Chapter 5

Phonological Correspondences

In this chapter we discuss the phonological correspondences of these three languages in order to reconstruct the proto-form of the language group. The reconstruction is based on the initial consonants, vowel nuclei, codas and prefixes. Some of these correspondences are exceptionally regular and others less regular.

5.1. Syllable Initial Consonants.

Stops:

The initial stops fall into an exceedingly regular and consistent set of correspondences. Examples of the correspondence set of unambiguous initial voiceless bilabial stop ***p** are given in the table below.

Gloss	Zeme	Liangmai	Rongmei
head	pei	pi	pi
father	peu	piu	pu
Mushroom	pa	pien	pan
Carry/hold	pua	puan	puan
Run	pak	pak	pak

The following correspondence set shows the presence of initial voiceless aspirated bilabial stop ***p^{h}** in Proto Zeliangrong. This sound seems to be less regular in Zeme because it shares only three cognates out of four in the correspondence set as shown in the following table.

Gloss	Zeme	Liangmai	Rongmei
Cloth	p^{h}ai	p^{h}ai	p^{h}ai
Leg	----	p^{h}i	p^{h}oi
Search	p^{h}eu	p^{h}iu	p^{h}u
Got	p^{h}aŋ	p^{h}aŋ	p^{h}aŋ

The selected correspondence set of the following table illustrates the unambiguous initial voiced bilabial stop ***b** in Proto Zeliangrong.

Gloss	**Zeme**	**Liangmai**	**Rongmei**
hand	ba	bien	ban
pierce	buŋ	buŋ	buŋ
seat	bam	bam	bam
trap	bai	bai	bai
cheek	biapi	biaŋpi	biaŋ

The correspondence set of the following table illustrates the initial voiceless unaspirated alveolar stop ***t** in Proto Zeliangrong.

Gloss	**Zeme**	**Liangmai**	**Rongmei**
work	ta	tien	tan
rain	tiŋ	tiŋ	tiŋ
go	tat	tat	tat
eight	təsat	təčat	təčat
eat	teu	tiu	tu

The data selection in the following table illustrates the voiceless aspirated alveolar stop ***t^{h}** in Proto Zeliangrong. This sound is not frequently found in Zeme because it shares only one cognate out of five correspondence set.

Gloss	**Zeme**	**Liangmai**	**Rongmei**
Method	----	t^{h}ak	t^{h}iak
Block	t^{h}iŋ	t^{h}iŋ	t^{h}iŋ
Abstain from	-----	t^{h}iaŋ	t^{h}iaŋ
Praise	-----	t^{h}uan	t^{h}uan
Rub	-----	t^{h}ut	t^{h}ut

The correspondence set in the following table exemplifies the initial voiced alveolar stop ***d** in Proto Zeliangrong.

Gloss	**Zeme**	**Liangmai**	**Rongmei**
Weave	dak	dak	dak
Water	dui	dui	dui
Big/large	dei	di	dai
Share	dam	dam	dam
pack	dom	dom	dom

The correspondence set in the following table exemplifies the initial voiceless unaspirated velar stop ***k** in Proto Zeliangrong.

Gloss	**Zeme**	**Liangmai**	**Rongmei**
Gold	kečak	kəčak	kəček
New	kači	kəsan	kət^{h}an
Bright	kəba	kəčan	kəčan
Genuine	kəsaŋ	kəčaŋ	kəčaŋ
Choose	kədak	kəda	kəda

The selection of data in the following table illustrates the initial voiceless aspirated velar stop ***k^{h}** in Proto Zeliangrong. This sound seems to be less regular in Zeme because it shares only one cognate out of five correspondence set.

Gloss	**Zeme**	**Liangmai**	**Rongmei**
One	kat	k^{h}at	k^{h}at
Fish	ka	k^{h}a	k^{h}a
Tie	k^{h}ei	k^{h}iŋ	k^{h}iŋ
Sour	-----	k^{h}iaŋ	k^{h}iaŋ
peel	-----	k^{h}ak	k^{h}ak

The selection of data in the following table illustrates the initial voiced velar stop ***g** in Proto Zeliangrong.

Gloss	**Zeme**	**Liangmai**	**Rongmei**
Curry	gi	gan	gan
Firm	gaŋ	gaŋ	gaŋ
Protect	gu	gu	gu
Hook	guak	guak	guak

Nasals:

The correspondence set in the following table illustrates the initial bilabial nasal ***m** in Proto Zeliangrong.

Gloss	**Zeme**	**Liangmai**	**Rongmei**
Root	ma	mien	man
Dream	maŋ	maŋ	maŋ
Mistake	mou	mou	màn
Mouth	mui	mun	muaŋ

The selection of data in the following table illustrates the initial alveolar nasal ***n** in Proto Zeliangrong.

Gloss	**Zeme**	**Liangmai**	**Rongmei**
You	naŋ	naŋ	naŋ
Paste	nəp	nap	nap
Young	na	na	na
Sun	nəimik	nəimik	nəimik

The correspondence set in the following table illustrates the initial velar nasal ***ŋ*** in Proto Zeliangrong.

Gloss	Zeme	Liangmai	Rongmei
Defeat	ŋam	ŋam	ŋam
See	ŋou	ŋou	----

Affricates:

The correspondence set in the following table exemplifies the initial palatal affricates ***č*** in Proto Zeliangrong.

Gloss	Zeme	Liangmai	Rongmei
Count	čak	čak	čak
Cup	čapiak	čapiaŋ	čabuaŋ
Nine	čəkui	čəkiu	čəkiu

Fricatives:

The selection of data in the following table illustrates the initial voiceless alveolar fricative ***s*** in Proto Zeliangrong.

Gloss	Zeme	Liangmai	Rongmei
Speak	sa	sa	sa
Short cut	sam	sam	sam
Curse	siaŋ	siaŋ	siaŋ
Luck	san	san	san

The selection of data in the following table illustrates the initial voiced alveolar fricative ***z*** in Proto Zeliangrong.

Gloss	**Zeme**	**Liangmai**	**Rongmei**
Swim	zak	zek	zek
Energy	ze	zeŋ	zeŋ
Name	zi	zan	zan
Blood	zai	zai	zai
Face	zu	zu	zau

The correspondence set in the following table exemplifies the initial voiceless glottal fricatives ***h*** in Proto Zeliangrong.

Gloss	**Zeme**	**Liangmai**	**Rongmei**
Pipe	hia	hien	han
Yawn	-----	hem	hem
Wave hand	hai	hai	hai

Lateral:

The correspondence set in the following table exemplifies the initial voiceless alveolar lateral ***l*** in Proto Zeliangrong.

Gloss	**Zeme**	**Liangmai**	**Rongmei**
Live	luŋ	luŋ	luŋ
Take	lu	lu	la
Dance	lim	lem	lam
Buy	leu	liu	liu

Trill:

The selection of data in the following table illustrates the initial alveolar trill ***r** in Proto Zeliangrong.

Gloss	Zeme	Liangmai	Rongmei
Tell	raŋ	ra	ra
Open eye	rak	rak	rak

5.2 Nucleus:

This section considers the reconstruction of Proto Zeliangrong vowel nucleus, which can be, analyzed under two subsections: monophthong and diphthong.

5.2.1 ***Monophthong vowels:***

The selection of data in the following table shows evidence for the close unrounded front vowel ***i** in Proto Zeliangrong.

Gloss	Zeme	Liangmai	Rongmei
Sleep	jei	ji	jip
Give	pei	pi	ti
Pot	li	li	lai
House	ki	ki	kai

The correspondence set in the following table shows that Proto Zeliangrong unambiguously had the close rounded back vowel ***u**.

Gloss	Zeme	Liangmai	Rongmei
Call	ku	ku	kau
Mine	gu	gu	----
Dig	ču	ču	čeu

The correspondence set in the following table illustrates that there was an open vowel ***a*** in Proto Zeliangrong.

Gloss	Zeme	Liangmai	Rongmei
Speak	sa	sa	sa
Run	pak	pak	pak
Navel	la	la	la
He	pa	pa	ka

The correspondence set in the following table exemplifies the close mid rounded back vowel ***o*** in Proto Zeliangrong.

Gloss	Zeme	Liangmai	Rongmei
Wrap	dom	dom	dom
Erect	som	som	som

The correspondence set of Proto Zeliangrong ***e*** is provided in the following table.

Gloss	Zeme	Liangmai	Rongmei
Profit	ge	geŋ	geŋ
Horn	ke	ke	----

5.2.2. *Diphthongs:*

The following correspondence set exemplifies the diphthong ***ei*** in Proto Zeliangrong. It is to be noted that a single set of correspondence of this particular diphthong is found in the Zeliangrong group of languages.

Gloss	Zeme	Liangmai	Rongmei
okay	ei	ei	ei

The Proto Zeliangrong possessed the diphthong ***ai*** as evident from the correspondence set as can be seen in the following table:

Gloss	**Zeme**	**Liangmai**	**Rongmei**
sun	naimik	naimik	naimik
first	rai	rai	rai
four	mədai	mədai	pədai
today	nəmai	thainai	asai

The subsequent correspondence set shows Proto Zeliangrong diphthong ***ui*** as revealed in the following table.

Gloss	**Zeme**	**Liangmai**	**Rongmei**
laugh	nui	nui	nui
mother	apui	apui	apui
water	dui	dui	dui
Far away	uilia	uilam	uiheŋ

The Proto Zeliangrong had the diphthong ***au*** as evident from the following correspondence set as shown in the table.

Gloss	**Zeme**	**Liangmai**	**Rongmei**
fall	kau	kau	bau
report	pau	pau	pau

Proto Zeliangrong had the diphthong ***ou*** as shown in the following table.

Gloss	**Zeme**	**Liangmai**	**Rongmei**
grandfather	pòu	pòu	pòu
who	čou	sou	t^{h}ou

5.3 *Codas:*

The analysis of codas is divided according to different features of the final consonant such as stop and nasals.

5.3.1 *Stop codas:*

The following table reveals that the Proto Zeliangrong possessed the voiceless bilabial stop ***p** in coda position.

Gloss	Zeme	Liangmai	Rongmei
cry	hap	kəp	kəp
shoot	kap	kep	kep
Unit of length	kàp	k^{h}ep	k^{h}ap

The cognate set in the following table shows that Proto Zeliangrong had the voiceless alveolar stop ***t** as one of the codas.

Gloss	Zeme	Liangmai	Rongmei
one	kat	k^{h}ət	k^{h}ət
go	tət	tət	tət
Comes in	gut	gut	gut
leech	^{m}bət	^{m}bat	^{m}bat

The cognate set in the following table illustrates that there was a voiceless velar stop ***k** in Proto Zeliangrong in coda position.

Gloss	Zeme	Liangmai	Rongmei
brain	kwak	huwak	buwak
run	pak	pak	pak
crow	^{n}gak	^{n}gek	agek
dew	kəzik	kəzik	zik

5.3.2 *Nasal codas:*

The cognate set in the following table displays the Proto Zeliangrong ***m** in coda position.

Gloss	Zeme	Liangmai	Rongmei
believe	^{n}num	məlum	lum
pray	kəlum	kəlum	kəlum
duck	təpam	əpam	əp^{h}um
cow	kətum	mətom	gwaitwam

The correspondence set shown in the following table illustrates the presence of alveolar nasal ***n in** coda position in Proto Zeliangrong.

Gloss	Zeme	Liangmai	Rongmei
ear	mikun	čəkuwon	kuwan
shiver	kədún	kədún	kədun
yellow	^{n}zin	məzin	^{n}zin
hand	ba	ben	ban

The velar nasal coda ***ŋ** appears in Proto Zeliangrong as illustrated by the correspondence set in the following table.

Gloss	Zeme	Liangmai	Rongmei
you	naŋ	naŋ	naŋ
filter	síŋ	síŋ	síŋ
carry	puŋ	p^{h}uŋ	p^{h}uŋ
come	waŋ	waŋ	guwaŋ

5.4. ***Prefixes:***

The nominal **a**- prefix is very regular in three languages: Zeme, Liangmai and Rongmei. Therefore, it can be reconstructed ***a** as the Proto-Zeliangrong Prefix (PZP). It is observed that the prefix **a-** usually occurs with the kin nouns, body parts, numerals and so on. It is also interesting to note that the (PZP) is correspondent with the Proto-Tibeto-Burman (PTB) nominal prefix **a-** as reconstructed by Benedict (1972) and Matisoff (2003). The prefixal correspondences in three languages are summarized in the following table.

	Liangmai	**Zeme**	**Rongmei**	
***a-**	a-gu	a-gu	a-tuaŋ	'mine'
	a-bien	a-ba	a-ban	'my hand'
	a-mik	a-mik	a-mik	'my eye'
	a-k^{h}ət	a-ket	a-k^{h}at	'one'
	a-liu	a-nui	a-niu	'we'
	a-ne	a-nai	a-nai	'both of us'

The nominal or 2nd person possessive **n**- prefix is regular in Liangmai, Zeme and Rongmei languages. The n- prefix usually occurs with the kin nouns and with body parts. The prefixal correspondences in three languages are summarized in the following table.

	Liangmai	**Zeme**	**Rongmei**	
***n-**	nə-gu	nə-gu (naŋ-gu)	nə-tuaŋ (naŋ-tuaŋ)	'yours'
	nə-bien	nə-ba	nə-ban (naŋ-ban)	'your hand'
	nə-mik	nə-mik	nə-mik (naŋ-mik)	'your eye'
	nə-mun	nə-mui (naŋ-mui)	nə-muaŋ (naŋ-muaŋ)	'your mouth'

The 3rd person pronominal prefix **p**- is regular in Liangmai and Zeme but in Rongmei the **p-** prefix becomes **k**-. However, it can be reconstructed ***p**- as the Proto Zeliangrong Prefix (PZP). The p- prefix in Zeme and Liangmai usually occurs with the kin nouns, body parts, dimensions, locative nouns etc. similarly the Rongmei 3rd person pronominal prefix k- also occurs with kin nouns, body parts, dimensions, locative nouns etc. The prefixal correspondences in three languages are summarized in the following table.

	Liangmai	**Zeme**	**Rongmei**	
p-	pə-gu	pə-gu	kə-tuaŋ	'his'
	pə-bien	pə-ba	kə-ban	'his hand'
	pə-mik	pə-mik	kə-mik	'his eye'
	pə-mun	pə-mui	kə-muaŋ	'his mouth'
	pə-rim	pə-rim	kə-rim	'scent'
	pə-ri	pə-rei	kə-ru	'above'
	pə-luŋ	pə-luŋ	kə-luŋ	'inside'
	pə-haŋ	pə-kaŋ	kə-baŋ	'under'
	pə-suaŋ	pə-sua	kə-hu	'in front'
	pə-kak	pə-kak	kə-kak	'between'
	pə-then	pə-ta	kə-seŋ	'length'
	pə-diet	pə-dit	kə-diat	'breadth'
	pə-suk	pə-čuk	kə-t^huk	'depth'

The prefix **m-** of Liangmai and Zeme becomes **p**- in Rongmei. Therefore, it can be reconstructed ***m** as the proto-Zeliangrong prefix (PZP). It is also interesting to note that the (PZP) ***m-** is correspondence with the Proto-Tibeto-Burman (PTB) prefix m- as reconstructed by Benedict (1972). The Liangmai mə- and Zeme me- prefixes occur with numerals as formative prefix.

Similarly, the Rongmei p- prefix also occurs with numerals as formative prefix as shown below. The prefix/initial correspondences in three languages are summarized in the following table.

	Liangmai	**Zeme**	**Rongmei**	
m-	mə-dai	me-dai	pə-dai	‘four’
	mə-ŋiu	me-ŋeu	pə-ŋu	‘five’

The velar **k**- prefix is very regular in two languages: Zeme, Liangmai however, the prefix k- is not frequently found in Rongmei. So, it can be reconstructed *k as the Proto-Zeliangrong Prefix (PZP). It is observed that the prefix k- usually occurs with the nouns and numerals. The prefixal correspondences in three languages are summarized in the following table.

	Liangmai	**Zeme**	**Rongmei**	
k-	kə-ne	kə-na	kə-nai	‘two’
	kə-sum	kə-čum	kə-t^{h}um	‘three’
	kə-riu’	kə-reu	ru	‘ten’
	kə-di	kə-dei	kə-ndi	‘earth’
	kə-čak	kə-sak	^{n}rit^{h}ai	‘hailstone’
	kə-zik	kə-zik	jik	‘dew’
	kə-bun	kə-bun	gun	‘snow’
	kə-sai	kə-čai	t^{h}ai	‘death’
	kə-bui	kə-tum	guai	‘cow’
	kə-mi	kə-mei	jiu	‘goat’
	kə-bak	kə-bak	guak	‘pig’

The č- prefix is relatively regular in Liangmai and Rongmei however it is changed into h- ~ s- ~ m- in Zeme. So it can be reconstructed **č**- as the proto Zeliangrong prefix. The č- prefix occurs with nouns and numerals both in Liangmai and Rongmei. Similarly, prefixes h- ~ s- ~ m- also occur with nouns and numerals in Zeme. The prefix/initial correspondences in three languages are summarized in the following table.

	Liangmai	**Zeme**	**Rongmei**	
č-	čə-ruk	hə-ruk	čə-ruk	'six'
	čə-ne	sə-na	čə-nai	'seven'
	čə-kiu	hə-kui	čə-kiu	'nine'
	čə-lu	hə-lu	lau	'field'
	čə-pi	mi-pei	pi	'head'
	čə-mik	mimik	mik	'eye'

The t- prefix is relatively regular in Liangmai and Rongmei however it is changed into h- ~ m- in Zeme. So it can be reconstructed t- as the Proto Zeliangrong Prefix. The t- prefix occurs with nouns and numerals both in Liangmai and Rongmei. Similarly, prefixes h- ~ m- also occur with nouns and numerals in Zeme. The prefixal correspondences in three languages are summarized in the following table.

t-	tə-čat	hə-čat	tə-čat	'eight'
	tə-zu	mi-zu	zau	'face'
	tə-zuaŋ	he-zua	zou	'monkey'
	tə-jo	he-za	a-puak	'rat'
	tə-ta	he-ta	^{n}ta	'bangle'
	tə-tiu	he-teu	^{n}tu	'necklace'

The general description of the Proto Zeliangrong based on the above reconstructions is structured as syllable structure, consonants, vowels and segment distribution. The reconstruction is assumed to be the picture of Zeliangrong languages based on Zeme, Liangmai and Rongmei.

5.5. Syllable structure:

The syllable canon of Proto Zeliangrong can be generalized as $(C_1)(C_2)V_1(V_2)(C_3)T$. The parentheses show optional elements. The optional initial cluster (C_1) can be clustered with the medial (C_2).The nucleus is composed of either a monophthong V_1 or the diphthong $V_1(V_2)$. The final consonant (C_3) is also optional. T represents the tone. The potential syllable types are V, VV, CV, CVC, CVV,CVVC, CCVC.

Proto Zeliangrong	Syllable type	English gloss
*i	V	I
*ei	VV	okay
*pə	CV	he
*nim	CVC	catch
*dui	CVV	water
*puak	CVVC	blast
*kliŋ	CCVC	sounds

Table 22: Syllable types in Proto Zeliangrong

5.6. Consonant inventory:

The following table provides the consonant inventory for Proto Zeliangrong. The reconstruction of consonants shows that Proto form of Zeliangrong has voiced, voiceless and aspirated series of stops. There are nasal and liquid. It also has voiceless and voiced alveolar fricative, glottal fricative and palatal affricates.

	Bilabial	Alveolar	palatal	Velar	Glottal
Voiceless stops	*p	*t		*k	
Voiceless aspirated stops	*p^h	*t^h		*k^h	
Voiced stops	*b	*d		*g	
Nasals	*m	*n		*ŋ	
Affricates			*č		
Voiceless fricative		*s			*h
Voiced fricative		*z			
Voiceless lateral		*l			
Trill		*r			

Table 23: Proto Zeliangrong consonant inventory

5.7. Vowels

Proto Zeliangrong vowel inventory is shown in the following table:

	Front	Central	Back
Close	*i		*u
Close mid	*e	*ə	*o
Open		*a	

Table 24: Proto Zeliangrong vowel inventory

There are six cardinal vowels compose of close unrounded front vowel, the closed rounded back vowel, the close mid unrounded front vowel, the close mid rounded back vowel and the open vowel.

5.8. Segment distribution

The distribution of Proto Zeliangrong segments can be summarized as follows. All consonants can appear in the initial consonant (C_1) position. However, the second (C_2) is limited to /l/ and /r/. Whenever a consonant cluster occurs, the first consonant is restricted to voiceless unaspirated stops. All

vowels can appear in V_1 monophthong position, but V_2 for a diphthong is restricted to either closed unrounded front vowel /i/ or close rounded back vowel /u/. The distribution of diphthongs is shown in the following table.

	Front	**Back**
Close		*ui
Close mid	*ei *eu	*oi *ou
open	*ai *au	

Table 25: Distribution of Proto Zeliangrong diphthongs

The final consonant (C_3) in closed syllables is restricted to voiceless stops and nasals as shown in the table below.

	Labial	Alveolar	Velar
VL stops	*p	*t	*k
Nasals	*m	*n	*ŋ

Table 26: Final consonants of proto Zeliangrong