



Phonological Change of Arabic and Dutch Loanwords in Indonesian

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Abstract

In the literature of contact linguistics, phonology is known as the most affected by the contact. Long-standing situation and intense contact between Indonesian and Arabic and Dutch have led to extensive borrowed words yielding phonological change to accommodate foreign sounds that Indonesian inventory did not have. This article looks at the phonological change in Arabic and Dutch loanwords. Consonants from Arabic and Dutch are adapted into the closest consonants in Indonesian phonology while the consonant clusters are repaired by a vowel insertion. This study employed the descriptive qualitative method. The data are mainly from two dictionaries of Indonesian loanwords, Arabic Loanwords in Indonesian by Jones (1978) and Loanwords in Indonesian and Malay by Jones (2007). I also use my intuition as a native speaker of Indonesian to justify the lexicon items. The result of the analysis shows that there are four loan phonemes (/f/, /z/, /ʃ/, and /x/) imported from Arabic and phoneme /f/ from Dutch in the Indonesian phonological system.

Keywords: *Arabic, Dutch, Indonesian, loanwords, phonological change*

Introduction

Loanwords in Indonesian constitutes 34% (Tadmor, 2009). Arabic and Dutch loanwords contribute about 12% of them, which 6.4% and 5.7% for Dutch and Arabic respectively. The contact between Indonesian and Arabic and Dutch for hundred years has led to changes in Indonesian phonological system. This paper takes into account the phonological change in Indonesian vocabulary borrowed from Arabic and Dutch.

Phonology is the aspect that most affected by contact. Malay, in which Indonesian

was derived from, did not have some consonants like what already exist in Arabic and Dutch. It is not surprising since Arabic and Dutch are both from different language family which each of them has distinct phonological system.

Like any other languages that borrowed word from others, new sound are assimilated to the recipient language, adjusted to the existing phonological structure which the speakers get used to. The new sounds will be modified by attaching to the closest sound in the recipient which is similar with. It usually works in the initial borrowing words where the borrowed words are few.

However, contact between Indonesian and Arabic and Dutch has been intense for long time and yielded extensive loanwords. This contact, then, led to the changes in phonotactics and even the phoneme was introduced to accommodate the phonological system. It is not surprising then to find out that four fricative phonemes in Indonesia including /f/, /z/, /ʃ/, and /x/ are imported from Arabic and introduction of the complex onset clusters attested in Dutch and English (Batais, 2013) through Tadmor (2009) first entered Indonesian via Dutch loanwords. The data in this paper are mainly from two dictionaries of Indonesian loanwords. The first is Arabic Loanwords in Indonesia by Jones (1978) and the second is Loanwords in Indonesian and Malay by Jones (2007). Further, I verified some lexicon items in Arabic with a native Arabic speaker. I also use my intuition as a native speaker of Indonesian.

Arabic came first to Indonesian then followed by Dutch. The introduction of Arabic cannot be separated from the spread of Islam and trade. Based on some historical sites and evidences, Islam came to Indonesia around the fourteenth century. Traders and missionaries played an important role in the first contact between Arabic and the people in Indonesia which was in the period called Nusantara (Jones, 2007). Therefore, the contact was indirect.

Later in the last fourteenth century, religious and trade links led to the direct contact and became the main source for Arabic loanwords. The semantic domain of the Arabic loanwords reflects some areas such as religion, scholarship, moral values, and daily vocabulary (Jones, 2007; Tadmor, 2009).

Interestingly, the Arabic loanwords are standard Arabic rather than colloquial Arabic or Arabic dialect. Instead, they are from Classical Arabic in earlier loans and today is from Modern Standard Arabic (Jones, 2007).

Dutch came later in the beginning of the sixteenth century. The initial purpose was for trade but later they colonialized Indonesia which was called Nusantara at that moment. Dutch occupied in Indonesia for more than 350 years. But they did not stay consecutively. British also came to Indonesia and occupied for years during the period. Although the Dutch colonialized Indonesia for a long period, Indonesian founding fathers did not take Dutch as the national language after Indonesia proclaimed its independence. It is not merely because Indonesia wanted to remove Dutch colonialization trace but also the Dutch government only taught their language to particular Indonesians, typically those who were elite and educated. However, Dutch was spread by those elite and educated people that later Dutch was consider prestige language by society. At least, it was until 1945 when Indonesia proclaimed its independence.

I. Phonological Background

This section presents phonological structure in Arabic, Dutch, and Indonesian. Like many other languages, those languages also have a lot of variety such different regional dialect as the interference of local culture and language. Therefore, this part aims at providing reference where this paper refers to compare to. For the purpose of this paper, I refer to standar one of each language. Which are Modern Standard Arabic (MSA) for Arabic, *Algemeen Beschaafd Nederlands* (ABN) ‘General Civilized Dutch’ for Dutch, and Standard Indonesian for Indonesian.

Arabic, Dutch, and Indonesian belong to three different language family. Arabic is a member of the Afro-Asiatic family that is widely spoken many countries of Africa as well as in Middle East (Batais, 2013). Arabic has three forms including Classical Arabic, Colloquial Arabic, and Modern Standard Arabic (MSA).

Arabic is an important language in Indonesia in the sense that Arabic is the language of the Quran, the holy script for muslim, where nearly 90% of Indonesian population is muslim. In the past Classical Arabic was the source of Arabic loanwords in Indonesian and later is MSA which I present in Table 1 as adapted from Batais (2013). This explains why there are not many, if any, colloquial Arabic found in Indonesian loanwords.

Table 1. MSA consonantal inventory

		bilabial	Labio-dental	Interdental	Alveolar	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosives	Plain	b			t d		k	q		ʔ
	Emphatic				tʰ dʰ					
Fricatives	Plain		f	θ ð	s z	ʃ		χ ʁ	ħ ʕ	h
	Emphatic			ðʰ	sʰ					
Affricates						ɟʒ				
Nasal		m			n					
Trill					r					
Approximant						j	w			
Lateral	Plain				l					
	Emphatic				lʰ					

On the other hand, Dutch belongs to Indo-European language of the West Germanic branch. *Algemeen Beschaafd Nederlands* (ABN) is the official language in Netherland and became the source of the Dutch loanwords in Indonesian. ABN consonantal inventory is shown in Table 2 as adapted from Batais (2013).

Table 2. ABN consonantal inventory

	bilabial		Labio-dental		Alveolar		Palatal	Velar	Uvular	Glottal
Plosives	p	b			t	d		k	(g)	
Fricatives			f	v	s	z		x	ɣ	h
Nasal	m				n			ŋ		
Trill					r					
Approximant			u				j			
Lateral					l					

Meanwhile, Indonesian is a member of an Austronesian family. Indonesian is based on a variant of Malay that is typically a part of western Indonesia. Indonesian is a national language of the Republic of Indonesia. Indonesian has been an official language of Indonesia when Indonesia declared its independence on August 17, 1945. Yet there is no exact date on which Indonesian can be said to have been born from Malay (Errington, 1998). Indonesian is used as an official language in administration and a medium of instruction in school since in the post-colonial era of nation-building. Nonetheless, Errington (1998) mentioned that Indonesian does have an identifiable baptismal event called "Oath of the Youth" on October 28, 1928. Since then, Standard Indonesian has been extensively developed since 1945.

Indonesian is sometimes called 'Bahasa' in many academic articles. In this paper, I prefer to use the term 'Indonesian' since 'bahasa' is literally already meaning 'language'. In daily communication, Indonesian is spoken differently as a consequence of local language interference while Standard Indonesian is used in formal setting. However, in this paper, I refer to Standard Indonesian and the consonantal phonological structure is shown in Table 3. Yet I also provide some necessary non-standard Indonesian words compared to the standard one.

Table 3. Standard Indonesian consonantal inventory

	Bilabial		Alveolar		Palatal		Velar		glottal
Plosives	p	b	t	d			k	g	ʔ
Fricatives	(f)		s	(z)	(j)		(x)		h
Affricate s					tʃ	dʒ			
Nasal stops	m		n		ɲ		ŋ		
Trill			r						
Approximant					j		w		
Lateral			l						

Comparing the three tables above, Indonesian has the smallest number of consonants (19), then the ABN (20), and MSA as the largest number (29). Interestingly, Arabic has emphatic consonants for plosives and fricatives. It is strikingly indicated by feature of ‘ʕ’ symbol. The term for that is “pharyngealization” (Batais, 2013). In comparison to ABN and Standard Indonesian, Arabic lacks of voiceless bilabial /p/. Later in Arabic loanwords in Indonesian, many Indonesian speakers pronounce /f/ as the [p] since Indonesian lacked of phoneme /f/. The pronunciation between [p] and [f] are used interchangeably by some Indonesians. Batais (2013) argued phoneme /f/ was imported from Arabic into Indonesian due to the extensive loanwords but Tadmor (2009) claimed that phoneme /f/ possibly came first through Dutch. This change, like other imported phonemes in Indonesian, will be explored in more detail later in this paper.

Looking back at Standard Indonesian consonant phonemes, it is counted 19 though there are 23 consonant phonemes there. This is because four peripheral phonemes in the parentheses are not original in saying they are taken from other, in this case Arabic and Dutch.

Interestingly, the four loan phonemes are in fricative. Perhaps, this is because Proto Malayic where Indonesian was derived from was very poor in fricatives (Tadmor, 2009). There were only two fricative phonemes which were /h/ and /s/ while the loanwords from Arabic and Dutch are rich of fricatives. Due to extensive contact for long period, the foreign sounds from others cannot be assimilated in Indonesian. Thus, this contact led to the creation of new phonemes coming from outside in Indonesian yielding 23 phonemes in Modern Indonesian.

Some scholars, however, claim that Indonesian only has 22 phonemes instead of 23 (Lapoliwa, 1981). They argue that glottal stop [ʔ] is just an allophone of the phoneme /k/ rather than a phoneme by itself. But regardless of the different claim, most scholars argue that Indonesian has 23 consonants and four of them are loan phonemes.

In terms of the vowel, it is not taken into account in deep elaboration since vowels seems to not be imported from the loan sounds either Arabic or Dutch. Nonetheless, this paper pays high attention to schwa /ə/ that plays an important role of Dutch loanwords adaptation into Indonesian. Schwa has been inserted in order to deal with the Dutch

loanwords that are rich of consonant clusters. The feature that Indonesian did not have that many. Batais (2017) argues that the maximum syllable template in native Indonesian word is (C)V(C). Indonesian does allow CC as the maximum sequence of consonant cluster yet it only occurs in word-internally. Further, Grijns (1977) argued that Indonesian syllable pattern consists maximally of a simple onset, a nucleus, and a simple coda. Later, syllable plays influence in Dutch loanwords along with the use of schwa epenthesis.

Method

Descriptive qualitative method was employed in this study. The data collected were mainly from two dictionaries of Indonesian loanwords, Arabic Loanwords in Indonesian by Jones (1978) and Loanwords in Indonesian and Malay by Jones (2007). The data were then analysed based on phonological approaches with a help from the IPA chart.

Result and Discussion

1. Phonological Change in Arabic Loanwords

Mentioned earlier, there are four phonemes that were not part of Indonesian I rewrite here for convenience, /f/, /z/, /ʃ/, and /x/. These are typically borrowed from Arabic consonantal inventory. Though alveolar /z/ also exists in Dutch, this was imported from Arabic due to long and intense contact between Indonesian and Arabic that has been established three centuries earlier compared to Dutch. However, for labial /f/, Tadmor (2007) argues that it was probably derived from Dutch.

a. Labial /f/

Indonesian does not have bilabial fricative. The closest consonant that has voice quality with labial /f/ in Indonesian is voiceless bilabial /p/ which does not exist in Arabic. Phonologically, foreign sound will be adapted to the closest consonant. Thus, labial /f/ in Arabic is adapted into /p/ in Standard Indonesian.

However, in non-standard Indonesian the phonetic realization [f] is still found. This is due to Malay Standardization effort in 1896. Indonesian is derived from Malay. CA van Ophuijsen set up the writing system where he represented Arabic /f/ with the graphemes <f> (Abas, 1987). Since Indonesian pronunciation is typically similar to the spelling, then labial /f/ is pronounced as [f], especially by students of Islamic boarding school who intensively learn Islam and Arabic where the language is Arabic. They kept maintain the original sound instead of adapting into consonant inventory in Indonesian or in their local language. Spelling /f/ still continued until 1972 leading an entrenchment to many Indonesian especially for old generation.

As the consequence, although there has been many loanwords with labial /f/ is adapted into /p/ as the standard Indonesian, pronunciation of [f] still found instead of [p]. It is usually pronounced by old people who are not exposed and follow the change system. Further, it has been entrenched in their mind the way the word is pronounced, especially the speakers who are illiterate.

In the following set of data, I provide the change from Arabic into Indonesian. I provide two versions in Indonesian, Standard Indonesian and non-standard Indonesian (variance).

Arabic	Standard Indonesian	Non-standar Indonesian	Gloss
/faqir/	/fakir/	/pakir/	'very poor person'
/fasih/	/fasih/	/pasih/-/paseh/	'eloquent'
/fikr/	/pikir/	/fikir/	'to think'
/fahm/	/paham/	/faham/	'to understand'
/kāfir/	/kafir/	/kapir/	'infidel'

(Jones 2007, p. 230-243)

Based on the data, labial /f/ can remain /f/ in standard Indonesian but voiceless bilabial /p/ in non-standard. Interchangeably, labial /f/ can change into voiceless bilabial /p/ in standard Indonesian or stays /f/ in non-standard Indonesian. This interchangeability is usually uttered by non-educated speakers.

The adaptation of labial /f/ into either /f/ or /p/ can occur in the initial or in the middle of the word, regardless of the following or preceding vowel.

b. Coronal Consonant

Interdental coronal /θ, ð, ðˤ/

Like Standard Arabic, Indonesian also has coronal /s/ and /dʒ/ and borrowed phoneme /z/ but Indonesian does not have interdental coronal in Arabic which are /θ, ð, ðˤ/. Therefore, Arabic interdental coronal are adapted into the closest consonant instead of deleting them. The rule is in the following.

/θ/ → /s/

/ð/ → /dʒ/ or /z/

/ðˤ/ → /dʒ/ or /z/

Arabic	Standard Indonesian	Non-standard Indonesian	Gloss
/θabit/	/sabit/	-	'fixed'
/θaldʒ/	/saldʒu/	-	
			snow'
/ðikr/	/zikir/	/dʒikir/	'repeating'
			God's
			praises'
/ðat/			/zat/
	/dʒat/	'essence'	
/ðˤuhr/	/zuhur/	/dʒuhur/	'midday pray'

(Jones 1978, p. 76; Jones 2007, p. 347-349)

For the adaptation /θ/ → /s/, it occurs at the beginning of the word in standard Indonesian. There is no variance of the adaptation of /θ/. The only possible option is /s/. Meanwhile, both interdental /ð/ and /ðˤ/ change into /z/ in standard Indonesian and /dʒ/ in non-standard Indonesian. It is adapted into the initial position.

c. Coronal Alveolar

There are three emphatic coronal alveolar plosives in Arabic which are /tˤ, dˤ, sˤ/ and non-emphatic coronal /z/ (Batais, 2013). Indonesia lacks emphatic consonant. Therefore, emphatic consonants adapt into closest consonant or non-emphatic

consonant. Simply put, the emphatic /t^ʕ, d^ʕ, s^ʕ/ change into non-emphatic /t, d, and s/ respectively meanwhile coronal /z/ becomes /dʒ/ in Arabic loanwords in Indonesian. Thus, the adaptation can be drawn in the following.

/t^ʕ/ → /t/

/d^ʕ/ → /d/

/s^ʕ/ → /s/

/z/ → /z/ or /dʒ/

Arabic	Standard Indonesian	Non-standard Indonesian	Gloss
/qirt ^ʕ as/	/kertas/	-	'paper'
/t ^ʕ aqwa/	/takwa/	/taqwa/	'devoutness'
/d ^ʕ aif/	/daif/	-	'weak'
/wud ^ʕ u/	/wudu?/	/udu?/	'ablution'
/s ^ʕ iḥat/	/sejhat/	-	'healthy'
/ʕas ^ʕ r/	/ʔasar/	-	'afternoon pray'
/zaman/	/zaman/	/dʒaman/	'period, time'
/zumrud/	/zamrud/	/dʒamrud/	'emerald'
/zamzam/	/zamzam/	/dʒamdʒam/	'sacred well in Mecca'
/zinā/	/zina/	/dʒina/	'fornication'

(Jones 2007, p. 54, 311, 347-349; Batais 2013, p. 248)

Emphatic coronal alveolar /t^ʕ/ adapt to /t/ at the initial and middle position. Emphatic coronal /d^ʕ/ changes into /d/ at the initial and middle position as well. Emphatic coronal alveolar /s^ʕ/ adapts into /s/ at the initial and middle position. Meanwhile, coronal alveolar /z/ remains /z/ in standard Indonesian but it becomes /dʒ/ in non-standard Indonesian. The reason is because /dʒ/ is used to be standard before current standardization allowing many old generation keep maintain /dʒ/ rather than change it into /z/.

d. Palato-alveolar /ʃ/

Indonesian does not have /ʃ/ but Arabic does. Palato-alveolar /ʃ/ is adapted to native Indonesian alveolar /s/ as the closest possible consonant. Since consonant /ʃ/ has been adapted into Indonesian inventory, pronunciation /ʃ/ is available as well. In standard Indonesian, interestingly, it can be either /ʃ/ or /s/. Speakers usually maintain /ʃ/ to pronounced it similar to original Arabic in order to sound religious. The following data set shows this interchangeability.

Arabic	Standard Indonesian	Non-standard Indonesian	Gloss
/ʃejt ^ʕ an/	/setan/	/ʃetan/	'satan'
/ʕiʃaʔ/	/iʃa/	/isa/	'afternoon pray'

The adaptation of /ʃ/ into /s/ or the maintenance in /ʃ/ can occur at the beginning or at the middle of the word.

e. Uvular

Arabic uvular /q, ɣ, ʁ/ do not exist in native Indonesian inventory. Phonologically, those sounds will be adapted into the nearest Indonesian consonant. Uvular stop

/q/ in Arabic is changed into Indonesian velar stop /k/. Uvular fricative /ɣ/ is adapted to voiced velar stop /g/. Meanwhile voiceless uvular fricative /ħ/ has some options. It can be pronounced either [h] or [k]. In Indonesian spelling, it is represented with 'kh'. Some speakers alternate between [h] and [k].

/q/ → /k/

/ɣ/ → /g/

/ħ/ → /h/ or /k/

Arabic	Standard Indonesian	Non-standard Indonesian	Gloss
/tʿaqwa/	/takwa/	/taqwa/	'devoutness'
/qalb/	/kalbu/	-	'heart'
/maḡrib/	/magrib/	-	'sunset pray'
/kaʿib/	/gaʿib/	/goib/	'Invisible world'
/ḡukm/	/hukum/	-	'law'
/aḡlak/	/ahlak/	-	'morals'
/ḡamis/	/kamis/	-	'Thursday'
/ḡabar /	/kabar/	-	'News'
/ʔaḡir/	/ʔahir/	/ʔakir/	'Last' (adj.)

(Jones 2007, p. 9, 114, 140, 311; Batais 2013, p. 256)

Again, there are still some speakers who maintain the native Arabic in order to sound be religious since Arabic is a language of Quran, the Holy script of Islam. And Islam is the majority in Indonesia.

f. Pharyngeal /ʕ, ħ/

Native Indonesian inventory does not have /ʕ/ and/ ħ/. As the consequence of the contact, those pharyngeal sounds are adapted into the closest native Indonesian consonants. Voiceless /ħ/ is adapted into /h/. Voiced pharyngeal /ʕ/ changes into glottal /ʔ/ in Indonesian. The glottal stop is actually not a native Indonesian inventory. It was not yet a phoneme in Proto Malayic as well (Tadmor, 2007). In 1901 Indonesian spelling, it was represented with grapheme <ʔ> and in the current standard, it is represented with grapheme <k>. Since Indonesian is pronounced likely pronounced the word based on its spelling, some speakers pronounce it either [ʔ] or [k]. The younger generation tend to pronounce it with the later sound.

/ħ/ → /h/

/ʕ/ → /ʔ/ or [k]

In the following set of data, I will show the Surface Representation in Standard Indonesian and Non-standard Indonesian.

Arabic	Standard Indonesian	Non-standard Indonesian	Gloss
/sʕihat/	[sejhat]	-	'healthy'
/ħalal/	[halal]	-	'halal'
/ʕasʕir/	[ʔasar]	-	'afternoon pray'
/çaʕir/	[çaʔir]	[çair]	'poetry'
/raʕj:ah/	[rakjat]	[raʔjat]	'citizens'
/niʕmah/	[nikmat]	[niʔmat]	'blessing'

(Batais 2013, p. 266; Jones 2007, p. 219, 307)

Voiceless /h/ changes into [h] at the initial and in the middle of the word. Voiced pharyngeal /ʕ/ changes into glottal [ʔ] in Non-standard Indonesian but becomes [k] in Standard Indonesian.

The glottal stop /ʔ/ precedes word-initial vowels after pause such in *ashar* [ʔasar] ‘afternoon pray’. Glottal /ʔ/ occurs in the middle of the word after a vowel such in *rakyat* [raʔjat] ‘citizen’ and *nikmat* [niʔmat] ‘blessing’. Glottal /ʔ/ is not found, however, in the final position in the borrowed word. Glottal stop /ʔ/ does occur in the end of the word but in limited vocabulary, likely a few terms of kinship such as *kakek* [kakeʔ] ‘grandfather’, *nenek* [neneʔ] ‘grandmother’, *bapak* [bapakʔ] ‘father’, *anak* [anaʔ] ‘kids’ and *kakak* [kakaʔ] ‘elder sibling’. It may also occur in negation *tidak* [tidaʔ] ‘no’ in Standard Indonesian as well as in Non-standard Indonesian like *nggak* [əŋgaʔ] ‘no’ and *ndak* [əndaʔ] ‘no’. And lastly, it can occur in exclamation such as in *masa* [masaʔ] ‘really!’.

g. Vowel Insertion/Deletion

Grijns (1977) argued that the native Indonesian syllable pattern consists maximally of a simple onset, a nucleus, and a simple coda. Meanwhile, Arabic commonly has word-final clusters. The feature which is not typically Indonesian syllable pattern. In order to deal with the case, epenthesis is employed. Batais and Wiltshire (2017) proposed that the vowel of the source was copied and inserted between the two consonants when the word-final cluster had a rise in sonority between the two consonants. This can be shown in the following Arabic loanwords

Arabic	Indonesian	Gloss
/sabr/	[sabar]	‘patient’s
/ʕadn/	[ʔadan]	‘call to pray’
/dars/	[daras]	‘study Quran’
/fasl/	[fasal]	‘section’

(Jones 2007, p. 9-98)

Further, when the final consonants had equal or falling sonority, the vowel /u/ was epenthized after the cluster (Batais & Waltshire, 2017). This strategy works with the following Arabic loanwords in Indonesian.

Arabic	Indonesian	Gloss
/qalb/	[kalbu]	‘heart’
/wahy/	[wahyu]	‘divine inspiration’
/ʕilm/	[ʔilmu]	‘science, knowledge’

(Jones 1978, p. 30-96)

2. Phonological Change in Dutch Loanwords

Batais (2013) proposed that there are five phonemic adaptations of Dutch consonants which are labial /f/ and /v/, coronal consonant /z/ and dorsal guttural /x/ and /ʁ/.

a. Labial /f, v/

As I mentioned earlier that imported phonemic /f/ was firstly taken and came through Dutch loanwords. Labial /f/ gets adapted into /p/ or gets maintains /f/. In some words, some Indonesian speakers pronounce it [f] or [p]. However, when there is an alternation between [f] and [p], the standard one can be either. Therefore, in the following set of data, I provide them in Standard Indonesian and Non-standard Indonesian as in Arabic loanwords.

Dutch	Standard Indonesian	Non-standard Indonesian	Gloss
/fanatiek/	[fanatik]	[panatik]	'fanatical'
/foto/	[foto]	[poto]	'photo'
/filəm/	[filəm]	[pileəm]	'movie'
/famili/	[famili]	[pamili]	'family'
/sxruf/	[səkrup]	-	'screw'

(Jones 2007, p. 84-279)

There are two possible explanation here as claimed by Batais (2013). First, the labial /f/ changed directly into /p/. Second, the labial /f/ mapped into peripheral /f/, then replaced with native Indonesian /p/. On the other hand, labial /v/ may change into /f/ and /p/. Batais argued that when the labial /v/ is adapted into /p/, it must be changed into /f/ first. Therefore, it can be drawn below.

labial /v/ → peripheral /f/ → native /p/

The adaptation of Dutch labial /f/ can be seen in the set of the following data.

Dutch	Standard Indonesian	Non-standard Indonesian	Gloss
/vərbant/	[pərban]	-	'Bandage'
/ovən/	[ofən]	[opən]	'Oven'

(Jones 2007, p. 226, 239)

b. Coronal Consonants

Dutch coronal consonant that has been adapted into Indonesian inventory is coronal /z/. Coronal /z/ is adapted into /s/ in Indonesian inventory where /s/ is native Indonesian consonant. The change may occur at the beginning and in the middle of the word. The adaptation from /z/ into /s/ can be seen in the following data.

Dutch	Indonesian	Gloss
/zaləf/	/saləp/	'ointment'
/zeʏəl/	/segəl/	'seal'
/prezident/	/presiden/	'president'

(Batais 2013, p. 277)

c. Dorsal /x, ʏ/

Native Indonesian consonant did not have dorsal /x/ as well as /ʏ/. It has been mentioned earlier that phoneme /x/ was derived from Arabic. Nonetheless, Dutch also has phoneme /x/. Similar to Arabic phoneme adaptation, dorsal /x/ can be realized as /k/ following /s/ in word-initial clusters or as /s/ elsewhere. This may occur in the middle or at the end of the word. Meanwhile, dorsal /ʏ/ develops into /g/ in native Indonesian inventory. The change may take place in the initial

position or in the middle of the word. The development of /ʃ/ into /g/ and /x/ into either /k/ or /h/ can be seen in the following example data.

Dutch	Indonesian	Gloss
/sxema/	/skema/	'scheme'
/sxel/	/səkala/	'scale'
/ʃlob/	/gələb/	'globe'
/ʃərdəin/	/gorden/	'curtain'
/zeʃəl/	/segəl/	'seal'

(Jones 2007, p. 292)

d. Schwa Insertion

Grijns (1977) postulated that the native Indonesian syllable pattern consists maximally of a simple onset, a nucleus, and a simple coda which CVC. However, the parameter might be different among the speakers (Adisasmito, 1993, p.8). Some speakers maintain complex coda, others do not such as in the following example.

kom-plək s vs kom-plək
 həl m vs hɛ-ləm
 mo-dər n vs mo-dɛ-rən

(Adisasmito 1993, p. 8)

Meanwhile, Dutch allows initial and final consonant cluster either two or three consonants in both monosyllables and polysyllabic words. Batais & Wiltshire (2017) proposed that monosyllables will be epenthesized. Although the native Indonesian maximal syllable is strictly CVC, only the word-initial clusters in the monosyllabic inputs are targeted by schwa epenthesis. On the other hand, polysyllabic words will be treated differently. That said, the initial clusters are tolerated unchanged and when it is final cluster, the last consonant will be deleted.

Dutch	Indonesian	Gloss
/kredit/	[kredit], [kəredit]	'credit'
/krax/	[kərah]	'collar'
/speʃjal/	[speʃjal], [səpeʃjal]	'special'
/praktis/	[praktis], [pəraktis]	'practice'
/stop/	[stop], [sətop]	'stop'
/spərma/	[spərma]	'sperm'
/tradisi/	[tradisi]	'tradition'
/ʃloba:l/	[gloʊbal]	'global'
/prezident/	[presiden]	'president'
/vərband/	[pərbən]	'bandage'
/protest/	[protes]	'protest'
/distrikt/	[distrik]	'district'

(Adisasmito 1993, p. 3; Batais 2013, p. 300, 302)

When the word is monosyllabic in Dutch, the vowel /ə/ will be inserted between the C1 and C2 such as in /krax/, it becomes /kərah/. However, when it is bisyllabic,

there is no need to change it in Indonesian since the bisyllabic minimality preference is already met such in /**s**xandal/ that remains /**s**kandal and /**p**rezident/ remains /**p**residen/. But some speakers may insert schwa between C1 and C2 in non-standard or colloquial Indonesian. And when the consonant cluster is at the final position, the last consonant gets deleted such as in /prezident/ becomes [presiden], /vərband/ becomes [pərban], /prote**s**t/ becomes [prote**s**], and /distri**k**t/ becomes [distri**k**].

Conclusion

Long-standing situation and intense contact between Indonesian and Arabic and Dutch have led to extensive borrowing words affecting phonology. Since Indonesian, Arabic, and Dutch have different phonological system to some extent, it motivates phoneme borrowing that did not exist in Indonesian inventory in order to deal with Arabic and Dutch loanwords.

As the consequence, four loan phonemes in Indonesian inventory are /z/, /ʃ/, and /x/ from Arabic and phoneme /f/ from Dutch. The importation of four consonants is necessary in order to extend the Indonesian phonemic inventory so it can accommodate loanwords. Consonants from Arabic and Dutch that do not possess match consonants in Indonesian inventory are adapted or developed to the closest consonants.

In order to repair the consonant cluster in Arabic, vowel is epenthized depending upon the vowel of the source in the word-final cluster. On the other hand, schwa /ə/ is inserted between C1 and C2 to repair the word-initial cluster while in the word-final cluster, the last consonant gets deleted.

References

- Alfatihah, A., Ismayanti, D., Syam, A., & Santaria, R. (2022). Teaching Speaking Skills through Project-Based Learning for the Eighth Graders of Junior High School. *IDEAS: Journal on English Language Teaching and Learning, Linguistics and Literature*, 10(1), 152-165. doi:<https://doi.org/10.24256/ideas.v10i1.2555>
- Abas, H. (1987). *Indonesian as a unifying language of wider communication: A historical and sociolinguistic perspective*. Dept. of Linguistics, Research School of Pacific Studies, The Australian National University.
- Adisamito, N. (1993). Syllable structure and the nature of schwa in Indonesian. *Studies in Linguistic Sciences*, 23, 1-19.
- Batais, S., & Wiltshire, C. (2018). Indonesian borrowing as evidence for Harmonic Grammar. *Journal of Linguistics*, 54(2), 231-262.
- Bilanti, E., Susilawati, E., Suhartono, L., Salam, U., & Rezeki, Y. (2022). Developing a Minecraft Adventure Map to Support Eleventh Grade Senior High School Students' Vocabulary Learning. *IDEAS: Journal on English Language Teaching and Learning, Linguistics and Literature*, 10(2), 1379 - 1393. doi:<https://doi.org/10.24256/ideas.v10i2.3000>
- Batais, S. S. (2013). *Consonantal and syllabic repairs of Arabic and Dutch loanwords in Indonesian: A phonological account*. University of Florida.

Arifuddin Balla¹

Phonological Change of Arabic and Dutch Loanwords in Indonesian

- Errington, J. J. (1998). *Shifting languages* (Vol. 19). Cambridge University Press.
- Ekasiwi, A., & Bram, B. (2022). Exploring Euphemisms in Bridgerton: Diamond of the First Water. *IDEAS: Journal on English Language Teaching and Learning, Linguistics and Literature*, 10(1), 240-248. doi:<https://doi.org/10.24256/ideas.v10i1.2599>
- Grijns, C. (1977). *Beginning Indonesian*. Two Parts.
- Jones, R. (1978). III Arabic loan-words in Indonesian. *Indonesian Etymological*.
- Jones, R. (2007). *Loan-words in Indonesian and Malay*. KITLV Press.
- Lapoliwa, H. (1981). *A generative approach to the phonology of Bahasa Indonesia*. Dept. of Linguistics, Research School of Pacific Studies, The Australian National University.
- Tadmor, U. (2007). Grammatical borrowing in Indonesian. In Yaron Matras & Jeanette Sakel (eds.), *Grammatical borrowing in cross-linguistic perspective*, 301-328. Mouton de Gruyter.