ALTERNATIONS OF INDONESIAN SOUNDS IN SAMBAS MALAY

Fauzi Syamsuar
Universitas Putra Indonesia Cianjur
fauzisyamsuar@gmail.com

ABSTRACT

Indonesian is derived from Standard Malay, while Sambas Malay (SM), a language-code spoken by indigenous people mostly living in Sambas Regency, West Kalimantan, becomes one of Malay dialects; and SIL (2006) also explains it becomes one of standard variations of Malay. Therefore, the two language codes are assumed to be derived from the same ancestral language, i.e., Proto-Austronesian language. Consequently, Indonesian and SM share sameness which is shown by identical cognates of the two language codes. There are other cognates which show sound alternations. The sound alternations comprise changes, additions, deletions, and syllabic movements of segments and sound clusters. The data corpora are the phonological forms of the cognates of Indonesian and SM. The phonological forms of SM cognates are obtained from and/or based on a previous study on phonological aspects of SM lexical items conducted by Firman et al. (1998). Meanwhile, Indonesian cognates are Indonesian lexical items which are available in Kamus Besar Bahasa Indonesia (the Main Dictionary of Indonesian) and become the equivalents for SM lexical items afore-mentioned; and the phonological forms of Indonesian cognates are determined by referring to the rules of grapheme-phoneme correspondences in Indonesian proposed by Fauzi (2015). Sound alternations show morphophonemic alternations like consonant weakening, consonant strengthening, lenition, fortition, nasalization, de-nasalization, glottalization, de-glottalization, vowel laxing, vowel tensing, diphthongization, sound deletion, sound addition, gemination or consonant doubling, sound fusion, sound fission, metatheses, assimilation, dissimilation, word lengthening, word shortening, and de-reduplication. Certain findings show certain phonotactics in SM. The result of the discussion also shows the distribution of segments in both of two language codes.
Keywords: *cognates, sound alternations, morphophonemic alternation, phonotactics*

ABSTRAK

Bahasa Indonesia terderivasi dari bahasa Melayu Baku, sedangkan Melayu Sambas, yang merupakan kode bahasa yang dipertuturkan oleh penduduk yang sebagian besar tinggal di Kabupaten Sambas, Kalimantan Barat, menjadi salah satu dialek bahasa Melayu; dan SIL (2006) juga menjelaskan bahwa kode bahasa itu menjadi salah satu variasi baku bahasa Melayu. Oleh karena itu, dua kode bahasa itu diasumsikan berasal dari sebuah bahasa leluhur yang sama, yakni bahasa Proto-Austronesia. Dengan demikian, bahasa Indonesia dan Melayu Sambas memiliki kesamaan yang ditunjukkan oleh kognat identik yang dimiliki bersama oleh dua kode bahasa itu. Terdapat kognat lain yang menunjukkan alternasi bunyi. Alternasi bunyi itu mencakupi penggantian, penambahan, penghilangan, dan perpindahan secara silabis terhadap segmen serta untaian bunyi. Korpus data berupa bentuk fonologis kognat Indonesia dan Melayu Sambas. Bentuk fonologis kognat Melayu Sambas diperoleh dari dan/atau didasarkan pada sebuah kajian terdahulu atas aspek fonologis satuan leksikal Melayu Sambas yang dilakukan oleh Firman et al. (1998). Sementara itu, kognat Indonesia merupakan satuan leksikal Indonesia yang ada dalam Kamus Besar Bahasa Indonesia *(KBBI) dan menjadi padanan bagi satuan leksikal Melayu Sambas tersebut di atas; dan bentuk fonologis kognat Indonesia ditentukan dengan merujuk ke kaidah grafem-fonem dalam bahasa Indonesia yang dianjurkan oleh Fauzi (2015). Alternasi bunyi menunjukkan alternasi morfofonemik seperti pelemahan konsonan, penguatan konsonan, lenisi, fortisi, nasalisasi, de-nasalisasi, glotalisasi, de-glotalisasi, pengenduran vokal, penegangan vokal, diftongisasi, penghilangan bunyi, penambahan bunyi, geminasi atau penggandaan konsonan, penggabungan bunyi, pemecahan bunyi, metatesis, asimililasi, disimilasi, pemanjangan kata, pemendekan kata, dan de-reduplikasi. Kaidah fonotaktik tertentu dalam bahasa Melayu Sambas pun menjadi temuan. Hasil pembahasan pun menunjukkan distribusi segmen dalam dua kode bahasa itu.*
Kata kunci: *kognat, alternasi bunyi, alternasi morfofonemik, kaidah fonotaktik*

BACKGROUND

A study on phonology of **Sambas Malay** (**SM**) conducted by Firman et al. (1998) resulted inventories of SM lexical items showing segmental sounds in the phonology of SM. Associated to Indonesian lexical items listed in *Kamus Besar Bahasa Indonesia* (KBBI) or the Main Dictionary of Indonesian Language, the inventories show some identical lexical items shared by the two language codes. The existence of identical lexical items underlines the assumption that the two language codes are derived from the same ancestral language. It also underlines the claim by SIL (2006, p. 74) that Riau Malay (the dialect from which Indonesian is derived) and SM become two of variations of Standard Malay. Beside the sameness shown by the identical lexical items of Indonesian and SM, there are some differences which are shown by certain lexical items and explained as cognates of the two language codes. However, they are assumed to be in forms of linguistic elements showing similarities. This article discusses both he sameness and the

similarities and is dealing with phonological aspects of word formations or morphophonemics in the two language codes.

THEORETICAL BASIS

Cognate is a word in another language that has a similar form and is or was used with a similar meaning (Yule 2010, p. 226). Harimurti (2008, p. 112) explains that Fijian /ƨo.va/, Tagalog /gi.ba/, and Malay /rə.bʌh/ share the same meaning and are derived from the same ancestral language; and he exemplifies them as cognates shared by the three languages. Sound /v/ in Fijian cognate corresponds to /b/ in Tagalong and Malay cognates; sound /a/ in Fijian and Tagalog cognates corresponds to /ʌ/ in Malay cognate. Meanwhile, Fijian sound-cluster /ƨo/ corresponds to Tagalog /gi/ and Malay /rə/. Furthermore, compared to each of the phonological forms of Fijian and Tagalog cognates, sound /h/ is added in the final position of the phonological form of Malay cognate.

Sound alternation is a synchronic relation between words which can be found in morphophonemic alternations (Bussmann, 1996, p. 48). Referring to the explanation by SIL (2006) that 80% of Indonesian elements is derived from Standard Malay, analysis on synchronic alternations of Indonesian sounds in SM becomes crucial. Based on the assumption that compared to SM, Indonesian is closer to Standard Malay, the discussion is description of alternations of Indonesian sounds in SM.

Referring to Tan & Ranaivo-Malançon (2009), Nik Safiah et al. (2011), Fauzi (2018), and Deterding, Gardiner, & Najib (2022), the distribution of **consonant** (**C**) sounds in Indonesian and Malay is shown in Table 1 and the distribution of **vowel** (**V**) sounds in Indonesian and Malay is shown in Table 2.

Tabel 1. C Sounds in Indonesian and Malay

	places of articulation								
manners of articulation	bilabial	labio-dental	dental	alveolar	post-alveolar	palatal	velar	uvular	glottal
plosive	**p b**			**t d**		**C J**	**k g**	**q**	**ʔ**
nasal	**m**			**n**		**ɲ**	**ŋ**		
trill					**r**			**ɣ**	
fricative		**f v**	**Θ ð**	**s z**	**ʃ**			**x**	**h**
lateral				**l**					
approximant	**w**					**j**			

C-s listed on the left are fortis or produced with relatively stronger degree of muscular effort and with relatively stronger breath effort, while the ones listed on the right are lenis or produced with relatively weaker degree of muscular effort and with relatively weaker breath effort (Crystal, 2008, p. 197). Referring to the universal scale of values on which segmental sounds are arrayed, C-s range from strong to weak: velars are weaker than dentals and dentals are weaker than bilabials (Crystal, 2008, p. 454). Matthews (1997, p. 354) points out that, based on on the scale or hierarchy in which units are distinguished as stronger or weaker, plosives are stronger than fricatives; and fricatives are stronger than laterals and approximants.

Tabel 2. Vowels in Indonesian and Malay

tongue position	front		central		back	
	tense	lax	tense	lax	tense	lax
high	**i**	**I**			**u**	**ʊ**
mid	**e**	**ɛ**		**ə**	**o**	**ɔ**
low			**a**	**ʌ**		

V-s are categorized into several types based on the tongue positions in their productions. Based on the part of the tongue being involved, there are front, central, and back V-s. Based on the hight of the tongue, there are high, mid, and low V-s. V-s produced by tense tongue-posture are tense, while the ones produced by lax tongue-posture are lax.

Approximants, semi-consonants or semi-vowels, are treated as C-s and categorized into lenis ones. Associated to approximants, there are glides; a **glide** refers to transitional sound as the vocal organs moved towards or away from a certain articulation (Crystal, 2008, p. 211). Crystal exemplified /ʲ/ occurring in the pronunciation of English word /tʲu:n/ *tune* as a glide. A glide exemplified by Crystal above, in this article, is treated as a consonant. Dealing with the value scale, glides are weaker than approximants.

Other segments, tense-vowel like, are **diphthongs**. The like-ness is caused by the fact that those two types of segments of are produced in longer durations (Yavaş, 2011, p. 106). Diphthongs, considered as

single-segments, are categorized into two types: a vowel followed by an approximant like /ɛj/ in Indonesian word *survey* 'survey' and /ʌj/ in Indonesian/Malay word *pantai* 'beach' and a sound-cluster consisting of two vowels containing glide in between like /Iʲʌ/ in Minangkabau word *kaciak* 'small/little' (Fauzi, 2018). Dealing with tongue-movement changes, Harimurti (2008) points out *narrow diphthongs* versus *wide diphthongs*; narrow diphthongs are produced with little changes of tongue movements like /ei/ or /ɛj/, while wide diphthongs are produced with more changes of tongue movements like /ai/ or /ʌj/.

One C can become onset and/or coda of a syllable. It is associated to the definition of **syllable** by Yavaş (2011, p. 20) as a phonological unit consisting of segments around the pivotal V or V-like sound, which is known as the **nucleus**. **Onset** occurs as the initial sound while **coda** occurs as the final sound of a syllable. A syllable can be either initial, final, penultimate (before final syllable), antepenultimate (before penultimate), or pre-antepenultimate (before antepenultimate). A word consisting of one syllable is monosyllabic word; the one consisting of two syllables is disyllabic word; the one consisting of three syllables is trisyllabic word. A syllable with coda is a **closed syllable** and the one without coda (consisting of only onset and a vowel/diphthong as its nucleus) is an **open syllable**.

METHOD

SM cognates are derived from lexical items becoming the data of a research conducted by Firman et al. (1998); their phonological forms are provided. They are the phonological forms of which share sameness or similarities with Indonesia lexical items listed in KBBI. Their phonological forms of are determined referring to the rules of grapheme-phoneme correspondences in Indonesian proposed by Fauzi (2015).

Phonological forms of cognates are transcribed syllabically; diacritic symbol /./ is used as inter-syllabic separator. The entire phonological forms of cognates can be seen in the appendix. Cognates with with sound alternations are recapitulated in a set of lists shown in the following section. The first column shows the numbering of each sound alternation. The second shows the phonological forms of Indonesian cognates. The third shows the phonological forms of SM cognates and the syllables undergoing sound alternations are high-lighted and the sound alternations are shown by bold-printed C-s or V-s or diphthongs or sound-clusters. The fourth shows the glossary of cognates and glossary in Latin is used for certain cognates. The last shows the number of cognates, i.e., the sum of the cognate being displayed in the list plus other cognates undergoing the described-alternations.

Table 3 shows the distribution of fortis C-s becoming onset and V-s becoming nucleus and Table 4 shows the distribution of lenis C-s becoming onset and shows V-s becoming nucleus.

Table 3. Number of Identical Cognates with Fortis C-s as Onset of the Initial Syllable

onset	**nucleus of the initial syllable**						**number**
of the initial syllable	front tense V-s	front lax V-s	central tense V-s	central lax V-s	back tense V-s	back lax V-s	**of cognates**
/p/	---	2	---	10	---	4	16
/t/	---	4	1	10	---	8	23
/C/	---	1	---	8	1	3	13
/k/	---	1	1	9	1	7	19
/ɔ/	1	3	4	13	---	7	28
/s/	---	4	2	7	---	2	15
/h/	---	---	1	1	---	---	2
total:	1	15	9	58	2	31	116

Five fortis-plosives (/p/, /t/, /C/, /k/, & /ɔ/) and two fortis-fricatives (/s/ & /h/) occur as onset of the initial syllable of identical cognates; and identical cognates with the biggest number are the ones with fortis-glottal-plosive /ɔ/ as the initial sound. Meanwhile, identical cognates of Indonesian and SM comprise 114 word-forms with lenis consonant as onset of the initial syllable.

Table 4. Number of Identical Cognates with Lenis C-s as Onset of the Initial Syllable

onset	**nucleus of the initial syllable**						**number**
of the initial syllable	front tense V-s	front lax V-s	central tense V-s	central lax V-s	back tense V-s	back lax V-s	**of cognates**
/b/	1	4	4	11	2	11	33
/d/	---	3	2	6	---	2	13
/J/	---	---	---	3	---	3	6
/g/	---	1	---	3	---	5	9
/m/	---	2	2	6	---	4	14
/n/	---	---	---	1	---	1	2
/ɲ/	---	---	1	2	---	---	3
/r/	---	2	---	3	1	5	11
/l/	1	4	1	8	---	4	18
/w/	---	---	1	3	---	---	4
/j/	---	---	---	1	---	---	1
total:	2	16	11	47	3	35	114

Four lenis-plosives (/b/, /d/, /ɟ/, & /k/), three nasals (/m/, /n/, & /ɲ/), one trill (/r/), one lateral (/l/), and two approximants (/w/ & /j/) occur as onset of the initial syllable of identical cognates; and identical cognates with the biggest number are the ones with lenis-bilabial-plosive /b/ as the initial sound. Thus, onset of the initial syllable of identical cognates is a bit dominated by fortis consonants. Dealing with the distribution of vowels, more central vowels occur as nucleus of the initial syllable of identical cognates. An abundant of other cognates undergo sound alternations and show certain morphophonemic alternations.

SOUND ALTERNATIONS

C-weakening and Lenition

List 1a recapitulates weakening of fortis C-s and List 1b recapitulates weakening of lenis C-s.

List 1a. Alternations of Fortis C-s into other Weaker Fortis C-s

	Indonesian cognate	SM cognate	glossary	
[1]	/**p**ɪ.ɟʌk/	/**t**ɪ.ɟʌk/	tread/pedal	1
[2a]	/**p**ɛn.dɛk/	/**k**ɛ.tɛt/	short	1
[2b]	/sʊ.sʊ**p**/	/sʊ.sʊ**k**/	insert	1
[3a]	/**t**ə.rɪ.jʌk/	/**k**ɛ.rʌ.wʊʔ/	shout	1
[3b]	/pʌ.rɪ**t**/	/pʌ.rɪ**k**/	ditch/drain	10
[3c]	/sə.rɪm.pə**t**/	/sɛ.rʌp.pɪ**k**/	get entangled	1
[4a]	/**t**ɪ.dʌʔ/	/**ʔ**ən.dʌʔ/	no/not	1
[4b]	/kʌ.ʲɪ**t**/	/kʌ.ʲɪ**ʔ**/	hook	1
[5]	/**C**ʊ.bɪt/	/**k**ʊ.bɪk/	pinch	1
[6a]	/**k**ʌ.kɛʔ/	/**ʔ**a.ki/	grandfather	1
[6b]	/bɪ.lɪ**k**/	/bɪ.lɪ**ʔ**/	room	12
[6c]	/tə.rɪ.jʌ**k**/	/kɛ.rʌ.wʊ**ʔ**/	shout	1
[7a]	/**k**ə.mʌ.rɪn/	/**s**i.ma.ri/	yesterday	1
[7b]	/ŋɔ.rɔ**k**/	/**s**ʌ.ŋɔr/	snore	1

All fortis C-s weakened are plosives; mostly ([1]--[6]) are weakened into plosives. Only cognates in [7] undergo weakening of plosives into fricatives. Weakening of /k/ into /ʔ/ is undergone by the biggest number of cognates, i.e., cognates in [6]. Since /k/ is altered into /ʔ/, the alternation is glottalization, i.e., the alternation explained by Millar (2015, p. 57) as the conversion of another sound into a glottal-stop (glottal-plosive). Weakening of /t/ into /ʔ/, also glottalization, is undergone by cognate in [4]. Weakening of /t/ into /k/, in [4], is undergone by cognates with the second biggest number of cognates. Most of fortis C-s weakened occur as coda of the final syllable, and most of the rest occur as onset of the initial syllable. Meanwhile, C weakened in [7b] is metathesized.

List 1b. Alternations of Lenis C-s into other Weaker Lenis C-s

	Indonesian cognate	SM cognate	glossary	
[8]	/**b**ʌ.rɪŋ/	/**g**ʊ.rɪŋ/	lie down	1
[9]	/ʔɪ**m**.pʌs/	/ʔɪ**n**.pʌs/	paid off	1
[10]	/kʌ.ʲɪ**n**/	/kʌ.ʲɪ**ŋ**/	cloth/fabric	3

Weakening of lenis C-s only involves small number of cognates and is dominated by the alternations of nasals into weaker nasals, i.e., in [9] & [10]. Only one cognate in [8] undergoes alternation of lenis-plosive into another weaker lenis-plosive. Lenis C-s weakened mostly occur as coda; only in [8] lenis C weakened occurs as onset of the initial syllable. Another type of C-weakening is alternation of fortis C into lenis C or lenition. List 2 recapitulates the cognates undergoing the alternation.

List 2. Alternations of Fortis C-s into Lenis C-s

	Indonesian cognate	SM cognate	glossary	
[11]	/to.**p**i/	/tʌŋ.**g**ɔj/	hat/cap	1
[12]	/sa.**t**u/	/sɪ.**g**ɪʔ/	one	1
[13]	/**t**ʌm.pʌʔ/	/**n**ʌm.pʌʔ/	visible/obvious	1
[14a]	/si.**t**u/	/si.**j**e/	there	3
[14b]	/sə.pɔ.**t**ɔŋ/	/sɪ.pɪ.**j**ʌk/	chunk	1
[15]	/**C**ɛ.Cɛr/	/**l**ʌ.Cɛr/	poured out	1
[16]	/**h**ɪm.pɪt/	/**l**ɪm.pɪk/	squeeze	1
[17]	/kə.la.**h**i/	/ke.la.ʲi/	fight/quarrel	1

C-s lenited are dominated by plosives: into plosives in [11] & [12], into nasal in [13], into approximants in [14], and into lateral in [15]. Cognate in [16] undergoes lenition of a fricative into a lateral while cognate in [17] undergoes lenition of a fricative into a glide. Lodge (2009, p. 29) points out *nasalization* as a type of lenition; so, lenition of plosive into nasal is nasalization. All C-s lenited occur as onset, mostly as onset of the final syllable; while in [13], [15], & [16] C-s lenited occur as onset of the initial syllable.

C-strengthening and Fortition

List 3a recapitulates the cognates undergoing strengthening of fortis C-s and List 3b recapitulates the cognates undergoing strengthening of lenis C-s.

List 3a. Alternations of Fortis C-s into other Stronger Fortis C-s

	Indonesian cognate	SM cognate	glossary	
[18]	/pɛn.dɛ**k**/	/kɛ.tɛ**t**/	short	1
[19]	/**ɔ**In.Jʌk/	/**t**In.Jʌk/	tread/pedal	1
[20]	/bʊ.**s**ʊk/	/bʊn.**t**ʊ**ɔ**/	rotten	1
[21]	/**s**ə.mʌj/	/**C**ʌm.mʌj/	seedling	1
[22a]	/**s**ʊ.dʌh/	/**ɔ**ʊ.dʌh/	already/done	1
[22b]	/**s**ə.lI.nʌp/	/**ɔ**ɛ.lI.bʌt/	sneak	1
[22c]	/**s**ʊ.lʊŋ/	/**ɔ**ʌ.lʊŋ/	eldest child	1
[22d]	/kə.rʌ**s**/	/kʌ.rʊ**ɔ**/	hard	1
[23]	/lʌ.bʊ**h**/	/lʌ.bI**k**/	fall/drop down/cast anchor	1
[24a]	/**h**ʌ.lʊs/	/**ɔ**ʌ.lʊs/	soft/delicate	2 2
[24b]	/bʌ.sʌ**h**/	/bʌ.sʌ**ɔ**/	wet	1
[24c]	/**h**əm.pʌs/	/**ɔ**ʌm.pʌs/	thrown down	2
[24d]	/**h**ʊ.jʊŋ/	/**ɔ**ɔ.jɔŋ/	stagger	1
[24e]	/**h**u.ma/	/**ɔ**ʊm.me/	field	1

Fortis C-s strengthened are dominated by fricatives: into plosives in [20]--[24]; only cognates in [18] & [19] undergo alternations of plosives into stronger plosives. Fortis C strengthening involving the biggest number of cognates (in [24]) is also glottalization; it is also undergone by cognates in [22]. Most of fortis C-s strengthened occur as onset of the initial syllable. Only cognate in [20] undergoes strengthening of fortis C occurring as onset of the final syllable. Small number of cognates (in [18], [22d], [23], & [24b]) undergo strengthening of fortis consonant occurring as coda of the final syllable.

List 3b. Alternations of Lenis C-s into other Stronger Lenis C-s

	Indonesian cognate	SM cognate	glossary	
[25]	/**m**ər.tu.wa/	/**b**ɛn.tu.we/	parent-in-law	1
[26]	/kə.rʊ.**m**ʊn/	/kɛ.rʊn.**d**ʊŋ/	crowd	1
[27]	/sə.lI.**n**ʌp/	/ɔɛ.lI.**b**ʌt/	sneak	1
[28]	/sʊ.**ŋ**ʊt/	/sɔ.**m**ɛt/	tentacle/moustache	1
[29]	/pə**r**.gi/	/pʌ**g**.gi/	go	1
[30a]	/mə**r**.tu.wa/	/mɛ**n**.tu.we/	parent-in-law	1
[30b]	/mə**r**.tu.wa/	/bɛ**n**.tu.we/	parent-in-law	1
[31]	/pə**r**.gi/	/pʌ**ŋ**.gi/	go	1
[32]	/pʊ.kʊ**l**/	/pʌŋ.kʊ**ŋ**/	beat/hit	1
[33]	/nI.**j**ʌn/	/ɔI.**ɲ**ʌn/	very	1
[34]	/tə.rI.**j**ʌk/	/kɛ.rʌ.**w**ʊ**ɔ**/	shout	1
[35]	/ɔʌ.**ʷ**ʊr/	/ɔʌ.**b**ɛ**ɔ**/	tall bamboo	1

Despite involving more alternations, strengthening of lenis C-s does not involves cognates as many as strengthening of fortis C-s does. No lenis-plosives are found to be strengthened. Cognates in [25]--[27] undergo strengthening of nasals into plosives; contrast with nasalization, the alternation is de-nasalization as Millar (2015, p. 55) exemplified Basque *musti* 'moist' alternated into *busti* in some dialects as de-nasalization. Cognate in [28] undergoes nasal strengthening. Cognate in [29] undergoes strengthening of trill into plosive. Cognates in [30]--[31] undergo strengthening of trills into nasals; cognate in [32] undergoes strengthening of lateral into nasal; cognate in [33] undergoes strengthening of approximant into nasal; so, cognates in [30]--[33] also undergo nasalization. Cognate in [34] undergoes alternation of approximant into stronger approximant. Cognate in [35] undergoes strengthening of glide into plosive. Most of lenis C-s strengthened occur as onset of the final syllable. One cognate in [25] undergoes strengthening of lenis C occurring as onset of the initial syllable. One cognate in [32] undergoes strengthening of lenis C occurring as coda of the final syllable. Small number of cognates (in [29]--[31]) undergo strengthening of lenis C occurring as coda of the initial syllable. Another type of C-

strengthening is alternation of lenis C into fortis C or fortition. List 4 recapitulates the cognates undergoing fortition.

List 4. Alternations of Lenis C-s into Fortis Consonants

	Indonesian cognate	SM cognate	glossary	
[36]	/pɛn.**d**ɛk/	/kɛ.**t**ɛt/	short	1
[37]	/pI.**J**It/	/pI.**C**Ik/	massage	1
[38]	/sə.r**I**m.pət/	/sɛ.r**ʌ**p.pIk/	get entangled	1
[39]	/si.**n**i/	/sI.**t**ʊʔ/	here	1
[40]	/**n**I.jʌn/	/**ʔ**I.ɲʌn/	very	1
[41]	/sə.pɔ.tɔ**ŋ**/	/sI.pI.j**ʌ**k/	chunk	1
[42]	/**r**a.wa/	/**t**ʌ.wʌʔ/	swamp	1
[43a]	/ʔɛ.kɔ**r**/	/ʔɛ.kɔ**ʔ**/	tail	4
[43b]	/ʔʌ.ʷʊ**r**/	/ʔʌ.bɛ**ʔ**/	tall bamboo	1
[44]	/kə.CI**l**/	/kʌt.CI**k**/	small	1
[45a]	/tʊm.pʊ**l**/	/tʊm.pʊ**ʔ**/	blunt/dull	2
[45b]	/**l**a.gi/	/**ʔ**ʌ.gIʔ/	again	1

Cognates in [36] & [37] undergo fortition of plosives into plosives. Cognates in [38]--[41] undergo fortition of nasals into plosives; so the cognates also undergo de-nasalization. Cognates in [42] & [43] undergo fortition of trills into plosives; and cognates in [43] also undergo glottalization. Cognates in [44] & [45] undergo fortition of laterals into plosives; and cognates in [45] also undergo glottalization. Most of C-s involved in fortition occur as coda of the final syllable. Only cognate in [38] undergoes fortition of C occurring as coda in penultimate. Cognates in [36], [37], & [39] undergo fortition of C occurring as onset of the final syllable. Cognates in [40], [42], & [45b] undergo fortition of C occurring as onset of the initial syllable.

Recapitulation of Cognates Undergoing C Alternations

Table 5 recapitulates cognates undergoing C alternations. It also shows the distribution of syllable in which alternations happens.

Table 5. Cognates Undergoing C Alternations

	onset of		coda of		
	initial syllable	final syllable	initial syllable	penultimate	final syllable
weakening of fortis C-s	[1], [2a], [3a], [4a], [5], [6a], [7a]				[2b], [3b], [3c], [4b], [6b], [6c]
weakening of lenis C-s	[8]		[9]		[10]
lenition	[13], [15], [16]	[11], [12], [14a], [14b], [17]			
strengthening of fortis C-s	[19], [21], [22a], [22b], [22c], [24a], [24c], [24d], [24e]	[20]			[18], [22d], [23], [24b]
strengthening of lenis C-s	[25]	[26], [27], [28], [33], [34], [35]	[29], [30a], [30b], [31]		[32]
fortition	[40], [42], [45b]	[36], [37], [39]		[38]	[41], [43a], [43b], [44], [45a]

Strengthening of fortis C dominates C-alternations; so, compared to Indonesian cognates, SM cognates consist of stronger C-s. The biggest number of cognates undergo alternations of C occurring as onset of initial syllable; and the second biggest number of cognates undergo alternations of C occurring as coda of final syllable. Only one cognate undergoes alternation of C occurring as coda of penultimate; and no cognates undergoes alternations of C occurring as onset of penultimate. Table 6 shows the matrix of C alternations.

Tabel 6. Matrix of C Alternations

	/p/	/b/	/t/	/d/	/C/	/k/	/g/	/ʔ/	/m/	/n/	/ɲ/	/ŋ/	/s/	/l/	/w/	/j/	/ʲ/
/p/	■		√			√	√										
/b/		■					√										
/t/			■			√	√	√		√						√	
/d/			√	■													
/C/					■	√								√			
/J/					√												
/k/			√			■		√					√				
/ʔ/			√					■									
/m/	√	√		√					■	√							
/n/		√	√					√		■		√					
/ŋ/						√			√			■					
/ɾ/			√				√	√		√		√					
/s/			√		√			√					■				
/h/						√		√						√			√
/l/						√		√				√		■			
/j/											√				√	■	
/ʷ/		√															

Indonesian C-s involved more in C alternations are fortis-alveolar-plosive /t/ and lenis-alveolar-trill /r/. The alternation of Indonesian /t/ in SM cognates, which comprises C-weakening and lenition, can be associated to Indonesian /t/ altered into weaker fortis /C/, /k/, /ʔ/, /s/, & /h/ and lenited into /b/, /d/, /J/, /m/, /n/, /ŋ/, /r/, & /l/ in an abundant of Minangkabau cognates (Abdul, 2002). Iverson & Ahn (2007) also report that /t/-weakening and /t/-lenition are found to be productive in English.

The alternation of Indonesian /r/ in SM cognates, comprising C-strengthening and fortition, can also be associated to Indonesian /r/ altered into stronger lenis /b/, /J/, /g/, & /ŋ/ and into fortis /C/, /ʔ/, & /h/ in an abundant of Minangkabau cognates (check Abdul, 2002). None of SM cognates are undergoes weakening of Indonesian /r/ into uvular-trill /ɣ/, glide /ʷ/, & glide /ʲ/ like the alternations undergone by Minangkabau cognates (check Abdul, 2002) and by Ulu Kapuas cognates (check Yusriadi, 2007).

Indonesian C-s /p/, /d/, /k/, /ʔ/, /n/, /r/, & /s/ are altered into /t/ in SM cognates, while Indonesian C-s /t/, /k/, /n/, /r/, /s/, /h/ & /l/ are altered into /ʔ/ in SM cognates. However, cognates undergoing alternations of Indonesian C-s into /t/ are not as many as the ones undergoing alternations of Indonesian C-s into /ʔ/. The last-mentioned alternation is glottalization; and specific glottalization (strengthening of glottal-fricative into glottal-plosive or glottal strengthening) is undergone by cognate in [24]. Different from glottalization undergone by Minangkabau cognates, which is dominated by the alternation of /k/ into /ʔ/ (check Abdul, 2002), glottalization in SM cognates is dominated by the alternation of /h/ into /ʔ/ or strengthening of glottal-fricative into glottal-plosive; and such domination in glottalization is also undergone by Ulu Kapuas cognates (check Yusriadi, 2007).

Contrast with glottalization, de-glottalization, alternation reported by Ayman & Ibtisam (2016) to be productive in Jordanian Arabic, is also found in SM cognates, i.e., alternation of /ʔ/ into /t/ undergone by cognate in [19]. De-glottalization found in SM cognates, which is also an alternation of C-strengthening, is also found in Minangkabau cognates, i.e., alternation of /ʔ/ into /k/; deglottalization undergone by Minangkabau cognates also comprises C-weakening (alternation of /ʔ/ into /s/) and lenition (alternation of /ʔ/ into /b/, /d/, /g/, /m/, /ŋ/, /r/, /l/, /w/, /ʷ/ & /ʲ/ (check Abdul, 2002). Meanwhile, de-glottalization undergone by Ulu Kapuas cognate only comprises lenition of /ʔ/ into /ŋ/ (check Yusriadi, 2007). Alternation of non-nasals into nasals (nasalization) undergone by SM cognates comprises (a) /t/ & /r/ into /n/, (b) /j/ into /ɲ/, and (c) /r/ & /l/ into /ŋ/. De-nasalization, alternation of nasals into non-nasals, undergone by SM cognates comprises (a) /m/ into /p/, /b/, & /d/, (b) /n/ into /b/, /t/ & /ʔ/, and (c) /ŋ/ into /k/. Therefore, compared to nasalization, de-nasalization is more productive in the alternations of Indonesian C-s in SM cognates.

Only two Indonesian fricatives are altered in SM cognates, i.e., /s/ and /h/. Cognates in [20], [21] & [22] undergo strengthening of alveolar-fricative /s/. Cognates in [16] & [17] undergo lenition of /h/, while cognates in [23] & [24] strengthening of /h/. Cognates in [24] undergo alternation of glottal-fricative /h/ into glottal-plosive /ʔ/; so, they undergo glottal strengthening. Since cognates in [16], [17], & [23] undergo alternation of glottal-fricative /h/ into non-glottal C-s, they undergo de-glottalization.

V Alternation, V Laxing, and V Tensing

List 5 recapitulates the cognates undergoing the alternations of tense V-s and List 6 recapitulates the cognates undergoing the alternations of lax Vs.

List 5. Alternations of Tense V-s

	Indonesian cognate	SM cognate	glossary	
[46]	/k**i**.lo/	/k**e**.lo/	kilo	1
[47a]	/g**i**.gi/	/g**ɪ**k.gi/	tooth	1
[47b]	/t**i**.ri/	/t**ɪ**r.rɪ**ʔ**/	step (kinship)	1
[47c]	/Ca.r**i**/	/Cʌ.r**ɪ**ʔ/	seek/look for	7
[48a]	/k**i**.ri/	/k**ɛ**.rɛ**ʔ**	left	1
[48b]	/ki.r**i**/	/kɛ.r**ɛ**ʔ/	left	1
[49]	/si.n**i**/	/sɪ.t**ʊ**ʔ/	here	1
[50]	/g**i**.tu/	/g**ɛ**j.je/	that way	1
[51]	/to.p**i**/	/tʌŋ.g**ɔ**j/	hat/cap	1
[52]	/ka.t**e**/	/kɛ.t**ɛ**t/	dwarf	1
[53]	/s**a**.tu/	/s**ɪ**.gɪ**ʔ**/	one	1
[54a]	/m**a**.J**a**/	/m**e**.J**e**/	*Aegle marmelos*	1
[54b]	/Ja.g**a**.Ja.g**a**/	/Ja.g**e**.Ja.g**e**/	cautious	1
[54c]	/bi.na.s**a**/	/bi.na.s**e**/	perish	7 3
[55]	/k**a**.te/	/k**ɛ**.tɛt/	dwarf	1
[56]	/**ʔ**u.da.r**a**/	/**ʔ**u.da.r**ə**/	air	3
[57a]	/b**a**.la/	/b**ʌ**.lʌ**ʔ**/	disaster/danger	1 1
[57b]	/kə.p**a**.la/	/kɛ.p**ʌ**.lʌ**ʔ**/	head	1
[57c]	/p**a**.di/	/p**ʌ**t.di/	rice/paddy	1
[57d]	/g**a**.li/	/g**ʌ**l.lɪ**ʔ**/	dig	1
[57e]	/la.m**a**/	/lʌ.m**ʌ**ʔ/	long duration	1 3
[57f]	/r**a**.wa/	/t**ʌ**.wʌ**ʔ**/	swamp	1
[57g]	/l**a**.gi/	/**ʔ**ʌ.gɪ**ʔ**/	again	1
[57h]	/tə.li.ŋ**a**/	/kə.lɪ.n**ʌ**ŋ/	ear	1
[58]	/sa.t**u**/	/sɪ.g**ɪ**ʔ/	one	1
[59]	/si.t**u**/	/si.j**e**/	there	3
[60a]	/C**u**.Cu/	/C**ʊ**.Cʊ**ʔ**/	grandchildren	3
[60b]	/m**u**.da/	/m**ʊ**t.dʌ**ʔ**/	young	2
[60c]	/b**u**.ka/	/b**ʊ**k.kʌ**ʔ**/	open	1
[60d]	/**ʔ**a.s**u**/	/**ʔ**ʌ.s**ʊ**ʔ/	dog	1
[60e]	/m**u**.la/	/m**ʊ**l.le/	begin	1
[60f]	/h**u**.ma/	/**ʔ**ʊm.me/	field	1
[61a]	/d**u**.lu/	/d**ɔ**.lɔ**ʔ**/	formerly	1
[61b]	/du.l**u**/	/dɔ.l**ɔ**ʔ/	formerly	1
[62]	/p**o**.li.si/	/p**ə**.li.si/	police	1
[63a]	/b**o**.la/	/b**ʌ**l/	ball	1
[63b]	/t**o**.pi/	/t**ʌ**ŋ.gɔj/	hat/cap	1

Some cognates undergo alternations of tense V-s into other tense V-s, while some others undergo alternations of tense V-s into lax V-s. The last-mentioned alternations are also called V-laxing. Table 6a and Table 6b are the matrixes of the alternations.

Table 6a. Cognates Undergoing Alternation of Tense V-s into other Tenses V-s

Indonesian tense V-s	SM lax V-s					
	front-high	front-mid	central-mid	central-low	back-high	back-mid
front-high		[46]	---	---	---	---
central-low	---	[54]	---		---	---
back-high	---	[59]	---	---		---

Dealing with V production, one cognate in [46] undergoes lowering tongue-position. 75 cognates in [54] undergo rising and fronting tongue-position. Three cognates in [59] undergo fronting and lowering tongue-position. Therefore, cognates undergoing alternations of tense V-s into other tense V-s are dominated by the ones (75 cognates) undergoing rising and fronting tongue-position.

Table 6b. Cognates Undergoing V-laxing

Indonesian tense V-s	SM lax V-s					
	front-high	front-mid	central-mid	central-low	back-high	back-mid
front-high	[47]	[48]	---	---	[49]	
front mid	---	[52]	---	---	---	---
central-low	[53]	[55]	[56]	[57]	---	---
back-high	[58]	---	---	---	[60]	[61]
back-mid	---	---	[62]	[63]	---	---

Rising tongue-position is undergone by one cognate in each of [53], [55], and [56]; while lowering tongue-position is undergone by one cognate in each of [48], [61] and [63]. Fronting tongue-position is undergone by one cognate in each of [53], [55], and [58]. Centering tongue-position is undergone by one cognate in each of [62], & [63]. Backing tongue-position is undergone by one cognate in each of [49]. Thus, cognates undergoing V-laxing are a bit dominated by the ones undergoing fronting tongue-position.

List 6. Alternations of Lax V-s

	Indonesian cognate	SM cognate	glossary	
[64]	/kə.mʌ.rIn/	/sima.ri/	yesterday	1
[65a]	/kI.sʌh/	/kɐ.sʌh/	story/tale	3
[65b]	/sə.lI.pʌr/	/sə.lɐ.pʌr/	slippers	1
[65c]	/pə.kIk/	/mʌ.kɐk/	scream	2
[66]	/tI.dʌʔ/	/ʔən.dʌʔ/	no/not	1
[67a]	/lIn.tʌs/	/lʌn.tʌs/	cross/past	1
[67b]	/tə.rI.jʌk/	/kɛ.rʌ.wʊʔ/	shout	1
[67c]	/sə.rIm.pət/	/sɛ.rʌp.pIk/	get entangled	1
[68]	/lʌn.CIp/	/lʌn.CʊpI/	pointed/sharp	1
[69]	/kʌ.kɐʔ/	/ʔa.kiʔ/	grandfather	1
[70]	/Cɐ.Cɛr/	/lʌ.Cɛr/	poured out	1
[71]	/kə.mʌ.rIn/	/si.ma.ri/	yesterday	1
[72a]	/bə.lʌ.CʌN/	/bI.lʌ.CʌN/	shrimp paste	7
[72b]	/təm.ba.kʌw/	/tIm.ba.kʌw/	tobacco	3
[72c]	/sə.rIm.pət/	/sɛ.rʌp.pIk/	get entangled	1
[73]	/gə.ru.tu/	/gɐ.ru.tu/	grumble	9
[74a]	/gə.lIm.pʌŋ/	/gɐ.lIm.pʌŋ/	lie on the ground	18
[74b]	/tə.rI.jʌk/	/kɐ.rʌ.wʊʔ/	shout	1
[74c]	/sə.lI.nʌp/	/ʔɐ.lI.bʌt/	sneak	1
[74d]	/mər.tu.wa/	/mɐn.tu.we/	parent-in-law	1
[74e]	/mər.tu.wa/	/bɐn.tu.we/	parent-in-law	1
[75]	/lə.ma.ri/	/la.ma.ri/	cupboard	2
[76a]	/də.ŋIŋ/	/dʌ.ŋʌŋ/	tingle	4
[76b]	/dəŋ.ki/	/dʌŋ.ki/	envy angrily	9
[76c]	/sə.bə.lʌh/	/sɛ.bʌ.lʌh/	half	3
[76d]	/sə.bən.tʌr/	/sI.bʌn.tʌr/	a while	1
[76e]	/lə.pʌs/	/lʌp.pʌs/	loose/free	5
[76f]	/kə.bʊn/	/kʌb.bʊn/	garden/plantation	10
[76g]	/lə.tʌk/	/lʌt.tʌk/	put	5
[76h]	/sə.dʌŋ/	/sʌt.dʌŋ/	average/medium	3
[76i]	/pə.Cʌh/	/pʌt.CʌhI/	break	2
[76j]	/sə.Jʊk/	/sʌt.Jʊk/	cold/cool	2
[76k]	/kə.kʌl/	/kʌk.kʌl/	eternal/everlasting	4
[76l]	/pə.gʌŋ/	/pʌk.gʌŋ/	hold	4
[76m]	/tə.bʌŋ/	/tʌm.bʌŋ/	chop off	1
[76n]	/ʔə.mʌs/	/ʔʌm.mʌs/	gold	5
[76o]	/sə.nʌŋ/	/sʌn.nʌŋ/	happy/satisfied	11
[76p]	/lə.ɲʌp/	/lʌn.ɲʌp/	disappear/gone	2
[76q]	/tə.gʊk/	/tʌŋ.gʊk/	draught/swallow	2
[76r]	/də.ŋʊŋ/	/dʌŋ.ŋʊŋ/	buzz	4
[76s]	/pə.rʊt/	/pʌr.rut/	stomach	12
[76t]	/də.sʌk/	/dʌs.sʌk/	press/push	7
[76u]	/bə.lʌh/	/bʌl.lʌh/	split	11
[76v]	/mə.nə.lIp/	/nʌl.lIk/	insert	1
[76w]	/təŋ.gə.lʌm/	/tʌŋ.gʌl.lʌm/	sink/wrecked	1
[76x]	/bər.sIh/	/bʌ.sIh/	clean	1
[76y]	/həm.pʌs/	/ʔʌm.pʌs/	thrown down	2
[76z]	/pər.gi/	/pʌg.gi/	go	1
[76aa]	/pər.gi/	/pʌŋ.gi/	go	1
[76ab]	/sə.mʌj/	/CʌmmʌjC/	seedling	1
[77]	/ʔə.mʌʔ/	/ʔʊm.mʌʔ/	mother	1
[78]	/ʔə.ŋʌh/	/ʔʌ.ŋɐh/	puff	1
[79]	/kʌ.kɛʔ/	/ʔa.ki/	grandfather	1
[80a]	/bʌ.rIŋ/	/gʊ.rIŋ/	lie down	1
[80b]	/kə.rʌs/	/kʌ.rʊʔ/	hard	1
[80c]	/tə.rI.jʌk/	/kɛ.rʌ.wʊʔ/	shout	1
[81]	/kə.rʌs/	/ka.rʌw/	hard	1
[82]	/lʌ.bʊh/	/lʌ.bIk/	fall/drop down/cast anchor	1
[83a]	/sʊ.ŋʊt/	/sɔ.mɐt/	tentacle/moustache	1
[83b]	/ʔʌ.ʷʊr/	/ʔʌ.bɐʔ/	tall bamboo	1
[84a]	/sə.lʊ.wʌr/	/sI.lʌ.wʌr/	trousers	1
[84b]	/pʊ.kʊl/	/pʌŋ.kʊŋ/	beat/hit	1
[84c]	/sʊ.lʊŋ/	/ʔʌ.lʊŋ/	eldest child	1
[85a]	/CI.dʊk/	/Cɛ.dɔk/	water-scoop	2
[85b]	/hʊ.jʊŋ/	/ʔɔ.jɔŋ/	stagger	1
[86a]	/ŋɔ.rɔk/	/sʌ.ŋɔr/	snore	1
[86b]	/sə.pɔ.tɔŋ/	/sI.pI.jʌk/	chunk	1
[87a]	/bɔ.lɛh/	/bʊ.lɛh/	able	1
[87b]	/tɔŋ.kʌt/	/tʊŋ.kʌt/	stick/support	3
[87c]	/tɔ.lɔŋ/	/tʊ.lʊŋ/	help	1
[87d]	/təm.pɔ.jʌk/	/tIm.pʊ.jʌk/	fermented durian	1

[87e]	/gə.lɔm.bʌŋ/	/gɛ.lʊm.bʌŋ/	wave	1
[87f]	/ɔɛ.sɔk/	/ɔI.sʊk/	tomorrow	1
[87g]	/tɔ.rɛh/	/tʊr.rɛh/	incise/carve	1

Some cognates undergo alternations of lax V-s into other lax V-s, while some others undergo alternations of lax V-s into tense V-s. The last-mentioned alternations are also called V-tensing. Table 6c and Table 6d are the matrixes of the alternations.

Table 6c. Cognates Undergoing Alternation of Lax V-s into other Lax V-s

Indonesian tense V-s	SM lax V-s					
	front-high	front-mid	central-mid	central-low	back-high	back-mid
front-high		[65]	[66]	[67]	[68]	---
front mid	---		---	[70]	---	---
central-mid	[72]	[74]		[76]	[77]	---
central-low	---	[78]	---		[80]	---
back-high	[82]	[83]	---	[84]		[85]
back-mid	---	---	---	[86]	[87]	

Alternations of lax V into other lax V undergone by more cognates are (a) in [65] (six cognates) which is also lowering tongue-position, (b) in [72] (eleven cognates) which is also rising and fronting tongue-position, (c) in [74] (twenty-two cognates) which is also fronting tongue-position, (d) in [76] (125 cognates) which is also lowering tongue-position, (e) in [85] (three cognates) which is also lowering tongue-position, (f) in [86] (two cognates) which is also lowering and centering tongue-position, and (g) in [87] (nine cognates) which is also rising tongue-position. Therefore, cognates undergoing alternations of lax V-s into other lax V-s are dominated by the ones undergoing lowering and fronting tongue-position.

Table 6d. Number of Cognates Undergoing V-tensing

Indonesian tense V-s	SM lax V-s					
	front-high	front-mid	central-mid	central-low	back-high	back-mid
front-high	[64]	---	---	---	---	---
front mid	[69]	---	---	---	---	---
central-mid	[71]	[73]	[75]	---	---	---
central-low	---	---	---	[79]	---	---

Rising tongue-position is undergone by one cognate in each of [69] and [71]; while no cognate undergoes lowering tongue-position. Fronting tongue-position is undergone by one cognate in each of [71] and [73]; while no cognate undergoes either centering nor backing tongue-position. Therefore, cognates undergoing V-tensing are dominated by the ones undergoing rising and fronting tongue-position.

Compared to the ones undergoing V-tensing, more cognates undergo V-laxing. In addition to V-tensing, alternation of lax V into diphthong (diphthongization) is undergone by a cognate in [81]. Meanwhile, since V-s being altered are tense, diphthongization undergone by cognates in [50] and [51] is not V-tensing. Cognates undergoing diphthongization are recapitulated in Table 7. Meanwhile, no monophthongization is found in SM cognates.

Table 7. Cognates Undergoing Diphthongization

Indonesian V-s	SM Diphthongs /ɛj/	SM Diphthongs /ʌw/	SM Diphthongs /ɔj/
/i/	[50]	---	[51]
/ʌ/	---	[81]	---

The realizations of Indonesian lax V-s in [64], [69], and [81] are caused by their occurrences in closed syllables; while the realizations of SM tense vowels in [64] & [69] and the realizations of SM diphthong in [81] are caused by their occurrences in open syllables. Similarly, the realizations of Indonesian and SM tense vowels in cognates recapitulated in List 5 are caused by their occurrences in in open syllable; while the realizations of most of SM lax vowels undergone by cognates recapitulated in List 5 (not by cognates in [48a], [53], [55], [56], [57a], [57b], [57f], [57g], [60a], [61a], & [62]) are caused by their occurrences in closed syllables. Those realizations of tense/lax V-s are associated to phonotactic rule explained by Hasan (2013, pp. 52--59) underlining that nucleus of Indonesian/Malay open syllables comprise tense V-s, while nucleus of Indonesian/Malay closed syllables comprise lax V-s. Therefore, V-tensing and some of the alternations of vowel laxing described above are caused by the phonotactic rule.

CM lax V-s realized in [48a], [53], [55], [56], [57a], [57b], [57f], [57g], [60a], [61a], & [62] occur in open syllable. Instead of being caused by the phonotactic rule, the realizations of lax V is influenced by the occurrence of lax V in the following syllable. In other words, V-laxing undergone by the cognates is a

kind of assimilation, i.e., morphophonemic alternation defined by Millar (2015, p. 49) as the process by which two sounds that occur close together in speech become more alike. V-s involved in the alternations of Indonesian V-s into other V-s in SM cognates occur as nucleus of the initial syllable, ante-penultimate, penultimate, the final syllable. The syllabic distribution of the nucleus can be seen in List 5 and List 6. Among the distribution, an Indonesian V altered is metathesized in SM cognate; i.e., cognate in [86a].

Metatheses

An alternation of C which is also metathesized is undergone by a cognate in [7b]; and an alternation of V which is also metathesized is undergone by the same cognate and described in [86a]. Besides, certain Indonesian sounds and/or Indonesian sound-cluster are metathesized in SM Cognates. List 7 recapitulates the cognates undergoing the metatheses.

List 7. Metathesized of Indonesian-sounds in SM Cognates

	Indonesian cognate	SM cognate	glossary	
[88]	/kʊ**m**.pʊl/	/kʊ.**m**ʊl/	gather	1
[89]	/tə.li.**ŋ**a/	/kə.lI.nʌ**ŋ**/	ear	1
[90]	/hʌ**r**.ga/	/**r**a.ge/	cost/price	1
[91]	/sɛ.rʌk/	/sʌ.rɛk/	scattered	1
[92]	/sə.**mu**.wa/	/s**u.m**e/	all	1
[93]	/**ŋ**ɔ.**r**ɔk/	/sʌ.**ŋɔr**/	snore	1

There are two main types of metatheses: *perceptual metathesis* and *reciprocal metathesis* (Egurtzegi, 2014, p.189). Cognates in [88]--[90] undergo perceptual metathesis, i.e., the movement of a single segment within a phonological string; and perceptual metatheses only involve C-s. Meanwhile, cognates in [91] undergoes reciprocal metatheses, i.e., transposition of two non-adjacent segments which exchange location with each other; and the cognate undergoes reciprocal metatheses of two vowels. Besides undergoing perceptual metathesis of a C and perceptual metathesis of a V, cognate in [92] also undergoes deletion of sounds. Out of those two types of metatheses afore-mentioned, cognates in [93] undergoes metathesis of sound-cluster: /ŋɔr/ (/ŋɔ/ becomes the first syllable and /r/ becomes onset of the final syllable) in Indonesian cognate is metathesized into the final syllable in SM cognate.

Sound Addition

Certain sounds and/or sound-cluster are added in SM Cognates. List 8 recapitulates the cognates undergoing the alternations.

List 8. Sound Addition in SM Cognates

	Indonesian cognate	SM cognate	glossary	
[94a]	/nʌ.pʌs/	/n**ʌp**.pʌs/	breath	3
[94b]	/Cə.pʌt/	/C**ʌp**.pʌt/	quick/fast	5
[94c]	/hʊ.bʊŋ/	/ɜʊ**p**.bʊŋ/	connect	1
[94d]	/tə.bʌŋ/	/t**ʌp**.bʌŋ/	chop off	10
[95a]	/hʊ.tʌn/	/ɜʊ**t**.tʌn/	forest	2
[95b]	/tə.tʌp/	/t**ʌt**.tʌp/	fixed/constant	5
[95c]	/ɜI.dʌp/	/ɜI**t**.dʌp/	suffer from	2
[95d]	/sə.dʌŋ/	/s**ʌt**.dʌŋ/	average/medium	3
[95e]	/pə.Cʌh/	/p**ʌt**.Cʌh/	break	2
[95f]	/hʊ.Jʌn/	/ɜʊ**t**.Jʌn/	rain	1
[95g]	/kə.Jʊt/	/k**ʌt**.Jʊt/	shock	2
[95h]	/pa.di/	/p**ʌt**.di/	rice/paddy	1
[95i]	/bu.ta/	/b**ʊt**.tʌɜ/	blind	1
[95j]	/mu.da/	/m**ʊt**.dʌɜ/	young	1
[95k]	/ka.te/	/kɛ.t**ɛt**/	dwarf	1
[96a]	/tI.kʊs/	/t**Ik**.kʊs/	mouse/rat	1
[96b]	/gi.gi/	/g**Ik**.gi/	tooth	1
[96c]	/gʌ.gʌp/	/g**ʌk**.gʌp/	sutter	1
[96d]	/də.kʌt/	/d**ʌk**.kʌt/	near	4
[96e]	/gə.gʌs/	/g**ʌk**.gʌs/	hurry	3
[96f]	/bu.ka/	/b**ʊk**.kʌɜ/	open	1
[97a]	/na.si/	/nʌ.sI**ɜ**/	cooked rice	7
[97b]	/ki.ri/	/kɛ.rɛ**ɜ**/	left	1
[97c]	/ŋa.ŋa/	/ŋʌ.ŋʌ**ɜ**/	opened	12
[97d]	/ɜa.su/	/ɜʌ.sʊ**ɜ**/	dog	1
[97e]	/du.lu/	/dɔ.lɔ**ɜ**/	formerly	1
[97f]	/sa.tu/	/sI.gI**ɜ**/	one	1
[97g]	/si.ni/	/sI.tʊ**ɜ**/	here	1
[98a]	/tə.bʌŋ/	/t**ʌm**.bʌŋ/	chop off	1
[98b]	/rə.mʌs/	/r**ʌm**.mʌs/	knead/squeeze	4
[98c]	/ɜə.mʌɜ/	/ɜʊ**m**.mʌɜ/	mother	1
[98d]	/sə.mʌj/	/C**ʌm**.mʌj/	seedling	1
[98e]	/hu.ma/	/ɜʊ**m**.me/	field	1
[99a]	/bʊ.sʊk/	/b**ʊn**.tʊɜ/	rotten	2
[99b]	/kə.rʊ.mʊn/	/kɛ.r**ʊn**.dʊŋ/	crowd	1
[99c]	/tə.li.ŋa/	/kə.lI.**n**ʌŋ/	ear	1
[99d]	/rə.nʊŋ/	/r**ʌn**.nʊŋ/	contemplate	11

[99e]	/lə.ɲʌp/	/**l**ʌ**n**.ɲʌp/	disappear/gone	2
[99f]	/tI.dʌʔ/	/ʔə**n**.dʌʔ/	no/not	1
[100a]	/tə.gʊk/	/t ʌ **ŋ**.gʊk/	draught/swallow	2
[100b]	/də.ŋʊŋ/	/d ʌ **ŋ**.ŋʊŋ/	buzz	4
[100c]	/pʊ.kʊl/	/p ʌ **ŋ**.kʊŋ/	beat/hit	1
[100d]	/to.pi/	/t ʌ **ŋ**.gɔj/	hat/cap	1
[101a]	/sʊ.rʊŋ/	/s **ʊr**.rʊŋ/	push	3
[101b]	/ti.ri/	/t I **r**.rIʔ/	step (kinship)	1
[101c]	/Cə.rʌh/	/C ʌ **r**.rʌh/	bright	12
[101d]	/tɔ.rɛh/	/t ʊ **r**.rɛh/	incise/carve	1
[102]	/rə.sʌp/	/r ʌ **s**.sʌp/	absorb	7
[103a]	/gʊ.lʌt/	/g **ʊl**.lʌt/	wrestle	1
[103b]	/Cə.lʊp/	/C ʌ **l**.lʊp/	dip/immerse	11
[103c]	/mə.ɲə.lIp/	/ɲ ʌ **l**.lIk/	insert	1
[103d]	/təŋ.gə.lʌm/	/tʌŋ.g ʌ **l**.lʌm/	sink/wrecked	1
[103e]	/ga.li/	/g ʌ **l**.lIʔ/	dig	1
[103f]	/mu.la/	/m **ʊl**.le/	begin	1
[104a]	/pəm.be.la/	/pə.m **a**.be.le/	defender	1
[104b]	/kər.ja/	/kə.r **a**.Je/	work	1
[105]	/bʌ.ɲʌk/	/**tI**.bʌ.ɲʌk/	numerous/many	1

Additions of fortis C-s (involving /p/, /t/, /k/, /ʔ/, and /s/) are undergone by more cognates compared to additions of lenis consonants (involving /m/, /n/, /ŋ/, /r/, and /l/). Two cognates undergo addition of V (only involving /a/). One cognate ondergoes addition of sound cluster (only involving /tI/). Each C added in [94a--b], [95a--b], [95i], [96a], [96d], [96f], [98b--e], [99d], [100b], [101a--d], [102], and [103a--f] is identical with the C occurring adjacently to it. Such sound addition or sound doubling is *gemination* as Crystal (2008, p. 206) defines it as a sequence of identical adjacent segments of a sound in a single morpheme. Gemination undergone by Sambas Malay cognates involve doubling of fortis /p/, /t/, /k/, & /s/ and lenis /m/, /n/, /ŋ/, /r/, & /l/; so, the gemination involves more doubling of lenis C-s.

Each C added in [94c--d], [95c--d], [95h], [95j], [96b--c], [96e], [98a], [99a--b], [99-f], [100a], and [100c--d] is homorganic with the C occurring adjacently to it. It is associated with the notion of *regressive assimilation* in which the segment on the right influences the one to its left (Bateman, 2007, p. 288). Addition of each C the place of articulation of which is no far from the place of articulation of the C occurring adjacently to it, undergone by cognates [95e--g] & [99e], also belongs to assimilation and is still associated to regressive assimilation. Nasal /n/ added as onset in the final syllable in [99c] does not occur adjacently with nasal /ŋ/ as coda in the final syllable that influences the addition. However, since the addition nasal of /n/ is influenced by the occurrence of nasal /ŋ/ (C with similar manner of articulation), based on the definition of assimilation by Millar (2015, p. 49) as the process by which two sounds that occur close together in speech become more alike, the addition of /n/ also belongs to assimilation.

Alternation of alveolar /r/ into velar /g/ occurring as coda in the initial syllable in [29] is influenced by velar /g/ occurring as onset in the final syllable. Alternation of nasal /m/ into plosive /p/ occurring as coda in penultimate in [38] is influenced by plosive /p/ occurring as onset in the final syllable. Thus, besides belonging to assimilation, the two C-alternations also belong to gemination. Alternation of glottal /ʔ/ into alveolar /t/ occurring as onset of the initial syllable undergone by cognates in [19] is influenced by the occurrence of alveolar /n/ as coda of the initial syllable. Alternation of alveolar /r/ into alveolar /n/ occurring as coda in the initial syllable in [30] is influenced by alveolar /t/ occurring as onset of the final syllable and alternation of alveolar /r/ into velar /ŋ/ occurring as coda of the initial syllable in [31] is influenced by velar /g/ occurring as onset of the final syllable. Thus, the alternations also belong to assimilation.

Instead of becoming a process by which two sounds that occur close together in speech become more alike, the process undergone by cognate in [9] is the other way around. The alternation of bilabial /m/ into alveolar /n/ occurring as coda of the initial sound is the process by which alveolar /n/ becomes dissimilar to bilabial /p/ occurring as onset in the final syllable. Thus, the process, instead of belongs to assimilation, belongs to *dissimilation*.

Addition of a glottal closure to a sound is also glottalization (check Millar, 2015, p. 57); so, cognates in [97] undergo glottalization. Associated to the fact that addition of glottal sound is considered as glottalization, addition of nasal sound can be considered as nasalization. Thus, besides undergoing assimilation or gemination, cognates in [98]--[100] undergo nasalization.

Most of Cs added occur as coda, mostly as coda of the initial syllable. Only one C added occurs as onset of the final syllable: in C-addition undergone by cognate in [99c]. V-s added occur as nucleus in penultimate/antepenultimate. Sound-cluster added occurs as the initial syllable. None of C-addition causes addition in the number of syllables, while, V-additions and sound-cluster addition do: one-syllable addition; and the syllable addition is a phenomenon of word lengthening.

Sound Fission

Different from sound addition, a certain sound is split into a sound-cluster in SM cognates. In other words, fission, a process in which one linguistic unit is split into two (Crystal, 2008, p. 191), happens in SM cognate. Only fission of V is found and List 9 shows the cognate undergoing the alternation.

List 9. Sound Fission in SM Cognates

	Indonesian cognate	SM cognate	glossary	
[106]	/t**ə**r.bʌŋ/	/t**I**.r**ʌ**.bʌŋ/	fly	1

Compared to Indonesian cognates, particular Banjar cognates undergo such fission and it also involves the alternation of Indonesian V like in /b**ə**r.sIh/ into /b**ʌ**.r**ʌ**.sIh/ 'clean' and in /C**ə**r.mIn/ into /C**ʌ**.r**ʌ**.mIn/ 'mirror' (Check Djantera, 2011). Such fission is also undergone by an abundant of Minangkabau cognates (Check Abdul, 2002); fission undergone by Minangkabau cognates involves alternations of some other V-s: /I/ like in /ʔ**I**l.mu/ into /ʔ**a**.l**e**.mu/ 'science', /ɛ/ like in /br**ɛ**n.di/ into /b**ʌ**.r**ʌ**n.di/ 'brandy', /ə/ like in /m**ə**s.ki/ into /m**a**.s**i**.ki/ 'although', /ʌ/ like in /h**ʌ**r.ta/ into /h**a**.r**a**.to/ 'treasure', /ʊ/ like in /s**ʊ**r.ga/ into /s**a**.r**u**.go/ 'heaven', and /ɔ/ like in /k**ɔ**.drʌt/ into /k**ʊ**.d**ʌ**.rʌt/ 'nature'.

Fission—in SM, Banjar, and Minangkabau cognates afore-mentioned—only involve alternations of Indonesian lax V-s; no alternation of Indonesian tense V is found. Each of Indonesian V-s, which are split in SM, Banjar, and Minangkabau cognates, occurs as nucleus of the initial syllable of disyllabic words. Each of the two V-s resulted from the fission respectively occurs as nucleus of the initial syllable and as nucleus of penultimate of trisyllabic words. The fission creates penultimate as a new syllable. In other words, the fission causes addition in the number of syllables: one-syllable addition; and the syllable addition is a phenomenon of word lengthening.

Sound Deletion

Certain Indonesian sounds and/or sound-cluster are deleted in SM cognates. List 10 recapitulates the cognates undergoing the alternations.

List 10. Sound Deletion in SM Cognates

	Indonesian cognate	SM cognate	glossary	
[107]	/kʊm.p**ʊ**l/	/kʊ.mʊl/	gather	1
[108]	/kʌ.k**ɛ**ʔ/	/ʔa.ki/	grandfather	1
[109a]	/pɛ**n**.dɛk/	/kɛ.tɛt/	short	1
[109b]	/kə.mʌ.r**I**n/	/si.ma.ri/	yesterday	1
[110]	/b**ə**r.sIh/	/bʌ.sIh/	clean	1
[111]	/kə.r**ʌ**s/	/ka.rʌw/	hard	1
[112]	/**h**ʌr.ga/	/ra.ge/	cost/price	1
[113]	/nə.g**ə**.ri/	/na.gri/	land	1
[114]	/bo.l**a**/	/bʌl/	ball	1
[115]	/**d**ə.lʌ.pʌn/	/lʌ.pʌn/	eight	1
[116]	/**m**ə.ŋi.gʌw/	/ŋi.gʌw/	rave	1
[117]	/s**i**.ja.pa/	/sa.pe/	who	1
[118]	/s**ə**.**d**I.kIt/	/sI.kIt/	few	1
[119]	/s**ə**.**ʔ**ɔ.rʌŋ/	/sɔ.rʌŋ/	someone	1
[120]	/s**ə**.mu.**w**a/	/su.me/	all	1
[121]	/**pu**.**ra**.pu.ra/	/pʊ.rʌʔ/	pretend	1

Since the manner of articulation of bilabial /p/ (C added) is the same as bilabial /m/ occurring adjacently to it, cognate in [107] undergoes dissimilation. Contrast to addition of glottal sound which is considered as glottalization; deletion of glottal sound is de-glottalization; and cognate in [108] undergoes the alternation. Contrast to addition of nasal sound which is considered as nasalization; deletion of nasal sound is de-nasalization; and cognate in [109] undergoes the alternation. Cognate in [110] undergoes deletion of trill; while each of cognates in [111] & [112] undergoes deletion of fricative.

C-s deleted mostly occur as coda; only in [107] and [112] C-s deleted occur as onset. Deletion of onset of the initial syllable undergone by cognate in [112] is popularly known as aphaeresis as Millar (2015, p. 60) explains that loss of an initial segment is called *aphaeresis*. Deletion of C-s at the final position of a word like the alternation undergone by cognates in [108], [109b], & [111] is popularly known as *apocope* as Abdul (2007) explains that the deletion of /t/ in the alternation of Indonesian word *pelangit* into *pelangi* is called apocope. Meanwhile, deletion of C in the middle of the word like the alternation undergone by cognates in [107], [109a], & [110] is popularly known as *syncope*; it is associated to Fauzi's (2015; 2018) explanation that the deletion of /k/ in the alternation of English word /ʔə**k**.se.sə.ris/ into Indonesian word /ʔʌ.sɛ.sɔ.rIs/ and the deletion of /j/ in the alternation of English word /kəm.p**j**u.tər/ into Indonesian word /kɔm.pʊ.tər/ are examples of syncope.

Each cognate in [113] & [114] undergoes V-deletion. The deletion involves lax-mid-central /ə/ and tense-low-central /a/. V-deletion in the middle of a word like the alternation undergone by cognate in [113] is popularly known as *syncope* (check Bloomfield, 1933); while, V-deletion in the final position of a word like the alternation undergone by cognate in [114] is explained by Bloomfield as *apocope.* Meanwhile, each cognate in [115] & [116] undergoes deletion of CV sound-cluster and each cognate in [117]--[120] undergoes deletion of VC. Each CV deleted becomes the initial syllable in Indonesian cognate. Each V of VC deleted occurs as nucleus of the first syllable of Indonesian cognate. Most of C of VC deleted occurs as onset of penultimate; only in [120] C of VC deleted occurs as onset of the final syllable.

Since V deleted occurs as nucleus of a syllable, each V deletion above-mentioned causes reduction in the number of syllables: one-syllable reduction. Consequently, the C occurring as onset in the syllable reduced is metathesized. C /g/ occurring as onset of penultimate in [113] is metathesized and occurs as the first C of double onset of the final syllable and C /l/ occurring as onset in the final syllable in [114] is metathesized and occurs as coda of a monosyllabic word. Segments metathesized described in this paragraph increase the number of perceptual metatheses recapitulated in List 7.

Syllable reduction is also undergone by the cognates undergoing CV and VC sound cluster aforementioned: one-syllable reduction. Consequently, Indonesian trisyllabic cognates are altered into SM disyllabic cognates. Syllable reduction described in this paragraph and the previous paragraph cause word-shortening. Furthermore, word shortening caused by two-syllable reduction is undergone cognate in [121]. Two-syllable reduction is the deletion of two-syllable root becoming element of Indonesian reduplicated cognate. In other words, Indonesian cognate, which is in form of a reduplicated word, is altered into a SM non-reduplicated cognate. Therefore, instead of reduplication, SM cognate undergoes de-reduplication.

Fusion

Different from sound deletion, certain sound-cluster is merged into a single sound in SM cognates. In other words, fusion happens in SM cognate. List 11 shows the cognate undergoing the alternation.

List 11. Sound Fusion in SM Cognates

	Indonesian cognate	SM cognate	glossary	
[122]	/pʌ.**mʌn**/	/pʌʔ/	uncle	1

Indonesian sound cluster /mʌn/ is altered into C /ɔ/ in SM cognate. It causes one-syllable reduction; so, the cognate also undergoes word shortening: Indonesian disyllabic cognate is altered into SM monosyllabic cognate. Such fusion, which is also word shortening, is undergone by Minangkabau cognate: Indonesian disyllabic /s**a.Ja**/ is altered into Minangkabau /s**ɐn**/ (check Abdul, 2002).

CONCLUSION

The recapitulations of identical cognates show that more fortis C-s or stronger C-s occur as the initial sounds of the cognates. In line with that, the recapitulations of C-alternations show that more cognates undergo C-strengthening and fortition. Therefore, stronger or fortis C-s occur more in SM cognates than in Indonesian cognates. C-s occur both in Indonesian cognates and SM cognates involve the ones listed in Table 1 minus /q/, /ɣ/, /f/, /v/, /ɋ/, /θ/, /ð/, /z/, /ʃ/, & /x/. Glides /ʷ/ and /ʲ/ occur both in Indonesian cognates and SM cognates (including identical cognates). To sum up, the distribution of C-s in Indonesian cognates and in SM cognates involve the same segments.

Compared to the ones undergoing V-tensing, more cognates undergo V-laxing. Although diphthongization, i.e., alternation of V into diphthong is undergone by few cognates, only one cognate undergoes alternation of lax V into diphthong. In addition, more lax-low-central V occur more in identical cognates. In line with that, the recapitulations of V alternations also show that more lax-low-central V occur more in SM cognates. To sum up, lax V-s occur more in SM cognates than in Indonesian cognates.

One of important findings is 75 cognates in [54] undergo fronting and rising tongue position: alternation of /a/ into /e/; and the tongue-positions movements becomes the dominance in the V alternations. Dealing with the distribution of V-s, V-s occur both in Indonesian cognates and SM cognates involve all V-s listed in Table 2. To sum up, the distribution of V-s in Indonesian cognates and in SM cognates also involve the same segments.

Diphthongization in SM cognates (check Table 7) involve diphthongs /**ɐj**/, /**ʌw**/, and /**ɔj**/; no monopthongization is found in SM cognates. Dipthong /ʌw/ also occurs in identical cognate /da.ŋʌw/ ‘watch house in rice-field’ and in the pair Indonesian cognate /mə.ŋi.gʌw/ -- SM cognate /ŋi.gʌw/ ‘rave’. Another diphthong, i.e., /**ʌj**/, occurs in identical cognates /pʌn.dʌj/ ‘clever/expert’, /Jʊn.tʌj/

'dangle', & /kʊ.lʌj/ 'sag' and also in the pair Indonesian cognate /sə.mʌj/ -- SM cognate /CʌmmʌjC/ 'seedling'. Therefore, compared to Indonesian cognates, diphthongs occur more in SM cognates. The descriptions of sound addition (plus sound fission) and sound deletion (plus sound fusion) show that SM cognates undergo more sound deletion. Consequently, compared to Indonesian cognates, SM cognates consist of less elements.

REFERENCES

Abdul Chaer. 2007. *Linguistik Umum.* Jakarta: Rineka Cipta.

Abdul Kadir Usman Datuk Yang Dipatuan. 2002. *Kamus Umum Bahasa Minangkabau-Indonesia*. Padang: Anggrek Media.

Ayman R. Yasin & Ibtisam M. Hussein. 2016. *Deglottalization in Jordanian Arabic: syntax-prosody interface*. Article in *Dirasat: Human Social and Social Sciences.*

Bateman, N. 2007. *A Crosslinguistic Investigation of Palatalization*. Dissertation. University of California, San Diego.

Bloomfield, L. 1933. *Language.* New York: Henry Holt Company.

Bussmann, H. 1996. *Routledge Dictionary of Language and Linguistics.* Translated and edited by Gegory P. Trauth and Kerstin Kazazazi. New York: Routledge.

Carr, P. 2008. *A glossary of Phonology.* Edinburgh: Edinburgh University Press.

Crystal, D. 2008. *A dictionary of Linguistics and Phonetics.* Malden: Blackwell Publishing.

Deterding, D., Gardiner, I. A., & Najib Noorashid. 2022. *The Phonetics of Malay.* E-book Downloaded from https://www.cambridge.org/core. Universiti Brunei Darussalam.

Djantera Kawi. 2011. *Telaah Bahasa Banjar.* Banjarbaru: Scripta Cendekia.

Egurtzegi, A. 2014. *Towards a phonetically grounded diachronic phonology of Basque*. Dissertation. Universidad del Pais Vasco.

Fauzi Syamsuar. 2015. *Penyelarasan Fonologis dalam Satuan Leksikal Indonesia yang Disalin dari Bahasa Inggris*. Dissertation. Faculty of Humanities Universitas Indonesia.

Fauzi Syamsuar. 2018. *Aspek Fonologis dalam Pembentukan Kata*. Bogor: UIKA Press.

Firman Susilo, Rr. Sulistyawati, Slamet Tarno, & Deden Ramdani. 1998. *Fonologi Bahasa Melayu Sambas.* Jakarta: Pusat Pembinaan dan Pengembangan Bahasa Departemen Pendidikan dan Kebudayaan.

Harimurti Kridalaksana. 2008. *Kamus Linguistik.* Fourth Edition. Jakarta: Gramedia Pustaka Utama.

Hasan Alwi. 2013. *Perbandingan Tatabahasa Dewan dengan Tatabahasa Baku Bahasa Indonesia*. Kuala Lumpur: Dewan Bahasa dan Pustaka.

Iverson, G. K. & Ahn, S. 2007. *English Voicing in Dimensional Theory*. Article in *Language Sciences.* Volume 29. hlm. 257--269.

Lodge, K. 2009. *Fundamental Concepts in Phonology: Sameness and Difference.* Edinburgh: Edinburgh University Press.

Matthews, P. 1997. *The Concise Oxford Dictionary of Linguistics.* Oxford: Oxford University Press.

Millar, R. M. Editor. 2015. *Trask's historical linguistics*. Third edition. New York: Routledge.

Nik Safiah Karim, Farid M. Onn, Hashim Haji Musa, & Abdul Hamid, Mahmood. 2011. *Tatabahasa Dewan*. Third edition. Kuala Lumpur: Dewan Bahasa dan Pustaka.

SIL. 2006. *Languages of Indonesia.* Jakarta: SIL International, Indonesia Branch.

Tan, T. & Ranaivo-Malançon, B. 2009. Malay grapheme to phoneme tool for automatic speech recognition. Article in *https://www.reserachgate.net/publication/271520173_Malay_Grapheme_ to_Phoneme_Tool_ for_Automatic_Speech_Recognition.*

Yavaş, M. 2011. *Applied English Phonology*. Second Edition. West Sussex: Blackwell Publishing.

Yule, G. 2010. *The Study of Language*. Fourth Edition. New: York: Cambridge University Press.

Yusriadi. 2007. *Dialek Melayu Ulu Kapuas Kalimantan Barat: Siri Monograf Sejarah Bahasa Melayu*. Kuala Lumpur: Dewan bahasa dan Pustaka.

Appendix:

List of cognates becoming data corpus which can be accessed through: https://youtu.be/pZ5owrSV7g8

CURRICULUM VITAE

Complete Name : Fauzi Syamsuar
Institution : Universitas Putra Indonesia Cianjur
Education : Doctor of Linguistics from Universitas Indonesia
Research Interests : phonology, morphology, syntax, and semantics