

Which Way Did They Grow? (Morphology and the Austro-Tai(Macro)Austrian Debate)

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Which Way Did They Grow:  
 (Morphology and the Austro-Tai/(Macro)Austric debate)  
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In this paper I intend to look at the consequences of one formal instantiation of causative relations for the history and typology of the Southeast Asian linguistic area.<sup>1</sup> An examination of the labial causative affix (LCA) can help to solve a number of important diachronic and synchronic questions concerning the interrelationships among the languages of the area by establishing shared features and innovations. The first section will introduce the forms and function of the LCA in Southeast Asia. The middle part of the talk will briefly survey the existence of the LCA in the five major language groups, and the last part will discuss the significance of the LCA for the three major competing theories concerning the relationships between the language families.

In the past decades there has been a greater concentration on lexical comparison (including the glottochronology fad) and phonological data than on morphological and syntactic phenomena in historical work on Southeast Asian languages. In as complex an area as Southeast Asia, one cannot really trust lexical material, as borrowings, taboos, and other interferences (such as limited, and culturally inappropriate wordlists) weaken the arguments that can be constructed on those grounds. Phonological data is more useful, and has been the primary tool for determining genetic relationships among the languages of the area. Morphosyntax has been generally ignored, although it seems less susceptible to the problems cited for lexical materials, and changes seem to occur more slowly. This paper represents an attempt to use morphosyntactic materials to help sort out the history of the languages of Southeast Asia.

### The LCA: Phonological forms

In the languages of Southeast Asia, here taken to include the Tibeto-Burman (TB), Tai-Kadai (TK), Austroasiatic (AA), Hmong-Mien (HM), and parts of the Austronesian (AN) languages, causativity is expressed in two ways. There are syntactic causatives, usually involving verb concatenation, and morphological causatives, involving an affix. These forms are surveyed in Schiller (1987).

The affix surfaces in a variety of forms. The most common form, seen in (at least) four of the five linguistic families, involves the articulatory feature [+labial]. I will take as a working definition the following:

(1) If a language has (or had) an affix with clearly causative function, and if the affix either contains a labial consonant or can be shown to have been diachronically derived from an affix which contains a labial consonant, that language is a **P-language**.

It is not possible to make definitive judgements about many languages of the Southeast Asian linguistic area, since we lack reliable sources for many, if not most, of the languages. The map on the handout shows the rough locations of P-languages on which I have been able to amass data<sup>2</sup>. At the outset, it should be noted that the affix usually surfaces as a prefix, occasionally as an infix, but never as a suffix.

The affix takes the following forms as a prefix: /p-/ , /pn-/ , /pr-/ , /b-/ , /ɓn-/ , and shows up as infixed: -m-/. Epenthetic vowels take various shapes, which can be seen in the examples later in the paper, but which will be ignored in the following table:

Table 1: Forms of the LCA in Southeast Asia

| Language      | Location | /p-/ | /pn-/ | /pr-/ | /b-/ | /ɓn-/ | /h-/ | /m-/ | /-p-/ | /-b-/ | /-m-/ |
|---------------|----------|------|-------|-------|------|-------|------|------|-------|-------|-------|
| Pear(Morizon) | 31/32    | x    | x     |       |      |       |      | x    |       |       |       |
| Khmu?         | 76       | x    | x     |       |      |       |      |      |       |       |       |
| Semai         | 10       | x    |       | x     |      |       |      |      |       |       |       |
| Temiar        | 11       | x    |       | x     |      |       |      |      |       |       |       |
| Siamese       | 301      | x    |       |       | ?    |       |      |      |       |       |       |
| Mon (Lit.)    | 25       | x    |       |       |      |       |      | ?    |       |       |       |
| Angami        | 601      | x    |       |       |      |       |      |      |       |       |       |
| Roglai        | 220      | x    |       |       |      |       |      |      |       |       |       |
| Tagalog       | 220      | x    |       |       |      |       |      |      |       |       |       |
| Ta'ang        | 105      | x    |       |       |      |       |      |      |       |       |       |
| Kafu          | 73       | x    |       |       |      |       |      |      |       |       |       |
| Pacoh         | 75       | x    |       |       |      |       |      |      |       |       |       |
| Bahnar        | 46       | x    |       |       |      |       |      |      |       |       |       |
| KintagBong    | 19       |      |       | x     |      |       |      |      |       |       |       |
| White Meo     | 501      | ?    |       |       |      |       |      |      |       |       |       |
| Phalok        | 87       | ?    |       |       |      |       |      |      |       |       |       |
| Antisdel'sWa  | 84a      | ?    |       |       |      |       |      |      |       |       |       |
| Chrau         | 41       |      | x     |       |      |       |      |      |       |       |       |
| Jah Hut       | 9        |      | x     |       |      |       |      |      |       |       |       |
| Sre           | 40       |      | x     |       |      |       |      |      |       |       |       |
| Khasi         | 109      | ?    | x     |       | x?   |       |      |      |       |       |       |
| Samtau        | 85a      |      | .     |       |      |       |      |      |       |       |       |
| Thavung       | 112      | .    |       |       | x    |       |      |      |       |       |       |
| Rengao        | 53       |      |       |       | x    |       |      |      |       |       |       |
| Khmer         | 36       |      | .     |       |      | x     |      |      |       |       | x     |
| Karen         | 402      |      |       |       |      |       |      | x    |       |       |       |
| Rade          | 204      | .    |       |       |      |       |      | x    |       |       |       |
| Chong         | 34       |      |       |       |      |       |      | x    |       |       |       |
| South Munda   | 114      |      |       |       |      |       |      |      |       | x     |       |
| Sora          | 115      |      |       |       |      |       |      |      |       | x     |       |
| Mɔdra/Didrɔ   | 51       |      |       |       |      |       |      |      |       |       | ?     |
| Nancowry      | 3        |      |       |       |      |       | x    |      |       |       | x     |
| Forms         |          | /p-/ | /pn-/ | /pr-/ | /b-/ | /ɓn-/ | /h-/ | /m-/ | /-p-/ | /-b-/ | /-m-/ |

- Legend:
- x affix exists in this form
  - x? may not be the same notion of causative (discussed below)
  - ? affix may have existed in this form
  - .
  - affix can be reconstructed as having had this form
  - ?\* as \*, but with considerably less confidence

The numbers next to each language refer to the locations on the map.

The function of 'causativity' is here taken to be the relationship between such pairs as



|            |               |               |
|------------|---------------|---------------|
| (2b) Bunun | manaq 'shoot' | panaq 'shoot' |
| (2c) Bunun | matae 'die'   | patadd 'kill' |

In Kalai-Kove, \*/pa-/ marks causative aspect for all members of class B-la....' (Counts 1969:68) e.g.

|                 |              |                                 |
|-----------------|--------------|---------------------------------|
| (2d) Kalai-Kove | /-ani/ 'eat' | /pa-ani-ɣao-ri/(l)-feed-(them)' |
|-----------------|--------------|---------------------------------|

Nguna has /vaka/, but Schütz (1969) notes that the voicing is not relevant and that the /v/ is more often [f]. Examples:

|            |             |                   |
|------------|-------------|-------------------|
| (2e) Nguna | vura 'full' | vaka-vura 'fill'  |
|            | susu 'suck' | vaka-susu 'nurse' |

Tahitian (Arakin, 1981) has clear examples, e.g.

|               |                    |                             |
|---------------|--------------------|-----------------------------|
| (2f) Tahitian | tai 'make a sound' | faàtai 'play an instrument' |
| (2g) Tahitian | maâ 'eat'          | haâmaâ 'feed'               |

On the mainland, the Chamic group provides good examples:

|             |             |                |
|-------------|-------------|----------------|
| (2h) Roglai | matai 'die' | pamatai 'kill' |
|-------------|-------------|----------------|

Material provided by Lee indicates \*Chamic causative /pa-/ in such examples as:

|              |                 |                          |
|--------------|-----------------|--------------------------|
| (2i) *Chamic | *jəŋ 'become'   | *paŋəŋ 'create';         |
| (2j) *Chamic | *jɨm 'around'   | *paŋɨm 'surround';       |
| (2k) *Chamic | *klas 'release' | *paklas 'save (rescue)?' |

but the roots are all loans, cf 2i and 5f. Prefix \*pa- is preserved in Jorai /pa-/, Roglai /pa-/, and Cham /pə-/. Rade (Lee, ms.) has /m-/ as a result of historical /pə-/.

### Austroasiatic

Within Austroasiatic we have evidence both as to the antiquity of the affix and to its widespread diffusion. Fortunately, the MK branch boasts two sources of older material, Old Mon and Old Khmer. As the following show, there is great geographical diversity.

#### Viet-Muong:

These languages are considered by some to be part of Northern Mon-Khmer, but by others as more distantly related to other Mon-Khmer languages.

|                                |  |
|--------------------------------|--|
| Hayes (1983) gives Pre-Thavung | *paʔrip 'dampen' yielding                            |
| (3a) Thavung                   | balipʔ 'plonger' (dampen) (from Pre-Thavung *paʔrip) |

The Muong languages are located in remote areas of the Red River Valley, and have a surprisingly conservative morphology which preserves disyllabic structures. They are therefore of considerable interest for the LCA question. Vietnamese is monosyllabic, but Ferlus (1975) has shown that pre-syllables can be reconstructed.

Northern Mon-Khmer:

/pən-/ is the common Mon-Khmer form, and may be Proto-Mon-Khmer in origin. It is a highly productive prefix in Khasi. This complex prefix has been the subject of considerable discussion by Henderson (1976) and Schmidt (1904). It became less decomposable over time and is now clearly to be treated as a single morpheme.

|                      |               |                     |
|----------------------|---------------|---------------------|
| (4a) Standard Khasi: | iap 'die'     | pyniap 'kill'       |
| (4b) Standard Khasi: | hap 'to fall' | pynhap 'to fell'    |
| (4c) Standard Khasi: | long 'to be'  | pynlong 'to create' |

Henderson (1976) notes that pyn- [/pən/] may be affixed to recent unassimilated loans. There is some evidence of a simple /p-/ prefix:

|             |                       |                             |
|-------------|-----------------------|-----------------------------|
| (4d) Khasi: | rung 'to enter (itr.) | phrung 'to penetrate (tr.)' |
|-------------|-----------------------|-----------------------------|

/p-/ alternates with /b-/ in this usage but the prefix is no longer productive.

Moving from Khasian to the Palaungic branch, the situation becomes more complex.

|             |           |             |
|-------------|-----------|-------------|
| (4e) Ta'ang | yām 'die' | pyām 'kill' |
|-------------|-----------|-------------|

Milne (1921:66): Kāng pyām pēt ṭ mē 'Kachins killed the man' and (85): ān yām pwot 'it is quite dead' lit. it died away.

In the Waic languages most sesquisyllabic words lose their initial, unstressed affixes, liquids form clusters instead. The following pair, taken from two closely related Wa languages is encouraging.

|      |                    |  |
|------|--------------------|--|
| (4f) | Paraok: hyc 'thin' | Palok: p <sup>h</sup> yc 'to sharpen to a point' |
|------|--------------------|--|

That the initial /h/ reduces to aspiration is consistent with what is presently known about Northern Mon-Khmer historical phonology.

Even where the labial portion of the affix is gone, some reconstruction is possible, e.g.

|                         |           |               |
|-------------------------|-----------|---------------|
| (4g) Samtau (= Bulang): | yém 'die' | ʔənyəm 'kill' |
|-------------------------|-----------|---------------|

According to Diffloth (personal communication), this form is a result of the erasure of the initial consonant from \*pən.

The prefixes /p-/ and /pn-/ are well attested in Khmu? (Svantesson 1983):

|             |                  |                     |
|-------------|------------------|---------------------|
| (4h) Khmu?: | réh 'rise'       | préh 'raise'        |
| (4i) Khmu?: | yían 'black'     | pnyían 'blacken'    |
| (4j) Khmu?: | nɿɿm 'happy'     | pínɿɿm 'make happy' |
| (4k) Khmu?: | ʔin 'moist'      | píʔin 'moisten'     |
| (4l) Khmu?: | háan 'die'       | pháan 'kill'        |
| (4m) Khmu?: | làac 'disappear' | plàac 'take away'   |

Svantesson notes that the /pn-/ prefix is perhaps more productive in the Southern dialect recorded by Delcros than in his Yùan dialect.

Eastern Mon-Khmer:

|              |                   |                           |
|--------------|-------------------|---------------------------|
| (5a) Pacoh : | dêr 'shatter'     | padêr 'cause to shatter'  |
| (5b) Katu :  | daloong 'to call' | padaloong 'cause to call' |
| (5c) Katu:   | karuaq 'to hurt'  | pakaruaq 'cause to hurt'  |
| (5d) Rengao  | hlat 'die'        | bôhlăt 'kill'             |
| (5e) Bahnar  | lôch 'die'        | pəlôch 'kill'             |

Banker (1964) noted that "The causative prefix is apparently still active in Bahnar as seen in such new coinages as pə-aŋ-wi 'to make to hurt' from the English word owie (ouch). This prefix is used more extensively than the nominalizing infix but cannot be used freely."

|            |               |                   |
|------------|---------------|-------------------|
| (5f) Chrau | jêng 'become' | panhjêng 'create' |
|------------|---------------|-------------------|

The abundant evidence from Modern Khmer is supported by historical record. According to Jacob (1976), /p-/, /pr-/, /pN-/, /tN-/, /-N-/, /-m-/ and /-mn-/ were common to both Old and Middle Khmer, while /k-/ was a Middle Khmer innovation. /p-/, /pr-/, /pN-/ and /-m-/ had causative function in Middle Khmer (p.603). Jacob suggests that there is insufficient evidence for determining grammatical functions in Old Khmer.

/bən-/ is a very widespread Khmer prefix, even though it is no longer productive. Historically, the implosive /b/ derives from /p/.

|             |                       |                                 |
|-------------|-----------------------|---------------------------------|
| (5g) Khmer: | /kaa/ 'action'        | /bənkaa/ 'cause s-th to happen' |
| (5h) Khmer: | /kaak/ 'solid'        | /bənkaak/ 'solidify'            |
| (5i) Khmer: | /kəl/ 'move'          | /bənkaəl/ 'cause to move'       |
| (5j) Khmer: | /cal/ 'be impeded'    | /bəncaəl/ 'dam up, block'       |
| (5k) Khmer: | /tœc/ 'cease'         | /bəntœc/ 'stop, interrupt'      |
| (5l) Khmer: | /riən/ 'learn, study' | /bənriən/ 'teach'               |

In (5l) the root is a loan from Thai. Jenner & Pou (1981:iii), states that "- /bən-/...yields derivatives which are causative (73%) and factive (27%);"

Headley (1977) gives a Pearic vocabulary which contains the following examples of an LCA, noting that /am/ [am] is "probably a causative prefix":

|                     |                             |                           |
|---------------------|-----------------------------|---------------------------|
| (5m) Pear (Morizon) |                             | /am-kam/ 'in order to'    |
| (5m) Pear (Morizon) | /am-krin/ 'to make thinner' |                           |
| (5n) Pear (Morizon) |                             | /am-luən/ 'agile'         |
| (5o) Pear (Morizon) |                             | /am-phit/ 'to lose'       |
| (5p) Pear (Morizon) |                             | /am-raŋ čal/ 'to improve' |
| (5q) Pear (Morizon) | /snik/ 'light in weight'    | /am-snik/ 'to lighten'    |

also:

|                        |  |              |                     |
|------------------------|--|--------------|---------------------|
| (5r) Saoch (Veal Renh) |  | /haoč/ 'die' | /pənhaoč/ 'to kill' |
|------------------------|--|--------------|---------------------|

and several candidates:

|                     |  |                                       |
|---------------------|--|---------------------------------------|
| (5s) Pear (Morizon) |  | /pəʔu:s/ 'to make (s-hing) turn sour' |
| (5t) Pear (Morizon) |  | /pəphlip/ 'to submerge'               |

- (5u) Pear (Baradat) /pəŋtʰaot/ 'to cheat s-one'  
 (5v) Eastern Pear /ɔ:ŋ/ 'to reserve, keep'<sup>5</sup> /pəʔɔ:ŋ/ 'to reserve, keep (for)'

Finally, a very interesting example from Chong

- (5w) Chong (Huffman) /hooɔ/ 'die' /məhooɔ/ 'kill'

where Diffloth (p.c.) has no explanation for the /mə-/ instead of /pə-/.

Southern Mon-Khmer:

Old Mon provides us not only with good historical \*p- material, but also offers interesting data on a \*k- causative prefix which may help to explain the presence of that affix in a number of languages. This point is well discussed in Diffloth 1984:296ff.

- (6a) Proto-Monic \*dəw 'to go away' \*pdəw:  
 Kyanz.OM:(s)-pdəw 'to drive away'  
 Mid. Mon: <bdəw> 'to drive away'  
 Liter. Mon: <padəw, bdəw> 'to drive away'

Furthermore, it may be that there is a \*-p- infix, according to Shorto (1969), though, as pointed out by Diffloth (1984), we really don't have enough data to make any firm judgements here. Mon has a verb /paəʔ/, meaning 'to do'. This is a similar situation to that of Karen, noted above. Look at the map. It should be noted that the length of the vowel casts doubt on the relationship between the independent form and the affix.

- (6b) Kintag Bong: sa 'descend' pisa 'cause to descend'  
 (6c) Kintag Bong: tɛg 'sleep' pitɛg 'put to sleep'  
 (6d) Kintag Bong: ciʔ 'eats' piciʔ 'feeds'

Omar (1976) gives a section on /pi-/ with causative function (954-55). Diffloth (personal communication) advises that /pi-/ is a reflex of \*pr-, so this example properly belongs below. It is perhaps relevant here that this form can accept another prefix /maQ-/, which denotes 'the desiderative aspect'. Omar gives each of above forms with that additional prefix, and gives meaning 'wants to X cause to X'.

Diffloth (1976b) cites the form /p-/ as productive in Semai. There the prefix appears along with an infix /-r-/  
 (6e) Temiar /caaʔ/ 'eat' /bɛrcaaʔ/ 'feed'<sup>6</sup>  
 (6f) Semai: /ciip/ /bɛrciip/

Diffloth (1976) cites the form as productive in Semai, where it is the product of a /p-/ prefix and an /-r-/ infix. But the derivation of these forms is not so simple. They are derived by taking the root, prefixing /p-/, dissimilating the /p/ to /b/, infixing /-r-/, and adding an epenthetic schwa. (Diffloth, personal communication)

- (6g) Semai: /nɛɛŋ/ 'see' /pɛrnɛɛŋ/ 'show'

Rounding out the discussion of these Aslian languages I would like to point out cases where a P-language applies the causative prefix even to borrowed roots, which sometimes contain unusual (for the host language) morphology. A Khmer example was



Benedict (1975) reconstructed \*plian (alternating with \*phrian) 'change, to exchange', cf. Lao \*rian 'to buy (a field)'. There is a big problem here, in that Fang Kuei Li (1977) shows that \*pr -> t-. Furthermore, <bpian2> 'change, buy' and <bpian1> 'exchange' form a tonally contrastive pair with more reciprocal than causative relations.

To make matters more difficult, Proto-Tai \*pr- becomes t- in modern languages, except in the Saek language<sup>7</sup>. Nevertheless, there is a little evidence for Thai:

(8a)Siamese                      lúk 'rise'                      plùk 'arouse, awaken'

This is not a loan from Khmer, as it surfaces in widely separated languages:

(8b)Lao:                              bp<sup>3</sup>uuk 'awaken'      luu<sup>2</sup>k keuu<sup>6</sup>n 'arise'  
 (8c)Lungchow:                      pjuk 'to wake up (someone)'  
 (8d)Po-ai:                              pjək 'to wake up (someone)'

Fang Kuei Li (1977) gives these as a reflex of Proto-Tai \*pl-. Some further examples:

(8e)Siamese:                      larn 'to break/be broken'      plárn 'to destroy'  
 (8f)Siamese:                      lám 'to be superior'      plám 'to wrestle'  
 (8g)Siamese:                      lut 'lower, lessen'      plut 'unchain, unloose'  
 (8h)Siamese:                      lɔɔn 'be divested of meat'      plɔɔn 'to extract'  
 (8i)Siamese:                      lɔɔy 'flow, go adrift'      plɔɔy 'let go, release'  
 (8j)Siamese:                      lit 'to trim, prune'      plit 'to pick clean'

A few more examples of words with some causative semantics. No claims are made for these items, the result of a fairly superficial search in a couple of Thai dictionaries, just the hope that some Tai specialists will look into these and the matter of:

(8p)Siamese:                      plùuk 'to plant', lùuk 'child' cf. Tho: pjuuk  
 (8q)Siamese                      phraan 'to deceive, cheat'  
 (from Proto-Tai \*br-, cf. Lungchow and Po-ai: phaən, Ahom: phāng, Lao: phaən, Dìoi: piang 'to slander').

### Austric vs. Austro-Tai vs. MacroAustric

Schmidt (1906, 1916), suggested that Austroasiatic and Austronesian be grouped together in an "Austric superstock". His evidence included the pa- prefix. Benedict (1975) attempts to establish an Austro-Tai superfamily, first proposed in Benedict (1942). He groups Austronesian, Hmong-Mien and Tai-Kadai languages together, suggesting that this Austro-Tai group bears a substratum relationship to Austroasiatic. Under this hypothesis the common feature of a labial causative prefix might well be expected to show up in the Miao-Yao languages as well as in Austronesian. (The Tai-Kadai problem discussed above remains, of course.) He rejects Austric on the grounds that (1975:484) "AT (Austroasiatic) and AT (Austro-Thai) do not have a core vocabulary in common, despite the morphological similarity of the two language stocks, hence the idea of an "Austric" superstock must be abandoned." Diffloth (1985) effectively demolished that argument on numerous grounds, including two "Austric" etymons for 'wood; and 'bone'

Our task is not made any simpler by the fact that HM languages, like TK, are strongly

monosyllabic without derivational or inflectional morphological processes. Even more disturbing is Benedict's cavalier treatment of tone, which can only be described in terms of benign neglect. Thus we cannot use his published data to reconstruct what are referred to above as "recoverable mergers". It should be noted that the exclusion of AA from the Austro-Tai hypothesis has already come under fire on other grounds (Diffloth 1977).

Recently some scholars have been investigating the possibility of a AA-AN-HM-TK supergroup, first suggested by Haudricourt, who never published his speculation. Gérard Diffloth (1985) calls this superstock "MacroAustic". The question requires much greater investigation, particularly within the Tai-Kadai and Hmong-Mien families. Still, the MacroAustic hypothesis makes a lot of sense. I am confident that further examples of TK causatives will be found to augment the small list presented here. The problems with the HM languages stem from the loss of material at the front of the word, probably a consequence of final stress, a feature shared with MK. The reduction in the size of morphemes is an areal feature of northern Southeast Asia, by contrast with the affixationally rich peninsular languages, Austronesian, and the isolates (Nicobarese, Munda).

The LCA is clearly quite old, based on its geographic dispersion and phonological changes. It was productive in early AA and AN languages, and, given the data from Munda, predates the Munda-Mon Khmer split. It seems reasonable to accept the LCA as strong evidence in favor of Schmidt's Austic grouping. Benedict's Austro-Tai, however would have to suggest that the reason that the LCA is so abundant in AA and Austro-Tai is due to a substratum relationship with HM sharing that relationship. Ironically, this last problem arose through his own postulation of an LCA in HM. The MacroAustic Hypothesis, is well supported by the given data, with phonological shape reflecting historical phonological changes catalyzed, perhaps, by the typological features which have allowed the southern languages to keep their rich morphology, the northern languages to lose the material at the initial part of the word, and providing a mixed bag in the central languages.

There are a number of phenomena which must be investigated before a claim can be made that /pa-/ "proves" the existence of a MacroAustic grouping. Nevertheless, if the present skimpy evidence showing the LCA in HM and TK can be augmented, The MacroAustrians will have taken a giant step forward, with the Benedictines suffering an important reversal. If we can establish MacroAustic as a Supergroup, we will then be in a position to engage in the formidable task of reconstructing the intermediate stages where AA, AN, HM and TK were dispersed. The examination of vestiges of morphological processes can help us considerably.

#### Notes

<sup>1</sup> Gérard Diffloth, Martha Ratliff and my fellow students at the University of Chicago have contributed meaningfully to this paper. They are not responsible for any errors of fact or reasoning.

<sup>2</sup> Unfortunately, for many languages we have nothing but a few word lists of the Swadesh type, containing at best the single causative pair 'die'/'kill'. Given the current political climate in Burma, Kampuchea, Vietnam and Laos, combined with limited access to Yunnan Province in China, reliable data are unlikely to be obtained soon for most of the two hundred or so languages which would constitute an acceptable sample.

<sup>3</sup> This problem is not confined to Sino-Tibetan. Nyaheun (Davis 1973) has an

independent verb /mi/, and in some Wa languages (Zhou Zhi Zhi, personal communication) there is an independent verb /pa/

<sup>4</sup> "Pa- causatives also occur in all the Formosan aboriginal languages I have studied." (Starosta 1974: 283)

<sup>5</sup> 'to put, place' is the general meaning, according to Diffloth (p.c.)

<sup>6</sup> But it should be noted that /ber-/ is analysed as an allomorph of /ter-/ in positions before initial /t-/ and /c-/. See G. Benjamin (1976), who states (p.168) that "the causative voice is formed variously by the infixation of /-r-/ or by prefixation of its allomorphs /ter- ; ber-/. The presence of /ε/ instead of the more normal epenthetic /ə/ is discussed in Diffloth 1976.

<sup>7</sup> Fang Kuei Li (1977). The same problem affects Proto-Tai cluster \*phl/r-. An additional example from that source is 'to split open, crack, separate': Siamese: phεek, Lungchow: phεek, Wu-ming: plek. "This word is probably related to Siamese teεk 'to break', from pr-."

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