

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

This section provides an overview of the various linguistic and anthropological classifications of Koho and Maa given by different scholars. The linguistic orientation is discussed under three subsections: phonological word structure, previous Koho and Maa comparisons, and previous historical reconstruction. This section also includes an overview of the theoretical basis of lexicostatistic comparison and phonological reconstruction.

2.1 Language Affiliation

Languages in Southeast Asia were first classified as “Austric” by Wilhelm Schmidt (1905). The Austric family is divided into Austronesian and Austroasiatic. Austroasiatic itself is divided into various groups, one of which is named Mon-Khmer.

The Austroasiatic languages are considered to be the languages of the indigenous people who inhabit many countries in Mainland Southeast Asia. These countries include Cambodia, Laos, Myanmar, Thailand, and Vietnam. These languages are also spoken in South China, India, Nepal, Bhutan, and Bangladesh. The population of Austroasiatic speaking peoples is estimated to be over 80 million. Among Austroasiatic languages Vietnamese is the largest with around 65 million and Khmer is the second largest with 6-7 million (Parkin 1991). According to Matisoff (2001) the basic macro-grouping of Austroasiatic recognized by many scholars is shown in Figure 4:

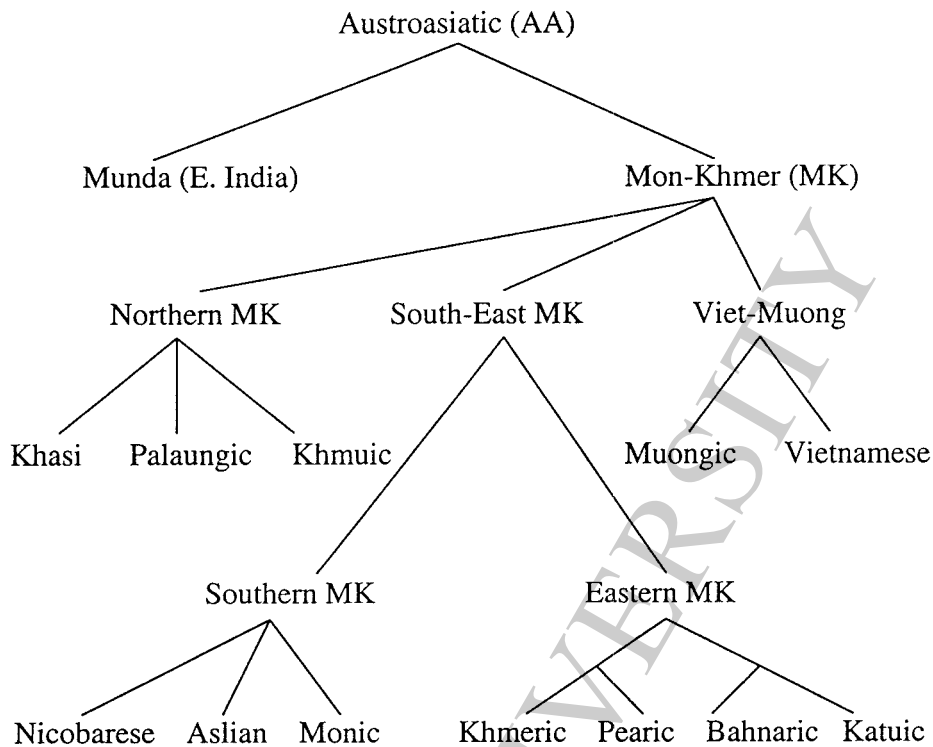


Figure 4. Subgroups of Austroasiatic (Matisoff 2001)

In 1973, Thomas divided Mon-Khmer into nine branches: Pearic, Khmeric, Bahnaric, Katuic, Khmuic, Monic, Palaungic, Khasic, and Viet-Muong. He further divided the Bahnaric branch into three groups: 1) North Bahnaric: Bahnar, Rengao, Sedang, Halang, Jeh, Monom, Kayong, Hre, Cua, Takua, and Todra; 2) West Bahnaric: Loven, Nyaheun, Oi, Laveh, Brao, Sok, Sapuan, Cheng, and Suq; and 3) South Bahnaric: Stieng, Central Mnong, Southern Mnong, Eastern Mnong, Koho, and Chrau. In 1979, Thomas revised his first division of the Bahnaric branch into five subgroups: 1) North Bahnaric: Rengao, Sedang, Halang, Jeh, and Hre; 2) South Bahnaric: Koho, Chrau, Mnong, and Stieng; 3) West Bahnaric: Laven, Nyaheun, Cheng, Oi, Laveh, and Brao; 4) Central Bahnaric: Bahnar, Tampuan, and Alak; and 5) East Bahnaric: Cua Takua. Thomas' 1979 subgrouping of South Bahnaric can be seen in Figure 5:

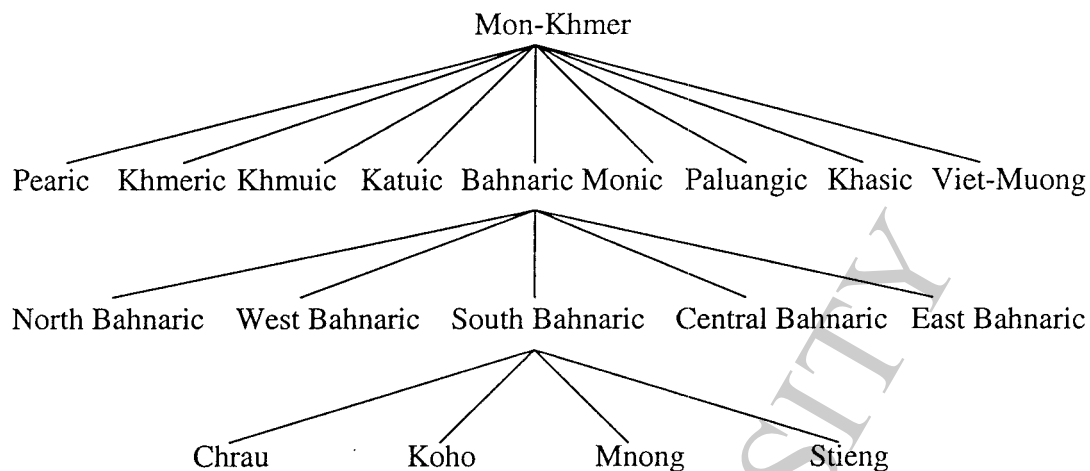


Figure 5. Subgroups of South Bahnaric (Thomas 1979)

Although Thomas' 1979 classification has additional groups within Bahnaric, the South Bahnaric subgroup remained essentially unchanged.¹

In 1984, Hoàng Phê et al. classified the languages in Vietnam into three families: Austroasiatic, Austronesian, and Tibeto-Burman. Austroasiatic is a remarkably large family with the following subgroups and their languages: 1) Viet-Muong: Viet, Muong, Tho, and Chut; 2) Mon-Khmer: which is divided into: a) Khmer: Khmer, and R'mam; b) Khmu: Khmu, Xinh Mun, Khang, Mang, and Odu; c) Katu: Katu, Bru, and TaOi; d) Bahnar: Bahnar, Sedang, Hre, Jeh Trieng, Co, and Brau; e) Mnong: Mnong, Koho, Maa, Stieng, and Chrau; 3) Meo-Dao: Hmong (or Meo), Dao, and Pa Then; 4) Tay-Thai: Thai, Tay, Nung, Cao Lan, Giay, Bo Y, Lu, and Lao; 5) Ka-dai: La Ha, Pu Peo, Co Lao, and La Chi. The language classification of Koho and Maa according to Hoàng Phê et al. (1984) is diagrammed in Figure 6.

¹ Note that Thomas' earlier classification had Mnong subdivided into Central, Southern, and Eastern groups while the latter classification has a single group labeled Mnong.

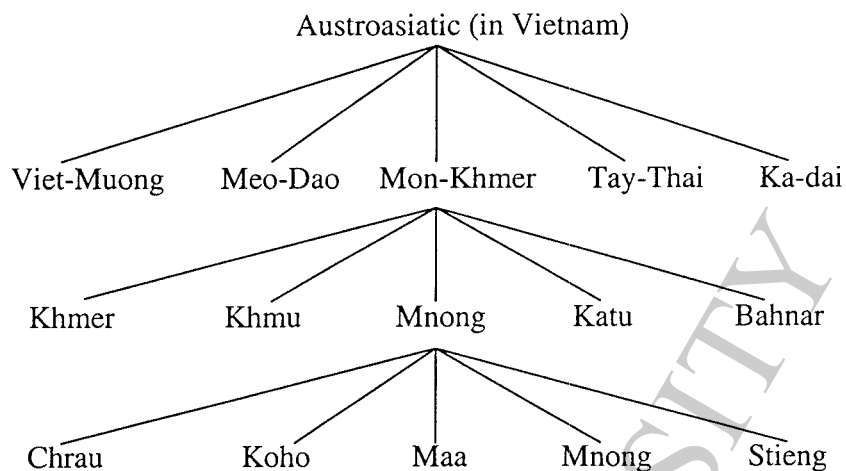


Figure 6. Koho and Maa grouping (Hoàng Phê et al. 1984)

In 1991, Parkin provides some main divisions of the Austroasiatic language family which is similar to previous studies, particularly his South Bahnaric subgrouping which is similar to the Mnong of Thomas (1979). The language family consists of four sub-families: Munda, Nicobarese, Aslian, and Mon-Khmer. The Mon-Khmer sub-family is divided into nine branches: 1) Khasi, 2) Monic, 3) Khmeric, 4) Pearic, 5) Bahnaric, 6) Katuic, 7) Viet-Muong, 8) Khmuic, and 9) Palaungic. The Bahnaric branch includes Stieng, Chrau, Mnong, Chrau and Koho/Maa/Sre.

Yan Qixiang and Zhou Zhizhi (1995:104-108) divided the Austroasiatic language family into four subfamilies: 1) Mon-Khmer, 2) Viet-Muong, 3) Munda, and 4) Nicobarese. Mon-Khmer includes nine branches: a) Monic, b) Khmeric, c) Khasic, d) Wa-De'angic, e) Khmuic, f) Katuic, g) Bahnaric, h) Pearic, and i) Aslianic. Bahnaric is a complex branch with four subbranches: i) Northern Bahnaric: Bahnar, Sedang, Hre, and Cua; ii) Central Bahnaric: Alak, and Tampuon; iii) Southern Bahnaric: Stieng, Chrau, Jeh Tareng, Koho, Maa, Rolom, and Mnong; and iv) Western Bahnaric: Loven, Sapuan, Layeh, Jeng, Nyahheun, Oi, Talieng, and Brao. It is noted that the Southern Bahnaric classification is rather similar to the Mnong classification

of Hoàng Phê et al. (1984), except they add Jeh Tareng and Rolom into the group. The subgrouping of South Bahnaric according to Yan Qixiang and Zhou Zhizhi (1995) is diagramed in Figure 7.

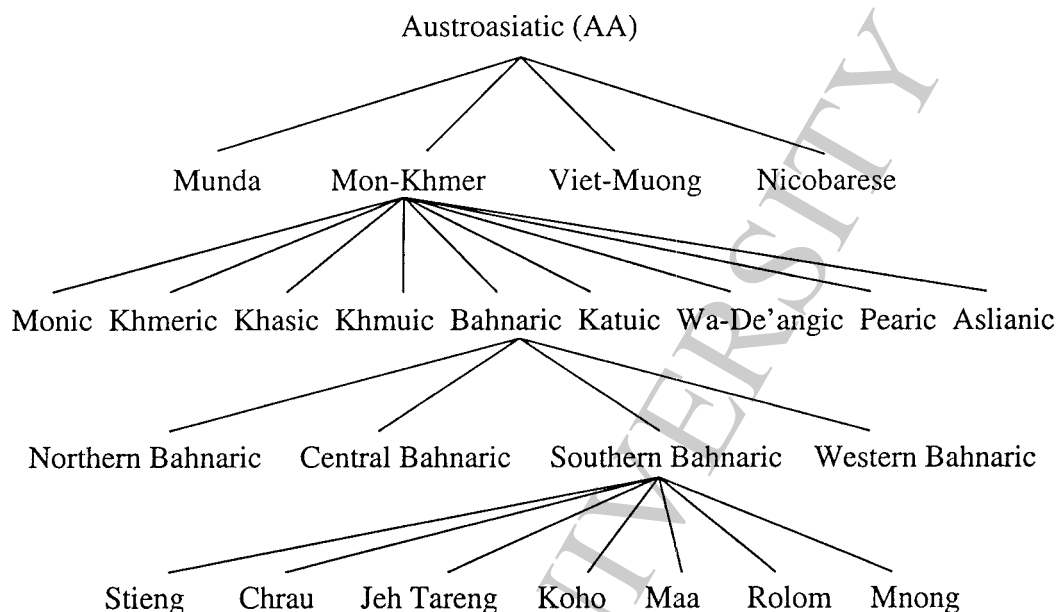


Figure 7. Subgrouping of South Bahnaric (Yan Qixiang and Zhou Zhizhi (1995))

According to Sidwell and Pascale (2003), the Mon-Khmer language family is the “oldest linguistic stock of mainland Southeast Asia” (2003:1) with the speakers ranging from India to Vietnam, and from Yunnan of China to the Nicobar Islands of Andaman Sea. Sidwell and Pascale classify the Mon-Khmer languages into eleven branches: 1) Aslian, 2) Bahnaric, 3) Katuic, 4) Khasic, 5) Khmeric, 6) Monic, 7) Mundaric, 8) Nicobaric, 9) Northern, 10) Pearic, and 11) Vietic. The Bahnaric branch is divided into three subbranches: a) Northern Bahnaric, b) West Bahnaric, and c) Central Bahnaric. The Central Bahnaric is composed of North Central, West Central, South Central, and East Central. The East Central includes Tampuon, Bahnar, Chrau, Koho, Maa, Mnong, and Stieng. The subgrouping of Bahnaric according to Sidwell and Pascale (2003) is illustrated in Figure 8.

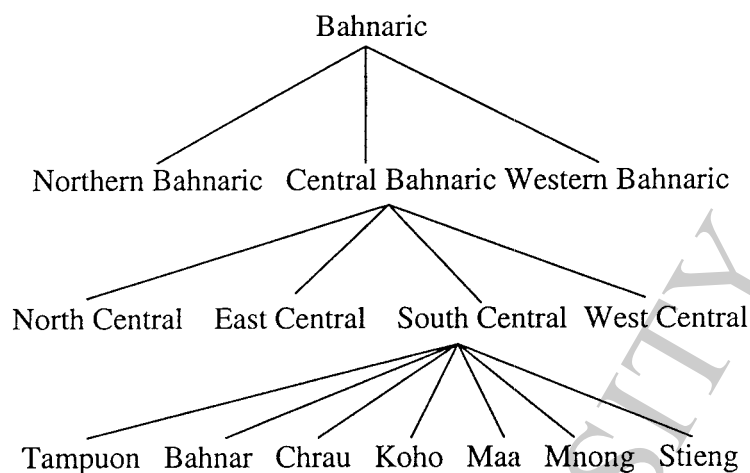


Figure 8. Bahnaric subgrouping (Sidwell and Pascale 2003)

In brief, the macro-grouping of the Austroasiatic languages are generally different by scholars in general and the grouping of South Bahnaric, in particular, is not consistent in whether to group Maa under Koho as dialects (Thomas 1979, Parkin 1991) or to separate Maa as a language independent of Koho (Hoàng Phê et al. 1984, Yan Qixiang and Zhou Zhizhi 1995, Sidwell and Pascale 2003). This affects the number of members within South Bahnaric, with one case having four members (Chrau, Koho, Mnong, and Stieng) if Maa is included within the Koho group, or having five (or more) members (Chrau, Koho, Maa, Mnong, and Stieng) if Maa is separate from the Koho group.

2.2 Linguistic Orientation

This section presents an overview of some of the previous studies of the phonological word structure; of Koho and Maa comparison; and of previous reconstructions relating to South Bahnaric languages.

2.2.1 Phonological Word Structure

Haupers (1969) describes the Stieng syllable structure as PÓSCHWVF, in which PÓS is a presyllable and CHWVF is the main syllable. In the presyllable, P may be any stop or /s/, Ó is a “neutral vowel” (Haupers 1969:131), and S is a syllabic element. A presyllable can be composed of PÓ, S, or PÓS. There are five components in the main syllable; C can be any consonant, H is representative of the phonemes /h, w, l, r/, W consists of /w/ or /l/, V is any vowel, and F is any consonant except a voiced stop or a glottalized consonant. Haupers notes that he has not found any words with full PÓSCHWVF syllable structure.

Thomas (1971) identifies two main types of syllables which are labeled presyllable and main syllable in Chrau. A presyllable is comprised of a single initial consonant (C_p) and a neutral vowel (V_p). A main syllable is comprised of a maximum of three consonants in the onset (C_m), a single or complex vowel (V_m), and a final consonant (C_f).

Smith (1979) provides a phonological word structure as shown:

$$(C_p V_p)(C_m)C_i(C_m)V(G)(N)(C_f)R$$

In the syllable structure, C_p and V_p are a consonant and a vowel of the presyllable respectively. In the main syllable, C_i is an initial single consonant, C_m is a consonant cluster modifier, V is vowel, G is glide, N is optional nasalization, C_f is final consonant, and R is register.

Sidwell (2000) argues against Smith’s model and instead simplifies word models offered by Haupers and Smith. His basic syllable structure is CV(C) which “can be applied to both minor and main syllables” (Sidwell 2000:7). He further presents phonemic words as either mono- or disyllabic. Syllables have two types,

“mainsyllables, in which vowels are phonemic” and “minorsyllables, in which vowels are not phonemic.” Either type of syllable has a CV(C) structure. The possible phonological word template is CV, Cə-CV, CəC-CV, CVC, Cə-CVC, or CəC-CVC. In this syllable structure it can be seen that there are no initial clusters. Sidwell doubts the phonemic status of final clusters, such as [-jʔ] and [-wh] suggested by previous scholars because of their rare occurrences in South Bahnaric.

2.2.2 Previous Koho and Maa comparison

There has been little previous comparative work completed on Koho and Maa varieties. Tạ Văn Thông (1988a) wrote an article entitled, “Những biến thể ngữ âm qua nhóm người nói tiếng Kơho” [Phonetic changes of the Koho speaking groups]. In this article, Tạ Văn Thông compares more than 2000 core vocabulary items of the Koho speaking groups, in which Maa speech varieties are included, and finds some phonetic differences, such as the length of the word (syllable types), the initial consonants, the vowels in the main syllable, and the final consonants and pitch.² After comparing 281 core lexical items in Vietnam, Tạ Văn Thông (1988a) counted the disyllabic forms and found 44 in Cil, 43 in Lach, 41 in Sre-Nop, 32 in Kodon, and 22 in Maa. Cil, Lach, Sre and Nop have the most presyllables; Kodon has fewer; and the Maa has the least presyllables. Tạ Văn Thông only counts CV and CVC in the presyllable and counts other presyllable forms as part of the main syllable. The initial consonants of the main syllable are permitted either as a single consonant or a cluster. The initial clusters are not consistent in all varieties: while some varieties have nasals as the first member of an initial clusters other varieties do not. Tạ Văn Thông also points out that the initial cluster /tr/ in Cil, Lach, Sre-Nop is equivalent to /t/ in Kodon and Maa. He also found that the voiceless bilabial stop /p/ (Cil and Lach)

² The author actually refers to this as ‘melody’ but here we are using the term ‘pitch.’

corresponds to the preglottalized voiced bilabial stop /ʔb/ (Sre-Nop, Kodon, and Maa). In the same way, the voiceless alveolar stop /t/ (Cil, Lach, Sre-Nop) corresponds to the preglottalized voiced alveolar stop /ʔd/, the voiceless palatal stop /c/ to the voiceless velar stop /k/ (Cil and Lach), and the voiced palatal stop /j/ to the voiced velar stop /g/ (Sre-Nop, Kodon, and Maa). The vowels in all speech varieties have long and short phonemes, and vowel length is complementary with pitch (high and low) in all speech varieties, except for Cil: long vowels have low pitch; short vowels have high pitch. Final consonants in the speech varieties are different: while Sre-Nop, Kodon, and Maa have the voiceless alveolar fricative /-s/, Cil has the cluster /-jh/ and Lach has /-j/. Besides two pitches (high and low) appearing in all speech varieties except Cil, some other pitch occurs in some syllables in Lach, Kodon and Maa. Tạ Văn Thông assumes these kinds of pitch contrasts are a tonal development in the speech varieties.

Based on lexicostatistic study (see Table 31 in section 4.0), Tạ Văn Thông (1988a) divided the Koho into two groups: Cil-Lach and Sre-Nop, Kodon, and Maa. He further divided the later into Sre-Nop and Kodon–Maa based on geography and phonetic differences.

Trần Trí Dõi (1999) discusses the article entitled, “Mối quan hệ giữa tiếng Kơho và tiếng Mạ” [The relationship between Koho and Maa]³ written by Tạ Văn Thông (1988b). Trần Trí Dõi (1999) reports that Tạ Văn Thông (1988b) used 281 words to compare Koho Sre (in Di Linh District, Lam Dong Province) and Ma Ngan (Da Huoi District, Lam Dong Province). Tạ Văn Thông 's findings were that 254 of the 281 words (or 90.4%) of the terms were cognate. The non-cognate items were the forms for “run, take, back, river, stream, grandfather, bank (of river), high, old, thick,

³ Unfortunately I do not have this article.

near, difficult, smell, cloud, sand, and hard” (Tạ Văn Thông 1988b:52). Since the differences were found in the core vocabulary Trần Trí Dõi (1999) argues that if Koho Sre and Maa Ngan are considered two dialects of a language, these two dialects must have had a special contact with other languages. This contact was of such a nature that it influenced basic vocabulary.

2.2.3 Previous Reconstructions

There are various published Bahnaric phonological reconstructions, such as Blood’s Proto Mnong in 1966, Thomas and Smith’s Proto Jeh-Halang in 1967, Smith’s Proto North Bahnaric in 1972, Efimov’s Proto South Bahnaric in 1990 (as reported in Sidwell 2000), and Sidwell’s Proto South Bahnaric in 2000. In Proto Mnong, Blood (1966:11) primarily aims to test if the vowel shifts in Mon-Khmer can be “solved given phonemically-based material in closely related languages as a starting point.” He also examines the Mnong consonants in comparison with the consonants of South Bahnaric languages. To achieve this goal, Blood reconstructs Proto Mnong, including a tentative reconstruction of Proto South Bahnaric. The South Bahnaric languages are used to strengthen the reconstruction of Proto Mnong. His reconstruction of consonants and clusters was based on choosing the most common form as the proto form. The Proto Mnong vowels were reconstructed as front vowels /i:/, /iə/, /i/, /e:/, /ɛ/; central vowels /ə:/, /ə/, /a:/, /a/; and back vowels /u:/, /uə/, /u/, /o:/, /ɔ:/, /ɔ/. Presyllables are also reconstructed. Blood concludes his reconstruction with a methodological suggestion that “the sound shifts, including vowel shifts tend to follow either ‘vertical’ or ‘horizontal’ routes in terms of the articulatory charts” (1966:109).

In his work, Sidwell (2000) reconstructs Proto South Bahnaric as the ancestor language of Chrau, Stieng, Koho, and Mnong. In this phonological reconstruction, Sidwell compares lexical items selected from three published dictionaries: Thomas

and Luc (1966) for Chrau, Haupers and Haupers (1991) for Stieng, and Bochet and Dournes (1953) for Koho. The inventory of Proto South Bahnaric consonants is shown in Table 2.

*p	*t	*c	*k	*ʔ
*b	*d	*j	*g	
*m	*n	*ɲ	*ŋ	
*w	*l *r	*j		
*wh	*s			*h

Table 2. Proto South Bahnaric consonant inventory (Sidwell 2000)

The initial position did not allow a voiceless palatal stop *c in Proto South Bahnaric. The final position allowed the sequence *wh but did not permit any voiced stops.

The reconstruction of the minorsyllable, as Sidwell terms it, is less reliable than other parts of the word. The Proto South Bahnaric minorsyllables can be seen in Table 3.

*pə	*tə		*kə	*ʔə
*bə	*də	*jə	*gə	
*mə	*nə			
	*lə *rə			
		*sə		*hə
			*kəm	
			*kən	
			*kəh	
		*sər	*kər	
		*jər	*gər	

Table 3. Proto South Bahnaric minorsyllables (Sidwell 2000)

The vowels in Proto South Bahnaric are composed of three different classes, short vowels, long vowels, and diphthongs. These vowels are shown in Table 4.

*i	*u	*i:	*u:	*iə	*uə
*ə		*e:	*ə:		
*a	*ɔ		*a:		
			*ɔ:		

Table 4. Proto South Bahnaric vowel inventory (Sidwell 2000)

In his lexical reconstruction, Sidwell reconstructs a Proto South Bahnaric word for items where cognates appear in at least two South Bahnaric languages. This lexical reconstruction which Sidwell calls a “South Bahnaric comparative etymological dictionary” (2000:51), includes 829 entries.

2.3 Theoretical Framework

This section outlines the basic theoretical framework used in this thesis, covering lexicostatistics and phonological reconstruction.

2.3.1 Lexicostatistics

Lexicostatistics is a method to gain a rough index of the relatedness of two different varieties of speech. Lexicostatistics is used when there is relatively little known about the relationship between languages. The relationships yielded by lexicostatistics should not be confused with the more accurate language relationships yielded through historical reconstruction (Mann 2001).

Lexicostatistics is used to create a basic subgrouping of the speech varieties under study. The term lexicostatistics is used almost interchangeably with a technique called glottochronology: the attempt to date language splits based on lexical divergence. However, these two techniques make different claims. Glottochronology attempts to determine precise dates for language splits based on the assumption that the replacement of core vocabulary is constant while lexicostatistics makes no such claim. Lexicostatistics as used in this thesis refers to the development of language trees based on the percentage of lexical similarity between speech varieties. The Lingualinks Library 4.0 (1999) defines lexicostatistics as:

...a technique of measuring similarity between lexical items across languages or dialects used originally in glottochronology to deduce the amount of time since related languages separated, and now used more commonly to determine the degree of genetic relatedness between languages or dialects by establishing indices of lexical similarity...

In general, lexicostatistics is a technique used to consider the lexical relationship between speech varieties, by comparing core vocabulary and determining the number of cognates the varieties have in common. The present study uses lexicostatistic comparison to characterize the degree of lexical divergence between Koho and Maa varieties. This approach uses the lexicostatistic percentage to estimate the lexical relationship between the language varieties.

According to Crowley (1992), the operation of lexicostatistics is based on two primary assumptions. The first assumption is that some parts of the vocabulary are less subject to change than others. This portion of the lexicon which is more resistant to change is called the core or basic vocabulary. This core vocabulary is thought to have common elements in all languages found in basic terms for pronouns, numerals, body parts, geographical features, basic actions, and basic states. The second assumption underlying the lexicostatistics is that "the actual *rate* [emphasis is in the original] of lexical replacement in the core vocabulary is more or less stable, and is therefore about the same for all languages over time" (Crowley 1992:172). By counting the number of cognates retained in the core vocabulary linguists establish the relationship between speech varieties. If the core vocabularies of the varieties are relatively similar, they are assumed to have diverged recently, and to be in the lower group. If the core vocabularies are not relatively similar, they are assumed to have diverged at much earlier time, and to be in a much higher level of grouping.

The previous lexicostatistic comparisons of Koho and Maa provided percentages but there was no explicitly stated methodology that was used to determine these lexical

percentages. A linguist must establish clear criteria for the lexical comparison and it should never be done by inspection, as Crowley (1992:183) states:

Lexicostatisticians in fact tend to rely heavily on what is often euphemistically called the *inspection method* of determining whether two forms are cognate or not in a pair of languages. What this amounts to is that you are more or less free to apply intelligent guesswork as to whether you think two forms are cognate or not. If two forms *look* cognate, then they can be given a 'yes' score, but if they are judged not to look cognate, then they are given a 'no' score.

This thesis presents a lexicostatic analysis based on a method described in Blair (1990) with some modifications (see section 4.1.2) that are appropriate for the speech varieties under investigation.

2.3.2 Phonological Reconstruction

Since language is constantly changing, innovating, and evolving, the language spoken today is quite different from the one spoken a century ago and will be different from the one spoken a century from now. Comparative linguistics provides an approach through which the systematic study of present day (synchronic) language or languages help us to understand the historical (diachronic) processes affecting these languages. By using comparative linguistics, historical linguists are able to disclose relationships between languages (Lehman 1962), reconstruct the earlier systems from which related languages have been derived, and show how "the descendant languages have reached their present form" (Bynon 1986:45). Campbell (1998:108) even emphasizes the comparative method as the most important of many methods and techniques used to recover linguistic history.

The neogrammarians' theory provided a formalization to the methodological assumptions of regularity of sound change which lies at the foundation of historical linguistics. According to Bynon (1986:25), the neogrammarians assumed that "language change is governed by the principle of *regularity of sound change*." When

the sound change pattern is applied in particular languages under investigation, it means that the direction of change must be the same for all members of the speech community and that all the words must be affected in the same way if there are the same phonetic conditioning environments occurring on those words (Bynon 1986).

The comparative method investigates not only the earliest written texts of a particular language but also the prehistoric and unattested period before the languages were written. This method compares genetically related languages with the goal of recovering earlier linguistic forms. The sound changes reflected in the daughter languages illustrate the divergence from the earlier linguistic forms. These sound changes help to establish the genetic relationships among languages. Application of the comparative method to related languages yields an earlier, possibly non-extant parent language, which is called a proto language. The comparative method can be applied to phonemes, words, or syntactic constructions in genetically related languages with the goal of reconstructing the sound system, grammar, or lexicon of the proto language (Mann 2001).

The comparative method is described by Arlotto (1972:90) as follow:

It involves taking corresponding elements in two or more related languages and projecting them backward in time by positing an ancestor whose development can be shown to have resulted in what is actually attested. In many senses the actual reconstruction of a parent language and the explanation of its developments to the daughter languages is the conclusive proof that two or more languages are genetically related.

This thesis focuses on a comparative phonological reconstruction which is an attempt to reconstruct the sound system of the proto language. The proto language is a reconstructed form observing systematic sound correspondences in descendant languages, or daughter languages. The phonological reconstruction presumes there are historical connections between the daughter languages which have descended

from a uniform mother language as Bloomfield (1961:310) states, “firstly, that the parent community was completely uniform as to language, and, secondly, that this parent community split suddenly and sharply into two or more daughter communities, which lost all contact with each other.” The historical development of the proto language into its daughter languages is captured by phonological rules, which serve as an index of how the descendant languages have diverged. Generally speaking, phonological divergence increases with the number of rules. A language with a lot of phonological differences from the proto language is said to be innovative, while a language with relatively few phonological differences is said to be conservative (Mann 2001).

In reconstructing the original phonemes of the proto language, a number of guiding principles are suggested by Crowley (1992).

1. Any reconstruction should involve sound changes that are plausible.
2. Any reconstruction should involve as few changes as possible between the proto language and the daughter languages.
3. Reconstructions should fill gaps in phonological systems rather than create unbalanced systems.
4. A phoneme should not be reconstructed in a proto language unless it is shown to be absolutely necessary from the evidence of the daughter languages.
5. Look for sound correspondences that involve phonetically similar sounds.
6. For each of these phonetically ‘suspicious’ pairs of sound correspondences, it should be determined whether or not they are in complementary or contrastive distribution.

The phonological reconstruction in this thesis is conducted after some forms are eliminated such as suspected loan words, expressives, and cases of onomatopoeia. It is prudent to eliminate these forms as they may cause a misleading result or may make it difficult to see regular sound change. Fox (1995:60) recognizes three steps in the process of reconstruction as follows: 1) setting up the correspondences, 2) establishing the proto-phonemes, and 3) assigning phonetic values to the proto-phonemes. More specifically, Campbell (1998:112-32) outlines seven steps in the application of the comparative method.

Step one: looking for potential cognates.

Step two: establishing sound correspondences.

Step three: reconstructing the proto-sound.

Step four: determining the status of similar (partially overlapping) correspondence sets.

Step five: considering if the reconstructed sound is plausible from the perspective of the overall phonological inventory of the proto language.

Step six: considering if the reconstructed sound is plausible from the perspective of linguistic universals and typological expectations.

Step seven: reconstructing each morpheme.

2.4 Summary

This chapter has reviewed the literature dealing with the language affiliation, the linguistic orientation, and the theoretical framework. The classification of Maa within the Koho group of South Bahnaric started when Thomas (1979) grouped Maa into the

Koho group. In contrary, Hoàng Phê et al. (1984) separated Maa from the Koho group.

The theoretical framework discussed lexicostatistics and phonological reconstruction which serve to answer the research question of this thesis. The theoretical framework, particularly that of comparative phonological reconstruction, used in this thesis is widely accepted by scholars as a mean to properly determine genetic relationships between languages.

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