KOREAN PHONOLOGICAL INTERFERENCE IN
INDONESIAN LANGUAGE AS SECOND LANGUAGE

A THESIS

In Partial Fulfillment of the Requirements
For Strata-1 Degree in Linguistics

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PRONOUNCEMENT

The writer states truthfully that she compiles this thesis without taking the results from other researchers in any universities, in S-1, S-2 and S-3 degree and in diploma. In addition, the writer ascertains that she does not take the materials from other publications or someone’s work, except those that have been mentioned in the references.

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MOTTO

“Allah never changes the condition of a people unless they strive to change themselves”.

(Qur’an 13: 11)

“My favourite thing is to go where i have never been”.

(Diane Arbus)

“Because sometimes even if you know how something’s gonna end that doesn’t mean you can’t enjoy the ride”.

(HIMYM)
DEDICATION

I dedicate this thesis to the people who always support me:

My Lovely Mother and Father
My Sister and My Brother
My Great Big Family
My Dearest Friends
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   The writer realizes that this thesis still has many weaknesses and it is far from being perfect. Therefore, any criticism and suggestions would be appreciated in the purpose to make it better. Finally, the writer expects that this thesis would be useful for all the readers and she also apologizes to all people to whom she made mistakes during the study.

   Semarang, July 2013

   Reni Siti Yuniar
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ABSTRAK


Peneliti menggunakan stimuli berupa gambar yang menghasilkan data pelafalan kata-kata oleh para pembelajar bahasa Indonesia (PBI) tadi: 54 kata yang terdiri dari 46 kata benda dan 8 kata sifat. Ke 54 kata ini direkam dan ditranskripsi secara fonetik. Dari 54 kata ini terjadi interferensi fonologis yang cukup signifikan dari fonologi Bahasa Korea. Yang pertama adalah dalam hal pembedaan voicing. Hal ini terjadi karena beberapa konsonan voiced dan voicedless yang dalam bahasa Indonesia merupakan fonem yang berbeda, ternyata merupakan alofon dalam Bahasa Korea.

Yang kedua adalah proses penambahan bunyi (ə) pada kata dalam bahasa Indonesia yang diakhiri dengan bunyi [s]. Hal ini tentu mengubah silabifikasi kata tersebut. Dalam bahasa Korea [s] tidak bisa menjadi koda, sehingga strategi pembelajar Bahasa Korea ini adalah dengan menambahkan bunyi tersebut pada posisi koda, sehingga merubah silabifikasi kata tersebut dalam bahasa Indonesia. Dari kajian literatur yang ada, ternyata strategi yang sama juga diaplikasikan pada saat mereka mempelajari Bahasa Inggris. Dengan ini dapat disimpulkan bahwa paling tidak dua jenis interferensi fonologi inilah yang patut menjadi perhatian bagi penutur asli Bahasa Korea saat mereka mempelajari Bahasa Indonesia.
CHAPTER I
INTRODUCTION

1.1 Background of the Study

The first language (L1) patterns often influence the performance in learning second language (L2). This phenomenon is also called language interference, a kind of process where the first language affects the use of the second language. L1 interference might take different levels of linguistic competence. There are several types of interference, some of them are syntactical interference, morphological interference, and phonological interference.

In this thesis the writer discusses the first language’s phonological interference toward Bahasa Indonesia (BI). The objects of this research are native Koreans who live in Indonesia. Korean Wave is not only responsible for the happening of Korean music and drama in Indonesia, but also toward the learning of the Korean language and BI as well.

The initial hypothesis of the writer is the phenomenon occurs most probably caused by the differences of phonological rule and consonant inventory between two languages which in this case, Korean native speakers create some deviations in using BI. This hypothesis is based on the previous research on interference like “Phonological Interference In Suami-suami Takut Istri Comedy Series”, “Phonological Errors Made By Beginning Learners of Primary 2 and Primary 3 In Graceland Learning Centre Semarang”, dan “Interferenced Indonesian Uttered By Indonesian Chinese In Semarang” which conclude that the deviation of the
target language (which is being learned by the objects) is mostly influenced by the first language of the objects.

One of the differences of both languages are that in Korean language, fricative [s] cannot stand as coda position, so the insertion of vowel [i] is possible to happen of using BI. This phenomenon is called insertion which slightly modify the syllabification of BI’s word. This phenomenon is not only one of the deviation that happens to Korean speaker. This research is a step in systematic analysis of Korean language’s interference toward BI using authentic and structured data.

In this paper, the writer wants to confirm whether the deviation is affected by the phonological rule of the first language to Korean native speakers in pronouncing BI. Speech language learning of the two languages is an important gap in which the writer tries to fill. Instead of analyzing the Indonesian’s capability in pronouncing foreign language, the writer analyze the foreigner’s (in this case, the native Koreans) capability in pronouncing BI.

Prihantoro (2005), analyzed the pragmatic capability of the *Bahasa Indonesia*’s learners in expatriate society in Salatiga. One of them is a native Korean. He also conducted preliminary research on phonological interference, where the subject is Korean (2011). However, the subject is only one person. In this research, the writer has three Korean native speakers as samples.

1.2 Scope of the Study

In this thesis, the writer will analyze the phonological interference in *Bahasa Indonesia* (BI) spoken by Korean native speaker as second language. The
The writer focused on the differences of phonological rule and consonant inventory of Korean language and BI which show the language phenomena such as gemination, aspiration, devoicing, insertion, and deletion. The writer also shows the syllable structure to support prose description. Beside that, the writer also provides the phonological interference of Korean speaker in pronouncing English language as a comparison.

1.3 Purpose of the Study

This study is conducted by observing the performance of Korean native speakers in pronouncing BI as a second language on phonological level. It is specifically aimed at:

1. Identifying Korean phonological interference in BI spoken by Korean native speakers in pronouncing BI.
2. Showing the factors of interference happening to Korean native speakers.

1.4 Underlying Theory

Interference or language transfer is the issue which mostly happens in the learning of the secondary, or the foreign language (Van Coetsem: 1998 and Selinker & Gass: 1993). Although the final result of this research tends to be the same (the use of L2 is influenced by L1), the objects, level of interference, and the languages are different. According to some researchers; Young-Sun (2002), Young-Hyon Heo and Ahrong Lee (2005), and Kang (2008), there are some research concerning the phonological error in pronouncing English which is
influenced by Korean language. The writer points to the previous research which show the existence of phonology in Korean language toward the using of the second language.

1.5 Research Method

In order to get data, the writer combines field research and library research. Field research involves the writer directly in population of the objects. Library research involves the writer to get information about Korean phonological rules.

The writer uses simak method, teknik rekam, and teknik catat by Sudaryanto (1988). In simak method, the writer served pictures to pronounce by Korean native speakers, while teknik rekam means that the writer is attentively recording the pronunciation. After getting the data by tape recorder, the writer continued transcribing the data recorded and followed by classifying (teknik catat).

1.6 Organization of the Report

To understand this study easily, the writer organizes the content of this writing in such a way that it will be very readable. The organization of the report can be described as follows; in chapter 1, the writer presents an interference phenomenon of Korean native speakers in learning BI. This chapter also contains background of the study, research problems, scope of the study, significancy, purpose of the study, underlying theory, research method and organization of the report.
In chapter 2, the writer shows some theories which states about definition and explanation of language interference, language phenomena such as gemination, aspiration, devoicing, insertion and deletion, and comparing phonemic inventory between Korean language and BI.

In chapter 3, the writer explains types of research which relate to this research. Beside that, the writer serves population and samples, method of collecting data, and technique in analyzing data.

In chapter 4, the writer describes five language phenomena such as gemination, aspiration, devoicing, insertion, and deletion. The writer focused on phonological rule and consonant inventory of Korean language. The writer also provides Korean phonological interference in pronouncing English language as second language as comparison. Beside that, the writer shows the modification of syllable structure and shorthand notation data to support this research.

In chapter 5, the writer presents the summary of the data analysis. It explains the factors of causing phonological interference happening to Korean speakers in pronouncing BI.

In Appendix, the writer presents IPA (International Phonetic Alphabeth) transcription which taken from the data recording. The transcription is used to analyze the data in chapter 4.
CHAPTER II

LITERARY REVIEW

2.1 Interference

Interference is a language phenomenon where the first language affects the learning of the second language. Interference or language transfer is the issue which mostly happens in the learning of the second or the foreign language (Van Coetsem: 1998 and Selinker & Gass: 1993). Hartman and Stork (1972: 115) said that the interference is a mistake that occurred as the result of entertaining speech habits of native language or dialect into second language. Moreover, Pedjosoedarmo also defined the term interference as a rearrangement of language patterns that caused by the entry of foreign elements into higher structures language, such as in phonology, morphology, and syntax, and semantics (Poedjosoedarmo in Rindjin et, al., 1981 : 21).

Interference may change the language structure at least, but not limited to phonological, grammatical, or lexical aspects. According to Weinrich, There are 3 types of interference, namely phonological interference, grammatical interference, and lexical interference (cited in Rindjin, Ketut, et al 1981).

2.2 Phonological Interference

In this research, the writer follows Weinrich’s statement in which phonological interference belongs to the types of interference phenomena.
Phonological interference can be observed through the change of phoneme in certain word. The change itself may consists of an addition, deletion, or substitution of other phonemes. Suwito (1983:55) gives an example of this issue by stating that javanese tends to add nasal sound in initial position on the following stops [b], [d], and [g], such as in the following words; [mBandung], [nDepok], [ngGombong]. It happens due to the differences of phonological rule between Bahasa Indonesia and Bahasa Jawa. Another example is the fact that in Japanese there is no phoneme distinction between write [rait] and light [lait], because [r] and [l] are not distinctive in Japanese consonant inventory (Fromkin, Rodman and Hyams: 2003).

2.1.1 Factors Causing Phonological Interference

There are some factors which affect the occurrence of phonological interference. Fromkin, Rodman and Hyams (2003: 363) stated that the users of secondary language generally speak with an accent because it is possible for them to transfer the phonemes, phonological rules or syllable structures of their first language into their second language.

Based on the statement from Fromkin, Rodman, and Hyams, it can be concluded that the cause of phonological interference is the different phonemes, phonological rules or syllable structure from the two languages.

The first aspect is the different phoneme which refers to consonant inventory of BI and Korean language. In BI, consonant inventory is categorized into voiceless and voiced. Meanwhile, Korean language’s consonant inventory
tend into lax, aspirated, and tense. Table 1 and 2 present consonant inventory of BI and Korean language.

<table>
<thead>
<tr>
<th>Table 1. Consonant inventory of Bahasa Indonesia</th>
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<tbody>
<tr>
<td><strong>Bilabial</strong></td>
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<tr>
<td>---------------</td>
</tr>
<tr>
<td>Plosive</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Affricative</td>
</tr>
<tr>
<td>Fricative</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Nasal</td>
</tr>
<tr>
<td>Lateral</td>
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<tr>
<td>Semivowel</td>
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</table>

<table>
<thead>
<tr>
<th>Table 2. Consonant inventory of Korean language</th>
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</thead>
<tbody>
<tr>
<td><strong>Bilabial</strong></td>
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<tr>
<td>---------------</td>
</tr>
<tr>
<td>Stop</td>
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<tr>
<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td>Fricative</td>
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<tr>
<td></td>
</tr>
<tr>
<td>Nasal</td>
</tr>
<tr>
<td>Liquid</td>
</tr>
</tbody>
</table>
According to table 1 and 2, there are several differences between both inventories, where BI’s inventory does not have aspirated and tense while in Korean language’s inventory aspirated and tense exist.

The second aspect is that there are different phonological rules between both languages. In this research, the writer uses several theories from previous research concerning to the phonological rule in Korean language which causes the occurrence of language phenomena as following data.

2.2.1.1 Gemination

Gemination refers to identical adjacent segments of a consonant in a single syllable. A geminate sequence cannot be regarded as simply a ‘long’, for instance [-ll-] is geminate, [-l:] is long. Gemination is distinguished by the duration of the sound. In Korean language, gemination only occurs in lateral [l], fricative [s], and voiceless stops.

According to Hyon and Lee (2004), in Korean language the feature [lateral] is not distinctive, source laterals are generally adapted as an l-sound, either [l] (simplex) or [ll] (geminate). However in Korean language gemination always happens in word-medial position or intervocalic (Iverson & Sohn 1994, Ahn 1998). See example (1):

(1) geminate [ll] as intervocalic
    [pal.li]     ‘quickly’
    [jfal.lan]   ‘splashing’
    [b3l.ləŋ]    ‘on one’s back’
Gemination in Korean language might distinguish meaning, one of the example is fricative [s] and its geminated counterpart [ss]. Look at the example (2):

(2)  
[sa.da]    [ssa.da]  
‘buy’      ‘cheap’  
[ssi]      [si]  
‘seed’      ‘time’

As a comparison, in English that in contemporary Korean, English /s/ is adapted as gemination /ss/ if it precedes a vowel in the English input (Kang: 2008), as show in (3):

(3)  
Prevocalic /s/  \longrightarrow  geminate /ss/  
[ssaici]  ‘size’  
[ssiŋkəl]  ‘single’  
[ssain]  ‘sign’

Stops gemination in Korean language happens in word-medial position or intervocalic. See example (4):

(4)  
[ap.pa]  ‘daddy’  
[it.ta]  ‘later’  
[ak.ca]  ‘before’

Based on the consonant inventory in table 2, there are no gemination occurs. However, according Korean language’s phonological rule, gemination will occur if it exists in intervocalic. In the other side, gemination does not exist in bahasa Indonesia’s phonological rule.
2.2.1.2 Aspiration

Aspiration is a term in phonetics for the audible breath as when certain types of plosive consonant are released. It is usually symbolized by a small raised [h] following the main symbol.

In Korean language, aspirated consonant is presented in its phonemic inventory. Please refer to example (5):

(5) \([t^h]al\) ‘mask’
[ tal] ‘moon’

Based on the table 2, aspiration only occurs in Korean language’s consonant inventory where aspirated and non-aspirated have different meaning, as in example (5). Meanwhile aspirated does not exist in bahasa Indonesia’s consonant inventory.

2.2.1.3 Devoicing

Voicing is a phonetic term used as classification of speech sounds which refers to the auditory result of the vibration of the vocal folds. Devoicing refers to phenomenon where a voiced sound is replaced by its voiceless counterpart for phonological.

Since plain stops and voiced stops in Korean are in complementary distribution, voiced stops are to be analyzed as an allophone of the same phoneme of a plain stop (Han and Weitzman 1965: 4).
As a comparison in English, words beginning with a voiced stop are inconsistently borrowed with voiceless stop (Park: 2007). Please refer to example (6):

(6) [pi.si.ket] ‘biscuit’
    [t’en.s’i] ‘dance’

Devoicing may also occurs in BI. However, it only exist in coda position.

2.2.1.4 Deletion

Deletion is a removal of a constituent: in this case, the deletion at a speech sound. In Korean language, deletion may occur in some words, for example is the consonant cluster. According to Kim (2002) Korean does not permit consonant clusters within the syllable; Based on the simplification in Korean language that consonant cluster probably have deletion either the first or the second consonant.

Moreover, deletion may also occur in a phoneme which is not allowed according to their position. In Korean language that the two sound types as allophones of the same phoneme, distributed according to their position in syllable structure: lateral [l] when filling the coda position, central tap [r] when in the onset (Heo & Lee 2004a). Lateral [l] and central [r] have different position although they are considered as allophones. However, there may be certain possibilities if there is a certain word which is ended with central [r]. The first one is that
deletion may exist and tend to change the meaning of the secondary language. The other possibility is that there may be an addition of vowel [i], because [r] can not be a coda.

2.2.1.5 Insertion

Insertion is a process of inserting a consonant or vowel to a syllable. This is often referred to be as epenthesis. Although Kim (2002) stated that Korean does not permit consonant clusters within the syllable; Based on the simplification in Korean language that consonant cluster probably have deletion either the first or the second consonant. However, Kim (2000) has observed the validity of the assumption that CSS (Consonant Cluster Simplification) in Korean English occurs as the result of Korean phonology being reflected in the syllabification of English. Here, the result of the mispronunciation (*) in the example (7) shows the syllable-initial CCS in Korean English (Kim: 1999).

(7)  
Spring  [spriŋ]  *[sə.pə.riŋ]
Stop  [stæp]  *[sə.tæp]
Skirt  [skɔ:rt]  *[sə.kɔ:ta]

Although consonant cluster is not allowed in Korean language, Kim observed that in using foreign language, Koreans tend to insert schwa [ə] between consonant cluster.

Insertion may also occurs in a consonant which is not allowed as coda position. There are some consonants which cannot stand as coda position in Korean language for instances: [r] and [s]. These are
consonants that allowed in coda position / p, t, k, m, n, ŋ, l/ 
(Youngsun : 2002). Korean tend to insert vowel [ɨ] when consonant is not allowed as coda position.

2.3 Research Space

The most research of interference phenomena are always associated to English language such as Indonesian-English, Korean-English, Japanese-English, etc. Research concerning non-English languages pair are relatively not many so far. There is no research about interference phenomena of Indonesian-Korean. This research is an attempt to fill the gap to research interference phenomena in which Bahasa Indonesia is learned as second language with Korean as the native language.
CHAPTER III
RESEARCH METHOD

Method is an important factor in conducting a research to achieve the aims of research. The writer describes five aspects of research those are: The type of research, population, sample, method of collecting data, and technique of data analysis. The description will further be presented in the following subsections.

3.1 Type of Research

This research is a combination of field research and library research. These types of research based on the research that done by the writer. Beside that, these types of research are appropriate with the research. Meanwhile, the data of the research uses descriptive research and the analysis of data uses quantitative research.

The writer uses the type of field research because the writer involved directly in the population that will be observed in order to get data. In collecting data through this field research, the writer conducts a method namely observation. Observation here actually means ‘hearing’. The writer listened to the speech of Bahasa Indonesia (BI) by Korean native speakers and recorded it into a cell phone. The writer wants to get the natural data by showing the pictures and the flashcards.

In library research, the retrieval of supporting literature is a crucial important. In this research the writer conducts a research which uses efficiently
information sources at the library. A research is not able to do well without first conducting orientation at the library. The writer searched about Korean phonological rules from the book, the paper, and the dissertation. In this case, the writer takes Korean native speakers in pronouncing English as second language as a comparison. Beside that, the writer chooses 52 word-lists based on the language phenomena that caused by Korean native speakers in pronouncing English language.

The descriptive research according to Furchan (2004: 447), he explains that a descriptive research is the research which is designed to obtain information about phenomenon when research is conducted. Moreover the writer chooses descriptive research because the writer describes about factual data and characteristic of the objects. Eventhough the greater portion of this research is descriptive research the writer also uses quantitative because in analyzing data the writer uses simple statistic data. Bryman (1988) stated that three principal of method, a researcher who uses qualititative and quantitative method; combaining these methods: qualititative as a facilitator in quantitative reasearch, quantitative method as a facilitator in qualitative research; both approaches are given with equal pressure.

3.2 Population and sample

3.2.1 Population

According to Sugiyono (2007: 80), population is a region that consists of the generalization objects or subjects that have certain qualities
and characteristics are determined by the researcher to be learned and then makes conclusions. There are a lot of population can be taken as an object of interference cases in Semarang. In this case, The writer chooses population of Korean native seaker who acquired of BI informally because they came to Indonesia as teachers for Indonesians.

3.2.1 Sample

According to Sugiyono (2007: 81), sample is part of quantity and characteristic that is possessed by the population. As the population of Koreans who live in Semarang, the writer have to choose some of them as a sample.

In this case, the writer collects three Korean native speakers in Semarang who speak Bahasa Indonesia. The writer chooses the object based on their length of stay in Semarang (1.5 years, 11 months, 9 months) as the competence of their BI differ.

3.3 Method of Collecting Data

As data plays, an important role in a research then collecting data is a must. On this ground, method of collecting data is also crucial important. In this case, the writer uses technique of collecting data from Sudaryanto (1988: 5) who explains the three steps of collecting data in a research. The first step is Simak Method, a method which is performed when the researcher has a conversation with the object. The second step is technique of recording data which means a technique that uses tape-recorder in order to get the data. According to Sudaryanto
When the first and the second technique used, recording data can be done as well with tape-recorder as a tool. The last step is technique of note taking. Technique of note taking can be defined as an activity to write the data that recorded. According to Sudaryanto (1988: 5) taking a note can be done when the first and the second technique finished or doing a recording. The three steps are summarized by figure 1.

Figure 1. The steps of collecting data.

3.3.1 Simak Method

The writer conducted a test which was performed by reading tests from two kinds of flashcards. The first one is picture flashcard. The writer uses this flashcard to show nouns as it is easier for Koreans to pronounce and recall Bahasa Indonesia’s word with pictures. The writer serves 41 pictures of noun from the picture flashcard then show them one by one. Then, the writer uses Korean language flashcard for adjectives and the objects of research were required to translate the Korean adjectives to
*Bahasa Indonesia.* The writer serves 11 words of adjective in Korean Language then show them one by one. In this case, the writer is involved passively because the writer wants to get natural data.

### 3.3.2 Technique of Recording Data

In this technique the writer do not participate actively. The writer only serves noun and adjective words of the picture, then the writer showed the pictures one by one to pronounced by Korean native speakers then recorded it. The writer ran the recording by using cell phone. The recording is aimed at recording the speech responses from the objects of the research. Korean is pronouncing in which it is possible for them to cause deviation on pronunciation.

In the end of recording the data, the writer has obtains the raw data which is not extracted. The writer changes the raw data into extract data by cutting the words one by one using WavePad Sound Editor.

### 3.3.3 Technique of Note Taking

The data requires transcription to comply with phonological analysis. This technique is uses to contrast the speech responses from the objects of research and the standard pronunciation of *Bahasa Indonesia.*
3.4 Technique of Analyzing Data

As data analysis, the writer will describe phonological interference in Bahasa Indonesia spoken by Korean speakers as second language that occur with reference to phonological rules and consonant inventory in Korean language.

The procedure of data analysis is as follow:
1. Comparing the transcription of the wordlist in standard BI and the response from the subjects of research.
2. Identifying deviations from the standard BI and grouping them into categories.
3. Describing the deviations by using prose description, shorthand notation and syllable tree.
4. Investigating whether the deviation is the interference from the first language with reference to Korean phonological rule.
5. Counting the percentage of language phenomenon from each Korean speaker.
6. Concluding the result of data analysis.
CHAPTER IV
DATA ANALYSIS

The writer has transcripted the data to further be compared to standard Indonesian. There are some phenomena of language identified such as gemination, aspiration, devoicing, deletion, and insertion. These phenomena happened as a result of interference in Korean language. The writer will explain these phenomena as follows.

4.1 Gemination

Gemination refers to identical adjacent segments of a consonant in a single syllable. A geminate sequence cannot be regarded as simply a ‘long’, for instance [-ll-] is geminate, [-l:] is long. Gemination is distinguished by the duration of the sound.

In the data analysis the writer has divided the phenomena of gemination into three kinds such as lateral gemination, fricative [s] gemination, and voiceless stops gemination which can be presented as follows.

4.1.1 Lateral Gemination

In Korean language lateral has two allophones.
The allophones can be distinguished according to their position:
lateral [l] fills coda position while central [r] fills onset position, since both of those are allophones (Heo & Lee 2004a). See example (8) and (9):

(8) tap [r] as onset position in Korean language (Heo & Lee 2004a):
    [sɔ.ri] ‘frost’
    [gyɔ.ri] ‘winter (nominative)’
    [ha.rabɔ.ji] ‘grandfather’

(9) lateral [l] as coda position in Korean language
    [sɔ.lɛm] ‘New Year’s garb’
    [gyɔl] ‘winter’
    [hal.mɔ.ni] ‘grandmother’

Meanwhile, according to Hyon and Lee (2004) that in Korean language the feature [lateral] is not distinctive, source laterals are generally adapted as an l-sound, either [l] (simplex) or [ll] (geminate). However in Korean language gemination always happened in word-medial position or intervocalic (Iverson & Sohn 1994, Ahn 1998). See example (10):

(10) geminate [ll] as intervocalic
    [pal.li] ‘quickly’
    [ʧal.lan] ‘splashing’
    [bɔl.lɔŋ] ‘on one’s back’

As opposed to Bahasa Indonesia (BI), gemination does not exist either in phonemic or phonetic inventory in BI. Therefore some consonants that have geminated counterpart in Korean might be geminated in BI.

Table 3, 4 and 5 present gemination occurrence which was pronounced by Korean Native Speakers during data recording.
Table 3. Gemination of Korean Native Speaker I

<table>
<thead>
<tr>
<th>Phoneme Position</th>
<th>IPA Transcription</th>
<th>Korean Native I (Park Dae Ni) 1,5 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>[l] Initial</td>
<td>[lam.pu]</td>
<td>[lla:mu]</td>
</tr>
<tr>
<td></td>
<td>[la.ci]</td>
<td>[llac.ci]</td>
</tr>
<tr>
<td>Medial</td>
<td>[ul.ar]</td>
<td>[ul.ar]</td>
</tr>
<tr>
<td></td>
<td>[li.lin]</td>
<td>[li.lin]</td>
</tr>
<tr>
<td></td>
<td>[la.lat]</td>
<td>[la.lat]</td>
</tr>
<tr>
<td></td>
<td>[ma.lam]</td>
<td>[mal.lam]</td>
</tr>
<tr>
<td></td>
<td>[pa.lu]</td>
<td>[pal.lu]</td>
</tr>
<tr>
<td></td>
<td>[ma.las]</td>
<td>[mal.las]</td>
</tr>
<tr>
<td></td>
<td>[ta.las]</td>
<td>[tal.las]</td>
</tr>
</tbody>
</table>

Table 4. Gemination of Korean Native Speaker II.

<table>
<thead>
<tr>
<th>Phoneme Position</th>
<th>IPA Transcription</th>
<th>Korean Native II (Chung Ik Jae) 11 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>[l] Medial</td>
<td>[ma.lam]</td>
<td>[mal.lam]</td>
</tr>
<tr>
<td></td>
<td>[pa.lu]</td>
<td>[pal.lu]</td>
</tr>
<tr>
<td>Final</td>
<td>[san.dal]</td>
<td>[san.dall]</td>
</tr>
<tr>
<td></td>
<td>[sam.bal]</td>
<td>[sam.ball]</td>
</tr>
</tbody>
</table>

Table 5. Gemination of Korean Native Speaker III

<table>
<thead>
<tr>
<th>Phoneme Position</th>
<th>IPA Transcription</th>
<th>Korean Native III (Lee Ju Young) 9 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>[l] Medial</td>
<td>[ma.lam]</td>
<td>[mal.lam]</td>
</tr>
<tr>
<td></td>
<td>[pa.lu]</td>
<td>[pal.lu]</td>
</tr>
<tr>
<td>Final</td>
<td>[san.dal]</td>
<td>[san.dall]</td>
</tr>
<tr>
<td></td>
<td>[sam.bal]</td>
<td>[sa:m.ball]</td>
</tr>
<tr>
<td></td>
<td>[ka.dal]</td>
<td>[ka.dall]</td>
</tr>
</tbody>
</table>

From the data transcription on the table 3, 4 and 5, lateral gemination happened in initial, medial and final position. The first one is in initial position. Gemination in initial position only happened for Korean Native I. She has geminated sound [l] as sound [ll] which is not affected by
interference in Korean language because lateral gemination only happens in word-medial position or intervocalic.

The Korean Native I experienced error language because she geminated sound [lam.pu] and sound [la.ci] in onset position which does not exist in Korean or BI phonological rule.

However, the phenomenon of gemination does not change the meaning of sound [lam.pu] and sound [la.ci]. It slightly modify the syllable structure of [lam.pu] and [la.ci]. Figure 2 is the comparison of the syllable structure of non geminated and geminated in initial position. Please refer to figure 2:

Figure 2. Syllable structure for [lam.pu] and [llam.pu].

From the comparison of the two structures presented by figure 2, modification of syllable structure happened when the onset has two branches of consonant after gemination.
The second phenomenon is gemination in medial position which took place for Korean Natives. In Korean language, gemination happened in word-medial position as can be seen in example (10). In addition, Korean consonant liquid inventory [l] cannot take place between two vowels (intervocalic). Therefore it is geminatized or takes [r] allophone.

It can be concluded that all of Korean natives experienced Korean language interference because of lateral gemination in medial position which refers to Korean phonological rule. The phenomenon of gemination in word-medial position does not change the meaning of words in BI while it slightly modified the syllable structure. Please refer to figure 3:

Figure 3. Syllable structure for [ma.lam] and [mal.lam].

From the comparison of two structures presented by figure 3, modification of syllable structure happened when the sound [ma.lam] does not have coda of the upper structure. Meanwhile, after gemination sound
[ma.lam] as sound [mal.lam], coda [l] exists for the upper of syllable structure.

From the data presented by table 3, 4, and 5, geminat ion also happened in final position. It happened to Korean natives II and III which pronounced sound [sam.bal] as sound [sam.ball]. This is not interference because in Korean language, gemination does not exist in coda position. Although it does not change the meaning in BI, but it slightly modified the structure of syllable. Please refer to figure 4:

Figure 4. Syllable structure for [sam.bal] and [sam.ball].

From the comparison of two structures presented by figure 4, modification of syllable structure happened when the sound [sam.bal] has two branches in coda of lateral [l] becoming geminate [ll].
4.1.2  Fricative [s] Gemination

Gemination in Korean language might distinguish meaning, one of the example is fricative [s] and its geminated counterpart [ss]. Please refer to example (11):

(11)  [sa.da]  [ssa.da]  
     ‘buy’     ‘cheap’
     [ssi]     [si]
     ‘seed’     ‘time’

Meanwhile, it does not change the meaning in BI because BI does not have gemination phenomenon. However as a comparison, in English that in contemporary Korean, English /s/ is adapted as gemination /ss/ if it precedes a vowel in the English input (Kang: 2008), as show in (12):

(12)  Prevocalic /s/  →  geminate /ss/
      [ssaici]  ‘size’
      [ssinjal]  ‘single’
      [ssain]  ‘sign’

Table 6, and 7 present fricative [s] gemination which was pronounced by Korean Native Speakers during data recording.

<table>
<thead>
<tr>
<th>Phoneme</th>
<th>Position</th>
<th>IPA Transcription</th>
<th>Korean Native I (Park Dae Ni) 1,5 years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Initial</td>
<td>[sam.bal]</td>
<td>[ssa:m.bal]</td>
</tr>
<tr>
<td>[s]</td>
<td>Initial</td>
<td>[sa.tu]</td>
<td>[ssat.tu]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[si.kat]</td>
<td>[ssik.kat]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[sa.pu]</td>
<td>[ssap.pu]</td>
</tr>
</tbody>
</table>
From the data transcription on the table 6 and 7, fricative [s] gemination happened in prevocalic. It indicates fricative [s] become gemination when it precedes a vowel or prevocalic which has the same case as example (11). It is an interference phenomenon because fricative [s] gemination exists in word-initial as in Korean language.

This phenomenon does not change the meaning of BI. It slightly modified the syllable structure. Please refer to figure 5:

Figure 5. Syllable structure for [sa.tu] and [ssat.tu].

From the comparison of two structures presented by figure 5, modification of syllable structure happened when the sound [sa.tu] does not
have coda at the first syllable structure. Meanwhile, after gemination sound [sa.tu] as sound [ssat.tu], the addition of onset’s branch happened at the first syllable structure. Therefore, onset has two branches after gemination.

4.1.3 Stops Gemination

Besides for lateral, gemination also takes place for stops. In this case, only voiceless stops are involved in gemination. Stops gemination in Korean language happened in word-medial position or intervocalic. See example (13):

(13) [ap.pa] ‘daddy’
[it.ta] ‘later’
[ak.ka] ‘before’

Table 8, and 9 present stops gemination which was pronounced by Korean Native Speakers during data recording.

<table>
<thead>
<tr>
<th>Phoneme</th>
<th>Position</th>
<th>IPA Transcription</th>
<th>Korean Native I (Park Dae Ni) 1.5 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>[t]</td>
<td>Medial</td>
<td>[pi.ta]</td>
<td>[pit.ta]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[sa.tu]</td>
<td>[ssat.tu]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[fo.to]</td>
<td>[fot.to]</td>
</tr>
<tr>
<td>[k]</td>
<td></td>
<td>[si.kat]</td>
<td>[ssik.kat]</td>
</tr>
<tr>
<td>[p]</td>
<td></td>
<td>[sa.pu]</td>
<td>[ssap.pu]</td>
</tr>
</tbody>
</table>

Table 9. Stops Gemination by Korean Native Speaker III

<table>
<thead>
<tr>
<th>Phoneme</th>
<th>Position</th>
<th>IPA Transcription</th>
<th>Korean Native III (Lee Ju Young) 9 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>[t]</td>
<td>Medial</td>
<td>[pi.ta]</td>
<td>[pit.ta]</td>
</tr>
<tr>
<td>[p]</td>
<td></td>
<td>[sa.pu]</td>
<td>[ssap.pu]</td>
</tr>
</tbody>
</table>
From the data transcription on the table 8 and 9, stops gemination happened in intervocalic. It indicates that in BI, stops become gemination when it is in intervocalic as well as in lateral [l]. It is an interference phenomenon because stops gemination exists in word-medial in Korean language.

This phenomenon does not change the meaning of BI. It slightly modified the syllable structure. Please refer to figure 6:

**Figure 6. Syllable structure for [sa.pu] and [ssap.pu].**

```
  O           R           O           R
  σ           σ
  s           a           p           u
```

From the comparison of two structures presented by figure 6, modification of syllable structure happened when the sound [sa.pu] does not have coda at the first syllable structure. Meanwhile, after gemination the sound [sa.pu] as sound [ssap.pu], coda exists at the first syllable structure. In addition, onset position has two branches. Gemination can also be presented by shorthand notation data in (14) and (15):
Based on the gemination phenomena, the writer calculated the average of gemination into percentage from each native as in chart 1.

Chart 1. The percentage for gemination by Korean Native Speakers

Korean native Speaker I performed 17% of lateral gemination, 7% of fricative gemination and 9% of stops gemination. Korean Native III
performed 7% of lateral gemination, 3.8% of fricative gemination, and 3.8% stops gemination. As compared to the two other speakers, Korean Native II who has the lowest percentage of gemination. The Korean Native II only has experienced lateral gemination which has 7%.

Lateral gemination has the highest percentage of gemination in word-medial position and intervocalic, it should be gemination because of the influence of Korean phonological rules. Therefore all of Korean natives experienced lateral gemination especially in word-medial position.

4.2 Aspiration

Aspiration is a term in phonetics for the audible breath as when certain types of plosive consonant are released. It is usually symbolized by a small raised [h] following the main symbol.

In Korean language, aspirated consonant is presented in its phonemic inventory, while it does not exist in BI. BI distinguishes voiceless and voiced feature, but not aspiration. The opposite takes place for Korean. Please refer to example (16):

(16) [tʰal] ‘mask’
[tal] ‘moon’

Example (16) suggested that aspirated consonant is phonemically distinctive in Korean as it can distinguish meaning. Table 10, 11 and 12 present the occurrences of aspiration during data recording.
Table 10. Aspiration by Korean Native Speaker I

<table>
<thead>
<tr>
<th>Phoneme</th>
<th>Position</th>
<th>IPA Transcription</th>
<th>Korean Native I (Park Dae Ni) 1.5 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>[b]</td>
<td>Initial</td>
<td>[ban]</td>
<td>[bʰan]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[bom]</td>
<td>[bʰom]</td>
</tr>
<tr>
<td>[d]</td>
<td>Initial</td>
<td>[da.si]</td>
<td>[dʰa.si]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[da.un]</td>
<td>[dʰa.wun]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[da.gu]</td>
<td>[dʰa.gu]</td>
</tr>
</tbody>
</table>

Table 11. Aspiration by Korean Native Speaker II

<table>
<thead>
<tr>
<th>Phoneme</th>
<th>Position</th>
<th>IPA Transcription</th>
<th>Korean Native II (Chung Ik Jae) 11 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>[c]</td>
<td>Medial</td>
<td>[la.ci]</td>
<td>[la.cʰi]</td>
</tr>
</tbody>
</table>

Table 12. Aspiration by Korean Native Speaker III

<table>
<thead>
<tr>
<th>Phoneme</th>
<th>Position</th>
<th>IPA Transcription</th>
<th>Korean Native III (Lee Ju Young) 9 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>[b]</td>
<td>Initial</td>
<td>[ban]</td>
<td>[bʰan]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[da.si]</td>
<td>[dʰa.si]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[da.un]</td>
<td>[dʰa.wun]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[da.gu]</td>
<td>[dʰa.gʰu]</td>
</tr>
<tr>
<td>[k]</td>
<td>Medial</td>
<td>[pa.ku]</td>
<td>[pʰa.kʰu]</td>
</tr>
<tr>
<td>[g]</td>
<td>Medial</td>
<td>[da.gu]</td>
<td>[dʰa.gʰu]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[pra.mu.ga.ri]</td>
<td>[pʰa.mu.gʰa.ri]</td>
</tr>
<tr>
<td>[t]</td>
<td></td>
<td>[gi.tar]</td>
<td>[gʰi.tʰa]</td>
</tr>
</tbody>
</table>

From the data transcription on the table 10, 11, and 12, aspiration takes place in initial and medial position because in Korean language, aspirated consonant in coda position is neutralized or deleted. Please refer to example (17):

(17) Lexical [h] deletion verb stem finally (Kim and John: 2008)
/coh.a.to/ → [co.a.do]  ‘though it is good’
/manh.a.to/ → [man.a.do]  ‘though there is much’
/nah.a.to/ → [na.a.do]  ‘though one bears’
For this reason aspiration happened in initial and medial position only.

The first one is aspirated in the onset of a syllable. This phenomenon happened to Korean native I and III. Both Korean natives pronounced sound stop [b] as aspirated [bʰ]. Besides that, aspiration also takes place for [d] as aspirated [dʰ].

Park (2008) believes that English words beginning with voiceless stops are always borrowed with the Korean aspirated stop corresponding to the place of articulation of the English stop while voiced stops are borrowed with lax or tense. See example (18):

\[(18) \quad \begin{align*}
\text{pʰen} & \quad \text{’pen’} \\
\text{pʰe.ti} & \quad \text{’pad’} \\
\text{tʰo.ma. tʰo} & \quad \text{’tomata’} \\
\text{tʰol.ke.i.tʰi} & \quad \text{’toll gate’}
\end{align*}\]

However, stop [b] and [p] are allophones. Therefore it is possible for Korean speakers pronounce voiced stop with aspiration as present by table 10, 11, and 12. The writer believes that this is an interference of Korean language. This phenomenon can be presented as shorthand notation data in (19):

\[(19) \quad \begin{pmatrix}
\text{C} \\
\text{C}
\end{pmatrix} \quad \begin{pmatrix}
\text{+ stop} \\
\text{- aspiration}
\end{pmatrix} \quad \rightarrow \quad \begin{pmatrix}
\text{C} \\
\text{C}
\end{pmatrix} \quad \begin{pmatrix}
\text{+ stop} \\
\text{+ aspiration}
\end{pmatrix} \quad / \ #\]

The second one is aspirated stop in middle position. It happened to Korean native II and III. In Korean language, aspirated also happened in word-medial position. Please refer to example (20):
Both Korean natives experienced language interference which were aspiration in medial position of BI. Although aspiration does not exist in BI but it does not change the meaning of words. This phenomenon can be presented as shorthand notation data presented by (21):

(21) \[ \begin{array}{c}
\text{C} \\
\begin{array}{ccc}
\text{voice} & - \\
\text{stop} & + \\
\text{aspiration} & - \\
\end{array}
\end{array} \rightarrow \begin{array}{c}
\text{C} \\
\begin{array}{ccc}
\text{voice} & - \\
\text{stop} & + \\
\text{aspiration} & + \\
\end{array}
\end{array} / # \]

From data transcription presented by table 10, 11, and 12, the writer calculated the average of aspiration phenomenon in percentage. Please see chart 2:

The writer calculated the average of aspiration consonant with percentage presented by chart 2. As a result of calculating that Korean Native III has the
highest percentage of aspiration consonant, He has 14.8% while Korean native I has 9.2%. Korean native II has the lowest of aspiration consonant with performed 1.8%.

4.3 Devoicing

Voicing is a phonetic term used as classification of speech sounds which refers to the auditory result of the vibration of the vocal folds. Devoicing refers to phenomenon where a voiced sound is replaced by its voiceless counterpart for phonological.

Since plain stops and voiced stops in Korean are in complementary distribution, voiced stops are to be analyzed as an allophone of the same phoneme of a plain stop (Han and Weitzman 1965: 4).

In Korean language, devoicing mostly happened in word initial and medial position while in BI it happened in word final position. Table 13 and 14 present the cases of devoicing which was pronounced by Korean Native Speakers during data recording.

<table>
<thead>
<tr>
<th>Table 13. Devoicing by Korean Native Speaker I</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phoneme</strong></td>
</tr>
<tr>
<td>[g]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 14. Devoicing by Korean Native Speaker II</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phoneme</strong></td>
</tr>
<tr>
<td>[g]</td>
</tr>
</tbody>
</table>
From data transcription on the table 13 and 14, devoicing happened in initial position. This phenomenon happened to Korean native I and II. Both Korean natives replaced voiced stop [g] by voiceless stop [k]. The phenomenon of devoicing is possible to happen in Korean language since both phonemes are allophones. In Korean language ‘ㄱ’ is represented as sound [g] but since it is an allophone with sound [k]. According to McCune and Reischauer (1939) that stop [k] when filling in initial and final position while [g] when filling between vowels and after consonants [m], [n], and [l] or [r].

Devoicing does not change the meaning in Korean language. For instance, sometimes Korean people pronounce sound [kam.sa.ham.ni.da] that has meaning ‘thank you’ sometimes Korean people pronounce it as sound [gam.sa.ham.ni.da]. Meanwhile in BI voiced and voiceless stops are meaningfully distinctive. See example (22):

(22) [gas] → [kas]
    [gi.tar] → [ki.tar]

Korean speaker possible to pronounce [gas] as sound [kas] because in Korean language sound [k] should be pronounced in initial position. The devoicing caused the word to change a meaning or it is possible to be senseless. As a comparison in English, words beginning with a voiced stop are inconsistently borrowed with voiceless stop (Park: 2007). Please refer to example (23):

(23) [pi.si.ket] ‘biscuit’
    [ten.si] ‘dance’
Devoicing can also be presented as the following shorthand notation data as in (24):

\[
(24) \quad \text{C} \left( \begin{array}{c}
+ \text{voice} \\
+ \text{stop}
\end{array} \right) \quad \rightarrow \quad \text{C} \left( \begin{array}{c}
- \text{voice} \\
+ \text{stop}
\end{array} \right) / \#
\]

In data transcription presented by table 13 and 14, the writer calculated an average into percentage of devoicing phenomenon as in chart 3.

![Chart 3. Percentage of devoicing by Korean Native Speakers](chart.png)

Chart 3 indicates that only Korean native Speakers I and II experienced devoicing. Both Korean natives have same percentage of having devoicing which performed 1.92%.

4.4 Deletion

Deletion is a removal of a constituent: in this case, the deletion at a speech sound. From the transcription, the writer can conclude that Korean native
speakers experienced deletion. Please refer to the deletion presented by table 15 and 16.

Table 15. Deletion of Korean Native Speaker I

<table>
<thead>
<tr>
<th>Phoneme</th>
<th>Position</th>
<th>IPA Transcription</th>
<th>Korean Native I (Park Dae Ni) 1.5 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ə]</td>
<td>Medial</td>
<td>[bə.ras]</td>
<td>[bra:s]</td>
</tr>
<tr>
<td>[r]</td>
<td>Final</td>
<td>[gi.tar]</td>
<td>[gi.ta]</td>
</tr>
</tbody>
</table>

Table 16. Deletion of Korean Native Speaker II

<table>
<thead>
<tr>
<th>Phoneme</th>
<th>Position</th>
<th>IPA Transcription</th>
<th>Korean Native III (Lee Ju Young) 9 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ə]</td>
<td>Medial</td>
<td>[bə.ras]</td>
<td>[bra.si]</td>
</tr>
<tr>
<td>[r]</td>
<td>Final</td>
<td>[gi.tar]</td>
<td>[gi.ta]</td>
</tr>
</tbody>
</table>

Table 15 and 16 shows that Korean native I and II experienced deletion schwa [ə] in medial position and central [r] in final position. Both Korean natives removed schwa [ə] because it is a failure to perceive syllabification phonotactic. In Korean language, schwa [ə] should not have deviation in pronunciation. Refers to Korean phonological rule that it is an error language.

In geminat ion cases, the writer has already explained the position of central [r]. In Korean language that the two sound types as allophones of the same phoneme, distributed according to their position in syllable structure: lateral [l] when filling the coda position, central tap [r] when in the onset (Heo & Lee 2004a). On the other hand, central [r] cannot be on coda position, otherwise Korean will add vowel [i] as coda as an anticipation for the Korean phonological rule. Therefore this is an interference language. This phenomenon can be presented as shorthand notation data as in (25):
Although in both cases, the deletion does not change the meaning of the word in BI but it slightly modified the syllable structure. Please refers to figure 7:

Figure 7. Syllable structure for deletion in final position

From the comparison of two structures presented by figure 7, second syllable does not have coda when deletion takes place.

The deletion is summarized by calculating the average in percentage of deletion presented by Korean natives I and II as in chart 4.
4.5 Insertion

Insertion is a process of inserting a consonant or vowel to a syllable. This is often referred to be as epenthesis. There are two types of insertion. The first one is consonant cluster and the second one is consonant codas.

4.5.1 Consonant Cluster

Consonant cluster is a group of two or more consonant sounds concatenated in a word as one sequence. According to Kim (2002) Korean does not permit consonant clusters within the syllable; Based on the simplification in Korean language that consonant cluster probably have deletion either the first or the second consonant. See example (26):

(26) /helk/ → [hek] ‘soil’
Meanwhile, Kim (2000) has observed the validity of the assumption that CSS (Consonant Cluster Simplification) in Korean English occurs as the result of Korean phonology being reflected in the syllabification of English. Here, the result of the mispronunciation (*) in the example (27) shows the syllable-initial CCS in Korean English (Kim: 1999).

(27) Spring [sprin] *[sə.pə riŋ]
    Stop   [stəp]    *[sə.təp]
    Skirt  [skə:rt] *[sə.kə.tə]

Korean natives are more likely to do the same for BI. The result confirmed this hypothesis. Please refer to table 17, 18, and 19.

Table 17. Insertion in Consonant Cluster by Korean Native I

<table>
<thead>
<tr>
<th>Phoneme</th>
<th>Position</th>
<th>IPA Transcription</th>
<th>Korean Native I (Park Dae Ni) 1.5 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>[pl]</td>
<td>Initial</td>
<td>[plas.tik]</td>
<td>[pə.las.tik]</td>
</tr>
<tr>
<td></td>
<td>Medial</td>
<td>[ta.plak]</td>
<td>[ta.pə.lak]</td>
</tr>
<tr>
<td>[kl]</td>
<td>Initial</td>
<td>[kli.nik]</td>
<td>[kə.li.nik]</td>
</tr>
<tr>
<td></td>
<td>Medial</td>
<td>[nuk.le.us]</td>
<td>[nu.kə.leu.si]</td>
</tr>
<tr>
<td>[fl]</td>
<td>Initial</td>
<td>[flu]</td>
<td>[fə.lu]</td>
</tr>
<tr>
<td></td>
<td>Medial</td>
<td>[pam.flet]</td>
<td>[pam.pə.let]</td>
</tr>
<tr>
<td>[dr]</td>
<td>Medial</td>
<td>[ma.dra.sah]</td>
<td>[ma.ə.də.ra.sah]</td>
</tr>
<tr>
<td>[sr]</td>
<td>Initial</td>
<td>[sra.gen]</td>
<td>[sə.ra.ə.gen]</td>
</tr>
<tr>
<td>[kr]</td>
<td>Medial</td>
<td>[mi.kros.kop]</td>
<td>[mi.kə.rəs.kə.pi]</td>
</tr>
<tr>
<td>[br]</td>
<td>Initial</td>
<td>[brang.kas]</td>
<td>[bə.ranŋ.kas]</td>
</tr>
<tr>
<td>[str]</td>
<td>Medial</td>
<td>[stra.te.gi]</td>
<td>[sə.tra.te.gi]</td>
</tr>
<tr>
<td>[spr]</td>
<td>Initial</td>
<td>[sprei]</td>
<td>[sə.prei]</td>
</tr>
<tr>
<td>[skr]</td>
<td>Initial</td>
<td>[skrip.si]</td>
<td>[sə.krip.si]</td>
</tr>
<tr>
<td></td>
<td>Medial</td>
<td>[ma.nus.krip]</td>
<td>[ma.nu.sə.krip]</td>
</tr>
</tbody>
</table>
Table 18. Insertion in Consonant Cluster by Korean Native II

<table>
<thead>
<tr>
<th>Phoneme</th>
<th>Position</th>
<th>IPA Transcription</th>
<th>Korean Native II (Chung Ik Jae) 11 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>[pl]</td>
<td>Initial</td>
<td>[plas.tik]</td>
<td>[pə.las.tik]</td>
</tr>
<tr>
<td>[kl]</td>
<td>Middle</td>
<td>[kli.nik]</td>
<td>[kə.li.nik]</td>
</tr>
<tr>
<td>[fl]</td>
<td>Initial</td>
<td>[flu]</td>
<td>[fə.lu]</td>
</tr>
<tr>
<td>[sr]</td>
<td></td>
<td>[sra.gen]</td>
<td>[sə.ra.gen]</td>
</tr>
<tr>
<td>[spr]</td>
<td></td>
<td>[sprei]</td>
<td>[sə.prei]</td>
</tr>
<tr>
<td>[skr]</td>
<td></td>
<td>[skrip.si]</td>
<td>[sə.krip.si]</td>
</tr>
</tbody>
</table>

Table 19. Insertion in Consonant Cluster by Korean Native III

<table>
<thead>
<tr>
<th>Phoneme</th>
<th>Position</th>
<th>IPA Transcription</th>
<th>Korean Native III (Lee Ju Young) 9 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>[pl]</td>
<td>Initial</td>
<td>[plas.tik]</td>
<td>[pə.las.tik]</td>
</tr>
<tr>
<td>[kl]</td>
<td>Middle</td>
<td>[kli.nik]</td>
<td>[kəlinik]</td>
</tr>
<tr>
<td>[tr]</td>
<td>Initial</td>
<td>[tram.pil]</td>
<td>[tə.ram.pil]</td>
</tr>
<tr>
<td>[str]</td>
<td></td>
<td>[stra.te.gi]</td>
<td>[sə.stra.te.gi]</td>
</tr>
<tr>
<td>[spr]</td>
<td></td>
<td>[sprei]</td>
<td>[sə.prei]</td>
</tr>
<tr>
<td>[skr]</td>
<td></td>
<td>[skrip.si]</td>
<td>[sə.krip.si]</td>
</tr>
</tbody>
</table>

Table 17, 18, and 19 shows various consonant cluster in BI. The Korean natives interestingly inserted a schwa [ə] after the first consonant. Interestingly, the deletion does not completely take place or consonant cluster with three consonants. Should the finding of Kim (1999) completely correspond to BI, the consonant cluster with three consonants are divided to three syllables in BI, the cluster for the second syllable remains. Please see table 17, 18, and 19. For the modification of the syllable structure refer to figure 8:
Figure 8. Syllable structure for [plas.tik] and sound [pə.las.tik]

Refers to figure 8, modification slightly happened when sound [plas.tik] has two branches in onset position of the first syllable structure. Meanwhile after insertion schwa [ə], sound [plas.tik] modified to be [pə.las.tik] in onset position which produce rhyme. The modification of syllable structure happened in medial position as well. Please refer to figure 9:

Figure 9. Syllable structure for sound [ta.plak] and sound [ta.pə.lak]
From the two structures presented by figure 9, modification of syllable structure slightly happened to sound [ta.plak]. It has two branches in onset position of the second syllable structure. Schwa [ə] is inserted in the second syllable structure which produce rhyme. However, when the consonant clusters are at three consonants, it is divided only two syllables, following the second syllable clustered.

The writer calculated the average of insertion schwa [ə] in consonant cluster through the percentage which is presented by Korean natives in chart 5.
Refers to chart 5, insertion mostly happened to Korean native I which performed 58%. Korean Native II has the lowest percentage. He performed 29% of insertion schwa [ə]. Meanwhile, Korean Native III performed 35%.

4.5.2 Consonant Codas

There are some consonants which cannot stand as coda position in Korean language for instances: [r] and [s]. These are consonants that allowed in coda position / p, t, k, m, n, ŋ, l/ (Youngsun : 2002).

The transcription suggests in response to the coda constraints, they performed insertion. Korean tend to insert vowel [i] when [s] or [r] is coda. Please refer to table 20, 21, and 22.

<table>
<thead>
<tr>
<th>Phoneme</th>
<th>Position</th>
<th>IPA Transcription</th>
<th>Korean Native I (Park Dae Ni) 1.5 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>[r]</td>
<td>Final</td>
<td>[ul.ar]</td>
<td>[ul.la.ri]</td>
</tr>
<tr>
<td>[s]</td>
<td>Final</td>
<td>[ta.las]</td>
<td>[tal.lasi]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[fa.kul.tas]</td>
<td>[fa.kul.ta.si]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[nuk.le.us]</td>
<td>[nu.kə.leu.si]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phoneme</th>
<th>Position</th>
<th>IPA Transcription</th>
<th>Korean Native II (Chung Ik Jae) 11 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>[s]</td>
<td>Final</td>
<td>[be.ras]</td>
<td>[ba.ra.si]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[ma.las]</td>
<td>[ma.la.si]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[ta.las]</td>
<td>[ta.lasi]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[nuk.le.us]</td>
<td>[nu.kə.leu.si]</td>
</tr>
</tbody>
</table>
Table 22. Insertion in Consonant codas by Korean Native III

<table>
<thead>
<tr>
<th>Phoneme</th>
<th>Position</th>
<th>IPA Transcription</th>
<th>Korean Native III (Lee Ju Young) 9 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>[r]</td>
<td></td>
<td>[ul.ar]</td>
<td>[u.ra.ri]</td>
</tr>
<tr>
<td>[s]</td>
<td>Final</td>
<td>[be.ras]</td>
<td>[bra.si]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[ma.las]</td>
<td>[ma.la.si]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[ta.las]</td>
<td>[ta.la.si]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[nuk.le.us]</td>
<td>[nu.kə.leu.si]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[mi.kros.kop]</td>
<td>[mi:.kro.si.kop]</td>
</tr>
</tbody>
</table>

From the data transcription on table 20, 21, and 22, phoneme [r] and [s] cannot stand as coda position in Korean language. The insertion is performed as a response to satisfy this constraint. For ‘ㅅ’ or [s] as coda, this consonant is neutralized to [t]. See example (28):

(28) 낳 [nat] ‘heal’
넷 [set] ‘three’
이것 [i.gət] ‘this’

The native Koreans tend to insert vowel [ɨ] as coda position rather than neutralize sound [s] as sound [t] as might cause confusion for native Indonesians. The insertion of vowel [ɨ] slightly modified the syllable structure of its word as presented by figure 10.

Figure 10. Syllable structure for sound [ta.las] and sound [tal.lasi]
In Korean language, liquid fills onset or coda. As it has been commented previously, liquids [l] and [r] are classified as allophones which are distributed according to their position in syllable structure: lateral [l] when filling the coda position, central [r] when in the onset (Heo & Lee 2004a). As a result, Korean natives also inserted vowel [i] in coda position after central [r] as it cannot be coda. It is more preferred to use [l] coda as might cause confusion and make the word sounds unnatural. However, modification of syllable structure does take place. Please refer to figure 11.

*Figure 11. Syllable structure for sound [ul.ar] and sound [ul.la.ri]*
When the syllable ends with [r] or [s], which cannot be as codas according to Korean phonological rule, they tend to insert vowel [ɨ] instead of neutralizing it to [t]. This is due to an interference language which in Korean loanwords from English also inserted vowel [ɨ] when the syllable ends with [s]. Please refer to the following loanwords in example (29):

(29) 스트레스 [sə.ɾə.si] ‘stress’
뉴스 [nyu.si] ‘news’

Meanwhile, for central [r] possible to insert vowel [ɨ] or to delete central [r] since in Korean language liquid is filled by lateral [l] in coda.

The writer calculated the relative average in percentage of insertion which is presented by chart 6.

Chart 6. The insertion of consonant codas

<table>
<thead>
<tr>
<th></th>
<th>Insertion of consonant codas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korean Native I</td>
<td>0.076</td>
</tr>
<tr>
<td>(1.5 years)</td>
<td></td>
</tr>
<tr>
<td>Korean Native II</td>
<td>0.076</td>
</tr>
<tr>
<td>(11 months)</td>
<td></td>
</tr>
<tr>
<td>Korean Native III</td>
<td>0.115</td>
</tr>
<tr>
<td>(9 months)</td>
<td></td>
</tr>
</tbody>
</table>
Referring to chart 6, the writer can see that insertion mostly happens to Korean native III who performed 11.5%. On the other hand, Korean natives I and II have the same percentage which performed 7.6%.
CHAPTER V
CONCLUSIONS

Based on the data analysis, the writer concludes that the interference of L1 does take place for Korean native speakers. The phonetics and phonology of Korean language, influence the Korean native speakers pronunciation of standard BI. However the deviation is not an absolute case for misunderstanding, as some deviations does not constitute different meaning.

The deviation was influenced by phonetic and phonology in Korean language which partly is a phonological interference. Phonological interference showed language phenomena both on influence of phonological and phonetic level. Interference on phonological level is reflected by the use Korean phonological pattern while in phonetic level is reflected by the use Korean consonants inventory which are not presented in the inventory of BI.

Besides that, some errors also occured to Korean native speakers. They produced a sound pattern which does not apply with the phonological rule of both BI and Korean language.

Referring to the data analysis, the Korean speakers seem to select the most optimum candidates to avoid the confusion for Indonesian speakers. For instance, the Korean native speakers prefer to insert vowel [i] when [s] in coda position rather than to follow phonological rule, which is neutralizing [s] to [t] in coda position. Further research must be conducted with the support of OT (optimally theory) to understand how the most optimum candidate is selected.
REFERENCE


