

A comment on Gedney's proposal
for another series of voiced initials in Proto-Tai revisited.¹

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1. INTRODUCTION

Gedney is well-known for a number of his contributions to Tai linguistics, with one of the best-known contributions being his checklist for determining tones in Tai dialects (reprinted as Gedney 1989c:202 (but originally appearing in 1972)). The first column of the checklist contains the different groups of initial sounds in Proto-Tai. The first three rows contain various voiceless sounds; the fourth row contains voiced initial sounds. In short, the first column contains four distinct groups of proto-Tai initials.

	Proto-Tai tones				
	A	B	C	D-short	D-long
Voiceless friction sounds, *s, *hm, *ph-, etc.	1	5	9	13	17
Voiceless unaspirated stops, *p, etc.	2	6	10	14	18
Glottal, *ʔ, ʔb, etc.	3	7	11	15	19
Voiced, *b, *m, *l, *z	4	8	12	16	20
	Smooth syllables			Checked syllables	

Chart 1: Gedney's checklist

While these four patterns in the Gedney checklist account for most of the patterns found in the Tai languages, they do not account for all the patterns. In a paper first printed in 1979 (reprinted in 1989a) entitled “Evidence for another series of voiced initials in proto-Tai”, Gedney quite tentatively posited one more pattern, a second series of voiced initials for Proto-Tai (PT). Gedney's paper was written to account for roughly fifty forms with a pattern of initial and tonal correspondences that do not fit into the chart given above, that is, these forms follow a pattern different from the patterns of all the other Tai words. Although the anomalous nature of these forms must also have been apparent earlier to Li, in Li's *Handbook* (1977) the majority of these forms are simply reconstructed with voiceless aspirated stops for Southwestern (SWT) and Central Tai (CT)), with Li frequently appending a note that, in Northern Tai (NT), the forms are reconstructed, not with a voiceless onset, but with a voiced onset.

¹ This paper is a revised version of "A comment on Gedney's proposal for another series of voiced initials in proto-Tai", which appeared in 2002 in *Studies in Southeast Asian Languages*, edited by Robert Bauer. Pacific Linguistics, pages 169-183.

Table 1a

Gedney forms: The tones and the initials (the patterns)

	Proto-Tai tone	Proto-Tai Initial	Siamese (SWT)	LM (CT)	Saek (Northern Tai)	Yay (Northern Tai)	
		*ph-	ph- 5	ph- 1	ph- 2	p- 1	
	*A	*B-	ph- 5	ph- 1	ph- 4	p- 4	
		*b-	ph- 1	p- 4	ph- 4	p- 4	
		*ph-	ph- 2	ph- 2	ph- 6	p- 2	
	*B	*B-	ph- 2	ph- 2	ph- 5	p- 5	
		*b-	ph- 3	p- 5	ph- 5	p- 5	
		*ph-	ph- 3	ph- 3	ph- 3	p- 3	
	*C	*B-	ph- 3	ph- 3	ph- 6	p- 6	
		*b-	ph- 4	p- 6	ph- 6	p- 6	
		*ph-	ph- 2	ph- 3	ph- 4	p- 2	
	*DS	*B-	ph- 2	ph- 3	ph- 6	p- 1	
		*b-	ph- 4	p- 4	ph- 6	p- 1	
		*ph-	ph- 2	ph- 2	ph- 6	p- 2	
	*DL	*B-	——	——	——	——	
		*b-	ph- 3	p- 5	ph- 5	p- 5	

Table 1b

Gedney forms: The tones and the initials (examples)

	Proto-Tai tone	Proto-Tai Initial	Siamese (SWT)	LM (CT)	Saek (Northern Tai)	Yay (Northern Tai)	
		*ph-	phom ⁵	phyom ¹	phram ²	piam ²	head hair
	*A	*B-	fii ⁵	phey ¹	phay ⁴	pay ⁴	boil; ulcer
		*b-	phɛɛŋ ¹	---	phɛɛŋ ⁴	peŋ ⁴	expensive
		*ph-	phaa ²	phaa ²	phaa ⁶	pa ²	split; hew
	*B	*B-	thii ²	thay ²	thii ⁵	ti ⁵	thick; dense

		*b-	phii ³	---	phii ⁵	pi ⁶	older sibling
		*ph-	ph- 3	ph- 3	ph- 3	p- 3	
	*C	*B-	phuu ³	phow ³	phuu ⁶	pu ⁶	person; male
		*b-	sa ² phay ⁴	pay ⁶	phyɣ ⁶	pay ⁶	daughter-in-law
		*ph-	phak ²	phyak ³	phrak ⁴	piak ²	vegetable
	*DS	*B-	khop ²	khop ³	ɣap ⁶	hap ¹	bite
		*b-	khrok ⁸	lok ⁴	---	cok ¹	mortar
		*ph-	phaak ²	phyaak ²	phraak ⁶	pyaak ²	forehead
	*DL	*B-	---	---	---	---	
		*b-	phaat ³	---	---	paat ⁵	lay cloth

Table 1a illustrates the patterns that were noticed both by Li and by Gedney (The Table 1b forms are simply some examples). The first column lists the five tone classes reconstructed for Proto-Tai (PT), which are indicated by A, B, C, DS, and DL. The syllable final in tone classes A, B, and C ends either in a vowel or a sonorant, a group constituting what Tai scholars term ‘live’ syllables. The syllable finals in tone classes DS and DL end in a stop, constituting what Tai scholars term ‘dead’ syllables, with DS occurring with short vowels and DL with long vowels. The second column represents the classes of Proto-Tai initials, using the bilabials as the example: *ph- represents the voiceless aspirated stops, *B represents the pattern documented by Gedney and Li, and *b- represents the voiced stops.

The primary focus of interest in Table 1 is pattern of tonal variation for *B forms. In the Southwestern and Central Tai dialects, the tones of these forms pattern as if they had had Proto-Tai voiceless obstruent initials; in the Northern Tai dialects, these forms pattern as if they had had Proto-Tai voiced obstruent initials. Thus, in Siamese, a dialect of Southwestern Tai, and in Lungming, a dialect of Central Tai, tones of the *B forms pattern tonally with the voiceless aspirated *ph- series, while in Saek and Yay, both Northern Tai dialects, the *B forms pattern tonally with the *b- series. This tonal alternation pattern was obvious to Li. Although he reconstructed the majority of these forms with voiceless aspirated stops in his *Handbook* (1977)—the way that the forms reconstructed in Southwestern and Central Tai, but he added notes for most of these forms noting that they patterned as if they reconstructed with voiced obstruents in Northern Tai languages.

It was Gedney (1989a), however, who first fully recognized that these forms were a major problem for the reconstruction of proto-Tai. In the careful way that Gedney's work is always done, he meticulously arranged the evidence, showing that just as Li had also noticed that the tones of the Southwestern and Central Tai reflexes would require

them to descend from earlier proto-Tai voiceless obstruents, while the initial and tonal patterns of the Northern Tai reflexes would require that the forms descend from earlier voiced obstruents. Then, Gedney discussed the problem, which is what kind of initials could this pattern of tones and initials have come from? The problem is that Proto-Tai already has a well-established series of voiceless unaspirated stops, a series of voiceless aspirated stops, a series of voiced stops, and so on. That is, this series could not have come from a series of proto-Tai voiced stops—proto-Tai already has such a series, it could not have come from a series of proto-Tai voiced stops—proto-Tai already has such a series, and so on. If the assumption is made that the new series is inherited, the problem is how to account for the additional correspondence patterns. Gedney (1989a) tentatively suggests accounting for this new correspondence pattern by positing another set of Proto-Tai voiced initials. As Proto-Tai already has a rather rich array of obstruents, the phonetics of this new series are a problem, as Gedney acknowledges by using the phonetically indeterminate symbols *B, *G, *D, *Z, and so on to represent the various members.

In place of Gedney's internal account, this paper proposes that the fifty forms in question were borrowed. The internal evidence starts with the fact that the group of fifty forms are a problem for the reconstruction of proto-Tai; it is difficult to imagine what the initials were phonetically. The internal evidence goes considerably beyond this, however. First, just within the Tai dialects, there is internal evidence that these forms are borrowed. Second, when these same forms occur in subgroups beyond Tai but related to Tai, the evidence suggests that the corresponding forms are borrowed.

The external evidence is also quite strong. Roughly two-thirds of the forms have counterparts outside of Tai-Kadai and in many cases the counterpart is not just present but reconstructs in the other language family, an occurrence which suggests that the corresponding forms are either native to those language groups or at the very least have a long history within those groups. Further, the fact that the preponderance of forms occur outside of the Tai-Kadai family is itself an indication that the Tai forms are borrowed into Tai.

2. THE DATA

It is important to note that no attempt has been made to be definitive. It is likely that more Chinese counterparts could be discovered by searching with greater care, for instance, by working through Manomaivibool 1975 carefully. Certainly, the paper would have been improved in terms of clarity had the Karlgren forms been systematically replaced by the Baxter forms. Nonetheless, the evidence is overwhelming.

The data for this paper comes from a multitude of sources. For the Tai languages, the base comes from Gedney (1989a). Anyone who has read Gedney's work is familiar with the care and meticulousness that he assembles his data. That material is supplemented by other works by Gedney, specifically his dictionary of Lungming (1991a), his dictionary of Yay (1991b), and his dictionary of Saek (1993). The reconstructions of Proto-Tai follow Strecker (1983), who first suggested combining Li's (1977) initials with Sarawit's (1973) vowels and then critiqued both analyses. For the

Tai-Kadai, the reconstructions of the various subgroups are examined: for Proto-Be, the basic sources are Hansell (1988) and my own notes; for Proto-Kam-Sui (PKS), the basic source is Thurgood (1988) a work that incorporates Li (1965), supplemented by other forms that needed to be examined specifically for this paper; for the Proto-Hlai, that is, the Li languages of Hainan, the basic source is Thurgood (1991), a work that owes a great deal to Matisoff (1988); for the Chinese component of Sino-Tibetan, the main source has been Karlgren (1923) and (1957), but also examined were Baxter (1992) and Li (1976). An excellent source for correspondences between Chinese and Tai is Manomaivibool (1975), which is an early and not yet fully appreciated work. And, for the Tibeto-Burman component of Sino-Tibetan, the major source was Matisoff (2003, which incorporates Benedict 1972)), with various other sources used for subgroups: for Proto-Lolo-Burmese (PLB) Burling (1967), Matisoff (1972), Bradley (1979), and Thurgood (1977) were used, for the Tibeto-Burman called Northern Naga some excellent work by French (1983) was used. For Proto-Austronesian, Blust's files (1990, 1991, 1992, 1993, 1994, 1995) and reconstructions were used, sometimes supplemented by personal communication. For the Malayic subgroup, Adelaar (1992) was used and for Proto-Chamic (PC), Thurgood (1999) was used. For the Mon-Khmer (MK) branch of Austroasiatic several reconstructions of subgroups were used: Proto-South-Bahnaric (PSB: Blood 1967, 1968, 1974 (who reconstructs Proto-Mnong, but uses a data base broad enough to make it equivalent to PSB most of the time; Efimov 1987), Paul Sidwell (ms. 1999), Wa (Diffloth 1980), Proto-North-Bahnaric (PNB: Smith 1972), and Proto-Katuic (Paul Sidwell ms. 2004, Thomas 1967, Peiros 1996; the Sidwell ms. essentially incorporates Peiros 1996 and Thomas 1967).

Each of the sets has been assigned a number with the numbers in the text corresponding to the numbers in the tables.

3. THE INTERNAL EVIDENCE

The most obvious internal evidence that these forms are borrowings are the alternations in tones and initials to identify this particular set of forms. *Unless another series of obstruents can be reconstructed for Proto-Tai*, these forms are irregular in Proto-Tai: these forms do not fit with any of the series reconstructed thus far. That is, if they are reconstructed with voiceless initials, they are irregular in Northern Tai; if they are reconstructed with voiced initials, they are irregular in Southwestern and Central Tai. It was because of this problem, of course, that Gedney proposed reconstructing a new series of obstruents for these forms in the first place.

At this point, it is imperative to emphasize that just the fact these fifty forms manifest a certain regularity in their correspondence patterns does not insure that they are native forms. It is common for borrowings to exhibit regular correspondence patterns within the recipient language. To cite an obvious example (and ignoring other evidence that the more Latinate forms are borrowed), within Germanic the initials of the English borrowed forms *penta-*, *pater-*, *Pisces*, and *pecuniary* correspond as nicely as do the inherited *five*, *father*, *fish*, and *fee*, at least upon first inspection. Thus, the existence of regular correspondence patterns of within a subset of the vocabulary is interesting but by

itself tells little about the ultimate origins of the forms aside from indicating that, if the forms are borrowed, most of them must have been borrowed before the split of Proto-Tai into Southwestern and Central Tai, on the one hand, and Northern Tai, on the other.

Beyond the simple alternation in the tonal patterns that correlates with the split between Southwestern and Central Tai subgroup and the Northern Tai subgroup, there are numerous other pieces of evidence within Tai the forms are loans, some relatively weak, some much stronger. One weak indicator is the fact that the pattern involves only a small number of forms, some fifty or so. However, the small number by itself proves little. After all, the third tone reconstructed for Lolo-Burmese, the so-called third tone, is only manifested by some fifty or so forms and it is an internal development within Tibeto-Burman.

More telling are the indications of irregularities within the examples themselves. Given that many of the forms manifesting these patterns are also found outside Tai and, for that matter, outside of the Tai-Kadai family, irregularities in the forms within Tai are what one might associate with borrowing, particularly late borrowing. It is simply a basic part of methodology to assume that, if a form occurs in more than one language family and corresponds regularly within one family but irregularly within the other, it was borrowed into the family in which it behaves irregularly. While in many cases it remains to be proven that these forms behave regularly outside of Tai-Kadai, it is evident that a number of these forms behave irregularly within Tai-Kadai.

Both Li and Gedney raise questions about the internal correspondences of a number of the forms. In Table 2, the forms within Tai itself show various irregularities, all of them serious enough to disqualify the form as an example of the pattern. (39) The form *Goin A/B -t, in addition to minor problems, has a basic tonal discrepancy; it is tone A in Southwestern and Central Tai, but tone B in Northern Tai. (40) The form *Fia A, with the range of meanings including ‘braid; harrow; part of loom’ apparently has irregular initials, tones, and vowels in its various manifestations. The picture is complicated by both its unclear semantics and the fact that it is not widely attested. Gedney (1989a:247) suggests this etymon may actually be two etyma which have fallen together in some dialects. (41) The form *Giaw B is too weakly attested to be considered a serious example of the pattern. (42) On semantic grounds, the form *Zii A is a likely borrowing but it is so marginally attested that, in any case, it is a very weak example of the pattern. (43) The form *ZaY A -it shows irregularities in the vowel length of its Siamese form (signified by -l), in its initials (signified by -i), in its tones (signified by -t). Further, as Li (1977:151) notes, the “NT [Northern Tai] forms seem to go back to Proto-Tai *gw- and may not be directly related.” (44) The form for ‘line; row’ has an irregular tone in Saek, as Gedney notes, but is otherwise okay. (45) The form *Zuam C is not even attested in Northern Tai. It is only included by Gedney because it appears to have had an originally voiced initial in Kam-Sui. (46) In a similar way, the form *Piaa B/C -t is tonally irregular, having tone B reflexes in the Southwestern and Central Tai group but tone C reflexes in Northern Tai. (47) The form *Gooŋ A is irregular both its tones and its vowels. (48) Finally, the form *Zaaw C -i for ‘pole’ has an irregular initial; in the Southwestern and Central Tai group forms reconstruct with a *z-, but the Northern Tai

forms in part reflect Proto-Tai *j- and in part *z-. (49) The form ^x*Gwaa A -t has, as Li (1977:238) notes, “irregularity in the initial”; it also has, as indicated by my -t, irregularities in its tonal reflexes (The superscripted x indicates that, quite apart from this analysis, I had determined that the form was originally a loan into Proto-Tai). (50) The form for ‘ripe; cooked’ has irregularities in its initial correspondences. (51) Aside from the word being marginally attested, the final of the form for ‘pole; staff’ is irregular.

Table 2

Internal problems within Tai

	Proto-Tai	Siamese (SWT)	Lungming (Central Tai)	Saek (Northern Tai)	Yay (Northern Tai)	
39.	*Goin A/B -t	khɔɔn ⁵	---	---	kuan ⁵ -t	‘log’
40.	*Fia A	fia ⁵	---	via ¹ -t / ⁴ ; phia ² -t; phua ² -t	---	‘to braid; loom, part of; to harrow’
41.	*Giaw B	---	---	---	---	‘cross the arms’
42.	*Zii A	sii ⁵	---	---	si ⁴	‘fifth earthly branch’
43.	*ZaY A -it	saay ⁵	saay ¹ -l	sɣɣ ⁴ ‘time’	saay ⁶ -t ‘afternoon’	‘late; in the morning’
44.	*Deew A	thɛw ⁵	tweew ⁴	thɛw ² -t	---	‘line; row’
45.	*Zuam C	suam ³	suum ³	---	---	‘room; compartment’
46.	*Piaa B/C -t	phaa ³	---	phia ⁵	pua ⁵	‘cloth, clothing’
47.	*Gooŋ A	(khraaŋ ¹)	---	reeŋ ¹ -t	koŋ ⁴ -v	‘to moan’
48.	*Zaaw C -i	saw ³	saaw ³	yaaw ⁶ -i	θaaw ⁶ -i	‘pole’
49.	^x *Gwaa A -t	khwaa ⁵	saa ¹	khwaa ⁴	kwa ⁴	‘right (hand)’
50.	*Zuk D -i	suk ²	sok ³	suk ⁶	suk ¹	‘ripe; cooked’
51.	^x Diŋ C -v	---	---	---	---	‘pole; staff’

These purely internal considerations eliminate roughly a quarter of the proposed sets from consideration. Remembering that there were only fifty or so manifestations of the pattern, this reduction in the number of attested sets is of concern. It is also instructive that most of these irregularities were noted by Li, by Gedney, or by both.

3. THE WIDER TAI-KADAI EVIDENCE

An examination of counterparts in other subgroups of Tai-Kadai (Proto-Be, Proto-Kam-Sui, and Proto-Hlai) shows that many of the corresponding forms are, within one or more of these subgroups, demonstrably borrowed, as is evident either from tonal patterns, initial patterns, or both (see Table 3).

The evaluation of wider Tai-Kadai evidence depends heavily on the reconstructions which have already been done of the various subgroups. Although much remains to be done before the reconstructions of any of these languages can be said to be fully understood, the basic relationships are now understood. For a large number of the Gedney forms, wider Tai-Kadai shows evidence that the forms are borrowings. (5) The form ‘to rake’ has a reconstruction in Kam-Sui that makes it evident it is a loan. (14) The form for ‘rice’ has an irregular initial, final, and tone, making it a loan. (15) The form ‘sharpen; to grind’ has an irregular tone and initial in Proto-Be. (19) The form for ‘sugar’ is unreconstructable in Proto-Hlai, due to its irregularities. In Hlai, it has an irregular final and tone; in fact, the final is a final that is restricted to loans. (22) The form for ‘ten’ has an initial in Proto-Kam-Sui that is restricted to loans. (23) The form for ‘thick; dense’ has an irregular final and is not reconstructable in Kam-Sui. (26) The form for ‘carry; hold’ occurs in Kam-Sui, but the irregular vowel correspondences suggest that it was borrowed into Kam-Sui. (27) For ‘arrive, reach’, aside from the vowel of the Proto-Be form, the forms in the individual languages look fine, but any cross-language examination will run into serious problems, that is, the initials vary across languages in a way that it is unlikely to be reconstructable at a higher level. (28) The form for ‘bean’ is a borrowing in Kam-Sui. (29) The form for ‘bowl; cup’ has an irregular final in Proto-Be. (30) The second form for ‘bundle’ has an initial in Kam-Sui that appears to be restricted to borrowed words. (31) The form for ‘chopsticks’ within both Proto-Be and Proto-Hlai has as of yet no obvious internal problems, but the problem will come in attempting to fit these forms into a reconstruction of Proto-Tai-Kadai. (32) The form for ‘eggplant’ is a borrowing into Kam-Sui and Hlai. (33) The Kam-Sui reflexes of the form *Duaŋ B ‘weigh’, ^xdaŋ⁵, indicate a voiced onset while the tonal reflexes indicate a voiceless onset. Thus, the form was borrowed into Kam-Sui. (34) The form for ‘bank (paddy)’ has variant tones in Proto-Be, but otherwise has no problems. (35) For the form *Gut D -t ‘dig, hollow out’, the Proto-Kam-Sui form is a borrowing and the final of the Proto-Hlai suggests it is a borrowing. Gedney speculates that this word sometimes fall together with a distinct word meaning *khuut D ‘scrape, grate’ and that two words are involved. Gedney is clearly right, with both words showing up in Proto-Hlai and in Sino-Tibetan as distinct etymon. (36) The Kam-Sui (KS) reflexes of the form *χəy C ‘excrement’, ^xke⁴ -ti, indicate a voiced initial but the tonal reflexes indicate a voiceless initial. (37) The Kam-Sui reflexes of the form ^x*Giaay B, ^xki^{2/6} -tif, indicate a voiceless initial but the tonal reflexes indicate a voiced initial. Thus, the word is borrowed. (37) The form ‘ride on horseback’ is irregular throughout Tai-Kadai. (38) The word for ‘ear’ is unique, both in Proto-Tai and elsewhere. Thus, it has no value in establishing these patterns. In fact, its only potential value is as an example of an already established pattern. That is, if the analysis is established, the analysis might be used to explicate ‘ear’, but not the other way around. (47) The form for ‘moan’ is quite irregular in Proto-Hlai. (51) The form for ‘pole’ is very irregular in Kam-Sui. (50) The form ‘ripe; cooked, done’ has a Proto-Kam-Sui initial that is only found with loanwords.

Table 3

Tai-Kadai counterparts

	Proto-Tai	Proto-Be	Proto-Kam-Sui	Proto-Hlai	
2.	*Gum A	*xom ²	---	---	‘pit; ditch’
3.	*həŋ B	---	*hŋla:ŋ ⁵	---	‘young (chicken)’
5.	*Graay B	---	x*khra:i ⁵	---	‘to rake’
8.	x*Gun -t	---	---	*kho:n ³	‘to bundle’
12.	*Dək D t?	*hək ⁸	*dak ⁸	---	‘male (animal)’
14.	*χaw C	---	xhau ⁴ -fit	---	‘rice’
15.	*Fan A	*vən ^{1/3} -it	*gwan ²	*ka:n ²	‘to sharpen; grind’
19.	*Diaŋ A	xl/haŋ ²	*da:ŋ ²	xtha:ŋ ³ -tf	‘sugar’
20.	*χəm A -t	*kam ²	*kam ¹	*xuam ¹	‘bitter’
21.	*Fon B	*pfon ⁴ f?	---	*pu:ŋ ³	‘dust; dusty’
22.	*Zip D -i	*tvp ⁸ v?	x*zup ⁸	---	‘ten’
23.	*Dii B	---	xdai ⁴ -f	---	‘thick, dense’
24.	x*Dəm A	*həm ²	*thlam ¹	*thuam ³	‘pond, pool; dam’
25.	*χəp D	*kap ⁷	---	---	‘bite; chew’
26.	*Dii A -i	---	xday ² -v	---	‘carry; hold’
27.	*Dəŋ A	*dɛŋ ¹	*taŋ ¹	*ɖa:n ³	‘arrive, reach’
28.	x*Dia B	*həu ⁴	xdau ⁶ -f	*hnʔau ¹	‘bean’
29.	*Duay C	*dɔu ¹ -f	*du:i ⁴	---	‘bowl, cup’
30.	*Zuk D -i	---	x*dzu:k ⁸	---	‘to bundle’
31.	*Dii A	*səu ⁴	---	*thi:p ⁷	‘chopsticks’
32.	x*Gia A	*kio ⁴	xgia -fit	x*ku- -it	‘eggplant’
33.	*Duaŋ B	*səŋ ³	xdaŋ ⁵	---	‘weigh’
34.	*Faŋ B	*pwiaŋ ^{1/4}	*pwaŋ ⁵	---	‘bank (paddy)’
35.	*Gut D -t	*kuʔ ⁸	xkwət ⁷	x*hnʔut ⁷ ?	‘dig, hollow out’
36.	*χəy C	*kai ⁴	xke ⁴ -ti	*xa:i ³	‘excrement’
37.	x*Giaay B	*xəi ⁴ -ft	xki ^{2/6} -tif	---	‘ride on horseback’
38.	*firwa A	*sa ¹	*khra ¹	*lyʔai ¹	‘ear’
41.	*Giaw B	*khiew ⁴	---	---	‘cross the arms’
44.	*Deew A	---	---	*ɕʔo:i ²	‘line, row’
46.	*Piaa B/C -t	*pfa ³	---	---	‘cloth, clothing’
47.	*Gooŋ A	*tsaŋ ²	---	xkaŋ ¹ -iv	‘to moan’

48.	*Zaaw C -i	*hœu ¹	---	---	‘pole; pillar’
49.	*Gwaa A -t	---	*hwa ¹	---	‘right (hand)’
50.	*Zuk D -i	---	x*zuk ⁸	---	‘ripe; done; cooked’
51.	*Dij C -v	*həŋ ³	xgjuŋ ⁴ -iv	---	‘pole; staff’

4. COUNTERPARTS IN OTHER LANGUAGE FAMILIES

Finally, when one looks beyond Tai-Kadai, an inordinate number of the fifty or so forms are found in Chinese (and, often, in Tibeto-Burman as well), in Austronesian, or in Mon-Khmer languages. In fact, around two-thirds of the suggested forms displaying the critical correspondence patterns in Tai have counterparts in such non-Tai-Kadai languages.

The Old Chinese forms are of particular significance. The preponderance of forms from Chinese indicates that Chinese was a major donor to the Tai languages, a finding that is certainly not new. It is significant that, of the fifty forms being considered, thirty-four have Chinese counterparts. Notice that the direction of borrowing must overwhelmingly, although not necessarily exclusively, be from Chinese into Tai. The possibility, of course, exists that some forms were borrowed in the other direction, that is, from Tai into Chinese.

Table 4

Old Chinese (OC) forms

	Proto-Tai (GWT)	GSR	Karlgren OC	Baxter OC	Mandarin	
2.	*Gum A	AD 378	*kâm	---	---	‘pit; ditch’
8.	*Gun -t	231j		---	kûn	‘to bundle’
9.	*Zət D	851a; 877q	*dĭĕk; *d’iek	---	---	‘enemy; war’
10.	*Dwak D	---	-----	Li (1976) *thjuk ‘to butt’	jǐzhòng	‘hit target; correct; cheap’
11.	*Dĭi A -i	315a	*tâd	*tats	dài	‘hold; carry’
12.	*Dək D t?	961h’	*d’ək	*dlk	gōngde; tē	‘male, young (animal)’
13.	*Puu C	101a; 102a	*pĭwo, *bĭwo ‘father’	---	gōng[jǐ]	‘person; male’

14.	*Xaw C	AD 601	*Xâu' 'a kind of rice'		mǐ	'rice'
17.						'split, hew' ²
18.	*Duam B -l	614c; 643g	*g'əm 'submerge; flood'	---	zhǎngcháo	'flood; submerge; soak'
19.	*Diaŋ A	AD 973	*d'əng		táng	'sugar'
20.	*Xəm A -t	49u	*k'o	*kha?	kǔ	'bitter'
21.	*Fon B	374a	*dǐěn	*drjln	chén	'dust; dusty'
22.	*Zip D -i	686a	*d'əp	---	shǐ	'ten'
23.	*Dii B	1083l	*d'jôg	---	chóumǐ	'thick, dense'
24.	*Dəm A	AD 969	*d'âm	---	tán	'pond; pool'
25.	*Xəp D	660f	*tsəp 'bite'	---	yǎo; jiáo; dīng	'bite; chew' cf. 'hold in jaws'
28.	*Dia B	118ac	*d'u	*dos	doũ	'bean'
29.	*Duay C	116a	*tu	*to?	dǒu	'bowl, cup'
30.	*Zuk D -i	AD 900	*sǐwok	---	kǔn	'to bundle'
31.	*Dii A	45j	*d'jô	---	zhù; kuàizi	'chopsticks'
32.	*Gia A	AD 342	*g'iq	---	qiézi	'eggplant'
33.	*Duaŋ B; *jaŋ B	894g	*t'jəng	Li (1976) *thjəng; *thjənggh	---	'weight; weigh down'
34.	*Faŋ B	181k; 389j; 390a	*b'wǎn; *pǐěn; *b'jǐěn	---; *pjín; *bjín	bǎn; pǐn	'bank of paddy; shore'
35.	*Gut D -t	496p	*k'wət	*khut	jé; wā	'dig, hollow out'
36.	*Xəy C	561d	*xjər	*xJi [?]		'excrement'
37.	*Giaay B	1u	*g'ia; *g'jię		qǐ	'ride on horseback'
38.	*Hrwa A	981a	*njəg	*njl?	ěr; ěrduo	'ear'
46.	*Piaa B/C -t	102jl	*pwo	---	jǐn; bǔ	'cloth; clothing'
47.	*Gooŋ A	AD 69	*Xvng	---	shēnyǐn	'to moan'
48.	*Zaaw C -i	129h	*d'ju	---	zhùzi	'pole'
49.	*Gwaa A -t	995i	*gǐüg	---	yòu	'right (hand)'
50.	*Zuk D -i	1026a	*dǐôk	---	shú	'ripe; cooked'
51.	*Diŋ C -v	722b	*d'jəng	---	doŋg	'pole, staff'

Several of the forms in Table 4 merit further comment. (18) The form for 'flood;

² The earlier version of my paper included Proto-Tai *phaa² 'split; hew' among these forms, but that was simply my mistake. The form *phaa² 'split; hew' is quite regular. Hence, example (17) has been removed from the remainder of this paper.

submerge; soak’ is apparently a member of a word family. In any case, it looks to be borrowed. (20) The form for ‘bitter’ is intriguing because of the final -m. As Table 4 and Table 5 (Tibeto-Burman counterparts) both show, the Sino-Tibetan form for ‘bitter’ ends in a vowel, not with a final -m. Precisely where the final came from is not clear. (25) The forms for ‘bite; chew’ and various other related etyma are probably not, despite their presence in Chinese, Tibeto-Burman, and Tai, original to any of these groups, but rather, as Table 6 (Mon-Khmer counterparts) shows, are probably ultimately Mon-Khmer borrowings. This should not be too surprising as Austroasiatic speakers (Mon-Khmer) inhabited much of mainland Southeast Asia before the arrival of the Sino-Tibetan or Tai speakers. Various other forms in the table might also be originally Mon-Khmer, rather than Chinese, but in most cases it was probably from Chinese that the Tai speakers borrowed the forms. (24) The form for ‘pool; pond’ has a Chinese counterpart, but it also seems to have a Malay counterpart in *kolam*, which apparently has a Tamil origin.

Just from the forms in Table 4, it is evident that the preponderance of borrowing was from Chinese into Tai. Although some of the borrowing might have gone the other way, the bulk of the borrowings went from Chinese to Tai. The argument that a form went from Chinese to Tai is particularly strong when a form is also reconstructed for Tibeto-Burman subgroups (see Table 5). (7) The first form offered is suspect; in Tibeto-Burman it means ‘daughter-in-law’. (25) For the forms for ‘bite; gnaw’, it is possible that these are ultimately of Mon-Khmer origin. (35) For the form for ‘dig; hallow out’ there is a good Proto-Tibeto-Burman cognate, and, as Gedney suspected, a separate form for ‘scrape; grate’ with the shape *khuut⁷.

Table 5

Tibeto-Burman counterparts

	Proto-Tai	Proto-Naked-Naga	Written Tibetan	Proto-Lolo-Burmese	Proto-Tibeto-Burman	Old Chinese	
		(French)			(JAM)	(Karlgren)	
7.	*Giay A	---	---	---	*krwəy	---	‘son/daughter-in-law’
13.	*Puu C				*pu		‘male (person); (grand)father’
15.	*Fan				*kywan		‘sharpen’
20.	*χəm A -t	*C-kha	kha	*ka ²	*ka	*k’o	‘bitter’
21.	*Fon B	pan ¹ (Konyak)	---	---	---	---	‘dust, dusty’
22.	*Zip D -i	---	---	---	*gip	*d’əp	‘ten’
23.	*Dii B	---	mthug	*tu ¹	*tow; *dow	*d’jôg	‘thick’
24.	*Dəm A	---	---	*tum ²	---	*d’âm	‘pond; pool’

25.	*χəp D	*gək -f	---	*m-gwap; *C-kwap	*hap	*tsəp	‘bite; gnaw’
35.	*Gut D -t	---	rkod -pa	---	*r-ko-t	*k’wət	‘dig, hollow out’
36.	*χəy C	---	ltši	*kyiy ²	*kləy	*χiər	‘excrement’
37.	*Giaay B	---	---	*dzi ²	*dʒi; *gyi	*g’ia; *g’jiɛ	‘ride (horse)’
38.	*firwa A	*na	rna	*s-na ² -	*g-na	*ńjəg	‘ear’
51.	*Diŋ C -v	*thuŋ	---	---	*du:ŋ	*d’jəŋ	‘post; house’

A caveat is in order: only a handful of the Tibeto-Burman forms were examined here. Thus, no particular significance should be attached to gaps in the Tibeto-Burman data. If the direction of potential borrowing were more of a question, more time and energy would have gone into identifying TB counterparts. The Tibeto-Burman reconstruction for ‘ride’ *dʒi, *gyi is, as Matisoff points out, problematic; the word itself appears to be a cultural word found in a number of language families of the region. The Konyak form given (21) carries little weight as evidence; first, it is not reconstructed to the proto-language and, second, on the evidence thus far it is too restricted in distribution.

The oldest layer of borrowings should be Mon-Khmer as Austroasiatic speakers are the oldest speakers found in the region (Table 6). The form for ‘to rake’, if it is related, has undergone some changes in Tai. (19) The form for ‘sugar’ is also found in Chinese. Thus, it is not clear what the donor language for the Tai form was. What is clear is that ‘sugar’ was borrowed into Tai-Kadai. (25) Mon-Khmer is the apparent source for ‘to bite’. It reconstructs with basically the same form in four subgroups of Mon-Khmer. (28) The form for ‘bean’, which also occurs in Chinese, appears to be ultimately of Mon-Khmer origin. (31) The form for ‘chopsticks’ appears in Mon-Khmer, although it is quite possible that this reflects an ultimately Chinese origin.

Table 6

Mon-Khmer counterparts

	Proto-Tai	Proto-Northern Bahnaric	Proto-Southern Bahnaric	Wa (Diffloth)	Proto-Katuic	
		(Smith)	(Sidwell)	(Diffloth)	(Sidwell)	
5.	*Graay B	*kuč	---	---	---	‘to rake’
6.	*Diaŋ C -t	---	---	---	*dʊŋ (‘house’)	‘field hut’
19.	*Diaŋ A	---	*srəda:ŋ	---	---	‘sugar’
25.	*χəp D	*kăp ‘eat’	*kap	*kăp	*kap	‘bite’

28.	*Dia B	*tòh	*tu:h	*tuh	---	‘bean; pea’
31.	*Dii A	---	*duəʰh (Efimov)	---	---	‘chopsticks’

Several of the forms in the Gedney list have apparent Austronesian counterparts (Table 7). Bear in mind that Austronesian speakers were located south of the Yangtze roughly 8,000 years ago and that a number of the loans that they left behind have already been identified (Thurgood 1994). (6) The form for ‘house; hut; tent’ is reconstructed for PChamic (PC), but it is undoubtedly borrowed from the neighboring Mon-Khmer languages. (18) The forms for ‘soak’ are found throughout Austronesian, but are, as mentioned already, part of a word family, which I suspect to ultimately be Mon-Khmer in origin. (24) The form for ‘pond; pool’ is found in Malay, where it is a borrowing from Tamil. (25) The form for ‘bite’, despite being found in PC, is ultimately a Mon-Khmer borrowing.

Table 7

Austronesian counterparts

	Proto-Tai	PChamic	Malay	PMalayic	PMP	PAn	
4.	*Dian B	*huta:n	hutan	*hutan	*qutan	*quCaN	‘forest; jungle’
6.	*Diaŋ C -t	*sa:ŋ	---	---	---	---	‘house; hut; tent’
18.	*Duam B -l ‘to flood’	*tram	rëndam	---	---	*edem; *Redem	‘soak’
24.	*Dəm A	---	kolam	---	---	---	‘pond, pool’
25.	*χəp D	*kăp	---	---	---	---	‘bite’
27.	*Dəŋ A	---	datang	*datəŋ	*dateŋ	---	‘come; arrive’
34.	*Faŋ B	---	těbing	---	*te[m]biŋ	---	‘bank; shore’
45.	*Zuam C	*rumah	rumah	*rumah	*Rumaq	*Rumaq	‘house’
51.	*Diŋ C -v	---	tiaŋ	---	*tiaŋ	---	‘pole; post’

5. CONCLUSIONS

The obvious conclusion one reaches in evaluating the set of forms pulled together by Gedney is that, as a whole, the forms are overwhelmingly, if not exclusively, borrowed into Tai. An examination of Table 8 makes the case rather convincingly. It

summarizes the discussions of data throughout the paper, with the forms listed by the same numbers used earlier in this work. Each of the fifty forms is listed, along with two types of information: whether there is a problem with the reconstruction either within the Tai subgroup (Tai problem) or within Tai-Kadai (TK) and whether an apparent counterpart turns up outside of Tai-Kadai, that is, in Old Chinese (OC), Tibeto-Burman (TB), Mon-Khmer, or Proto-Austronesian (PAn).

The significance of the irregularities of the reconstructions within Tai-Kadai is that such irregularities are a potential indication that the forms were borrowed. It is worth pointing that the converse proves little, that is, the fact that a form behaves regularly does not make it a native form, although it may indicate that it was borrowed into the proto-language as forms borrowed into a proto-language before it breaks up into dialects behave just as regularly as do the native forms. Note that 13 forms show significant irregularities in their Tai correspondences and 12 show irregularities in their wider Tai-Kadai correspondences. The fact that a large number of the Tai forms do not show up at all in wider Tai-Kadai also raises some questions. Of the 51 forms in Gedney's list, 25 or roughly half have reconstruction problems in either Tai or in Tai-Kadai.

The second question summarized in the table is whether an apparent counterpart shows up outside of Tai-Kadai. Aside from Old Chinese (OC), with a handful of exceptions, a form was only considered a counterpart if it reconstructed in another family. Note that 34 forms occur in Old Chinese, with several more occurring in modern Mandarin, that is, roughly two-thirds of the forms show up in Old Chinese. It is unlikely that Old Chinese has borrowed two-thirds of the Tai vocabulary. Another dozen show up in Tibeto-Burman, six more in Mon-Khmer (MK), and eight more in PAn, although two of the PChamic forms are obviously borrowed from Mon-Khmer. In total, roughly 40 of the fifty forms show up in other language families.

Table 8

An overall evaluation of Gedney's forms

	Proto-Tai	Tai problem	TK	OC	TB	MK	PAn	
1.	*Føy A	---	---	---	---	---	---	'boil; ulcer'
2.	*Gum A	---	---	---	---	---	---	'pit; ditch'
3.	*f̥əŋ B	---	---	---	---	---	---	'young (chicken)'
4.	*Dian B	---	---	---	---	---	x	'forest; wild'
5.	*Grai B	---	---	---	---	x	---	'to rake'
6.	*Diaŋ C -t	---	---	---	---	x	x MK	'field hut'
7.	*Giay A	---	---	---	x	---	---	'son/daughter-in-law'
8.	*Gun -t	---	---	x	---	---	---	'to bundle'
9.	*Zək D	---	---	x	---	---	---	'enemy; war'
10.	*Dwak D	---	---	x	---	---	---	'hit target; correct'
11.	*Dii A -i	---	---	x	---	---	---	'hold; carry'
12.	*Dək D t?	---	---	x	---	---	---	'male, young (animal)'

13.	*Puu C	---	---	x	x	---	---	‘person; male’
14.	*χaw C	---	---	x	---	---	---	‘rice’
15.	*Fan A	---	---	x	x	---	---	‘sharpen; grind’
16.	*Faay B	---	---	x	---	---	---	‘side, part’
18.	*Duam B -l	---	---	x	---	---	x	‘to flood’
19.	*Diaŋ A	---	---	x	---	x	---	‘sugar’
20.	*χəm A -t	---	---	x	x	---	---	‘bitter’
21.	*Fon B	---	---	x	x	---	---	‘dust; dusty’
22.	*Zip D -i	---	---	x	x	---	---	‘ten’
23.	*Dii B	---	---	x	x	---	---	‘thick, dense’
24.	*Dəm A	---	---	x	x	---	x	‘pond; pool’
25.	*χəp D	---	---	x	x	x	x MK	‘bite’
26.	*Dii A -i	---	x	---	---	---	---	‘carry; hold’
27.	*Dəŋ A	---	x	---	---	---	x	‘arrive, reach’
28.	*Dia B	---	x	x	---	---	---	‘bean’
29.	*Duay C	---	x	x	---	---	---	‘bowl, cup’
30.	*Zuk D -i	---	x	x	---	---	---	‘to bundle’
31.	*Dii A	---	x	x	---	---	---	‘chopsticks’
32.	*Gia A	---	x	x	---	---	---	‘eggplant’
33.	*Duaŋ B	---	x	x	---	---	---	‘weight; weigh down’
34.	*Faŋ B	---	x	x	---	---	x	‘bank (paddy); shore’
35.	*Gut D -t	---	x	x	x	---	---	‘dig, hollow out’
36.	*χəy C	---	x	x	x	---	---	‘excrement’
37.	*Giaay B	---	x	x	x	---	---	‘ride on horseback’
38.	*firwa A	unique	---	---	x	---	---	‘ear’
39.	*Goin A/B -t	x	---	---	---	---	---	‘log’
40.	*Fia A	x	---	---	---	---	---	‘braid; harrow; loom’
41.	*Giaw B	x	---	---	---	---	---	‘cross the arms’
42.	*Zii A	x	---	---	---	---	---	‘fifth earthly branch’
43.	*ZaY A -it	x	---	---	---	---	---	‘late; in the morning’
44.	*Deew A	x	---	---	---	---	---	‘line, row’
45.	*Zuam C	x	---	---	---	---	x	‘room; compartment’
46.	*Piaa B/C -t	x	---	x	---	---	---	‘cloth; clothing’
47.	*Gooŋ A	x	---	x	---	---	---	‘to moan’
48.	*Zaaw C -i	x	---	x	---	---	---	‘pole’
49.	*Gwaa A -t	x	---	x	---	---	---	‘right (hand)’
50.	*Zuk D -i	x	---	x	---	---	---	‘ripe; cooked’
51.	*Diŋ C -v	x	---	x	x	x	---	‘pole; post’

Only three forms—the first three on the table—emerge untarnished. The remaining forty-seven show either internal problems within Tai-Kadai or have a counterpart in another language family. Thus, while there may be room for argumentation

about details of individual forms, the overall conclusion seems irrefutable: these forms were borrowed into Tai after the breakup of Proto-Tai. It is important to note that this conclusion is not a refutation of Gedney's paper as an extension and clarification of it. It was Gedney who assembled the forms and it was Gedney who pointed out that they posed a problem for the reconstruction of Proto-Tai. He then examined several potential internal solutions but he clearly found fault with each of them. The contribution of this paper is to account for the problem through an external solution, borrowing.

The conclusion opens up three obvious areas for future work. First, as Gedney notes in his paper (1989a:254), Li (1977:193) observed that White Tai has *kh-* “chiefly for words with tone alternations and *x-* for words with no tone alternations.” The forms with the tone alternations are borrowed, with the *kh-* reflex simply a further indication of this fact. The question is to what degree does the White Tai *kh-* versus *x-* distinction correlate with a borrowed versus native distinction. Second, to what degree will the recognition of these words as borrowings help simplify the reconstruct of Proto-Tai, particularly the vowels. Third, and far more speculatively, will Gedney's puzzle (1989b [1971]), which lays out irregularities in the vowel correspondences of Tai also turn out to be the result of borrowing. If, as I suspect, the answer is yes, then it should be possible to reconstruct a much less esoteric vowel inventory for Tai, while at the same time clarifying not only that a large number of the forms that exist in both Chinese and Tai are borrowed, not inherited, while documenting the directionality of the borrowing.

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