

## **The Variation of Free Morphemes in Compound Words in Jinghpo\***

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In the Jinghpo language when free morphemes appear in compound words they often undergo variation in their phonetic form and/or meaning. Many of the variations occur when they are the initial morphemes of compound words. Not only is there variation in the characteristics of these morphemes, but this variation also gives rise to changes in the structural pattern of compound words. Furthermore, this variational phenomenon raises a new question as to how to understand the morpheme.

### **Part I. Phonetic Variation**

Phonetic variation of free morphemes in compound words can be divided into three types according to the locus of the variation. In the first type the variation occurs in the initial consonant, in the second type the variation occurs in the rhyme, and in the third type variation occurs over the whole syllable. When the free morpheme is disyllabic, usually the second syllable is used to form the compound word, and phonetic variation will occur in this second syllable. Another point to be noted is that the tone often changes when a free morpheme appears in a compound word.

#### **1.1 Types of phonetic variation**

##### **1.1.1 Rhyme variation**

The first type of phonetic variation is variation in the rhyme. This is rather common. Especially important is the reduction of a vowel to schwa. For example:

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kǎ<sup>55</sup>wa<sup>55</sup> 'bamboo' → wǎ<sup>31</sup>

wǎ <sup>31</sup> bamboo	tʃɛn <sup>33</sup> slice	'bamboo slice'	wǎ <sup>31</sup> bamboo	pɔt <sup>31</sup> root	'bamboo root'
wǎ <sup>31</sup> bamboo	tsit <sup>31</sup> green	'green bamboo'	wǎ <sup>31</sup> bamboo	kjip <sup>31</sup> shriveled	'shriveled bamboo'

ka<sup>55</sup> 'soil' → kǎ<sup>31</sup>

kǎ <sup>31</sup> soil	khjɛŋ <sup>33</sup> red	'red soil'	kǎ <sup>31</sup> soil	mut <sup>31</sup> gray	'fertile soil'
kǎ <sup>31</sup> soil	tʃaŋ <sup>33</sup> black	'black soil'	kǎ <sup>31</sup> soil	ni <sup>31</sup> fine	'watery mud'

pǎ<sup>31</sup>si<sup>33</sup> 'cotton' → sǎ<sup>31</sup>

sǎ <sup>31</sup> cotton	phʒa <sup>33</sup> farmland	'cotton farmland'	sǎ <sup>31</sup> cotton	ʒin <sup>55</sup> roll	'rolled cotton'
sǎ <sup>31</sup> cotton	khap <sup>55</sup> shoulder-pole	'a shoulder-pole of cotton'	sǎ <sup>31</sup> cotton	phuŋ <sup>55</sup> thick.shaft	'thick-shaft cotton'

tum<sup>31</sup>si<sup>33</sup> 'porcupine' → sǎ<sup>31</sup>

sǎ <sup>31</sup> porcupine	tʃap <sup>31</sup> smell	'smell of porcupine'	sǎ <sup>31</sup> porcupine	pʒum <sup>31</sup> arrow.shape	'arrow of porcupine'
sǎ <sup>31</sup> porcupine	ku <sup>55</sup> full.and.round	'buttock meat of porcupine'	sǎ <sup>31</sup> porcupine	phaŋ <sup>55</sup> cave	'porcupine cave'

mǎ<sup>31</sup>sin<sup>31</sup> 'liver; heart; vital organ; seat of emotions' → sǎ<sup>31</sup>

sǎ <sup>31</sup> organ	lum <sup>33</sup> round	'heart'	sǎ <sup>31</sup> organ	kʒi <sup>31</sup> gallbladder	'gallbladder'
sǎ <sup>31</sup> organ	te <sup>55</sup> kidney	'kidney'			

wa<sup>33</sup> 'tooth' → wǎ<sup>55</sup>

wǎ <sup>55</sup> tooth	thap <sup>55</sup> overlap	'bucktooth'	wǎ <sup>55</sup> tooth	ʒoŋ <sup>51</sup> erect	'crooked tooth'
wǎ <sup>55</sup> tooth	tʃi <sup>55</sup> convex	'alveolus'	wǎ <sup>55</sup> tooth	ʒum <sup>51</sup> fallen.out	'(teeth) all fallen out'

niŋ <sup>31</sup> wa <sup>33</sup> 'axe' → wǎ <sup>55</sup>			
wǎ <sup>55</sup> thoŋ <sup>51</sup>	'back of axe'	wǎ <sup>33</sup> na <sup>33</sup>	'holes in axe'
axe back		axe ears	
wǎ <sup>33</sup> laŋ <sup>33</sup>	'axe handle'		
axe handle			

tʃiŋ <sup>33</sup> kha <sup>33</sup> 'door' → khǎ <sup>55</sup>			
khǎ <sup>55</sup> noi <sup>55</sup>	'door lintel'	khǎ <sup>55</sup> lap <sup>55</sup>	'window'
door hang		door leaf	
khǎ <sup>55</sup> tun <sup>55</sup>	'threshold'		
door surface			

pu <sup>31</sup> 'intestines' → pǎ <sup>31</sup>			
pǎ <sup>31</sup> tun <sup>31</sup>	'starch sausage'	pǎ <sup>31</sup> tʃat <sup>31</sup>	'womb'
intestines starch		intestines add	
pǎ <sup>31</sup> ʒan <sup>31</sup>	'put in order (intestines)'		
intestines put.in.order			

lǎ <sup>31</sup> pu <sup>33</sup> 'snake' → pǎ <sup>33</sup>			
pǎ <sup>33</sup> nen <sup>33</sup>	'snake saliva'	pǎ <sup>33</sup> nui <sup>33</sup>	'boa'
snake smooth		snake soft	

In a few cases, a constituent undergoes a change from an originally open syllable to a syllable closed with a final glottal stop. For example:

lǎ <sup>55</sup> ŋa <sup>55</sup> banana (wild) → ŋa <sup>ʔ31</sup>			
ŋa <sup>ʔ31</sup> tun <sup>31</sup>	'top of banana leaf'	ŋa <sup>ʔ31</sup> li <sup>33</sup>	'banana leaf bud'
banana leaf.tip		banana leaf.bud	
ŋa <sup>ʔ31</sup> kʒop <sup>55</sup>	'a kind of banana'		
banana wither			

Most of the stop-final rhymes do not change, e.g. compound words which contain wa<sup>ʔ31</sup> 'pig'. There are only one or two other stop-final syllables in the lexicon which are neutralized to open syllables in compound words. See the following example:

tʃiŋ <sup>31</sup> pho <sup>ʔ31</sup> 'people' → phǎ <sup>55</sup>			
phǎ <sup>55</sup> on <sup>55</sup>	'leader'	pǎ <sup>55</sup> ʒeŋ <sup>55</sup>	'commander'
people lead		people command	

### 1.1.2 Initial consonant variation

The second type of phonetic morpheme variation is initial consonant variation. These include  $\eta \rightarrow w$ ,  $n \rightarrow l$ ,  $w$  and  $l \rightarrow m$ , etc. Initial consonant variation often occurs simultaneously with vowel neutralization to schwa.

$\eta a^{33}$  'ox'  $\rightarrow$   $w\check{a}^{55}$

$w\check{a}^{55}$ lam <sup>55</sup>	'loitering ox'	$w\check{a}^{55}$ tat <sup>55</sup>	'livestock farm'
ox loiter		ox graze	
$w\check{a}^{33}$ pja <sup>33</sup>	'aborted ox'	$w\check{a}^{55}$ tam <sup>55</sup>	'running-around ox'
ox abort		ox puzzle	

$\eta a^{55}$  'fish'  $\rightarrow$   $w\check{a}^{31}$

$w\check{a}^{31}$ lun <sup>55</sup>	'fish swimming upstream'	$w\check{a}^{55}$ zat <sup>31</sup>	'carp'
fish up		fish cut	
$w\check{a}^{31}$ khje <sup>33</sup>	'yellow croaker'	$w\check{a}^{31}$ man <sup>55</sup>	'shark'
fish red		fish keen	

$na^{33}$  'ear'  $\rightarrow$   $l\check{a}^{55}$

$l\check{a}^{55}$ tsop <sup>55</sup>	'eardrum'	$l\check{a}^{55}$ tan <sup>55</sup>	'ear adornment'
ear membrane		ear show	
$l\check{a}^{55}$ kjo <sup>51</sup>	'earwax'	$l\check{a}^{33}$ pjen <sup>33</sup>	'earlobe'
ear shriveled		ear board	

$khai^{55}nu^{33}$  'corn'  $\rightarrow$   $w\check{a}^{55}$

$w\check{a}^{55}$ khzo <sup>55</sup>	'dried corn'	$w\check{a}^{33}$ po <sup>33</sup>	'corn cord'
corn dry		corn heart	
$w\check{a}^{33}$ phza <sup>33</sup>	'cornfield'	$w\check{a}^{55}$ phji <sup>55</sup>	'corn skin'
corn field		corn skin	

$lam^{33}$  'road'  $\rightarrow$   $m\check{a}^{31}$ ,  $num^{31}$

$m\check{a}^{31}$ sun <sup>33</sup>	'path'	$m\check{a}^{31}$ pzo <sup>31</sup>	'branch road'
road small		road branch	
$num^{31}$ je <sup>55</sup>	'branch road'	(= $m\check{a}^{31}$ je <sup>55</sup> )	
road branch		road branch	
$num^{31}$ sat <sup>31</sup>	'make road marking'	$num^{31}$ pzo <sup>31</sup>	'crossroads'
road scratch		road fork	

### 1.1.3 Full syllable variation

The third type of variation is that which occurs over the whole syllable. In this type of variation the whole syllable is simplified to syllabic n-. Both nasal-final syllables and nasal-initial syllables are often simplified to n-. The

three syllable-final nasals (-n, -m, and -ŋ) can be simplified in this way. For example:

sum<sup>31</sup> 'iron' → n<sup>31</sup>

n <sup>31</sup> iron	tup <sup>31</sup> bald	'dull knife'	n <sup>31</sup> iron	khzut <sup>31</sup> grind	'grindstone'
n <sup>31</sup> iron	ʃi <sup>31</sup> small	'small knife'	n <sup>31</sup> iron	pje <sup>55</sup> flat	'knife blade'

mam<sup>33</sup> 'grain' → n<sup>55</sup>

n <sup>55</sup> grain	loi <sup>51</sup> early	'early grain'	n <sup>55</sup> grain	tat <sup>55</sup> sow	'spring sowing'
n <sup>55</sup> grain	phʒo <sup>51</sup> white	'white grain'	n <sup>55</sup> grain	sa <sup>51</sup> old	'old grain'

nan<sup>33</sup> 'you' → n<sup>33</sup>

n <sup>55</sup> you	wa <sup>51</sup> father	'your father'	n <sup>33</sup> you	khau <sup>33</sup> brother-in-law	'your brother-in-law'
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thiŋ<sup>31</sup> 'house' → n<sup>31</sup>

n <sup>31</sup> house	ko <sup>33</sup> family	'family'	n <sup>31</sup> house	kʒan <sup>33</sup> bolt	'door bolt'
n <sup>31</sup> house	tsam <sup>33</sup> rotten	'old house'	n <sup>31</sup> house	jan <sup>33</sup> extension	'long house'

wan<sup>31</sup> 'fire' → n<sup>31</sup>

n <sup>31</sup> fire	khʒet <sup>31</sup> scratch	'match'	n <sup>31</sup> fire	khut <sup>31</sup> smoke	'fire smoke'
n <sup>31</sup> fire	tʒa <sup>55</sup> light	'luster'			

ma<sup>31</sup> 'child' → n<sup>31</sup>

n <sup>31</sup> child	koʔ <sup>55</sup> first.child (female)	'first child (female)'	n <sup>31</sup> child	kjiʔ <sup>31</sup> bend	'illegitimate child'
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ʒoŋ<sup>31</sup> 'tiger' → n<sup>31</sup>

n <sup>31</sup> tiger	pa <sup>31</sup> big	'big tiger'	n <sup>31</sup> tiger	tʒat <sup>31</sup> den	'tiger den'
n <sup>31</sup> tiger	tʒap <sup>31</sup> hot	'stench of tiger'			

## 1.2 Multiple variational forms

Some morphemes have several variational forms. The majority of these have two realizations. The rest have three or four realizations. To illustrate, see the following compounds involving the morpheme for 'road':

lam <sup>31</sup> sun <sup>33</sup>	num <sup>31</sup> sun <sup>33</sup>	mǎ <sup>31</sup> sun <sup>33</sup>	n <sup>31</sup> sun <sup>33</sup>	'path'
lam <sup>31</sup> ʃe <sup>55</sup>	num <sup>31</sup> ʃe <sup>55</sup>	mǎ <sup>31</sup> ʃe <sup>55</sup>	----	'branch road'
lam <sup>33</sup> kau <sup>33</sup>	num <sup>33</sup> kau <sup>33</sup>	----	----	'side of road'
lam <sup>31</sup> sat <sup>3</sup>	num <sup>31</sup> sat <sup>31</sup>	----	----	'make (road marking)'

We also have 'stone', which has three variations (lung<sup>31</sup>, ma<sup>31</sup>, and n<sup>31</sup>); and 'fire', which has only two variations (wan<sup>31</sup> and n<sup>31</sup>):

luŋ <sup>31</sup> khʒut <sup>31</sup>	mǎ <sup>31</sup> khʒut <sup>31</sup>	n <sup>31</sup> khʒut <sup>31</sup>	'grindstone'
wan <sup>31</sup> khʒet <sup>31</sup>	n <sup>31</sup> khʒet <sup>31</sup>		'match'

This phenomenon represents a process of gradual change in morpheme realization. That is, a comparatively large number of morphemes have undergone changes more than once. In the case of the four different realizations of 'road' (lam<sup>33</sup>, num<sup>33</sup>, mǎ<sup>31</sup>, and n<sup>31</sup>), for example, we can assume that the order of change was lam<sup>33</sup> → num<sup>33</sup> → mǎ<sup>31</sup> → n<sup>31</sup>. The change from lam<sup>33</sup> to num<sup>33</sup> resulted from the influence of the final upon the initial consonant. The change from num<sup>33</sup> to mǎ<sup>31</sup> and the change from mǎ<sup>31</sup> to n<sup>31</sup> resulted from syllable simplification.

Sound changes take place gradually, and during some periods of time sounds undergo change while during other periods they do not. Among those syllables which have undergone changes there are some which keep two realizations. The others only use the changed form instead of the original form. For example, the word 'heart' uses both realizations in some compound words, but in other compound words only the changed form is used:

### *uses both forms*

sin<sup>31</sup> te<sup>55</sup> = sǎ<sup>31</sup> te<sup>55</sup> 'kidney'  
heart kidney

### *uses only changed form*

sǎ<sup>31</sup> kʒi<sup>31</sup> 'gallbladder'  
heart gallbladder

sǎ<sup>31</sup> lum<sup>33</sup> 'heart'  
heart round

*uses only original form*

sin <sup>31</sup>	wop <sup>55</sup>	'lung'
heart	spongy	
sin <sup>31</sup>	tqt <sup>55</sup>	'irritable'
heart	pass over	
sin <sup>31</sup>	ta <sup>31</sup>	'chest'
heart	across	

Another example is 'fish'. In most compound words it changes from  $\eta a^{55}$  to  $wa^{55}$ , but in a few compound words it does not undergo any change. In the former case the occurrence of  $wa^{55}$  does not exist simultaneously with the occurrence of  $\eta a^{55}$ :

*change occurs*

wă <sup>31</sup>	khje <sup>33</sup>	'yellow croaker'
fish	redfish	
wă <sup>31</sup>	lun <sup>55</sup>	'fish swimming upstream'
fish	up	
wă <sup>31</sup>	man <sup>55</sup>	'shark'
fish	keen	
wă <sup>31</sup>	zu <sup>55</sup>	'salt fish'
fish	salty	

*change does not occur*

$\eta a^{55}$	sep <sup>31</sup>	'scale'
fish	scale	
$\eta a^{55}$	sau <sup>55</sup>	'cod-liver oil'
fish	oil	
$\eta a^{55}$	fat <sup>31</sup>	'fish feed'
fish	food	
$\eta a^{55}$	li <sup>33</sup>	'fingerling'
fish	child	

## Part II. Semantic Variation

Some free morphemes in compound words undergo a change in meaning, while others do not.

### 2.1 Grammaticalization

The first type of semantic change is grammaticalization. Each morpheme whose phonetic form changes undergoes grammaticalization to various degrees. The degree of grammaticalization depends on the following four factors.

#### 2.1.1 Amount of phonetic change

The first factor is how great the change in the phonetic form is. The less the phonetic change, the lower the degree of grammaticalization. When the change is only very slight, the speaker can easily relate the changed form back to the original form. This is the case with such morphemes as  $ka^{55}$  'earth' or  $\eta a^{33}$  'banana', which undergo only slight morphophonemic changes in composition:

$ka^{55}$	khjen <sup>33</sup>	→	kă <sup>31</sup>	khjen <sup>33</sup>	'red soil'
soil	red		soil	red	

lǎ<sup>55</sup>ŋa<sup>55</sup> li<sup>31</sup> → ŋa<sup>731</sup> li<sup>31</sup> 'banana leaf bud'  
 banana leaf.bud banana leaf.bud

Conversely, the bigger the phonetic change, the higher the degree of grammaticalization. In the case of great phonetic change a speaker cannot as easily connect the changed form to the original form. This is true in the case of 'tiger', which changes from ʒoŋ<sup>31</sup> to n<sup>31</sup>:

ʒoŋ<sup>31</sup> pa<sup>31</sup> 'big tiger' → n<sup>31</sup> pa<sup>31</sup> 'big tiger'  
 tiger big tiger big

### 2.1.2 Abundance of compound word occurrences

The second factor affecting the degree of grammaticalization of free morphemes in compound words is the number of words in which the morpheme can appear. The greater the number of collocational occurrences, the lower the degree of grammaticalization. This is due to the fact that if a morpheme occurs frequently then the meaning of its original form is not easily lost. As in the example of 'ox', even though the phonetic form changed dramatically (from ŋa<sup>33</sup> to wǎ<sup>55</sup>), it is not difficult for speakers to relate wǎ<sup>55</sup> back to the meaning 'ox' because wǎ<sup>55</sup> occurs in so many other compound words. This is illustrated below.

wǎ <sup>33</sup> noŋ <sup>33</sup> 'ox herd'	wǎ <sup>33</sup> pja <sup>33</sup> 'aborted ox'
ox herd	ox abort
wǎ <sup>55</sup> tʃit <sup>55</sup> 'ox urine'	wǎ <sup>33</sup> si <sup>33</sup> 'dead ox'
ox urine	ox death

### 2.1.3 Existence of free variational forms

The third factor affecting the degree of grammaticalization is whether or not there are free variational forms. For some compound words the semi-content morpheme form and the content morpheme form exist simultaneously in the lexicon and can be used in free variation. For example, the two free variants of 'eldest son' are ma<sup>31</sup>kam<sup>33</sup> ~ n<sup>31</sup>kam<sup>33</sup>. In this case speakers can easily associate the phonologically reduced "function" morpheme with the original full form. In this situation the degree of grammaticalization is constrained to some extent. Conversely, for compound morphemes which have no free variation, speakers lose the association between the function morpheme and the content morpheme form. In this situation grammaticalization easily occurs. Some examples of compounds with free variational forms are the following:

ma<sup>31</sup> no<sup>33</sup> ~ n<sup>31</sup> no<sup>33</sup> 'second child (male)'  
 child second.child (male) child second.child (male)



lam <sup>31</sup> je <sup>55</sup>	~	num <sup>31</sup> je <sup>55</sup>	'branch road'
road branch		road branch	

#### 2.1.4 Context of the compound word

The fourth factor affecting the degree of grammaticalization is the immediate context of the compound. For some compound words, when the word is used singly in a phrase the degree of grammaticalization is very low. But when the original form and the changed form are used simultaneously in the same phrase the degree of grammaticalization is comparatively higher. Examples of this phenomenon follow.

wă <sup>31</sup> lun <sup>55</sup>	~	ŋa <sup>55</sup> wă <sup>31</sup> lun <sup>55</sup>	'school of fish swimming against current'
fish up		fish fish up	
wă <sup>31</sup> zat <sup>31</sup>	~	ŋa <sup>55</sup> wă <sup>31</sup> zat <sup>31</sup>	'carp'
fish cut		fish fish cut	
puŋ <sup>31</sup> khzut <sup>31</sup>	~	po <sup>33</sup> puŋ <sup>31</sup> khzut <sup>31</sup>	'wash head (wash hair)'
head wash		head head wash	
puŋ <sup>31</sup> khzak <sup>55</sup>	~	po <sup>33</sup> puŋ <sup>31</sup> khzak <sup>55</sup>	'strike head'
head strike		head head strike	
wă <sup>33</sup> na <sup>33</sup>	~	ŋa <sup>33</sup> wă <sup>33</sup> na <sup>33</sup>	'ox ear'
ox ear		ox ox ear	
wă <sup>33</sup> phza <sup>33</sup>	~	khai <sup>55</sup> nu <sup>33</sup> wă <sup>33</sup> phza <sup>33</sup>	'cornfield' (jade+grain=corn)
corn field		jade grain corn field	
n <sup>31</sup> ka <sup>755</sup>	~	mam <sup>33</sup> n <sup>31</sup> ka <sup>755</sup>	'barn'
grain barn		grain grain barn	
wă <sup>33</sup> tik <sup>55</sup>	~	wa <sup>33</sup> wă <sup>33</sup> tik <sup>55</sup>	'grit teeth'
tooth grit		tooth tooth grit	

By comparing a collocation in which the changed form of a morpheme occurs singly to one where the changed form and the original form coexist, we can see how the degree of grammaticalization of a changed form in a compound word depends on the context.

#### 2.2 Addition of meaning

The second type of semantic modification is addition of a second meaning to a compound word. Some compound words which have variant forms develop a second meaning when they combine with other content morphemes. The second meaning usually involves an expanded range or extension of the original meaning. For example: wă<sup>55</sup>ji<sup>51</sup> means 'female buffalo' when it is used singly, but its meaning changes to 'female' when it appears in a phrase with 'horse', thus: kum<sup>31</sup>za<sup>31</sup>wă<sup>55</sup>ji<sup>51</sup> 'female horse (mare)'. Other examples are the following:

wǎ <sup>55</sup> loŋ <sup>51</sup> ox shed	'ox shed'	>	kum <sup>31</sup> ʒa <sup>31</sup> wǎ <sup>55</sup> loŋ <sup>51</sup> horse shed	'horse shed'
wǎ <sup>33</sup> noŋ <sup>33</sup> ox herd	'herd of oxen, herd'	>	mǎ <sup>31</sup> ʃa <sup>31</sup> wǎ <sup>33</sup> noŋ <sup>33</sup> people crowd	'crowd'
wǎ <sup>55</sup> ʃat <sup>55</sup> ox fodder	'ox fodder, fodder'	>	ŋa <sup>33</sup> wǎ <sup>55</sup> ʃat <sup>55</sup> ox fodder	'ox fodder'
wǎ <sup>33</sup> taŋ <sup>33</sup> ox stake	'ox stake, cross stake'	>	je <sup>33</sup> su <sup>755</sup> wǎ <sup>33</sup> taŋ <sup>33</sup> Jesus cross	'the Jesus cross'

### 2.3 Change of the original meaning

The third type of semantic modification is a change of the original meaning of the morpheme occurring within a compound word. Some compound words change in meaning because of grammaticalization. Compared to the original meaning, the range of the new meaning has been broadened. For example, the original meaning of wǎ<sup>33</sup>laŋ<sup>33</sup> was 'the handle of an axe'. The morpheme wǎ<sup>33</sup> originated from niŋ<sup>31</sup>wa<sup>33</sup> which means 'axe'. The new meaning of wǎ<sup>33</sup>laŋ<sup>33</sup> is just 'handle'. Today if we want to express the meaning 'the handle of an axe', we must add niŋ<sup>31</sup>wa<sup>33</sup> to wǎ<sup>33</sup>laŋ<sup>33</sup>, thus: niŋ<sup>31</sup>wa<sup>33</sup>wǎ<sup>33</sup>laŋ<sup>33</sup>. Another example is 'the hole of an axe', wǎ<sup>33</sup>na<sup>33</sup>. Its original meaning was 'the hole of an axe', but the new meaning is just 'hole'. Therefore we must add niŋ<sup>31</sup>wa<sup>33</sup> 'axe' to wǎ<sup>33</sup>na<sup>33</sup>, thus niŋ<sup>31</sup>wa<sup>33</sup>wǎ<sup>33</sup>na<sup>33</sup> to express the meaning 'the hole of an axe'.<sup>1</sup>

Some morphemes in compound words in Jingpho only occur in composition; some of these have ancient status in terms of Tibeto-Burman as a whole. Through comparison with related languages, cognates of the ancient form can be found, but not of the new form with the same meaning. Because of grammaticalization of the ancient form in compound words, the speaker cannot easily associate it with the ancient meaning. For example, see the following:

<sup>1</sup> By a similar process of semantic bleaching, Japanese *waishatsu* (< English *white shirt*) can refer to Western-style shirts of any color, not just white ones. [Ed.]

	<i>independent usage</i>	<i>compound usage</i>	<i>Daifeng</i>	<i>Hani</i>
hair	kǎ <sup>55</sup> ʒa <sup>55</sup>	sam <sup>55</sup> pan <sup>51</sup> hair braid 'braid' sam <sup>31</sup> pam <sup>33</sup> hair cover 'white hair'	u <sup>31</sup> tsham <sup>21</sup> head hair (=hair)	tshe <sup>55</sup> kho <sup>55</sup> hair root
iron	phʒi <sup>31</sup>	sum <sup>31</sup> tu <sup>33</sup> iron hammer 'iron hammer'	ʃam <sup>51</sup> tɔʔ <sup>55</sup> iron	sɔ <sup>55</sup> iron
woman	num <sup>33</sup>	mi <sup>31</sup> ʒam <sup>55</sup> woman just.right 'middle-aged woman'	mji <sup>31</sup> woman	mi <sup>31</sup> za <sup>31</sup> woman little
dark	tʃaŋ <sup>33</sup>	sin <sup>31</sup> naʔ <sup>55</sup> 2 sky dark 'west'	noʔ <sup>21</sup> dark	na <sup>33</sup> dark
road	lam <sup>33</sup>	wǎ <sup>33</sup> khja <sup>33</sup> ox road 'ox road'	khjo <sup>51</sup> road	
soybean	lǎ <sup>55</sup> si <sup>51</sup>	noʔ <sup>31</sup> tʃaŋ <sup>33</sup> soybean black 'black soybean' noʔ <sup>31</sup> loi <sup>31</sup> soybean early 'early soybean'	nuʔ <sup>21</sup> soybean	nu <sup>33</sup> si <sup>31</sup> soybean fruit
fire	wan <sup>31</sup>	mji <sup>31</sup> loŋ <sup>33</sup> khu <sup>33</sup> fire tunnel hole 'bullet hole' mji <sup>31</sup> phʒap <sup>31</sup> fire flash 'lightning'	mji <sup>21</sup> fire	mi <sup>31</sup> dza <sup>31</sup> fire
day	n <sup>55</sup> thoi <sup>55</sup>	tai <sup>31</sup> ni <sup>55</sup> this day 'today'		no <sup>33</sup> day
round	tin <sup>31</sup>	sǎ <sup>31</sup> lum <sup>33</sup> heart round 'heart'	liŋ <sup>55</sup> heart	xu <sup>55</sup> lu <sup>33</sup> heart

<sup>2</sup> See also myit<sup>31</sup>-naʔ<sup>55</sup>-myit<sup>31</sup>-tʃaŋ<sup>33</sup> 'black-hearted'. [Ed.]

### Part III. Theoretical issues

#### 3.1 Reasons for variation

Why do free morphemes in compound words undergo variation? I think this phenomenon is related to three unique characteristics of the modern Jinghpo sound system.

First, Jinghpo has a tendency to increase the number of disyllabic words in the lexicon. There are two pathways to disyllabification. One pathway is from a single syllable word to a disyllabic word. The other pathway is abbreviating a polysyllabic word to a disyllabic word.

The second characteristic is the preference for an iambic pattern. That is, the first syllable undergoes neutralization and the second syllable is given the accent.

The third is the reduction of different morphemes in the initial slot of the compound to the same phonetic form. For example,  $ma^{31}$ ,  $ʒoŋ^{31}$ ,  $tiŋ^{31}$ ,  $kum^{31}$ ,  $lam^{33}$ ,  $luŋ^{31}$ ,  $num^{33}$ , etc. may all be reduced in composition to syllabic n-; while  $ŋa^{55}$ ,  $ŋa^{33}$ ,  $wa^{33}$ ,  $nu^{33}$ , etc. may all be reduced to  $wǎ$ . These three characteristics have been responsible for the phonetic variation of free morphemes in compound words. In turn, phonetic variation results in semantic variation.

#### 3.2 Grammatical results of variation

Because of variation of free morphemes in compound words, some new characteristics have developed in the pattern of Jinghpo word formation. There are three patterns of Jinghpo word formation: content morpheme plus content morpheme, prefix plus content morpheme, and content morpheme plus suffix.

Because of grammaticalization of the content morpheme, the first pattern underwent a division resulting in a new pattern: a compounding structure of a semi-content morpheme followed by a content morpheme. The semi-content morpheme is similar neither to a content morpheme nor to a prefix, but is somewhere in between the two. Looking at their development, these semi-content morphemes are sometimes grammaticalized further to become function morphemes. On the one hand, the more time passes, the higher the degree of grammaticalization of the free morpheme, until finally the speaker cannot associate the free morpheme with the original meaning. On the other hand, the reduction of various morphemes in the initial slot to a fewer number of phonetic forms speeds up the grammaticalization process. In the following examples the morphemes which appear in the initial slot of these compound words are of three types: content morphemes, function morphemes, and pseudomorphemes. The pseudomorpheme is from the first consonant of a consonant cluster.

	Content Morpheme (phonologically reduced)	Function Morpheme (prefix)	Pseudomorpheme (dimidiated cluster)
să:	să <sup>31</sup> lum <sup>33</sup> 'heart' heart round	să <sup>31</sup> tsap <sup>55</sup> 'make some- thing stand'	să <sup>31</sup> nit <sup>31</sup> 'seven'
mă:	mă <sup>31</sup> pzo? <sup>31</sup> 'branch road' road branch	mă <sup>31</sup> kap <sup>31</sup> 'cover' PREFIX cover	mă <sup>31</sup> nam <sup>55</sup> 'smell'
n:	n <sup>55</sup> loi <sup>51</sup> 'early grain' grain early	n <sup>55</sup> sin <sup>55</sup> 'dark' PREFIX dark	n <sup>31</sup> puŋ <sup>33</sup> 'wind'
lă:	lă <sup>55</sup> tsop <sup>55</sup> 'eardrum' ear membrane	lă <sup>55</sup> ʒut <sup>55</sup> 'eraser' PREFIX scrub	lă <sup>31</sup> pu <sup>33</sup> 'snake'

### 3.3 Problems in characterizing morphemes

Grammaticalization and reduction present at least two problems in pinpointing the nature of some morphemes.

#### 3.3.1 Synchronic analysis criteria vs. diachronic analysis criteria

One of the problems is the conflict between synchronic and diachronic analytical criteria in characterizing certain morphemes. For certain morphemes we cannot find the meaning by synchronic analysis, but we can often determine its origin as a content morpheme through comparison with related languages. For example, in sum<sup>31</sup>nep<sup>55</sup> 'iron paddle', nep<sup>55</sup> means 'to pad', but we cannot synchronically determine what the meaning of sum<sup>31</sup> is. From the synchronic point of view it is merely a prefix, but comparison with related languages reveals to us that it is the ancient form of 'iron'.<sup>3</sup> The meaning of sum<sup>31</sup> as 'iron' is only preserved in compound words. So is the morpheme sum<sup>31</sup> a function morpheme or a content morpheme?

#### 3.3.2 Intuition vs. distributional criteria

The other problem in characterizing free morphemes which have undergone variation is the conflict between intuition and rigid distributional criteria. For example, looking at the word 'grindstone' n<sup>31</sup>khʒut<sup>31</sup>, the speaker realizes clearly that khʒut<sup>31</sup> means 'to grind', but cannot associate back to the original meaning of n<sup>31</sup>, and he usually conceives of n<sup>31</sup> as a prefix. But diachronic linguistic analysis shows that n<sup>31</sup> was reduced from the original form luŋ<sup>31</sup> 'stone'.<sup>4</sup>

The question of how to distinguish a function morpheme from a content morpheme is an unsolved but valuable subject in Jinghpo study.

<sup>3</sup> The usual modern Jinghpo word for 'iron' is phʒi<sup>31</sup>. [Ed.]

<sup>4</sup> A complicated cyclical process is at work here. In words like n<sup>31</sup>khʒut<sup>31</sup>, the syllabic nasal is indeed from \*-luŋ<sup>31</sup> (see above 1.2). But there also exists a prefixed noun n<sup>31</sup>luŋ<sup>31</sup>, where the nasal prefix can be shown to derive from PTB \*r- (see STC, p. 109). For an account of the several different diachronic statuses of the nasal prefix in Mpl (S. Loloish), see Matisoff (1978) "Mpl and Proto-Lolo-Burmese," section 2.4. [Ed.]