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### THE STRUCTURE OF THE TANGUT VERB1

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### ABSTRACT

Abstract: The present paper is an attempt at analyzing the verbal morphology of Tangut from the point of view of both Tangut texts and modern Qiangic languages, its closest living relatives.

Modern Qiangic languages, especially Rgyalrong, have a very strict verbal template. In this article, we propose that Tangut also had a verbal template, which was probably the result of independent grammaticalization rather than a shared inheritance with Rgyalrong. Then, we discuss apparent counterexamples to the proposed template and argue that other explanations are possible to account for them. Finally, we demonstrate the (previously unnoticed) existence of verbal incorporation in Tangut.

## SUBJECT KEYWORDS

Tangut, Rgyalrong, Japhug, incorporation, directional prefixes, templatic morphology

As in Middle and Modern Chinese, in the Tangut script, there is a one-to-one relation between syllables and characters. No word boundaries are represented in any way, giving the misleading impression that verbal prefixes and suffixes were just clitics or independent particles.

In this paper, drawing on comparative data from modern Qiangic languages and Tangut texts, we will try to answer an important question regarding the degree of grammaticalization of directional prefixes in Tangut: are they fully grammaticalized affixes as in Rgyalrong, or do they preserve some degree of freedom, like the directional prefixes of German or Vedic?

In order to solve this problem, we will try to establish the structure of the Tangut verb template, and then analyze in detail all the examples that seem to deviate from it and are not attested in modern Qiangic languages.

#### 1. THE VERBAL TEMPLATE IN RGYALRONG

Tangut belongs to the Qiangic subgroup of Sino-Tibetan. Some languages among the Qiangic group have a remarkably complex verbal morphology, especially Rgyalrong languages (Japhug, Situ, Tshobdun and Showu, see Sun 2000 and Jacques 2008a).

Rgyalrong languages have a very strict verbal template, mostly prefixing.<sup>2</sup> A verb can have up to five or six different prefixes, and at most three suffixes. The order of the prefixes in the template never changes in a given language variety, but can differ across dialects of the same language (see for instance Jacques 2008a:249). The basic structure is the same in all Rgyalrong languages. Here is a simplified representation of the Japhug verbal template (Jacques 2008a:197-198):

flexional prefixes					derivational prefixes				v	flexional suffixes		
a-	mw-	çuı-		tur-	wy-	<b>ቖ</b> ሂፕ-	sui-	-a	nu-		-t	
	my-	үш-						-x				
1	2	3	4	5	6	7	8	9	10	11	12	13

Table 1: The Japhug verbal template.

- (1) Irrealis
- (2) negation

- (3) Translocative/Cislocative
- (4) Directional prefixes
- (5) Second person
- (6) Inverse
- (7) Reflexive
- (8) Causative
- (9) Passive
- (10) Autobenefactive
- (11) Verb root
- (12) Aorist 1sg/2sg transitive
- (13) Personnal agreement suffixes

The most noteworthy feature of this template is that negative prefixes always appear before directional prefixes, which themselves occur before the reflexive prefix. In the following sections, we will argue that Tangut data can also be accounted for by assuming the existence of a verbal template.

## 2. TANGUT DIRECTIONAL AND NEGATIVE MORPHEMES

The Tangut verb presents some similarity to the Japhug one, although it has fewer distinct affixes. As in Japhug, we find several series of directional morphemes, first described by Kepping (1985:190):

	up	down	closer	farther	transloc.	cisloc.	neutral
series	耮	輚	戮	頯	蕟	秕	黏
1	$.ja^0$	$nja^1$	kji¹	$wji^2$	dja <sup>2</sup>	$dji^2$	rj <del>i</del> r²
series	訤	龍	篘	粮	祥	荐	櫈
2	jij¹	$njij^2$	$kjij^1$	$wjij^2$	$djij^2$	$djij^2$	rjijr <sup>2</sup>

Table 2: Tangut directional prefixes.

The character 糉 .ja is also used to transcribe an interrogative verbal prefix (Kepping 1985:199), which will be discussed in section 5 of this paper.

Several distinct negation morphemes are also found:

隵 mji¹	basic negation
酸 mjij²	past negation
裳 mjɨ¹	negation of modal verbs
戏 tji¹	prohibitive

Table 3: Tangut negations.

For movement and concrete action verbs, the directionals indicate the direction of the action, but for most verbs, they seem to have been already grammaticalized and are used to indicate TAM parameters.

Negative and directional morphemes rarely co-occur, but when they do, the order is very strict: unlike Japhug, the negative morphemes appear after, not before, the directional prefix (Kepping 1985:188). This order, however, is also found in modern languages, for instance in Shixing (Chirkova 2009:63).

Here are some examples illustrating this order:3

nja<sup>1</sup>-mji<sup>1</sup>-ju<sup>1</sup>

DIR1-NEG-look

The boy followed (her) crying, but she wouldn't even look at him (Cixiao 11.8-12.1, Jacques 2007:39)4

2)	譿	豯	毻	惹	耄	穮
	4342	1734	0509	4174	4868	0433
	dja²-tji¹-t	thjowr²mju	$l^2$		gjii²	bju¹
	DIR 1-PRO	HIB-move	:		want	INSTR

As he did not want her to have to move (by herself), (Leilin 03.29A.1)

3)	貊	灩	夼	ќ	ഭ	蓁
	2628	0243	1139	2590	1918	0134
	goor <sup>1</sup>	$sji^2$	.jij¹	.wji²-1	nji¹ju¹	
	boy	girl	GEN	DIR1-N	NEG-lool	ζ

He wouldn't look at these boys and girls. (Leilin 03.32B.6-7)

4)	祧	靜	廖	稻	頯	ќ	拯
	3926	1526	3818	0497	5354	2590	0290
	nja²	tshji²-mjiji	r <sup>2</sup>	ŋewr²	$thji^2$	.wji²-sju²	!
	you	serve-NML	z:A	many	this	DIR1-be_	like

豻	克	处	趋	艞				
2341	4568	4601	3092	3583				
tçier¹	phjo²-r	nja²	djij²	tja¹				
interest	send[2	]-2sg	CONCSV	TOP				
耯	隵	然	麬					
4342	1918	2893	734					
dja¹-mji¹-khwej²-mo²								
DIR1-NEG-big-IRR								

You use so many servants, aren't they too much (for you to handle)? (Leilin 03.18A.5-6)

The examples above show that directional and negation morphemes appear in a fixed order, but do not prove that they are real prefixes in the same way as the prefixes of the Rgyalrong verbal system: they could be clitics, or even independent morphemes that just happen to follow an ordering constraint.

In order to determine whether the hypothesis that directional and negation morphemes are real prefixes is tenable, we will have to provide an account for all examples in which the plain order [directional+negation+verb root] is breached by having a directional morpheme appear without a verb or is separated from the verb root by another element. We found four such situations. First, the character  $\frac{1}{2}$  kji when not followed by a verb. Second, 'double' directional prefixes. Third, a grammatical element  $\frac{1}{2}$  lji fthji or  $\frac{1}{2}$  tsji inserted between the directional or negation morpheme and the verb. Fourth, a noun between the directional morpheme and the verb root.

After having accounted for all these cases, we will propose a series of phonological arguments to support the hypothesis that directional morphemes were real prefixes.

## 3. THE CHARACTER KJi<sup>1</sup>

Nishida (2002:8) and Lin (2006, 2007:177-181) have noticed numerous examples of the character  $\frac{1}{20}$  kji<sup>1</sup> appearing in three contexts where directional morphemes do not usually occur.

First, it is found before various postpositions together with the interrogative 和 lji¹ (Lin 2007:180):

What is victory, and what is weakness? (dīrghāgamasūtra)

飆 臘 6) 戮 穣 瓢 4435 1326 3349 795 2373  $lji^1$ kji<sup>1</sup>  $rjijr^2 \\$ rjɨr²-.ljij² ??? what LOC DIR1-come

Where is he from? (puṇḍarīkasūtra)

Second, it can appear before another verbal prefix:

7)	依	漨	瀧	絉	戮	ќ	稲
	1999 ŋwə¹γạ²	1084	4740 kja <sup>2</sup>	3798 tsəj <sup>1</sup>	1326 kji <sup>1</sup>	2590 .wji²-ra	2474 r <sup>2</sup>
	fifty <i>錢</i>		kalpa	small	???	DIR1-pa	ISS
	3092 djij <sup>2</sup>						

Although fifty kalpa have passed (puṇḍarīkasūtra)

Other instances of alleged "double" directional prefixes will be treated in section 4.

Third, it is found at the end of sentences (Lin 2007:181):

飨 蕉 8) 廫 纁 豥 2467 4751 3575 4481 1326 nji<sup>2</sup>  $\varepsilon j i^1$ .wja¹  $sej^1$ kji<sup>1</sup> flower pure listen[2] go[2] ???

Go to listen to the Lotus (puṇḍarīkasūtra)

although

The versatility of use of the character  $\aleph$  kji¹ strongly suggests that it is used to transcribe at least three distinct morphemes: first, the well-known directional prefix; second, an adverbial element that can appear at the end of a noun phrase (examples (5) to (7)); third, a sentence-final particle or a verbal suffix.

Given the limited number of available examples and the fact that they all come from Buddhist texts, it is too early to propose a reliable analysis of their grammatical function. A possibility is that the noun-phrase final  $\frac{1}{2}$  kji in (5) to (7) is a variant of the numeral  $\frac{1}{2}$  gji² 'one', and is thus cognate to the Japhug Rgyalrong indefinite ci 'one, a little'. As  $\frac{1}{2}$  kji in examples (5) and (6), Japhug ci can also occur after an interrogative:

This indefinite *ci* also occurs after noun phrases containing a numeral, and has the meaning of 'approximately':

He could run a little more than two turns. (The Prince, 108).

We know too little about both Tangut and Rgyalrong historical phonology to have any certainty regarding any possible relationship between  $\aleph$  kji¹ and ci, but this seems a possibility, which will be testable when more examples from Tangut texts such as (5) or (7) come to light. This hypothesis, in any case, does not apply to sentence-final  $\aleph$  kji¹, for which a distinct explanation will be necessary.

## 4. DOUBLE DIRECTIONAL PREFIXES?

In Rgyalrong languages, as well as in most modern languages of Western Sichuan,<sup>6</sup> no verb can have two directional prefixes at the same time: there is only one prefixal slot. However, in Tangut, some examples appear to contradict this

general principle. In the previous section, we have already discussed the case of  $^{*}$  kji<sup>1</sup>, which occurs before other directional prefixes in examples such as (7). We have argued that in these cases it was better to consider  $^{*}$  kji<sup>1</sup> not as a directional prefix, but as an indefinite.

However, other cases of "double" directional prefixes have been mentioned. Kepping (1979:306) noticed the following example:

11) 猴 糏 稐 彩 衮 豵 ќ 嫠 3045 4797 2590 5964 1139 1793 795 5113 tshew1tsha1 lhji.jwir2  $rjir^2$ -. $wji^2$ -. $wji^1$ .jij¹ Cao Cao GEN declaration of war DIR1-???- make [1] 煅 2503  $ku^1$ after

(Yuan Shao had Chen Lin) write the declaration of war against Cao Cao. (Leilin 05.18A.6)

Lin (2007:178) discovered two other such examples in Leilin. Here is one of them:

12)	薪	綘	蘒	報	夼	綖	毅		
	1245	1543	2019	0724	1139	3099	5645		
	.jij¹mjor¹		$thja^1$	$nj\dot{\imath}^2$	.jij¹	$dzjiij^1$	$t \underline{j} \underline{i}^2$		
	oneself		this	PL	GEN	live	place		
	葤	뛞	黏	ќ	靜				
	3622	2560	795	2590	5113				
	kj <del>ii</del> r².jij²		$rj\dot{\imath}r^2$ $wj\dot{\imath}^2$ $wji^1$						
	house		DIR1-???- make[1]						

(Zhang Gang) himself had houses (prepared) for them to live in. (Leilin 03.10A.3-4)

All three examples involve the same verb  $\Re .wji^1$  "to do, to make, to become" with the same set of directional prefixes  $\Re \& rjir^2 .wji^2$ .  $\Re .wji^1$  is normally only used with  $\Re rjir^2$ , as in the following example:

豥 移 瀦 藙 猎 567 795 5113 2592 1778 3622 448  $la^2$ kjiir2 rjɨr²-.wji² gji<sup>2</sup>  $.ju^2rjir^2$ DIR1-make[1] tomb before house one

He made a house in front of his tomb. (Leilin 03.30A.4-5)

The main problem here is therefore the presence of the prefix 粮 .wjɨ². A possible explanation for this phenomenon is to assume that the character 粮 .wjɨ² here, like 饕 kjɨ¹ in the previous section, does not transcribe a directional prefix. However, treating it as an adverb is not satisfactory, since 粮 .wjɨ² appears between the directional prefix an the verb root, and therefore belongs to the verbal word. A better hypothesis is to assume that 粮 .wjɨ² is used to represent in the writing system the partially reduplicated form of the verb root † .wji¹. The –ji / –jɨ vowel alternation in the reduplicated form would be expected (see Gong 2003:612-3). Since no character had been specially devised to write the reduplicated form of 'to do', the only option would have been to use a *jiajie* character, and 粮 .wjɨ² was probably chosen instead of other homophonous characters read .wjɨ because it is one of the most common characters in the Tangut language.

The analysis proposed in section 3 and 4 suggests that all cases of 'double' directional prefixes in Tangut deserve an alternative analysis, and that no certain examples of double directional prefix have been found in Tangut texts up to now. In future investigations of Tangut texts, the following type of examples could be taken as evidence for genuine cases of double directional prefixes: a verb with two directional prefixes, the first of which is not  $\frac{120}{32}$  kji¹, and the second of which cannot be interpreted as the reduplicated form of the verb root.

## 5. MODAL PREFIXES

Three distinct grammatical elements can appear between the directional or negative morphemes and the verb root:  $\frac{1}{2}$   $\frac{$ 

Outside of the verbal system, the character  $\Bar{H}$  tehji<sup>1</sup> is used to transcribe a demontrative, whose distribution is quite limited: it almost only occurs in the collocation  $\Bar{H}$  tehji<sup>1</sup>zjo<sup>2</sup> 'that time'. It can never be used alone as an independent pronoun.

Does the sky have a head? (Leilin 05.14A.1)

Did you have a dream? (Leilin 06.16B.4)

Besides, this element  $\mathcal{A}$  tchji<sup>1</sup> appears with the negation  $\mathcal{X}$  mji<sup>1</sup> prefixed to the verb root. The compound  $\mathcal{X}$   $\mathcal{A}$  mji<sup>1</sup>tchji<sup>1</sup> means "impossible to"; this special phenomenon is discussed in detail in Kepping (1985:292-4).

Today I see the army leaving, but I will not see it come back (Leilin 03.16B.6-7)

An anonymous reviewer of this article thought that the element  $\Re$  tchji<sup>1</sup> was to be interpreted as an infixed pronoun coreferent with the patient (or with the only argument for intransitive verb). However, there are three reasons why this cannot be the case. First, as we mentioned above,  $\Re$  tchji<sup>1</sup> only a demonstrative, is never used as a pronoun in Tangut, and even in this function as a demonstrative is

restricted to a few lexical items. Second,  $\mathcal{F}_{i}$  tchj $i^{1}$  also appears in sentences where both agent and patient are overt:

The one who is poor in horses and yaks will not eat to satiety. (Tangut Proverbs 11b.1, Kychanov 1974:172).

Third, if  $\mathcal{H}$  tchji¹ truly were a pronoun, one would not be able to explain why the negative prefix  $\mathcal{H}$  mji¹ is used, as it normally appears only with modal verbs. For these three reasons, it seems more reasonable to treat  $\mathcal{H}$  tchji¹ as a verbal prefix unrelated to the demonstrative as Kepping did. It is not entirely clear which gloss would be most appropriate to describe the functions of the verbal prefix  $\mathcal{H}$  tchji¹, but we can tentatively describe it as a marker of *potential* modality.

黻 ljɨ¹ is used as a conjunction linking two nouns inside a noun phrase (Kepping 1985:318):

Zhang Tianxi (張天錫) and Meng Junming (孟君明) invited him. (Leilin 03.36B.2-3)

However, Kepping also points out that this morpheme is used as a concessive particle; it normally appears before directional and negative morphemes:

19)	貓	臘	猴	艞	鈋	馢	摦
	2872	1685	4444	1918	2797	1567	5087
	$.w\tilde{e}^1khj\tilde{\imath}^1$		$lj_{i}^{1}$	mji¹-lho		$gji^2$	$.jow^1$
	Wen Qin		CONCSV	NEG-go_o	ut	son	Yang
	ќ	膬					

2590 2912 .wji<sup>2</sup>-lhjwo<sup>1</sup> DIR1-come\_back

Since Wen Qin (文欽) did not show up, his son Yang (鴦) retreated. (Sunzi, 9A-7b)

Lin (1995: 4.28-29#85) found an example where the concessive  $\frac{1}{100}$  is placed between the directional and the verb:

Although he granted land titles to these people, he had no (land) to give them. (Sunzi, 7A.4b).

This extremely interesting example also presents a noun between lightarrow lightarrow lighter light and the verb root. This will be examined as an example of noun incorporation in the next section.

Lin's example is by no means isolated in the corpus of Tangut texts. We found two other sentences of the same type. In the first one,  $\# lji^1$  occurs after the directional  $\# kji^1$ :

21)	巯	然	戮	黻	鮾	趋	繈
	1183	2893	1326	4444	0508	3092	3133
	$d\dot{a}^2$	khwej <sup>2</sup>	kji¹- <b>lji¹</b> -1	ŋwu²		djij <sup>2</sup>	$sjij^1$
	affair	big	DIR1-CONCSV-be			CONCSV	today
	簁	夼	縈	輜	瀕	粮	臘
	5354	1139	5791	1796	2937	2536	2912
	thji <sup>2</sup>	.jij¹	.wją²	t¢hjų¹	lhj <u>ij</u>	.wjij <sup>2</sup> -lhjv	vo <sup>1</sup>

him GEN send Chu country DIR2-come\_back

Even in important matters, (he will succeed). If we send him today back to

Chu, (our country will make peace with Chu). (Twelve kingdoms 2.52.1-2,

Solonin 1995:60;113, Nie 2002:202).

Of course, one could argue here that  $\% kji^1$  should not be analyzed as a directional in this example. However, this argument cannot be used in the following sentence:

Although it is done, it is not satisfying; although it is completed, it is not profitable. (Tangut Proverbs 29a.3, Kychanov 1974:122,209)<sup>7</sup>

Here %  $lj\dot{i}^1$  appears with the modal negation %  $nj\dot{i}^1$  and derivational morphemes of the first series. Although the meaning of the sentence cannot be ascertained for sure, it confirms the fact that the concessive %  $lj\dot{i}^1$  can appear between a directional or a negation and the verb root as in example (20). The concessive prefix %  $lj\dot{i}^1$ , like %  $tchj\dot{i}^1$ , occurs between the negation and the verb, but before incorporated nouns.

Examples such as (19) show that the concessive 黻 ljɨ¹ can appear in two distinct positions within the verbal complex; this variability suggests that the process of incorporation of this element into the verb complex was not yet entirely completed at the time Tangut texts were written.

Another grammatical element that can be used between directional morphemes and the verb root is # tsji<sup>1</sup>. The character # tsji<sup>1</sup> normally transcribes an adverb meaning 'also' (Kepping 1985:318-9):

23)	44	魤	薪	釽	鼚	蕖	粃	發推	
	0824	5417	1245	1139	4342	4225	5916	2885	
	t¢hji²rja	$r^2$	$.jij^1$	.jij¹	dja²-sj	$a^1$	xã¹ph	ow <sup>1</sup>	
	immediately		oneself	GEN	DIR 1-kill Han Ping		ing		
	蕺	躯	蓊	浙	瀦		夼	蔑	蕹
	5026	1906	1245	5815	124	-5	1139	4342	4225

mji $^1$  nioow $^1$  .jij $^1$  tsj $^1$  .jij $^1$  .jij $^1$  .jij $^1$  dja $^2$ -sja $^1$  hear[1] after oneself also oneself GEN DIR1-kill He immediately killed himself. Han Ping 韓 憑 , when he heard this, committed suicide too. (Leilin 06.04B.3-4)

% tsj $i^1$  is also used to transcribe an adjective meaning 'small', and appears in the reduplicated form  $\overline{\imath}$  数 tsj $a^1$ tsj $i^1$  'elder sister':

You are my elder sister; my moustache is here for you. Your are my grandfather; my topknot was put for you. (Tangut proverbs 14b.5, Kychanov 1974:106;179).9

However, we find one example where  $\mbox{\em \#}$  tsj $\mbox{i}^1$  is inserted between a directional from the first series and the verb root:

25)	竅	釵	亃		喬	綽	馟
	0551	0551	4889		1139	2518	1045
	.jow <sup>2</sup> .jow	r <sup>2</sup>	dzjwi¹		.jij¹	njiij¹	dạ²
	relative		reciproc	cal	GEN	heart	word
	戏	勢	煭	豵	紙	衞	
	1734	5612	5444	2763	3696	5124	
	tji¹-tshjiij	j <sup>1</sup>	$lej^2\gamma u^1$		$na^1rar^2$		
	PROHIB-say[1]		night		tomorrow		
	譿	浙	核				
	4342	5815	4041				

뢚	濺		穣	稐	醪	
4092	4092		2541	1139	1014	
khie¹~khie¹			dzjwo <sup>2</sup>	.jij¹	$\mathfrak{y}$ wuu $^1$	
reciproca	ıl~hate[1]		man	GEN	word	
裘	颔	ົົ	怭	煅	樸	奫
1734	3551	4884	1906	2503	3513	2627
tji¹-niow²-nji²			nioow	¹kụ¹	$m \mathfrak{d}^1$	lj <u>i</u> ¹
PROHIB-evil-2PL			after		sky	earth
夥	浙	瀓				
5981	5815	0756				
$.ja-tsji^1-dzju^2 \\$						
DIR1-???-meet						

If one does not say words from the heart to one's relatives – the next day, one will hate them. If one does not speak evil to the men one hates, afterwards sky and earth will meet. (Tangut proverbs 23a.1-2, Kychanov 1974:197).

Although, as with many Tangut proverbs, the exact meaning of this sentence is not entirely clear, the element written as # tsjil must be a modal prefix whose place in the structure of the verb is the same as # ljil and # tshjil. Additional examples are needed before one can determine its exact meaning.

Apart from these three prefixes, we find another prefixal element which can appear in the same position inside the verbal complex: % mja<sup>1</sup>-, which occurs together with the enclitic % mo<sup>2</sup> as a circumfix marking irrealis modality (Kepping 1985:317). Zhang (2009:23) presents an example showing that % mja<sup>1</sup>- can be preceded by a directional prefix too.

#### INCORPORATION

In Tangut texts, in some very rare instances, we find a noun between the directional prefix and the main verb, as in example (20).<sup>10</sup> This could seem to be a very clear example of tmesis, where the prefix, in fact an independent adverb, can be

separated from the verb by another syntactic element. Apart from (20), we have found only three such examples:

You made your son lord (of Zhongshan) (Leilin 03.10B.4)

In this example, we could analyze  $\aleph$  kji<sup>1</sup> not as a directional prefix, but as an adverb as in examples (5) to (7). However, such an analysis is not an option with the two following sentences, when the directional prefix not  $\aleph$  kji<sup>1</sup>:

When he was young, he served Cao Cao, the king of Wei. (Leilin 06.21B.5-6)

In examples (26) and (27), the noun appearing between the directional prefix and the verb root is the O (the verb being transitive), whereas in the last one, an intransitive stative verb, the noun corresponds to the S.

However, the tmesis analysis is not the only possible one. In other Qiangic languages such as Rgyalrong, we find extremely grammaticalized cases of verbal incorporation (Jacques 2008a:89-91). As the following examples will show, the incorporated noun is sandwiched between a derivational prefix and the verb stem,

and sometimes undergoes vowel alternation.

noun	verb	incorporation	meaning
qhu	ru	ทช <b>-qha</b> -ru	to turn around,
'back'	'to look' it.		to look back
si	phuit	үш- <b>ѕш</b> -рһшt	to fell trees
'timber'	'to chop' tr.		
рçotsш	fsoĸ	үш- <b>рçotsш</b> -fsoк	to earn money
'money'11	'to earn' tr.		

Table 4: Examples of incorporation in Japhug.

Flexional prefixes such as directionals will of course appear before the noun, as in example (29), where the incorporated noun -qha- (status constructus of qhu) appears between the directional prefix lu- and the verb root -ru:

IPFV:UPSTREAM-look.back

As he was about to bring it back, he looked back inside (The Fox, 34)

Examples (26), (27), (28) and (20) are most probably instances of the same phenomenon. Ancient derivational prefixes have fused with the verb in Tangut, leaving at best only indirect traces (Gong 1999), so we should not expect a syllable corresponding to Japhug *yur*— or *ny*—/*nuv*— to be present in Tangut.

The four examples presented above are probably not the only cases of noun incorporation in Tangut. However, in verb forms without a directional prefix, it is difficult to tell whether an object is incorporated or not. In the Tangut spoken language, a distinction might have existed between free noun and incorporated noun (tone sandhi might have occurred, for instance), but from the written sources, we have no way to decide.

#### 7. PHONOLOGY

In sections 3-6 above, we have shown that all apparent counterexamples to the

basic order [directional+negation+verb] could be accounted for in various ways, and that directional and negation morphemes could be in all cases interpreted as prefixes; However, we have not yet definitely proven that they cannot be analyzed as clitics.

When studying a dead language such as Tangut, it is quite difficult to distinguish between affixes and clitics. However, as far as directional prefixes, negations and the three modal prefixes  $\Re lj_{i}^{1}$ ,  $\Re tchj_{i}^{1}$  and  $\Re tsj_{i}^{1}$  are concerned, we do have an additional argument coming from phonology.

Going back to Table 2, one can observe that directional prefixes of series 1 only have two distinct rimes: -ji and -ja (rhyme -jir is a variant of -ji with a rhotic initial). The rhyme -ji is a reduced rhyme that appears in reduplicated forms, either in the first member (see section 4) or in the second member (in nouns such as  $\[mathbb{N}\]$   $\[mathbb{N}\]$   $\[mathbb{N}\]$   $\[mathbb{N}\]$   $\[mathbb{N}$  tsja¹tsji¹ elder sister' as we have seen in section 5). It can hardly be a coincidence that one of the negation prefixes,  $\[mathbb{N}\]$   $\[mathbb{N}\]$   $\[mathbb{N}\]$   $\[mathbb{N}\]$  and  $\[mathbb{N}\]$   $\[mathbb{N}\]$   $\[mathbb{N}\]$   $\[mathbb{N}\]$   $\[mathbb{N}\]$   $\[mathbb{N}\]$   $\[mathbb{N}\]$   $\[mathbb{N}\]$  also have the same rhyme. This can be explained as a case of phonological attrition caused after grammaticalisation. The same phenomenon is observed in other Qiangic languages where directional prefixes also tend to have a limited set of central or back unrounded vowels (in Japhug -uu and -v, Jacques 2008a:244-5). Data from Pumi¹² show a good correlation between the -ja in Tangut and -s in Pumi and between -ji in Tangut and -s in Pumi:

Tangut		Pumi	Meaning
		tá-	up
輚	nja¹	пз-	down
		khə-	in
		һз-	out
揪	$dj\dot{\imath}^2$	də-	cislocative
蕟	$dja^2$	th3-	translocative

Table 5: Comparison of Tangut and Pumi directional prefixes.

These data are not compelling enough to prove that the directional system of Pumi and Tangut share the same origin (though this possibility should still be considered), but show that the process of phonological attrition took place in a similar manner in these two languages. Phonological attrition is more easily explained as a consequence of grammaticalization and agglutination to the verb stem.

Another piece of evidence comes from series 2 directional prefixes, which all have the rime –jij. This fact can be explained as the result of the fusion of the directional morpheme with a modal element which, unlike the three others  $\Re$   $lji^1$ ,  $\Re$   $tchji^1$  and  $\Re$   $tsji^1$ , was not maintained as a distinct syllable. This fusion would

not be expected if both directional and modal morphemes were just clitics.

Vowel attrition and morpheme fusion are strong arguments in favor of analyzing directional and modal morphemes as prefixes.

### 8. CONCLUSION

In this paper, I have proposed that in the Tangut verb, prefixes occur in a fixed prefixal chain which can be aptly described as a template, typologically similar in structure to the Rgyalrong verb. Apparent deviations from this template were shown to be either caused by object incorporation, insertion of a different verbal prefix or simply a case of *jiajie* whereby a character normally used to transcribe a directional prefix is used to transcribe an unrelated syllable. I also suggest the need of a special slot for modal prefixes. The complete verbal template (without detailing all suffixes and vowel alternation) is the following:

Directional/	Negation	modal	Incorporated	verb	suffixes
Interrogative		黻 ljɨ¹	noun	root	
		羂 t¢hjɨ¹			
		浙 tsjɨ¹			
		総 mja¹			

Directional prefixes were already fully attached to the verb root in Tangut, and could not appear outside of this template. Nouns could be incorporated into the verb complex, as in Rgyalrong, and example (20) shows that incorporated nouns were placed between modal prefixes and the verb root. The only prefix that can appear in two distinct positions in the concessive 黻 ljɨ¹, which in some examples such as (19) appears before all other prefixes, and in other examples appears inside the verbal template. Further research will be needed to account for this phenomenon.

#### NOTES

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<sup>&</sup>lt;sup>1</sup> I wish to thank Anton Antonov, Katia Chirkova, Nathan Hill, Randy J. Lapolla, Lin Yingchin, Alexis Michaud, Vyacheslav Zaytsev and one anonymous reviewer for valuable comments and corrections on former versions of this article. All of the above are absolved from responsibility for any error in this article. The glosses in this paper generally follow the Leipzig Glossing Rules, except for the following: CONJ (conjunction), CONSCV (concessive), CONST (constative), DIR1 (directional prefix of the first series), DIR2 (directional prefix of the second series), GENR (generic), PROHIB (prohibitive). Fieldwork on Pumi was funded by the PASQi project (Phylogenetic Assessment of Southern Qiangic) from the *Agence Nationale de la Recherche* 

(France), headed by Ekaterina Chirkova.

- <sup>2</sup> Some languages with complex verbal morphology have a morphological structure that does not allow an analysis in terms of a template (for instance Siouan, see Rankin et. al. 2002:186,190). Nevertheless, as far as Qiangic languages are concerned, we found no counterevidence up to now that such an analysis is possible.
- <sup>3</sup> All Tangut examples in this paper contain Tangut characters, the reference number of each character from Li (1997)'s dictionary, Gong (2002)'s reconstruction and a gloss in English. Numbers in square brackets [1] and [2] respectively indicate the first or second stem in verbs with vowel alternation (see Gong 2001 and Jacques 2009).
- <sup>4</sup> The main Tangut texts used in the present article are the 'Newly gathered notes on Maternal Love and Filial Piety', abbreviated as Cixiao (Jacques 2007) and the 'Grove of categories' abbreviated as 'Leilin' (Shi et al. 1990).
- $^{5}$  Other functions of the characters used to transcribe directional morphemes unrelated to the verbal system are not discussed here, such as % a- as a numeral prefix and % .wj $^{1}$ 2tj $^{1}$ 1 as a conjunction.
- <sup>6</sup> Shixing is perhaps an exception, see Chirkova (2009).
- <sup>7</sup> The meaning of this sentence is not entirely clear. The translation given here is only provisional.
- <sup>8</sup> This example shows agreement suffixes on noun directly without a copula. This phenomenon was first mentioned in Jacques (2008b).
- <sup>9</sup> The translation of this sentence is provisional. In any case, the second person singular cannot be the agent of the second verb ('you put my topknot'), otherwise the verb should be 🐉 tjo¹.
- <sup>10</sup> The existence of this phenomenon was first mentioned by Ma (1987), though he did not analyze it as incorporation. Unfortunately, this reference was not accessible to me.
- $^{11}$  The word *pçotstu* 'paper money' comes from the colloquial Chinese *piaozi* 票子.
- 12 Data from our fieldnotes on the Pumi dialect of Shuiluo, Muli, Sichuan.
- $^{13}$  The origin of this modal element is unknown. The rhyme –jij can be either from proto-Tangut \*–jan or from \*–jej.

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### 西夏语动词的结构

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提要:本文从两个方面探讨西夏语动词的结构:西夏文文献和现代羌语支语言。 所有的羌语支语言都有着非常严谨的动词模板,特别是嘉绒语。笔者认为,西 夏语也有类似的动词模板。然而,与嘉绒语的动词结构相比,西夏的动词结构 比较简单,而且前缀的顺序不相同。因此,西夏语的动词模板可能不是原始羌 语支的特征,而是后起平行发展的结果。另外,在西夏文文献当中发现一些表 面上违反动词模板的例子,本文将这些反例举出来并逐一加以解释。最后,本 文证明西夏语有动词编插法的构词手段,这一现象在以前的研究中未见报导。

关键词: 西夏语、嘉绒语、茶堡话、编插法、趋向前缀、动词模板