

How Bòsò Walikan Malangan complies to Javanese phonology

Nurenzia YANNUAR

Leiden University and Universitas Negeri Malang

A. Effendi KADARISMAN

Universitas Negeri Malang

Bòsò Walikan Malangan ([bòsò waliʔan malaŋan]), hereafter Walikan, is an Indonesian youth language that originated as a secret code among guerilla fighters. Walikan in Javanese means ‘reversed’, as it mixes words originating from the Malangan dialect of Javanese as well as the local variety of Indonesian and reverses them into distinct lexical forms that cannot easily be deciphered by non-speakers of Walikan. This paper examines the different reversal processes through the lenses of phonology and phonotactics. We analyze a selection of Walikan words pronounced by two speakers of Walikan. The results show that word reversal in general complies with Javanese phonology and phonotactics. Our research is intended to serve as a springboard towards a fuller understanding of the reversal rules in Walikan.

1. Introduction¹

Language manipulation has been a common strategy to conceal messages in different languages (Bagemihl 1989, Conklin 1956, Lefkowitz 1991, Storch 2011). It can be done through many ways, for instance the addition or reversal of syllables, the deletion of certain sounds, and the creation of language metaphors (Storch 2011:19). From secret languages, these language registers can then develop into popular language games, and subsequently as the ‘cool language’ of young people (urban youth language). In Java, Indonesia, there are two popular reversed languages which developed from secret languages that are now seen as integral parts of youth culture. *Bòsò Walikan Yogyakarta* in Central Java is part of the identity of the hip-hop community in Yogyakarta (Nugraheni 2016), while *Bòsò Walikan Malangan* in East Java has become the language of solidarity and regional pride spoken by the people of Malang (Hoogervorst 2014, Yannuar 2018). Previous research has started the description of these varieties (c.f. Espree-Conaway 2012, 2013; Hoogervorst 2014; Prayogi 2013; and Pujileksono & Kartono 2007), but none of them have provided a detailed study on the phonology and phonotactics of these or other Javanese youth languages.

This paper explores the phonology and phonotactics of *Bòsò Walikan Malangan* by comparing it to its matrix language, the Malangan dialect of East Javanese. Our data

¹ The paper was originally presented at the Fifth International Symposium on the Languages of Java (ISLOJ 5) at Universitas Pendidikan Indonesia, Bandung, West Java, Indonesia, 6–7 June 2015. The research was supported by a grant from Leiden University and the Directorate General of Higher Education, Ministry of National Education, Indonesia that was ascribed to the PhD scholarship of Nurenzia Yannuar. This paper was subsequently developed by the first author into a chapter, as part of her PhD dissertation (Yannuar, 2019).

mainly consists of wordlists taken from previous research and recordings of elicitation sessions with two Walikan speakers. Their pronunciations were carefully transcribed using IPA and then compared to Javanese phonology and phonotactics. The analysis of the data was complemented by our native speaker intuitions of Javanese.

We start by sketching out some definitions and descriptions of different kinds of language manipulation strategies in section 2. This is intended to call attention to processes of reversal cross-linguistically, before focusing on the current research on the phonology and phonotactics of Walikan. We then present the methodology and the findings of the study in sections 3 and 4 respectively. After briefly presenting the phonology of Malangan Javanese, we examine the extent to which Walikan complies with the Javanese phonological system in section 4.2. In addition, we also review certain irregularities that might show influence from Indonesian phonology. In summary, our findings show that Javanese phonology and phonotactics govern processes of word-formation in Walikan, although the phonotactics of conventional East Javanese are occasionally violated – yielding words that would not be permissible in “non-reversed” speech.

This research is linguistically important, because ludlings, language games, reversed languages, and other types of linguistic manipulation constitute a possible source of insight into the structure of human languages (Gil 2002; Lefkowitz 1991). A more specific reason is described by Laycock (1972:4): “Ludlings give valuable information on the native-speaker’s intuition as to what constitutes a syllable, a vowel, a consonant, a consonant cluster, a word, or a suprasegmental”. Lefkowitz (1991:11) elaborates: “language games and speech disguises reveal information concerning the internalized grammar of the native speaker. They can also help define the canonical syllable structures which languages use”. The findings of the present paper indicate that the speakers of Walikan employ the phonology of Javanese when they manipulate words to play their language game.

2. Language manipulation

Language manipulation involves intentional linguistic modifications, resulting in changes that can conceal original messages, which may give rise to a secret language (Storch 2011). Language manipulation can be classified into: play languages, honorific registers, hunting and blacksmithing special-purpose registers, avoidance language and word tabooing, ritual language, spirit language, and secret language (Storch 2011:19).

Bòsò Walikan Malangan can be categorized under ‘play languages’, which Storch describes as “rule-governed systems that are representations of ordinary language, which simply means that they use the *syntactic*, *phonological*, and *morphological* systems of rules that govern the matrix languages from which they are derived” (2011:20). These have also been termed ‘ludlings’ by Laycock (1972): the regular and systematic transformation of a certain language form into a completely different one. In Conklin (1956:136), a similar process of changing the phonological structure of words is labeled ‘speech disguise’, which happens “when a speaker in conversation attempts to conceal the identity and hence the interpretation of what he says”.

Ludlings can be divided into three general groups: templatic, infixing, and reversing (Bagemihl, 1988:181). Templatic ludlings make use of certain patterns which act as a template in the phonological transformation. This type of change can create longer words and give rise to “new vowel patterns and significant consonant repetition and reduplication” (Storch, 2011:21). Example (1) is a templatic ludling in Amharic:

1. Template $CayC^nCa\text{ə}Ca$
 $w\text{ər}k' \rightarrow wayrk'\text{ər}k'$ 'gold'
 (Hudson 1993 as cited in Storch (2011:21))

The second type of ludling is infixing, or syllabic affixation. During the 1990s, young students in Malang inserted the infix *-va* into every open syllable. In closed syllables, the infix appeared before the final consonant. A simple Indonesian word like *makan* 'to eat' for instance, would be transformed into *mavakavan*. To our surprise, a Malay Singaporean friend of ours turns out to have used the same secret language when she was studying in a Singaporean elementary school in late 1980s. This demonstrates the mobility of these popular language games.

Gil (2002:2) presents a list of ludlings that he has encountered in Malayic languages. As shown in Table 1, out of the seven types of ludlings, five of them are based on infixation (see no 1–5).

Table 1. Gil's (2002) basic rules in Malayic ludlings

No	Name	Basic Rule		Examples
1	Bakahakasaka (Bagahagasaga, Bafahafasafa, Baksahaksasaksa)	At each syllable peak, insert k (or g, f, ks)	<i>makan</i>	<i>makakakan</i> <i>magakagan</i> <i>mafakafan</i> <i>maksakaksan</i>
2	Warasa (Dadasa, Mamasa)	In each word, replace the first onset of the final foot and anything preceding it with <i>war</i> (<i>dad, mam</i>)	<i>makan</i>	<i>warkan</i> <i>dadkan</i> <i>mamkan</i>
3	Bahasiswa	In each word, replace the final rhyme with <i>iCa</i> , where <i>C</i> is a copy of the final onset	<i>makan</i>	<i>makikan</i>
4	Mabahas	In each word, add <i>ma</i> to the beginning of the word, and delete the final rhyme	<i>makan</i>	<i>mamak</i>
5	Bahabahwalsa	In each word, insert <i>bahwal</i> before the final syllable	<i>makan</i>	<i>mabahwalkan</i>
6	Sabaha	In each word, take the final syllable and bring it to the front	<i>makan</i>	<i>kanma</i>
7	Bahas	In each word, delete the final rhyme	<i>makan</i>	<i>mak</i>

In English, Pig Latin is a common affixation-based ludling. In this language game, the first consonant of a word is moved to the end of the word, to which the suffix *-ay /ei/* is then attached. When a vowel occurs in initial position of the original word, the suffix *-way /wei/* is simply attached to the otherwise unaltered word. For example, *pig* becomes *igpay /igpei/* and *latin* is changed into *atinlay /atinlei/*, while *apple* will be *appleway /ɛpəlwei/* (Bowden 2015:13; Lefkowitz 1991:19). With regard to Indonesian slang, Slone (2003) and Sahertian (1999) (cited in Bowden 2015:14) call attention to the use of the suffix *-ong* in the formation of gay slang, in terms such as *bencong* (< *banci*) ‘transsexual’ and *lesbong* (< *lesbi*) ‘lesbian’.

Aside from syllabic affixation, reversing the segments of a word or ‘speaking backwards’ is one of the most common ways to form secret languages (Gil 1996; Bagemihl 1989). While the task “reverse the order of segments” in the word (Gil 1996:297) does not seem complicated in itself, it can become more complex when complicated morphophonemic rules apply, like in Tagalog (Gil 1996). Bagemihl (1989:482) introduces a framework of reversed languages: transposition, interchange, segment exchange, sequence exchange, total syllable reversal, total segment reversal, false syllable reversal, false interchange, and permutation. Examples from languages around the world for each type are illustrated in Table 2.

In Javanese, there are two well-known ‘reversed’ languages that have been in use for decades. The first is *Bòsò Walikan Yogyakarta* (The Reversed Language of Yogyakarta), spoken in the central Javanese city of Yogyakarta. Word formation in *Bòsò Walikan Yogyakarta* takes place through the reversal of certain letters of the semi-syllabic Indic-based Javanese script and is thus orthography-based (Hoogervorst 2014). Such type of reversal is not mentioned in Bagemihl’s (1989) reversal framework. The other is *Bòsò Walikan Malang/Walikan* (The Reversed Language of Malang), the topic of this paper. Word formation in Walikan depends on competing types of lexical reversal, including phoneme reversal, syllable metathesis, and phoneme deletion (Espree-Conaway 2013; Hoogervorst 2014; Prayogi 2013). Both *Bòsò Walikan Yogyakarta* and *Bòsò Walikan Malang* have been around since the 1940s and they function as symbols of solidarity between their speakers (Hoogervorst, 2014).²

3. Methodology

We began the research by compiling a 229-item wordlist of Walikan tokens from earlier studies (Hoogervorst 2014; Prayogi 2013; Pujileksono & Kartono 2007; and Widodo 2006) as well as from the first author’s fieldwork notes from a fieldwork trip to Malang, East Java, Indonesia, in 2015.

Being the second biggest city in East Java, second only to Surabaya, there are around 800,000 people living in the Greater Malang area. The population of the urban area of Malang is comprised mostly of ethnic Javanese, but also includes students coming from other parts of Java and Indonesia. People in Malang are generally conversant in

² Another type of popular Indonesian youth slang known as Bahasa Alay, a register used by Indonesian teenagers in social media, has only recently been formed and has not yet yielded long-lasting vocabulary.

Malangan Javanese and colloquial Indonesian, but they prefer to use Standard Indonesian in formal situations.

The main data source for this current study consists of recordings of elicitation sessions with two speakers of Walikan, one male (born 1983) and one female (born 1982). They use Walikan on a daily basis and are familiar with all of the words in our list. Both were born in Malang and had lived in Malang for more than half of their lives. They both finished their studies up to bachelor's degree in Malang. The female consultant went to pursue her master's degree in Sydney, Australia, for two years, from 2006 to 2008, the male consultant had spent five months abroad before first participating in the study. To sum up, both consultants have a higher education background, and both spent their youth in Malang.

Table 2. Bagemihl's (1989) reversal framework

No	Type of Reversal	Language Name	Original Words	Reversed Words	Gloss
1	Transposition	Tagalog	<i>kamatis</i>	<i>tiskama</i>	'tomato'
2	Syllable Interchange	Luchazi	<i>njikuleke</i>	<i>njikukele</i>	'let me tell you'
3	False Interchange	Sanga	<i>baatemwaa</i>	<i>baamwatee</i>	(unspecified)
4	Segment Exchange	Javanese	<i>satus</i>	<i>tasus</i>	'one hundred'
5	Sequence Exchange	Hanunoo	<i>balaynun</i>	<i>nulayban</i>	'domesticated'
6	Exchange with Nonsense Word	Finnish	<i>susi</i>	<i>kosi suntti</i>	'wolf'
7	Total Syllable Reversal	Saramaccan	<i>valisi</i>	<i>siliva</i>	'valise'
8	Total Segment Reversal	Javanese	<i>dolanan</i>	<i>nanalod</i>	'play around'
9	False Syllable Reversal	Bakwiri	<i>luunga</i>	<i>ngaalu</i>	'stomach'
10	Permutation	Bedouin Hijazi Arabic	<i>jtimaθ</i>	<i>θitjam</i>	(unspecified)

The consultants were invited to an elicitation session, where they were asked to pronounce the words in the aforementioned wordlist. When they did not recognize a certain word, they skipped it and moved to the next word. They were allowed to

produce different forms of Walikan when they saw fit or to add words that were yet to be included in the list. The sessions with both consultants finally yielded 239 Walikan words in total. The sessions were recorded using a Zoom H4n Handy Recorder. The elicited words were then transcribed using ELAN (ELAN 2015) and FLEx (Fieldworks Language Explorer 2015) in International Phonetic Alphabet (henceforth IPA) and analyzed with a focus on the phonology and phonotactics.

4. Findings and discussion

4.1 Phonology and phonotactics of Malangan Javanese

This subsection briefly presents the descriptions of consonants and vowels in Malangan Javanese. Malangan Javanese has 20 consonants and 6 vowels, as presented in Tables 3 and 4. The orthographical representations of phonemes that differ from IPA are given in round brackets. Square brackets are used to indicate allophones.

Table 3. Consonant Inventory of Malangan Javanese

	Bilabial	Dental	Alveolar	Retroflex	Palatal	Velar	Glottal
Stop	p	t̪		t̠ (th)	c	k [ʔ]	
	b	d̪		d̠ (dh)	ɟ (j)	g	
Nasal	m		n		ɲ (ny)	ŋ (ng)	
Fricative			s				h
Trill			r				
Lateral			l				
Approximant	w				j (y)		

Table 4. Vowel Inventory of Malangan Javanese

	Front	Central	Back
High	i [ɪ]		u [ʊ]
High-mid	e [ɛ] (é)		o [ɔ]
Mid		ə (e)	
Low		a [ɔ] (a/ò)	

The phonetic properties of /b d̪ d̠ g/ and /p t̪ t̠ c k/ in Malangan Javanese are not voiced as opposed to voiceless, because both sequences are acoustically voiceless. In this study, the former set is termed as heavy, and the latter as light, following Horne (1961) and Hoogervorst (2009). The heavy stops have a wider opening of the vocal folds and are followed by a breathy vowel. The light consonants, on the other hand, are followed by a non-breathy vowel. Most consonants can occur in word-initial and word-medial positions. In coda position, the phonation type distinction of the heavy stops /b d̪ g/ is neutralized since they do not occur in such a position, but the light stops /p t̪ k/ do. In

addition, /t d c ʃ n w j/ cannot occur in word-final position. Note that in word-initial position, a glottal stop [ʔ] can only occur phonetically before vowels. The glottal stop [ʔ] also appears as the realization of /k/ in coda and root-final position.

The Javanese high front vowel /i/ has one allophone: [i], while the allophone of the high back vowel /u/ is [u]. These allophones appear in final closed syllables as well as penultimate open syllables. The allophones of /e/ and /o/ are [ɛ] and [ɔ] respectively, which appear in a final closed syllable and in a penultimate open syllable based on the vowel in the following syllable. Also, [ɔ] is the allophone of /a/ in a word-final open syllable. All vowels can occur in all positions, except for the mid central vowel /ə/ that does not occur in word-final position.

Malangan Javanese allows clusters of two consonants, which occur word-initially and word-medially, but never in word-final position. Clusters of more than two consonants do not occur in native words, and only appear marginally in loanwords. All stops can occur as part of a consonant cluster. The first consonant of a cluster is either a stop consonant, the fricative /s/, or one of the nasals /m n ŋ/. When the first consonant is an obstruent (stop, fricative), the following consonant is a liquid (trill, lateral). When the first consonant is a nasal, the following consonant is either an obstruent or a liquid.

There are three types of consonant clusters in Malangan Javanese: 1) clusters with obstruent + liquid sequence, 2) clusters with nasal + obstruent sequence, and 3) clusters with nasal + liquid sequence. Their examples are shown as follows in respective order: *jrangkòng* [ʃraŋ.koŋ] ‘skeleton’, *mambu* [ma.mbu] ‘to smell’, and *mlaku* [mla.ku] ‘to walk’.³

4.2 Reversal level in Walikan

In line with the observation that there have never been any “backwards languages in which there is syntactic reversal as the major rule within the clause or phrase” (Dreyfuss 1983: 56), reversal in Walikan takes place at the lexical level, not at the syntactic level.

Because reversal only takes place on a lexical level, the word order in phrases and sentences is retained (compare (3) and (4)). Speakers do not reverse the whole construction of the sentence; rather, they only reverse certain words within a sentence. They may also use reversal that is derived from Indonesian, such as the word *ayas* (< *saya* ‘1SG’) in (3). Hence, (4) is not an acceptable sentence in Walikan.

2. *Aku tuku segò pecel ndhik kònò* (Malangan Javanese)
1SG buy rice salad in there
‘I buy a plate of pecel rice there.’
3. *Ayas ukut òges lecep ndhik kònò* (Walikan)
1SG buy rice salad in there
‘I buy a plate of pecel rice there.’
4. **kònò ndhik lecep òges ukut uka*

In (3), out of six lexical items, only the first four lexical items are being inverted. The word *ayas* ‘1SG’ is the reversed form of Indonesian word *saya*, not its East Javanese

³ Word stress in Malangan Javanese generally takes place in the penultimate syllable; it will not be indicated in the transcriptions presented in this paper.

counterpart *aku*.⁴ *Ukut* is an inversion from *tuku*, *òges* is derived from *segò* and *lecep* is the reversed form of *pecel*. Meanwhile, the demonstrative *ndhik kònò* ‘there’ is not being inverted and remains intact. According to our consultants, speakers of Walikan must know for which words reversal is acceptable or common.

4.3 Reversal types in Walikan

There are several types of reversal in Walikan as mentioned in Hoogervorst (2014) and Prayogi (2013). However, we focus on a certain type of reversal that appears most frequently in our data, Total Segment Reversal. This type of reversal allows for direct inversion of all the segments (Bagemihl 1989). The last segment of the original word will be the first segment of the reversed form, the penultimate segment will be the second segment, and so on. Example (5) shows how the phonemes in *makan* ‘to eat’ are reversed entirely.

5. a. m a k a n
 1 2 3 4 5
 n a k a m
 5 4 3 2 1
- b. *makan* [ma.kan] → *nakam* [na.kam] ‘to eat’

Speakers also apply a syllabification process during Total Segment Reversal. Example (6) shows how speakers avoid rigid reversal of the syllable.

6. a. *ma.buk* CV.CVC → **kub.am* CVC.CV
 b. *ma.buk* CV.CVC → *ku.bam* CV.CVC ‘drunk’

Our consultants explain that they need to adjust certain sounds that they perceive to be difficult to pronounce. The consonant /b/ that originally belonged to the second syllable stays in the second syllable of the reversed word. Instead of occurring in the coda position of the first syllable, /b/ occurs in the onset position of the second position, as seen in (6b). The adjustment process follows the principle of onset maximization.

The Total Segment Reversal rule requires segments to be fully inverted, however, modifications are sometimes necessary. A consonant cluster in word-initial position, for example, will be transposed into a word-final position after Total Segment Reversal. As this is not allowed in Malangan Javanese phonotactics, an adjustment strategy such as consonant exchange is required to create an acceptable form. In (7 a-c), we observe the process of how *uklam*, the attested reversed form of *mlaku* ‘to walk’ is created.

7. a. m l a k u
 1 2 3 4 5
 u k a l m
 5 4 3 2 1
- b. *mlaku* [mla.ku] → **ukalm* [ʔu.kalm]
- c. *ukalm* [ʔu.kalm] → *uklam* [ʔu.klam] ‘to walk’

In (7a), Total Segment Reversal creates *ukalm*, a form that is not used by the speakers of Walikan. The cluster /lm/ in word-final position is considered an ill-formed coda. The attested word *uklam* is then formed by switching the position of the vowel /a/ and

⁴ The sociopragmatic reasons behind this choice are explained in (Yannuar, Iragiliati & Zen 2017).

the liquid consonant /l/. The adjustment yields a more preferred consonant cluster /kl/ in word-medial position and avoids the word-final cluster /lm/ (7c).

Consonant clusters do not occur in word-final and coda position in Javanese. On the other hand, the cluster /kl/ in onset position occurs in many Javanese words, as seen in example (8).

8. <i>cuklèk</i>	[cu.klɛʔ]	‘fractured’
<i>klambi</i>	[kla.mbi]	‘shirt’

4.4 Phonology and phonotactics of Walikan

Here we provide a closer look at instances in which Malangan Javanese phonology and phonotactics are reflected in the Total Segment Reversal process. They include: neutralization of final consonants, alternation of velar and glottal consonants, vowel lowering, and retainment of homorganic consonants and prenasalized stops.

a. Neutralization of final consonants

In Malangan Javanese, the heavy stop consonants /b ɖ g/ have a restricted distribution in word-final position, unlike their light stop counterparts /p ʈ k/. The common orthography may still show ‘b’ ‘d’ and ‘g’ in word-final position, but speakers realize them as [p ʈ k] (9).

9. <i>abab</i>	/abab/	[ʔa.bap]	‘breath’
<i>babad</i>	/babad/	[ba.baʈ]	‘chronicle’
<i>mbadhog</i>	/mbadhog/	[mba.ɖɔk]	‘to eat’

The first example in (9) shows that /abab/ ‘breath’ is pronounced as [ʔa.bap], not *[ʔa.bab]. This subtle difference becomes more evident when speakers attach a suffix to the word: /abab-e/ ‘his breath’, which is realized as [ʔa.ba.pe] instead of *[ʔa.ba.be].

When Total Segment Reversal is applied to a word with a heavy consonant in the initial position, it transforms the position of the heavy consonant into word-final position. Following the phonology and phonotactics of Malangan Javanese, the consonant in the word-final position will undergo a neutralization process.

The word-final neutralization process for reversed words with the heavy bilabial stop /b/ in final position can be observed in (10).

10. <i>bécak</i>	[bɛ.caʔ]	→	<i>kacéb</i>	[ka.cɛp]	‘pedicab’
<i>beras</i>	[bɛ.ras]	→	<i>sareb</i>	[sa.rɛp]	‘rice’
<i>banyu</i>	[ba.ɲu]	→	<i>unyab</i>	[ʔu.ɲap]	‘water’
<i>bojo</i>	[bo.ʝo]	→	<i>ojob</i>	[ʔo.ʝop]	‘spouse’
<i>budhal</i>	[bu.ɖal]	→	<i>ladhub</i>	[la.ɖup]	‘to leave’

The neutralization process for the heavy dental stop /d/ and the heavy velar stop /g/ are shown in (11). The Walikan words with [k] and [t] in the coda position are evidently derived from Javanese words with [g] and [d] in the onset position.

11. <i>gadhis</i>	[ga.ɖis]	→	<i>sidhag</i>	[si.ɖak]	‘girl’
<i>goréng</i>	[gɔ.rɛŋ]	→	<i>ngérog</i>	[ŋɛ.rɔk]	‘fried’
<i>gaji</i>	[ga.ʝi]	→	<i>ijag</i>	[ʔi.ʝak]	‘salary’
<i>dulur</i>	[ɖu.lɔr]	→	<i>rulud</i>	[rɔ.lɔʈ]	‘sibling/relative’
<i>désò</i>	[ɖɛ.sɔ]	→	<i>òséɖ</i>	[ʔɔ.sɛʈ]	‘village’

b. Alternation of velar and glottal consonants

In Malangan Javanese, /k/ in word-final position has restricted distributions. In the common orthography, the grapheme ‘k’ can be found in coda position, but it generally represents glottal stop [ʔ]. For example, Malangan Javanese speakers would pronounce *bapak* as [ba.paʔ] ‘father’.⁵

In Walikan, following the Malangan Javanese phonotactics, the original light velar stop /k/ in word-initial position becomes [ʔ] in word-final position after undergoing the Total Segment Reversal process (12).

12. <i>kiwò</i>	[ki.wɔ]	→	<i>òwik</i>	[ʔɔ.wɪʔ]	‘left’
<i>kontol</i>	[kɔ.nɔ̃ɔl]	→	<i>lontok</i>	[lɔ.nɔ̃ʔ]	‘scrotum, penis’

The same alternation also affects original words with the glottal stop [ʔ] in word-final position. After reversal, [ʔ] becomes [k] in word-initial position (13).

13. <i>mabuk</i>	[ma.bʊʔ]	→	<i>kubam</i>	[ku.bam]	‘drunk’
<i>bécak</i>	[bɛ.caʔ]	→	<i>kacéb</i>	[ka.cɛp]	‘pedicab’

c. Vowel lowering

Malangan Javanese phonology requires the lowering of tense vowels such as /i/ and /u/ in a closed syllable into their lax allophones /ɪ ʊ/; the lowering will also affect the tense vowels in the preceding open syllable. For example, Malangan Javanese speakers would pronounce *piring* as [pi.rɪŋ] ‘plate’ and *gunung* as [gʊ.nʊŋ] ‘mountain’.

The same phonological process can be seen in Walikan (14).

14. <i>mabuk</i>	[ma.bʊʔ]	→	<i>kubam</i>	[ku.bam]	‘drunk’
<i>manuk</i>	[ma.nʊʔ]	→	<i>kunam</i>	[ku.nam]	‘penis’
<i>sabun</i>	[sa.bʊn]	→	<i>nubas</i>	[nu.bas]	‘soap’

Example (14) shows that the [ʊ] in the second syllable of the original word is moved into the first syllable after Total Segment Reversal. Subsequently, the transformation process also affects the syllable, causing /u/ to occur in an open syllable. Thus, the /u/ originally realized as [ʊ] is pronounced as [u] after the reversal.

Similarly, when the reversal yields a high back rounded vowel /u/ in a closed syllable, it shows vowel lowering (15).

15. <i>ruwet</i>	[ru.wɔ̃t]	→	<i>téwur</i>	[tɛ.wʊr]	‘bad, chaotic’
<i>surat</i>	[su.rãt]	→	<i>tarus</i>	[tɛ.rãs]	‘letter’

The vowel lowering process is also apparent when the high back rounded vowel /u/ appears in both syllables of bisyllabic words (16).

16. <i>pukul</i>	[pʊ.kʊl]	→	<i>lukup</i>	[lʊ.kʊp]	‘to hit’
<i>Sukun</i>	[sʊ.kʊn]	→	<i>Nukus</i>	[nʊ.kʊs]	‘place name’

⁵ [ba.pak] occurs in a number of other Javanese dialects such as Banyumasan Javanese, which is distinct from Malangan Javanese.

In addition to the alternation of tense vowels /i u/ and lax vowels [ɪ ʊ], it should also be noted that there are few cases where [ɛ] is yielded after reversal from /e/ and /ə/, such as in [dɛ.we] > [hɛ.wɛʔ] ‘own, self’ and [kə.ba.lɛn] > [nɛ.la.bɛʔ] ‘place name’ respectively.

d. Homorganic consonants

The term ‘homorganic consonants’ refers to more than one consonant of the same or neighboring place of articulation occurring in a sequence. Homorganic consonants with NC (nasal + consonant) sequence are salient features in Javanese (Ogloblin 2005). Based on phonological patterns and acoustic analysis, the nasal + obstruent sequence in word-medial position is tautosyllabic, meaning that they occur in the same syllable (Adisasmito-Smith 2004). We can therefore expect that homorganic consonants with nasal + obstruent sequence will be retained in Walikan. Examples (17–20) provide instances in which homorganic consonants stay intact in the reversed forms.

17. /mb/					
<i>mambu</i>	[ma.mbu]	→	<i>umbam</i>	[ʔu.mbam]	‘to smell’
<i>rambut</i>	[ra.mbuʔ]	→	<i>tumbar</i>	[ʔu.mbar]	‘hair’
18. /mp/					
<i>sémpak</i>	[sɛ.mpak]	→	<i>kampés</i>	[ka.mpɛs]	‘man underwear’
<i>tempik</i>	[ʔɛ.mpiʔ]	→	<i>kimpet</i>	[ki.mpɛʔ]	‘vagina’
19. /nt/					
<i>kontol</i>	[kɔ.nʔɔl]	→	<i>lontok</i>	[lɔ.nʔɔʔ]	‘scrotum, penis’
<i>suntik</i>	[su.nʔiʔ]	→	<i>kintus</i>	[ki.nʔʊs]	‘to inject’
20. /nd/					
<i>sandhal</i>	[sa.ndʔal]	→	<i>landhas</i>	[la.ndʔas]	‘sandal’
<i>pendhék</i>	[pə.ndʔɛʔ]	→	<i>kéndhep</i>	[kɛ.ndʔɛp]	‘short’

A famous phrase in Walikan, which is often cited by the community of Walikan speakers, is *néndhés kombét*. It is derived from the phrase *séndhén témbok*. Currently, speakers use this phrase when they want to chill out or calm themselves in difficult situations. Literally, *séndhén* means ‘to recline’, while *témbok* means ‘wall’. The reversal process of the phrase can be seen in (21).

21. <i>séndhén témbok</i>	[sɛ.ndʔɛn ʔɛ.mboʔ]	→	[nɛ.ndʔɛs kɔ.mbeʔ]
			*[nɛd.nɛs kɔb.mɛʔ]

The homorganic consonants /nd/ and /mb/ typically remain intact in the reversed form, as total reversal of the segments would violate Javanese phonotactic constraints, which allows nasal + obstruent sequence, but not obstruent + nasal sequence. Our consultants confirmed that *[nɛd.nɛs kɔb.mɛʔ] is both difficult to pronounce and unpleasant to hear.

e. Prenasalized stops

Malangan Javanese speakers prenasalize initial stops, which can be observed in several toponyms (22).

22. <i>Dampit</i>	[ndʔa.mpiʔ]	‘place name’
<i>Batu</i>	[mba.ʔu]	‘place name’

In our Walikan data, voiced stops in onset position are also prenasalized in toponyms, as observed in (23).

23. <i>Kelud</i>	[ke.lɔʔ]	→	<i>Ndulek</i>	[ndʔu.ləʔ]	‘place name’
------------------	----------	---	---------------	------------	--------------

The reversed forms discussed in (a-e) can all be explained through our understanding of Javanese phonology. In (f), however, we call attention to some examples where speakers of Walikan violate Malangan Javanese phonotactics.

f. Palatal stops and bilabial approximant consonants

The palatal stops /c ɟ/ and bilabial approximant /w/ in Malangan Javanese do not occur in word-final position. When a word with /c/, /ɟ/, or /w/ in word-final position is yielded after reversal, speakers will realize them differently. /c/ and /ɟ/ in word-final position are realized as a light dental stop [t̪]. On the other hand, the bilabial approximant /w/ is realized as a light bilabial stop [p].

However, we observed certain examples where /c/, /ɟ/, and /w/ occur in the word-final position and are realized as such in the pronunciation of our consultants (24).

24. <i>celana</i>	[cə.la.na]	→	<i>analec</i>	[ʔa.na.ləc]	‘trousers’
<i>cinò</i>	[ci.nɔ]	→	<i>ònic</i>	[ʔɔ.nic]	‘Chinese’
<i>Jakarta</i>	[ja.kar.t̪a]	→	<i>Atrakaj</i>	[ʔa.t̪ra.kaj]	‘Jakarta’
<i>jòwò</i>	[jɔ.wɔ]	→	<i>òwòj</i>	[ʔɔ.wɔɟ]	‘Javanese’
<i>wédok</i>	[wɛ.d̪ɔʔ]	→	<i>kodéw</i>	[kɔ.d̪ɛw]	‘female’

At this point, we believe that the written form of Walikan has influenced the reversal process, especially among younger speakers.

5. Conclusion

Throughout the paper we have explored the phonological and phonotactic processes that operate in Walikan. Walikan’s reversal only takes place at the lexical level, thus its syntax is the same as Javanese. Speakers only reverse certain words, instead of all the words in the sentence.

The most productive reversal strategy in Walikan is Total Segment Reversal, which is employed by the speakers as they also apply segment resyllabification and some other modification processes which comply with Malangan Javanese phonology and phonotactics (section 4.3–4.4). They include neutralization of final consonants, alternation of velar and glottal consonants, vowel lowering, and retainment of homorganic consonants and prenasalized stops in toponyms.

However, there is a slight deviation from Javanese phonology, in which speakers chose to conform to the orthography of Walikan and Javanese. As a result, some examples show palatal stops and bilabial approximants occurring in word-final position. With regard to our limitation of speakers, our consultants only consisted of two Walikan speakers from the same age group. More observation and data from different age groups of speakers in future work can help clarify this matter.

Nevertheless, this early stage research is in line with the idea that focusing on the structure and rules of language games can give us insights and better understanding of the structures of the base language (Gil 2002, Laycock 1972). Word reversal in Walikan is typically performed according to the rules of Javanese phonology; accordingly, observation to word reversal in Walikan can enhance our understanding of Javanese phonology. A more extensive analysis on Malangan Javanese and Indonesian phonology in conjunction with reversal rules in Walikan will be discussed in Yannuar (2019).

References

- Adisasmito-Smith, N. 2004. *Phonetic and phonological influences of Javanese on Indonesian*. PhD Thesis. Cornell University, Ithaca, USA.
- Bagemihl, B. 1988. *Alternate phonologies and morphologies*. PhD Thesis. The University of British Columbia, Vancouver, Canada.
- Bagemihl, B. 1989. The crossing constraint and “backwards languages.” *Natural Language & Linguistic Theory* 7(4). 481–549.
- Bowden, J. 2015. Towards a history, and an understanding of Indonesian slang. *NUSA* 58. 9–24.
- Conklin, H. C. 1956. Tagalog speech disguise. *Language* 32 (1), 136. <https://doi.org/10.2307/410661>
- Dreyfuss, J. 1983. The Backwards Language of Jakarta Youth (JYBL): A bird of many language feathers. *NUSA* 16. 52–56.
- ELAN. 2015. Version 4.6.1-beta. Nijmegen, The Netherlands: Max Planck Institute for Psycholinguistics, The Language Archive. Retrieved from <https://tla.mpi.nl/tools/tla-tools/elan/>
- Esprey-Conaway, D. A. 2012. *Language attitudes, acquisition, and usage of Osob Kiwalan Ngalam: An Indo-Javanese language of Malang* (Biehl International Research Scholarship Report). Departments of Anthropology & French and French Studies, Sewanee: The University of the South. Retrieved from https://cms.sewanee.edu/media/careers/internships/Esprey-Conway,_DeAndre-_Biehl_report.pdf
- Esprey-Conaway, D. A. 2013. Bahasa Walikan Malangan and the building of Indo-Javanese urban spaces. *Planum. The Journal of Urbanism* 2 (27). 1.6–6.6.
- Fieldworks Language Explorer (FLEx). 2015. Version 8.1.4. SIL International. Retrieved from <https://software.sil.org/fieldworks/>
- Gil, D. 1996. How to speak backwards in Tagalog. In *Pan-Asiatic Linguistics* (Vol. I, 297–306). Institute of Language and Culture for Rural Development, Mahidol University at Salaya, Thailand.
- Gil, D. 2002. Ludlings in Malayic languages: An introduction. 1–36. Presented at the PELBBA 15, Pertemuan Linguistik (Pusat Kajian) Bahasa dan Budaya Atma Jaya: Kelima Belas, Pusat Kajian Bahasa dan Budaya, Unika Atma Jaya. Retrieved from https://www.researchgate.net/publication/27272123_Ludlings_in_Malayic_Languages_An_Introduction
- Horne, E. C. 1961. *Beginning Javanese*. New Haven: Yale University Press.
- Hoogervorst, T. G. 2009. Urban dynamics An impression of Surabaya’s sociolinguistic setting. *Wacana, Journal of the Humanities of Indonesia* 11 (1). 39–56.
- Hoogervorst, T. G. 2014. Youth culture and urban pride: The sociolinguistics of East Javanese slang. *Wacana, Journal of the Humanities of Indonesia* 15 (1). 104–130.
- Hudson, G. 1993. Evidence of an argot for Amharic and theoretical phonology. *Journal of African Languages and Linguistics*, 14(1), 47–60. <https://doi.org/10.1515/jall.1993.14.1.47>

- Laycock, D. 1972. Towards a typology of ludlings, or play languages. *Linguistic Communications (Working Papers of the Linguistic Society of Australia)* (6). 61–113.
- Lefkowitz, N. 1991. *Talking backwards, looking forwards: The French language game Verlan*. Tübingen: Gunter Narr Verlag.
- Nugraheni, M. D. F. 2016. *Humouring the Audience with Rap: Hip-hop Performance in a Javanese Context*. Presented at the Language, Power and Identity in Asia: Creating and Crossing Language Boundaries, Leiden University, The Netherlands.
- Ogloblin, A. K. 2005. Javanese. In A. Adelaar & N. P. Himmelmann (eds.), *The Austronesian languages of Asia and Madagascar: Typological characteristics*. London: Routledge.
- Prayogi, I. 2013. Proses pembentukan slang Malang. *SASINDO* 1 (1). Retrieved from http://e-jurnal.upgrismg.ac.id/index.php/JURNAL_PBSI/article/download/425/381
- Pujileksono, S. & Kartono, R. 2007. *Model pelestarian budaya lokal melalui Bahasa Walikan Malangan dalam menciptakan integrasi di kota Malang*. (Research Report). Malang: Universitas Muhammadiyah Malang.
- Sahertian, D. 1999. *Kamus Bahasa Gaul*. Jakarta: Pustaka Sinar Harapan.
- Slone, T. 2003. *Prokem: An analysis of Jakarta slang*. Oakland, California: Masalai Press.
- Storch, A. 2011. *Secret manipulations: Language and context in Africa*. New York: Oxford University Press.
- Widodo, D. I. 2006. *Malang tempo doeloe. Djilid doea*. Malang: Bayumedia.
- Yannuar, N., E. Iragiliati & E. L. Zen. 2017. Bòsò Walikan Malang's Address Practices. *GEMA Online Journal of Language Studies*. 17 (1). 107–123. <https://doi.org/10.17576/gema-2017-1701-07>
- Yannuar, N. 2018. Walikan: A youth linguistic practice in East Java, Indonesia. In A. Ziegler (ed.), *Jugendsprachen: Aktuelle perspektiven internationaler forschung (Youth languages: Current perspectives of international research)*. Berlin: De Gruyter Mouton.
- Yannuar, N. 2019. *Bòsò Walikan Malangan: Structure and development of a Javanese reversed language*. PhD Thesis. Leiden University, Leiden, The Netherlands.

Appendix. Wordlist

	Original Words	Walikan Words	Walikan Words in IPA	Gloss
1	<i>sepédha</i>	<i>adhapes</i>	aɖapəs	bike
2	<i>tiga</i>	<i>agit</i>	aɡit̚	three
3	<i>lima</i>	<i>amil</i>	amil	five
4	<i>celana</i>	<i>analec</i>	analəc	trousers
5	<i>siapa</i>	<i>apais</i>	apais	who
6	<i>Madhura</i>	<i>arudham</i>	aruɖam	Madura
7	<i>biasa</i>	<i>asaib</i>	asaip	ordinary
8	<i>asrob</i>	<i>asrob</i>	asrɔp	alcoholic drinks
9	<i>pésta</i>	<i>astép</i>	astɛp	party
10	<i>Jakarta</i>	<i>atrakaj</i>	aʈrakaj	Jakarta
11	<i>dua</i>	<i>aud</i>	auʈ	two
12	<i>Surabaya</i>	<i>Ayabarus</i>	ajabarus	Surabaya
13	<i>saya</i>	<i>ayas</i>	ajas	1SG
14	<i>ébés</i>	<i>ébés</i>	ɛbɛs	father
15	<i>ébés wédok</i>	<i>ébés kodéw</i>	ɛbɛs kɔɖɛw	mother
16	<i>ébés lanang</i>	<i>ébés nganal</i>	ɛbɛs ŋanal	father
17	<i>gedhé</i>	<i>édheg</i>	ɛɖɛk	big
18	<i>selawé</i>	<i>élawes</i>	elawəs	twenty-five
19	<i>gulé</i>	<i>élug</i>	ɛluk	curry
20	<i>umi</i>	<i>émes</i>	ɛmɛs	mother
21	<i>dhéwé</i>	<i>éwédh</i>	ɛwɛʈ	own, self
22	<i>luwé</i>	<i>éwul</i>	ɛwul	hungry
23	<i>omong</i>	<i>genomo</i>	ɡənomo	to talk
24	<i>orang</i>	<i>genaro</i>	ɡənaro	person
25	<i>utang</i>	<i>genatu</i>	ɡənəʈu	debt
26	<i>sepédha</i>	<i>hadhépes</i>	hadɛpəs	bicycle
27	<i>kalah</i>	<i>halak</i>	halak / halaʔ	to lose
28	<i>sekolah</i>	<i>halokes</i>	halokəs	school
29	<i>mbah</i>	<i>ham</i>	ham	grandparent
30	<i>rumah</i>	<i>hamur</i>	hamur	house
31	<i>rumah sakit</i>	<i>hamur tikas</i>	hamur ʈikas	hospital
32	<i>setengah</i>	<i>hangetes</i>	hanɛʈəs	half
33	<i>murah</i>	<i>harum</i>	harum	cheap
34	<i>gedhé</i>	<i>hédheg</i>	hɛɖɛk	big
35	<i>mulih</i>	<i>hélum</i>	hɛlum	to go home
36	<i>putih</i>	<i>hitup</i>	hiʈup	white
37	<i>sepuluh</i>	<i>holopes</i>	holopəs	ten
38	<i>sepuluh</i>	<i>hulupes</i>	hulupəs	ten
39	<i>babi</i>	<i>ibab</i>	ibap	pig
40	<i>rabi</i>	<i>ibar</i>	ibar	marry
41	<i>grogi</i>	<i>igrog</i>	igrɔk	groggy

	Original Words	Walikan Words	Walikan Words in IPA	Gloss
42	<i>gaji</i>	<i>ijag</i>	ijak	salary
43	<i>ilat</i>	<i>ilat</i>	ilaɬ	tongue
44	<i>pele</i>	<i>ilep</i>	iləp	penis
45	<i>klambi</i>	<i>imblak</i>	imblak / imblaʔ	shirt
46	<i>kunci</i>	<i>intuk</i>	intuk / intuʔ	key
47	<i>kopi</i>	<i>ipok</i>	ipɔʔ	coffee
48	<i>irung</i>	<i>irung</i>	irɔŋ	nose
49	<i>polisi</i>	<i>isilup</i>	isilup	police
50	<i>ngerti</i>	<i>itreng</i>	itɾɛŋ	understand
51	<i>gaji</i>	<i>jiga</i>	ʒiga	salary
52	<i>becak</i>	<i>kacéb</i>	kacɛp	pedicab
53	<i>tidhak</i>	<i>kadhit</i>	kaɖit	no
54	<i>rujak</i>	<i>kajur</i>	kaɟur	type of food, rojak
55	<i>sémpak</i>	<i>kampés</i>	kampɛs	men underwear
56	<i>maksud</i>	<i>kamsud</i>	kamsɔɬ	meaning
57	<i>énak</i>	<i>kané</i>	kane	delicious, good
58	<i>banyak</i>	<i>kanyab</i>	kaŋap	many
59	<i>masak</i>	<i>kasam</i>	kasam	cook
60	<i>awak</i>	<i>kawa</i>	kawa	body
61	<i>bawa</i>	<i>kawab</i>	kawap	bring
62	<i>taék</i>	<i>kéat</i>	kejaɬ	shit
63	<i>élék</i>	<i>kélé</i>	kele	bad
64	<i>tempik</i>	<i>kempit</i>	kəmpit	vagina
65	<i>pendhék</i>	<i>kéndhep</i>	kɛndɛp	short
66	<i>arék</i>	<i>kéra</i>	kera	kids
67	<i>séks</i>	<i>kés</i>	kes	sex
68	<i>maték</i>	<i>kétam</i>	keɬam	dead
69	<i>tuwék</i>	<i>kéwut</i>	kewut	old
70	<i>adhik</i>	<i>kidha</i>	kiɖa	younger sibling
71	<i>balik</i>	<i>kilab</i>	kilap	to reverse
72	<i>suntik</i>	<i>kintus</i>	kintɔs	to inject
73	<i>apik</i>	<i>kipa</i>	kipa	good
74	<i>pitik</i>	<i>kitip</i>	kitip	chicken
75	<i>titik</i>	<i>kitit</i>	kitit	a little
76	<i>walik</i>	<i>kiwal</i>	kiwal	to reverse
77	<i>wédok</i>	<i>kodéw</i>	kɔɖɛ	woman
78	<i>mélok</i>	<i>kolém</i>	kɔləm	join
79	<i>sémok</i>	<i>komés</i>	kɔməs	callipygian
80	<i>cipok</i>	<i>kopit</i>	kɔpit	to kiss
81	<i>bosok</i>	<i>kosob</i>	kɔsɔb	rotten
82	<i>mabuk</i>	<i>kubam</i>	kubam	drunk

	Original Words	Walikan Words	Walikan Words in IPA	Gloss
83	<i>manuk</i>	<i>kunam</i>	kunam	penis
84	<i>masuk</i>	<i>kusam</i>	kusam	to enter
85	<i>mbakyu</i>	<i>kuyam-uyab</i>	kujam ʔujap	older sister
86	<i>bal-balan</i>	<i>lab-laban</i>	lap lapan	to play football
87	<i>budhal</i>	<i>ladhub</i>	ladup	to leave
88	<i>pancal</i>	<i>lancap</i>	lancap	to pedal
89	<i>sandhal</i>	<i>landhas</i>	landas	sandal
90	<i>djoewal</i>	<i>lawét</i>	lawɛt	sell
91	<i>pecel</i>	<i>lecep</i>	ləcəp	salad with peanut sauce
92	<i>gelem</i>	<i>legem</i>	ləgəm	to like
93	<i>sambel</i>	<i>lémbas</i>	ləmbas	sambal
94	<i>kesel</i>	<i>leseki</i>	ləsək / ləsəʔ	tired
95	<i>kethel</i>	<i>lethek</i>	lətəʔ	thick
96	<i>mobil</i>	<i>libom</i>	libəm	car
97	<i>kecil</i>	<i>licek</i>	licək / licəʔ	small
98	<i>sikil</i>	<i>likis</i>	likis	foot
99	<i>kontol</i>	<i>lontok</i>	lɔntəʔ	scrotum, penis
100	<i>pukul</i>	<i>lukup</i>	lɔkup	fight, hit
101	<i>ayam</i>	<i>maya</i>	maja	chicken
102	<i>édan</i>	<i>nadé</i>	naɖe	crazy
103	<i>Poléhan</i>	<i>Nahélop</i>	nahɛləp	Polehan
104	<i>kasihan</i>	<i>naisak</i>	naisaʔ	pity
105	<i>jajan</i>	<i>najaj</i>	naɟat	snack
106	<i>makan</i>	<i>nakam</i>	nakam	eat
107	<i>sungkan</i>	<i>nakus</i>	nakos	reluctant
108	<i>lalapan</i>	<i>napalala</i>	napalala	salad, fresh vegetables
109	<i>kawan</i>	<i>nawak</i>	nawaʔ	friend
110	<i>lumayan</i>	<i>nayamul</i>	najamul	pretty good
111	<i>Kebalén</i>	<i>Nelabék</i>	nələbək	Kebalen
112	<i>Kelud</i>	<i>Ndulek</i>	nduləʔ	Kelud
113	<i>gedhang</i>	<i>ngadheg</i>	ŋaɖək	banana
114	<i>Malang</i>	<i>Ngalam</i>	ŋalam	Malang
115	<i>lanang</i>	<i>ngalan</i>	ŋalan	man
116	<i>pulang</i>	<i>ngalup</i>	ŋalup	to go home
117	<i>Bambang</i>	<i>Ngambab</i>	ŋambap	Bambang
118	<i>lanang</i>	<i>nganal</i>	ŋanal	man
119	<i>sembahyang</i>	<i>ngayambes</i>	ŋajambəs	to pray
120	<i>seneng</i>	<i>ngenes</i>	ŋənəs	happy
121	<i>ireng</i>	<i>ngeri</i>	ŋəri	black
122	<i>goréng</i>	<i>ngérog</i>	ŋerək	fry
123	<i>meteng</i>	<i>ngetem</i>	ŋətəm	pregnant

	Original Words	Walikan Words	Walikan Words in IPA	Gloss
124	<i>maling</i>	<i>ngilam</i>	ŋilam	thief
125	<i>Blimbing</i>	<i>Ngimblib</i>	ŋimblɪp	Blimbing
126	<i>bingung</i>	<i>ngingub</i>	ŋiŋup	confused
127	<i>bokong</i>	<i>ngokob</i>	ŋokɔp	buttocks
128	<i>kawin</i>	<i>niwak</i>	niwaʔ	get married
129	<i>sabun</i>	<i>nubas</i>	nubas	soap
130	<i>takon</i>	<i>nokat</i>	nɔkət	to ask
131	<i>sekun</i>	<i>nokes</i>	nɔkəs	cable shoe
132	<i>balon</i>	<i>nolab</i>	nɔlap	prostitute
133	<i>lòndò</i>	<i>nòlò</i>	nɔlə	european/caucasian
134	<i>rawon</i>	<i>nowar</i>	nɔwar	rawon, black soup
135	<i>abis</i>	<i>nubis</i>	nubis	all gone, used up
136	<i>Sukun</i>	<i>Nukus</i>	nɔkɔs	Sukun
137	<i>sidò</i>	<i>òdis</i>	ɔdis	agree
138	<i>mudò</i>	<i>òdum</i>	ɔdum	naked
139	<i>segò</i>	<i>òges</i>	ɔgəs	rice
140	<i>raiyo</i>	<i>ojir</i>	ɔjir	money
141	<i>bojo</i>	<i>ojob</i>	ɔjɔp	partner, spouse
142	<i>rokok</i>	<i>okér</i>	ɔkər	to smoke
143	<i>tekò</i>	<i>òket</i>	ɔkət	to come
144	<i>òmbò</i>	<i>òmbò</i>	ɔmbɔ	wide
145	<i>germò</i>	<i>òmreg</i>	ɔmrək	pimp
146	<i>kòncò</i>	<i>òncòk</i>	ɔncɔʔ	friend
147	<i>ròndhò</i>	<i>òndhòr</i>	ɔndɔr	widow
148	<i>cinò</i>	<i>ònic</i>	ɔniɿ	chinese
149	<i>pirò</i>	<i>òpir</i>	ɔpir	how much
150	<i>pirò</i>	<i>òrip</i>	ɔrip	how much
151	<i>Dipònegòrò</i>	<i>Òrògenòpid</i>	ɔrɔgənɔpiɿ	Diponegoro
152	<i>mòròtuò</i>	<i>òròmaut</i>	ɔrɔmauɿ	parents in law
153	<i>Suròbòyò</i>	<i>Òròsòyòb</i>	ɔrɔsɔjɔp	Surabaya
154	<i>Medhurò</i>	<i>Òrudhem</i>	ɔrudəm	Madura
155	<i>désò</i>	<i>òséd</i>	ɔsɛɿ	village
156	<i>isò</i>	<i>òsi</i>	ɔsi	can
157	<i>bakso</i>	<i>oskab</i>	ɔskap	meatball
158	<i>bòsò</i>	<i>òsòb</i>	ɔsɔb	language
159	<i>soto</i>	<i>otos</i>	ɔtɔs	soto, chicken soup
160	<i>kiwò</i>	<i>òwik</i>	ɔwiʔ	left (direction)
161	<i>dòwò</i>	<i>òwòd</i>	ɔwɔɿ	long
162	<i>jòwo</i>	<i>òwòj</i>	ɔwɔj	Java, Javanese
163	<i>iyò</i>	<i>òyi</i>	ɔji	yes
164	<i>papat</i>	<i>papat</i>	papaɿ	four

	Original Words	Walikan Words	Walikan Words in IPA	Gloss
165	<i>polisi</i>	<i>pil</i>	pil	police
166	<i>pacar</i>	<i>racap</i>	racap	boyfriend/ girlfriend
167	<i>Sawojajar</i>	<i>Rajajowas</i>	Rajajowas	Sawojajar
168	<i>anyar</i>	<i>ranya</i>	raɲa	new
169	<i>pasar</i>	<i>rasap</i>	rasap	market
170	<i>keluar</i>	<i>raulek</i>	raulək	out
171	<i>bayar</i>	<i>rayab</i>	rajap	pay
172	<i>bérés</i>	<i>rébés</i>	reβes	settled
173	<i>geger</i>	<i>regeg</i>	rəgək	back
174	<i>bundher</i>	<i>rendhub</i>	rəndɥp	round
175	<i>telor</i>	<i>rolét</i>	rələt	egg
176	<i>congor</i>	<i>rongot</i>	rəŋət	mouth
177	<i>motor</i>	<i>rotom</i>	rətəm	motor
178	<i>tidhur</i>	<i>rudhit</i>	rudit	sleep
179	<i>mundhur</i>	<i>rundhum</i>	rəndum	moving backwards
180	<i>mas</i>	<i>sam</i>	sam	older brother
181	<i>panas</i>	<i>sanap</i>	sanap	hot
182	<i>beras</i>	<i>sareb</i>	sarəp	rice
183	<i>lawas</i>	<i>sawal</i>	sawal	old (thing)
184	<i>bedhés</i>	<i>sédheb</i>	sədəp	monkey
185	<i>pedhes</i>	<i>sedhep</i>	sədəp	hot, chilly
186	<i>menjés</i>	<i>sénjem</i>	sənɟəm	menjes
187	<i>habis</i>	<i>siba</i>	siba	all gone, used up
188	<i>gadhis</i>	<i>sidhag</i>	sidak	girl
189	<i>polisi</i>	<i>silup</i>	silup	police
190	<i>manis</i>	<i>sinam</i>	sinam	sweet
191	<i>kaos</i>	<i>soak</i>	soaʔ	t-shirt
192	<i>adus</i>	<i>suda</i>	suda	bathe
193	<i>ratus</i>	<i>sutar</i>	sutar	hundred
194	<i>séhat</i>	<i>tahés</i>	tahes	healthy, sexy
195	<i>lihat</i>	<i>tail</i>	tail	see
196	<i>sikat</i>	<i>takis</i>	takis	go for it
197	<i>sikat</i>	<i>takis</i>	takis	brush
198	<i>selamat</i>	<i>tamales</i>	tamaləs	congratulations
199	<i>tangan</i>	<i>tangan</i>	taŋan	hand
200	<i>surat</i>	<i>tarus</i>	tarus	letter
201	<i>séket</i>	<i>tékes</i>	təkəs	fifty
202	<i>silit</i>	<i>tilis</i>	tɪlis	arse
203	<i>ménkrét</i>	<i>téncrém</i>	təncrəm	diarrhoea
204	<i>Mendhit</i>	<i>Téndhem</i>	Təndəm	Mendit
205	<i>ruwet</i>	<i>téwur</i>	təwur	broken, bad, chaotic

	Original Words	Walikan Words	Walikan Words in IPA	Gloss
206	<i>medhit</i>	<i>tidhem</i>	t̪id̪əm	stingy
207	<i>sakit</i>	<i>tikas</i>	t̪ikas	ill
208	<i>répot</i>	<i>topér</i>	t̪op̪er	busy body
209	<i>maut</i>	<i>tuam</i>	t̪uam	super, deadly
210	<i>takut</i>	<i>tukat</i>	t̪ukaʈ	afraid
211	<i>rambut</i>	<i>tumbar</i>	t̪umbar	hair
212	<i>babu</i>	<i>ubab</i>	ubap	female servant
213	<i>ribu</i>	<i>ubir</i>	ubir	thousand
214	<i>mlebu</i>	<i>ublem</i>	ubləm	to enter
215	<i>tahu</i>	<i>uhat</i>	uhaʈ	tofu
216	<i>maju</i>	<i>ujam</i>	uʝam	moving forward
217	<i>peju</i>	<i>ujep</i>	uʝep	sperm
218	<i>tujuh</i>	<i>ujut</i>	uʝuʈ	seven
219	<i>aku</i>	<i>uka</i>	uka	1SG
220	<i>mlaku</i>	<i>uklam</i>	uklam	walk
221	<i>tuku</i>	<i>ukut</i>	ukuʈ	to buy
222	<i>gulu</i>	<i>ulug</i>	uluk	neck
223	<i>kamu</i>	<i>umak</i>	umak / umaʔ	2SG, 2PL
224	<i>tamu</i>	<i>umat</i>	umaʈ	guest
225	<i>mambu</i>	<i>umbam</i>	umbam	stinky
226	<i>lemu</i>	<i>umel</i>	uməl	fat
227	<i>untu</i>	<i>untu</i>	uɴtu	teeth
228	<i>banyu</i>	<i>unyab</i>	uɴap	water
229	<i>punya</i>	<i>unyap</i>	uɴap	have
230	<i>pupu</i>	<i>upup</i>	upup	upper leg
231	<i>susu</i>	<i>usus</i>	ʊsʊs	breast, milk
232	<i>sepatu</i>	<i>utapes</i>	uʈapəs	shoes
233	<i>satu</i>	<i>utas</i>	uʈas	one
234	<i>metu</i>	<i>utem</i>	uʈəm	to go out
235	<i>setuju</i>	<i>utujes</i>	uʈuʝəs	agree
236	<i>payu</i>	<i>uyap</i>	uʝap	in demand, sold
237	<i>wanyik</i>	<i>wanyik</i>	wəɲiʔ/ wəɲiʔ	woman, girl
238	<i>wolu</i>	<i>wolu</i>	wəlu	eight
239	<i>piyé</i>	<i>yipé</i>	ʝipe	how