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ON THE CATEGORY OF CAUSATIVE VERBS IN TIBETO-BURMAN LANGUAGES*

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1.0. INTRODUCTION

The category of causation exists in the majority of Tibeto-Burman (TB) languages, but its importance is not the same in each language. In some languages, the causative category occupies an important position in its grammatical system, with its causative verb-forms still active in usage and in function. In other languages, although the causative forms may still exist, they have a low functional load. In still other languages there only survive the incomplete traces of causative verb forms, or none at all.

There are many differences in the morphological realization of causative verbs in the various languages, including agglutinative prefixes, inflectional suffixes, inflexion of the verb roots, or auxiliary words before or after a main verb. In the languages which have inflexion of verb roots, the causative category may be expressed by initial voicing alternations, by different vowels, or by inflexion of the tones. Some languages have several different morphophonemic alternations, with some being more important than others.

There are many papers which discuss the category of causation, but most of them only concern the causative forms of a specific language. Only a few (e.g., Matisoff 1976) take an overall view of the causative category in general. This paper will reveal the historical connections which exist among the phonetic shapes of causative verbs. We will demonstrate that the various recent forms all come from the same ancient forms through a long historical evolution, and that they developed independently in each language after they split off from each other.

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2.0. SOME REPRESENTATIONS OF THE CATEGORY OF CAUSATION

2.1. Agglutinative forms

Languages which typically indicate the causative meaning with agglutinative forms include rGyalrong, Jingpho, Dulong, Written Tibetan, and Darang, all of which employ prefixes.

2.1.1. rGyalrong

Taking the rGyalrong dialect of Wangjaba of Zhuokeji District of Maerkang County in the Aba Tibetan Autonomous region of Sichuan Province, we find the prefix **sə-** used before verb roots to express a causative meaning. As each rGyalrong verb in this dialect already has a prefixal syllable before the root, the causative prefix is inserted between this prefix and the verb root. This causative prefix can be used either with transitive or intransitive verbs.

before v.t.			*before v.i., with change of v.i. to v.t.*		
SIMPLEX		*CAUSATIVE*	*SIMPLEX*		*CAUSATIVE*
kaza	'eat'	**kasəza**	**nawawo**	'cry'	**kasəwawo**
katsəs	'speak'	**kasətsəs**	**kapka**	'succeed'	**kasəpka**
kaslap	'learn'	**kasəslap**	**kanŋa**	'lose'	**kasənŋa**
kajok	'hang up'	**kasəjok**	**tambəm**	'overflow'	**kaəembəm**
kasakha	'dislike'	**kasəsakha**	**tapho**	'escape'	**kasəpho**
kawat	'wear'	**kasəwat**	**kasto**	'be straight'	**kasəsto**

Table 1. rGyalrong (Wangjaba) causatives

As the examples show, most verbs take the prefix **ka-**, while a few others take **ta-** (e.g., 'escape') or **na-** (e.g., 'cry'). However, any prefix will be changed to **ka-** if the causative morpheme is inserted. Apart from adding prefixes, rGyalrong has other methods to represent causation as well, as we shall see below.

2.1.2. Dulong

As in rGyalrong, Dulong uses causative prefixes before verbs, although the language has more of them. There is obviously a cognate relationship between the prefix **suu^{31}-** of Dulong and the prefix **sə-** of rGyalrong:

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before v.t.			*before v.i., with change of v.i. to v.t.*		
SIMPLEX		*CAUSATIVE*	*SIMPLEX*		*CAUSATIVE*
gui^{55}	'wear'	**sɯ^{31}gui^{55}**	**ŋɯ^{53}**	'cry'	**sɯ^{31}ŋɯ^{53}**
kai^{55}	'eat'	**sɯ^{31}kai^{55}**	**bɔt^{55}**	'small'	**sɯ^{31}bɔt^{55}**
ɹi^{55}	'bear'	**sɯ^{31}ɹi^{55}**	**bjɯʔ^{55}**	'melt'	**sɯ^{31}bjɯʔ^{55}**
tɔp^{55}	'gain'	**sɯ^{31}tɔp^{55}**	**mŭk^{55}**	'craze'	**sɯ^{31}mŭk^{55}**
ɟaŋ^{53}	'watch'	**sɯ^{31}ɟaŋ^{53}**	**dam^{53}**	'be full'	**sɯ^{31}dam^{53}**

Table 2. Dulong causatives

As well as **sɯ^{31}**, there are other forms to indicate causation in Dulong, as described in Sun 1982:101-3.

2.1.3. Jingpho

Very similarly, Jingpho uses two causative prefixes: **tʃa^{31}** before verbs with initial aspirated stops or the fricatives **s** or **ʃ**, and **ʃa^{31}** before verbs with other initial consonants.

before aspirates and fricatives			*before other consonants*		
SIMPLEX		*CAUSATIVE*	*SIMPLEX*		*CAUSATIVE*
khɹit^{31}	'be afraid'	**tʃa^{31}khɹit^{31}**	**pai^{33}**	'raise'	**ʃa^{31}pai^{33}**
si^{33}	'die'	**tʃa^{31}si^{33}**	**tʃon^{31}**	'ride'	**ʃa^{31}tʃon^{31}**
su^{33}	'wake up'	**tʃa^{31}su^{33}**	**kap**	'paste'	**ʃa^{31}kap^{55}**
khɹiŋ^{31}	'stop'	**tʃa^{31}khɹiŋ^{31}**	**jo?^{55}**	'feed'	**ʃa^{31}jo?^{55}**
			tu^{31}	'arrive'	**ʃa^{31}tu^{31}**
			tsom^{31}	'be pretty'	**ʃa^{31}tsom^{31}**

Table 3. Jingpho causatives

The sibilant causative prefixes of rGyalrong, Dulong, and Jingpho can all be traced back to the same origin.

2.1.4. Written Tibetan

There are several causative prefixes in Written Tibetan, which are similar to Dulong in phonological shape. Written Tibetan prefixes can represent causation, or other grammatical meanings such as transitivity or autonomy. Although the Tibetan grammatical forms are very complex, from the following we can see that the prefix **s-** is the main grammatical marker of causative verbs:

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before v.t.			*before v.i., with change of v.i. to v.t.*		
SIMPLEX		*CAUSATIVE*	*SIMPLEX*		*CAUSATIVE*
baŋs	'soak'	**fibaŋs**	**riŋ**	'be long'	**sriŋ**
bjaŋ	'practice'	**sbjaŋs**	**fipar**	'burn'	**spar**
figos	'infect'	**bsgos**	**nar**	'lengthen'	**bsnar**
fibrel	'link'	**sbrel**	**figjur**	'change'	**bsgjur**

Table 4. Written Tibetan causatives

Note that transitive verbs are not marked prefixally witih the same regularity as in some other languages.

2.1.5. Darang

Darang also has several causative devices. One common type is the prefixation of **xa-** before intransitive verbs to make them transitive or causative. The prefix **xa-** seems to be quite different from the sibilant prefixes of the above languages, but we infer that it has evolved from the same source as in Jingpho. See Table 5:

SIMPLEX		*CAUSATIVE*	
diu^{35}	'be broken'	**xa**^{31}**diu**	'break something'
ga^{35}	'be broken'	**xa**^{31}**ga**^{35}	'break something'
n^{53}	'sleep'	**xa**^{31}**n**^{53}	'put to sleep'
bo^{55}	'explode'	**xa**^{31}**bo**^{55}	'cause to explode'

Table 5. Darang causatives

Besides the prefixes, Darang has other forms to indicate causation, as we shall see below.

Similar causative prefixes are found in other languages as well (e.g., Anong, Ergong). On the other hand, some languages have agglutinative suffixes that carry causative meaning. The following two languages are cases in point.

2.1.6. Limbu[1]

Limbu is one of the TB languages of Nepal. There are several ways in Limbu to show causation, but one common way is to add the suffix **-s** directly after the verb root. See Table 6:

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1 These data are from van Driem 1987.

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SIMPLEX		*CAUSATIVE*	*SIMPLEX*		*CAUSATIVE*
liŋ	'crawl'	**liŋs**	**khiŋ**	'be tight'	**khiŋs**
lag	'lick'	**laks**	**khɔŋ**	'beat'	**khɔks**
te·ʔ	'leave'	**te·s**	**tɔŋ**	'meet'	**tɔŋs**
tum	'meet with'	**tums**	**tha**	'fall'	**thas**

Table 6. Limbu causatives

The causative suffixes of Limbu are almost always used with intransitive verbs. Another similar case is in certain southern dialects of Qiang, which also use suffixes to represent the causative meaning. We should point out that the causative suffix of southern Qiang has developed a voiced fricative consonant, e.g., **zi**^{31}.

2.1.7. Qiang

Qiang is a language with only open syllables. Under the influence of the vowels of open syllables, the causative suffixes always begin with a voiced sound. We suggest that the suffixes of Qiang are syllabified morphemes, which appear fused together with causative suffixes and personal suffixes to form single syllables. This process results in three suffixes with variant forms: **za**^{31}, **zo**^{31}, and **zi**^{31}. (For more details, see Sun 1981:111.) See Table 7:

before v.t.			*before v.i., with change to v.i. to v.t.*		
SIMPLEX		*CAUSATIVE*	*SIMPLEX*		*CAUSATIVE*
pa^{33}	'paste'	**pa**^{33}**zi**^{31}	**χgy**^{33}	'fall'	**χgy**^{33}**zi**^{31}
po^{55}	'buy'	**po**^{55}**zi**^{31}	**bʐe**^{33}	'break'	**bʐe**^{33}**zi**^{31}
χkyi^{33}	'load'	**χkyi**^{33}**zi**^{31}	**ʐX**^{55}**kua**^{55}	'dry'	**ʐi**^{55}**kua**^{55}**zi**^{31}
sie^{33}	'clog'	**sie**^{33}**zi**^{31}	**ʃe**^{55}	'die'	**ʃe**^{55}**zi**^{31}

Table 7. Qiang causatives

2.2. Inflected forms

Most of the TB languages represent causative meaning principally by inflection, but there are clear differences from one to another. Many phonetic forms have been used in these inflections, including alternation of initials, alternation of finals, alternations of tones, and of phonation types (e.g., tense vs. lax vowels). The inflected forms of some languages are still active and of importance in their grammatical systems. Other languages either preserve only a few inflected forms, or none in today's grammatical systems. In still other languages, inflected forms may appear together with agglutinative forms. For

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Tibetan or Limbu, however, inflection is more important than agglutination; for Jingpho or Dulong, the reverse is true:

2.2.1. Alternations in voicing and/or aspiration

a. Yi

	SIMPLEX		*CAUSATIVE*	
vd/vl unasp	**gɯ^{33}**	'hear'	**kɯ^{33}**	'cause to hear'
vd/vl asp	**bu^{33}**	'be loose'	**phu^{33}**	'loosen'
prenas/vl	**ndu^{55}**	'burn' (v.i.)	**tu^{55}**	'burn' (v.t.)

b. Naxi

	SIMPLEX		*CAUSATIVE*	
vd/vl unasp	**dʐɯ^{33}**	'burn' (v.i.)	**tʂɯ^{31}**	'burn' (v.t.)
vd/vl asp	**gə^{31}**	'be put out'	**khə^{55}**	'put out (a fire)'
vl unasp/vl asp	**tsʅ^{55}**	'be clogged'	**tshʅ^{31}**	'clog' (v.t.)
prenas/vl asp	**ndʑər^{33}**	'be snapped off'	**tɕhər^{33}**	'snap off (as a tree)'

These alternations in the manner of the initial are sometimes accompanied by tone changes in Naxi.

c. Nusu

	SIMPLEX		*CAUSATIVE*	
vd/vl unasp	**bɔ^{55}**	'roll'	**pɔ^{55}**	'roll' (v.t.)
vd/vl asp	**bia^{53}**	'destroy'	**phia^{53}**	'cause to destroy'
zero/fricative	**iɔ^{53}**	'sleep'	**cɔ^{53}**	'cause to sleep'

d. Shixing

	SIMPLEX		*CAUSATIVE*	
vd/vl unasp	**bɛ^{33}rɛ^{33}**	'worn out'	**pɐ^{33}rɛ^{33}**	'wear sthg out'
vd/vl asp	**by^{55}**	'fall apart'	**phy^{55}**	'cause to fall apart'
vd/vl fricative	**ʁɛ^{35}**	'be broken'	**χɛ^{35}**	'cause to be broken'

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e. Ergong

	SIMPLEX		*CAUSATIVE*	
vd/vl unasp	**dʐɛvsɯ**	'roll'	**tɕɛfsɯ**	'cause to roll'
vd/vl asp	**bʐɯ**	'be broken'	**phʂɯ**	'break sthg'
vd/vl fricative	**ʐɯ**	'be broken'	**ɕɯ**	'break sthg'

2.2.2 Alternations in rhyme

These alternations are of three types: changes in vowel quality, vowel length, and phonation type (tense vs. lax vowels).

a. Pumi

SIMPLEX		*CAUSATIVE*	
gui^{13}	'wear'	**gu**^{13}	'cause to wear'
ʂɑ^{13}	'laugh'	**ʂɐ**^{13}	'cause to laugh'
n̥ɑ^{55}	'stick'	**n̥o**^{55}	'cause to stick''

b. Menba

SIMPLEX		*CAUSATIVE*	
pak^{53}	'collapse'	**pok**^{53}	'cause to collapse'
phe^{53}	'open'	**pheu**^{53}	'cause to open'

c. Zhaba

SIMPLEX		*CAUSATIVE*	
phi^{53}	'escape'	**phõ**^{53}	'cause to escape'
gu^{53}	'wear'	**gõ**^{53}	'dress'
la^{55}	'fall'	**ɬõ**^{55}	'cause to fall'

The following examples illustrate alternations between long vowels and short vowels:

d. Dulong

SIMPLEX		*CAUSATIVE*	
sɯ^{31}**ɟĭiŋ**^{55}	'believe'	**sɯ**^{31}**ɟiŋ**^{55}	'cause to believe'
tɯ^{31}**klă?**^{55}	'rub'	**tɯ**^{31}**kla?**^{55}	'cause to rub'
dɯ^{31}**gɔ̆ɹ**^{55}	'be curved'	**dɯ**^{31}**gɔɹ**^{55}	'curve' (v.t.)

The following examples illustrate the use of tense vowels to signal causation:

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e. Zaiwa

	SIMPLEX		*CAUSATIVE*
man^{55}	'be habitual'	**m̲an^{55}**	'make habitual'
tʃom^{31}	'burn out'	**tʃo̲m^{31}**	'burn out' (v.t.)
pjo^{51}	'fall apart'	**pjo̲^{51}**	'cause to fall apart'

f. Lahu

	SIMPLEX		*CAUSATIVE*
phe?^{21}	'vomit'	**phe̲?^{21}**	'cause to vomit'
mɯ^{44}	'sit'	**mɯ̲^{44}**	'cause to sit'
po^{31}	'fly'	**po̲^{31}**	'cause to fly'

Some scholars still doubt the existence of a tense-lax vowel distinction in Lahu. So far there are three points of view. One is that there are no such cases in Lahu;[2] the second is to admit the fact of a voice quality difference, but to deny its character of tense-lax; the third is to believe that there are many instances of tense and lax vowels in Lahu representing causative meaning.

2.2.3. Alternations in tone

a. Lhasa Tibetan

	SIMPLEX		*CAUSATIVE*
par^{14}	'burn'	**par^{55}**	'set on fire'
tsa^{121}	'filter'	**tsa^{53}**	'cause to filter'
ȵɛ^{13}	'sleep'	**ȵɛ^{55}**	'put to sleep'

b. Zaiwa

	SIMPLEX		*CAUSATIVE*
tsun^{31}	'burn'	**tsu̲n^{51}**	'set on fire'
nu?^{31}	'break to pieces'	**nu̲?^{55}**	'cause to break to pieces'
pan^{51}	'come to an end'	**pa̲n^{51}**	'bring to an end'

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2 I confess that (contra Jin Youjing 1988) I am one of those who deny that there are any significant phonational contrasts in Lahu! (Any Lahu verb in a non-checked tone may be made imperative by adding a glottal stop to its tonal contour, but this is another matter.) Although most Lahu verbs can only be made causative by using an auxiliary verb, there are still over a dozen pairs of verbs (not including those given in the text here) where the causative is derived morphologically from the simplex by change of tone, and also sometimes manner of the initial: e.g., **câ** 'eat' / **cā** 'feed'; **dɔ̀** 'drink' / **tɔ** 'give to drink'; **tò?** 'burn' / **tú** 'set on fire'. They fall into three tonal subtypes according to the verb's proto-tone. These verb-pairs are listed in Matisoff 1973/1982:33; see also Matisoff 1975. [Ed.]

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Zaiwa uses both tone and tense phonation simultaneously to signal causation.

c. Naxi

SIMPLEX		*CAUSATIVE*	
gv^{31}	'be curved'	**gv^{55}**	'curve' (v.t.)
dɯ^{31}	'soak'	**tɯ^{55}**	'soak' (v.t.)
thɯ^{31}	'drink'	**tɯ^{55}**	'give to drink'

d. Menba

SIMPLEX		*CAUSATIVE*	
par^{13}	'burn'	**par^{55}**	'set on fire'
dʑar^{13}	'be pasted'	**dʑar^{55}**	'paste sthg on'
tep^{13}	'fall down'	**thep^{53}**	'cause to fall down'

Naxi and Menba use both tone and manner alternations in these verb pairs.[3]

2.3. Analytic forms

The grammaticalized auxiliary verb may occur either after the main verb, or (more rarely) before the main verb. Not all of these causative auxiliaries can be traced back to the same source.

2.3.1. Adding function words after verbs

a. Lisu (adding tsɿ^{44})[4]

SIMPLEX		*CAUSATIVE*	
so^{44}	'learn'	**so^{44}tsɿ^{44}**	'teach'
bu^{33}	'float'	**bu^{33}tsɿ^{44}**	'cause to float'
phe^{35}	'be locked out'	**phe^{35}tsɿ^{44}**	'cause to lock out'

b. Ersu (adding ʂu^{55})

SIMPLEX		*CAUSATIVE*	
ntsɛ^{55}	'leak'	**ntsɛ^{55}ʂu^{55}**	'cause to leak'
khɛ^{55}	'be broken'	**khɛ^{55}ʂu^{55}**	'break' (v.t.)
tsu^{55}	'be boiled'	**tsu^{55}ʂu^{55}**	'boil' (v.t.)

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3 This is in fact very similar to the case of Lahu. See n. 2 above. [Ed.]

4 This morpheme is cognate to the Lahu causative auxiliary **cɨ [tsɿ]**, which means 'send on an errand' as a main verb. [Ed.]

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c. Guiqiong (adding ku^{33})

SIMPLEX		*CAUSATIVE*	
si^{55}	'be worn out'	**si^{55}ku^{33}**	'wear out'
pha^{35}	'be split'	**pha^{35}ku^{33}**	'split' (v.t.)
lɔ^{35}	'be broken'	**lɔ^{35}ku^{33}**	'break' (v.t.)

d. Lotha (adding $to^{33}ka^{33}$)[5]

SIMPLEX		*CAUSATIVE*	
tso^{33}	'eat'	**tso^{33}to^{33}ka^{33}**	'feed'
khe^{35}	'sweep'	**khe^{35}to^{33}ka^{33}**	'cause to sweep'
e^{33}ma^{35}	'laugh'	**e^{33}ma^{35}to^{33}ka^{33}**	'cause to laugh'

2.3.2. Adding function words before verbs

a. Hani (adding bi^{33})[6]

SIMPLEX		*CAUSATIVE*	
dza^{31}	'eat'	**bi^{33}dza^{31}**	'feed'
do^{55}	'drink'	**bi^{33}do^{55}**	'cause to drink'
dɔ^{33}	'take (cloth)'	**bi^{33}dɔ^{33}**	'cause to take (cloth)'

b. Jinuo (adding m^{42})[7]

SIMPLEX		*CAUSATIVE*	
tshe^{33}	'be broken'	**m^{42}tshe^{33}**	'break' (v.t.)
phi^{55}	'be lost'	**m^{42}phi^{55}**	'lose' (v.t.)
ɣo^{44}	'enter'	**m^{42}ɣo^{44}**	'cause to enter'

c. Bokar (adding mo:)[8]

SIMPLEX		*CAUSATIVE*	
mit	'go out' (fire)	**mo:mit**	'extinguish' (v.t.)
dʑir	'revolve'	**mo:dʑir**	'cause to revolve'
huru	'wake'	**mo:huru**	'arouse'

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5 Data from Acharya 1983.

6 Data from Li 1986:52. The form bi^{33} comes from the verb that means 'give'.

7 Data from Gai 1986:52.

8 Data from Ouyang 1985:41. The form *mo:* means 'to do'.

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d. Rouruo (adding mu^{55})

SIMPLEX		*CAUSATIVE*	
iɯ^{55}	'leak'	**mu^{55}iɯ^{55}**	'cause to leak'
lɔ^{13}	'be movable'	**mu^{55}lɔ^{13}**	'cause to move'
ta^{53}	'be broken'	**mu^{55}ta^{53}**	'break' (v.t.)

There are too many languages that use analytic constructions to indicate causation for us to mention all of them.

3.0. THE RELATIONSHIP AMONG DIFFERENT GRAMMATICAL FORMS

As shown above, there are three ways to represent causation in TB languages: agglutinative, inflectional, and analytic. Each includes some complicated forms. The examples given above present an artificially simplified picture, and were only cited as typical examples of these main types. In truth, the details of causative formation in each language are much more complicated that what we have indicated. In Written Tibetan, for example, there are at least fifteen morphological devices to indicate causation:

alternation type	*verb*	*simplex*	*causative*
voiced/voiceless	**bab**	'drop'	**phab**
different vowels	**lon**	'gain'	**len**
prefix	**sod**	'capture'	**gsod**
prefix, manner change of consonant	**tshos**	'be cooked'	**btsos**
prefix, suffix	**bjaŋ**	'practice'	**sbjaŋs**
prefix, consonant, vowel	**tɕhod**	'cut off'	**btɕad**
prefix, consonant, suffix	**ʑugs**	'enter'	**btɕug**
prefix, consonant, vowel, loss of suffix	**khebs**	'cover'	**bkab**
prefix, consonant, suffix	**ʑig**	'fall apart'	**bɕigs**
prefix, initial, final consonants	**thor**	'be lost'	**gtos**
double prefixes	**log**	'come back'	**bslog**
double prefixes, suffix (stopped simplex)	**nub**	'vanish'	**bsnubs**
double prefixes, suffix (open simplex)	**nu**	'suck'	**bsnun**
different prefixes, initial manners	**fithul**	'check'	**btul**
double prefixes, consonant	**fikhjil**	'gather'	**bskjil**
double prefixes, consonant, vowel	**fikhjoms**	'rock'	**bskjams**

The TB languages show certain semantic complexities in the area of causation, frequently (as in Tibetan) being connected with notions of transitivity and volitionality.

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Although Written Tibetan reflects early grammatical forms, its causative formations are not the oldest in the whole of TB. We consider the earliest and most primary stage to be represented by rGyalrong, then Jingpho, then third Dulong; the position of Tibetan is rather close to that of Dulong. In these languages, the forms of causation are agglutinative. Thus in the original stages of the evolution of causative forms, we can guess that PTB always employed an agglutinative prefix before verbs to signal causation, i.e., the prefix **s-**. These are our reasons:

1. Some conservative TB languages still use a prefix **s-** to represent causation. (See above 2.1.) While it is true that two languages discussed above use suffixes to show causative meaning, I think these suffixes derive secondarily from the prefixes. The change in position of the affix must have something to do with the evolution of the grammatical system of the language, but the mechanism has still to be worked out in detail. The prefixes **ʃă-** and **tʃă-** of Jingpho also derive from prefixal **s-**, as has been proved by several scholars.

2. There are clear correspondences among the grammatical forms of causation of most languages. Let us take Written Tibetan and modern Tibetan dialects as examples:

	Written Tibetan	*Lapulen Tibetan*	*Dege Tibetan*	*Batang Tibetan*	*Lhasa Tibetan*	
verb	**ɳal**	**ɳa**	**ɳa^{55}**	**ɳa^{55}**	**ɳa^{14}**	'sleep'
causative	**bsɳal**	**hɳa**	**ɲa^{13}**	**ɲa^{13}**	**ɳa^{55}**	'put to sleep'

This group of corresponding examples shows us that the causative prefixes of Written Tibetan still leave clear traces in the conservative dialects. For example, the WT double prefix **b-s-** has led to voiceless nasals (written **hɳ-** or **ɲ**) in Lapulen, Dege, and Batang, with change of tone in the latter two. In Lhasa, the former prefix has led only to a tonal difference in the modern form.

Such correspondences also exist between related languages. Let us take Dulong and Anong , two languages of the Nungish group, as an example:

	Dulong		*Anong*		
	verb	*causative*	*verb*	*two forms of causative*	
'bury'	**lɯp^{55}**	**tɯ^{31}lɯp^{55}**	**lim^{55}**	**ɕi^{31}lim^{55}**	**ɕim^{55}**
'collapse'	**dɯm^{55}**	**sɯ^{31}dɯm^{55}**	**dim^{55}**	**ɕi^{31}dim^{55}**	**ɕtim^{55} (thim^{55})**
'cry'	**ŋɯ^{53}**	**sɯ^{31}ŋɯ^{53}**	**ŋɯ^{55}**	**sɯ^{31}ŋɯ^{55}**	**ɲɯ^{55}**

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Anong always uses a conservative sibilant prefix, which Dulong sometimes changes to a syllable **tɯ^{31}-** (as in 'bury'). Phonetically, however, the prefixes of Anong are weakening by comparison to the prefixes of Dulong. The use of the two Anong prefixes **ɕi^{31}-** and **sɯ^{31}-** is conditioned: when the vowel is *i* or the initial consonants are coronals, the prefix is **ɕi^{31}-**; otherwise, the prefix should be **sɯ^{31}-**. While investigating, we found the two prefixes are pronounced laxly, like a slight fricative. Older speakers pronounce them faintly, but middle-aged ones even more so, so that one can hardly hear them. The differences in pronunciation between old and middle-aged speakers seems to show the direction of change of the causative forms. The following instances illustrate the developmental tendencies of the causative forms in the two languages:

Dulong		*Anong*			
verb	*causative*	*verb*	*causative (old speakers)*	*causative (middle-aged speakers)*	
gli?^{55}	**sɯ^{31}gli^{55}**	**dʑɯŋ^{55}**	**ɕi^{31}dʑɯŋ^{55}**	**ɕtɕɯŋ^{55} (tɕhɯŋ^{55})**	'be broken'
sɔ^{55}	**tɯ^{31}sɔ^{55}**	**ɳi^{55}**	**ɕi^{31}ɳi^{55}**	**ɲi^{55}**	'know'
bĕ?^{55}	**sɯ^{31}be?^{55}**	**ga^{55}**	**sɯ^{31}ga^{55}**	**kha^{55}**	'be broken'
mɔŋ^{55}	**sɯ^{31}mɔŋ^{55}**	**ba^{55}a^{31}**	**sɯ^{31}ba^{55}a^{31}**	**pha^{55}a^{31}**	'be white'

Although the verbs in the above examples are not cognate, the grammatical meanings and forms of the two languages are similar. The causative prefixes of Dulong are **sɯ^{31}-** and **tɯ^{31}-**, while Anong uses similar ones, only with the change of strong fricatives to weak fricatives. The fricative prefixes of Anong are no longer syllabic, but only a slight airflow before verb roots, which influences their initial consonants, e.g., changing voiced initials to voiceless ones, or unaspirated to aspirated. The sound changes observable between different generations of Anong speakers strongly illustrate the changing types of the causative category.

I will now offer a hypothesis on the nature of the causative category at the PTB stage.

In the first stage, causative forms were agglutinative, and the unique form was the prefix ***s-**. After some time, the category developed several other prefixes under the influence of other grammatical forms, e.g., in rGyalrong, Dulong, Tibetan, and Ergong. Some languages changed their prefixes to suffixes (e.g., Limbu and Qiang). Other languages underwent phonetic changes of the sibilant prefix (e.g., Jingpho, Darang, Anong, etc.).

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In the second stage, the causative forms are inflected. Although the forms at this stage are more complicated, still we can determine by analysis what the intervening changes could have been. The above Anong examples show that the prefix ***s-** is weakening, which probably influenced the initials, vowels, and tones of the verb roots. The typical influence of this prefix on initials is that voiced stops or voiced affricates change to voiceless ones (aspirated or plain); and voiced sonorants (e.g., nasals and *l*) change to their voiceless counterparts. Changes like these are very widespread in TB languages, some of which have only a few pairs of verbs sharing such alternations, but others of which (e.g., Burmese) have dozens or even hundreds. The influence on vowels is typically on voice quality (tense *vs.* lax) or length, sometimes even on vowel quality (this is relatively rare). The influence of prefixes on tone is known to everyone; even the loss of prefixes is a decisive factor in tonogenesis. Many of these prosodic developments, such as tonal contours, vowel length, and phonation type, typically go together, mutually conditioning each other.

In the third stage, analytic forms arose in many languages and have become the chief or only way of expressing causatives in most of them. There is no inherited line of descent between earlier causative mechanisms and these analytic constructions. Each language has developed its own forms with the functions it needs, using grammaticalized verbs; the fact that these verbs tend to be semantically similar across languages we take to be mere coincidence. The analytic forms of most languages have arisen quite independently.

4.0. DOUBLE CAUSATION

There is a phenomenon of double causation in some TB languages, the forms of which are not the same across languages. In the Wang Jiaba dialect of rGyalrong, there are two prefixes before verbs:

verb	*causative*	*double causative*	*meaning*
nawawo	**kasəwawo**	**kasəsəwawo**	'cry'
kaza	**kasəza**	**kasəsəza**	'eat'
kawat	**kasəwat**	**kasəsəwat**	'wear'

In another type, prefixes (agglutinative) and function words appear simultaneously, as in Tibetan, for instance:[9]

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9 These examples are cited from Gesangjumian 1982. Professor Gesangjumian has recently proposed that there are two distinct types of double causation, a topic to which he intends to devote a special paper.

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verb	*causative*	*double causative*	*meaning*
zub	**bsubs**	**sub-tu-fidʑug**	'be in hiding'
ɳor	**bsɳor**	**sɳor-du-fidʑug**	'collapse'
tɕhag	**btɕhag**	**gtɕog-tu-fidʑug**	'break into pieces'

This construction conveys a meaning of causation to the second degree. Take the verb 'collapse' as an example. The causative meaning is 'to cause to fall down'; the meaning of the double causative is 'to let sb. make it fall down'. This kind of verb always has two causees, which makes them theoretically interesting.

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