

PHONOLOGICAL PROCESSES IN THE ADAPTATION OF SELECTED ARABIC LOANWORDS INTO YORÙBÁ

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Abstract

There are many assimilated Arabic loanwords in Yorùbá language due to the contact of both languages. Meanwhile, much work has not been done on detailed explanations of phonological processes of Arabic loanwords in Yorùbá language. Therefore, the objective of the paper is to examine the phonological processes involved in Arabic loanwords in Yorùbá. Data were gathered through the review of books, articles in learned journals and English translation of Holy Qur'an including internet searches. Optimality theory is a theoretical framework used in the analysis of the data collected. Also, the source of Arabic language and reasons for loaning Arabic words into Yorùbá language are explained vividly. The similarities and differences of letters between the two languages are not excluded from the study. The comprehensive explanations of deletion, replacement of sounds, insertion, reduplication and assimilation on occurrence of Arabic loanwords in Yorùbá language are highlighted. Findings of the study reveal that where there are similar consonant cluster, one of such consonants will be deleted, and high tone vowel 'í' will be inserted to separate the consonant cluster. Furthermore, the findings reveal that consonants occurring in word-final position are deleted when loaning Arabic word into Yorùbá because syllable structure of Yorùbá does not allow the word-final consonant in a word. It is concluded that this paper contributes to scholarship on phonological adaptation by examining various phonological processes involved in loaning Arabic words into Yorùbá language. It is recommended that scholars should collate all assimilated Arabic loanwords in Yorùbá and publish them in a book for prospective researchers.

Keywords: *Phonological processes, loanwords, Arabic language, Yorùbá, consonant sounds.*

1.1 Introduction

Human beings are characterised by speech sounds which are produced through the organs of speech production. Each of the produced sounds is arranged systematically to form a meaningful word in a language. In Yorùbá language, there are three main sounds; these are vowel, consonant and tone. The combinations of consonant and vowel sounds with an appropriate use of three level tones (low, mid and high tones) are referred to as phonology (Owólabí, 2011). The contact of two or more languages via religion, economic, education, politics, etc, necessitates lexical borrowing. This enables some words to be loaned for use in another language. Such loanwords will have to be integrated in the new language and the pronunciation of words will be in accordance with the existing sounds in a language (Oyadèyí, 2007). When the words are loaned from Arabic to Yorùbá

language, it enriches the Yoruba lexicon. The occurrence of Arabic words in Yorùbá will enable the appropriate lexical choice and mutual understanding between the speakers of the language.

Loanword is a process of taking lexical items from one language and integrating them into another with or without modification (Oyinloyè, 2020). It means that loanword is a word in which a receiver language borrowed from a donor language for its use permanently. Many loanwords are originated and have been incorporated into Yorùbá language through Hausá, Russia, French and English languages. Among the scholars who have worked on loanwords in Yorùbá language are Abdul (1976), Malik (1995), Owólabi (2010), Adéyemí (2016) and Oyinloyè (2020). However, none of the above-mentioned scholars made clear explanations of the phonological processes

involved when integrating Arabic loanwords into Yorùbá language.

African languages are classified into four language family. These are Afro-Asiatic, Nilo-Saharan, Niger-Kordofania and Khoisan. Niger-Kordofania language is sub-divided into New Niger-Congo and Kordofania languages. Yorùbá is one of the Kwa languages under the classification of West Benue-Congo which can be found under the Niger-Congo language family. Other languages which are under the Niger-Congo are West Atlantic, Mande, Kru, Gur, Kwa, Adamawa-Eastern and Benue-Congo (Greenberg, 1963, as cited by Amusat, 2016). Yorùbá is one of the three major languages spoken in southwestern Nigeria, other languages are Haúsá and Ìgbò (Amusat, 2024). The Yorùbá speakers are predominantly found in states like Òyó, Ògùn, Òsun, Oñdó, Lagos, Èkìtì, Kwara and western part of Kogí states. Yorùbá has eighteen consonants, five oral and seven nasal vowels (Arókoyò & Olágúnjú, 2019). Words may be loaned from Arabic language with or without any modification in Yorùbá language by means of phonological processes. Arabic language can be traced to Afro-Asiatic group, while Yorùbá language is a sub-language of Niger-Kordofania. This paper seeks to investigate how the languages that are not in the same language family are inter-related in term of phonological processes. Therefore, the concern of this paper is to examine the phonological processes involved to substantiate the incorporation of Arabic loanwords in Yorùbá language. This is the gap that this research work wants to fill.

1.2 Objectives of the Study

The general objective of the study is to examine the phonological processes as means of incorporating selected Arabic loanwords into Yorùbá language. The specific objectives of the study are to:

- (i) identify Arabic loanwords that share similar pronunciation and orthographic representation in Yorùbá.
- (ii) find out the Arabic consonant sounds which can be replaced by Yorùbá consonant sounds when loaning Arabic words into Yorùbá.
- (iii) explain the process of deletion of consonant

sounds in Arabic loanwords in Yorùbá.

- (iv) explore the method of inserting vowel sounds when loaning Arabic words into Yorùbá.

1.3 Theoretical Framework

Optimality Theory (OT) is a theoretical framework in linguistics which posits that the observed forms of language arise from the interaction of two languages. i.e. the original and target languages. In this paper, Arabic refers to the original (or donor) language, while loanwords in Yorùbá can be referred to as the target (or receiver) language. OT presents that linguistic outputs are the results of selecting the most optimal candidates from a set of possible forms, based on ranked constraints that govern phonological and syntactic structures. OT is used for the explanation of how Arabic loanwords are assimilated into Yorùbá language. Therefore, Davenport and Hannahs (2010) explain *optimality theory*.

as:

A theory that dispenses with phonological rules and proposes that the relationship between an underlying form and its surface realisation is not derivational in nature. It proposes instead that there are underlying forms by means of a set of constraints. It expresses deletion, insertion, assimilation, metathesis and reduplication.

It means that putting a sound in a word allows the two words to be related orthographically. Also, optimality theory has nothing to do with word formation. It deals with disappearance of a sound, gives room for replacement of a sound with one another and reduplication of syllables. In other words, Prince and Smolensky (1993) as cited by Àkànbí (2013) explains optimality theory as follows:

Different constraints have been universally proposed for the analysis of different phonological processes in language. Such constraint is faithfulness constraint which sees that there is identical form between the input and output. Members of the constraints include maximality,

dependency and uniformity inputs-output. Maximality input-output stipulates that a segment in underlying input should correspond to some segments of the surface. Dependency input-output expresses a requirement that outputs' representations should be dependent on the input, while uniformity constraint forbids coalescence that is, two segments cannot combine to form out in the output.

The above extract shows that many constraints and phonological processes occurred in the analysis of a language. Such constraints establish it that there is relationship between the underlying word and the surface level of the word. Also, optimality theory does not deal with fusion of two sounds to become another different sound. OT is concerned with deletion, insertion, assimilation, metathesis and reduplication in the analysis of the Arabic loanwords in Yorùbá language.

The key principles of OT are faithfulness constraints, markedness constraints and constraint ranking. Faithfulness constraints seek to ensure that there is identical form between input and output. It means that every input segment serves as the output on the surface level. Faithfulness constraints are sometimes referred to correspondence constraints. Also, Faithfulness constraints require that identical form in some features is to be maintained between the input and output representations (Oyèbádé, 1998; Batais, 2019).

Markedness constraints deal with specific structural configuration. It ensures that language-specific differences come into play either to create contrast, or to give priority to cross-linguistically preferred forms (Clark, Yallop & Fletcher, 2007). In addition, NoCoda expresses the universal tendency for languages to prefer syllables with Coda i.e. word-final consonant (Davenport & Hannahs, 2010). It means that the said constraints allow a word not to have a last consonant. The optimal output is structurally well-formed. Moreso, constraint ranking ensures that two of the constraints appear to be contradictory as long as the 'right' one is ranked higher than the other.

Optimality Theory (OT) specifically explains that Arabic loanwords into Yorùbá adaptation satisfy a hierarchy of ranked and violable constraints. There exist consonant clusters or consonant at word-final position in Arabic words. OT evaluator (Eval) favours candidates that best conform to Yorùbá syllable structure (Consonant vowel, CV) by reranking consonants to settle conflicts between the original Arabic and native Yorùbá grammars (Ehinemi, 2023). In addition, OT settles conflicts between Faithfulness (keeping the original Arabic sound) and Markedness (Yorùbá strict structure rules). Whenever the Arabic words are loaned into Yorùbá, Eval enables the best candidate that satisfies Yorùbá's high-ranked phonotactics constraints. This means that OT seeks to know how well the candidate conforms to expected syllable structure, phonotactics, resemblance to the input, and other criteria. It also determines which candidate fares best relative to the set of constraints. A candidate is an infinite set of randomly generated outputs from a single underlying form. One of these candidate outputs will be selected as optimal (Davenport & Hannahs, 2010; Kassar, 2020). Therefore, the processes by which Arabic loanwords are adapted into Yorùbá include the following:

- (i) There will be deletion of one consonant clusters of Arabic or insertion of vowel to separate the unwanted consonant cluster when the words are loaned into Yorùbá.
- (ii) There is deletion of consonant sound which exists at the word-final position of Arabic words when loaning such words into Yorùbá.
- (iii) The consonant sounds of Arabic which do not exist in Yorùbá alphabets are outranked by markedness constraints and replaced by appropriate Yorùbá consonant sounds.
- (iv) Appropriate Yorùbá tones, such as low, mid and high, are applied on assimilated Arabic loanwords into Yorùbá because Arabic is a stress-timed language.

1.4 Methodology

1.4.1 Research Design

In linguistic research, a qualitative comparative-

descriptive survey research design is used to analyse lexical phenomenon. The purpose of the adopted design is to examine, describe and compare the phonological processes as means of incorporating Arabic loanwords into Yorùbá.

1.4.2 Sampling Procedure

The researcher obtained the data through primary and secondary sources. The primary source involves the direct contact of pronunciation of Arabic loanwords in Yorùbá made by the Yorùbá speakers. The secondary source involves reading through the various published books and peer-reviewed journals in order to obtain the selected Arabic loanwords into Yorùbá. Also, other data were obtained on internet.

1.4.3 Data size

There are many Arabic loanwords that had been assimilated into Yorùbá. Due to the scope of this study, seventy-five (75) lexical items were selected for analysis.

1.4.4 Criteria for Selecting Loanwords

The selection focused on frequency used Arabic loanwords representing the types of loanwords. These are loanwords in accordance with spellings and pronunciation. Firstly, loanwords by spellings involve writing of Arabic loanwords in Yorùbá in accordance with the ways the words are spelt. Secondly, Arabic words are loaned through pronunciation in Yorùbá. This may be indirect borrowing which occurs when a word enters a language through an intermediary language (Tijání, 2015). For instance, *Al'basal* came from Hausa to Yorùbá through Arabic. Each of the selected Arabic loanwords in Yorùbá was verified for usage frequency. Only commonly used or dictionary-recognised items are included to ensure linguistic validity.

1.4.5 Analytical Procedure

There are four-stage model employed for the analysis of the selected Arabic loanwords in Yorùbá. The said model was developed by Haugeris (1950) and Haspemosh's (2009) framework as cited by Jaloliddinovna (2025). These are identification, classification, adaptation analysis and comparative interpretation. First of all, identification refers to method of identifying loanwords from various texts and English transliteration of Arabic Qur'an. Also,

classification deals with putting each loanword to one of the two categories (Loanwords by spellings and pronunciation). In addition, adaptation analysis explores phonological and semantic adaptations of how Arabic loanwords are assimilated into Yorùbá. The comparative interpretation deals with an act of comparing the Arabic consonant and vowel sounds including the lexical items (words) with Yorùbá.

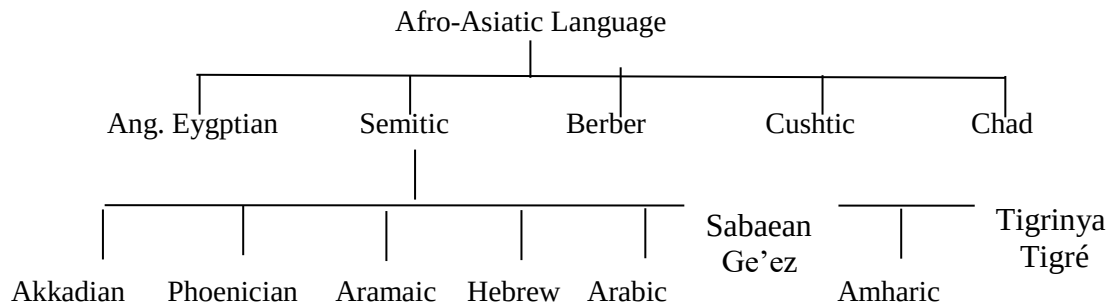
1.4.6 Methods of Validity and Reliability

The data collected were gathered by the researcher. They were validated by the experts in the Departments of Arabic and Yorùbá, Federal College of Education (Special), Oyo. This was done to ascertain the accuracy of the instrument by establishing whether the instrument focuses on the information they are intended to obtain. Validity was established by checking Roman transliteration of the Holy Qur'an with full Arabic text and English translation. Also, the researcher consulted various peer-reviewed publications in order to ensure that the data maintained the lexical validity. In other words, the data collected were tested to determine its reliability. This was done by cross-checking the Arabic loanwords across the above mentioned two independent sources.

2.0 Sources of Arabic Language

Afro-Asiatic language group is one of four major classifications of African languages. It can be further classified into Ang. Egyptian, Semitic, Berber, Cushtic and Chad. Also, Semitic is classified into eight language groups such as Akkadian, Phoenician, Aramaic, Hebrew, Arabic, Sabaeen, Ge'ez, Ambaric and Tigrinya, Tigré (Greenberg, 1963 as cited by Amusat, 2016 & Hisah, 2018). The following diagram can be suggested and presented to represent the language groups which are under the Semitic as in Table 1.

(1) Diagrammatic Representation of Afro-Asiatic Language



In the above diagram, it is observed that Arabic language is one of the languages which is classified under the Semitic language which is a sub-language of Afro-Asiatic language group. Arabic language is a standard language of people who have other spoken languages. It has over 80 million speakers in East Central of the universe. Also, it is one of the national languages for United Nations Organisation, African Union and Federation of International Football Association (Folorunso, 2009, as cited by Hisah, 2018).

2.1 Reasons for Occurrences of Arabic Loanwords in Yorùbá Language

According to Abdul (1976), many Yorùbá language words could be traced to Arabic language. This might be because of two possible reasons: cross-cultural contact of the two communities and related-ancestral origin. The former means that the Arab and Yorùbá might have similar culture as a result of trade contact or migration. On the other hand, there is possibility of sharing the similar ancestral origin between Arab and Yorùbá. Many

theories had been postulated on this. There is a suggestion that the Yorùbá were originated in Arabia or Egypt. Odùduwà, the great ancestor of the Yorùbá, was the son of Lámúrúdu, king of Mecca who migrated west-wards until he arrived at Ifè where he settled. Based on this, there are tendency for both communities to be inter-related. The language of the Arab is called Arabic (language), while the language spoken by Yorùbá is called Yorùbá (language).

2.2 Arabic and Yorùbá Language Letters

According to Longman Group (2012), letter is a sign in writing or printing that expresses a speech sound. This means that the representation of a speech sound in writing or printing form through a sign is called a letter. Both Arabic and Yorùbá are making use of letters in writing or printing signs on the book in order to enable someone to read or pronounce it. Adéyemí (2016) points out the following as where the letters of both languages are inter-related or distinct to each other as in Table

(2)

Yorùbá Letters	Arabic Transcription	English Language	Transcription
A	Alif Hamza	A	[a]
Bí	Ba	B	[b]
Ti	Ta	T	[t]
Ji	Jim	J	[dʒ]
Hi	Ha	H	[h]
Di	Dal	D	[d]
Ri	Ra	R	[r]
Si	Sin	S	[s]
Şi	Shin	Ş	[ʃ]
Fi	Fa	F	[f]

Gi	Ghayn	G	[g]
Ki	Kaf	K	[k]
Li	Lam	L	[l]
Mi	Mim	M	[m]
Wi	Wa	W	[w]
Yi	Ya	Y	[j]

It is observed in Table 2 that the same letter started the written forms in both Arabic and Yorùbá languages. It is only the pronunciation of the letters in both languages that are different. Also, the following are the different letters which exist between the two languages as in (3).

- (3) Yorùbá Letters –È, É, GBì, O, Ọ, Íí, Pí, Ú.
Arabic Letters -Tha, Kha, Aayy, Šad, ayn, alif, Ha

3.0 Processes Involved in Loaning Arabic Words to Yorùbá Language

The reason for the occurrences of Arabic words in Yorùbá is as a result of interference and non-

existence of certain consonant phoneme in Yorùbá language. Therefore, the changes of Arabic words in Yorùbá might be due to plosive and fricative sounds (Malik, 1995 as cited by Amusat, 2022). There are different ways by which Arabic loanwords can be incorporated into Yorùbá. These may be perceptual and orthographical assimilation.

Loanwords by Perceptual Assimilation: These are the words loaned from Arabic and they are written in accordance with their written form/spellings in Yorùbá language as shown in Table 4.

(4)

S/N	Arabic	Yorùbá	Transcription	Gloss
i.	riba	ribá	[riba]	usury, bribe
ii.	Malaika	Màláíkà	[malaika]	Angel
iii.	halaka	hàlákà	[halaka]	to destroy

In Table 4 above, it is seen that there is no phonological process occurred rather than orthographical assimilation of how the words are pronounced in Yorùbá. It is because the same spellings are used in both Arabic and Yorùbá languages.

Elision (or Deletion): This is the disappearance of a sound in a rapid speech (Òsísánwó, 2009). It means that a sound disappears in a word. In addition, deletion rules involve a segment that is present at the underlying level and it is removed at the surface level (Arókoyò, 2013:143). The deletion could be that of a consonant, vowel or tone. The first-two sounds are the focus of this

paper. There may be elision of consonant or vowel sound when a word is to be incorporated from Arabic to Yorùbá language.

Consonant Elision: This occurs when an attempt is made to avoid complex consonant clusters or simplification of clusters (Jones, 2003). There are different ways by which consonant sound can be deleted in an Arabic word. Firstly, a consonant can be removed in a word of a language. It means that there are words in Arabic language whereby glottal sound which occurs at the word-final position in Arabic language is deleted to assimilate it in Yorùbá language. This can be exemplified in Table 5.

(5)

S/N	Arabic	Yorùbá	Transcription	Gloss
i.	sa'ah	sáà	[saa]	session, time
ii.	ibaadah	ìbáádà	[ibaadah]	service, divine
iii.	musibah	mùsíbà	[mūsiba]	misfortune

It is noticed in Table 5 that consonant 'h' which occurred at the end of the word in Arabic is deleted in Yorùbá

language. Also, consonant ‘h’ which occurred in either at the first or last syllable of an Arabic word is deleted in Yorùbá language. This is in accordance with the syllable structure/ patterns of Yorùbá language as shown in Table 6.

S/N	Arabic	Yorùbá	Transcription	Gloss
i.	ghafara	gáfàrà	[gafara]	excuse
ii.	balagha	bàlágà	[balaga]	reach the age of puberty, to become sexually mature

It is observed that in (6,i), consonant ‘h’ is deleted in the first of syllable. In (6,ii), there is a deletion of consonant ‘h’ in the last syllable of the word in Arabic in order to integrate it in the syllable structure of Yorùbá language.

Consonant Cluster: This is a situation when there

are two or more consonants in the word structure of a language. Deletion of a consonant occurs when a word from Arabic language is to be incorporated into Yorùbá language to reduce the unwanted consonant clusters as shown in Table 7

S/N	Arabic	Yorùbá	Transcription	Gloss
i.	ad-dua	àdúà	[adua]	prayer
ii.	bukka	búkà	[buka]	shed, tent
iii.	sunnah	súnà	[sunã]	tradition
iv	ar-raid	àrá	[ara]	thunder’
v.	anniyah	àníyàn	[anĩjã]	intention
vi.	il’mo	ìmò	[imõ]	knowledge

In (7,i-v), consonants ‘d’, ‘k’, ‘n’, ‘r’ and ‘l’ are deleted. Also, in (7.iii & iv), the last consonants ‘h’, and ‘d’ are deleted respectively. In (7,v), there is a substitution or replacement of an oral vowel ‘an’ /ã/ with ‘ah’, while in (7,vi), consonant ‘l’ is deleted. This suggests that there are deletion of consonants at the second syllable and word-final positions in the Arabic words to be accommodated in Yorùbá language.

Also, there exists deletion of consonant where there are consonant cluster in Arabic words and lengthening of vowels in a word. This means that if the first consonant is alveolar ‘l’, while the second one is glottal ‘h’ or, if such word has similar consonant cluster at word-final position, one of such consonants should be deleted when the word is to be loaned from Arabic language to Yorùbá language as exemplified in Table 8.

S/N	Arabic	Yorùbá	Transcription	Gloss
i.	al-hajj	Àláájì	[alaadʒi]	male pilgrim
ii.	al-hajja	Àláájà	[alaadʒa]	female pilgrim
iii.	al-hayyu	alààyè	[alaaje]	the living one

In (8,i-iii), the observation is that each word contains three syllables. It is at the second syllable where the deletion of the consonant ‘h’ (a glottal sound) occurred and replaced by vowel ‘a’. Also, it is in the third syllable where consonant ‘dʒ’ or ‘y’ is deleted appropriately. In addition, it is seen in (8,i) that there is insertion of vowel ‘i’ at the final syllable in conformity with Yorùbá syllable

structure. It is because Yorùbá syllable structure does not allow the occurrence of consonant in the word-final position. The vowel which contained closed feature, that is, vowel ‘e’ is replaced by vowel ‘u’ in (8,iii). This occurred because both vowels have close features.

Replacement and Insertion of Consonant Sounds

It is permissible to replace any consonant of Arabic words which is not existed in Yorùbá. It is a consonant sound which has the same place of

articulation that can be used to replace one another in order to be incorporated into Yorùbá language. Sometimes, insertion of vowels also takes place to separate the consonant clusters as in Table 9.

S/N	Arabic	Yorùbá	Transcription	Gloss
i.	qadr	kádàrá	[kadara]	destiny
ii.	qalam	kálàmù	[kalamù]	pen
iii.	qaftan	kafutáànì	[kafutaanì]	male garment
iv.	waqt	wákàtí	[wakati]	time
v.	haqiqa	àkùkà	[akiika]	wonderful
vi.	fakhr	Fáàrí	[faari]	male pilgrim
vii.	wa'z	wáàsí/wáásu	[waasi]/[waasu]	sermon
viii.	ar-rizq	árìsikí	[ari'iki]	wealth, blessing
ix.	Qur'an	Kùránì	[kuranì]	The holy book of Muslims
x.	waliyy	Wòlî	[wolii]	saint, prophet

It is noticed in (9,i & ii) that consonant 'k' is used to replace consonant 'q' because there exists no consonant 'q' in Yorùbá language. Also, vowels 'a' and 'un' /ũ/ are inserted at the end of each word respectively in word-final position. In (9,iii), vowel 'u' is inserted between consonant 'ft'. Consonant 'f' is labio-dental consonant. This is why oral vowel 'u' is used to separate consonant 'ft' while lengthening of vowel 'a' is occurred. Later, nasal vowel 'in' /ĩ/ is inserted to word-final position of the word (9,iii) because Yorùbá language syllable structure does not allow consonant in the word-final position. Also, in (9,iv), consonant 'q' is replaced by 'k' and the insertion of vowels 'a' and 'i' are made appropriately. Consonant 'k' is replaced by 'q' and lengthening of vowel 'i' occurs in (9,v),

In addition, in (9,vi), vowel 'a' is used to replace consonants 'kh' and there is insertion of vowel 'i' at the word-final position, while in (9,vii), there is vowel lengthening 'a' and deletion of an apostrophe before consonant 'z' which is replaced by consonant 's', and insertion of vowel 'i' / 'u' occurs accordingly. Moreover, in (9,viii), there is a deletion of consonant 'r' from the consonant cluster; consonant 's' / 'f' is replaced 'z' because this sound does not exist in Yorùbá and there is insertion of vowel 'i' between 's' and 'k' at the end of the consonant in order to be incorporated in Yorùbá language. In (9,ix), consonant 'k' is replaced 'q' and vowel 'in' /ĩ/ is inserted at the word-final position. In (9,x), vowel 'o' is used to replace 'a', and vowel 'yy' is replaced by vowel 'i'. Furthermore, the replacement of consonant sounds occurred as in Table 10.

S/N	Arabic	Yorùbá	Transcription	Gloss
i.	zina	şíná	[ʃíná]	fornication
ii.	danba	ìjànbá	[idʒamba]	evil act

In (10,i) above, there is a replacement of consonant 'z' with 'ş', while in (10,ii), consonant j /dʒ/ is used to replace consonant 'd' in the word of Arabic, and there is insertion of vowel 'i' at the word-initial

position of the word.

Replacement and Deletion of Consonant Sounds

Bámgbóşé (2010) states that when consonant

sound of the English language is different from that of Yorùbá language. a consonant sound of Yorùbá can be used to replace it. Therefore, when the consonant sound of Arabic is distinct from

Yorùbá, it is possible to replace a consonant of Yorùbá in place of Arabic consonant. This can be exemplified as in Table 11.

(11)	S/N	Arabic	Yorùbá	Transcription	Gloss
	i.	zakah	sàkà	[saka]	alms giving to the poor
	ii.	laa	láé	[lae]	never
	iii.	sadaqah	sàdaàkí	[sadaaki]	sincerity'/ 'righteousness

The observation in (11,i) is that consonant 'z' is replaced by 's' and final consonant 'h' is deleted. In (11,ii), vowel 'a' is replaced by 'e' in the second syllable. Also, in (11,iii), there is vowel lengthening of 'a'; there are replacement of consonant 'k' for 'q', and vowel 'i' for 'ah'

respectively.

Deletion and Insertion of Sounds: There are possibilities that some sounds are deleted, while others are inserted in a word in order for such words to be integrated in Yorùbá language. This can be shown in Table 12.

(12)	S/N	Arabic	Yorùbá	Transcription	Gloss
	i.	Khalifah	àléfa/àlufàà	[alufaa]	Islamic scholar
	ii.	al-khamis	Àlámísì	[alamísi]	Thursday
	iii.	Abdu	Ábúdù/Áúdù	[abudu]/ [audu]	a male name from Haúsá
	iv.	Khutbah	hútúbà	[hutuba]	sermon

It is observed that consonant 'kh' are deleted in (12,i& ii). Vowel lengthening occurred in the last syllable of the word (in 12,i) for orthographic purpose, while vowel 'i' is inserted to the word-final consonant in (12,ii). Also, in (12,iii), vowel 'u' is inserted between consonants 'bd' to separate the consonant cluster. Then, consonant 'b' is deleted. In addition, in (12,iv), consonant 'k' is deleted at word-initial position, there is insertion of vowel 'u' and consonant 'h' is deleted at word-

final position.

Assimilation, Deletion and Insertion: Assimilation occurs when there are two contiguous vowels which have different modes of production between identical sounds or all of their production (Oyèbádé, 2008; Òsísánwó, 2009; Oshòdi, 2011). There are some Arabic words where assimilation occurs in Yorùbá language as shown in Table 13.

(13)	S/N	Arabic	Yorùbá	Transcription	Gloss
	i.	taubah	túúbá	[túúbá]	repentance
	ii.	sabru	sábùrù/ sùúrù	[suuru]	patience
	iii.	saur	sàúrí/ sààrí	saari]	midnight food for Muslim fasting
	iv.	alayb (alaeb)	àléébù	[aleebu]	effect

It is noticed that in (13,i) regressive assimilation occurred between the vowels 'a' and 'u'; while its final consonant 'h' is deleted. In (13,ii), there is insertion of vowel 'u' between the consonants 'br' because 'b' has bilabial feature, it resulted to 'sábùrù' and consonant 'b' is deleted, it becomes

'sàúrù'. Then, the regressive assimilation takes place between the vowel 'a' and 'u'. Also, in (13,iii), there is insertion of vowel 'i' after the last consonant of the word 'saur'; it resulted to 'sàúrí'. Then, the progressive assimilation occurs between the vowels 'à' and 'ú'; the regressive assimilation

of tone occurs. Lastly, in (13,iv), ‘al’ayb’ is pronounced as ‘alaeb [alaeb]. There is insertion of vowel ‘u’ at the word-final position because consonant ‘b’ is a consonant which possesses bilabial feature. Therefore, the regressive assimilation occurred and it resulted to ‘àléébù’.

Insertion: This is a phonological process whereby an extraneous element which is not present

originally is introduced into the utterance to break up unwanted sequences. Arókoyò (2013) added to it that insertion occurs mostly in some words and it also concerns Arabic words. This means that the introduction of the vowel is to break up the consonant cluster which exists in Arabic words as exemplified in Table 14.

(14) (a)	(b)	S/N	Arabic	Yorùbá	Transcription	Gloss
		i.	wahla	wàhálà	[wahala]	trouble, problem
		ii.	balbala	bálabàla	[balabala]	uncleared
		iii.	fitna	fitínà	[fitinā]	worry, trouble, annoyance
		iv.	barka	bárikà	[barika]	blessing’, ‘congratulations!
		v.	Iblis	ìbilísì/ bílísì	[bilisi]	evil, wickedness
		vi.	al-arba	Àlàrùba	[alaruba]	Wednesday
		S/N	Arabic	Yorùbá	Transcription	Gloss
		i.	haram	hàrá mù	[haramũ]	forbidden/ sinful act
		ii.	jabar	Jàbàrù	[dʒabarũ]	A Muslim male name (brave)
(c)	(d)	iii.	Kamil	Kamil	[kamĩlu]	A Muslim male name (perfect)
		iv.	Munir	Mùnírù	[mũnĩru]	A Muslim male name (light)
		S/N	Arabic	Yorùbá	Transcription	Gloss
		i.	Sakan	sàkání	[sakanĩ]	environment
		ii.	baal	Báálé	[baale]	head of the family
		iii.	asal	àşálé	[aʃale]	towards the evening
		iv.	sabab	sábàbí	[sababi]	reason, cause
		S/N	Arabic	Yorùbá	Transcription	Gloss
		i.	Muslim	Mùsùlùmí	[mũsulumĩ]	Muslim
		ii.	gafr	gàfùrù	[gafuru]	seek for forgiveness
		iii.	mulk	múlíkù	[mũliku]	dominion

In (14a, i & ii), vowel ‘a’ is inserted between ‘hl’ and ‘bl’ respectively. Also, in (14a, iii & iv), there is insertion of vowel ‘i’ between the consonants ‘tn’ and ‘rk’. Vowel ‘i’ is inserted between the consonants ‘bl’ and its last consonant. While vowel ‘i’ is introduced to separate the consonants ‘rb’ in (14a,v). In addition, in (14b,i), there is insertion of vowel ‘un’ /ũ/ after the last consonant of the word. There is insertion of oral vowel ‘u’ at

the word-final position in (14b,ii-iv). In other words, it is observed that in (14c,i), nasal vowel ‘in’ /ĩ/ is occurred at the end of the last consonant. In (14c,ii-iv), there were insertions of vowels ‘e’, ‘e’ and ‘i’ in each of the words respectively. Lastly, in (14d,i), oral vowel ‘i’ is inserted between ‘sl’ and nasal vowel ‘ũ’ occurred after the last consonant. In (14d,ii), there is insertion of vowel ‘u’ between the consonants ‘fr’ and after the

consonant ‘r’. Furthermore, the insertion of vowel ‘i’ is made between the consonants ‘lk’ and vowel ‘i’ introduced at the word-final position in (14d,iii).

Lengthening of Vowels: This is a process by

which a vowel sound is lengthened in production. This means that such vowels will be written in accordance with the orthographic system of Yorùbá as exemplified in Table 15.

(15)	S/N	Arabic	Yorùbá	Transcription	Gloss
	i.	sura	súurà	[suura]	photo, picture, shape, form
	ii.	al-afiya	àlàáfíà	[alaafia]	peace

It is noticed that ‘uu’ /u:/ is doubled in pronunciation in (15,i). Also, vowel lengthening occurs to vowel ‘a’ of the second syllable where the consonant ‘y’ is deleted in (15,ii).

Partial Reduplication: This involves the copying

of a part of the base (Arókoyò, 2013). It means that any part of the base could be copied and attached to either before or after the base. This can be shown in Table 16.

(16)	S/N	Arabic	Yorùbá	Transcription	Gloss
	i.	makr	màkàrùrù	[makaruru]	dishonest act

It is noticed in (16) that vowel ‘a’ is introduced between the consonants ‘kr’ and vowel ‘u’ is inserted at the word-final position, it resulted to ‘màkàrù’. Then, the last syllable ‘rù’ /ru/ is reduplicated partially and it resulted to ‘màkàrùrù’.

Metathesis: This phonological process occurs

when two contiguous segments interchange position at the surface phonetic level. It means that a word occurred for unusual pronunciation at the surface level. The occurrence of such Arabic words can be seen in Table 17.

(17)	S/N	Arabic	Yorùbá	Transcription	Gloss
	i.	Rukn	bòròkinní	[bòròkinní]	gentleman
	ii.	al-jum’a	jímò	[dʒimɔ̃]	Friday’
	iii.	tògòhu	tògò	[tògò]	transgression
	iv.	Jinn	Ànjànnú	[andʒānũ]	malevolent spirit
	v.	al’layl	alẹ	[alɛ]	night’
	vi.	tubbaq	tábà	[taba]	tobacco
	vii.	at-tahin	àtẹ̀lẹ̀/ itẹ̀lẹ̀	[atɛlɛ]	following
	viii.	Fastil	ìtílà	[fitila]	a kind of lamp
	ix.	Ibra	abéré	[abɛɛ]	needle
	x.	al-ithnain	Àtínì	[atinì]	Monday
	xi.	al-aql	làákàyé	[laakaje]	common sense
	xii.	Miskin	mẹ̀kúnnù	[mɛkũnũ]	poor person
	xiii.	Masjid	mósáláṣí	[mɔ̃salaʃi]	mosque
	xiv.	al-imam	lèmòmù	[lemɔ̃mũ]	the Imam, religious leader
	xv.	al-Arab	Lárúbáwá	[larubawa]	Arab, the Arabic language
	xvi.	majusi	màjésì	[madʒesi]	an ignorant person
	xvii.	al-darur	lálurí	[laluri]	need, necessity

It is noticed in (17) that the sounds in Arabic words at the underlying level are interchanged at the surface level when the words were incorporated

into Yorùbá language. The modifications happened in order to be in accordance with pronunciation of loanwords into Yorùbá.

4.0 Discussion of Findings

It can be seen from the findings that the study identified that Arabic loanwords and Yorùbá have identical letters in term of pronunciation and orthographic words system. This might be as a result of cultural contact between the two languages. Faithfulness constraints maintain that every input serves as the output in the surface level. This makes it possible for Arabic loanwords to have similar letters when such words are incorporated into Yorùbá. The findings can be buttressed with the research of Adeyemi (2016) as cited by Badmus (2020) that there the same linguistic theory gives room for the similarities of Arabic loanwords in Yorùbá. He posits that the process is evident in Arabic loanwords that there is connection with religion, creed and the names of some known items. The examples of such words he used to buttress his claims are “ar-raïd” “ààrá” (thunder), “ad-dua”, and *àdúà* (prayer). Also, Jaloliddinovna (2025) submits that the direct borrowing of words are adopted from the original language to the target language without significant alteration e.g. *riba* “*ribá*” (usury/ bribe), and “malaika”, “*màláiika*” (angel). Such words maintain original spellings, pronunciation and meaning, showing minimal adaptation in the original language.

Also, it is found out that there are some consonant sounds of Yorùbá which can be replaced the Arabic consonant sounds through language borrowing. This might be as a result of language interference. Ranking constraints settle the conflicts which exist between the Arabic loanwords and Yorùbá consonants. It enables Eval to favour candidates that best conform to Yorùbá syllable structure. This makes some Arabic loanwords’ consonants to be substituted by Yorùbá consonants. For instance, there are consonant sounds ‘q’, ‘z’ and ‘gh’ in Arabic which can be replaced by ‘k’, ‘š’ and ‘g’ respectively. This can be supported by the research conducted by Batais (2018) who maintains that the Arabic consonants can be replaced with the native language counterparts in order to make the Arabic consonants to be domesticated in the target language. This means that Arabic consonant sounds can be replaced by Yorùbá consonants to

make the Arabic loanwords be situated in Yorùbá.

In addition, the findings show that where there exist consonant clusters in Arabic words, one of the consonants will be deleted. This is because Yorùbá syllable structure does not allow consonant clusters in a word. Markedness constraints do not allow the word-final consonant. This is the reason which makes word-final consonant of Arabic loanwords to be deleted in Yorùbá language. It can be supported by the findings of Unubi and Egu (2018) that Plateau speakers of English delete the last consonant in a cluster of consonants. The scholars added that there is no consonant cluster at the coda (word-finally) in the native or indigenous languages of Plateau speakers of English. Vowel sounds will be introduced to prevent consonant from ending words because Yorùbá language does not give room for consonant to end words.

Lastly, the findings explore that, in actual realisation or articulation, vowel sounds are inserted in between the consonant clusters. Faithfulness constraints do not allow the consonant cluster. The constraints give room for insertion of vowel sound to separate the consonants where necessary. This can be corroborated by the research carried out by Unubi and Egu (2018) that a schwa vowel should be inserted in a word to break the consonant clusters. Though, there is no schwa vowel in Yorùbá but oral and nasal vowels exist in the Yorùbá. The vowel sounds can be inserted at the word-final position to be in conformity with Yorùbá syllable structure.

5.0 Conclusion

In this paper, the concepts of phonological processes and loanwords in Yorùbá are explained. The optimality theory is employed to analyse the data gathered from various books, journals and the Internet. It is revealed that phonological processes such as deletion, replacement of sounds, assimilation, vowel lengthening, partial reduplication and metathesis occur as virile means of incorporating Arabic loanwords into Yorùbá. It is observed that the replacement of consonant sounds has to do with the place of articulation of the underlying Arabic consonants, while the insertion of vowel sounds concerns with the tongue root

height. The paper can establish it that Arabic words serve as the source of many Yorùbá words. The study contributes to knowledge in disciplines such as Yorùbá and linguistics. This means that it exposes various phonological processes which involved in integrating Arabic loanwords into Yorùbá.

6.0 Recommendations

The following recommendations are made on the study:

(i) There should be an investigation of

- (ii) phonological processes in Arabic loan naming words in Yorùbá. Scholars should collate all assimilated Arabic loanwords in Yorùbá and publish them in a book for prospective researchers.
- (iii) Future researchers should conduct researches on the phonological processes on partial reduplication of Arabic loanwords in Yorùbá language.

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