clusters (Lombardi, 2001) which can be justified in terms of the articulatory difficulty of the quick velum raising needed to produce a voiceless obstruent. However, a different result occurs when the nasal segment is in a clustering position with either a nasal, liquid, or semi-vowel segment. Instead of having the liquid or semi-vowel deleted, the nasal segment is the one that is deleted. Ahmad (1995) stated that in the Malay language, the nasal segment is deleted when it is clustered with liquid, glide, or nasal segment. In addition to this, Farid (1980) also stated that nasal deletion is obligatory following the constraint that does not allow the clustering of sonorant consonants at the beginning of a word.

Table 6

List of Base Words that Formed the ma- and pa- Allomorph (Initial Nasal, Liquid and Semi-vowel Segment)

Phoneme		Base Word	Derived Word	Gloss
Liquid	/l/	lapas	ma+lapas	letting go
		limbah	pa+limbahan	place the water fall
	/r/	rahaj	ma+rahaj	exposing
		rabut	pa+rabutan	like to fight
Semi-vowel	/w/	wilaŋ	ma+wilaŋ	counting (thing)
		wadaj	pa+wadajan	dessert maker
	/j/	jakin	ma+jakenkan	convicing
		jakin	pa+jakenɲaʔ	most convincing
Nasal	/m/	maŋkar	ma+maŋkar	hardening
		mandaʔ	pa+mandakan	stopover
	/ŋ/	ŋinum	ma+ŋinum	drinking
		ŋalih	pa+ŋaleh	most difficult
	/n/	nadʒat	ma+nadʒat	praying
		nawuŋ	pa+nawuŋan	shelter

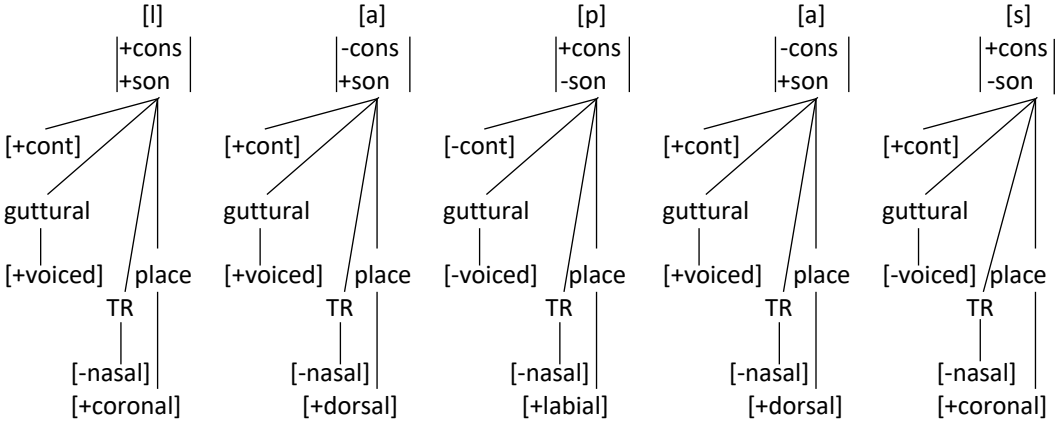
/ɲ/	ɲala	ma+ɲala	lit up
	ɲaɲi	pa+ɲaɲeʔ	singer

Both statements seem to fit in explaining the situation here. It seems that the [+sonorant] feature plays an important role in causing the nasal segment to be deleted in the derived word. All nasal, liquid, and semi-vowel segments have a [+sonorant] feature. Hence, according to Farid's (1980) statement, these segments are not allowed to be clustered together at the beginning of a word. Thus, when the derivation process takes place, the nasal segment in the prefix shall be deleted to meet this requirement. Figure 6 depicts the derivation of the base word /lapas/ (to let go).

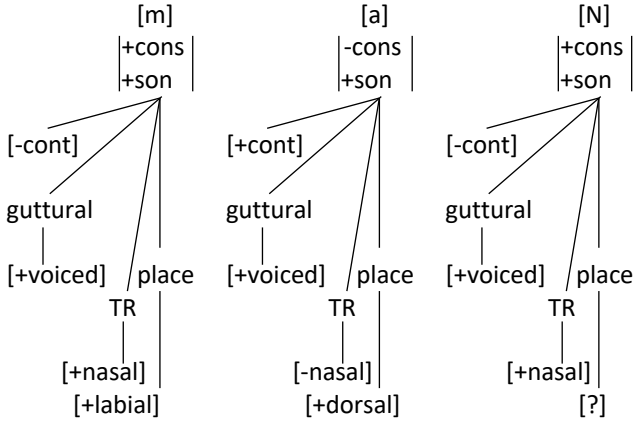
Figure 6

Formation of ma- and pa- Allomorph (Initial Nasal, Liquid and Semi-vowel Segment)

a. Base word: /lapas/ (to let go)

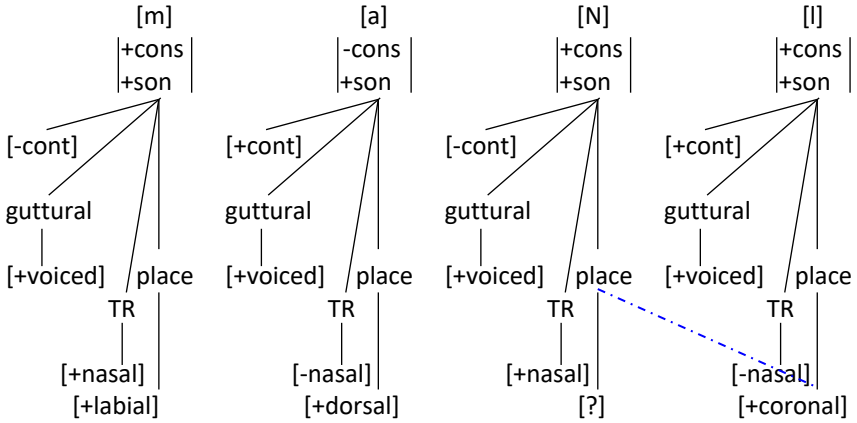


b. Input *maN-* prefix

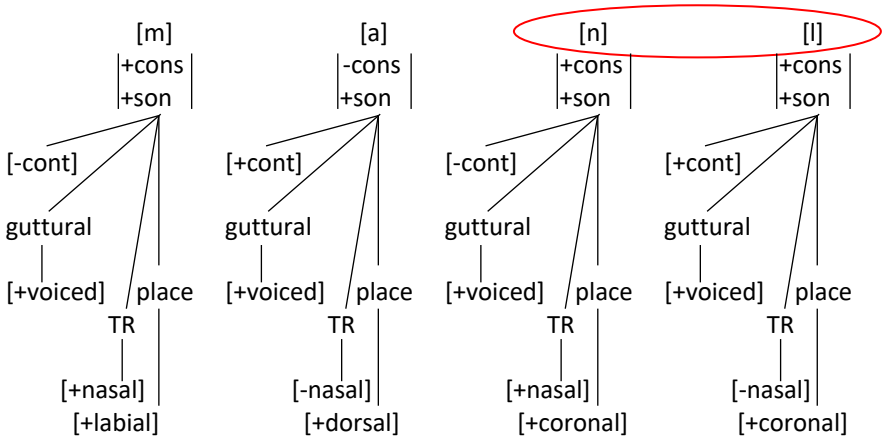


+ /lapas/

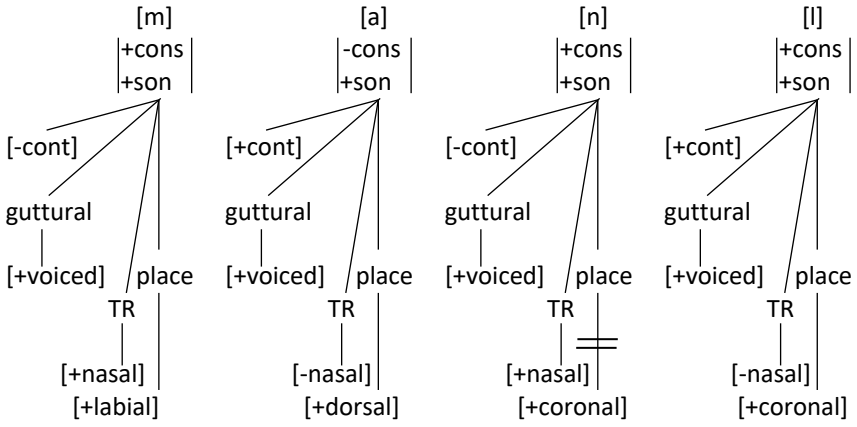
c. Place assimilation at the prefix-base boundary



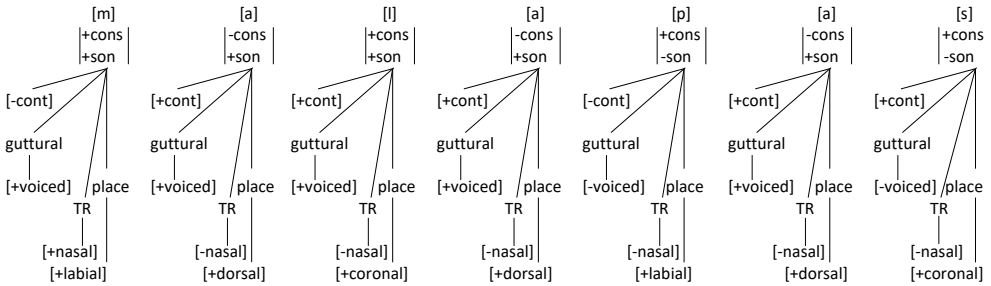
d. Sonorant segments' clustering



e. Nasal deletion



f. Derived word: [malapas] (letting go)



Vowel (/a/, /i/, /u/) and Glottal (/h/) Initial Bases

Table 7 shows the list of base words that form ma- and pa- Allomorph (Initial Vowel and Glottal Segment). The reason why the discussion of nasal deletion for vowel and glottal segments was separated is that BL has shown a different result compared to some languages within the same such as Malay and Indonesian. When the derivation process takes place, both Malay and Indonesian allow the nasal segment at the coda position of the prefix to be in the derived word. In other words, no nasal deletion occurred after the base word received the *məN-* and *pəN-* prefix. For instance, the base word /alih/ which exists in all three languages carries the same meaning in all three languages, which is to move something. Figure 7 depicts the derivation process of this word in Malay and Indonesian.

Table 7

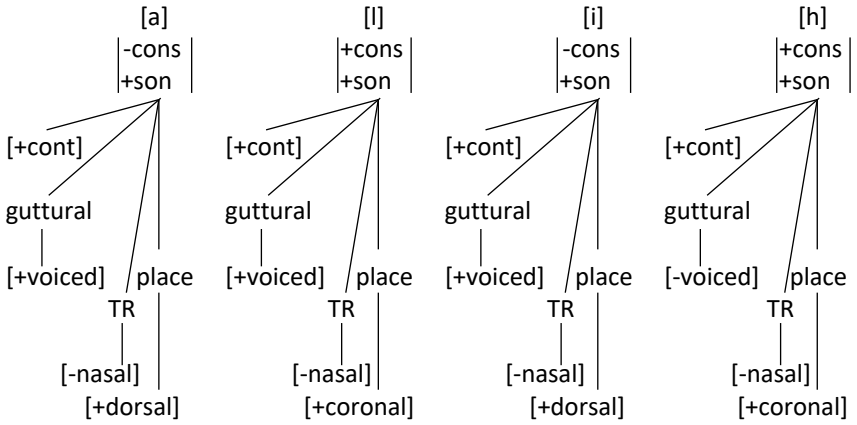
List of Base Words that Form ma- and pa- Allomorph (Initial Vowel and Glottal Segment)

Phoneme		Base Word	Derived Word	Gloss
Vowel	/a/	alih	ma+alih	moving
		agaʔ	pa+agakan	like to brag
	/i/	ilaj	ma+ilaj	lifting
		igut	pa+igutan	like to bite
	/u/	ulah	ma+ulah	making
		urut	pa+urut	massager
Glottal	/h/	hadaŋ	ma+hadaŋ	waiting
		haru	pa+haru	stirrer

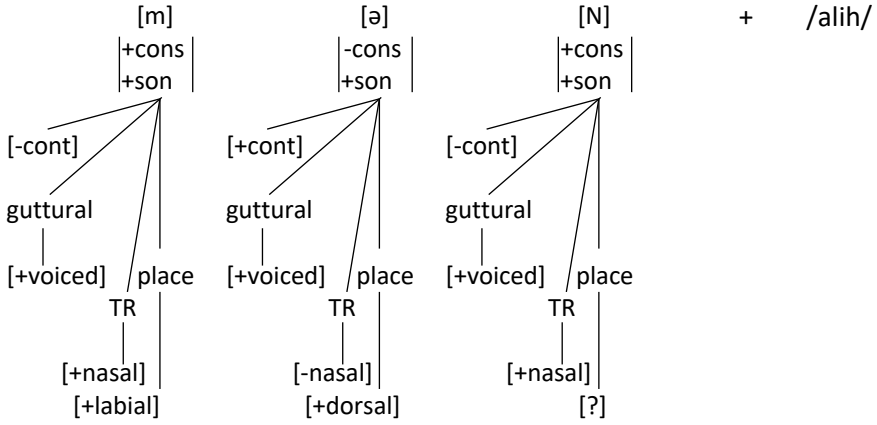
Figure 7

Formation of mə- and pə- Allomorph in Malay and Indonesian (Initial Vowel and Glottal Segment)

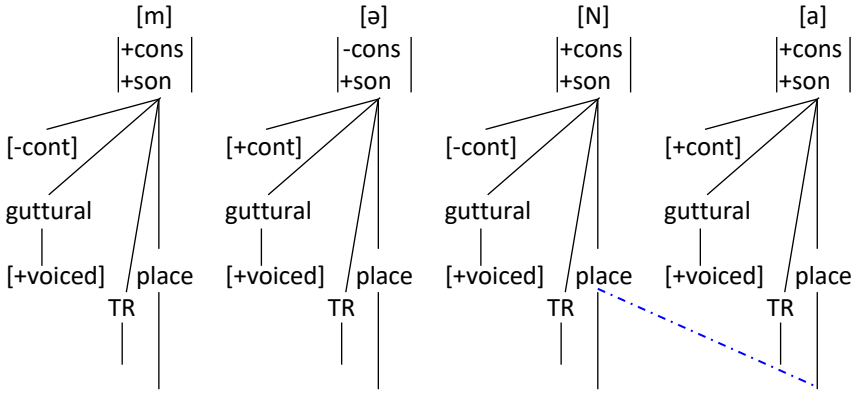
a. Base word: /alih/ (to move something)



b. Input *məN-* prefix

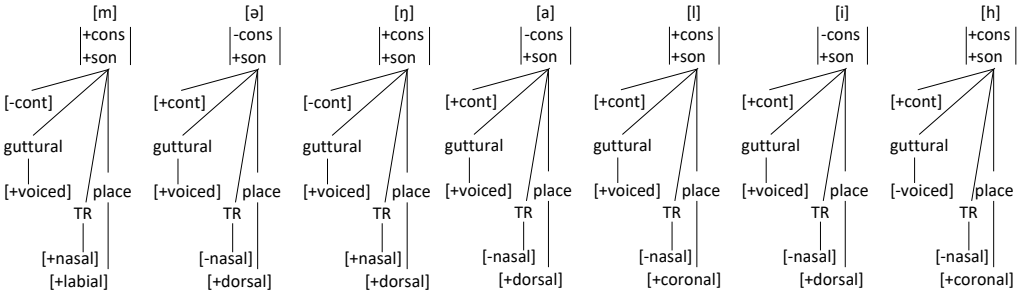


c. Place assimilation at prefix-base boundary



[+nasal] [-nasal] [+nasal] [-nasal]
[+labial] [+dorsal] [?] [+dorsal]

d. Derived word: [məŋalih] (moving something)

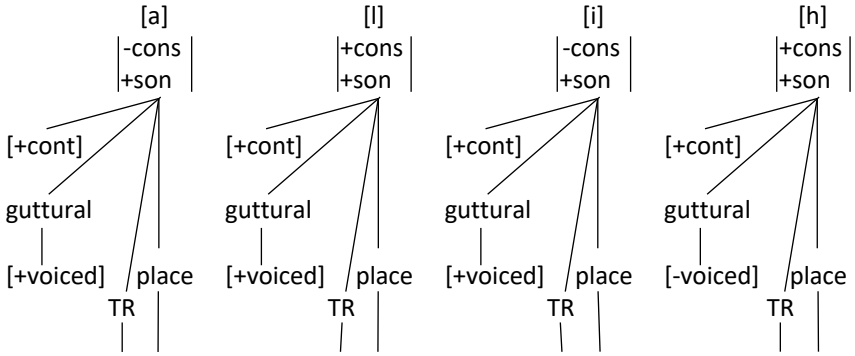


Unlike Malay and Indonesian, BL does not allow the nasal segment in the prefix to be in the derived word when it is followed by a sonorant segment. The statement provided by Farid (1980) only focuses on the clustering of sonorant consonants, but in BL, it seems that nasal deletion does occur even when the nasal segment is clumped together with a vowel and glottal segment at the beginning of a word. All vowel and glottal sounds are produced with continuous, non-turbulent airflow in the vocal tract, which is why they have the [+sonorant] feature. Hence, it can be said that in the BL derivation process, nasal deletion does not only occur when a nasal segment is in cluster position with a sonorant consonant. Instead, it also happens when a nasal and sonorant vowel are clustered together. This constraint however, only applies at the boundary between prefix and base word when the derivation process takes place. The clustering of nasal, vowel and glottal segments is still allowed to exist in other kinds of situations. Figure 8 depicts the derivation process of the same word /alih/ in BL.

Figure 8

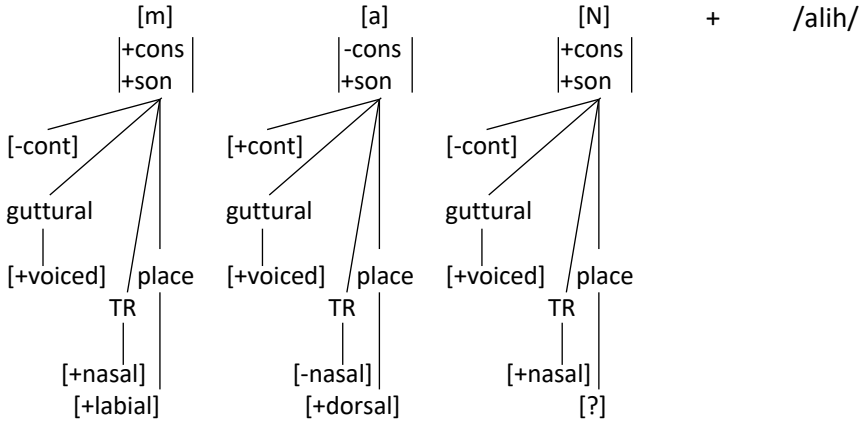
Formation of ma- and pa- Allomorph in Banjarese (Initial Vowel and Glottal Segment)

a. Base word: /alih/ (to move something)

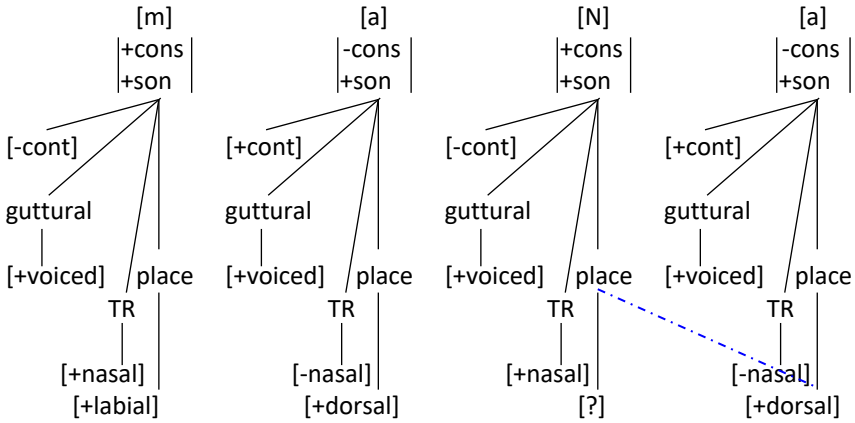


[-nasal] [-nasal] [-nasal] [-nasal]
[+dorsal] [+coronal] [+dorsal] [+coronal]

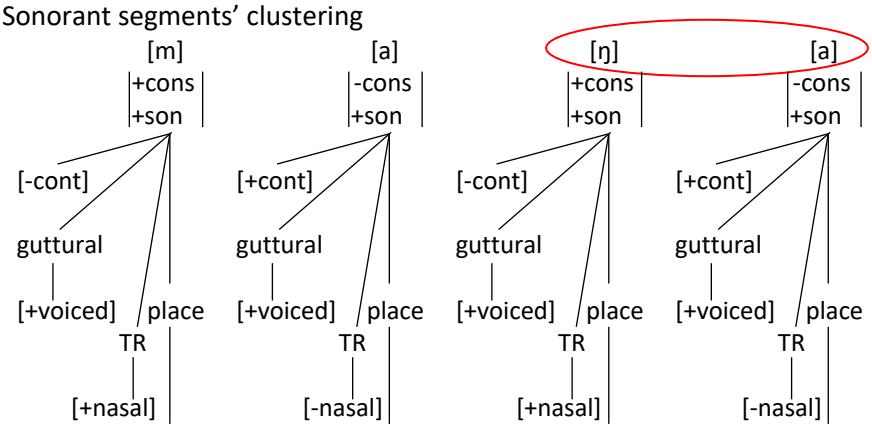
b. Input *maN-* prefix



c. Place assimilation at prefix-base boundary

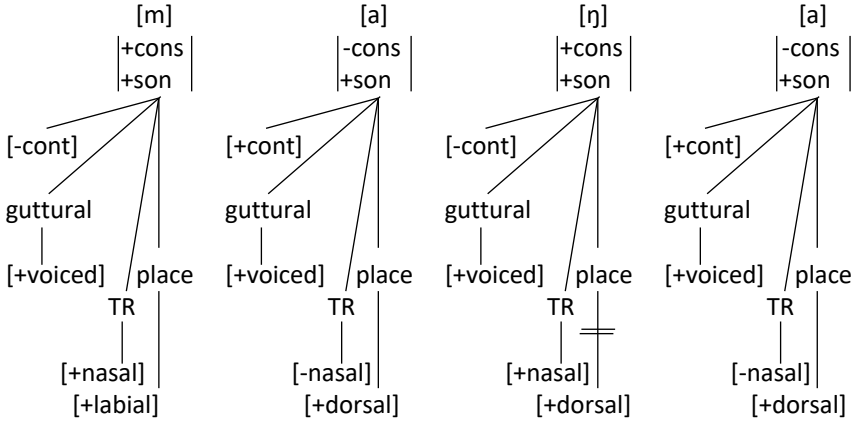


d. Sonorant segments' clustering

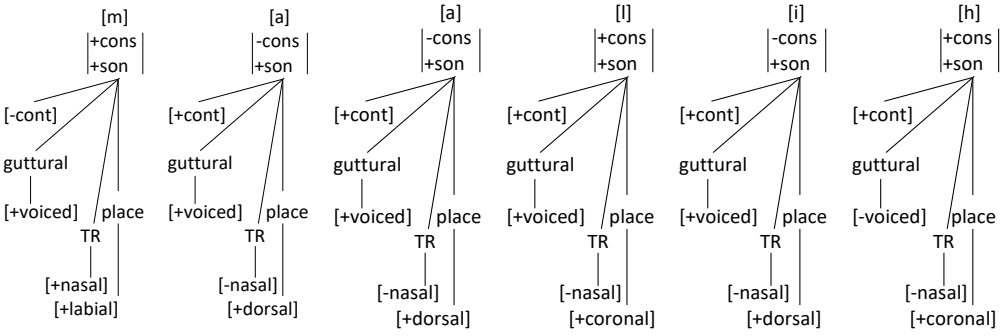


[+labial] [+dorsal] [+dorsal] [+dorsal]

d. Nasal deletion



e. Derived word: [maalih] (moving something)



Differences in Nasal Deletion Process of Banjarese and Malay Language

Affixation process in BL sometimes can results into the formation of allomorph, a unit of meaning that varies in sound and spelling without changing the meaning. In some affixes, the allomorphs also were formed as a result of a process called homorganic nasal assimilation. The *maN-* and *paN-* prefix are some of the examples that indicate the change of nasal according to the segment reside beside it. The nasal segment shares the place of articulation of the following segment, changing itself to a nasal segment within the same place of articulation. However, in some allomorphs, the nasal segment seems to be deleted compeletely and this can be seen with the ma- and pa- allomorphs. As a result, homorganic nasal assimilation is not the only process that can create allomorphs. For some allomorphs, nasal segments need to be deleted and this happens when both *maN-* and *paN-* is being followed by a sonorant segment.

Farid (1980) stated that in Malay language the nasal deletion is obligatory following the constraint that does not allow the clustering of sonorant consonants at the beginning of a word. The same statement was given by Ahmad (1995) which is the nasal segment will be deleted when it is clumped with liquid (/l/, /r/), glide (/w/, /j/), or nasal segment (/m/, /n/, /ɲ/, /ŋ/). However, the situation is slightly different when it comes to BL. Other than liquid, glide, and nasal segment, the nasal segment in Banjarese affixes (especially *maN-* and *paN-*) will also be deleted when it is clumped together with vowel (/a/, /i/, /u/) and glottal (/h/), both with a [+sonorant] feature. Hence, it can be concluded that in the Banjarese language, the nasal segment is deleted when it is clumped together with sonorant segments at the beginning of a word. The clustering of sonorant segments still is allowed within the word as long as it does not involve the prefixes.

As for the formation of *ma-* and *pa-,* the nasal segment is assumed to undergo homorganic nasal assimilation. However, due to the [+sonorant] feature of the next segment, the nasal segment is deleted to overcome the constraint that prohibits the clustering of sonorant segments at the beginning of a word. This indicates that the affixation process in BL is slightly different compared to the one in Malay and Indonesian language.

Conclusion

This study aims to provide a rational explanation for the nasal deletion during the formation of *ma-* and *pa-* allomorphs in the Banjarese language by analysing the data obtained through interviews and the word list method. The result of this study has shown that the ma- and pa- allomorphs were formed as a result of each prefix being followed by a sonorant segment, both consonant and vowel. This is different from the Malay language, which, according to Farid (1980), only allows nasal segments to be deleted when a sonorant consonant follows them. The results of this study indicate the difference between this language and Malay can be seen through the formation of allomorphs. This study only covers Banjarese speakers in some areas of Malaysia. To achieve more precise results, we suggest that a similar study be conducted involving Banjarese speakers in Indonesia or other parts of Malaysia, and the results can be compared with this study.

Acknowledgement

This research was funded by Universiti Kebangsaan Malaysia under the grant: Pembinaan Repositori Pertuturan (Speech-Rep) Bahasa Banjar di Malaysia (GUP-2022-057).

References

Abdul Wahab, M. K. (2022). Pengelompokan bahasa Melayu dengan bahasa Banjar dalam salasilah hipotetikal bahasa: Kajian perbandingan leksikostatistik. *Jurnal Melayu*, *21*(1), 1-21.

Abdul Wahab, M. K., & Che Halin, A. K. (2021). Leksikostatistik dan glotokronologi antara bahasa Banjar dengan bahasa Melayu: Kajian linguistik sejarah dan perbandingan. *Jurnal Kesidang, 6*, 44-61.

Abdul Wahab, M. K., & NorHashim, M. N. (2020). Aspek leksikal kata nama dalam dialek masyarakat Banjar di Mukim Bagan Serai Perak. *e-Jurnal Bahasa dan Linguistik, 2*(2), 67-78.

Adelaar, K. A. (1985). *Proto malayic: The recontruction of its phonology and part of its lexicon and morphology*. Offsetdrukkerij Kanters B.V.

Ahmad, Z. (1995). Vowel epenthesis in Malay. *Akademika*, *47*, 15-36.

Benjamin, G. (2009). Affixes, austronesian and iconicity in Malay. *Bijdragen tot de Taal, Land- en Volkenkunde, 165*, 291-323.

Chomsky, N., & Halle, M. (1968). *The sound pattern of English*. Harper & Row.

Daud, A. (1997). *Islam dan masyarakat Banjar: Deskripsi dan analisa kebudayaan Banjar*. Raja Grafindo Persada.

Farid, M. O. (1980). *Aspects of Malay phonology and morphology: A generative approach.* Universiti Kebangsaan Malaysia.

Fromkin, V., Rodman, R., & Hyams, N. (2014). *An introduction to language*. Wadsworth Cengage Learning.

Giovanni, N. (2004). *A morphological analysis of verb affixes in the series of "Si Palui" articles in the Banjarmasin Post* [Bachelor's Thesis, Universitas Kristen Petra, Surabaya].

Google Maps. (n.d.). [The map of South Kalimantan]. https://goo.gl/maps/N3BgTUhZ7cLwnR5M9

Hamid, N. A., & Syed Jaafar, S. R. (2017). Asimilasi homorganik nasal dialek Melayu Saribas. *GEMA Online® Journal of Language Studies, 17*(2), 192-218.

Hapip, A. D., Kawi, D., & Noor, B. (1981). *Struktur bahasa Banjar Kuala*. Pusat Pembinaan dan Pengembangan Bahasa Departemen Pendidikan dan Kebudayaan Jakarta.

Hasrah, M. T. (2020). Nasal homorganik dalam dialek Melayu Semenanjung. *International Journal of Humanities Technology and Civilization (IJHTC), 1*(9), 1-23.

Humaidi, A., Kamariah, K., & Haswinda, H. (2017). Infleksi dalam Bahasa Banjar. *Stilistika: Jurnal Bahasa, Sastra, dan Pengajarannya, 2*(2), 265-272.

Imadduddin, P. (2016.) Perubahan nilai budaya urang Banjar (dalam persfektif teori troompenaar). *Al-Banjari: Jurnal Ilmiah Ilmu-Ilmu Keislaman, 15*(1), 27-56.

Katamba, F. (1989). *Introduction to phonology*. Longman.

Kawi, D., Durasid, D., & Effendi, R. (1993). *Refleksi etimon proto austronesia dalam bahasa Banjar.* Pembinaan dan Pengembangan Bahasa Departemen Pendidikan dan Kebudayaan Jakarta.

Ladefoged, P. (1993). *A course in phonetics.* University Of California, Los Angeles.

Lamry, M. S. (2016, Ogos 9-11). Madam ka Banua Urang: Migrasi dan Perubahan Sosial dalam Kalangan Orang Banjar di Malaysia [Conference presentation]. *International conference on social and intellectual transformation of the contemporary Banjarese*, Banjarmasin, Indonesia.

Lombardi, L. (2001). *Segmental phonology in optimality theory: Constraints and representations*. Cambridge University Press.

McCarthy, J. J. (1988). Feature geometry and dependency: A review. *Phonetica, 43*, 84-108.

McCarthy, J. J. (2003). *Optimality theory: An overview*. Oxford International Encyclopedia of Linguistics.

Mohajan, H. K. (2018). Qualitative research methodology in social sciences and related subjects. *Journal of Economic Development, Environment and People, 7*(10), 23-48.

Ningsih, Y. (2018). Language maintenance of Banjarese among students of the state Polytechnic of Tanah Laut. *The 1st Annual International Conference on Language and Literature, KnE Social Sciences*, 957-963.

Omar, A. (2008). *Kaedah penyelidikan Bahasa di lapangan*. Dewan Bahasa dan Pustaka.

Roach, P. (2009). *English phonetics and phonology*. Cambridge University Press.

Sugono, H. D. (2008). *Kamus bahasa Banjar dialek Hulu - Indonesia*. Balai Bahasa Banjarmasin.

Sunarti, dkk. (1978). *Sastra lisan Banjar*. Pusat Pembinaan dan Pengembangan Bahasa Jakarta.

Suryadikara, F. (1981). *Kata-kata pungut dari bahasa Jawa dalam bahasa Banjar*. Pusat Pembinaan dan Pegembangan Bahasa.

Vaux, B., & Cooper, J. (1999). *Introduction to linguistic field methods*. LlNCOM GmbH.

Wahyu, W. (2020). Local wisdom in Banjarese culture perspective. *Advances in Social Science, Education and Humanities Research*, *636*, 648-653.

Yasin, M. F. (2017). Asal-usul bahasa Banjar (tinjauan historis komparatif). http://eprints.ulm.ac.id/2353/

Yayuk, R. (2017). Morfem terikat dalam bahasa Banjar. *Gramatika, 5*(2), 127-140.

Zohrabi, M. (2013). Mixed method research: Instruments, validity, reliability and reporting findings. *Theory and Practice in Language Studies*, *3*, 254-262.