Deltacism of laterals in Sino-Tibetan and elsewhere[1]

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The whole world stands on the tip of the tongue! [Yiddish proverb][2]

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1.0 Introduction

The apical consonants [l], [d], and [n] are quite similar in articulatory terms, all voiced sounds involving the occlusion of the tip of the tongue against the alveolar ridge or the back of the upper teeth. Many languages show dialectal variation among these sounds. There is, e.g., a well-known tribe of American Indians known variously as *Dakota*, *Lakota*, or *Nakota*[3]. A number of Sino-Tibetan (ST) etymologies show interchange between [l] and [d], for which the conditioning factors are rather obscure, in a manner reminiscent of the so-called "sporadic" cases of d ≍ l in Indo-European.

The question of the *directionality* of such alternations is not easy to answer. Which is more likely to occur, a "hardening" of [l] to [d], or a "softening" of [d] to [l}? Although both types of development are attested, the best-known cases in Indo-European are softenings of ***d** to **l**:

1.1 Indo-European

(a) *Other Indo-European* **d** > *Latin* **l**

	Other IE	*Latin*
'Ulysses (Homeric hero)'	Gk. **odysseus**	**ūlixēs**

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[1]This paper was originally presented at the 23rd International Conference on Sino-Tibetan Languages and Linguistics, University of Texas at Arlington, Oct. 3-6, 1990, under the title "The Dinguist's Dilemma: deltacism of laterals in Sino-Tibetan." A Chinese translation by Lin Ying-chin and Li Yue-ru is in preparation. The meaning of the made-up word "dinguist" will become clear below.

[2]In Yiddish: *Di gantse velt shteyt oyf der shpits tsung*. The meaning of this proverb is that "the words one utters can have profound effects on one's life".

[3]Interchange between [l] and [n] is beyond the scope of the present paper. It is a notable phenomenon in Chinese dialectology (e.g. in Southwest Mandarin), and is also characteristic of child language (Greenlee & Ohala, 1980). A famous example of the exceptional appearance of [n] where a dental stop would be expected is Chinese 鳥 'bird' OC **tiôg**, but Mandarin **niǎo** (GSR 1116a). As Karlgren observes, this "is irregular, quite a riddle".

'tongue'	PIE ***dn̥ghū-** PGmc **tungōn**	**lingua**[4]
'tear' (n.)	PIE ***dakru-** PGmc ***taxru-**	**lacrima**
'brother-in-law'	Lithuanian **daiwer**	**lēvir**
'long'[5]	Slavic **dlin-**	**longus**

(b) Latin **d** > French **l**

	Latin	*French*
'cicada'	**cicāda**	**cigale**

(c) Latin **d** > Spanish **l**

	Latin	*Spanish*
'tail'	**cauda**	**cola**

(d) Internal **-d-** ⋍ **-l-** variation within Latin

Latin **odor** 'a smell' ⋍ **oleo** 'emit an odor"

No convincing explanation has ever been given for these sporadic phenomena. Among the various *ad hoc* suggestions in the literature is "Etruscan influence" on Latin.[6]

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[4]Hence the original title of this paper. If it were not for this Latin development, we would all be called "dinguists" nowadays! It is perhaps no accident that the word for "tongue" itself shows **d** ⋍ **l** variation, both in IE and ST (see below). Speakers must be universally (although dimly) aware of the similarity of their tongues' movements in the articulation of these apical sounds.

[5]This root might involve a proto-cluster ***dl-**.

[6]That this has nothing to do with the Etruscans is evident from the fact that a similar development is occasionally observed in modern IE languages. John Ohala reports that Danish postvocalic **-d** is sometimes interpreted as **-l** by native listeners.

1.2 Sino-Tibetan

In Sino-Tibetan, the direction of development seems rather to be ***l > d**.[7] One influential view maintains that Old Chinese (OC) non-palatalized ***l-** developed into MC **d-**:[8]

	Non-palatalized *l-			***Palatalized *ly-***		
	OC		*MC*	*OC*		*MC*
Karlgren[9]	**d'**	**>**	**d'**	**di̯-**	**>**	**i̯**
Li Fang Kuei	**d**	**>**	**d**	**r**	**>**	**j**
Schuessler	**dl**	**>**	**d**	**l**	**>**	**j**
Pulleyblank	**l**	**>**	**d**	**l(j)**	**>**	**j**
Bodman	**l**	**>**	**d**	**l(j)**	**>**	**j**

On the Tibeto-Burman side, **l ⋍ d** interchange is attested directly in several good etymologies (section 3.0 below).

1.3 The search for physiological explanations

As John Ohala maintains, such phenomena as deltacism are not due to "human laziness", but rather to "inherent anatomical, physiological, and neurophysical constraints characteristic of all vocal tracts -- even those of hardworking speakers" (Ohala 1974).[10] Diachronic tendencies involving laterals may be characterized in general terms as involving *hardening*, *epenthesis*, or *frication*:

·[d] is the "most vocalic" of the voiced stops, with a much more pronounced formant structure than either [b] or [g].

·Vowels and glides tend to be fricativized in the environment of yod [-j-], because close vowels give rise to a higher velocity of the oral airflow, thus inducing greater turbulence and frication of the segment. The same universal tendency for ***l(j)-** or ***j-** to develop into **ž-** or **dž-** is noticeable both in Romance and Tibetan:

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[7]A convenient term for this phenomenon is *deltacism*, using the Greek letter *delta* by analogy with the established term "rhotacism" (from the Greek letter *rho*) for the introduction of an **r**-like sound. The opposite development of a dental stop to a lateral (as in Latin, above), we could then call *lambdacism*.

[8]See Bodman 1985:160.

[9]OC reconstructions cited in this paper are in Karlgren's system ("GSR", 1957), unless stated otherwise.g

[10]My colleague Ohala's sensible approach to phonological developments in terms of universal articulatory constraints in further developed in Ohala 1983.

··Romance

Latin **caballus** 'horse' > Iberian Romance ***cabalyo** > Spanish **caballo** (Standard Sp. /**kabajo**/, but Argentine Sp. /**kabaʒo**/)

Latin **i̯** > Italian **dž**, French **ž**

'youth' Latin **i̯uventās** > Italian **gioventú** [džoventu], French **jeunesse** [žœnes]

Tibetan

	Proto-Tibeto-Burman	*Written Tibetan*
'wind'	***g-ləy**	**rdzi**
'heavy'	***s-ləy**	**ltśi-ba**, **ldźi-ba**
'four'	***b-ləy**	**bźi**
'bow/sling'	***d/s-ləy**	**gźu** [11]
'flea'	***s-ləy**	**ldźi-ba**, **ḍdźi-ba**
'tongue'	***s-lya**	**ltśe**

Several similar etyma have good Chinese cognates with dental stop initials (see below).

The "hardening" or "frication" of the lateral in such cases may perhaps be viewed as a type of *epenthesis,* i.e. the insertion of a phonetic segment between two sounds that are difficult to pronounce in sequence. This seems to occur most frequently in the environment of nasals or liquids, with several familiar subtypes:

(a) nasal + fricative > nasal + stop + fricative

e.g. Eng *warmth*, often pronounced [wɒrmpθ]
sense, usually pronounced [sɛnts]

(b) nasal + liquid > nasal + stop + liquid

e.g. Latin *cam(e)ra* 'room' > French *chambre*

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[11] For discussion of the WT vowel reflex in this root, see Matisoff 2003:50, 192.

(c) lateral + fricative > lateral + stop + fricative

e.g. Eng. *else*, often pronounced [ɛlts]
Eng. *false*, often pronounced [fɒlts]

(d) fricative + liquid > fricative + stop + liquid

e.g. Sanskrit *sravati* 'flow', but Eng. *stream*, Russian *ostrov* 'island' (all < PIE ***sreu-**)

(e) Slavic has a rather strange epenthesis rule, whereby the cluster **bj-** becomes **blj-**, e.g. Russian **ljubitj** 'to love', but **ljublju** 'I love'. Here the lateral is the epenthetic element, not the environment for its insertion.

In view of all these tendencies, perhaps we might also hypothesize that the phenomenon of deltacism is also at least partially epenthetic in nature, i.e.:

lateral + yod > lateral + apical stop + yod (with a possible subsequent reduction to apical stop):

lj > ldj > dj > d

1.4 Predictability vs. sporadicity

As this paper tries to show, deltacism is sporadic, both in Indo-European and in Sino-Tibetan. Strange as it may sound, this is a probably a consequence of its basis in universal articulatory fact. Sound changes which are based on universal articulatory tendencies may be activated at any time, so may paradoxically appear to be sporadic in their operation.

2.0 Evolution of liquids within Chinese

No aspect of OC phonology has given rise to as much controversy as the status of the simple liquids ***r-** and ***l-**, and the numerous putative proto-clusters involving liquids.[12] This is not the place to go into detail about the often contradictory opinions of the many scholars who have wrestled with these

[12]Cf. the discussion of "Reflexes of Proto-Chinese ***l**" in Bodman 1980:97-108. An excellent recent dissertation devoted to this topic is Handel 1998, who summarizes the previous contributions of such scholars as P.K. Benedict, S.E. Yakhontov, Li Fang Kuei, E.G. Pulleyblank, A. Schuessler, W.S. Coblin, Gong Hwang-cherng, W. Baxter, L. Sagart, and S.A. Starostin.

questions, but a few citations will suffice to illustrate the complexity of the problem:

"Archaic Chinese (= OC) has initial **l-** for both Proto-Sino-Tibetan ***r-** and ***l-**, as in **li̯ok** 六 "six', PTB ***d-ruk**. Early Chinese loanwords in Thai retain original ***r-**; cf. Proto-Tai ***hrok** 'six', and ***graam** 'indigo', Archaic Chinese **glâm** 藍, Written Tibetan **rams**."[13] (Benedict 1972:171)

Schuessler takes a contrary view:
"I keep OC initial ***l-** and ***r-** strictly apart, and take MC **l-** to come from OC ***r-** only, and MC **ji-** to derive from **l-**. .. It seems most likely, on balance, that both OC ***l-** and ***lj-** merged into MC **ji-**. (Schuessler 1987:xii)

As for liquid clusters, MC retroflex initials are generally thought to descend from OC clusters with ***-r-**. Li Fang Kuei reconstructs both OC ***-r-** and ***-l-** clusters, ***-r-** in 2nd Division words (an idea first proposed by Yakhontov) and ***-l-** in *xiesheng* series where **l-** alternates with stop initials.[14] Schuessler recognizes only medial ***-r-**, differentiating between these two sets of words by positing a difference in syllable structure, sesquisyllables in Division II (e.g. ***gəran**) vs. monosyllables in the *xiesheng* series (e.g. ***gran**). (Schuessler, *ibid.*)

3.0 Lateral ≍ stop interchange in Tibeto-Burman and/or Chinese

Benedict recognizes the sporadic nature of the deltacization of OC ***l-** in MC:
"Under conditions of palatalization (not fully worked out), ST ***l-** tends to be replaced in Chinese by **i̯-** or **di̯/i-** ... There is evidence for further evolution of ST ***l** to other dental stops, voiced or unvoiced" (STC:171, n. 458). On the Tibeto-Burman side he is more reluctant to admit such variation, and typically treats the lateral forms as reflecting separate etyma from the stop-initial forms.

Be all this as it may, it is clear that many ST etyma show interchange between laterals and dental stops, either synchronically or diachronically, either

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[13]In this view, OC is as useless in differentiating between PST ***r-** and ***l-** as Sanskrit is in distinguishing the two liquids in Indo-European. Examples of OC ***l(j)-** corresponding to PTB ***r-** include 連 or 聯 'join; bring together', OC ***li̯an** [Karlgren 1957: 213a, 214a] / PTB ***ren** 'line up, be equal' [Benedict 1972:#346]. Karlgren 1957 and Benedict 1972 will henceforth be abbreviated to "GSR" and "STC", respectively.

[14]Pulleyblank once set up clusters with the voiced interdental fricative **-ð-** in some of these series (1961-62:115-119), but has now apparently gone back to ***-l-**.

internally on the Chinese or the TB side, or externally, with one branch of the ST family reflecting a lateral while the other reflects a stop.

For convenience we list these etyma in the alphabetical order of their English gloss:

arm/hand/wing/cubit/armpit

The widespread PTB root ***l(y)ak** 'hand' (e.g. WT **lag -pa**, WB **lak**) is reflected by an allofam[15] with **d-**, **y-**, or **tś-** in Northern Naga (Konyak) languages (e.g. Tablung **yak**, Banpara **tśak**, Namsang **dak**, Moshang **yok**). Jingpho has the curious form **lətáʔ**, which can be explained as the result of a development like ***lak > *lyak > *dyak**, after which a new prefix **lə-** was added, by analogy with words like **ləgō** 'foot'[16] Still another variant meaning 'armpit' or 'cubit' (a traditional measurement from the elbow to the hand) is reconstructible as PTB ***g-yak**, with reflexes like Lushai **zak**, Written Burmese **gyak-kəli** 'armpit', Lahu **jâʔ** 'cubit'. On the Chinese side there are two good comparisons: 腋 'armpit' OC **ziə̯ăk** (GSR #800m) and 翼 'wing', reconstructed as OC **giə̯ək** in GSR 954d, revised by Benedict to **diə̯ək** because of the presence of 走 + 異 **t'iə̯ək** 'sound of marching' in the same phonetic series (954g-h).

arrow

Two PTB variants are well-attested, one with a lateral root-initial, and one with a voiced dental stop, reluctantly treated as distinct etyma in STC (n. 313): ***b/m-la** (cf. Bahing **bla**,Tangkhul **məla**) [STC #449] and ***m-da** (WT **mda**, Jingpho (Hkauri dialect) **niŋda**. The Chinese comparandum is reconstructed with a stop: 弋 OC **diə̯ək** (GSR 918a-b) 'shoot with arrow with string attached'.

butterfly

PTB **lep** (cf. WT **phye-ma-leb**); OC 蝶 **d'iap** (GSR 633h).

flat/straight /full

I have shown at length (Matisoff 1988) how two PTB roots reconstructed separately in STC, ***dyam ≍ *tyam** 'full' (#226) and ***dyam** 'straight/flat' (#227), are really one and the same etymon, with meanings referring to perfection in one, two, or three dimensions (straightness, flatness, or fullness), respectively): cf. Bahing **dyam** 'be full, be straight'; Written Tibetan **ldem-pa** 'straight', **ltam-pa**, **them-pa** 'full'; Nung **ədam** 'plain (level ground), flat'.

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[15]The term "allofam", meaning "a variant within the same word-family", was introduced in Matisoff 1978.

[16]Many other Jingpho nouns and verbs referring to the limbs or actions with the limbs have the **lə** -prefix, undoubtedly a reduction of the original morpheme ***lak**. See Matisoff 2003:130.

To these forms I would now like to relate PTB ***lyap** 'flat' (STC #212), represented by WT **leb-mo** 'flat', **gleb-pa** 'flatten' and WB **lyap** 'very thin', thus positing variation between final homorganic stop and nasal in this root (see Matisoff 2003:51).

On the Chinese side, Nicholas Bodman (p.c., 1986) has cited scattered forms in southern dialects, including Zhongshan Cantonese **tim^{22}** 'straight'(written with a locally adapted character 掂 as well as Samheung (S. Min) **tiam^{4}** 'straight, direct (e.g. of roads); to straighten', both pointing to a MC prototype ***diam** (B2). Gong Hwang-cherng (2000) has recently proposed another excellent Chinese member of this word family, 牒 OC **d'iap** (GSR 633g) 'tablet'. This word now means 'official document, certificate', the probable semantic association being 'a flat object written upon'.

four

Most TB languages reflect a lateral root-initial (usually preceded by a prefix) for this numeral, justifying the PTB reconstruction ***b-ləy** (e.g. Jingpho **məlī**, WB **lê**). As we have seen, WT **bźi** shows frication of the lateral before this front vowel. However, many Naga languages have developed dental stops in this root, including Angami **da**, **die**; Chokri **da**; Kezhama **pedi**; Liangmai and Maram **madai**; Mao **padei**; Mzieme **m(a)dai**; Nruanghmei **padei**; Sema **bidhi**; Tangkhul **mati**; Zeme **medai** .

Chinese 四 (OC **si̯ə̯d)** shows a strange sibilant initial, perhaps pointing to a variant ***s-ləy**, with preemption by the prefix.

good/beautiful [17]*:*

Allofams with both lateral and dental stop initials may be securely set up at the PTB level:

***l(y)ak ≍*l(y)aŋ** (> e.g. WT **legs-pa ~ lags-pa** (Ladakhi) 'good, elegant; beautiful'; **yag-po ~ ḥdźag-po** 'good'; Lushai **lian ~ len** 'good')

***m-d(y)ak** (> e.g.WB **tak-tak ~ tyak-tyak** 'very'; Lahu **dà ʔ** 'good, beautiful' ~ **qha-dɛ̀ʔ** 'properly'; Lalo **dìq** 'good'; Tiddim Chin **tak** 'right, correct')

There are several solid Chinese comparanda: 麗 OC **lieg** (GSR 878a-b) 'elegant, beautiful, refined, good'; 良 OC **li̯aŋ** (GSR 735a-d) 'good'; 易 OC **di̯ĕk** (GSR 850a) 'at ease, well-ordered'.[18]

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[17]See Matisoff 2003:51, 327.

[18]For this last comparison, see Bodman 1980.

heavy

The basic PTB reconstruction is ***s-ləy** (> e.g. WT **ltśi-ba**, **ldźi-ba**; WB **lê**; Jingpho **lī**), but many languages show a dental suffix, often with nominalizing force, e.g. Jg. **lít** 'a load'; WT **ldźid-pa** 'heaviness, weight'; Lushai **rit** 'heavy'; Bodo **illit**, **gillit** 'heavy'.

The likely Chinese cognate reconstructs with a voiceless dental stop: 輕 OC **tiə̯ĕd** (GSR 413e) 'heavily weighed down (as a carriage low and heavy in the front)'.

iron

This etymon, suspected to be an ancient loan into PTB, is to be reconstructed as ***s-lyak** or ***l-tsyak**, with such reflexes as WT **ltśags** 'iron', Cuona Menba **lek**[53] 'id.', and WB **jak** 'bit of a bridle'

The obvious Chinese cognate 鐵 is reconstructed as MC **t'iet**/Mand **t'ie**[19] in GSR 1256b, but this has been revised to OC ***s-lek**/MC **thiet** in the Bodman/Baxter system (see Handel 1998, Ch. 5).

ladder/bridge

The comparison between Chepang **hlay?** 'ladder' and Chinese 梯 OC *t'iə̯r (GSR 591-L) 'wooden steps, staircase' was made already in Bodman 1980:102, 104), who reconstructs OC ***hləj**, and credits Pulleyblank (1961/2:114) with being the first to call attention to "a well-known correspondence between WT **lh-** and OC **th-**."[20] The PTB etymon is set up as ***s-lay** ≍ ***s-ley** in Matisoff 1985 (n.78, p. 44), where additional reflexes are cited:

***s-lay** > Chepang **hlay?**; Tangkhul **śay** 'small bridge', ***śay*-ton** 'ladder'

***s-ley** > Lushai **lei**; Tiddim **lèi;** Lakher **hlei-ri**

leaf

This etymon has two major TB allofams, one with an open vowel ***s-la** (which sometimes means 'tea'), and one with a stop final, ***s-lap**:

***s-la** > WT **lo-ma**; Meithei **la**; Magar **hla**; Dhimal **hla-ba**; Mikir **lo** (all 'leaf'); WB **la**; Lahu **là** 'tea'

***s-lap** > West Tibetan **lob-ma**; Kanauri **lab**; Takpa **blap**; Nung **śəlap**

Still another WT form has a prefixed dental stop initial: **ḍdab-ma** 'wing, broad leaf'. This is very similar to the Chinese etymon 葉, reconstructed as OC **diə̯ap** in GSR 633d.

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[19]Karlgren does not reconstruct an OC form for this word.

[20]For an example of WT **lh-** corresponding to OC **th-**, see *take off/remove/loosen/free*, below.

leech

The well-established PTB etymon ***m/s-liːt** 'water-leech, horse-leech' reflects both the ***m-** and ***s-** prefixes, e.g. Mikir **iŋlit**; Ao Naga **melet**; Lushai **hliit**; Lepcha **hlet-bü**. The Chinese cognate reconstructs with a voiceless palatal stop, 蛭 OC ***t̂i̯ĕt** (not in GSR 413).

moon/month

This TB etymon was originally reconstructed ***s-la** (STC #144), based on forms like WT **zla-ba**, Nung **səla** , WB **la'**), with the remark that the dental stops in Jingpho **šətā** and Kadu **səda** "cannot be explained" (cf. also Nocte **³da**). Lushai **thla** and Meithei **tha** were assigned to another allofam ***g-la**.[21] Later (n.137), STC revised this reconstruction to ***s-gla**, reinterpreting the alternate prefixes as cooccurring in linear order, claiming that this better explained the Jingpho form. However, the posited development ***sgl-** > ***skl**-> **št-** does not seem particularly natural, and one could just as well imagine a deltacization of the lateral initial, parhaps via the palatalizing influence of the ***s-** prefix:[22] ***s-la** >***s-lya** > ***s-dya** > **šətā** (with regression of the palatal element to the prefix, since Jingpho lacks a **dy-** or **ty-** cluster). This etymon is one of those where the Manö dialect of Karenni (=Red Karen =Kayah) has developed a dental stop from a *lateral (Manö **ta** 'moon'). Other examples include Manö **ta** 'leaf' < ***s-la**, **ti** 'four' < ***b-ləy**, and **pti** 'tongue' < Proto-Karen ***ple** (STC, p.137).

navel

STC sets up two separate roots for 'navel/center', one with lateral initial (#287) and one with a voiceless dental stop (#299):

***laːy** > Lushai **laai** 'middle, center; navel', Tiddim **laai** 'middle'

***s-tay** > WT **lte-ba**, Jingpho **šədāi** 'navel', Garo **ste** 'abdomen'

In light of all that has been said, these two roots should certainly be considered co-allofams of one and the same etymon.

It is interesting to note that the name of the Central Chin language known as "Lai" /laay/, spoken in such towns as Hakha and Falaam, means 'central; middle', and is evidently cognate to the name of the Southern Chin language called "Daai" (see Hartmann 2001). Coincidentally, the Kadai language of Hainan known in Chinese as *Lí-yǔ* 黎語 is called "Hlai" by its native speakers, a name evidently cognate to the ethnonym T(h)ai.

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[21]Lushai regularly developed **thl-** or **tl-** from *velar-plus-**l** clusters.

[22]Cf. the development of secondary yod in Lepcha through the influence of prefixal ***s-**, pointed out by Benedict long ago (1943).

nephew/grandchild/young man

A root with meanings referring to younger male relatives, or young men in general is PTB ***b-ləy** > Inscriptional Burmese **mliy** > WB **mrê** 'grandchild'; Jingpho **məlī** 'young man'; Mikir **phili-po** 'nephew'. The likely Chinese cognate 姪 'nephew, niece', OC **d'iet ~ d'i̯ĕt** (GSR 413o-p), is reconstructed with a voiced dental stop, and carries a suffix **-t** which also occurs in other kinship terms.[23]

take off/remove/loosen/free

***g-lwat** > WT **glod-pa** 'loosen, relax, slacken'; WB **kywat ~ lwat** 'free'; Jingpho **lòt** 'free'

***s-lwat** > WT **hlod-pa** 'loose, relaxed'; Jingpho **šəlòt** 'set free'; WB **khywat ~ hlwat** 'loosen'; Lahu **lê?** 'slip, slide; smooth, fluent'

The obvious Chinese cognate is 脫 OC **t'wât ≍ d'wât** (324m) 'peel off, take off (as clothes)'; also, in the same phonetic series, 蜕 OC **di̯wat** (324e) 'exuviae of insects or reptiles' (i.e. the outer skin which is shed or moulted).

Note that both TB and Chinese have voiced and voiceless allofams, representing an old simplex vs. causative opposition.

For another example of a voiceless lateral in a TB language (Chepang) corresponding to OC **th-**, see *bridge/ladder*, above.

Li Fang-Kuei does not relate Proto-Tai ***thɔɔt** 'remove, take off (as clothing)' [HCT pp. 102-3] to this etymon, though it certainly looks like a loan from Chinese.

tongue/lick

Appropriately enough, this morphophonemically and semantically intricate word-family shows heavy interaction between the apical sounds **l** and **d**. A "pan-allofamic formula" of roughly the following structure may be set up for this complex TB word-family, for which at least half a dozen variants must be posited: ***m-lay ~ *s-lay ≍ *m-lyak ~ *s-lyak ≍ *s-lyam ≍ *s-lya:w ≍ *s-lay ~ *s-ley**):

				-y
s-				**-w**
m-	**l**	**(y)**	**a**	**-t**
(g-)				**-k**
				-m

One well-established sub-root is ***m-lyak ≍ *s-lyak** 'lick/cause to lick' (STC #211). Here again Jingpho has the puzzling reflex **mətá?**,[24] for which I would

[23] See Matisoff 2003:464.

[24] This form is mentioned in my note 102 in STC, but is otherwise ignored in that work.

simply posit the development ***m-lyak** > ***m-dyak** > ***m-dak** > **mətáʔ**. Very similar, but hard to explain except by epenthesis, is the deltacized WT form **ldag** 'lick' (ignored in STC), a co-allofam of WT **ltśe** 'tongue' (< ***s-lay**) and WT **ldźags** 'tongue" (respectful) < ***s-lyak**. A good candidate for cognacy is Chinese 食 'eat', OC **d̂'i̯ək** (GSR 921a), with alternative reconstructions offered in Baxter 1992 and Schuessler 1987 (***m-lə̆k** and ***mljək**, respectively).

STC relates Chinese 舌 'tongue', OC **d̂'iat** (GSR 288a), to PTB ***g-lyat**, and 舔 'lick, taste', OC **t'iam** (not in GSR) to PTB ***s-lyam** 'tongue/flame'. The Chinese word 甜 'sweet', OC **d'iam** (also not in GSR) is also cited, but as if it represented an entirely different etymon from 'lick'. I would like to claim that the Chinese words for 'lick' and 'sweet' (Mand. **tiān** and **tiǎn**, respectively), are in fact members of the same word-family, with the semantic link being furnished by substances like sugar-cane.[25]

Interestingly enough, an etymon meaning 'tongue' also displays **l ⋌ d** variation in Indo-European: PIE ***dn̥ghū-** > e.g. Proto-Germanic ***tungōn**, but > Latin **lingua** (above 1.1).

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It is time to rethink the nature of apical interactions in Sino-Tibetan, both synchronically and diachronically, both language-internally and across languages/

Symbols and Abbreviations

A ⋌ B	A and B are co-allofams; A and B are members of the same word-family
GSR	Karlgren 1957
HCT	Li 1977
IE	Indo-European
MC	Middle Chinese (= Karlgren's "Ancient Chinese")
OC	Old Chinese (= Karlgren's "Archaic Chinese")
PTB	Proto-Tibeto-Burman
PST	Proto-Sino-Tibetan
ST	Sino-Tibetan
STC	Benedict 1972
TB	Tibeto-Burman
WB	Written Burmese
WT	Written Tibetan

[25]In Lahu the word **lɛ̀ʔ** 'lick' is also used to mean 'eat', especially of things which are eaten 'for fun', or to give gustatory pleasure rather than simply to satisfy hunger, like sweet and salty snacks. The word for 'salt' is **á-lɛ̀ʔ** "that which is licked", while sugar is often called **á-lɛ̀ʔ-chɔ**, lit. "sweet salt". In Lahu, as in many other TB languages, the word for 'delicious' (**mɛ̀**) also means 'sweet'. Another way to say 'sugar' is **á-lɛ̀ʔ-mɛ̀** 'delicious salt'.

References

Baxter, William H. 1992. *A Handbook of Old Chinese Phonology*. Berlin, New York: Mouton de Gruyter.

Benedict, Paul K. 1943. "Secondary infixation in Lepcha." *Studies in Linguistics* 1.19.

--------. 1972. *Sino-Tibetan: a Conspectus*. Contributing Editor, James A. Matisoff. Cambridge: Cambridge University Press. ("STC")

Bodman, Nicholas C. 1980. "Proto-Chinese and Sino-Tibetan: data towards establishing the nature of the relationship." In Frans van Coetsem and Linda Waugh, eds., *Contributions to Historical Linguistics,* pp. 34-199. Leiden: E.J. Brill.

--------. 1985. "Evidence for **-l-** and **-r-** medials in Old Chinese." In G. Thurgood, J.A. Matisoff, and D. Bradley, eds., *Linguistics of the Sino-Tibetan Area: the State of the Art,* pp. 146-167.

Gong Hwang-cherng. 2000. "The problem of Old Chinese prefixes from the perspective of comparative Sino-Tibetan studies" (in Chinese). *Language and Linguistics* (Taipei) 1.2:39-62.

Greenlee, H. and John J. Ohala. 1980. "Phonetically motivated parallels between child phonology and historical sound change." *Language Sciences* 2:283-308.

Handel, Zev J. 1998. *The medial systems of Old Chinese and Sino-Tibetan*. Ph.D. dissertation. Berkeley: University of California.

Hartmann, Helga. 2001. "Prenasalization and preglottalization in Daai Chin, with parallel examples from Mro and Mara." *Linguistics of the Tibeto-Burman Area* 24.2:123-142.

Karlgren, Bernhard. 1957. *Grammata Serica Recensa*. Stockholm: Bulletin of the Museum of Far Eastern Antiquities. ("GSR")

Li Fang-Kuei. 1977. *A Handbook of Comparative Tai*. Honolulu: University Press of Hawai'i.

Matisoff, James A. 1978. *Variational Semantics in Tibeto-Burman*. Philadelphia: Institute for the Study of Human Issues.

--------. 1985. "God and the Sino-Tibetan copula, with some good news concerning selected Tibeto-Burman rhymes." *Journal of Asian and African Studies* (Tokyo) 29:1-81.

--------. 1988. "Universal semantics and allofamic identification -- two Sino-Tibetan case-studies: STRAIGHT / FLAT / FULL and PROPERTY / LIVESTOCK / TALENT." In Akihiro Sato, ed., *Languages and History in East Asia,* pp. 3-14. Kyoto: Shokado.

--------. 1995. "Sino-Tibetan palatal suffixes revisited." In Y. Nishi, J.A. Matisoff, and Y. Nagano, eds., *New Horizons in Tibeto-Burman Morphosyntax* , pp. 35-91. Osaka: National Museum of Ethnology.

--------. 2003. *Handbook of Proto-Tibeto-Burman: system and philosophy of Sino-Tibetan reconstruction*. Berkeley, Los Angeles, London: University of California Press.

Ohala, John J. 1974. "Experimental historical phonology." In J.M. Anderson and C. Jones, eds., *Historical Linguistics II: theory and description in phonology,* pp. 353-389. Amsterdam: North Holland Publishing Co.

--------. 1983. "The origin of sound patterns in vocal tract constraints." In P.F. McNeilage, ed., *The Production of Speech,* pp. 189-216. New York, Heidelberg, Berlin: Springer-Verlag.

Pulleyblank, Edwin G. 1961-2. "The consonantal system of Old Chinese." *Asia Major* 9:58-144, 206-265.

--------. 1973. "Some new hypotheses concerning word families in Chinese." *Journal of Chinese Linguistics* 1.1:111-126.

Schuessler, Axel. 1974. "**R** and **l** in Archaic Chinese." *Journal of Chinese Linguistics* 2.2:186-199.

--------. 1987. *A Dictionary of Early Zhou Chinese*. Honolulu: University Press of Hawai'i.