กลุ่มสาขาภาษาศาสตร์

การเปลี่ยนเป็นพยางค์เดียวและพัฒนาการของเสียงพยัญชนะก้องกังวานแบบเสียงไม่ก้อง : การเปรียบเทียบสามภาษาย่อยของภาษาฮาลาง

Monosyllabicization and the development of voiceless sonorants : Comparing three varieties of Halang

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บทความนี้แสดงให้เห็นข้อมูลเชิงเปรียบเทียบซึ่งบ่งชี้ว่าพยัญชนะเสียงกังวานแบบไม่ก้อง (voiceless sonorants) มีการพัฒนาผ่านกระบวนการเปลี่ยนเป็นพยางค์เดียว (monosyllabicization) ในสามภาษาย่อยของภาษาฮาลาง ซึ่งเป็นภาษาบาห์นาริกเหนือที่พูดในที่ราบสูงของเวียดนาม ภาษาย่อยดักเกลย (Dak Glei) มีสัดส่วนพยางค์ครึ่งน้อยกว่าพยางค์เดียวอย่างเห็นได้ชัดเมื่อเทียบกับภาษาย่อยกอนตูม (Kon Tum) และกอนตูมเหนือ (North Kon Tum) ผลการศึกษาแสดงให้เห็นว่าภาษาย่อยดักเกลยมีการพัฒนาผ่านกระบวนการเปลี่ยนเป็นพยางค์เดียว ดักเกลยเป็นเพียงภาษาเดียวที่มีเสียงนาสิกแบบไม่ก้อง (voiceless nasals) และเสียงเปิดกลางแบบไม่ก้อง (voiceless approximants) แบบครบชุด ทั้งนี้ พบรูปแบบที่คล้ายคลึงกัน 2 รูปแบบ ได้แก่ พยางค์ครึ่งที่เริ่มต้นด้วยเสียง /h/ หรือเสียงหยุดแบบไม่ก้อง (voiceless stop) ตามด้วยเสียงกังวานในภาษากอนตูมและภาษากอนตูมเหนือซึ่งตรงกับพยางค์เดียวที่มีต้นพยางค์เสียงกังวานแบบไม่ก้องในภาษาดักเกลย ดังนั้น ภาษาฮาลางจึงเป็นตัวอย่างของการพัฒนาเสียงกังวานแบบไม่ก้องผ่านกระบวนการเปลี่ยนเป็นพยางค์เดียว

คำสำคัญ : เสียงกังวานแบบไม่ก้อง การเปลี่ยนเป็นพยางค์เดียว ภาษาฮาลาง ภาษาบาห์นาริกเหนือ ตระกูลภาษาออสโตรเอเชียติก

Abstract

This paper shows comparative data that points to voiceless sonorants developing through the process of monosyllabicization in three varieties of Halang, a North Bahnaric language spoken in the highlands of Vietnam. The Dak Glei variety has a noticeably smaller proportion of sesquisyllables than monosyllables compared to the Kon Tum and North Kon Tum varieties. This suggests that the Dak Glei variety is further along in the process of monosyllabicization. Dak Glei is the only variety with a complete set of voiceless nasals and voiceless central approximants. Two correspondence patterns were found. Sesquisyllables beginning with /h/ or a voiceless stop followed by a sonorant in Kon Tum and North Kon Tum corresponded to monosyllables with initial voiceless sonorants in Dak Glei. Thus, Halang provides an example of the development of voiceless sonorants through the process of monosyllabicization.

Keywords : voiceless sonorants, monosyllabicization, Halang, North Bahnaric, Austroasiatic

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1. Introduction

Many Southeast Asian languages have developed voiceless sonorants, such as Burmese and other Tibeto-Burman languages. (Matisoff, 2003; Sidwell & Jacq, 2003). The process of developing voiceless sonorants is difficult to trace, because there are few examples of it happening in real time across a language community. Halang appears to provide such an example. This study shows comparative data that points to voiceless sonorants developing through the process of monosyllabicization. Monosyllabicization is considered an areal feature in Southeast Asia, where there are a significant number of languages with a strong tendency toward becoming monosyllabic. This process occurs over time with a stage in syllable structure between disyllables and monosyllables called sesquisyllables (Michaud, 2012). Monosyllabicization in Halang leads to an increase in phonation contrasts on sonorant onsets.

Halang is part of the North Bahnaric sub-group of Bahnaric, a branch of the Austroasiatic language family. Halang is spoken in Vietnam and Laos with a total of 17,500 speakers (Eberhard et al., 2020). The majority are located in Vietnam and about 4,000 speakers can be found in the province of Attapu, Laos (Lê Bá Thảo & Đẳng, 2014). On the Vietnam side, speakers are located in the Kon Tum province, with at least four known villages. The three varieties used in this paper are 1) the Kon Tum variety, which is located near Kon Tum City; 2) the North Kon Tum variety, which is located north of Kon Tum city; and 3) the Dak Glei variety, which is also located north of Kon Tum City, in the Dak Glei area.

This study aims to bring in new data from these three varieties of Halang to compare the environments where voiceless sonorants occur. The study describes the relationship between voiceless nasals and monosyllabicization in Halang. This comparison shows that monosyllables are more frequent than sesquisyllables in all three varieties but significantly more frequent in the Dak Glei variety. That variety has all possible voiceless sonorants expected in Halang while the others have fewer. Often the voiceless sonorants in monosyllables of the Dak Glei variety correspond to voiced sonorants in the main syllable of sesquisyllables in the other two varieties. Generally, when the other two varieties have sesquisyllables where a voiced sonorant onset is preceded by either a voiceless glottal fricative /h/ or a voiceless stop, the Dak Glei variety has a voiceless sonorant in a monosyllable onset. However, these changes are not completely regular. Dak Glei still maintains sesquisyllables with /h/or a voiceless stop in the presyllable followed by a voiced sonorant. Finally, there are cases of monosyllabicization without a devoiced sonorant in Dak Glei.

2. Literature review

This section summarizes the previous phonological description of Halang, highlighting voiceless sonorants. Then this section discusses the relationship between monosyllabicization and voiceless sonorants in other Bahnaric languages. Finally, it points out the matter of irregularity in the process of monosyllabicization.

James and Nancy Cooper described Halang in the 1960s and 1970s. They published several papers including a dictionary, a description of Halang verb phrases, a description of Halang phonemes, and a wordlist (Cooper, 1966, 1972; Cooper & Cooper, 1964, 1966). These studies are centered on data collected from a village west of Kon Tum city, which does not appear to be one of the three varieties compared in this paper. Thomas & Smith (1967) published a reconstruction of Proto Jeh Halang based on the data collected by Cooper & Cooper. Sidwell (1995) published an article proposing a revision on

Proto-Jeh-Halang and Proto-North-Bahnaric vowels. No other fieldwork study has been reported since Cooper & Cooper.

In their phonology of Halang, Cooper & Cooper (1966, p. 93) define a phonological word as consisting of a "main syllable with or without a preceding preliminary syllable." The onset of the main syllable allows for consonant clusters but only a single consonant in the coda position. The presyllable has a neutral vowel and a single consonant onset. Cooper & Cooper did not mention the frequency of each word type. Halang's consonant phonemes are summarized in the tables below.

Table 1

Initial consonants

p pʰ b ʔb	tʰ d ʔd		c ɟ ʔɟ	k kʰ g ʔg	ʔ
m m̥ ʔm	n n̥ ʔn		ɲ ɲ̊ ʔɲ	ŋ ŋ̊ ʔŋ	
	r r̥				
	s	ɕ			h
	l l̥ ʔl				
			j j̊ ʔj	w w̥ ʔw	

Table 2

Final consonants

p	t		k	ʔ
m	n		ŋ	
	r			
	s			h
	l			
		j j̊ jʔ	w w̥ wʔ	

The variety described by Cooper & Cooper has three sets of nasal phonemes: plain, voiceless and preglottalized. The trilled phonemes are voiced and voiceless. Lateral approximants also have a three-way contrast between plain, voiceless and preglottalized consonants. Central approximants have a four-way contrast: plain, voiceless, preglottalized and postglottalized. The final position of the main syllable allows fewer consonants. According to Cooper & Cooper (1966), all consonants are allowed in the presyllable position except for the phonemes /wʔ/ and /jʔ/. This indicates that we should find voiceless sonorants in the presyllable position. Phonation contrasts are no present in the final position except for central approximants that allow voiceless and postglottalized contrasts.

Halang vowels are contrastive in length, height, and register. Cooper & Cooper (1966) describe high register as modal voice and low register as breathy voice. Halang has long and short vowels as well as diphthongs. The presyllable vowel consists of a noncontrastive vowel. Halang's vowel phonemes are listed in the Table 3 below.

Table 3

Vowels phonemes

i̤, i̤ː i, iː		ṳ, ṳː u, uː	i̤a ia	ṳa ua
e̤, e̤ː ɛ, ɛː		o̤, o̤ː ɔ, ɔː	e̤a ea	o̤a oa
	a̤, a̤ː a, aː			

Although the Coopers do not mention any relation between voiceless sonorants and word structure, others scholars have reported such a relationship in other Bahnaric languages. Ferlus (1971) described voiceless nasals in Laven and Nha Heun, two West Bahnaric languages. Laven and Nha Heun have voiceless nasals in the initial position, but Laven is more conservative maintaining more sesquisyllables while Nha Heun has undergone more changes consequently becoming mainly monosyllabic. Sidwell & Jacq (2003) show that monosyllabicization in Nha Heun resulted in a large

inventory of initial clusters, long and short consonants and an increase of phonation contrasts including initial voiceless nasals. Jacq (2002) described voiceless nasals and other sonorants in Jruq, another West Bahnaric language, as a sequence of two consonants /h/ + C, due to speaker variation. The phonetic realizations range from a voiceless segment to an epenthetic vowel between /h/ and the following consonant. Voiceless nasals and other voiceless sonorants are expected to occur in West Bahnaric languages. However, a comparison of Jruq to other closely related languages shows evidence for monosyllabicization, as the other languages remain sesquisyllabic with voiced sonorants onsets.

These studies on West Bahnaric languages show that there is a relationship between voiceless sonorants and monosyllabicization. However, the process of monosyllabicization is not always regular. Michaud (2012) says that this process can be irregular before there is a clear pattern, making historical reconstruction more difficult. This challenge is described by Smith (1972) in his reconstruction of Proto North Bahnaric, where there are few correspondences in which all of the reflexes have presyllables. On the other hand, consonant clusters often correspond with presyllables.

Cooper & Cooper (1966) documented voiceless sonorants in a variety of Halang. However, the relationship between voiceless sonorants and monosyllabicization in Halang has not yet been described. This paper poses two questions. 1) What are the word structure differences among the three varieties of Halang in terms of monosyllabicization? 2) What are the correspondences across varieties with respect to voiceless sonorants?

3. Research Methodology

This study is based on a 471-item wordlist which was recorded in 2019. The total word count was used to compare the frequency of sesquisyllables and monosyllables. Monosyllables with initial sonorants and sesquisyllables with initial sonorants in the main syllable were selected from the data corpus. The 471-item wordlist was elicited in Vietnamese from three male native speakers of Halang. The speakers are from three villages located in the Kon Tum Province in the Vietnam's central highlands. The three villages each have different varieties of Halang. The Kon Tum variety is located near Kon Tum City; the North Kon Tum variety is located North from Kon Tum city; and the Dak Glei variety is located in the Dak Glei district North of the city of Kon Tum. The data analysis includes a comparison of word structure frequency and a comparison of monosyllables with initial sonorants with their correspondences in each variety. This research only used one speaker from each village and only male speakers. This research is limited in the number of speakers, gender and age variation. The size of the data is another limitation. There are at least two more known Halang villages that are not included in this research. This study, however, still presents evidence of a relationship between monosyllabicization and the development of voiceless sonorants.

4. Principal findings

This section starts with evidence for a relationship between word structure and phonation contrasts in sonorant onsets. Then Section 4.2 describes two regular correspondence patterns found in initial voiceless sonorants. Finally, Section 4.3 describes the irregular correspondences related to monosyllables with initial sonorants.

4.1 Word types

The three varieties used in this paper have a similar phoneme inventory to the variety described by Cooper & Cooper (1966), with some differences in the number of phonemes and some phonetic differences in the realization of register. The syllable structure is the same in all three varieties, with the maximum possible word being (CV).C(C)V(C), and the possible word forms include monosyllables and sesquisyllables. Table 4 compares the number of sesquisyllabic and monosyllabic words in each variety out of a 471-item word list.

Table 4

Frequency of word types

	Kon Tum	North Kon Tum	Dak Glei
Sesquisyllables	147 (31%)	131 (28%)	33 (8%)
Monosyllables	324 (69%)	335 (72%)	391 (92%)
Total	471	466	424

All three varieties have a smaller number of sesquisyllables than monosyllables, but the Dak Glei variety has a noticeably smaller proportion. This suggests that the Dak Glei variety is further along in the process of monosyllabicization. This variety is also the only one of the three varieties with a complete set of voiceless nasals and voiceless central approximants, suggesting a possible cause-effect relationship. Although Cooper & Cooper's description of Halang included a broad range of voiceless sonorants, these are extremely restricted in Kon Tum and North Kon Tum. Table 5 compares the frequency of voiceless sonorants in each variety.

Table 5

Frequency of voiceless sonorants

	Kon Tum	North Kon Tum	Dak Glei
Monosyllable onset	l̥ (n = 2) r̥ (n = 2)	l̥ (n= 1)	m̥ (n = 2) n̥ (n = 8) ɲ̊ (n = 1) ŋ̊ (n= 1) l̥ (n = 5) r̥ (n= 4) w̥ (n= 2) j̊ (n= 1)
Sesquisyllable onset			
Word final	j̊ (n = 13)	j̊ (n= 17)	j̊ (n= 14)

The Dak Glei variety is the only variety with at least one example of each voiceless sonorant, whereas Kon Tum has voiceless lateral approximant and voiceless rhotic examples and North Kon Tum has one example of a voiceless lateral approximant. All three varieties have a voiceless palatal occurring word finally. Voiceless sonorants only occur in monosyllable onsets, and word finally, there are no examples of voiceless sonorant in a sesquisyllable onset. The following sections describe the relationship between voiceless sonorants and word type and list correspondences patterns.

4.2 Regular correspondences

There are two regular correspondence patterns that show phonetic conditioning of the devoicing of initial sonorants. The first is the voiceless glottal fricative /h/ in the presyllable onset and the second is a voiceless stop in the presyllable onset. The first pattern is demonstrated in Table 6 below. All proto forms that appear in the tables in this paper are taken from Paul Sidwell's Proto Bahnaric database (Sidwell, 2011).

Table 6

Correspondences between /h/ + sonorant and voiceless sonorant

Gloss	Kon Tum	North Kon Tum	Dak Glei	PNB
Clothes, trousers	həmn̤an	hamn̤an	m̥n̤an	
Flesh, meat	həˀnɛk	haˀnɛk	n̥ɛk	*həʔnih
Tooth	hanɛŋ	haˀnɛŋ	n̥ɛŋ	*sʔnaŋ
Bow, crossbow	hanɛŋ	haˀnɛŋ	n̥ɛŋ	*pnaŋ
Year	hənam	hanam	n̥am	*hənam
Star	həlɔŋ	həlɔŋ	l̥ɔŋ	*həlɔŋ
Weak	kʰaːl	hərɔk	r̥ɔk	

Table 6 shows sesquisyllables in Kon Tum and North Kon Tum with a voiceless glottal fricative /h/ in the presyllable onset followed by a voiced sonorant in the main syllable onset. The corresponding monosyllabic words in Dak Glei have voiceless sonorants as the initial consonant. Therefore, Table 6 shows that the collapse of the presyllable with a voiceless glottal fricative appears to condition the devoicing of the initial sonorant in Dak Glei. This development is not unexpected for North Bahnaric languages; however, it has not been observed before in Halang. According to Sidwell (2002), Jeh, Sedang and Hrê have voiceless sonorant reflexes for proto forms with a voiceless glottal fricative in the presyllable. Indeed, a similar correspondence can be observed in Jeh (Gradin & Gradin, 1979) for two of the words that appear in Table 6: 'year' /hnam/ and 'star' /hloŋ/.

An alternate explanation could be due to speaker variation, as happens in Jruq, if it were shown that other Dak Glei speakers produce an epenthetic vowel. This would imply that the underlying form in Dak Glei maintains a voiceless glottal fricative /h/ in a presyllable. Further research with more speakers is needed. However, the increase in phonation contrast arising from monosyllabicization in Dak Glei is supported by a second correspondence set that shows that the initial sonorant devoicing also happens in another environment (see Table 7).

Table 7

Correspondences between voiceless stop + sonorant and voiceless sonorant

Gloss	Kon Tum	North Kon Tum	Dak Glei	PNB
Claws, nails	kəˀniəh	kaˀniəh	ŋ̊ɛh	*kʔniah
Hungry	pəŋɔat	poˀŋɔːt	ŋ̊ɔːt	*pŋɔːt
Rat	kənɛː	kəniː	n̥iː	*knɛː
Forget	təˀwl̤	təˀwɛ̤l	w̥il	*bil
Gibbon	kəwɛŋ	kawɛŋ	w̥ɛŋ	
Ginger	kəjaː	kəjaː	j̊aː	*kəjaː
Exchange	təlḭh	tɔˀlḭh	l̥ḭh	*pəlih
Fingers	hədrɛŋ	kənɔːj	n̥ɔːj	*həʔraŋ
Easy	hələ̤w l̥in	təˀlɛ̤ːʔ	l̥ɛ̤ːʔ l̥in	*tʔleʔ

In addition to the previous /h/ + sonorant correspondence set, the Dak Glei variety has voiceless sonorants in monosyllable onsets where Kon Tum and North Kon Tum have sesquisyllables with a voiceless stop followed by a voiced sonorant. In 'fingers', the Kon Tum reflex is most similar to the proto form *həʔraŋ, but the reflexes in North Kon Tum and Dak Glei show the same pattern as the other correspondences in this table. Similarly, North Kon Tum and Dak Glei show the pattern in the word 'easy' where /təˀlɛ̤ːʔ/ corresponds to /l̥ɛ̤ːʔ/ respectively, while Kon Tum seems to be quite different. The origin of /l̥in/ in Kon Tum and Dak Glei is not clear, however, reduplication is a possible explanation.

Other North Bahnaric languages have monosyllables with voiceless sonorant onsets as reflexes of sesquisyllable proto forms. Sedang and Hrê also have voiceless nasals reflexes derived from voiceless alveolar stop presyllable *t.m (Sidwell, 2002). The same process was not reported for bilabial and velar stop presyllables in Sedang and Hrê, but it can be observed here in the words for 'claws' and 'hungry'.

This section described two correspondence patterns that condition the devoicing of initial sonorants in Dak Glei. The first is the voiceless glottal fricative in the presyllable onset and the second environment is a voiceless stop in the presyllable onset. Both are voiceless features that lead to the devoicing of the initial sonorant when it goes from a sesquisyllable to a monosyllable. The next section will show three types of exceptions.

4.3 Irregular correspondences

The collapse of the presyllable does not always produce voiceless sonorants in Dak Glei. There are cases in which Kon Tum and North Kon Tum have a voiceless consonant in the presyllable onset followed by a voiced sonorant, but the corresponding word in Dak Glei is a monosyllable with a voiced initial sonorant. In other cases, Dak Glei maintains the sesquisyllabic form. The presyllable collapse in Dak Glei can also produce a monosyllable with a consonant cluster onset instead of a devoiced sonorant. Finally, monosyllables with voiceless initial sonorants in Kon Tum show that monosyllabicization is not the only way voiceless sonorants develop in Halang. Table 8 shows a correspondence set in which the presyllable collapse does not lead to the devoicing of the initial sonorant.

Table 8

Correspondence list with no devoicing

Gloss	Kon Tum	North Kon Tum	Dak Glei	PNB
Yesterday	həʾnɔːh	həʾn̥h	nɔːh	
Far	həʾŋaːj	həʾŋaːj	ʾŋaːj	*sʔŋaːj
Raise	hənaᷓk	pəjɯəŋ	ʾnaᷓk	
Sit	həʾnaᷓl	haʾnaᷓn	ʾnaᷓn	
To love	həjaːw	ʔəjaᷓːwʾ	jaᷓwʾ	
Dust	bruᷚ	təjn̥ːl	jn̥ːl	

Table 8 shows counter examples to what was described in Tables 6 and 7. The phonetic environment where the devoicing of the initial sonorant in Dak Glei would be expected does not lead to devoicing in these examples. Monosyllabicization occurs but the onset of the monosyllabic words in Dak Glei are voiced. The first four examples of Table 8 have preglottalized nasal onsets in Kon Tum and North Kon Tum corresponding to voiced nasal onsets in Dak Glei. This might indicate that preglottalization is preventing the devoicing of the initial nasal. However, examples in Table 6 (flesh, tooth, bow) and Table 7 (claws and hungry) show voiceless nasals in Dak Glei corresponding to preglottalized nasals in Kon Tum and North Kon Tum.

Another type of exception is shown in Table 9. In these cases, the presyllable collapse leads to a monosyllable with a consonant cluster onset instead of a voiceless initial sonorant.

Table 9

Sesquisyllable drop leading to consonant clusters

Gloss	Kon Tum	North Kon Tum	Dak Glei	PNB
Doorway	pəʔlɔːh	plɔːh	plɔːh	
Rice cooking pot	kəlɔk	klɔk	klɔk	
Swim	ɟəl̪ːj	ɟəl̪ːj	kl̪ːj	*gləj
Thorn	ɟəlaː	ɟəlaː	klaːh	*ɟəlaː
Name	mat	ɟaliʔ	kliʔ	
Sarong		tərah	ɕrah	
Corn	həli̤ː	həli̤ː	bliː	

For the words ‘thorn’ and ‘name’, the sesquisyllabic words in Kon Tum and North Kon Tum are formed by a voiced palatal stop /ɟ/ and a voiced alveolar lateral approximant /l/. The monosyllabic words in Dak Glei are formed by the consonant cluster /kl/ and not the consonant cluster /ɟl/. The cluster /kl/ is a possible cluster in the Dak Glei variety, but the cluster /ɟl/ does not occur in any of three varieties. The Dak Glei reflex for the word ‘swim’ is the closest to the proto form, which already is a monosyllable with a consonant cluster onset. It is not clear that ‘sarong’ and ‘corn’ in Dak Glei correspond to the words in Kon Tum and North Kon Tum, but they are monosyllables with a consonant cluster onset. Only two of the forms have been reconstructed, making it difficult to know whether the earlier forms were sesquisyllabic or not. The comparison across varieties still shows a clear tendency for monosyllables in Dak Glei where the other two varieties have sesquisyllables.

A third type of exception reveals that /h/ + sonorant sesquisyllables and voiceless stop + sonorant sesquisyllables are still possible in Dak Glei. This is shown in Table 10.

Table 10

Sesquisyllables in Dak Glei

Gloss	Kon Tum	North Kon Tum	Dak Glei	PNB
Spear	kɔːh	həmraːŋ	həmraːŋ	*raŋ
Fog, mist	kəʔuəʔ	mą̤ŋ	həʔmą̤ŋ	
Dream	həpɔː	pomɔ̤ːʔ	pomɔ̤ːʔ	*ʔəpoː
Question	maj	mɔːj	tomɔːj	

In the first two examples of Table 10, the Dak Glei reflexes include an /h/ presyllable. In the last two examples, Dak Glei remains a sesquisyllable with a voiceless stop presyllable onset. This Table also shows that monosyllabicization occurs in North Kon Tum and Kon Tum words that don’t correspond to a monosyllable in Dak Glei.

The preceding tables illustrate that sesquisyllables in Kon Tum and North Kon Tum with /h/ + sonorant and voiceless stop + sonorant do not always correspond with monosyllables with voiceless sonorant initials in Dak Glei. Furthermore, monosyllabicization is not the only pathway for the development of voiceless sonorant initials in Bahnaric languages. This is illustrated in the correspondences shown in Table 11.

Table 11

Voiceless liquids in Kon Tum

Gloss	Kon Tum	North Kon Tum	Dak Glei	PNB
Blow	l̥u̟ːm	klc̟m	kru̟m	*khloːm
Tomorrow	r̥ɔʔ	məɕɔʔ	tʰrɔʔ	*srɔʔ

Table 11 presents two examples where Kon Tum has monosyllables with voiceless initial sonorants. In the first example, the word 'blow' in Kon Tum has a voiceless lateral approximant in a monosyllable onset. North Kon Tum and Dak Glei also have monosyllables, but they have a cluster onset instead. In the second example, Kon Tum has an initial voiceless rhotic in a monosyllable in 'tomorrow'. The difference in these examples is that it is not a sesquisyllable to monosyllable correspondence. It is a monosyllable with a consonant cluster onset corresponding to a monosyllable with a devoiced initial sonorant. This correspondence set shows that the devoicing of the initial sonorant develops through other processes as well, not only through presyllable drop.

The Proto North Bahnaric reconstructions of the words 'blow' and 'tomorrow' also show that this is not a case of presyllable collapse as the proto forms are monosyllables with a consonant cluster onset. Other North Bahnaric languages have a monosyllable with a voiceless initial sonorant for the word 'blow'. This is the case in Rengao (Gregerson & Gregerson, 1977), Sedang (Smith, 2000), Modra and Didra (Gregerson & Smith, 1973). Cooper & Cooper have recorded voiceless initial sonorants for 'blow' and 'tomorrow' as well.

The devoicing of initial sonorants has two clear phonetic environments conditioning it to develop when monosyllabicization occurs. However, these environments do not always cause the devoicing of the initial sonorant. These irregular correspondences were shown in Tables 8 and 9. Table 10 showed that, in other environments, the presyllable is preserved in Dak Glei. Finally, Table 11 presented examples of another possible pathway to the increase of phonation contrast in initial sonorants.

Conclusion

The comparative data in the study show patterns indicating that initial sonorants are devoiced through presyllable collapse in Dak Glei Halang. Dak Glei monosyllables with voiceless sonorant onsets usually correspond to two kinds of sesquisyllables in Kon Tum and North Kon Tum. The first is a sesquisyllable with a voiceless glottal fricative /h/ in the presyllable onset followed by a sonorant. The second is a sesquisyllable with a voiceless stop presyllable onset followed by a sonorant. This shows that there is a relationship between the devoicing of initial sonorants and monosyllabicization, as voiceless sonorants only occur in monosyllables.

This paper also presented environments where the initial sonorant devoicing was expected but it did not occur. This shows that the devoicing of initial sonorants does not always take place when monosyllabicization occurs. These irregularities indicate that monosyllabicization is a way in which voiceless sonorants can develop in Halang but the environment does not always lead to the devoicing of the initial sonorant. It also shows that presyllable collapse is not the only pathway that may lead to the devoicing of the initial sonorant.

This study compared three varieties of Halang, but there are at least two other varieties known: the variety described by Cooper & Cooper (1966) and a variety located in Laos (Lê Bá Thảo & Đẳng, 2014). Data from the other varieties could add to the study of voiceless sonorants in Halang. The data used in the paper was recorded by three male speakers only, a larger number of speakers including female and male speakers with different ages may also add to the understanding of initial sonorant devoicing and its conditioning environments in Halang.

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