

A CROSS-LANGUAGE STUDY OF THE SPEECH SOUNDS IN YORÙBÁ AND MALAY: IMPLICATIONS FOR SECOND LANGUAGE ACQUISITION

Boluwaji Oshodi

Adekunle Ajasin University Akungba Akoko. Nigeria

Universiti Malaysia Sarawak, Malaysia

bolu_oshodi@yahoo.com

Abstract

Acquiring a language begins with the knowledge of its sounds system which falls under the branch of linguistics known as phonetics. The knowledge of the sound system becomes very important to prospective learners particularly L2 learners whose L1 exhibits different sounds and features from the target L2 because this knowledge is vital in order to internalise the correct pronunciation of words. This study examined and contrasted the sound systems of Yorùbá a Niger-Congo language spoken in Nigeria to that of Malay (Peninsular variety), an Austronesian language spoken in Malaysia with emphasis on the areas of differences. The data for this study were collected from ten participants; five native female Malay speakers who are married to Yorùbá native speakers but live in Malaysia and five Yorùbá native speakers who reside in Nigeria. The findings revealed that speakers from both sides have difficulties with sounds and features in the L2 which are not attested in their L1 and they tended to substitute them for similar ones in their L1 through transfer. This confirms the fact that asymmetry between the sound systems of L1 and L2 is a major source of error in L2 acquisition.

Keywords: sound system, Yorùbá, bahasa Malaysia, transfer, asymmetry, second language acquisition

Introduction

It is a fact that the sounds produced by human beings are not just utterances represented by letters but are regarded as functioning units of the sound system of a language which are called phonemes (Lindblom, 1990; Oyebade, 2007; Yusuf, 2007). Every language exhibits two types of sound contrasts which indicate phonemic and non-phonemic differences. These contrasts are usually based on some phonological features such as place and manner of articulation and the state of the glottis. There is ample evidence that L2 learners tend to transfer all the phonological features of their native language to the target language because such

learners are naturally equipped with the phonemes of their L1 and not those of the L2. This confirms that in the case of acquisition of sound system, transfer is usually mono-directional from the native language to the target language (Rochet, 1995). This is why studies on comparative sound system usually focus more on the areas of differences rather than similarities.

Objectives of the study

There have been many contrastive studies of numerous languages. However, there is no known work on contrastive studies which involves an Austronesian language and a Niger-Congo language particularly Yorùbá and Malay. The reason for this is not farfetched; the two languages belong to different language families and have never been in real contact. With the present influx of Nigerians into Malaysia to pursue their studies, and most of them being Yorùbá native speakers, the two languages are now seriously in contact as speakers of both languages interact formally and informally. Thus, this work attempts to compare the sound systems of the two languages and provide an insight into their patterns in terms of similarities and differences, with a focus on the latter¹. The aim is to account for the wrong pronunciation or substitution of sounds and features not attested in both languages and establish the fact that such sounds and features clearly constitute a source of error in either of the languages as L2. It also aims to identify such sounds and features by providing useful insights into why such sounds and features would likely constitute difficulties for them as L2 learners.

Sampling

Ten participants took part in this study; five native speakers of Malay and five native speakers of Yorùbá. The native speakers of Malay are all females who have been married to Yorùbá native speakers from Nigeria for over five years. They are high school graduates and speak English fairly well. They live with their spouses in Malaysia and are conversant with Yorùbá language since their spouses use it with their friends and also on phone when talking to their relatives back home in Nigeria. They all have the knowledge of Yorùbá albeit in a limited form. The five native speakers of Yorùbá are primary school graduates who are currently undergoing an apprenticeship programme at a private college. They have a limited knowledge of English and are not conversant with the Malay language at all. These sets of subjects were specifically chosen in order to minimise and check the effect of transfer from English. This is because English is a functional second language in both Malaysia and Nigeria. A good knowledge of English will definitely influence the pronunciation of some sounds not attested in both languages which may defeat the aim of the study in examining how L2 learners with no formal knowledge of the L2 sounds system and features which differ from those of their L1 would perform in the process of acquiring such L2 sounds and features.

Instrument

A 30-word list which contained all the consonant and vowel sounds in Malay was prepared. The list was given to the Yorùbá native speakers and they were asked to pronounce each word. Their pronunciations were recorded with the focus on sounds and features attested in Malay but not attested in Yorùbá (their L1). The same procedure was repeated with the Malay subjects; they were given a 30-word list which contained all the vowels and consonant sounds of Yorùbá and were asked to pronounce each word. Their pronunciations were recorded focusing on the sounds and features present in Yorùbá but absent in Malay (their L1). Three native speakers of Malay validated the data from the Yorùbá subjects while those of the Malay subjects were validated by the researcher who is a native speaker of Yorùbá.

Results and Analysis

The recorded words were analysed in terms of accurate pronunciation of the target sounds; the sounds and features that are absent in the subjects' L1 but are present in their L2. This was evaluated in order to account for the asymmetries between Yorùbá and Malay sound systems. The subsequent sections will address issues relating to the structure of the sound systems of both Yorùbá and Malay by looking at the sound inventories of both languages this would be followed by the results and analysis of the data collected for each of the features examined.

Consonants

According to Yusuf (2007), consonant sounds are produced by obstructing the air flow totally or partially at some points in the vocal tract. Oyebade (1992) observed that consonants are described in terms of place and manner of articulation (state of the glottis). The different states of the glottis as informed by the larynx for speech production is known as phonation. There are two main states which the glottis can assume in the production of speech sounds in all languages; voiced and voiceless states. These two states shall be examined in Yorùbá and bahasa Malaysia in order to have significant insight into the patterns of the consonant systems in both languages.

Yorùbá consonants

Yorùbá has eighteen phonetic consonant. They appear in bold form below:

1. **/b, t, d, k, g, p [kp], gb, f, s, ʃ [ʃ], h, j [dʒ], m, n, r, l, y[j], w/**

The consonants are illustrated with verbs below:

1. bú /bú/ 'to abuse'
hù /hù/ 'to germinate'

| | | |
|-----|-------|----------------------|
| de | /de/ | 'to arrive' |
| kí | /kí/ | 'greet' |
| ge | /ge/ | 'cut' |
| pè | /kpè/ | 'call' |
| gbà | /gbà/ | 'to take' |
| fọ | /fọ/ | 'wash' |
| sé | /sé/ | 'to deny' |
| şí | /şí/ | 'to open' (a door) |
| tà | /tà/ | 'sell' |
| je | /dʒe/ | 'eat' |
| mu | /mu/ | 'drink' |
| ní | /ní/ | 'to possess' |
| rà | /rà/ | 'buy' |
| lò | /lò/ | 'to use' |
| ya | /ja/ | 'to tear' (a dress) |
| wú | /wú/ | 'to uproot' (a tree) |

The above consonants are shown in Table 1.

Table 1
Yorùbá consonants

| Place of Articulation | Bilabial | Labio-Dental | Alveolar | Palato-Alveolar | Palatal | Velar | Labial Velar | Glottal |
|------------------------|----------|--------------|----------|-----------------|---------|-------|--------------|---------|
| Manner of Articulation | | | | | | | | |
| Plosive | b | | t d | | | k g | kp gb | |
| Fricative | | f | s | ʃ | | | | h |
| Affricate | | | | dʒ | | | | |
| Nasal | m | | n | | (ɲ) | | | |
| Tap | | | r | | | | | |
| Lateral | | | l | | | | | |
| Approximant | | | | | ɹ | | w | |

However, there is a controversial consonant in Yorùbá [ɲ] palatal nasal. Some speakers use it in place of the palatal approximant in certain contexts. For example, why some pronounce the word for pounded yam as [ijǎ] while others pronounce it as [ɲǎ]. Oyebade (2007) observed that the above consonants are all phonemic except [l] and [n] which alternate with each other in slow and allegro speech:

2. Òjó wa ni oko → Òjó wa loko
 Òjó be in farm "Òjó is in the farm"

Malay Consonants

According Clynes and Deterding (2011), the Malay language has eighteen primary consonants:

/p, b, t, d, k, gs, h, tʃ, dʒ, m, n, ɲ, ŋ, l, r, j, w/

Five consonants are borrowed: f, v, z, ʃ, x and the glottal stop [ʔ] which is controversial because some people see it as part of the Malay primary consonants (Asmah Haji Omar, 2008) while others see it as being borrowed from Arabic. In all, the consonant system is made up of 24 phonetic consonants; the phonetic consonants appear in bold form below:

/p, b, t, d, k, g, f, v, s, z, kh [x], sy [ʃ], h, ʔ, c [tʃ], j [dʒ], m, n, ny [ɲ], ng [ŋ], l, r, y [j], and w/.

The consonants are illustrated with examples below:

| | | | | | |
|----------|------------|-----------------|----------|----------|-----------|
| 1. Pisau | /pisau/ | 'knife' | masih | /masih/ | 'still' |
| Burung | /buruŋ/ | 'bird' | nama | /nama/ | 'name' |
| terbang | /terbaŋ/ | 'fly' | nyanyian | /ɲaɲian/ | 'song' |
| dua | /dua/ | 'two' | visa | /visa/ | 'visa' |
| kepala | /kepala/ | 'head' | faham | /faham/ | |
| | | 'understand' | | | |
| gigi | /gigi/ | 'tooth' | zakat | /zakat/ | 'tithe' |
| cari | /tʃari/ | 'search' | syarat | /ʃarat/ | 'rule' |
| jari | /dʒari/ | 'finger' | khidmat | /xidmat/ | 'service' |
| ladang | /ladaŋ/ | 'farm' | ngeri | /ŋəri/ | 'horror' |
| rumah | /rumah/ | 'house' | satu | /satu/ | 'one' |
| semut | /semut/ | 'ant' | hari | /hari/ | 'day' |
| baju | /baɟu/ | 'shirt' | bawang | /bawaŋ/ | 'onion' |
| dianggap | /diʔaŋgap/ | 'be considered' | | | |

The above consonants are shown in Table 2.

Table 2
Malay consonants

| Place of Articulation | Labial | Alveolar | Post-Alveolar | Palatal | Velar | Labial-velar | Glottal |
|------------------------|--------|----------|---------------|---------|-------|--------------|---------|
| Manner of Articulation | | | | | | | |
| Plosive | pb | t d | | | k g | | ʔ |
| Fricative | f v | s z | ʃ | | | | h |
| Affricate | | | tʃ dʒ | | x | | |
| Nasal | m | n | ɲ | | ŋ | | |
| Trill | | | | | | | |
| Lateral | | l | | | | | |
| Approximant | | | | j | | w | |

Discussion

From the consonant inventories of both languages, Yorùbá has 18 phonetic consonants while Malay has 24. Seven consonants are attested in Malay which do not occur in Yorùbá. They are /p, v, z, x, tʃ, ɲ and ʔ/. Thus, it is not surprising that all the Yorùbá native speakers had problems pronouncing the words in which these sounds occur in Malay. Consider the examples below:

5. pisang → /pisaŋ/ → /*¹kpisan/ 'banana'
- visa → /visa/ → /*fisa/ 'visa'
- zakat → /zakat/ → /*sakati/ 'tithe'
- khidmat → /xidmat/ → /*kidimati/ 'service'
- cari → /tʃari/ → /*kari/ 'search'
- ngeri → /ŋeri/ → /*ŋeri/ 'horror'
- nyanyian → /ɲanjan/ → /*nyanyian/ 'song'
- dianggap → /diʔanggap/ → /*diangapu/ 'be considered'
- bawang → /bawan/ → /*bawangi/ 'onion'

As shown in Example 5, the Yorùbá speakers substituted the Malay consonants with the closest ones in their own language hence, [kp] was substituted for [p], [f] for [v], [s] for [z], [k] for [x], [k] for [tʃ], [n] for [ɲ], and the glottal fricative [ʔ] was completely not realised because there is no similar sound for it in Yorùbá. The case of [k] for [tʃ] is particularly interesting because the expected substitute should have been [ʃ]. The reason for this is because in Malay [tʃ] is represented orthographically as /c/ which is completely alien to Yorùbá, and the closest sound to the sound [c] phonetically in Yorùbá is [k] and not [ʃ]. Furthermore, the sound [n] was substituted for [ɲ] and at the same time, the consonants 'y' in *nyanyian* 'song' and 'g' in *ngeri* ' were also retained by the Yorùbá native speakers. The reason for this is because in Yorùbá, the nasal in word initial position is a syllabic morpheme which indicates continuous tense in the language. Consider the examples below:

6. ń-l[ńl] 'is going'
- ń-b[ńb] 'is feeding'
- ń-ga[ńga] 'is growing'

This also explains why they do not have problem with the Malay nasals in initial position since the Yorùbá nasals are always syllabic in word initial position. The error in *bawang* 'onion' was due to the fact that Yorùbá consonants are always syllabic wherever they are preceded by a nasal (see ń-ga[ńga] 'is growing' in Example 6) because they usually constitute the onset of a syllable in that position. However, the Yorùbá speakers do have problems with the consonants **sy** [ʃ], **ny** [ɲ] and **ng** [ŋ] based on the fact that phonemically they occur as a single sound in Malay but are

¹ This indicates incorrect form due to the wrong pronunciation of the target feature.

distinct phonemes in all contexts in Yoruba. The fact that consonant cluster as well as consonant final position is not permitted in Yorùbá helps explain why all the consonant clusters in the Malay words were broken up with a vowel (see *khidmat* in Example 5) and a vowel inserted in front of all the Malay words which end in consonant (see *khidmat* and *dianggap* in Example 5) by all the Yorùbá subjects. On the other hand, only two consonants are attested in Yorùbá which are alien to Malay and they are the voiceless and voiced labial velar sounds /kp and gb/. All the Malay subjects had problems pronouncing them. Consider the examples below:

7. apá → /akpá/ → /*apa/ 'arm'
 alápata → /alákpatà/ → /*alapata/ 'butcher'
 igbá → /igbá/ → /*ig-ba, *iba/ 'two hundred'
 àgbàlagbà → /àgbàlagbà/ → /*abalaba, *ag-balag-ba/ 'elder'

As shown in Example 6, the Malay speakers substituted [p] for [kp] for two likely reasons; firstly, orthographically the [kp] sound is represented as [p] in Yorùbá which is a prominent consonant in Malay, and secondly, the closest sound to [kp] in Malay is [p] based on place and manner of articulation. For [gb], two things were noticed; three of the Malay subjects substituted [b] for [gb] while the other remaining subjects separated the g from the b, thereby treating them as different sounds. The three subjects who substituted [b] for the sound must have been influenced by place and manner of articulation; both [gb] and [b] are bilabial sounds while [g] is a velar sound hence there was no error such as *agalaga but *abalaba. The two subjects who separated the sound into two syllables must have been transferred from their L1 which allows consonant cluster. Since Yorùbá does not allow consonant cluster, [kp and gb] are single phonemes in the language which cannot be separated.

Vowels

Vowels are sounds produced with very little obstruction to the air passage in the vocal tract. None of the articulators come close enough to impede air flow (Yusuf, 2007).

Yorùbá Vowels

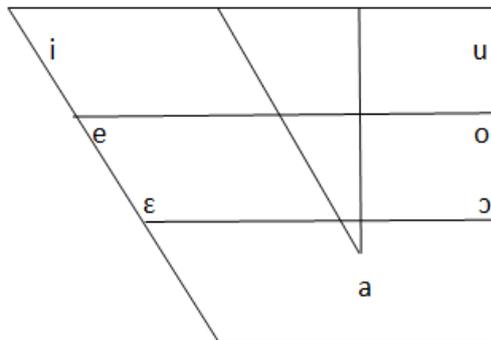
There are seven oral /a, e, ε, i, o, ɔ, u/ and four nasal /ã, ĩ, ẽ, õ/ vowels in Yorùbá, the oral vowels are represented in the words below:

8. /a/ Jà 'fight'
 /e/ ké 'cry'
 /ε/ bẹ 'beg'
 /i/ rí 'see'
 /ɔ/ ló 'go'
 /u/ tú 'untie'

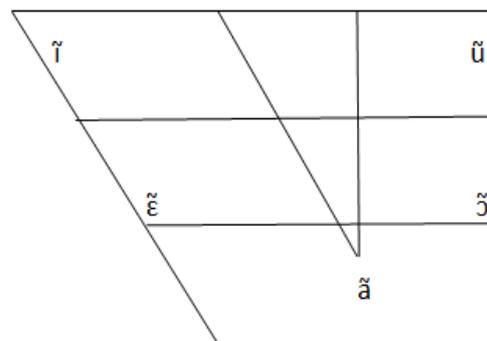
Examples for the nasal vowels are:

9. /ã/ iyã 'pounded yam'
 /ɛ̃/ iyɛ̃ 'that (demonstrative)'
 /ĩ/ itĩ 'lap'
 /ĩ/ 'irĩ 'iron'
 /ũ/ 'irũ 'hair'

Yorùbá oral vowel chart



Yorùbá nasal vowel chart

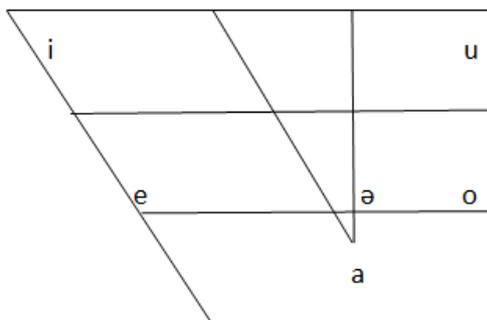


Malay Vowels

There are six vowels in Malay (all oral), they are; /a e i o u ə/.

10. /a/ ayam 'chicken' /u/ ular 'snake'
 /e/ esok 'tomorrow' /o/ oranj 'person'
 /i/ itik 'duck' /ə/ pərang 'war'

Malay vowel chart



Discussion

A comparison of the Yorùbá and Malay vowel systems revealed some differences between the two systems particularly in the area of nasalisation since there are no nasal vowels in Malay. However, the nasal vowels did not pose any difficulty for the Malay subjects. The reason may likely be because Malay attests nasals both in word initial and final positions. Two vowels, namely, [ɛ and ɔ]², are attested in Yorùbá which are absent in Malay, indicating that all the Malay subjects had problems with their realisation. Consider these examples:

- 11. ẹyẹ /ɛyɛ/ → /*eye/ ‘bird’
- omọ /ɔmɔ/ → /*omo/ ‘child’
- ọbẹ /ɔbẹ/ → /*obe/ ‘soup’
- ẹkọ /ɛkɔ/ → /*eko/ ‘pap’

In the first two examples, the Malay subjects substituted [e] for [ɛ] and in the last two examples they substituted [o] for [ɔ]. The reason for this is clear; the two sounds used as substitutes are the closest to the two Yorùbá sounds which are not found in Malay in terms of place and manner of articulation. For example, [e and ɛ] are mid front vowels while [o and ɔ] are mid back vowels. There is only one vowel in Malay which is totally alien to Yorùbá and that is [ə]. As expected, all the Yorùbá subjects had problems pronouncing the sound in all the tested words in which it occurred. Below are examples:

- 12. perang → /pəraŋ/ → /*perangi/
- semakin → /səmakin/ → /*semakin/
- mengenai → /məŋənai/ → /*mengenai/

As shown in Example 12, the Yorùbá subjects substituted [e] for [ə]. In fact the word *mengenai* ‘about’ was pronounced exactly the way it is written phonetically which shows a direct transfer of the knowledge of Yorùbá to Malay.

Tones

Yorùbá is a tone language with three tones, high tone [´], low tone [˘] and the mid tone [ˊ] which is always left unmarked. Tone is a very important feature in Yorùbá because it performs lexical function. Consider the examples below:

13. igbá ‘calabash’
 igba ‘two hundred’
 igbà ‘climbing rope’
 ìgbá ‘garden egg’
 ìgbà ‘time’

It is only vowels that take tones in Yorùbá however; the two nasal consonants (m and n) can take tones in context where they become syllabic. For example:

14. òrombó ‘orange’
 Oṅdó ‘a town’

As shown above, Yorùbá is a tone language while Malay is not. All the Malay subjects placed the Yorùbá tones wrongly in virtually all the contexts of occurrence. It would be correct to say that the major problem encountered by all the Malay subjects with the Yorùbá sounds system had to do with tone marking; the wrong tone placement on words disrupted all the words that were tested since the words all contained tones. Consider the examples below.

15. alápatà → /alákpata/ → /*alapata/ ‘butcher’
 àgbàlagbà → /àgbàlagbà/ → /*abalaba, *ag-balag-ba/ ‘elder’
 ìbàjé → /ìbàjé/ → /ibaje/ ‘indiscipline’
 olówó → /olówó/ → /*olowo/ ‘a wealthy person’
 ọ̀bẹ̀ → /ɔ̀bẹ̀/ → /*obe/ ‘soup’
 ẹ̀kọ̀ → /èkɔ̀/ → /*eko/ ‘pap’
 omọ̀ → /ɔ̀mɔ̀/ → /omo/ ‘child’

As shown in Example 15, all words except the last one revealed that tone marking is completely absent from all of the words (except the last one) mainly because tone is not a feature of Malay. This explains why all the Malay subjects failed to mark the tone at all. The last example would be correct (in respect to tone marking) because the two syllables in the word carry the mid-tone which is usually unmarked in Yorùbá.

Conclusion

This study examined the sound systems and features of two unrelated languages with data from native speakers of both languages. The results revealed a lot of interesting facts in relation to the issue of pronunciation in second language acquisition. In the area of consonants, Yorùbá learners of Malay as L2 experienced more problems with the consonant sounds than the Malay learners of Yorùbá based on the fact that a higher number of consonants which are attested in Malay do not occur in Yorùbá. On the other hand, the Malay learners of Yorùbá had more problems with vowels because of the two vowels attested in Yorùbá but absent in Malay. Furthermore, both Yorùbá and Malay subjects transferred features of their L1 to the L2 by substituting similar sounds in their L1 for those in the L2 which are absent in their L1.

The most obvious disparity comes from the area of tone marking where all the Malay subjects had serious difficulties with tone marking on Yorùbá syllables. However, one issue remains unclear, and that has to do with why the Malay subjects used only the mid-tone on all Yorùbá syllables in all the tested words but neither the high nor the low tone was used at all. This is an issue that requires further research.

However, studies such Best, McRoberts, and Sithole (1988), Fledge (1995) and Eckman (2008) have observed that differences between the sounds systems of languages do not automatically denote area of difficulty for L2 learners. While this may be true, it must be emphasised that the position taken in this study is based on the data examined as none of the subjects received any formal instruction on the sound systems and features of the L2 on which they were tested. The subjects were all tested as L2 learners who were equipped with the knowledge of the sound system of their L1 and this was what they brought to the L2 context in this case.

In conclusion, the findings from this study clearly revealed that the difficulties the subjects experienced with the sounds system of the L2 can be attributed mainly to the differences between the sounds systems of their L1 and the L2. This corroborate the claims of earlier studies such as Costamagna (2003), Laurent and Philippe (2007) and Avanika, Niroj, Ambalika, and Shastri (2009) which emphasise that those differences in the area of sound systems and features between L1 and L2 definitely constitute a difficulty for L2 learners in the acquisition of L2 sound system.

Notes

¹Contrastive Analysis Hypothesis (CAH) (see Lado, 1957) normally compares two languages to identify areas of similarities and differences with focus on the differences based on the premise that it is the differences that are likely to be problematic for L2 learners. Though CAH has been shown to have some flaws by latter studies (e.g The Marked Differential Hypothesis by Eckman, 2008), the concept still remains relevant to second language acquisition (SLA), particularly in terms of showing structural differences between L1 and L2.

² In Yorùbá, [ɛ] is represented orthographically as ẹ and [ɔ] as ọ.

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