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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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kă^{55}wa^{55} 'bamboo' → wă^{31}

wă^{31}	tʃẹn^{33}	'bamboo slice'	wă^{31}	pọt^{31}	'bamboo root'
bamboo	slice		bamboo	root	
wă^{31}	tsịt^{31}	'green bamboo'	wă^{31}	kjip^{31}	'shriveled bamboo'
bamboo	green		bamboo	shriveled	

ka^{55} 'soil' → kă^{31}

kă^{31}	khjeŋ^{33}	'red soil'	kă^{31}	mụt^{31}	'fertile soil'
soil	red		soil	gray	
kă^{31}	tʃạŋ^{33}	'black soil'	kă^{31}	ni^{31}	'watery mud'
soil	black		soil	fine	

pă^{31}si^{33} 'cotton' → să^{31}

să^{31}	phʒa^{33}	'cotton farmland'	să^{31}	ʒin^{55}	'rolled cotton'
cotton	farmland		cotton	roll	
să^{31}	khap^{55}	'a shoulder-pole of cotton'	să^{31}	phuŋ^{55}	'thick-shaft cotton'
cotton	shoulder-pole		cotton	thick.shaft	

tum^{31}si^{33} 'porcupine' → să^{31}

să^{31}	tʃap^{31}	'smell of porcupine'	să^{31}	pʒum^{31}	'arrow of porcupine'
porcupine	smell		porcupine	arrow.shape	
să^{31}	ku^{55}	'buttock meat of porcupine'	să^{31}	phaŋ^{55}	'porcupine cave'
porcupine	full.and.round		porcupine	cave	

mă^{31}sin^{31} 'liver; heart; vital organ; seat of emotions' → să^{31}

să^{31}	lum^{33}	'heart'	să^{31}	kʒi^{31}	'gallbladder'
organ	round		organ	gallbladder	
să^{31}	te^{55}	'kidney'			
organ	kidney				

wa^{33} 'tooth' → wă^{55}

wă^{55}	thap^{55}	'bucktooth'	wă^{55}	ʒoŋ^{51}	'crooked tooth'
tooth	overlap		tooth	erect	
wă^{55}	tʃi^{55}	'alveolus'	wă^{55}	ʒum^{51}	'(teeth) all fallen out'
tooth	convex		tooth	fallen.out	

niŋ^{31}wa^{33} 'axe' → wă^{55}

wă^{55}	thoŋ^{51}	'back of axe'	wă^{33}	na^{33}	'holes in axe'
axe	back		axe	ears	
wă^{33}	laŋ^{33}	'axe handle'			
axe	handle				

tʃiŋ^{33}kha^{33} 'door' → khă^{55}

khă^{55}	noi^{55}	'door lintel'	khă^{55}	lap^{55}	'window'
door	hang		door	leaf	
khă^{55}	tun^{55}	'threshold'			
door	surface				

pu̱^{31} 'intestines' → pă̱^{31}

pă̱^{31}	tuŋ^{31}	'starch sausage'	pă̱^{31}	tʃat^{31}	'womb'
intestines	starch		intestines	add	
pă̱^{31}	ʒan^{31}	'put in order (intestines)'			
intestines	put.in.order				

lă^{31}pu̱^{33} 'snake' → pă̱^{33}

pă̱^{33}	nen^{33}	'snake saliva'	pă̱^{33}	nui^{33}	'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:

lă^{55}ŋa^{55} banana (wild) → ŋaʔ^{31}

ŋaʔ^{31}	tuŋ^{31}	'top of banana leaf'	ŋaʔ^{31}	li^{33}	'banana leaf bud'
banana	leaf.tip		banana	leaf.bud	
ŋaʔ^{31}	kʒo̱p^{55}	'a kind of banana'			
banana	wither				

Most of the stop-final rhymes do not change, e.g. compound words which contain waʔ^{31} '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^{31}phoʔ^{31} 'people' → phă^{55}

phă^{55}	on^{55}	'leader'	pă^{55}	ʒeŋ^{55}	'commander'
people	lead		people	command	

1.1.2 Initial consonant variation

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

ŋa^{33} 'ox' → wă^{55}

wă^{55} lam^{55}		'loitering ox'	wă^{55} tat^{55}		'livestock farm'
ox	loiter		ox	graze	
wă^{33} pja^{33}		'aborted ox'	wă^{55} tam^{55}		'running-around ox'
ox	abort		ox	puzzle	

ŋa^{55} 'fish' → wă^{31}

wă^{31} lun^{55}		'fish swimming upstream'	wă^{55} ʒat^{31}		'carp'
fish	up		fish	cut	
wă^{31} khje^{33}		'yellow croaker'	wă^{31} man^{55}		'shark'
fish	red		fish	keen	

na^{33} 'ear' → lă^{55}

lă^{55} tsǫp^{55}		'eardrum'	lă^{55} tan^{55}		'ear adornment'
ear	membrane		ear	show	
lă^{55} kjǫ^{51}		'earwax'	lă^{33} pjɐn^{33}		'earlobe'
ear	shriveled		ear	board	

khai^{55}nu^{33} 'corn' → wă^{55}

wă^{55} khɔ?^{55}		'dried corn'	wă^{33} pǫ^{33}		'corn cord'
corn	dry		corn	heart	
wă^{33} phɔa^{33}		'cornfield'	wă^{55} phji?^{55}		'corn skin'
corn	field		corn	skin	

lam^{33} 'road' → mă^{31}, num^{31}

mă^{31} sun^{33}		'path'	mă^{31} pɔo?^{31}		'branch road'
road	small		road	branch	
num^{31} ʃe^{55}		'branch road'	(=mă^{31} ʃe^{55})		
road	branch		road	branch	
num^{31} sat^{31}		'make road marking'	num^{31} pɔo?^{31}		'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^{31} 'iron' → n^{31}

n^{31}	tup^{31}	'dull knife'	n^{31}	khɔut^{31}	'grindstone'
iron	bald		iron	grind	
n^{31}	ʃi^{31}	'small knife'	n^{31}	pje^{55}	'knife blade'
iron	small		iron	flat	

mam^{33} 'grain' → n^{55}

n^{55}	loi^{51}	'early grain'	n^{55}	tat^{55}	'spring sowing'
grain	early		grain	sow	
n^{55}	phɔo^{51}	'white grain'	n^{55}	sa^{51}	'old grain'
grain	white		grain	old	

naŋ^{33} 'you' → n^{33}

n^{55}	wa^{51}	'your father'	n^{33}	khau^{33}	'your brother-in-law'
you	father		you	brother-in-law	

thiŋ^{31} 'house' → n^{31}

n^{31}	ko^{33}	'family'	n^{31}	kɔaŋ^{33}	'door bolt'
house	family		house	bolt	
n^{31}	tsa̱m^{33}	'old house'	n^{31}	jan^{33}	'long house'
house	rotten		house	extension	

wan^{31} 'fire' → n^{31}

n^{31}	khɔet^{31}	'match'	n^{31}	khut^{31}	'fire smoke'
fire	scratch		fire	smoke	
n^{31}	tsa^{55}	'luster'			
fire	light				

ma^{31} 'child' → n^{31}

n^{31}	kǫ?^{55}	'first child (female)'	n^{31}	kji?^{31}	'illegitimate child'
child	first.child (female)		child	bend	

ɜoŋ^{31} 'tiger' → n^{31}

n^{31}	pa^{31}	'big tiger'	n^{31}	tʃat^{31}	'tiger den'
tiger	big		tiger	den	
n^{31}	tʃap^{31}	'stench of tiger'			
tiger	hot				

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^{31}sun^{33}	num^{31}sun^{33}	mă^{31}sun^{33}	n^{31}sun^{33}	'path'
lam^{31}ʃe^{55}	num^{31}ʃe^{55}	mă^{31}ʃe^{55}	----	'branch road'
lam^{33}kɑu^{33}	num^{33}kɑu^{33}	----	----	'side of road'
lam^{31}sat^{3}	num^{31}sat^{31}	----	----	'make (road marking)'

We also have 'stone', which has three variations (lung^{31}, ma^{31}, and n^{31}); and 'fire', which has only two variations (wan^{31} and *n*^{31}):

luŋ^{31}khɜut^{31}	mă^{31}khɜut^{31}	n^{31}khɜut^{31}	'grindstone'
wan^{31}khɜet^{31}	n^{31}khɜet^{31}		'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^{33}, num^{33}, mă^{31}, and n^{31}), for example, we can assume that the order of change was lam^{33} → num^{33} → mă^{31} → n^{31}. The change from lam^{33} to num^{33} resulted from the influence of the final upon the initial consonant. The change from num^{33} to mă^{31} and the change from mă^{31} to n^{31} 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^{31} te^{55} = să^{31} te^{55} 'kidney'
heart kidney

uses only changed form

să^{31} kɜi^{31} 'gallbladder'
heart gallbladder

să^{31} lum^{33} 'heart'
heart round

uses only original form

sin^{31}	wop^{55}	'lung'
heart	spongy	
sin^{31}	tǫt^{55}	'irritable'
heart	pass over	
sin^{31}	ta?^{31}	'chest'
heart	across	

Another example is 'fish'. In most compound words it changes from ŋa^{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 ŋa^{55}:

change occurs			*change does not occur*		
wă^{31}	khje^{33}	'yellow croaker'	ŋa^{55}	sep^{31}	'scale'
fish	redfish		fish	scale	
wă^{31}	lun^{55}	'fish swimming	ŋa^{55}	sau^{55}	'cod-liver oil'
fish	up	upstream'	fish	oil	
wă^{31}	man^{55}	'shark'	ŋa^{55}	ʃat^{31}	'fish feed'
fish	keen		fish	food	
wă^{31}	ʒu^{55}	'salt fish'	ŋa^{55}	li^{33}	'fingerling'
fish	salty		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 ŋa^{33} 'banana', which undergo only slight morphophonemic changes in composition:

ka^{55}	khjeŋ^{33}	→	kă^{31}	khjeŋ^{33}	'red soil'
soil	red		soil	red	

lă^{55}ŋa^{55}	li^{31}	→	ŋaʔ^{31}	li^{31}	'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^{31} to n^{31}:

ʒoŋ^{31}	pa^{31}	'big tiger'	→	n^{31}	pa^{31}	'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^{33} to wă^{55}), it is not difficult for speakers to relate wă^{55} back to the meaning 'ox' because wă^{55} occurs in so many other compound words. This is illustrated below.

wă^{33}	noŋ^{33}	'ox herd'	wă^{33}	pja^{33}	'aborted ox'
ox	herd		ox	abort	
wă^{55}	tʃit^{55}	'ox urine'	wă^{33}	si^{33}	'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^{31}kam^{33} ~ n^{31}kam^{33}. 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^{31}	no^{33}	~	n^{31}	no^{33}	'second child (male)'
child	second.child (male)		child	second.child (male)	

lam^{31}	ʃe^{55}	~	num^{31}	ʃe^{55}	'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^{31}	lun^{55}	~	ŋa^{55}	wă^{31}	lun^{55}		'school of fish swimming against current'
fish	up		fish	fish	up		
wă^{31}	ʒat^{31}	~	ŋa^{55}	wă^{31}	ʒat^{31}		'carp'
fish	cut		fish	fish	cut		
puŋ^{31}	khʒut^{31}	~	po^{33}	puŋ^{31}	khʒut^{31}		'wash head (wash hair)'
head	wash		head	head	wash		
puŋ^{31}	khʒak^{55}	~	po^{33}	puŋ^{31}	khʒak^{55}		'strike head'
head	strike		head	head	strike		
wă^{33}	na^{33}	~	ŋa^{33}	wă^{33}	na^{33}		'ox ear'
ox	ear		ox	ox	ear		
wă^{33}	phʒa^{33}	~	khai^{55}	nu^{33}	wă^{33}	phʒa^{33}	'cornfield'
corn	field		jade	grain	corn	field	(jade+grain=corn)
n^{31}	kạ?^{55}	~	mam^{33}	n^{31}	kạ?^{55}		'barn'
grain	barn		grain	grain	barn		
wă^{33}	tịk^{55}	~	wa^{33}	wă^{33}	tịk^{55}		'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^{55}ji^{51} means 'female buffalo' when it is used singly, but its meaning changes to 'female' when it appears in a phrase with 'horse', thus: kum^{31}ʒa^{31}wă^{55}ji^{51} 'female horse (mare)'. Other examples are the following:

wă^{55}	loŋ^{51}	'ox shed'	>	kum^{31} ʒa^{31}	***wă^{55} loŋ^{51}***	'horse shed'
ox	shed			horse	shed	
wă^{33}	noŋ^{33}	'herd of oxen, herd'	>	mă^{31} ʃa^{31}	***wă^{33} noŋ^{33}***	'crowd'
ox	herd			people	crowd	
wă^{55}	ʃat^{55}	'ox fodder, fodder'	>	ŋa^{33}	***wă^{55} ʃat^{55}***	'ox fodder'
ox	fodder			ox	fodder	
wă^{33}	taŋ^{33}	'ox stake, cross	>	je^{33} su?^{55}	***wă^{33} taŋ^{33}***	'the Jesus cross'
ox	stake	stake'		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 wă^{33}lang^{33} was 'the handle of an axe'. The morpheme wă^{33} originated from niŋ^{31}wa^{33} which means 'axe'. The new meaning of wă^{33}laŋ^{33} is just 'handle'. Today if we want to express the meaning 'the handle of an axe', we must add niŋ^{31}wa^{33} to wă^{33}lang^{33}, thus: niŋ^{31}wa^{33}wă^{33}laŋ^{33}. Another example is 'the hole of an axe', wă^{33}na^{33}. Its original meaning was 'the hole of an axe', but the new meaning is just 'hole'. Therefore we must add niŋ^{31}wa^{33} 'axe' to wă^{33}na^{33}, thus niŋ^{31}wa^{33}wă^{33}na^{33} to express the meaning 'the hole of an axe'.[1]

Some morphemes in compound words in Jinghpo 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:

[1] 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.]

	independent usage	*compound usage*	*Daifeng*	*Hani*
hair	kă^{55}ʒa^{55}	sam^{55} pan^{51} hair braid 'braid' sam^{31} pam^{33} hair cover 'white hair'	u^{31} tsham^{21} head hair (=hair)	tshe^{55} khɔ^{55} hair root
iron	phʒi^{31}	sum^{31} tu^{33} iron hammer 'iron hammer'	ʃam^{51} tǫ?^{55} iron	sɔ^{55} iron
woman	num^{33}	mi̱^{31} ʒam^{55} woman just.right 'middle-aged woman'	mji^{31} woman	mi^{31} za^{31} woman little
dark	tʃaŋ^{33}	sin^{31} na?^{55} 2 sky dark 'west'	no?^{21} dark	na̱^{33} dark
road	lam^{33}	wă^{33} khja^{33} ox road 'ox road'	khjo^{51} road	
soybean	lă^{55}si^{51}	no?^{31} tʃaŋ^{33} soybean black 'black soybean' no?^{31} loi^{31} soybean early 'early soybean'	nu?^{21} soybean	nɯ^{33} si^{31} soybean fruit
fire	wan^{31}	mji^{31} loŋ^{33} khu^{33} fire tunnel hole 'bullet hole' mji^{31} phʒap^{31} fire flash 'lightning'	mji^{21} fire	mi^{31} dza^{31} fire
day	n^{55}thoi^{55}	tai^{31} ni^{55} this day 'today'		nɔ^{33} day
round	tin^{31}	să^{31} lum^{33} heart round 'heart'	liŋ^{55} heart	xu^{55} lɯ^{33} heart

2 See also myit^{31}-na?^{55}-myit^{31}-tʃaŋ^{33} '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 wă. 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)*
sǎ:	sǎ^{31} lum^{33} 'heart' heart round	sǎ^{31} tsɑp^{55} 'make some- PREF stand thing stand'	sǎ^{31}nit^{31} 'seven'
mǎ:	mǎ^{31} pɔo?^{31} 'branch road' road branch	mǎ^{31} kap^{31} 'cover' PREF cover	mǎ^{31}nam^{55} 'smell'
n:	n^{55} loi^{51} 'early grain' grain early	n^{55} sin^{55} 'dark' PREF dark	n^{31}puŋ^{33} 'wind'
lǎ:	lǎ^{55} tsɑp^{55} 'eardrum' ear membrane	lǎ^{55} ʒut^{55} 'eraser' PREF scrub	lǎ^{31}pu̱^{33} '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^{31}nep^{55} 'iron paddle', nep^{55} means 'to pad', but we cannot synchronically determine what the meaning of sum^{31} 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'.[3] The meaning of sum^{31} as 'iron' is only preserved in compound words. So is the morpheme sum^{31} 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^{31}khʒut^{31}, the speaker realizes clearly that khʒut^{31} means 'to grind', but cannot associate back to the original meaning of n^{31}, and he usually conceives of n^{31} as a prefix. But diachronic linguistic analysis shows that n^{31} was reduced from the original form luŋ^{31} 'stone'.[4]

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

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[3] The usual modern Jinghpo word for 'iron' is phʒi^{31}. [Ed.]

[4] A complicated cyclical process is at work here. In words like n^{31}khʒut^{31}, the syllabic nasal is indeed from *-luŋ^{31} (see above 1.2). But there also exists a prefixed noun n^{31}luŋ^{31}, 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 Mpi (S. Loloish), see Matisoff (1978) "Mpi and Proto-Lolo-Burmese," section 2.4. [Ed.]