



**THE PHONOLOGICAL PROCESS OF  
VERB NASALIZATION IN BANYUMASAN DIALECT  
OF JAVANESE**

A THESIS

In partial of the requirements for the Sarjana Degree Majoring Linguistics in  
English Department Faculty of Humanities Diponegoro University

**Submitted by:**

**RIZA NUZULUL HUDA**

**NIM: 13020111130075**

**FACULTY OF HUMANITIES  
DIPONEGORO UNIVERSITY  
SEMARANG**

**2017**

## **PRONOUNCEMENT**

The writer honestly confirms that she compiles this thesis by herself and without taking any result from other researches in S-1, S-2, S-3 and in diploma degree of any universities. The writer ascertains also that she does not quote any material from other publications or papers except from the references mentioned.

Semarang, 27 Februari 2017

Riza Nuzulul Huda

## MOTTO AND DEDICATION

### *MOTTO*

*I was within and without, simultaneously enchanted and repelled by inexhaustible variety of life (F. Scott Fitzgerald)*

*Man is not made for defeat (Ernest Hemingway)*

*.... for indeed, with hardship [will be] ease. Indeed, with hardship [will be] ease. So, when you have finished [your duties], then stand up [for worship], and to your lord direct [your] longing. (Ash-Sharh: 5-8)*

*This paper is dedicated to  
my parents, my sister, my brother and  
to everyone who helped me accomplished this paper  
“Thanks for all the support, contribution, inspiration, pray, and love”*

**THE PHONOLOGICAL PROCESS OF VERB NASALIZATION  
IN BANYUMASAN DIALECT OF JAVANESE**

**Written by:**

**Riza Nuzulul Huda**

**NIM: 13020111130075**

is approved by thesis advisor,

on February 27<sup>th</sup>, 2017

Thesis Advisor,

Dr. Agus Subiyanto, M.A.

NIP. 19640814 199001 001

The Head of the English Department

Dr. Agus Subiyanto, M.A.

NIP. 19640814 199001 001

## **VALIDATION**

Approved by

Strata I Thesis Examination Committee

Faculty of Humanities Diponegoro University

On 27 March 2017

Chair Person

Dra. Cut Aja Puan Ellisafny, M.Ed.  
NIP.19551003 197812 2 001

First Member

Drs. Mualimin, M.Hum  
NIP. 19611110 198710 1 001

Second Member

Dra. Wiwiek Sundari, M.Hum  
NIP. 19590607 1999003 2 001

Third Member

Drs. Catur Kepirianto, M.Hum  
NIP. 19650922 199203 1 002

## ACKNOWLEDGEMENT

Praise be to God Almighty, who has given strength and true spirit to this project entitled “The Phonological Process of Verb Nasalization in Banyumasan Dialect of Javanese” so that it came to a completion. On this occasion, I would like to thank all people who have contributed to the completion of this thesis.

The deepest gratitude and appreciation is extended to Dr. Agus Subiyanto, M.A. as my advisor who has given his continuous guidance, helpful correction, moral support, advice and suggestion without which it is doubtful that this final paper came into completion.

Additionally, I also would like to extend my deepest gratitude and appreciations to the following people:

1. Dr. Redyanto Noor, M. Hum as the Dean of Faculty of Humanities Diponegoro University.
2. Dr. Agus Subiyanto, M.A as the Head of English Department, Faculty of Humanities Diponegoro University.
3. All of the distinguished lecturers in the English Department, Faculty of Humanities Diponegoro University who have shared their precious knowledge and experiences.
4. My beloved parents, Jahid Irawan and Rumiwati. Thank you for the endless love, pray, and support.

5. My beloved siblings, Novi Erliyani, S,Gz and Bagas Faliqul Amin. I am proud to be your daughter and I feel truly fortunate to have had your support.
6. SixOVoice. I do really enjoy our togetherness.
7. All 2011 English Department students (especially Sasing C, and linguistic class). Nice to know you.
8. Everyone who helped me to grow and always accompanied me in every moment who I cannot mention all of you one by one. Thanks.

I realize that this thesis is still far from perfect. I, therefore, will be glad to receive any constructive criticism and recommendation to make this final paper better.

Finally, I hope that this thesis will be useful to the reader who wishes to learn something about Banyumasan dialect or Phonology.

Semarang, February 2017

Riza Nuzulul Huda

## TABLE OF CONTENTS

TITLE.....	i
PRONOUNCEMENT.....	ii
MOTTO AND DEDICATION.....	iii
APPROVAL.....	iv
VALIDATION.....	v
ACKNOWLEDGMENT.....	vi
TABLE OF CONTENT.....	ix
LIST OF TABLES.....	x
LIST OF CHARTS.....	xi
ABSTRACT.....	xii
CHAPTER I INTRODUCTION.....	1
1.1. Background of the Study.....	1
1.2. Research Problems.....	2
1.3. Purposes of the Study.....	3
1.4. Previous Study.....	3
1.5. Organization of the	6

	Writing.....	
CHAPTER II	REVIEW OF THE LITERATURE.....	8
	2.1. Phonology.....	8
	2.2. Phonetic Characteristics of Banyumasan Dialect of Javanese.....	9
	2.3. Phonological Process.....	11
	2.3.1. Assimilation.....	11
	2.3.2. Syllable Structure Process.....	14
	2.3.3. Weakening and Strengthening.....	18
	2.3.4. Neutralization .....	21
	2.4. Distinctive Features	22
	2.5. Phoneme and Allophone	28
CHAPTER III	RESEARCH METHOD.....	30
	3.1. Type of the Research.....	30
	3.2. Research Data and Data Source.....	30
	3.3. Population, Sample and Sampling Technique .....	31
	3.4. Method of Collecting Data.....	31
	3.4. Method of Analyzing Data.....	32
CHAPTER IV	DATA ANALYSIS.....	33
	4.1. The Phonetic Forms of the Nasal Prefix.....	33
	4.2. The phonological rules governing the distribution of the allophones.....	40
	4.2.1. The underlying form of the nasal prefix.....	41

4.2.2. The rules of phonological process.....	41
4.2.2.1. Assimilation.....	42
4.2.2.2. Syllable Structure Process.....	45
4.2.2.3. One Syllable Word.....	49
CHAPTER V CONCLUSION.....	55
REFERENCES.....	56

## LIST OF TABLES

Table 1. Banyumasan dialect Consonants.....	10
Table 2. Distinctive Features Of Banyumasan Dialect Sounds.....	27
Table 3. The distribution of [ŋ-] .....	34
Table 4. The distribution of [ŋ-] on one syllable word.....	34
Table 5. The distribution of [m-].....	35
Table 6. The distribution of [n-].....	37
Table 7. The distribution of [ŋ-].....	38
Table 8. The distribution of prefixes.....	39

## LIST OF CHARTS

Chart 1. Banyumasan dialect vowels.....	9
---	---

## ABSTRAK

Dialek Banyumas adalah salah satu dialek di dalam Bahasa Jawa yang penuturnya meliputi Barlingmascakeb (Banjarnegara, Purbalingga, Banyumas, Cilacap and Kebumen). Penutur Banyumas mengucapkan dengan cara *ngapak-ngapak* yang berarti memproduksi vokal ‘a’ tanpa menggantinya dengan vokal ‘o’ yang Bahasa Jawa standar gunakan dan di setiap akhiran diproduksi akhiran ‘?’ serta pada saat memproduksi konsonan [b, d, k, g, h, y, k, l, w] dengan disuarakan sempurna. Berlandaskan dengan kondisi di atas, penulis memutuskan untuk menganalisa proses fonologis menjadi topik dalam tulisan akhir ini. Penulis akan bertumpu pada pembentukan Kata Kerja melalui proses Nasalisasi dengan prefiks. Di dalam pengambilan datanya, penulis menggunakan transkrip fonetis dari siaran radio Cilacap dalam program “Curanmor (*Curahan Perasaan dan Humor*)”. Penelitian ini adalah penelitian kualitatif deskriptif, dengan mengimplementasikan Teori Schane tentang Proses Fonologis dan Fitur Distingtif. Ada tiga jenis data yang penulis gunakan yaitu transkrip fonetis dari 8 episode di program “Curanmor (*Curahan Perasaan dan Humor*)”, Kamus Bahasa Banyumas untuk penulisan baku dialek Banyumas, dan konfirmasi melalui data pengucapan penutur aktif bahasa Banyumas. Metode pengumpulan data penelitian yang penulis pakai adalah metode Observasi non-Partisipasi dengan metode simak. Metode analisis data yang penulis gunakan adalah metode agih dan padan dengan menggabungkan penentu data. Dari analisis data, penulis menemukan dua proses fonologis yang paling sering dijumpai yakni Assimilasi dan Proses Stuktur Suku-Kata.

**Kata Kunci :** dialect, Banyumasan dialect of Javanese, phonological process, phonetic transcription, verb nasalization, prefix, Assimilation, Syllable Structure Process

# CHAPTER I

## INTRODUCTION

In this chapter, the writer will explain background of the study, scope of the study, purposes of the study, previous studies, and organization of the writing.

### **1.1. Background of the Study**

Javanese is spoken by around 75.500.000 speakers that spread over Central Java, Yogyakarta, East Java, Banten, Lampung, Medan, the transmigration areas (Riau, Jambi, Central Kalimantan), and also in overseas (Suriname, New Caledonia, and West Coast Johor) (Laksono in Marsono, 2011: 12-13). The wide area of Javanese speech communities has caused Javanese to have a lot of variations showing the linguistic characteristics of each area. According to E.M. Uhlenbeck (1982), geographically Javanese language has 4 dialects and 13 sub-dialects. The four dialects are Banyumasan, the Coastal areas, Surakarta and East Java dialects. Moreover, the sub-dialects are Purwokerto, Kebumen, Pemasang, Banten Utara, Tegal, Semarang, Rembang, Surakarta, Yogyakarta, Madiun, Surabaya, Banyuwangi, and Cirebon. Meanwhile, Balai Bahasa Jawa Tengah in Language Map of Central Java (2008) divided Javanese in Central Java into 5 dialects, which are Semarsuradupati dialect (Semarang residency, Surakarta residency, Kedu residency, and Pati residency), Pekalongan dialect (Pekalongan regency, Batang regency, and Pemasang regency), Wonosobo

dialect (Wonosobo regency), Banyumasan dialect (Banyumas regency, Cilacap regency, and Kebumen regency), and Tegal dialect (Tegal and Brebes regency).

Banyumasan dialect is used as the mother tongue of the people in Barlingmascakeb (Banjarnegara, Purbalingga, Banyumas, Cilacap and Kebumen region). The term ‘mother tongue’ refers to the first language used in a particular region that is taught by a mother to her child, which can strengthen their family relationship. The Banyumasan dialect is often called *ngapak-ngapak* dialect. In terms of the phonological aspect, *ngapak-ngapak* means producing vowel [a] instead of [ɔ] (as used in the Standard Javanese) followed by consonant [ʔ] in the final syllable and producing consonants [b, d, k, g, h, y, k, l, w] with voiced feature. Banyumasan dialect has particularly different pronunciations compared to Standard Javanese as mentioned above. This difference in the phonological aspect has a big impact on the phonetic forms.

Based on the phenomena above, I decided to take the phonological process as the topic of the study. I will focus on the kinds of a phonological process of the nasal prefix in constructing verbs in Banyumasan dialect of Javanese. Thus, based on the background above, the research is entitled “The Phonological Process of Verb Nasalization in Banyumasan Dialect of Javanese”.

## **1.2. Research Questions**

In order to make the analysis easier, I limit the discussion of this research on a phonological process in Banyumasan dialect of standard Javanese. Therefore, I focus only on the following problems related to the study, namely:

1. What are the phonetic representations of the nasal prefix in Banyumasan dialect?
2. What are the phonological processes happening to the phonetic variations of the nasal prefix?
3. What are the phonological rules that can show the phonological processes?

### **1.3. Purpose of the Research**

By answering the questions, there are some purposes of this research, namely:

1. To study the phonetic representations of the nasal prefix in Banyumasan dialect.
2. To describe the phonological process happening to the variations of the nasal prefix.
3. To analyze the phonological rules that can show the phonological processes.

### **1.4. Previous Studies**

There are several studies on Banyumas dialect of Javanese, such as “*Afiksasi Verba Bahasa Jawa Dialek Banyumas*” by Isnaeni (2008), “*Perbandingan Sistem Fonologis Bahasa Jawa di Wonosobo dengan Bahasa*

*Indonesia*” by Anggraeni (2007), and “*Bahasa Jawa Dialek Banyumas di Kabupaten Banyumas (Kajian Geografi Dialek)*” by Nurdiyanto (2010).

The first research that I found similar to my research is “*Afiksasi Verba Bahasa Jawa Dialek Banyumas*” by Isnaeni (2008). She focused on describing the affixation process of Banyumas dialect in constructing verbs and explaining the function of each affixation meaning. The data were taken from Kemrajen district at Banyumas, namely Sebalung, Sibrama, Nusamangit, Sirau and Kecila village. Two informants from each village were chosen during the research. Isnaeni used *simak* and *cakap* method by recording and note-taking techniques for collecting the data. She analyzed the data by using *agih* method and determinant selection and substitution techniques. The result shows that Banyumasan dialect verbs are productively composed by using prefixes, with the percentage of 40,37, simulfixes with the percentage of 32,84, suffixes with the percentage of 14,52 and confixes with the percentage of 6,36. The rarely used affixation process is the one with infixes with the percentage of 5,93. The word categories commonly constructed with affixes are nouns and verbs. Adjectives and adverbs are rarely used for constructing verbs.

The second research is “*Perbandingan Sistem Fonologis Bahasa Jawa di Wonosobo dengan Bahasa Indonesia*” by Anggreini (2007). It described the similarities and the differences between Wonosobo dialect of Javanese and Bahasa Indonesia in terms of their phonemes. This research used a micro-linguistic contrastive approach. The data were taken from Wonosobo dialect phonemes and Indonesian phonemes. The method of collecting data was *cakap*

method with recording and note-taking techniques. The data analysis method from this research was *agih* method by using constituent-divided technique continued with replacement and contrast technique. The result shows that, there are similarities and differences between Wonosobo dialect and Indonesian based on the articulation points and the distribution of allophones in consonants and vowels. The similarities include [a, i, u, e, ε, ə, ɔ, o] for vowels and [p, b, m, f, w, t, d, n, l, r, s, z, c, j, ŋ, y, k, g, ŋ, h, ?] for consonants.

The third research is “*Bahasa Jawa Dialek Banyumas di Kabupaten Banyumas (Kajian Geografi Dialek)* by Nurdiyanto on 2010. She focused on the distribution of Banyumasan dialect variations in each different region in Banyumas. She also discussed the phonological system, morphological system, lexical elements and the isogloss of Banyumasan dialect. She used Guiraud theory that shows five dialect differences which are phonetic differences, semantic differences, onomasiology differences, semasiology differences, and morphology differences. In the analysis data, she found the phonological system in the description of vowel and consonant phonemes. The vowel phonemes are /a/, /ɪ/, /u/, /ε/, /ɔ, and /ə/ and the consonant phonemes are /b, /c/, /d/, /g/, /h/, /j/, /k/, /l/, /m/, /n/, /p/, /r/, /s/, /t/, /w/, /y/, /ŋ/, /ñ/, /d<sup>h</sup>/, and /t<sup>h</sup>/. She also found the diphthongization. The morphological system in Banyumasan dialect also has been described is affixation, reduplication, and compounding.

The previous studies above are different from this study. In this study, I focus on the phonological processes happening to the phonetic variations of the nasal prefix and the phonological rules that show the processes. I used the theory

of Transformational Generative Phonology from Schane (1973) that divided the kinds of the phonological process into assimilation, syllable structure, weakening and strengthening, and neutralization. Meanwhile, for describing the phonological rules I used Distinctive Features theory including the analysis of major class (consonantal, syllabic, sonorant), manner of articulation (nasal, continuant, and delayed release) and place of articulation (coronal, anterior, high, back, round, and tense).

### **1.5. Organization of The Writing**

#### **CHAPTER I INTRODUCTION**

This chapter describes the background of the study, research problems, purpose of the study, previous studies and writing organization.

#### **CHAPTER II THEORETICAL FRAMEWORK**

This chapter deals with the main and supporting frameworks used in analyzing the data in this research.

#### **CHAPTER III RESEARCH METHOD**

This chapter shows the type of the study methods and techniques of collecting data and method of analyzing data. It also provides data, data source, and samples

#### **CHAPTER IV DATA ANALYSIS**

The writer analyzes the data in order to answer the research problems. The analysis includes the phonological processes found in verb nasalization and the phonological rules governing the processes.

## CHAPTER V CONCLUSION

The last chapter deals with conclusion and suggestion for further research.

## **CHAPTER II**

### **REVIEW OF THE LITERATURE**

In this chapter, I will present some theories which are used in this research. First, I will explain what phonology is. Second I will discuss the phonological process. The third is the description of the phonological process, by focusing on how morphemes become juxtaposed and sometimes undergo changes. The last is the explanation on the four categories of phonological processes, covering: assimilation, syllable structure, weakening and strengthening, and neutralization.

#### **2.1. Phonology**

Odden (2005) states the differences between phonetics and phonology. Phonetic deals with physical sounds of human utterances, while phonology is the study of the rules and principles of speech sound. This difference can be seen in the following quotation,

Phonetics deals with “actual” physical sounds as they are manifested in human speech, and concentrates on acoustic waveforms, formant values, measurements of duration measured in milliseconds, of amplitude and frequency, or in the physical principles underlying the production of sounds, which involves the study of resonances and the study of the muscles and other articulatory structures used to produce physical sounds. On the other hand, phonology, it is said, is an abstract cognitive system dealing with rules in a mental grammar: principles of subconscious “thought” as they relate to language sound. (Odden, 2005:2)

According to Carr (2008), phonology is the study of the sound systems found in human languages. Some other linguists define phonology as the study of the functions of speech sounds.

The goal of phonology is to understand the system of rules that the speaker uses in apprehending and manipulating the sounds of their language (Bruce, 2009: 1).

To conclude, phonology is a branch of Linguistics which discusses or analyzes the language sounds produced by human organs of speech and transcribes using the phonetic transcription to get written document.

## 2.2. Phonetic Characteristics of Banyumasan Dialect of Javanese

Nurdiyanto (2010: 31) states that Banyumas dialect of Javanese has six vowels, which are [i, ε, ə, ɔ, u, a] as seen in the chart below,

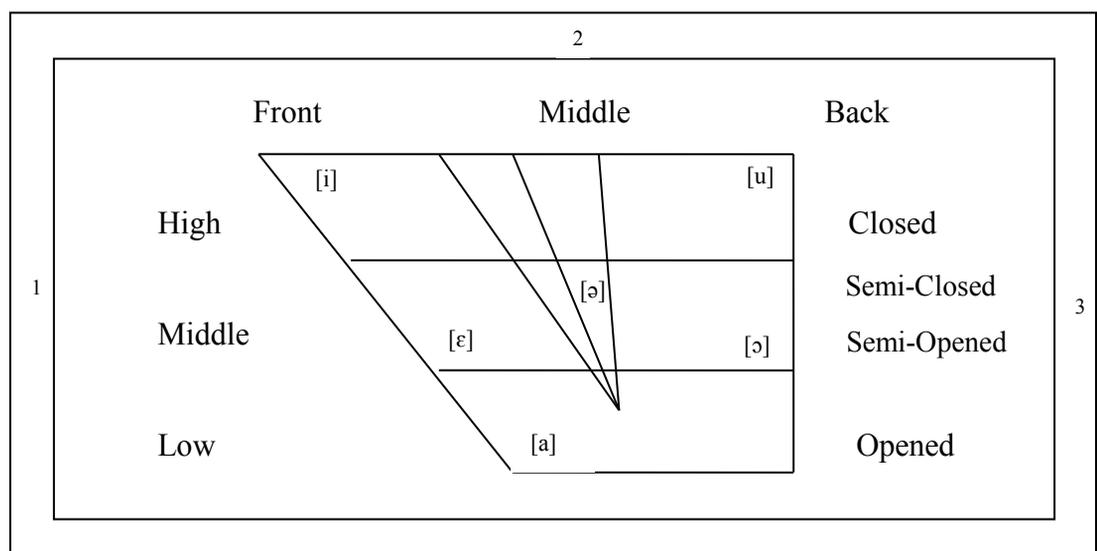


Chart 1. Banyumasan dialect vowels

- \* 1: high low the tongue
- 2: part of tongue which moves
- 3: stricture (the distance between tongue and palate)

All of these vowels can be characterized in terms of three basic vowel properties of height, backness and rounding. There are two high vowels in Banyumasan dialect, which are high front vowel [i] and high back vowel [u]. Banyumasan dialect also has three vowels in middle position, which are front vowel [ɛ], mid vowel [ə] and back vowel [ɔ]. The last is a low vowel which is a low front vowel [a]. Based on the stricture (the distance between tongue and palate), these vowels are also divided into 4 positions. Both high vowels are closed. On the other hand, front vowel and back vowel are semi-opened. The vowel in the middle position is semi-closed and the low front vowel is opened.

Nurdiyanto (2010: 31) also states that Banyumasan dialect has 22 consonants which are [p, b, m, f, w, t, d, n, r, s, l, t<sup>h</sup>, d<sup>h</sup>, c, j, ŋ, y, k, g, ŋ, h, ?], as seen in the table below.

	Bilabial	Labio dental	Alveolar	Retroflex	Palatal	Velar	Laryngeal Glides	Glotal
Plosive	p b		t d	t <sup>h</sup> d <sup>h</sup>	c j	k g		?
Nasal	m		n		ɲ	ŋ		
Trill			r					
Fricative		f	s				h	
Semivowel		w			y			
Lateral			l					

Table 1. Banyumasan dialect Consonants

There are 3 bilabials, two of them are plosive bilabials [p, b] and one of them is nasal bilabial [m]. There are 2 labio-dentals, one of them is fricative labio-dental

[f] and one of them is semivowel [w]. The next place of articulation is alveolar, covering plosive alveolars [t, d], nasal alveolar [n], trill alveolar [r], fricative alveolar [s] and lateral alveolar [l]. There are 2 plosive retroflexes [t<sup>h</sup>, d<sup>h</sup>]. It also has palatal consonants including plosive palatals [c, j], nasal palatal [ɲ] and semivowel [y]. There are velar consonants which are plosive velar [k, g] and nasal velar [ŋ]. There is one consonant which includes in laryngeal [h]. The last is glottal plosive [ʔ].

### **2.3. Phonological Process**

The phonological process occurs when a morpheme combines with another morpheme, and one of the sounds of this morpheme changes because of the influence of the other neighboring morpheme. Schane (1973: 49) states that when morphemes are combined to form words, the segments of neighboring morphemes become juxtaposed and sometimes undergo change. According to Schane (1973: 49), there are four kinds of phonological process, which are: assimilation, syllable structure, weakening and strengthening, and neutralization.

#### **2.3.1. Assimilation**

Assimilation happens when a morpheme takes features from a neighboring morpheme. It may happen between a consonant and a vowel that takes the other features or it may happen when one consonant has an effect another and one vowel influences on another. Therefore, there are four kinds of assimilation,

which are Consonant-Vowel, Consonant-Consonant, Vowel-Consonant, and Vowel-Vowel assimilations. (Schane, 1973: 49)

a. Consonant assimilates vowel feature

Schane (1973: 50) states that in Russian, certain consonants become palatalized whenever they precede a front vowel. The example of consonant assimilate vowel feature can be seen in the following data,

[stól]	“table”	[stólʲé]	“table”
[vkús]	“taste”	[vkúsʲen]	“tasty”

This process happens in many languages, such as Russian. In this language, the examples show the semi-vowel sound [y] is inserted between alveolars [s] or [l] when they are followed by [e] vowel. The examples explain semi-vowel sound assimilate to become palatalized whenever they precede a front vowel.

b. Vowel assimilates consonant feature

Schane (1973: 50) states that in English, a consonant give an effect on a vowel. The example of vowel assimilate consonant feature can be seen in the following data,

[siy]	see	[sīyn]	seen
[kæt]	cat	[kæ̃nt]	can't

This process happens in many languages, such as in English. In this language, the examples above show vowels to be phonetically nasalized when adjacent to a nasal consonant. The nasal consonant may nasalize the vowel as assimilation.

c. Consonant assimilates consonant feature

Consonant assimilates consonant feature happens in English for consonant clusters to agree in voicing. This process can be seen where the endings for the plural, third person singular, and past tense agree in voicing with a preceding consonant.

[kʌps]	“cups”	[kʌbz]	“cubs”
[pæts]	“pats”	[pædz]	“pads”

(Schane, 1973: 51)

This process happens in many languages, such as in English. In this language, the examples above show the plural nouns in English which are ended with voiced consonant will be followed by voiced fricative alveolar sound in order to change the [s] sound (voiceless fricative alveolar).

d. Vowel assimilates vowel feature

It happens when vowel of one syllable may superimpose the vowel of some other syllable. Here we can distinguish vowel harmony from umlauting (the influence of a vowel in one syllable will glide on the vowel of preceding syllable). The example of vowel assimilate vowel feature can be seen in the following data,

[diʃ]	“tooth”	[diʃim]	“my tooth”
[ev]	“house”	[evim]	“my house”

(Schane, 1973: 52)

This process happens in many languages, such as in Turkish. In this language, the examples above show the high front vowel [i] added to become a vowel harmony in the next syllable.

### 2.3.2. Syllable Structure Processes

Schane (1973: 52) states that syllable Structure Processes influence the distribution of consonants or vowels in the word which may be deleted or inserted. These two segments may change into a single segment and one segment may become the major class feature. There are consonant deletion, vowel deletion, consonant insertion, vowel insertion, consonant coalescence, vowel coalescence, vowel and consonant coalescence, major class change and metathesis that will be explained in the following,

#### a. Consonant Deletion

This process happens in many languages, such as in French. In this language, the examples show final consonant is deleted if the following word begins with a consonant. The example of consonant deletion can be seen in the following data,

[pət <i>t</i> ami]	“little friend”	[pəti garsɔ]	“little boy”
[groz ami]	“big friend”	[gro garsɔ]	“big boy”

(Schane, 1973: 53)

The examples above show the deletion of the consonant at the end of the word if the following word begins with a consonant. So the [t] and [z] consonant will be deleted so that prevent two consonants coming together.

b. Vowel Deletion

This process happens in many languages, such as in French. In this language, the examples may prevent two vowels produce together. The example of vowel deletion can be seen in the following data,

[lə garsə]	“the boy”	[l ami]	“the friend” (masculine)
[la fiyə]	“the girl”	[l ami]	“the friend” (feminine)

(Schane, 1973: 53)

The examples explain the deletion of the vowel in the following word begins with a vowel. They prevent two vowels coming together.

c. Consonant Insertion (Epenthesis)

Consonant Insertion happens when a consonant break up a vowel cluster. In any cases it happens to insert the consonant *h* is dropped after stems terminating in a consonant. The example of consonant insertion can be seen in the following data,

[tulu]	“three”	[tuluhi]	“make it three”
[?usa]	“one”	[?usahi]	“make it one”

(Schane, 1973: 54)

This process happens in many languages, such as in Hanunoo, spoken in the Philippines. In this language, the examples above show of breaking up a vowel cluster then insert laryngeal glides [h] in the following syllable.

d. Vowel Insertion (Epenthesis)

This process happens in many languages, such as in Latin. In this language, the word cannot end in a consonant-liquid cluster. In such cases, the vowel *e* is inserted to break up this cluster. The example of vowel insertion can be seen in the following data,

[patris]	“father “ (genitive)	[pater]	“father” (nominative)
[agri]	“field” (genitive)	[ager]	“field” (nominative)

(Schane, 1973: 54)

The examples above show in a certain language that word cannot end in a consonant-liquid cluster, so word final will be inserted by [e] to break this cluster.

e. Consonant Coalescence

It may change two contiguous consonants to a single consonant which shares the same features of the two original ones. The example of consonant coalescence can be seen in the following data,

[nak]	“fall” + [hwa]	"flower"	→	[nak <sup>h</sup> wa]	“fallen flower”
[kup]	“bend” + [hita]	(causative suffix)	→	[kup <sup>h</sup> ita]	“to bend”

(Schane, 1973: 54)

This process happens in many languages, such as in Korean. In this language, the noun clause or verb clause which are composed of two words, the end syllable of the first word will glide to the beginning of the second word. They coalesce into one word.

f. Vowel Coalescence

Vowel coalescence cause the producing single vowel to the same backness and rounding vowel, so the new syllabic-structure becomes simpler. The example of consonant coalescence can be seen in the following data,

Latin	Spanish	
[ <i>aidifikium</i> ]	[ <i>edifisio</i> ]	“building”
[ <i>káusa</i> ]	[ <i>kósa</i> ]	“thing”

(Schane, 1973: 55)

This process happens in many languages, such as in Spanish. In this language, Spanish modifies Latin words to become simpler with single vowels in each word by changing the diphthong to single vowel.

g. Coalescence Vowel and Consonant

Coalescence Vowel and Consonant happens when the nasal consonant is followed by a consonant or a pause. The example of consonant and vowel coalescence can be seen in the following data,

[ <i>finə</i> ]	“fine” (feminine)	[ <i>fɛ</i> ]	“fine” (masculine)
[ <i>pIɛnə</i> ]	“full” (feminine)	[ <i>pIɛ</i> ]	“full” (masculine)

(Schane, 1973: 55)

This process happens in many languages, such as in French. In this language, to differentiate the masculine words, the nasal syllable delete from the end of the word.

h. Major Class Change

Major Class Change happens when a segment influences major class segment and it is quite common for high vowels and lateral liquids to become glides. In some cases, the unstressed high vowels are converted to the corresponding semivowels if they are followed by a vowel. The example of major class change can be seen in the following data,

[s <sup>h</sup> i]	“saws”	[sy <sup>h</sup> é]	“to saw”
[t <sup>h</sup> ú]	“kills”	[tw <sup>h</sup> é]	“to kill”

(Schane, 1973: 56)

This process happens in many languages, such as in French. In this language, the high vowel [i] change to glide over semi-vowel to make stress in the certain word.

i. Metathesis

Metathesis happens when two segments interchange their positions. In some languages, a sequence of glottal stop plus consonant becomes consonant plus glottal stop. The example of metathesis can be seen in the following data,

[?usa]	“one”	[kas?a]	“once”
[?upat]	“four”	[kap?at]	“four times”

(Schane, 1973: 56)

This process happens in many languages, such as in Hanunoo spoken in the Philippines. In this language, to change word form, the words substitute the first syllable tense to become second syllable tense.

### 2.3.3. Weakening and Strengthening

Schane (1973: 57) states that weakening and Strengthening happen when the change of simple syllabic structure lead to a complex syllable structure. There are syncope, apocope, vowel reduction, diphthongization, and vowel shift that will be explained in the following,

#### a. Syncope

Syncope occurs when a vowel near a stressed vowel is deleted. In the other hand, it may occur when the stressed syllable is followed by two unstressed vowels, the vowel which following the stressed syllable is often followed by a single sonorant consonant. The example of syncope can be seen in the following data,

Latin	French	
[pó <b>u</b> lum]	[pœplə]	“people”
[tá <b>b</b> ula]	[táblə]	“table”

(Schane, 1973: 57)

French modifies Latin by changing the end of nouns with sonorant consonant attached by unstressed vowel [e].

b. Apocope

Schane (1973: 57) states that apocope occurs when the deletion of a final unstressed vowel, often more schwa-like vowel occurs. The example of apocope can be seen in the following data,

Formal French	Colloquial French	
[eglizə]	[egliz]	“church”
[ruʒə]	[ruʒ]	“red”

This process happens in many languages, such as in French. In this language, the words above reduce the end of words with schwa. In order to replace schwa ending, it deletes schwa to show the final unstressed vowel [i] or [u].

c. Vowel Reduction

Vowel reduction happens when the weakening of unstressed vowel become schwa. The example of vowel reduction can be seen in the following data,

[éybəl]	“able”	[əbílətiy]	“ability”
[kænədə]	“Canada”	[kənəydiyən]	“Canadian”

(Schane, 1973: 58)

This process happens in many languages, such as in English. In this language, the words change the word form, the vowel of the first syllable become simpler by the weakening of unstressed vowels replaced to schwa.

d. Diphthongization

Diphthongization occurs when the stressed vowels and tense vowels are the strong in particular word. Whereas the weak vowels may undergo syncope,

apocope, or reduction, strong vowels frequently diphthongize. The example of diphthongization can be seen in the following data,

Latin	Italian	
[wénet]	[vyéne]	“comes”
[mélém]	[myéle]	“honey”

(Schane, 1973: 58)

This process happens in many languages, such as in Italian. In this language, Italian modifies Latin by pronouncing vowels in diphthong form.

e. Vowel Shift

Vowel Shift occurs when stressed vowels change the position in the vowel structure. The process of change positions is respectively low vowels to mid, mid vowels to high, and high vowels to low. The example of vowel shift can be seen in the following table,

Romance form	English	
[divīn]	[dəvāyn]	“divine”
[serēn]	[sərīyn]	“serene”

(Schane, 1973: 58)

This process happens in many languages, such as in English. In this language, Romance form change positions in low vowels to mid, mid vowels to high, and high vowels to low.



(Schane, 1973: 59)

#### 2.3.4. Neutralization

Schane (1973: 53) states that neutralization is the process when the phonological distinctions are reduced in a particular environment. Hence, the segments which contrast in one environment have the same representation in the environment of neutralization. There are consonant and vowel neutralization that will be explained in the following,

##### a. Consonant Neutralization

Consonant Neutralization happens only on voiceless which is found in final position. The neutralization happens between pairs of voiced and voiceless obstruents. The example of consonant neutralization can be seen in the following data,

[buntə]	“colorful” (attributive)	[bunt]	“colorful” (predicative)
[bundə]	“league” (dative)	[bunt]	“league’ (nominative)

(Schane, 1973: 60)

This process happens in many languages, such as in German. In this language, the deletion of the vowel [ə] in the end of syllable may neutralize voiceless end word.

##### b. Vowel Neutralization

Vowel Neutralization happens when vowels appear in the unstressed position. The example of vowel neutralization can be seen in the following table,

[snʲék]	“snow”	[snʲigá]	“snows”
[lʲés]	“forest”	[lʲisá]	“forest”

(Schane, 1973: 60)

This process happens in many languages, such as in Russian. In this language, the insertion of vowels in final syllable in order to neutralize word.

## 2.4. Distinctive Features

Distinctive features are the backbone of generative phonology. The theory of distinctive features said that an utterance is composed of a sequence of discrete segments. Each segment is analyzed of its phonetic function (by describing the systematic phonetics), its phonemic function (by differentiating lexical items) and its natural classes. A distinctive feature is the smallest unit of phonetics in generative phonology.

“We take ‘distinctive features’ to be the elements of which phonetic, lexical, and phonological transcriptions are composed by combination and concatenation. The alphabetic symbols that we use freely in the discussion below are therefore to be regarded as nothing more than convenient ad hoc abbreviations for feature bundles, introduced for ease of printing and reading but without systematic import.” (Chomsky and Hale, 1968: 64)

According to Schane, 1973: 25, for indicating opposite traits from a phonetic parameter, we use a binary system which use pluses and minuses to show whether or not the attribute is present. The advantage of a binary system is that one can show explicitly how members of pairs, such as voiced-voiceless or nasal-oral, tense-lax, sonorant-obstruent, rounded-unrounded, back-front, and

high-low are differentiated by the value (+ or -). There are three groups of Distinctive Feature, which are;

a. Major Class Features

One of the most useful distinctions which feature theory needs to show is between consonants, vowels and semi-vowels. It provides a rough first grouping of sounds into functional types. Major Class Features has a function to give the first grouping of sounds into functional types that include the consonants, vowels, and semi-vowels distinction. There are three characteristics which Major Class Feature deals with, which are consonantal, syllabic and sonorant.

Consonantal (con) is sounds produced with a major obstruction in the oral cavity. Consonantal which has a major obstruction in the oral cavity is stated in nasals and obstruent consonant.

[+ consonantal] obstruent, nasal, and liquids

[- consonantal] vowels, semi-vowel, glottal

Syllabic (syl) forms a syllable peak (and thus can be stressed). Every syllable has a nucleus, which is its the most sonorous segment that usually called as peak. The most common sonorous segment is vowels.

[+ syllabic] vowels, nasal and liquids

[- syllabic] all of the consonants, except vowels, nasal and liquids

Sonorant (son) is sounds produced with a vocal tract configuration in which spontaneous voicing is possible. Sonorant is influenced by the acoustic

sonority (loudness) of the sounds, all vowels are the greater sonority than nasals. But the plosive consonant is less sonority.

[+ sonorant] vowels, semi-vowel, liquids, and nasal

[- sonorant] all of the obstruents (fricative and plosive)

(Shane, 1973: 26)

#### b. The Place of Articulation Features

The place features are the main features used for defining a consonantal place of articulation which consists of Coronal and Anterior.

Coronal is produced with the blade or tip of the tongue raised from the neutral position (Odden: 2005).

[+ coronal] dental, alveolar, palato-alveolar, and palatal

[- coronal] labial, velar, uvular, and pharyngeal .

While anterior based on Bruce (2009) which means ‘toward the front’, [+anterior] are articulated at the alveolar ridge or further forward. Only bilabial and alveolars are [+anterior] and the others (post-alveolar until velar consonant) are [-anterior].

[+ anterior] labial, dental, and alveolar

[- anterior] palato-alveolar, palatal, velar, uvular and pharyngeal .

Place features include the features which define the place of articulation for vowels and consonants which consist of high, low, back or round and includes tense and advanced tongue root.

c. The Manner of Articulation Features

The manner features relate to the manner in which a segment is produced. The manner features are continuant, delayed release, nasal, strident and lateral;

Continuant is the primary constriction that is not narrowed that airflow through the oral cavity is blocked.

[+continuant] fricatives, liquid, glides and vowels (not complete oral closures)

[-continuant] and nasals and stops consonants

Delayed Release is the release of a total constriction is slowed so that a fricative is formed after the stop portion.

[+ delayed release] affricative [tʃ, dʒ]

[- delayed release] all of the obstruents

Nasal is when the velum is lowered which allows air to escape through the nose.

[+ nasal] all of the nasal consonants

[- nasal] all of the oral consonants.

Lateral is produced with the blade of the tongue may be produced in such a way that air flows over the sides of the teeth.

[+ lateral] lateral consonant [l]

[- lateral] except lateral consonant

Strident is produced in terms of the aerodynamic property of greater turbulence (which has the acoustic correlate of greater noise).

[+ strident] fricative

[- strident] except fricative

(Shane, 1973: 26)

The following table illustrates the distinctive features of vowels and consonants in Banyumasan dialect of Javanese,

TABLE 2. DISTINCTIVE FEATURES OF  
BANYUMASAN DIALECT SOUNDS

	p	b	m	f	w	t	d	n	r	s	l	l <sup>h</sup>	d <sup>h</sup>	c	j	ɲ	y	k	g	ŋ	h	ʔ	i	e	o	u	a	
Major Class	syl	-	-	+	-	-	-	+	+	+	+	+	-	-	-	+	-	-	-	+	-	-	+	+	+	+	+	+
	son	-	-	+	-	-	-	+	+	+	+	+	-	-	-	+	+	-	-	+	-	-	+	+	+	+	+	+
	cons	+	+	+	-	-	+	+	+	+	+	+	+	+	+	+	-	-	+	+	+	+	-	-	-	-	-	-
Place of Articulation	cor	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	
	ant	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	
	cont	-	-	-	+	+	-	-	+	+	-	-	-	-	-	-	+	-	-	-	-	-	+	+	+	+	+	
Manner of Articulation	nas	-	-	+	-	-	-	+	-	-	-	-	-	-	-	+	-	-	-	+	-	-	-	-	-	-	-	
	strident	-	-	-	+	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	lat	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	dr	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	high	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+	+	-	-	-	-	+	-	
Tongue and Lips Form	back	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	+	+	-	-	-	+	+	-	
	round	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	-	

Adapted by Zen (2016) from Edward Shrinberg (1938).

## 2.5. Phoneme and Allophone

Odden (2005) states a phoneme as a mental integration of the different physical properties of the sounds which is used in particular language. While an allophone is variant of a phoneme or the realization of a phoneme in a certain phonetic environment, such as [k], [k<sup>h</sup>], [k<sup>y</sup>] [k<sup>hy</sup>] in English as the allophones of the phoneme /k/. A phoneme can be used to distinguish words from each other, but the variants of a particular phoneme (the allophones) cannot. At the level of conscious awareness, people are characteristically attuned only to the distinctions between phonemes. To make people aware of allophones requires their attention directed to the distinction. The characterizing phoneme by setting up an abstract level of representation is called the underlying form.

The phoneme as an underlying form is chosen from one of the allophones that has the widest distribution. Meanwhile, the allophone is defined by means of complementary distribution. This difference can be seen in the following quotation,

In English, [t] and [t<sup>h</sup>] are predictable variants of a single abstract segment, a **phoneme**, which we represent as /t/. Predictable variants are termed **allophones** – the sounds are in **complementary distribution** because the context where one variant appears is the complement of the context where the other sound appears. (Odden, 2005: 44)

## **CHAPTER III**

### **RESEARCH METHOD**

In this chapter I will describe type of the research, source of the data, population and sampling technique, method of collecting data, and method of analyzing the data.

#### **3.1 Type of the Research**

This research is descriptive qualitative because I describe the phonological process of Verb Nasalization in Banyumasan dialect. This study is a description of phonetic variations of the nasal morpheme and the phonological process. Djajasudarma (2006) states that a qualitative method is a procedure which results in the descriptive data in the written or verbal form in a speech community. I used the utterances from Banyumasan broadcasting radio's program, Curanmor (*Curahan perasaan dan humor*), to obtain the data. Besides, in conducting the study, I did not only study the utterance, but also studied the phonetic transcriptions in order to analyze the phonological process.

#### **3.2 Research Data and Data Source**

The data of this research are utterances taken from Curanmor (*Curahan hati dan humor*) program at Cilacap radio station. *Curanmor* program is presented by Mr Samidi, a native speaker of Banyumasan dialect of Javanese. This program has been produced since 2005 by using Banyumasan dialect and it is boardcasted in Banyumas area and its surroundings such as Cilacap, Kebumen, Banyumas and Banjarnegara. I used 8 episodes of this program, but in order to simplify the data, I used random sampling method. The secondary data to support the analysis was taken Banyumasan dialect dictionary from *Balai Bahasa Kabupaten Banyumas*. This dictionary was used to check the written form of each word. In addition, I also took data from the Banyumasan native speakers for the pronunciation of the written data.

### **3.3 Population, Sample and Sampling Technique**

I used Purposive Sampling Technique to collect the data because I randomly chose 8 episodes to collect samples of data. After collecting utterances containing verb nasalization from that data, I found some words that are next called ‘sample’. The samples of study are utterances that contain vowel insertion, consonant deletion and assimilation.

### **3.4 Method of Collecting Data**

In this study, I used non-Participant Observation and *simak* method for the data collection. I recorded Curanmor program without involving in the program. In conducting the research, I used a recording technique to collect the data. In

addition, I used a note-taking technique done by writing down the verbs that contain the nasal prefix. The data were transcribed phonetically to know particular part of the words. According to Samarin (1967: 178) phonetic transcriptions should be used in non-Participation Observation during data analysis because linguistic works begin with writing down specimens of speech.

### **3.5 Method of Analyzing Data**

To analyze the data, the writer used *Padan* and *Agih* methods. According to Sudaryanto (1993), *Padan* is a method which uses external determining factors, i.e. referent, another language, organ of speech, orthography, and speech partner. On the other hand, *agih* is a method which uses internal determining factors. In this study, I used Javanese grammatical rules as a determining factor. Both *padan* and *agih* methods are used to analyze phonological process of verb nasalization in Banyumasan dialect of Javanese. Several procedure used during analyzing the data are as follows:

1. Listening and observing the data
2. Taking note and making phonetic transcriptions
3. Labeling and classifying phonetic forms of the same phoneme
4. Analyzing the phonological process
5. Presenting data analysis and describing the phonological process

## CHAPTER IV

### DATA ANALYSIS

In this chapter, I will discuss the phonetic forms of the nasal prefix, the phonetic representations of the nasal prefix, and the rules governing the variants of the nasal prefix. The followings are some of the data found.

#### 4.1. The Phonetic Forms of the Nasal Prefix

The nasal prefix has four phonetic forms: [ŋ-], [ɲ-], [m-], and [n-]. The difference of these phonetic forms lies on the place of articulations. Based on the place of articulation, the nasal [ŋ] is velar, [ɲ] is palatal, [m-] is bilabial, and [n-] is alveolar. The uses of nasal prefix are to show the activate transitive marker and to show the verbal marker. The active transitive marker is shown by adding the nasal prefix to verbs to create transitive verb, such as *nyupir* from the base ‘*supir*’. Before the adding of nasal prefix, ‘*supir*’ is a intransitive verbs. The verb marker is shown by after adding the nasal prefix to nouns will create a verb, for example *ngecap* from the noun ‘*cap*’. The four distribution of the phonetic forms will be described below:

1. The distribution of [ŋ-]

In Banyumasan dialect of Javanese, [ŋ-] occurs when the stem begins with vowels [a, i, u, ε, ə, ɔ], laryngeal glide [h], velars [k, g], and alveolar [l, r] as seen in the following data,

<b>no</b>	<b>stem</b>	<b>nasalized form</b>	<b>meaning</b>
1	[inum]	[ɲinum]	“drink”
2	[aŋkat]	[ɲaŋkat]	“lift”
3	[iris]	[ɲiris]	“slice”
4	[ɛɛ]	[ɲɛɛ]	“mock”
5	[ilaŋ]	[ɲilaŋ]	“disappear”
6	[ɔli]	[ɲɔlini]	“oiling to something”
7	[ituŋ]	[ɲituŋi]	“counting to something”
8	[hindaɾ]	[ɲindaɾ]	“refrain”
9	[kaŋɔ]	[ɲaŋɔ]	“wear”
10	[kəɾja]	[ɲgəɾjani]	“have a joke to someone”
11	[gɔwɔ]	[ɲgɔwɔ]	“bring”
12	[gaŋgu]	[ɲgaŋgu]	“bother”
13	[gaŋgu]	[ɲgaŋguni]	“disturbing someone”
14	[gɔlət]	[ɲggɔləti]	“searching to something”
15	[gawə]	[ɲgawə]	“make”
16	[lamar]	[ɲlamar]	“propose”

17	[rampɔʔ]	[ŋrampɔʔ]	“rob”
18	[rɛkam]	[ŋrɛkami]	“tapping to something”

Table 3. The distribution of [ŋ-]

As shown in Table 3, in Banyumasan dialect of Javanese [ŋ-] occurs when it is followed with vowels, as in (1) to (7), velar as in , alveolar and laryngeal glide. All voiceless consonants beginning a stem are deleted when they occur after a nasal as seen from data number 8-10. This happens to voiceless laryngeal glide and voiceless plosive velar consonants.

In addition, when the prefix [ŋ-] is attached to the stems that have one syllable, the middle vowel [ə] is inserted as seen for the following data.

no	stem	nasalized form	meaning
1	[cap]	[ŋəcap]	“stamping”
2	[gas]	[ŋəgas]	“speed up”
3	[pit]	[ŋəpit]	“cycling”

Table 4. The distribution of [ŋ-] in one syllable word

From Table 4 above, the examples of one-syllabic words occur adding Schwa [ə] between the prefix and the one-syllabic words. That prefix [ŋ] assimilates voicing and aspiration from an obstruent which immediately

follows it. In addition, the initial consonant cluster which is broken up by Schwa [ə].

2. The distribution of [m-]

In Banyumasan dialect of Javanese, [m-] occurs when the stem begins with plosive bilabial consonants [b, p] as seen in the following data,

no	stem	nasalized form	meaning
1	[bayar]	[mbayar]	“pay”
2	[bəncəŋ]	[mbəncəŋ]	“getting a ride”
3	[balik]	[mbalik]	“turn out”
4	[balik]	[mbaliknaʔ]	“turning of something”
5	[bəd <sup>h</sup> ɛʔ]	[mbəd <sup>h</sup> ɛʔ]	“guessing at something / someone”
6	[batir]	[mbatiri]	“accompanying at someone”
7	[bətah]	[mbətahi]	“standing at someone”
8	[pikir]	[mikir]	“thinking”
9	[putər]	[mutər]	“turn”
10	[paŋan]	[maŋan]	“eat”

Table 5. The distribution of [m-]

As shown in Table 5, the nasal prefix [m] occurs with the stems that begin with [p] or [b], which are all bilabial consonants. In the data above, all voiceless consonants beginning a stem are deleted when they occur after a nasal as seen from the data number 8-10. This happens to voiceless plosive bilabial consonants.

3. The distribution of phone [n]

In Banyumasan dialect of Javanese, [n-] occurs when the stem begins with plosive alveolar consonants [t, d] and plosive palatal consonant [j] as seen in the following data,

no	stem	nasalized form	meaning
1	[tuŋgu]	[nuŋgu]	“wait”
2	[tɛlpun]	[nɛlpun]	“call”
3	[tambah]	[nambah]	“add”
4	[tantaŋ]	[nantaŋ]	“challenge”
5	[tuku]	[nuku?na]	“buying of someone”
6	[tuŋgu]	[nuŋguni]	“waiting for someone / something”
7	[tandur]	[nanduri]	“planting at something”
8	[dɔləŋ]	[ndɔləŋ]	“watch”

9	[daftar]	[ndaftar]	“apply”
10	[jajal]	[njajal]	“try”
11	[jaluk]	[njaluk]	“ask”
12	[jogət]	[njogət]	“dance”
13	[jəŋkiŋ]	[njəŋkiŋ]	“sit”
14	[jagəŋ]	[njagəŋ]	“talk”
15	[jawab]	[njawab]	“answer”

Table 6. The distribution of [n-]

As shown in Table 6, prefix [n-] occurs with alveolar and palatal consonants. All voiceless consonants beginning a stem are deleted when they occur after a nasal as seen from data number 1-7. This happens to voiceless plosive alveolar consonant.

#### 4. The distribution of phone [ŋ]

In Banyumasan dialect of Javanese, [ŋ-] occurs when the stem begins with fricative alveolar consonant [s] and plosive palatal [c] as seen in the following data,

<b>no</b>	<b>stem</b>	<b>nasalized form</b>	<b>meaning</b>
1	[sambuŋ]	[ŋambuŋ]	“continue”
2	[silih]	[ŋilih]	“borrow”
3	[suwun]	[ŋuwun]	“ask”
4	[sambut]	[ŋambut]	“greet”
5	[sərah]	[ŋərah]	“transfer”
6	[səlaŋ]	[ŋəlaŋ]	“lend”
7	[səlaŋ]	[ŋəlaŋna]	“borrowing at someone”
8	[supɪr]	[ŋupir]	“driving of someone”
9	[cɔlɔŋ]	[ŋɔlɔŋi]	“stealing of something”
10	[cəkəl]	[ŋəkəli]	“holding of something / someone”
11	[cɔlong]	[ŋɔlɔŋ]	“rob”
12	[cɔlɔk]	[ŋɔlɔk]	“plug”

Table 7. The distribution of [ŋ-]

As shown in Table 7, the prefix [ŋ] occurs with both voiceless consonants in palatal and alveolar. All voiceless consonants beginning a stem are deleted

when they occur after a nasal as seen on number 1-12. This happens to voiceless fricative alveolar consonant [s] and voiceless plosive palatal [c]

## 4.2. The phonological rules governing the distribution of the allophones

### 4.2.1. The underlying form of the nasal prefix

I found that prefix /ŋ-/ is the base form of the nasal verb prefix, because it has the widest distributions as shown in the table below,

	Kinds of Distribution
Underlying form [ŋ-]	Before vowels [a, i, u, e, o], laryngeal glide [h], velar [k, g], and alveolar [l, r]
Prefix [ŋ-]	Before fricative alveolar consonant [s] and plosive palatal [c]
Prefix [m-]	Before plosive bilabial [b, p]
Prefix [n-]	Before plosive alveolar consonants [t, d] and plosive palatal consonant [j]

Table 8. The distribution of prefixes

The underlying representation of the nasal prefix will need a phonological rule which converts /ŋ/ to [m], [n], and [ŋ] in which following phoneme begins with these conditions, [ŋ], [n], [m], and [n] are predictable variants of a single abstract segment which will represent [ŋ] as a morphophoneme, a phoneme that has function as a phoneme. The sounds of the other variants are in complementary distribution because the context where one

variant appears is the complement of the context where the other sounds occur.

These processes of changing the Underlying Form in to its variations in nasalization verb are called Assimilation, Deletion on Syllable Structure Process and Insertion on Syllable Structure Process. Assimilation happens when the prefix is attached to fricative alveolar consonant [s], plosive palatal [c], plosive bilabial [b, p], and plosive alveolar consonants [t, d].

Beside assimilation, when the prefix is attached to voiceless fricative alveolar consonant [s], voiceless plosive palatal [c], voiceless plosive bilabial [p], voiceless plosive alveolar [t], all voiceless consonants above are deleted. Then it is called deletion on Syllable Structure Process.

When one-syllabic words occur after the nasal prefix, the Schwa [ə] is added between the prefix and the one-syllabic words. That prefix [ŋ] assimilates voicing and aspiration from an obstruent which immediately follows it. In addition, the initial consonant cluster which is are broken up by Schwa [ə]. It is called insertion on Syllable Structure Process.

#### 4.2.2. The rules of phonological process

According to Schane (1973), when morphemes are combined to form words, the segments of neighboring morphemes become juxtaposed and sometimes change. These changes occur in the initial word as a

nasalization prefix. All of changes will lead phonological process. There are two kinds of phonological process of verb nasalization in Banyumasan dialect; assimilation and syllable structure process. When nasal assimilates vowels or consonants some process occur deletion or insertion segment during the nasalization. On the other hand, when nasal deletes one segment on morphemes without any influence of their neighboring segment, it occurs deletion on syllable structure process.

#### 4.2.2.1. Assimilation

The /ŋ/ as the basic form of the nasal prefix changes into [m-] when followed by [b]. This shows a nasalizing bilabial consonant rule below,

##### Rule (1)

/ŋ/ → [m] / \_\_ [b]

$$\left[ \begin{array}{l} + \textit{consonantal} \\ + \textit{nasal} \\ - \textit{coronal} \\ - \textit{anterior} \end{array} \right] \rightarrow \left[ \begin{array}{l} + \textit{consonantal} \\ + \textit{nasal} \\ - \textit{coronal} \\ + \textit{anterior} \end{array} \right] / \_ \left[ \begin{array}{l} + \textit{consonantal} \\ - \textit{sonorant} \\ - \textit{coronal} \\ + \textit{anterior} \\ + \textit{voiced} \end{array} \right]$$

The rule (1) above explains that the nasal [ŋ] has the features

$\left[ \begin{array}{l} - \textit{coronal} \\ - \textit{anterior} \end{array} \right]$  changes into  $\left[ \begin{array}{l} - \textit{coronal} \\ + \textit{anterior} \end{array} \right]$  when it is followed by a

plosive bilabial consonant that has the same features  $\left[ \begin{array}{l} - \textit{coronal} \\ + \textit{anterior} \end{array} \right]$ .

The process in the example above is assimilation which happens when the base form /ŋ-/ is attached to voiced bilabial consonants, such as /m-/. This happens because the bilabial consonant [b] and [m] are produced with the same way except for the position of the velum. These consonants are all produced with a complete closure. The difference between [b] and [m] only lies on whether the velum is raised or lowered.

The /ŋ/ as the basic form phoneme of nasal prefix changes into [n-] when followed by [d]. It shows on nasalizing alveolar consonant rule below,

**Rule (2)**

$$/ŋ/ \rightarrow [n] \quad / \_ [d]$$

$$\begin{bmatrix} + \textit{consonantal} \\ + \textit{nasal} \\ - \textit{coronal} \\ - \textit{anterior} \end{bmatrix} \rightarrow \begin{bmatrix} + \textit{consonantal} \\ + \textit{nasal} \\ + \textit{coronal} \\ + \textit{anterior} \end{bmatrix} / \_ \begin{bmatrix} + \textit{consonantal} \\ - \textit{sonorant} \\ + \textit{coronal} \\ + \textit{anterior} \\ + \textit{voiced} \end{bmatrix}$$

The rule (2) above explains the nasal that has feature

$\begin{bmatrix} - \textit{coronal} \\ - \textit{anterior} \end{bmatrix}$  changes into  $\begin{bmatrix} + \textit{coronal} \\ + \textit{anterior} \end{bmatrix}$  when it is followed by

plosive alveolar consonant that has the same features  $\begin{bmatrix} + \textit{coronal} \\ + \textit{anterior} \end{bmatrix}$ .

The process in the example above is assimilation which happens

when base form prefix /ŋ-/ is attached to voiced alveolar consonants, such as /n-/. This happens because the alveolar consonant [d] and [n] are produced with the same way except for the position of the velum. These consonants are all produced with a complete closure. The difference between [d] and [n] only lies on whether the soft palate (velum) is raised or lowered. This is a flap of soft tissue that separates the mouth from the nasal passages. The tongue is attached at the front (to the hard palate) and at the sides, but hangs loose at its rear edge. Various muscles can raise and lower the velum. When the velum is high, then the velar port is closed, and air is confined to the oral passage.

The /ŋ/ as the basic form phoneme of nasal prefix changes into [n-] when followed by [j]. It shows on nasalizing palatal consonant rule below,

**Rule (3)**

$$/ŋ/ \rightarrow [n] \quad / \_ [j]$$

$$\begin{bmatrix} + \textit{consonantal} \\ + \textit{nasal} \\ - \textit{coronal} \\ - \textit{anterior} \end{bmatrix} \rightarrow \begin{bmatrix} + \textit{consonantal} \\ + \textit{nasal} \\ + \textit{coronal} \\ + \textit{anterior} \end{bmatrix} / \_ \begin{bmatrix} + \textit{consonantal} \\ - \textit{sonorant} \\ + \textit{coronal} \\ - \textit{anterior} \\ + \textit{voiced} \end{bmatrix}$$

The rule (3) above explains the nasal that has feature  $\begin{bmatrix} -coronal \\ -anterior \end{bmatrix}$  changes into  $\begin{bmatrix} +coronal \\ +anterior \end{bmatrix}$  when it is followed by plosive palatal consonant that has the same features  $\begin{bmatrix} +coronal \\ -anterior \end{bmatrix}$ .

The process in the example above is assimilation which happens when base form prefix /ŋ-/ is attached to voiced alveolar consonants, such as /n-/. This happens because the alveolar consonant [j] and [n] are produced with the same coronal place (the blade or tip of the tongue raised from the neutral position). These consonants are all produced with a complete closure. The other difference between [j] and [n] lies on whether the soft palate (velum) is raised or lowered. This is a flap of soft tissue that separates the mouth from the nasal passages. The mouth is attached at the front (to the hard palate) and at the sides, but hangs loose at its rear edge. Various muscles can raise and lower the velum. When the velum is high, then the velar port is closed, and air is confined to the oral passage.

#### 4.2.2.2. Syllable Structure Process

The /ŋ/ as the basic form is produced when followed by [k] with deletion process. It shows on nasalizing velar consonant rule below,

**Rule (4)**

$$/ŋ/ \rightarrow [ŋ] + / \_ [k]$$

$$\begin{bmatrix} + \textit{consonantal} \\ + \textit{nasal} \\ - \textit{coronal} \\ - \textit{anterior} \end{bmatrix} \rightarrow \begin{bmatrix} + \textit{consonantal} \\ + \textit{nasal} \\ - \textit{coronal} \\ - \textit{anterior} \end{bmatrix} / \_ \begin{bmatrix} + \textit{consonantal} \\ - \textit{nasal} \\ - \textit{coronal} \\ - \textit{anterior} \\ - \textit{voiced} \end{bmatrix}$$

The rule (4) above explains the underlying form that has feature

$\begin{bmatrix} - \textit{coronal} \\ - \textit{anterior} \end{bmatrix}$  is followed by plosive velar consonant that has the

same features  $\begin{bmatrix} - \textit{coronal} \\ - \textit{anterior} \end{bmatrix}$ , meanwhile another rule is

**Rule (5)**

$$[k] \rightarrow \emptyset / [ŋ] \_$$

$$\begin{bmatrix} + \textit{consonantal} \\ - \textit{nasal} \\ - \textit{coronal} \\ - \textit{anterior} \\ - \textit{voiced} \end{bmatrix} \rightarrow \emptyset / \begin{bmatrix} + \textit{consonantal} \\ + \textit{nasal} \\ - \textit{coronal} \\ - \textit{anterior} \end{bmatrix} \_$$

The rule (5) above explains when [-voiced] velar consonant which is attached to nasal prefix is deleted when it occurs after a nasal.

The way of producing voiceless consonant occurs when the vocal cords are not vibrating during the stoppage.

It shows consonant deletion on syllable structure processes. It is caused after the nasal prefix attach to voiceless velar consonant.

The voiceless consonant will be glide over the vowel as the

neighboring segment. The dissipation of /k/ sound occurs after nasal prefix in Banyumasan dialect because the /k/ sound at the same position of the out air which is completely blocked up by putting the back of the tongue against the velum.

The /ŋ/ as the basic form of nasal prefix changes into [m-] when followed by [p] with deletion process. It shows on nasalizing bilabial consonant rule below,

**Rule (6)**

$$/ŋ/ \rightarrow [m] + / \_ [p]$$

$$\begin{bmatrix} + \textit{consonantal} \\ + \textit{nasal} \\ - \textit{coronal} \\ - \textit{anterior} \end{bmatrix} \rightarrow \begin{bmatrix} + \textit{consonantal} \\ + \textit{nasal} \\ - \textit{coronal} \\ + \textit{anterior} \end{bmatrix} / \_ \begin{bmatrix} + \textit{consonantal} \\ - \textit{nasal} \\ - \textit{coronal} \\ + \textit{anterior} \\ - \textit{voiced} \end{bmatrix}$$

The rule (6) above explain the nasal that has feature

$\begin{bmatrix} - \textit{coronal} \\ - \textit{anterior} \end{bmatrix}$  changes into  $\begin{bmatrix} - \textit{coronal} \\ + \textit{anterior} \end{bmatrix}$  when it is followed by

plosive bilabial consonant that has the same features  $\begin{bmatrix} - \textit{coronal} \\ + \textit{anterior} \end{bmatrix}$ ,

meanwhile another rule is

**Rule (7)**

[p] → Ø / [m] \_\_\_\_\_

$$\left[ \begin{array}{l} + \textit{consonantal} \\ - \textit{nasal} \\ - \textit{coronal} \\ + \textit{anterior} \\ - \textit{voiced} \end{array} \right] \rightarrow \text{Ø} / \left[ \begin{array}{l} + \textit{consonantal} \\ + \textit{nasal} \\ - \textit{coronal} \\ + \textit{anterior} \end{array} \right] \text{_____}$$

The rule (7) above also explains when [-voiced] bilabial consonant which is attached to nasal prefix are deleted when it occurs after a nasal. The way of producing voiceless consonant occurs when the vocal cords are not vibrating during the stoppage.

It shows consonant deletion on syllable structure processes. It is caused after the nasal prefix attach to voiceless velar consonant. The voiceless consonant will be glide over the vowel as the neighboring segment. The dissipation of /p/ sound occurs after nasal prefix in Banyumasan dialect because the /p/ sound at the same position of the out air which is completely blocked up by putting the back of the tongue against the velum.

The /ŋ/ as the basic form of nasal prefix changes into [ŋ-] when followed by [s] with deletion process. It shows on nasalizing alveolar consonant rule below,

**Rule (8)**

$$/\eta/ \rightarrow [\eta] + / \_ [s]$$

$$\begin{bmatrix} + \textit{consonantal} \\ + \textit{nasal} \\ - \textit{coronal} \\ - \textit{anterior} \end{bmatrix} \rightarrow \begin{bmatrix} + \textit{consonantal} \\ + \textit{nasal} \\ + \textit{coronal} \\ - \textit{anterior} \end{bmatrix} / \_ \begin{bmatrix} + \textit{consonantal} \\ - \textit{nasal} \\ + \textit{coronal} \\ + \textit{anterior} \\ - \textit{voiced} \end{bmatrix}$$

The rule above explains the nasal that has feature

$\begin{bmatrix} - \textit{coronal} \\ - \textit{anterior} \end{bmatrix}$  changes into  $\begin{bmatrix} + \textit{coronal} \\ - \textit{anterior} \end{bmatrix}$  when it is followed by

plosive bilabial consonant that has the same features  $\begin{bmatrix} + \textit{coronal} \\ + \textit{anterior} \end{bmatrix}$ .

This happens because the alveolar consonant [s] and [ɲ] are produced with the same coronal place (the blade or tip of the tongue raised from the neutral position). Meanwhile another rule is

**Rule (9)**

$$[s] \rightarrow \emptyset / [\eta] \_$$

$$\begin{bmatrix} + \textit{consonantal} \\ - \textit{nasal} \\ + \textit{coronal} \\ + \textit{anterior} \\ - \textit{voiced} \end{bmatrix} \rightarrow \emptyset / \begin{bmatrix} + \textit{consonantal} \\ + \textit{nasal} \\ + \textit{coronal} \\ - \textit{anterior} \end{bmatrix} \_$$

However, the rule (9) above also explains when [-voiced] alveolar consonant which is attached to nasal prefix are deleted when it occurs after a nasal. The way of producing voiceless consonant occurs when the vocal cords are not vibrating during the stoppage.

It shows consonant deletion on syllable structure processes. It is caused after the nasal prefix attach to voiceless velar consonant. The voiceless consonant will be glide over the vowel as the neighboring segment. The dissipation of /s/ sound occurs after nasal prefix in Banyumasan dialect because the /s/ sound at the same position of the out air which is completely blocked up by putting the back of the tongue against the velum.

The /ŋ/ as the basic form of nasal prefix changes into [ŋ̥] when followed by [c] with deletion process. It shows on nasalizing palatal consonant rule below,

**Rule (10)**

$$/ŋ/ \rightarrow [ŋ̥] \quad / \_ [c]$$

$$\begin{bmatrix} + \textit{consonantal} \\ + \textit{nasal} \\ - \textit{coronal} \\ - \textit{anterior} \end{bmatrix} \rightarrow \begin{bmatrix} + \textit{consonantal} \\ + \textit{nasal} \\ + \textit{coronal} \\ - \textit{anterior} \end{bmatrix} / \_ \begin{bmatrix} + \textit{consonantal} \\ - \textit{nasal} \\ + \textit{coronal} \\ - \textit{anterior} \\ - \textit{voiced} \end{bmatrix}$$

The rule (10) above explains the nasal that has feature

$\begin{bmatrix} - \textit{coronal} \\ - \textit{anterior} \end{bmatrix}$  changes into  $\begin{bmatrix} + \textit{coronal} \\ - \textit{anterior} \end{bmatrix}$  when it is followed by

plosive bilabial consonant that has the same features  $\begin{bmatrix} + \textit{coronal} \\ - \textit{anterior} \end{bmatrix}$ ,

meanwhile another rule is

**Rule (11)**

[c] → Ø / [ŋ] \_\_\_\_\_

$$\left[ \begin{array}{l} + \textit{consonantal} \\ - \textit{nasal} \\ + \textit{coronal} \\ - \textit{anterior} \\ - \textit{voiced} \end{array} \right] \rightarrow \text{Ø} / \left[ \begin{array}{l} + \textit{consonantal} \\ + \textit{nasal} \\ + \textit{coronal} \\ - \textit{anterior} \end{array} \right] \text{_____}$$

However, the rule (11) above also explains when [-voiced] palatal consonant which is attached to nasal prefix are deleted when it occurs after a nasal. The way of producing voiceless consonant occurs when the vocal cords are not vibrating during the stoppage.

It shows consonant deletion on syllable structure processes. It is caused after the nasal prefix attach to voiceless velar consonant. The voiceless consonant will be glide over the vowel as the neighboring segment. The dissipation of /c/ sound occurs after nasal prefix in Banyumasan dialect because the /c/ sound at the same position of the out air which is completely blocked up by putting the back of the tongue against the velum.

The /ŋ/ as the basic form of nasal prefix changes into [n-] when followed by [t] with deletion process. It shows on nasalizing alveolar consonant rule below,

**Rule (12)**

$$/ŋ/ \rightarrow [n] \quad / \_ [t]$$

$$\begin{bmatrix} + \textit{consonantal} \\ + \textit{nasal} \\ - \textit{coronal} \\ - \textit{anterior} \end{bmatrix} \rightarrow \begin{bmatrix} + \textit{consonantal} \\ + \textit{nasal} \\ + \textit{coronal} \\ + \textit{anterior} \end{bmatrix} / \_ \begin{bmatrix} + \textit{consonantal} \\ - \textit{nasal} \\ + \textit{coronal} \\ + \textit{anterior} \\ - \textit{voiced} \end{bmatrix}$$

The rule (12) above explains the nasal that has feature

$\begin{bmatrix} - \textit{coronal} \\ - \textit{anterior} \end{bmatrix}$  changes into  $\begin{bmatrix} + \textit{coronal} \\ + \textit{anterior} \end{bmatrix}$  when it is followed by

plosive alveolar consonant that has the same features  $\begin{bmatrix} + \textit{coronal} \\ + \textit{anterior} \end{bmatrix}$ ,

meanwhile another rule is

**Rule (13)**

$$[t] \rightarrow \emptyset \quad / [n] \_$$

$$\begin{bmatrix} + \textit{consonantal} \\ - \textit{nasal} \\ + \textit{coronal} \\ + \textit{anterior} \\ - \textit{voiced} \end{bmatrix} \rightarrow \emptyset \quad / \begin{bmatrix} + \textit{consonantal} \\ + \textit{nasal} \\ + \textit{coronal} \\ + \textit{anterior} \end{bmatrix} \_$$

However, the rule (13) above also explains when [-voiced] alveolar consonant which is attached to nasal prefix is deleted when it is occur after a nasal. The way of producing voiceless consonant occurs when the vocal cords are not vibrating during the stoppage.

It shows consonant deletion on syllable structure processes. It is caused after the nasal prefix attach to voiceless velar consonant.

The voiceless consonant will be glide over the vowel as the neighboring segment. The dissipation of /t/ sound occurs after nasal prefix in Banyumasan dialect because the /t/ sound at the same position of the out air which is completely blocked up by putting the back of the tongue against the velum.

#### 4.2.2.3. One-Syllable words

On the other case, to prove [ŋ] as an underlying form of nasalization prefix, the prefix /ŋ-/ also occurs when attached to the words that have one syllabic structural component. In this case, there is an insertion of [ə] between [ŋ] and the first consonant of the one-syllable word.

#### Rule (14)

$$\emptyset \longrightarrow [\text{ə}] \quad / \quad [\text{ŋ}] \text{ \_\_\_ } [\text{CVC}] \#$$

$$\emptyset \longrightarrow \left[ \begin{array}{l} + \textit{syllabic} \\ + \textit{sonorant} \\ - \textit{high} \\ - \textit{back} \\ - \textit{round} \end{array} \right] / \left[ \begin{array}{l} + \textit{syllabic} \\ + \textit{sonorant} \\ + \textit{consonantal} \\ + \textit{nasal} \\ - \textit{coronal} \\ - \textit{anterior} \end{array} \right] \text{ \_\_\_ } [\text{CVC}] \#$$

The rule (14) shows that between the [ŋ] and one-syllable word, with [CVC] structure occurs insertion of Schwa vowel [ə]. The Schwa insertion between underlying form /ŋ-/ and one-syllabic words is to break up the consonant cluster. This shows that the

underlying form [ŋ-] which is also a morphophonemic should attach to another sonorant to make the word easily produced.

## **CHAPTER IV**

### **CONCLUSION**

The nasal prefix in Banyumasan dialect of Javanese has four phonetic forms: [ŋ-], [ŋ̣-], [m-], and [n-]. The difference of these phonetic forms lies on the place of articulations. The uses of nasal prefix are to show the activate transitive marker and to show the verbal marker. The active transitive marker is shown by adding the nasal prefix to verbs to create transitive verb and by adding the nasal prefix to nouns to create a verb.

The processes of changing the Underlying Form into its variations in nasalization verb are called Assimilation, Deletion on Syllable Structure Process and Insertion on Syllable Structure Process. Because of the limitation on the purpose of this research, the writer believe that this study can be continued on the further research that analyze more about the phonological rules in Banyumasan dialect on an extensive object.

## REFERENCES

- Anggraeni, Dyen Wirsa. 2007. "Perbandingan Sistem Fonologis Bahasa Jawa di Wonosobo dengan Bahasa Indonesia". Skripsi Fakultas Ilmu Sosial dan Ilmu Politik Universitas Jendral Soedirman. Purwokerto
- Anjarsari, Nurvita. 2015. "Phonic Interference of First Language into Second Language: A Case Study of Non-Native Speakers". Thesis Universitas Diponegoro. Semarang
- Ayatrohaedi. 1979. *Dialektologi: Sebuah Pengantar*. Jakarta: Pusat Pembinaan dan Pengembangan Bahasa, Departemen Pendidikan dan Kebudayaan.
- Balai Bahasa Kabupaten Banyumas. 2015. *Kamus Bahasa Banyumas*. Purwokerto: Balai Bahasa Kabupaten Banyumas Press.
- Bruce, Hayes. 2009. *Introductory Phonology*. United Kingdom: Blackwell Publishing.
- Chambers, J.K., & Trudgill, P. 1980. *Dialectology*. Great Britain: Cambridge University Press.
- Herusatoto, Budiono. 2008. *Banyumas Sejarah, Budaya, Bahasa, dan Watak*. Yogyakarta: PT LKiS Pelangi Aksara Yogyakarta.
- Isnaeni, Trisse. 2008. "Afiksasi Verba Bahasa Jawa Dialek Banyumas". Skripsi Fakultas Ilmu Sosial dan Ilmu Politik Universitas Jendral Soedirman. Purwokerto
- Kridalaksana, Harimukti. 1983. *Kamus Linguistik*. Jakarta: Gramedia.
- Labov. W. 1994. *Principles of Linguistic Change Vol 1*. Oxford UK and Crambridge USA: Blackwell.
- Mahsun. 1995. *Dialektologi Diakronis: Sebuah Pengantar*. Yogyakarta: Gadjah Mada University Press.
- Marsono. 1991/1992. *Sistem Konsonan dalam Bahasa Jawa*. Laporan Penelitian Fakultas Sastra Universitas Gadjah Mada. Yogyakarta.
- 2011. *Morfologi Bahasa Indonesia dan Nusantara*. Yogyakarta: Gadjah Mada University Press.
- Nothofer, Bernd. 1987. *Cita-cita Penelitian Dialek Dewan Bahasa*, Februari 129-149.

- 1990. *Tinjauan Sinkronis dan Diakronis Dialek-Dialek Bahasa Jawa di Jawa Barat dan Tengah (bagian barat)* Yogyakarta: Pusat studi Bahasa-Bahasa Asia Tenggara, Fakultas Sastra UGM.
- 1982. *Central Javanese Dialects*. Pacific Linguistics series C. Vol 3, 127-309
- Nurdiyanto, Erwita. 2010. “Bahasa Jawa Dialek Banyumas di Kabupaten Banyumas (Kajian Geografi Dialek)”. Skripsi Fakultas Ilmu Sosial dan Ilmu Politik Universitas Jendral Soedirman. Purwokerto
- Odden, David. 2005. *Introducing Phonology*. USA: Cambridge University Press.
- Pastika, I Wayan. 2005. *Fonologi Bahasa Bali: Sebuah Pendekatan Generatif Transformatif*. Kuta: Pustaka Larasan.
- Ramelan. 1962. “Bagelan Javanese Phonology”. Skripsi Fakultas Keguruan dan Ilmu Pendidikan Universitas Airlangga. Malang.
- Ramlan, M. 1987. *Ilmu Bahasa Indonesia Morfologi Suatu Tinjauan Deskriptif*. Yogyakarta: CV. Kartono.
- Schane, Sanford A. 1973. *Generative Phonology*. New Jersey: Prentice Hall Inc.
- Sudaryanto. 1991. *Tata Bahasa Baku Bahasa Jawa Baku*. Yogyakarta: Duta Wacana Press
- 1993. *Metode dan Aneka Teknik Analisis Bahasa*. Yogyakarta: Duta Wacana Press
- Sudiro, Samid. 1986. *Bahasa Jawa di Kabupaten Kebumen, dalam Soedarsono (editor). Kesenian, Bahasa, dan Folklor Jawa*. Yogyakarta: Proyek Penelitian dan Pengkajian Kebudayaan Nusantara, Ditjen Kebudayaan, Departemen Pendidikan dan Kebudayaan.
- Sunarso. 1994. “Pemakaian Tingkat Tutur Bahasa Jawa Dialek Banyumas di Daerah Banyumas”. Thesis Universitas Gadjah Mada. Yogyakarta.
- Trudgill, Peter. 1983. *On Dialect: Social and Geographical Perspectives*. Oxford: Basil Blackwell Publisher.
- Zen, Abdul Latif. 2016. “Perubahan Fonologis Kosakata Serapan Sansekerta dalam Bahasa Jawa (Analisis Fitur Distingtif dalam Fonologi Transfomasi Generatif)”. Thesis Universitas Diponegoro. Semarang