# AN ANALYSIS OF SCHWA (ə) DISTRIBUTION IN SASAK LANGUAGE *NGENO-NGENE* DIALECT SPOKENIN KOTARAJA VILLAGEEAST LOMBOK

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## ABSTRACT

This study is aimed to (a) find out schwa distribution in Sasak language *ngeno-ngene* dialect spoken in Kotaraja village East Lombok, (b) to find out underlying and surface representation of schwa in Sasak language *ngeno-ngene* dialect spoken in Kotaraja village East Lombok and (c) to derive rule underlying schwa in Kotaraja Phonology. This research applied descriptive qualitative method. The source of data was all linguistics expressions spoken by Kotaraja native speakers consisting of 13.510 people. A sample language was recorded from an informant who had fulfilled some criteria. The data were collected by observing, storytelling, and recording. The result of this study shows that schwa distributes on the last syllable of word followed by *k* and *ŋ* sound and also on open syllable of loan word borrowed from Bahasa Indonesia. Study finds that schwa is Surface Representation originated from Underlying Representation *u, I,* and *a* depending on its distribution. Furthermore, study reveals that *u* and *I* sound become schwa sound when it's followed by *k* and *ŋ* sound, and also *a* sound becomes *ə* sound when it appears on open syllable.

**Keywords:** Kotaraja Village, Sasak Language, Schwa Distribution

## INTRODUCTION

Sasak language is a regional language spoken by Sasak tribe living in Lombok Island, West Nusa Tenggara province, Indonesia. According to Austin (2000), this language has five major dialects to which he categorizes into: *Meno-Mene* (spoken by several parts in Central, East and West Lombok), *Ngeno-Ngene* (Central North East, Central East, and Central West of Lombok, *Meriaq-Merikuq* (South Central Lombk), *Ngeto-Ngete* (North Eastern Lombok), *Kuto-Kete* (North Lombok).

As an indigenous language, for many important reasons, -Sasak Language should be preserved. However, living in modern society brings some challenges for the new generations to know their language especially for those living in the city. Most of parents do not teach their children Sasak Language. Instead, they teach them Bahasa Indonesia as their mother tongue. In fact, there are so many children who are not able to speak their own vernacular. Time by time, Sasak native speakers leave their own language,

Sasak Language might decline someday. In the future, this language probably be a death language due to limitation of speakers. According to Dabley (2003), off the approximately 5.000 languages spoken around the globe today, it can be predicted that half will be lost during this century.

In order to prevent its extinct in the future, there should be a research in which the language is documented. Should a death language phenomenon happen in Sasak language, the research will assist future generations to learn their vernacular i.e., Sasak language on how the language is ruled. Thus, this research tends to give a little explanation about an ethnic language, that is Sasak language especially in Kotaraja Village, East Lombok, West Nusa Tenggara province.

This research focuses on a phonological phenomenon of schwa sound in Phonology of Kotaraja on the basis of its distribution. In Sasak language, there seem to be very few differences between speakers which can be clearly attributed to "dialect" differences. There are a few lexical items which seem to have restricted

distribution or specific pronunciation of individual lexical items, such as [ladik] 'knife' versus [ladək] 'knife'; note that Kotaraja Village speakers pronounce this word with a nucleus [ə] on the last syllable whereas the other Sasak speakers using different dialect, such as Kesik Village native speakers (living in Masbagik sub district, East Lombok) who use *meno-mene* dialect systematically use the corresponding [I]. Another example, Pringgajurang native speakers (living in Montong Gading sub district, East Lombok) said [kuniŋ] 'yellow'. Meanwhile a Kotaraja native speaker said [kunəŋ] 'yellow'. Nonetheless, these differences seem to be very limited. This phenomenon is not documented in the present work. It might be assumed that *I* sound would change into *ə* sound in the last syllable of each word. However, these illustrated data on table 1 need to be analyzed before concluding distribution of schwasound in Sasak language spoken in Kotaraja village.

Table 1. *Ngeno-Ngene* Dialect Spoken in Kotaraja Village

| Phonetic Transcription | 'Gloss' | Phonetic Transcription | 'Gloss' |
|---|---|---|---|
| ru-bIn | 'yesterday' | ma-nIs | 'sweet' |
| ma-ləŋ | 'thief' | mə-ra-rIʔ | 'married' |
| ma-lək | 'again' | tam-pIʔ | 'winnow' |
| man-dIʔ | 'to take a bath' | ku-nəŋ | 'yellow' |
| gun-təŋ | 'scissor' | kan-dək | 'axe' |
| pi-rəŋ | 'plate' | sun-tək | 'to inject' |
| pun-tIʔ | 'banana' | pa-tIʔ | 'trust' |
| a-pək | 'to becareful' | bi-dəŋ | 'black' |
| a-ŋIn | 'wind' | na-ŋis | 'to cry' |

The data above show a puzzle that needs to be solved. Data above show *I* and *ə* sound on the last syllable of each word. There is a possibility that those sounds come from the same phoneme as the existence of each sound is affected by its environment. The other word, both [I] and [ə] are two different allophones belonging to the same phoneme. In some words, /I/ changes into [ə] or vice versa depending on environment of the target sound. However, the others remain unchanged. It leads into an analysis on how schwa sound is distributed in Phonology of Kotaraja Village. This study is aimed to (a) find out schwa distribution in Sasak language *ngeno-ngene* dialect spoken in Kotaraja village East Lombok, (b) to find out underlying and surface representation of schwa in Sasak language *ngeno-ngene* dialect spoken in Kotaraja village East Lombok and (c) to derive rule underlying schwa in Kotaraja Phonology.

**RESEARCH METHOD**
**Research Design**

This research uses qualitative method using schwa distribution as the object of the study. This chapter briefly describes method of sample selection and the method used in collecting the data. Furthermore, it describes the technique used in analyzing schwa distribution in sasak language *Ngeno-Ngene* dialect spoken at Kotaraja Village, East Lombok.

The data of this research is all linguistics expression spoken by native speakers of Kotaraja Village, East Lombok. There are 13.510 people living there which consists of 4.156 KK. The data were taken from a staff of office as the informer who speaks Sasak language *ngeno-ngene* dialect.

A sample of language used by native speakers of *ngeno-ngene* dialect living at Kotaraja Village was recorded from one of the native speakers.

Considering that all native speakers of the language have the same language proficiency, this research used one informant on several criteria below:

1. The age of speaker is between 18-40 years old
2. She graduated from elementary school
3. She is a native speaker of *ngeno-ngene* dialect living at Kotaraja Village
4. She is health
5. She has good articulation

**Method of Data Collection**

There are three methods used by the writer in order to collect the data. They are observing, storytelling, and recording. The first one is observing, observing method is a process of collecting the data in which the writer comes to the field and determines an informant who complies the requirements.  The second one is storytelling; storytelling is a process to gain sufficient information from informants by asking the informant to tell about one of religion celebrations in Kotaraja village that the informant was experienced in 5 minutes. The third one is recording; recording is a process conducted in order to get the oral data. The writer uses a recorder to record storytelling told by informants.

**Data Analysis**

The data gained from informant taken from recorder were transcribed into written data based on appropriate spelling. Then, the data were transcribed into phonetic transcription using IPA (International Phonetic Alphabet).

From the data, only words containing [ə] in phonetic transcription which are phonology motivated were taken. Words containing schwa which are lexical conditioned were not taken into account. As a comparison, words which have the same target sound in spelling as schwa were used as well. For instance,

*magrib* [magrɪb] 'afternoon' and *kuning* [kunəŋ] 'yellow'. Both of the words contain the same target sound, that is [I], but they have different phonetic transcription.

In order to discover the pattern easily, the data were shorted into some groups. Those that include [ə] in surface representation were placed in column A. Those that exclude [ə] in surface representation were placed in column B. After sorting the data, the next step was listing the phonological environment. Environment refers to immediately preceding and following sounds (Peng, 2013). To determine the distribution of schwa, it is not necessary to list multiple identical environments. Thus, the repeated environments were removed, retaining only one instance for each type. To discover the distribution of schwa, the next step was to determine whether this sound appears in an environment that is distinct from the environment of comparable sounds. Thus, it is important to compare environment of the target sound.  After comparing the environment, it is found rules derived on the basis of schwa distribution.  Hence, conclusion was inferred by analyzing the rules.

**FINDINGS AND DISCUSSION**
**A. How Schwa Distributes in Sasak Language *Ngeno-Ngene* Dialect Spoken in Kotaraja Village**
*Schwa Distribution on The Last Syllable*

Schwa distributes on the last syllable of a word which has particular final consonants. This distribution is complementary because schwa distributes in mutually exclusive environment. The existence of schwa doesn't change the meaning of the words and its distribution is obviously predictable. On the last syllable of each word (containing *u* and *I* sound), schwa only appears in particular environment e.g. [k] and [ŋ].

Schwa and *u* sound are in complementary distribution because schwa

distribution satisfies two conditions. First, it appears in mutually exclusive environment. Schwa only appears on the last syllable of words which are followed by segment [k] and [ŋ]. Segment [u] appears on the last syllable of words which are followed by segment [ʔ], [n], [t], [l], [s], [m], [#]. The comparison of attested pattern of [ə] which is the unattested pattern for [u] indicates that the presence of [ə] before [k] and [ŋ] is the absence of [u] on that position as seen in the following table.

Table 2. The Attested and Unattested Pattern of [ə] and [u]

| Attested | Unattested | Attested | Unattested | Attested | Unattested | Attested |
|---|---|---|---|---|---|---|
| **əŋ** | *uŋ | uʔ | *əʔ | əŋ | *uŋ | uʔ |
| **ək** | *uk | un | *ən | ək | *uk | un |
| | | ut | *ət | | | ut |
| | | ul | *əl | | | ul |
| | | us | *əs | | | us |

Second, their distribution complements each other. Similarly, if [ə] and [u] are considered together, both sounds can appear in all environment. There are a total of nine environments: [ʔ], [n], [t], [l], [s], [m], [#], [k], [ŋ]. Segment [u] is found before allophone [ʔ], [n], [t], [l], [s], [m], [#]. Meanwhile. Allophone [ə] appears in the other remaining sounds.  Thus, it can be concluded that [ə] and [u] are in complementary distribution.

Schwa and *I* sound are in complementary distribution as well.

Comparing the following environments in which [ə] and [I] appear, it indicates that both sounds fulfill two conditions in their distribution. First, it appears in mutually exclusive environment. Allophone [ə] only appears if the target sound is followed by [k] and [ŋ]. While its counterpart, allophone [I], is found before segment [ʔ], [d], [#], [s], [b], [r]. As appeared on figure 8, by analyzing attested and unattested pattern of [ə] and [I], it can be seen that the presence of [ə] is the absence of [I].

Table 3. The Attested and Unattested Pattern of [ə] and [I]

| Attested | Unattested | Attested | Unattested |
|---|---|---|---|
| əŋ | *Iŋ | Iʔ | *əʔ |
| ək | *Ik | Id | *əd |
| | | I# | *ə |
| | | Is | *əs |
| | | Ib | *əb |
| | | Ir | *ər |

Second, both [ə] and [I], if considered together, will appear in all environment. There are eight environments: [ʔ], [d], [#], [s], [b], [r], [k], [ŋ]. Segment *I* appears before allophone [ʔ], [r], [d], [#], [s], [b], and [r]. Schwa is found in remaining two: [k] and [ŋ]. In other word, both [I] and [ə] complement each other. Hence, [I] and [ə] distribution is complementary.

b.  Schwa Distribution in Open Syllable

Schwa Distributes in open syllable which has nucleus *a* without coda. As stated earlier, this phenomenon happens in Sasak language which is in words borrowed from Bahasa Indonesia. Some lexical in Sasak language is loan words, for instance, word *desa* 'village' in Bahasa Indonesia will be *desə* 'village' in sasak language. Another example, word *aəara*

'event' in Bahasa Indonesia becomes *ačərə* 'event' in sasak language. Although it seems that sound *a* changes into *ə,* this

condition doesn't always happen. Schwa distribution can be seen in table 4 below.

Table 4. Distribution of [a] and [ə]

| [a] | | | [ə] | | |
|---|---|---|---|---|---|
| Phonetic Transcription | | | Phonetic Transcription | | |
| kə-bI-a-sa-an | VC | Closed syllable | ko-tə-rə-ĵə | CV | Open syllable |
| du-a bə-las | CVC | Closed syllable | ko-tə-rə-ĵə | CV | Open syllable |
| pas-Ti | CVC | Closed syllable | ko-tə-rə-ĵə | CV | Open syllable |
| al-kur-ʔan | CVC | Closed syllable | dɛ-sə | CV | Open syllable |
| pun-čaʔ-nə | CVC | Closed syllable | ə-čə-rə | V | Open syllable |
| pə-ŋa-ĵI-an | CV | Open syllable | ə-čə-rə | CV | Open syllable |
| pə-ŋa-ĵI-an | VC | Closed syllable | ə-čə-rə | CV | Open syllable |
| tu-an gu-ru | VC | Closed syllable | ŋə-Ĵi | CV | Open syllable |
| ĵu-mat | CVC | Closed syllable | lom-bə lom-bə | CV | Open syllable |
| sə-kI-sə-ran | CVC | Closed syllable | bə-čə | CV | Open syllable |
| kə-mam-pu-an | CVC | Closed syllable | bə-čə | CV | Open syllable |
| kə-mam-pu-an | VC | Closed syllable | du-ə pu-lu pI-tuʔ | V | Open syllable |
| bu-ah | VC | Closed syllable | sə-kI-sə-ran | CV | Open syllable |
| su-rat | CVC | Closed syllable | du-ə pu-lu | V | Open syllable |
| Ih-las | CVC | Closed syllable | I-sə | CV | Open syllable |
| ham-pIr | CVC | Closed syllable | tə-pe-rI-ŋə-tin | CV | Open syllable |
| mag-rIb | CVC | Closed syllable | | | |
| səm-bah-yaŋ | CVC | Closed syllable | | | |
| səm-bah-yaŋ | CVC | Closed syllable | | | |
| sə-kI-an | VC | Closed syllable | | | |

The first column shows [a] which remains unchanged as it occurs in closed syllable. Meanwhile, the second column indicates the presence of [ə] in open syllable. The presence of [a] on closed syllable is the absence of [ə] on that position and vice versa. This environment of the target sounds e.g. [a] and [ə] determines the surface representation of sound itself. Furthermore, the existence of both sounds doesn't change any meaning. In short, the distribution of these sounds is complementary.

Another explanation of this statement is that the distribution of those sounds has already fulfilled two criteria of complementary distribution as Peng

(2013) proposes. First, it occurs in mutually exclusive environment. The fact that schwa only exists in open syllable and its counterpart [a] appears in closed syllable (i.e., they don't overlap) clearly defines that those sounds appear in mutually exclusive environment. Second, both sounds, if considered together, complement each other. Both [a] and [ə] will be found in all environment: closed and open syllable. [a] appears in closed syllable, and another sound [ə] appears in open syllable. They both complement each other.

As discussed earlier that schwa exists in open syllable. However, there are exceptions found due to some factors.

Table 4 shows some words containing open syllable, this kind of environment is expected to appear schwa instead of *a* sound. Yet, the attested patterns reveal the opposite. This is the result of syllabification portrayed on table 5.

Table 5. Exception Due to Syllabification

| Word base | | | |
|---|---|---|---|
| kə-səm-p**a**-tan | sem-p**a**t | CVC | Closed syllable |
| nyə-rI-t**a**-aŋ | čə-rI -tə | CV | Open syllable |
| kə-bI-**a**-sa-an | bI-ə-sə | V | Open syllable |
| kə-bI-a-s**a**-an | bI-ə-s**ə** | CV | Open syllable |
| pə-ŋ**a**-ĵI-an | ŋə-Ĵi | CV | Open syllable |

[a]soundoccurs in open syllable of words as a result of syllabification. Those words in the first column such as [kə-səm-p**a**-tan][nyə-rI-t**a**-aŋ]  [kə-bI-**a**-s**a**-an] remain unchanged. Nonetheless, if analyzing the verb base of those words e.g. [čə-rI-tə] [bI-**ə**-sə], it will be found the fact that schwa exists in open syllable of those word. In short, exception exists due to syllabification.

The second exception is due to sociolinguistics factor. When telling her experience, the informant occasionally states word phrase or even a sentence using Bahasa Indonesia. She unconsciously combines Bahasa Indonesia and Sasak language in her speech as shown in following table 6.

Table 6. Informant's Speech Combining Sasak Language and Bahasa Indonesia

| Spelling | Phonetic Transcription |
|---|---|
| Lek kesempatan ine kente nyeritaang tentang acara atau kebiasaan dengan desa Kotaraja, Dusun Marang Selatan, Timuk Langgar | [lɛʔ kəsəmpatan Inɛ kəntə nyərItaaŋ **təntaŋacara ataw kəbIasaan** dəŋan kotərəĵə dusun maraŋ səlatan timuʔ laŋgar]. |
| Lek mbe Nabi Muhammad lahir tanggal dua belas rabi'ul awal. | [lɛʔ mbɛ nabI muhammad **lahIr taŋgal dua belas rabIʔul awal**]. |

Based on table 6, sentence *[lɛʔ kəsəmpatan Inɛ kəntə nyərItaaŋ **təntaŋ ačara ataw kəbIasaan** dəŋan kotərəĵə dusun maraŋ səlatan timuʔ laŋgar]* contains both Sasak language and Bahasa Indonesia. Words which are bold are words in Bahasa Indonesia. As explained earlier, word *acara* 'event' is expected to be *əčərə* because itconsists of open syllables *a-ča-ra.* Nevertheless, *a* sound remains unchanged. It occurs since word *acara* is surrounded by words in Bahasa Indonesia which are bold in the second column of table 6.

Furthermore, exception due to linguistics factor can be seen by comparing between column A and column B in table 7 below.

Table 7. Comparison of words [duə] with [dua] and [əčərə] with [ačara]

| A | B |
|---|---|
| [bIlaŋ dəŋan maulId lɛʔ dɛsə kotərəĵə Ino pastI araʔ **əčərə əčərə** maraʔ **əčərə** tarIk tambaŋ ŋakən kərupuk **əčərə** ŋəĵi **əčərə** lombə lombə bəčə alkurʔan]. | [lɛʔ kəsəmpatan Inɛ kəntə nyərItaaŋ təntaŋ **ačara ataw kəbIasaan** dəŋan kotərəĵə dusun maraŋ səlatan timuʔ laŋgar]. |
| [bulan mulut Inɛ tətəpnə təgawɛʔ leŋan laɛʔ Ino lɛʔ ĵəlo ĵumat **duə pulu pItuʔ** rabIʔul awal] [tərus muntə ŋatoŋ daptar sapaah Ino, [bəramal Itə pIrə pIrə Ihlastə sIʔ kəpɛŋ, səpulu, **duə pulu**, tələŋ dəsə] | [lɛʔ mbɛ nabI muhammad **lahIr taŋgal dua belas rabIʔul awal**]. |

In column A, word *acara* 'event' isfound several times and ithas phonetic transcription [əčərə] consistently. Exception doesn't exist there because the sentence in column A where word *acara* 'event' appears is full Sasak language. Meanwhile, its opposite in column B, word *acara* 'event' remains unchanged in spite of open syllable. It happens due to sociolinguistics factor; the informant mixes Bahasa Indonesia and Sasak language in the sentence. In short, it is obvious that sociolinguistics affects schwa distribution regarding the exception.

Another example is phrase [dua belas] [duə pulu] [duə pulu pItuʔ]. Those words have a difference on ə and *a* sound in word *dua* 'two'. Based on figure 11, in sentence *[lɛʔ mbɛ nabI muhammad lahIr taŋgal dua belas rabIʔul awal]*, the informant mixes Sasak Language and Bahasa Indonesia at the same time, words in Bahasa Indonesia are signed using bold including phrase *dua belas* 'twelve'. Thus it doesn't change into [duə]. Comparing to word *dua* 'two' contained by phrase *due pulu* 'twenty' and *due pulu pituk* 'twenty seven' in column A which use full sasak language, they both have the same phonetic transcription [duə] because it consists of open syllable [du-ə]. Hence, it is strongly clear that this exception is affected by sociolinguistics factor.

## B. Underlying and Surface Representation of Schwa
### Distribution of u and ə Sound

In this analysis, assuming idea that segment*u* and ə originate from one sound. It's questionable which sound that *u* and ə originate from. There are two possible answers for this question. First response is that both ə and *u* originate from sound *u.* Second response is both *u* and ə derive from sound ə.

First response assumes that *u* and ə has original sound *u.* This original form refers to underlying representation //UR// and the actual pronunciation of this form acts as surface representation (SR). A phoneme appears in underlying representation and allophones appear in surface representation. Thus, In order to find the underlying representation of schwa in this case, it's important to analyze the status of both sounds i.e. which one is categorized as a phoneme and allophones.

Figure 8. Distribution of *u* and ə Sound Among Distinct Environments

| [u] Following Environment | [ə] Following Environment |
|---|---|
| ʔ | K |
| n | ŋ |
| t | |
| l | |
| s | |
| m | |
| # | |

Based on distribution of both sounds among distinct environments, allophone [u] occurs in the greatest distinct environments, it appears before segment *ʔ, n, t, l, s, m, #.* Meanwhile, allophone [ə] only occurs before *k* and *ŋ* sound. Thus, sound *u* is the phoneme of allophone [u] and [ə]. In general, phoneme is an allophone occurring in the greatest number of distinct environment. It can be stated that *u* sound is a phoneme of allophone [u] and [ə]. Hence, phoneme /u/ appears in underlying representation and allophone [u] and [ə] in surface representation. Taking some data as examples, /UR/ and /SR/ of schwa can be seen in the following derivation.

| | | | |
|---|---|---|---|
| **UR** | /gubuk/ | /gibung/ | /dusun/ |
| **SR** | [gubək] | [gIbəŋ] | [dusun] |

### *Distribution of I and ə Sound*

Assuming idea that segment *I* and *ə* originate from one sound. It's questionable which sound that *I* and *ə* originate from. There are two possible answers for this question. First possibility is that both *ə* and *u* originate from *I* sound. Second possibility is both *u* and *ə* derive from segment *ə*.

In order to find the underlying representation of schwa in this case, it's important to analyze the status of both sounds i.e. which one is categorized as a phoneme and allophones. Both phoneme and allophone of a sound can be seen from their distribution. A sound found in the greatest number of distinct environments is a phoneme, and its counterpart will be allophones.

Table 9. Distribution of *a* and *ə* sound among distinctive environments

| [i] Following Environment | [ə] Following Environment |
|---|---|
| ʔ | k |
| d | ŋ |
| # | |
| s | |
| b | |
| r | |

Based on sound distribution shown in table 9, *I* sound occurs in the greatest distinct environments which appears before segment *ʔ, d, #, s, b,* and *r*. Meanwhile, segment *ə* is found in particular environment that is segment *k* and *ŋ*. It's clear that *ə* sound is an allophone which originates from phoneme /I/. In this case, sound *I* is the phoneme of allophone [I] and [ə].  Since *ə* sound is allophone of phoneme /I/, it will appear in surface representation. Moreover, its underlying representation contains phoneme *I*. This derivation is captured below.

| | | | |
|---|---|---|---|
| **UR** | /pIrIŋ/ | /masĵId/ | /lahIr/ |
| **SR** | [pIrəŋ] | [masĵId] | [lahIr] |

### *Distribution of a and ə Sound*

Considering idea that *a* and *ə* sound originate from one sound. There will be possibility that *a* and *ə* sound originate from one of these following two possible options. First possibility is that both *ə* and *a* sound originate from *a* sound. Second possibility is both *a* and *ə* sound derive from *ə* sound.

a) 
Phoneme /a/

Allophone [a] [ə]

b)
Phoneme /ə/

Allophone [a] [ə]
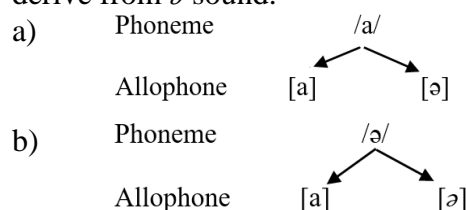
In order to find out which sounds appear in underlying representation and surface representation, it is important to know how those sounds are distributed among distinctive environments. A sound which appears in the greatest number of distinctive environments is the phoneme and it will be in underlying representation. Meanwhile, its counterpart will be allophone that appears in surface representation. Distribution of sound *a* and *ə* is shown on table 10.

Table 10. Distribution of [a] and [ə] among Distinctive Environments

| [a] Following Environment | [ə] Following Environment |
|---|---|
| ʔ | # |
| n | |
| ŋ | |
| s | |
| t | |
| h | |
| m | |

Based on their distribution among distinct environments shown in figure 18, *a* sound appears in the greater number of distinctive environments compared to schwa which appears in very specific environment. Segment *a* is found on syllables which are followed by various types of consonants. Instead, Schwa appears when the target sound is not followed by any sound. In other word, schwa occurs on the syllables which have no coda. The syllable is called as open syllable. Based on its distribution, it's obvious that segment *a* is phoneme of allophone [a] and [ə]. As consequences, phoneme /a/ is underlying representation and allophone [a] and [ə] are surface representation. Taking some data as example, /UR/ and /SR/ of schwa can be seen below:

## C. Phonological Rule Derived on the Basis of Schwa Distribution
### *Phonological Rule Accounting Schwa and u Sound*

Its been clear that both *u* and schwa sound originate from one sound, that is phoneme u. In derivation, phoneme appears in underlying representation and its allophones appears in surface representation like the following example.

| UR | /pIrIŋ/ | /tarIk/ | /lahIr/ |
|---|---|---|---|

**UR**          /gubuk/
          /gibung/          /dusun/
**SR**          [gubək]
          [gIbəŋ]          [dusun]

How /UR/ change into /SR/ is accounted by a phonological rule. Based on their distribution in previous discussion, phonological rule can be stated as below:

**u→ə/___[k,ŋ]**

Segment *u* becomes schwa when it's followed by *k* and *ŋ* sound. Segment *u* will remain unchanged when its followed by the other sounds.

### *Phonological Rule Accounting ə and I Sound*

It's been discussed that both schwa and *I* originate from one sound, that is phoneme /I/. Phoneme /I/ becomes allophone schwa when it's followed by *k* and *ŋ* sound. Meanwhile, phoneme /I/ will remain unchanged when it appears else where. It can be stated by the following phonological rule:

**I→ə/____k,ŋ**

As a phoneme of allophones [I] and schwa, phoneme /I/ appearS in underlying representation, its allophones (schwa and I) appear in surface representation. Phonological rule transforms UR to SR as the following derivation:

| UR | /pIrIŋ/ | /tarIk/ | /lahIr/ |
|---|---|---|---|
| I→ə/____k,ŋ | pIrIŋ | tarək | NA |
| SR | [pIrəŋ] | [tarək] | [lahIr] |

*I* sound becomes schwa when it's followed by *k* and *ŋ*sound. *I*sound will remain unchanged in word *lahIr* 'the birth' because it's followed by another sound which meansthe phonological rule is not applicable in this case.

### *Phonological Rule Accounting a and Schwa Sound*

It's been explained earlier that *a* and schwasound originate from one sound, that is sound *a.* Regardless the exception, it's clear that *a*sound remains unchanged when its followed by consonant. Instead, *a*sound changes into schwa when it occurs in closed syllables. It can be stated by the following phonological rule:

**a➔ə/___[-Consonant]**

Since *a*sound acts as a phoneme, it will appear in underlying representation. Furthermore, allophone *a* and schwa will appear in surface representation. Taking some data as the example, derivation of UR to SR using phonological rule will be:

| UR: | / ŋ**a**ĵI/ | /b**a**ča/ | /Ihl**a**s/ |
|---|---|---|---|
| a➔ə/___[-Consonant] | ŋ**ə**ĵI | b**ə**č**ə** | NA |
| SR | [ŋ**ə**ĵI] | [b**ə**č**ə]** | Ihl**a**s] |

Figure 20. Derivation for *ŋəĵI* 'reciting Al-Qur'an' *bəčə* 'to read' and *Ihlas* 'sincere'.

## CONCLUSION

Study shows that schwa distribution in Sasak language spoken in Kotaraja village is slightly unique. It distributes on some positions. It distributes on the last syllable of each word containing *u* sound which is followed by *k* and *ŋ* sound. Another case, it's found that schwa also distributes on the last syllable of each word appeared in the data which contain *I* sound followed by *k* and *ŋ* sound. Moreover, sound distributes in Sasak loan words borrowed from Bahasa Indonesia. It's found that schwa distributes in open syllable.

Study finds that schwa has several forms of underlying representation depending on its distribution. The first case, both *u* and *ə* derive from one sound (that is phoneme /u/) which makes phoneme /u/ as underlying representation and allophone [u] and [ə] as surface representation. The second case, since *I* and *ə* sound originate from the same sound (that is *I* sound*),* the underlying representation of these sounds is phoneme *I* and allophones [I] and [ə] are in surface representation. The third case, because *a* and *ə* sound originate from one sound that is phoneme /a/, phoneme /a/ is the underlying representation and allophone [a] and [ə] appear in surface representation.

Study shows that there are three kinds of phonological rules derived from the basis of schwa distribution as follows:

    a) Phonological rule accounting schwa and *u* sound
       u➔ə/___k, ŋ
    b) Phonological rule accounting schwa and *I* sound
       I➔ə/__k, ŋ
    c) Phonological rule accounting schwa and *a* sound
       a➔ə/__[-Consonant]

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