The Behaviours of the General Nasal /N/in Indonesian Active Prefixed Verbs

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Abstract

This paper investigates how a general nasal /N/ in the morpheme of the active verb prefix /məN-/ in Indonesian behaves as it is combined with simple verb forms to produce the prefixed verbs. The data were mainly collected from an Indonesian standardized dictionary 'Kamus Besar Bahasa Indonesia' and analysed phonologically. The research reveals that the general nasal /N/ most assimilates to the initial sound of the simple verb into labial /m/, alveolar /n/, palatal /ɲ/, and velar /ŋ/, and is deleted if it is followed by approximant (w, y), central (l), or retroflex (r). In contrast, the general nasal /N/ can delete a voiceless stop consonant (p, t, k). Next, to generate the correct surface representations from the underlying representations can be done by applying nasal assimilation and deletion rules. The right rule ordering is the nasal assimilation rule should be applied prior to the deletion rule. Apart from the regularity, it is also found a small number of data which do not follow these rules.

Keywords: general nasal /N/, assimilation, deletion, distribution, underlying representation, surface representation

1.Introduction

Indonesian (or Bahasa Indonesia) is one of western Austronesian languages which is officially used in the Republic of Indonesia. This language is spoken by more than 250 million speakers spread out all over Indonesia. It is used for many different purposes, such as for education, offices, trades and a means of communication among ethnic groups. Since language is mostly used to communicate orally, there have been many publications on the phonological aspects of Indonesian. Among of them are Peter (2001) who studied on the Austronesian nasal substitution and other NC effects, Sneddon (2006) who examined colloquial Jakarta Indonesian, and Andi-Pallawa and Alan (2013) who compared the phonological systems between English and Indonesian. Despite the fact that there are many preliminary researches on phonological aspects in Indonesian, researches on the behaviours of the general nasal /N/ in the Indonesian active verb prefixes have received comparatively less attention, if not yet done. In fact, the general nasal sound /N/ in the active verb prefixes are productively used in this language. In this article, I will describe the distribution of various allaphones as the realization of the general nasal /N/ according to the environments or contexts that govern the distributions, and present a set of phonological rules to explain the sound alterations.

2. Data

The data of the research were mainly collected from a standardized dictionary '*Kamus Besar Bahasa Indonesia*' (Tim Pustaka Phoenix, 2010), and partly developed by the researcher who is a native speaker of Indonesian. A variety of words with the target of the nasal sounds in the active verb prefixes which occur in diverse environments were needed to meet the distributions of the allophones. The following table presents the data to depict how the behaviours of the general nasal /N/ as an Indonesian active verb prefix when it is combined with the simple verb forms (roots) to produce the prefixed forms.

Table 1: Indonesian Active Verb Prefixes

	N-prefix	+	(Simple forms)	Prefixed Forms	Gloss
1.	/ məN	+	bəli /	/ mə**m**bəli /	'to purchase'
2.	/məN	+	pakai /	/ mə**ma**kai /	'to use or to dress'
3.	/ məN	+	pukul /	/ mə**m**ukul /	'to hit'
4.	/ məN	+	fasilitas /	/ mə**m**fasilitasi /	'to fisilate'
5.	/ məN	+	tulis /	/ mə**n**ulis /	'to write'
6.	/ məN	+	dapat /	/ mə**n**dapat /	'to get'
7.	/ məN	+	dʒawab /	/ mə**n**dʒawab /	'to answer'
8.	/ məN	+	sapu /	/ mə**ɲ**apu /	'to sweep'
9.	/ məN	+	siram /	/ mə**ɲ**iram /	'to water'
10.	/ məN	+	kunci /	/ mə**ŋ**unci /	'to lock'
11.	/ məN	+	guntiŋ /	/ mə**ŋ**guntiŋ /	'to cut with scissors'
12.	/ məN	+	hituŋ /	/ mə**ŋ**hituŋ /	'to count'
13.	/ məN	+	ambil /	/ mə**ŋ**ambil /	'to take'
14.	/ məN	+	undaŋ /	/ mə**ŋ**undaŋ /	'to invite'
15.	/ məN	+	edʒa /	/ mə**ŋ**edʒa /	'to spell'
16.	/ məN	+	opər /	/ mə**ŋ**opər /	'to pass over'
17.	/ məN	+	isi /	/ mə**ŋ**isi /	'to fill'
18.	/ məN	+	wakil /	/ mə**w**akili /	'to represent'
19.	/ məN	+	yakin /	/ mə**y**akini /	'to believe'
20.	/ məN	+	lamar /	/ mə**l**amar /	'to apply'
21.	/ məN	+	rudʒuk /	/ mə**r**udʒuk /	'to refer to'

3. Analysis

The data above (Table 1) demonstrate that the Indonesian active verb prefix is realized by a morpheme /məN-/ where /N/ is a general nasal. When the morpheme is attached to a simple verb form (a root), it may be realized into many different forms, such as: [m, n, ɲ, ŋ] or deleted [Ø] in the prefixed verbs. As the basic form, the general nasal /N/ can be claimed as a phoneme (Clark and Yallop, 1991: 125), and the realization of the phonemes, [m, n, ɲ, ŋ, Ø], are named allophones. The behaviours of the general nasal /N/ as a phoneme into its allophones can be explained through phonological rules. The first step producing the phonological rules is to build the distribution of the allophones of the phoneme according to the context which governs the distribution. Referring to Table 1, the distribution of the general nasal /N/ into its allophones can be presented in

Table 2: The Distribution of Allophones

	Phoneme	Allophones	Distribution/context
		[m] ⟶	if it is followed by a labial sound (p, b, f), and they occur in different morphemes
		[n] ⟶	if it is followed by an alveolar stop sound (t, d) and they occur in different morphemes
	/N/	[ɲ] ⟶	if it is followed by a voiceless stop sound (s) and they occur in different morphemes
		[ŋ] ⟶	if it is followed by a velar sound (k, g, h, vowel), and they occur in different morphemes.
		[Ø] ⟶	Elsewhere

Second, following Hales and Clements (1983: 119), the general nasal /N/ as the basic form or the phoneme is called underlying representation (UR), and its allophone is named surface representation (SR).

Accordingly, the general nasal /N/ is classified as the underlying representation (UR), while the surface representation (SR) is realized by the following allophones: [m, n, ɲ, ŋ, and Ø].

Next, the realization of the allophones (SRs) from the same phoneme (UR) can be depicted in a phonological rule. Finegan, Besnier, Blair, and Collins (1992: 60), and Hales and Clements (1983: 119) state that the basic formulism of phonological rule can be written as: A B / C __ D (where A is the affected sound or the UR, B is the output or the SR, C and D are the context or the distribution, and the dash symbol ( ) representsthe location, where the affected sound exactly takes place). Furthermore, if the affected sound and thecontext occur in different morphemes, it is marked by a plus symbol (+). As much, the general phonological rule above can be rewritten in more specifically as: A B / _____ + D or A B / C + _____

In case of Indonesian, the general nasal /N/ as a phoneme mostly assimilates to the following sounds regarding to its place of articulations into bilabial nasal /m/, alveolar nasal /n/, palatal nasal / ɲ /, velar nasal /ŋ/, and it is also deleted (Ø). Therefore, the important rules to generate the SRs are nasal assimilation rule, deletion rule, and assimilation rule followed by deletion rule.

3.1 Nasal Assimilation Rule

The general nasal /N/ mostly assimilates to the following sound according to its places of articulation. If the following sound is labial, alveolar, palatal, and velar, the general nasal /N/ will be assimilated into labial nasal [m], alveolar nasal [n], palatal nasal [ɲ], and velar nasal [ŋ] respectively. Based on this context, the nasal assimilation rule in Indonesian prefixed verbs can be written in the following rules:

/N/ ⟹ [m] /___ + (+ labial sounds, e.g. p, b, f) as shown by data no. 1, 2, 3, and 4.

/N/ ⟹ [n] /___ + (+alveolar, e.g. t, d, ʤ) as shown by data no. 5, 6, and 7.

/N/ ⟹ [ɲ] /___ + (+ a voiceless fricative alveolar /s/) as shown by data no. 8 and 9.

/N/ ⟹ [ŋ] /___ + (+ velar /k, g/, glottal /h/, vowel /a, u,e, o, i) as shown by data no.10, 11, 12, 13, 14, 15, 16, and 17.

3.2 Nasal Deletion Rule

In addition to assimilate to the following sound, the general nasal /N/ will be deleted if it is followed by approximant /w, y/, lateral /l/, or retroflex /r/as demonstrated by the following rule: /N/[Ø] /___+ (+ approximant, lateral , retroflex), as shown by data no. 18, 19, 20, and 21. This rule says that 'delete a nasal sound if it is followed by an approximant, lateral, or retroflex'.

3.3 Voiceless Stop Deletion Rule

The deletion rule does not only apply to nasal sound but it also applies to voiceless stop consonants /p, t, k/ if they are preceded by a nasal sound, as shown by data no. 2, 3, 5 and 10. This voiceless stop deletion rule can be written into the following phonological rule: (-Voice, -son, -cont) (Ø) / (+ Nasal) + _____ .This rule dictates that every voiceless stop consonant is deleted if the consonant is preceded by a nasal, and they occur in different morphemes.

3.4 Assimilation and Deletion Rules

Some data undergo more than one rule to generate the correct SRs. They are simple verb forms which begin with voiceless stop sounds /p, t, k/. Generating the correct SRs for these verbs should be done through two phonological rules. First, the nasal /N/ sound assimilates to the stop sounds into [m] data no. 2 and 3, [n] data no. 5, and [ŋ] data no. 10. The next process is the voiceless stop consonants are deleted (because they are preceded by a nasal sound). Having been proposed, the phonological rules can be applied to generate the correct SRs from the URs. if the rule does not affect the datain the process of derivation (see Table 3a and 3b), it is marked with NA meaning not applicable.

Table 3a: Derivation (where deletion rules are not applicable)

Gloss 'to buy'	'to get'	'to cut'	'to take'

URs	/məN + bəli/	/məN + dapat/	/məN+guntiŋ/	/məN+ambil/
Nasal assimilation	/mə**mb**əli/	/mə**n**dapat/	/mə**ŋ**guntiŋ/	/mə**ɲ**ambil/
Nasal Deletion	*NA	NA	NA	NA
Voiceless Stop Deletion	NA	NA	NA	NA
SRs	/mə**mb**əli/	/mə**n**dapat/	/mə**ŋ**guntiŋ/	/mə**ɲ**ambil/

*NA = not applicable

Table 3a shows that a general nasal /N/ assimilates to the following sound (the initial sound of the simple verb) according to its place of articulation. Those data are not affected by deletion rules (NA). In the following table (Table 3b), the data assimilate to the initial position, but not the verb /məN+yakini/ 'to believe' because it commences with an approximant /y/ in which the general nasal should be affected by the nasal deletion rule, whereas the others are not (NA). Finally, the voiceless stop sound rules deletes the initial sound of the simple verbs, but not the last data /mə+yakini/ because the nasal has been dropped.

Table 3b: Derivation (where deletion rule(s) is applicable)

Gloss	'to hit'	'to write'	'to water'	'to beleive'
Urs:	/məN + pukul/	/məN + tulis/	/məN+siram/	/mN+yakini/
Nasal assimilation	/mə**m**pukul/	/mə**n**tulis/	/mə**ŋ**siram/	NA
Nasal Deletion	NA	NA	NA	/məyakini/
Voiceless Stop Deletion	/məmukul/	/mənulis/	/məŋiram/	NA
SRs:	/məmukul/	/mənulis/	/məŋiram/	/məyakini/

Since there are more than one phonological rule to generate the SRs from the URs, the ordering of the rules is crucial to pay attention, otherwise it will result the incorrect SR. The reason is that one rule may suck another rule which will make the rule does not function anymore as demonstrated in Table 3c, in which the incorrect SRs are marked by asterisk (*).

Table 3c: Derivation (deletion rules precede nasal assimilation rule)

Gloss	'to hit'	'to write'	'to water'	'to lock'
Urs:	/məN + pukul/	/məN + tulis/	/məN+siram/	/məN+kunci/
Nasal Deletion	NA	NA	NA	NA
Voiceless Stop Deletion	mə**N**ukul	mə**N**ulis	mə**N**iram	mə**N**unci
Nasal assiMilimation	NA	NA	NA	NA
SRs:	/*məNukul /	/*məNulis/	/*məNiram/	/*məNunci/

4. Discussion

As commonly happen in many other (local) languages in Indonesia, as well as in English, the general nasal /N/ assimilates to the neighbouring sounds according to its places of articulation. In addition to assimilate, the general nasal sound /N/ is also deleted it is followed by approximant, lateral, or retroflex. In contrast, the general nasal can delete voiceless stop consonants. Therefore, to generate the correct SRs is needed a nasal assimilation rule, and deletion rules. Because there is more than one phonological rule to generate the SRs, it is necessary to put the rules in the right order, otherwise it will result the incorrect SRs. In case of the behaviours of the nasal sound in Indonesian active verb prefix /məN-/, the nasal assimilation rule should precede the deletion rules. In Indonesian, however, these general rules can also be violated by a small number of data because they do not follow these rules. Some simple verbs commencing with the plosive bilabial voiceless consonant /p, t, s, k/ in which the voiceless plosive stop consonants/Sonoran are normally dropped in the prefixed verbs because they are preceded by a nasal sound (see data 2, 3, 5, 8, and 10), the sounds are be preserved.

The sound /p/ in the simple forms as in the verbs /puɲa/ 'to own' and /pərsuasi/ 'to pərsuade' will not be dropped when these simple verbs get the active prefix /məN/. Accordingly, they become /mə**m**puɲai/ and /mə**mp**ərsuasi/ rather than /*mə**m**uɲai/ and /*mə**m**ərsuasi/ respectively.

Another phenomena is that the pronunciation variation which occurs to some verbs when they commence with the consonant /t, s, k/ as occurring in the simple verbs /taat/ 'to obey', /sucikan/ 'to wash' or 'to make holy' and /kadʒi/ 'to analyze' or 'to read al-Qur'an'. The initial sounds /t, s, k/ of the verbs may preserve or drop. The variation may (or not) change the meanings of the prefixed verbs. The verb /taat/ can be either pronounced with or without /t/ in the prefixed forms as either /məntaati/ or /mənaati/ with exactly the same meaning. In contrast, the simple verb /suci/ when it receives the active prefix /məN/. This verb will be read /mənsuci(kan)/ meaning 'to make holy' and /məɲuci/ meaning 'to clean/to wash'. The same phenomena also happens to the simple verb form /kadʒi/ which can be pronounced differently either with the plosive stop sound /k/ as in the prefixed form /məŋkadʒi/ meaning 'to study' or without /k/ as in the prefixed form /məŋadʒi/ meaning 'to read the holy Qur'an'.

5. Conclusion

The most common sound alteration in Indonesian is the general nasal of the prefix verb meaning active /məN/. This prefix is added to simple verb forms to produce the active verbs. The general nasal /N/ has certain behaviours as it will change into labial, alveolar, palatal, and velar depending on the features of the following sound or the initial sound of the verb, or it is deleted. The correct SRs can be derived by applying nasal assimilation rule; voiceless stop deletion, and nasal assimilation followed by deletion. However, there are a small number of data which do not follow these rules (they can be considered as exception or irregular forms). The data may show the pronunciation variation only, whereas the other may distinguish the meanings of the verbs.

Acknowledgement

References

Andi-Pallawa, B.AndAlam, A.F.A. (2013).'A comparative analysis between English and Indonesian phonologicalsystems'.*International Journal of Language Education 1*(3), 103-129.

Carr, P. (1993). Phonology. London: The Macmillan Press Ltd.

Finegan, E., Besner, N, Blair,D., and Collins, P. (1992).Language: *Its Structure and Use. Sydney*: HBJ Publishers.

Halle, M. and Clement, G.N. (1983). *Problem Book in Phonology*. Cambridge: The MIT Press.

Pater, J. (2001). Austronesian Nasal Substitution and Other NC Effects.In H. Van derHulstet. al. (eds.) *The Prosody Morphology Interface*. Cambrdige: CUP.

Sneddon, J. (2006). *Colloquial Jakarta Indonesian*. Cambridge, ACT: Pacific Linguisitics

Tim Pustaka Phoenix, (2010). *KamusBesarBahasa Indonesia*. Jakarta: PT Media Pustaka Phoenix Jakarta.