

CONSONANT MERGERS AND INSCRIPTION ONE

Inscription One of the Sukhothai corpus, traditionally ascribed to King Ramkhamhaeng, has provided its readers with interpretative work at least since King Mongkut brought it to general attention some 150 years ago. By now the inscription can claim a loose collection of 'disciplinary readings'. Historians, philologists, political scientists, etc., have contributed their ongoing interpretations based on particular professional interests, methods and preconceptions. In this brief note I hope to show how the perspectives of a comparative-historical linguist relating to one rather technical issue—the Sukhothai distribution of the consonant symbols *kh̄* *khai* and *kh̄* *Khuat*—may contribute something of interest to readers of the inscription in other disciplines, thereby stimulating further study and debate.¹

According to Griswold and Prasert na Nagara, "the main body of the inscription, if we agree that it ends at the close of Face III, contains only one date, 1214 saka (1292 A.D.)... It seems certain that the whole of the first three faces was engraved in that year ..."² Griswold & Prasert na Nagara also concur with Coedès' opinion as to the commemorative purpose of the inscription.³

On the other hand, certain doubts about the inscription have also been expressed.⁴ Vickery, using a range of historical, philological and linguistic arguments, has in fact concluded that Inscription One is "a deliberate historical fake".⁵

The citation of reconstructed proto-language forms by Vickery in advancing his argument represents a potential concurrence of linguistic and historical interests and methods. This is to be welcomed. However for at least one set of linguistic relationships he discusses—centering on the status of the letter *kh̄* *khūat* in Sukhothai inscriptions—straightforward inspection of the data along comparative-historical lines fails to strengthen Vickery's argument. Rather, the evidence Vickery calls attention to actually weakens his case considerably and presents an interpretive puzzle to those who would assign to Inscription One a date substantially (say, several centuries) later than the traditional one.⁶

An important earlier proposal regarding the consonants *kh̄* *khūat* and *kh̄* *khuat* was presented in this journal sixty years ago by Burnay & Coedès (1927-28). They called attention the occurrence of symbols for the two consonants in Sukhothai inscriptions and surmised, partly on the basis of such comparative evidence as was available then, that the symbols must have represented velar fricative sounds subsequently lost in varieties like Central Thai, Lao, etc. A similar line of argument is found in several subsequent reconstructions, such as those of Egerod (1961) and Brown (1965), although details differ.⁷

For purposes below we take up separately (I.) more 'philological' evidence : how

consistently an orthographic distinction between (*sūng*-class) letters *kh̄ khai* and *kh̄ khūat* has been made in earlier Thai writing ; then (II.) more 'linguistic' evidence : how relevant cognate vocabulary items appear in modern Tai varieties and what this evidence suggests in terms of reconstruction following the rather strict principles of diachronic linguistics known as the comparative method. Finally (III.) the two strands of evidence will be assessed together.

The situation with (*tam*-class) *kh̄ khwai* and *kh̄ khon* is to some extent parallel, but differs crucially in that the contrast separating this latter pair, unlike the former one, survives rather widely in modern dialects just to the north of Sukhothai (e.g. in Lanna and Shan varieties, where the contrast is preserved as (k-) versus (kh-) for items having *tam*-class tones).⁸ This survival of contrast (although probably not of the actual sounds involved in making the contrast in former times) has quite specific consequences for the present line of argument. It means that the latter pair of (*tam*-class) consonants cannot provide evidence of the sort directly relevant to establishing, in a relative way, the chronology involved in loss of a distinctive (phonemic) opposition. Data involving *kh̄ khai* and *kh̄ khūat*, on the other hand, provide just this type of evidence.

(I.) Looking first at the orthographic situation, we find the Inscription One differs from certain others in the Sukhothai corpus in an important respect : it shows complete *internal consistency* in its use of *kh̄ khai* and *kh̄ khūat* for the items in these initials occurring more than once. There are more than forty relevant repetitive occurrences on the inscription, with nearly twenty lexical items involved in the recurrences. Some of these items occur only twice each, but at least five items occur upwards of four times each. In all such cases there is complete consistency as to initial consonant : there is no spelling variation at all in making this particular orthographic distinction.⁹

Note however a degree of inconsistent spelling on Inscription One for certain *other* consonants, e.g. for /s-/ , as well as for several vowels. 'Consistency for the sake of consistency' alone does *not* thus appear to have been an 'overriding obsession' for the writer(s) of the inscription. This lends support to interpreting the *kh̄ khai/kh̄ khūat* orthographic distinction as one representing sounds actually pronounced as contrastively (i.e. phonemically) distinct by Inscription One's contemporaries ; that is, the distinction was at that time a practical, natural and functional one. The salience of the distinction for speakers at the time of the inscription is especially convincing in the case of several minimal pairs distinguished in spelling when the inscription was written (but pronounced and spelled the same way today as total homonym-homographs). These include *khap* (D1) 'drive' (spelled with *kh̄ khai*) and *khap* (D1) 'sing' (spelled on Inscription One with *kh̄ khūat* and hence, as we see below, presumably distinguished in pronunciation as (xap) or the like).¹⁰ From strictly internal considerations of orthographic practice, it is hard to see *kh̄ khūat* on Inscription One as being "used quite randomly" or as being "a meaningless allograph".¹¹

Now as Vickery has clearly shown, for *other* inscriptions of the Sukhothai

corpus, random allography is a very reasonable description for *kh̄ khūat*'s distribution.- On Inscription Two, for example, the form *khao* (C1) 'enter' appears some ten times, most frequently spelled with *kh̄ khai*, but several times spelled with *kh̄ khūat*; in one sentence the word occurs three times, once spelled with the former consonant, twice with the latter.¹² The same alternation occurs on Inscription Five, and similar alternations occur frequently elsewhere.¹³ Most other inscriptions in the Sukhothai corpus strongly favour *kh̄ khai*, with *kh̄ khūat* appearing only rarely and sporadically, if at all. Vickery calls attention to an inscription as early as the 1330's that does not contain *kh̄ khūat* at all.¹⁴ For these inscriptions we can safely follow him in concluding that *kh̄ khūat*, if it occurs at all, indeed has a "meaningless allograph" status.

Inscription Three, which mentions the date 1357 A.D., is more consistent than the others in its use of *kh̄ khūat/kh̄ khai*, and respective items generally agree with spellings in Inscription One when comparison is possible. (Several items on each inscription do not occur on the other.) There are a few discrepancies: e.g., the initial of *khao* (C1) 'enter' varies between these inscriptions.

From strictly internal considerations, the most straightforward interpretation of the above orthographic data is surely that the spelling of Inscription One reflects a contrastive (phonemic) distinction between sounds represented on it as *kh̄ khai* and *kh̄ khūat*. Inscription Three and perhaps several other briefer texts of the same general mid-fourteenth-century period show essentially the same contrast, with some item-by-item replacements.

Other inscriptions represent subsequent stages when (or perhaps specific writers for whom) the contrast is being lost-i.e., where the two sounds are in process of merger. This is attested to by spelling confusion—ultimately with *kh̄ khūat* demoted to being an unusual stylistic variant or a "random allograph"—this occurring as what used to be two sounds complete their merger into one. This line of analysis—to view increasingly confused spelling as a plausible index of progressive loss of distinctive (phonemic) contrast—is a standard working assumption commonly made in philological studies; similar cases are found very widely elsewhere.¹⁵

(It is worth speculating that one reason for this sound change may have been greatly increased numbers of Mon-Khmer speakers coming to speak Tai varieties in the fourteenth century. They did not distinguish (x-) or similar sound units in their native languages.¹⁶ Many speakers may well have simplified the Tai they spoke. The situation is rendered more complex by the strong possibility of substantial dialect mixing of Tai varieties in the Chao Phraya basin at this time.)

The later history of *kh̄ khūat* bears out the above situation, as the following diachronic spot-check indicates.¹⁷ On fifteenth-century inscriptions of the Lanna area using Sukhothai—like (*fak-kham*) script, a symbol apparently answering to *kh̄ khūat* sporadically occurs as a variant of *kh̄ khai*. Alternate "random allograph" spellings are attested, e.g. for words such as *khwan* (A1) 'sould'.¹⁸ Indigenous Lanna—script

manuscripts do not make any regular *kh̄ khai/kh̄ khūat* distinction.¹⁹ Nor is it evident in the Northeastern inscriptions of the seventeenth to nineteenth centuries.²⁰

For seventeenth-century Ayuthian sources there is certainly no phonological distinction being represented by the sporadic use of the symbol *kh̄ khūat*. For example, in the handwritten diary of Chaophraya Kosathibodi several velar items vary as to spelling, including *khu'n* (C1) 'ascend', *khun* (A1) 'lord', etc. However evident in this text is some direction toward stylistic recategorization. Certain items which had formerly been spelled with *kh̄ khūat* or at least had admitted alternation, e.g. *khao* (C1) 'enter', were now spelled consistently : only with *kh̄ khai*. Conversely items which had not been formerly spelled with *kh̄ khūat* (to judge from surviving materials) were now so spelled, e.g. *kh̄* (A1) 'ask', etc. Even Khmer-provenance items, such as *khanom* (O/A1), were affected with *kh̄ khūat* spellings.²¹ The impression here is that of orthographic fashion or fancy calligraphy.

The 1854 dictionary of Pallegoix distinguishes some twenty items with *kh̄ khūat* spellings, including the Pali loan *khatiya* 'king'.²² Comparing these items of Pallegoix with earlier spellings yields little if anything beyond chance convergence. For sixteen high-frequency relevant *kh̄ khai/kh̄ khūat* items that occur both in Chaophraya Kosathibodi's diary and in the Pallegoix dictionary, half are spelled with the same velar letters in the two sources and half are not. Direct comparison between the Pallegoix dictionary and the Sukhothai inscriptions is even less fruitful : for the six *Kho khuat* items on Inscription Three, Pallegoix so spells only two ; for the ten on Inscription One, only three. This is worse than chance.²³

It seems safe to conclude that after the point in time when this letter ceased to represent a functional (phonemic) distinction in actual speech, probably in the fourteenth century, its usage has been subject to shifting stylistic vicissitudes and to the variable practices of individual writers or scribes. Within what is now Thailand no line of post-Sukhothai scribal practice has been identified that has preserved intact the original set of Inscription One's *kh̄ khuat* spellings.

(II.) We turn now to considerations based on working assumptions of the comparative method in diachronic linguistics.²⁴ The main assumptions relevant in the present case are : (i.) distinctive (phonemic) contrasts in an older proto-language can be directly deduced by comparing cognate vocabulary in modern daughter languages ; (ii.) different correspondence sets for cognate vocabulary in daughter languages are to be taken as evidence for corresponding different *distinctive contrasts* (i.e. phonemic oppositions) in the proto-language, unless (iii.) conditioning factors—rather than original contrasts—have operated to produce what would then be 'extra' sets ; (iv.) totally unconditioned phonemic splits do not occur, whereas phonemic mergers are frequent ; (v.) phonetic values can be tentatively assigned to reconstructed phonemic contrasts in the proto-language (by convention, such reconstructed forms are shown as starred) ; these assigned values should lead both (vi.) to phonetically plausible regular

sound changes for each daughter language as it evolves and (vii.) to an over-all phonologically plausible or realistic system for the proto-language as a whole. (viii.) Exceptions to regular sound changes must be explained by dialect borrowing, analogy, or the like.

Note that the 'real world' of social relations, economic history, migration routes, etc., is placed in brackets and temporarily set aside in following this procedure. In a strict application, even philological considerations such as most of those above (I.) are not directly relevant in the first instance. Specific times and places are not part of the project at this stage, although deducing and clarifying exact *relative* chronologies of sound systems and sound changes are crucial to it. For a strict reconstructing of Proto-Tai, for example, the 'reality' that is of interest is just how speakers were subconsciously producing and categorizing speech sounds, not what they were talking about or when or where. (One could naturally speculate on these matters afterwards.) To many outsiders this will undoubtedly seem like an abstruse—if not slightly absurd-exercise. However, in line with Vickery's (1987) general approach, the value of linguistic reconstruction as a parallel sort of evidence for historians—if there is any value at all—surely must lie in its very methodological detachment. If linguists were utilizing as input someone's version of the historical 'real world' in their reconstructions, then historians would do better to inspect this input directly for themselves, not indirectly after linguistic manipulations.

An important technical detail : it is important to stress that (ii.) and (v.) are *different procedures* in most linguists' application of the comparative method. In many cases there may be strong evidence for (ii.)—as to a system of earlier distinctive phonemic contrasts—but for more speculation and guesswork in the case of (v.)—as to exactly how such contrasts are to be interpreted in terms of phonetic substance and assigned their starred reconstructions. The contrast system, based on the evidence of synchronic correspondence sets, is in a sense more basic. In some cases starred forms are best thought of as tentative labels for correspondences and reconstructed contrasts—labels often subject to revision.

Figure 1 illustrates principle (ii.) above. For the evidence presented, Thai vocabulary items presently spelled with *kh̄* *khai* fall into five different correspondence sets. Note that each set has the same pattern of initial consonants and that no two sets are alike. The inference is that for this corpus of data, at least, the five sets represent five phonemic contrasts in Proto-Tai, unless (iii.) conditioning factors can be determined, thereby reducing certain sets to variants of one another. Figure 1 only shows three items for each set, but there would of course be many more in each. In fact, all of the vocabulary in Thai presently spelled with *kh̄* *khai* and of Proto-Tai provenance—well over a hundred items—would be assigned to one of the five sets.

If comparisons are carried back beyond the stage of Proto-Tai 'proper'—in the sense of the proximate parent for varieties shown in Figure 1—and more distant 'cousin'

languages such as Dong (Kam), Shui, Gelao, etc., are considered, then a system of contrasts is indicated including at least (and probably more than) the five shown. In the southern Guizhou language Dong, for example, Set 1 items often have cognates in (p-), Sets 2 and 3, in vowel-conditioned fricatives ; Set 4, in glottal stop, etc., suggesting that in earlier ancestral speech there was a rather complex system of initial consonants and probably clusters.²⁵

At this point there is some room for different interpretative decisions in applying the comparative method. In Sets 3 and 4 there is a tonal alternation. For Central Thai, White Tai and Nung (representing Li's Southwestern and Central subgroups) *sung*-class tones A1, B1, C1, and D1 regularly occur, whereas in Saek and Northern Zhuang (in Li's Northern subgroup) corresponding *tam*-class tones A2, B2, etc., are found instead. What would seem to be the most straightforward analysis was presented by Gedney (1979). He proposed in effect that Sets 1-4 represented four distinct Proto-Tai phonemes, with the tonal alternation following from the phonetic qualities of whatever sounds had given rise to Sets 3 and 4, probably involving original voicing. The specific starred symbols used to represent the contrasts are shown in Figure 2. (This treatment for velars was part of a more encompassing proposal of Gedney applying to similar phenomena in other consonant groups ; thus it would be part of a larger pattern.)

Li (1977), on the other hand, chose to regard Sets 3 and 4 as variants of Sets 1 and 2, perhaps conditioned in some way by the tonal alternation. Thus he reconstructed the four sets with only two proto-phonemes, which he designated as *kh (for Sets 1 and 3) and *x (for Sets 2 and 4), matching closely reflexes in certain northern-branch languages. As to the mechanism for this tone alternation, Li (1978) proposed that Proto-Tai had various lexical doublets, probably some of a voiced/voiceless sort, constituting semantically-based word families. Such a derivational relationship was discussed for *khut* D1/D2 'dig', whose correspondence relations indicate Set 4, but with irregularities.

Li's and Gedney's approaches are not incompatible ; that is, in some cases there may well have been meaning-related tonal alternation in Proto-Tai involving various combinations of the four initial contrasts posited by Gedney.²⁶ What is more difficult to see is how-following standard assumptions of the comparative method-forms like 'enter' and 'rice', reconstructed by Li with exactly the same vowel-consonant structure (as segmental homonyms) in Proto-Tai, and with no apparent semantic derivational connection, could have developed the different (but regular) initial correspondences they now show in three of the five languages represented in Figure 1 (compare items 2.1 and 4.1).²⁷ It would seem more plausible to interpret the comparative evidence as strongly indicating that 'enter' and 'rice', and similar pairs, were differentiated by initial consonant type and were not homophonous for speakers of Proto-Tai.

Nor were they, surely, for speakers of the less remote Proto-Southwestern Tai, to adopt Li's subgrouping.²⁸ Comparative evidence is quite firm here: for the immediate ancestral speech of the subgroup including Central Thai and White Tai, words in Sets 1 and 2 merged and so did those in Sets 3 and 4. However the resulting Sets (1 + 2) and (3 + 4) clearly had *not* merged at the Proto-Southwestern Tai stage.²⁹ If they had done so, then following principle (iv.) above, we would have no way to account for why White Tai and some other similar varieties had subsequently developed a regular and pervasive (kh-)/(x-) distinction as shown as shown, e.g., in the data in Figure 1.³⁰

Finally, for Set 5, there are perhaps actually two Proto-Tai initials involved, as Li has presented evidence for reconstructing *khl for some items (5.1, 5.2) and *khr for others (5.3). Evidence is mainly from a few varieties in the Northern subgroup. Whatever the case may be for Proto-Tai as a whole, at the level of Proto-Southwestern Thai relevant to the present discussion we appear to be dealing with a single set. (Perhaps this could even be relabeled as *ksr, but this is unimportant.) At that time these Set 5 items were clearly distinct from Sets (1 + 2) and (3 + 4). White Tai again provides evidence for this, with Set 5 items regularly in (C-), (i.e., *ts*-in the Donaldson orthography). For Black Tai and similar varieties cognates are regularly in (s-). Note Phetburi Lao Song items such as the following, which have regular Central-Thai cognates in *kh*-: *sq* (A1) 'beg'; *ma-sāng* (B1) 'top'; *sāng* C1 'side'; *saq* (A1) 'dove'; *sai* (B1) 'egg'; *sai* (C1) 'fever'; *saq* (variable) 'they'.³¹

Main features of the above discussion are summarized in the left part of Figure 2. A separate level of development for Proto-Southwestern Tai is not explicitly indicated on Figure 2, but if the argument above is accepted, then in form, if not in substance, it would coincide with the distinctions shown for White Tai *for this particular case*.³² Once again, it is important to stress that determining a system of contrastive distinctions for earlier stages of Thai, as based on the evidence of regular correspondence patterns (Sets 1-5), is more 'basic' than proposing how the distinctions are to be labelled through articulation starred reconstructions.

(III.) In Figure 2, relationships between the more philological (I.) and the more linguistic (II.) evidence discussed above are shown. It needs to be emphasized that Figure 2 shows *patterns* in contrastive (phonemic) merger, not necessarily direct historical linkages. Thus the right side of the chart should *not* be read as a claim that the language of Inscription One is a direct successor of White Tai, or even that it is a direct precursor of modern Central Thai. All three of these languages have presumably derived from Proto-Southwestern Tai, (and in turn from Proto-Tai, and more ultimately perhaps from 'Proto-Zhuang-Dong' or the equivalent) but the exact details of this derivational path need not concern us here.

Modern White Tai orthography is shown too, but again there is certainly no claim being made here about how particular writing systems or specific letter shapes

have developed. The purpose here is simply to emphasize that making the velar distinction is still very salient for White Tai speakers and is a practical necessity when they write. The history of Tai writing systems in general terms—as interesting as that issue is—falls entirely outside the scope of the present note.³³

The crucial point here is that the consistent *system of contrasts* in White Tai involving items presently pronounced (and spelled) in that language as (kh-) on the one hand and as (x-) on the other, incorporates *exactly the same system of contrasts* that one finds on Inscription One relating to *kho khai* on the one hand and to *kho khuat* on the other.

For Sets (1 + 2), White Tai items have the initial sound (x-) and are spelled in White Tai orthography with the letter indicated on Figure 2 ; Inscription One shows spelling in *kho khuat*. Cognates in modern Thai are of course now regularly written with *kho khai*. They include : *khai* (A1) 'sell' ; *khao* (A1) 'horn ; mountain' ; *khao* (C1) 'enter' ; *khap* (D1) 'sing' ; *khu'n* (C1) 'raise' ; *kho* (A1) 'hook, goad' ; *khun* (A1) 'lord' ; *khwa* (A1) 'right' ;³⁴ *khwaen* (A1) 'hang'. Also in this set : *kha* (C1) 'kill', respelled in Modern Thai as (B2).

For Sets (3 + 4), White Tai items have the initial sound (kh-) and associated spelling ; Inscription One and modern Thai show spelling with *kho khai* : *khi* (B1) 'ride' ; *khut* (D1) 'dig' ; *khao* (C1) 'rice', respelled recently with a long vowel.

For Set 5, White Tai (C-) (i.e., *ts*-in the transcription of Donaldson and Dieu, 1970) ; Inscription One and modern Thai, *kho khai* : *khap* (D1) 'drive, push' ; *kha* (C1) 'upland group ; slave'.³⁵

There are sixteen items on Inscription One in *kho khai* and *kho khuat* which have firm cognates in White Tai. Fifteen appear above ; for these items the orthographic representation of initial consonant in Inscription One is entirely predictable from modern White Tai pronunciation and spelling.

Note that the White Tai contrast system for these items is actually *more* refined than is the system represented in the orthography of Inscription One. That is, the dialect which contemporaries of the inscription spoke must have previously undergone a merger of two formerly contrasting sounds in Proto-Southwestern Tai—viz., those accounting for Sets (3 + 4) and for Set 5,—say perhaps *kh and *khr. Relevant items are thus uniformly spelled in *kho khai* on the inscription, but are still differentiated in modern White Tai with initials (kh-)/(C-). (Of course *x, accounting for Sets (1 + 2), was maintained distinct both in White Tai and in the language of Inscription One, as shown above.) This is only a tangential issue in terms of assessing the status of the *kh̄ khai/kh̄ khuat* distinction on Inscription One. (It does rule out the—surely preposterous—possibility of a direct link between the writer(s) of the inscription and a native speaker of White Tai *per se*.) For the fifteen items above, the spelling of the inscription indicates a two-way contrast system that is an intermediate stage : after the three-way contrast system of Proto-Southwestern Tai (formally

preserved in White Tai) but before the one-way simplified system documented by mid-fourteenth-century spelling variation.

For the remaining item, however-*kham* (A1) 'tamarind' (the modern form being *makhām* : *māk* 'fruit' + *khām*)—there is a mismatch which calls for a brief excursus. The form on Inscription One, where it occurs twice, is in *kho khuat*, whereas the White Tai initial is (kh-). This is probably to be explained by dialect borrowing. Tamarind trees (*Tamarindus indica*) are native to Africa, where their genetic differentiation is maximal.³⁶ They are naturally a lowland tree of the dry savannas and are not native to tropical upland rainforest ecologies.³⁷ The tamarind was brought to India (hence the botanical name) and then further east probably by Arab traders, for whom, as Marco Polo observed in 1298 A.D., it was an important commercial item.³⁸ This being the case, it is not impossible that Sukhothai tamarind trees, such as those mentioned on Inscription One, had been planted partly for trade. Tamarind may have found its way into the White Tai area also through trade, perhaps quite recently, or at least after the *kho khuat* distinction had been lost in Tai varieties to the west. Hence the borrowing in (kh-). In any case, it is improbable that these trees originally grew in the area where Proto-Southwestern Tai was spoken, and we can safely disregard this exceptional item.³⁹

It remains to wonder how the main text (approximately faces I-III) of Inscription One—in particular, passages with many indicative *khō khūat* items—could possibly have been written much after the mid-fourteenth century; the traditional earlier date would seem even more reasonable.⁴⁰ In view of patterns in spelling variation mentioned above (I.), from the mid-fourteenth century onwards there is good evidence for an earlier contrastive sound distinction being lost. The status of that distinction as contrastive for earlier speakers of Tai languages has been outlined (II.) following proposals of Gedney (1979) and somewhat revising those of Li (1977).

Logically, the best way to establish a *late* date for Inscription One would be to argue for the possibility of a dialect as evidenced by a text or documented writing practice *at that late date* that still preserved the orthographic distinction consistent with the comparative evidence; but Vickery's line of research has quite conclusively demonstrated just the opposite of this possibility.

How then would a later writer of Inscription One (the putative faker), for whom the distinction was not a natural feature of speech, be able to get the spelling etymologically correct, in terms of the correspondence sets discussed above? Not all the relevant vocabulary items with *khō khūat* spellings are available for copy from other inscriptions of the Sukhothai corpus. Thus items like *khwāen* (A1) 'hang'; *khō* (A1) 'hook, goad'; *khap* (D1) 'sing', etc., do not occur on Sukhothai inscriptions other than One—at least not on those indexed by Ishii, Akagi & Endo (1977). Of course there were undoubtedly other Sukhothai texts available earlier, but given the haphazard distribution of *kho khuat* spellings that Vickery (1987) has effectively established for

the surviving Sukhothai corpus taken as a whole, anyone trying to extract etymologically conservative spellings from Inscriptions Two, Three, etc., in order to construct all those of One, would in effect be up against overwhelming odds.

Chance correspondence between all fifteen relevant *kho khai/kho khuat* spellings on Inscription One and the comparative Tai evidence presented above can be safely ruled out. The probability of total match is less than one chance in 16,000.

But even apart from these odds, how could a later writer, living after the *kho khai/kho khuat* phonemic merger, have possibly been obsessed with the technical “trivia” of etymological distinctions to the same extent that a modern comparative linguist would be? Such an obsession would surely be an anomaly more difficult to explain than various well-known perplexities relating to the content of Inscription One. If indeed faces I-III of this inscription were originally composed (as distinct from rewritten or recopied⁴¹) by a significantly later faker who did not make the *kho khai/kho khuat* sound distinction in natural speech, then I hereby kiss that guru’s feet as the paramount and peerless comparative Tai linguist.

There may be other ways to explain the correlation discussed above, but they need to be proposed and debated.

In summary, what I have tried to do above is to make as explicit as is possible in this brief discussion some of the main preconceptions and methodological assumptions that I work with as a comparative-historical linguist. By doing this, I hope I make it easier for readers—either in my own discipline or in others—to challenge these assumptions, to point out my inconsistencies or logical lapses in applying them, or to declare the principles irrelevant to other sorts of reading. Also, new matters of fact may come to light—undiscovered texts, newly documented Tai dialects, etc.—that may lead to revisions in the argument above. The case is not closed. Let us hope for further debate and progress in interpreting the enigmas of Inscription One—which could hold still more that awaits our reading.

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ENDNOTES

1. I am indebted to Professors Prasert na Nagara, Wilaiwan Khanittanan and to other participants at the International Conference on Thai Studies, Canberra, July, 1987, for commenting on issues raised in this note. Dr. Michael Vickery has generously spent much time with me in discussion, clarifying his points, helping me greatly to clarify mine, and encouraging me to prepare this discussion. The second section below is little more than a restatement of proposals by Professor William J. Gedney; without his kindness in keeping me informed of his current work the following comments would not have been possible. Dr. Cam Trong provided valuable perspectives on White and Black Tai and the script samples in Figure 2. Finally, my gratitude to Professors Mary R. Haas and Robert B. Jones, who taught me the method described below. None of these scholars would agree with everything below and of course none is responsible for my vagaries or errors.
2. Griswold & Prasert (1971) p.194.
3. *ibid.*, p.91.
4. Nidhi Aeosriwongse (1983); Piriya Krairiksh (1986).
5. Vickery (1987) p.192.
6. Many other linguistic issues are touched on by Vickery (1987) and are not taken up here, although this seems to me the most clear-cut one. Each would require a lengthy response to clarify issues.
7. Thus for Brown *kho khai* is to be associated with an earlier aspirated voiceless stop (kh-), as it still is in Modern Thai, and *kho khuat* with an earlier voiceless fricative (x-); cp. German *machen* (Brown, 1965, p.146). Note that *khi* (B1) 'ride' in Brown's list should be assigned to the (kh-) initial, as should *khao* (C1) 'rice' in the list of Burnay & Coedes (1927-28), p.125; at least if these authorities are basing their classifications on data in Inscription One. Extensive criticism of Brown's work by Vickery (1987) relates to issues beyond the present scope. Haudricourt (1952) and Suriya Rattakul (1972) have suggested uvular consonants for *kho khuat* items; see also discussion by Nanthana Danwiwat (1982), p.21. As argued below, establishing whatever precise (non-contrastive) phonetic value may be involved at earlier linguistic stages is only indirectly relevant to purposes at hand.
8. For convenience, transcription is a slight adaptation of the Royal Institute system, which is adequate for the level of discussion here. A fuller treatment would need to consider phonetic detail; cf. Li (1977), whose tone representation system is also used here: tone categories B and C regularly give rise to Thai spelling in *mai ěk* and *mai thō* respectively; A and D to unmarked open (*pen*) and closed (*tai*) words; '1' and '2' to *sung* (+ *klāng*)—and *tam*-class spellings; but correspondence among Tai dialects, not modern spelling, is the final arbiter. They symbol (C-) stands for an aspirated palatal consonant in White Tai; for Saek (g-), see Wilaiwan Khanittanan (1976), p.4. (Macrons are omitted in bibliography.)
9. In discussion below, spelling values accepted for Inscription One items are those of Griswold & Prasert (1971), except in two cases: (i.) the title *khun* (A1) 'lord' at face I: 5, transcribed by them with *khq̄ khai*, is indistinct, and *khq̄ khūat* is just as plausible a reading; (ii.) *khaq* (C1) 'enter; (charged his elephant) in'-at I: 6, is clearly *khq̄ khūat*, differing from their transcription. These two emended readings are also those appearing in *Prachum Silacharu'k Phak thi I* (1978), p.17, and in other editions.
10. I: 1: 5,7; I: 2: 19. Other pairs are 'slave'/'kill' and 'enter'/'rice', with the latter item in each pair subsequently respelled. Modern Thai monosyllables now spelled in *khq̄ khai* frequently represent homonym pairs, such as the following: *khai* (A1) 'tallow'/'open'; *khon* (A1) 'fur'/'convey'; *khō* (A1) 'hook'/'beg'; *khū* (B1) 'roof beam'/'fettors'; *khā* (A1) 'leg'/'side'; *khan* (A1) 'to crow'/'bowl'; *khao* (A1) 'mountain, horn'/'dove'/'they', etc. This high proportion of homonyms alerts us to the possibility of earlier mergers in Central Thai; see below.

11. Vickery (1987) p.204.
12. II : 2 : 63-4 (reading from *Prachum Silacharu'k Phak thi 1*, 1978, p.50). It would be well to confirm this and other citations mentioned here by inspecting the original inscriptions themselves. Not all available editions of Sukhothai and other inscriptions are concerned with problems of interpreting orthographic detail.
13. V : 3 : 7 ; 25. For *khao* (A1) 'white', note alternations in XIV : 1 : 10 ; 2 : 2,3,9. See also discussion by Nanthana Danwiwat 1982 : 20.
14. Vickery, p.203. However only one item, *khun* (A1) 'lord', is relevant and published plates of the inscription are unclear as to this word. *Prachum Silacharu'k Phak thi 4* (1970) p.134.
15. Bloomfield (1933) section 17.9 ; Hall (1964) ch. 48. Of course spelling fluctuation can have many other interpretations as well (or in addition) ; see below for the possibility of stylistic respellings.
16. Evidence for this is firm. Mon-Khmer loanwords at this early time never appear with *khq khuat* ; see however below.
17. These examples are admittedly inadequate and a much wider survey is needed to establish convincingly that a consistent *khq khuat*-related distinction was not preserved in any Tai variety of the Chaophraya or western Mekhong areas after, say, the fourteenth century. (Saek, presumably a Northern-branch language, would be a special case.) Perhaps readers may know of relevant evidence?
18. Kanika Wimonkasem (1983), p.84.
19. Singkha Wannasai (1975) p.29. Note that Lanna script does distinguish *khq khon*.
20. *Charu'k Nai prathet Thai, lem 5* (1986), p.230.
21. Kosathibodi (1685) (1985) sections 32 : 10-12 ; 25 : 2 ; 27 : 5. In one or two cases spelling appears conservative, but this may be chance : *khāi* (A1) 'sell', is often spelled with *khq khuat*. Early Western visitors, such as Simon de la Loubere, transcribe both letters as kh-; see *Charu'k Nai Prathet Thai, lem 5* (1986) p.23.
22. The spelling is given as an alternate ; Pallegoix (1854), p.281. In his earlier writing, spelling sometimes differs. Similar fluctuation appears to be characteristic of earlier nineteenth century sources, e.g. available editions of the law of the Three Seals.
23. Bradley in his dictionary of 1873 did not recognize *khq khuat* at all. Its last use seems to have been in the 1920's. King Rama VI sometimes spelled words like *khao* (C1) 'enter', *kha* (C1), in the form *khaphacao* T. etc., with *khq khuat*, sometimes 'etymologically', sometimes not ; e.g. (1923), pp.9-11.
24. The essential regularity of sound change is presupposed. This is a rather 'classical' statement, following Bloomfield (1933) ch. 18. Many modern texts are in essential agreement, e.g. Bynon (1977) ch. 1 ; Akmajian, Demers & Harnish (1984), ch. 8 ; so also is much recent work in comparative Tai reconstruction, including that cited by Vickery (1987). Other formulations are possible and several important principles have been omitted. See Jones (1966, 1980) for critical comments on the comparative method as applied to the Tai languages. An important early sociolinguistic critique of aspects of the comparative method was presented by Weinreich, Labov and Herzog (1968). But the purpose here is to clarify what I see as main assumptions guiding work relevant to establishing *khq khuat*'s etymological status along 'classical' lines.
25. But correspondence is more difficult to formulate as regular than is the case among Tai languages 'proper'. Dong also shows extensive palatalization ; see Oshika (1973). The question of this larger and more remote grouping—referred to by Chinese authorities as the Zhuang-Dong language family—is not directly relevant here, other than to provide extra evidence for the discrete nature of Sets I-4.
26. Note is rural Southern Thai of the Songkhla-Phatthalung area tonally—differentiated pairs like *mīa* (A1) 'female' ; *mīa* (A2) 'wife' and *wan* (A1) 'sun' , *wan* (A2) 'day'. These probably have arisen through the reduction of *klang*-consonant compounding heads (cp. Central Thai *tua-mīa* 'female' ; *ta-wan*, *tawan* 'sun'). The heads were reduced to prefixal syllables and the tone of the following syllable was affected

(compare words like *talat* 'market' in Central Thai, where the class of the *t*-, not the *l*-, determines tone). Finally, in Southern Thai, prefixals were lost leaving only a tonal residue, along with the 'semantic residue' of whatever compounding head there had previously been. If this analysis is correct, then meaning-based tonal alternations (almost 'tonal morphophonemics') could arise quite naturally from the reduction of various compounding heads. Something similar might have been happening in Proto-Tai. But one could hardly propose that all of the alternates in one tone (or with one initial) would consistently find their way into one set of daughter languages, while those with another tone (or another initial) would consistently occur only in another set. This supports Gedney's (1979) recognition-in effect-that Sets 1-4 were discrete at the time of Proto-Tai.

27. Li (1977), pp.208 ; 290. "Splitting of homonyms" has been proscribed in the comparative method from early times : see Saussure (1915) (1959) p.155.
28. For purposes at hand 'proto-Southwestern Tai' is accepted as a stage representing the immediate speech-ancestor of White Tai, Central Thai, etc., but Jones (1980) has suggested that Li's tripartite branching of the Tai family may need some revision. For questions of subgrouping within this branch, see Hartmann (1980). A language of this type may have been spoken in the Black River—Ou River area somewhat before the eleventh century. See Chamberlain (1972).
29. Note that Li (1977,p.256) proposes that all the items in Sets 1-4 would have had the same initial-viz. *kh-in Proto-Southwestern Tai (i.e., his PSW, although the proposal is somewhat modified by discussion on pp.192-3). Presumably any previous tonal conditioning factor would have been lost by the PSW stage. A peculiarity of the inventory of initials reconstructed by Li for PSW is that the cluster *xr occurs, but not the simple initial *x (pp.255-257). However two distinct initials are reconstructed by Egerod (1961,p.76), Brown (1965), et al.; see note 7. In present terms, given their data bases, the latter reconstructions are to be compared with Li's PSW, not with his earlier Proto-Tai.
30. I am indebted to Cam Trong for pointing out that a good many Black Tai varieties spoken in the Black River area, including his own, also make this distinction. Those in Laos appear not to do so ; see Fippinger & Fippinger (1970) ; nor does closely-related Lao Song of Phetburi, etc.
31. In White Tai, Black Tai, Lao Song, etc, there have been other mergers involving this initial, e.g. PSW *kl-: (C-), under certain conditions, in White Tai. These do not directly affect the present discussion and for clarity they are not shown in Figure 2.
32. I.e., Proto-Southwestern Tai would have had to make at least as fine distinctions for items in Sets 1-4 as are present now in White Tai. This is certainly not to claim that White Tai would be like the proto-language in all respects. The preceding note suggests that proto-language clusters were simplified in White Tai, and in this respect Sukhothai orthography and modern (at least written) Thai should be seen as more conservative. It is thus an oversimplification to characterize any of these varieties as simply conservative or innovating in general terms. See also below.
33. Superficially White Tai and similar Black Tai scripts bear a distinct resemblance to Lao inscriptional forms of about 1600 A.D., described by Gagneux (1983). No material evidence presently available documents these scripts for an earlier period. (I am indebted to Cam Trong for this information.) If White Tai script was indeed modified from earlier Lao, then apparently the Lao *kh*-letter was used to represent White Tai (x-), with White Tai (kh-) then represented by the same letter with an innovative subscript. (Note that the sounds (kh-) and (x-) are in free or non-distinctive variation for many speakers in Northeastern Thailand, and this may have been the case in the region earlier as well.) In effect the White Tai orthographic situation is the reverse of Inscription One script, where *kho khuat* adds an extra feature (a slight jag) to *kho khai*, the simpler form. It must be stressed that issues of script transmission, letter shapes, etc., are only of indirect relevance to sort of argument being advanced here and are best dealt with separately.

34. Li (1977, p.238) reconstructs this item in *khwr-(?), with tonal alternation, and Gedney (1979), in *Gw. Both call attention to irregularities in correspondence. From the standpoint of Proto-Tai, Set 3 seems indicated, but for Proto-Southwestern Tai (and especially for Sukhothai and White Tai, which agree), Set (1+2). The next item 'hang' takes regular Set 2 correspondence, and the reconstruction *xw-is straightforward. On Inscription One -w-clusters are ligatures and tend to obscure the *kho khai/kho khuat* distinction.
35. Compare Lao Song examples above.
36. Sawat Rangcharoen (1982) p.158 ; Duke, Reid & Weder (1981) p.229. Jean Ngog Nje (1984) reports that this tree is an integral part of the West African ecosystem ; e.g., it is important in the natural diet of giraffes. Note that the methodological constraints keeping the 'real world' bracketed that were mentioned above are routinely relaxed in accounting for exceptions to regular sound change.
37. Allen & Allen (1981) p.461. Writing in 1877, Kurz noted that in Burma the tree was "generally cultivated all over...but nowhere wild" (p.414).
38. Cited in National Academy of Sciences (1979) p.117.
39. To pursue the Arabic possibility further, (hām-id) in that language means 'sour', but in the sense of tamarind—sour rather than the sourness of lime or lemon. The initial consonant could naturally have been heard as (x-). (T.Street has kindly provided me with this information.) If tamarind trees were indeed introduced by Arab traders, this would seem a possible etymological source for the Thai form—although one wonders why something closer to "tamarind" (which is itself Arabic in etymology) was not used. The possibility of other trees with the same name confuses the issue, as upwards of five trees other than *Tamarindus indica* have been identified in the Tai area that bear the name *makham* (A1), but followed by differentiating qualifiers. Perhaps *kham* (presumably *(xām)) was an older Tai word originally referring to one of these indigenous trees ; e.g., to *makham-pom* (A1-C1) ; *Cephalotaxus griffithii* ; and the name was reapplied when tamarinds were introduced. (Note also Nung *mak-kam* (D1/A1) 'citrus', but this probably represents a more recent Chinese loan). The issue requires further study.
40. The closing part of the inscription happens to have no *kho-khuat* vocabulary (i.e. assignable to correspondence Set (1 + 2) above) other than the title *khun*, which occurs very frequently elsewhere. So the present argument would not apply to the composition of that specific passage of text ; later composition for face iv then would be a possibility—in accord with opinions of Coedès and Griswold & Prasert.
41. It is not impossible to read the close of face III as meaning that several copies of the inscription were produced, in which case what we have now could be one of them. The issue of what our present (and perhaps rather Western) categories of 'faking', 'rewriting', 'recopying', etc., would have meant in earlier times needs to be thought about critically.

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	Modern spelling	Tone class	Central Thai	White Tai	Nung	Saek	N.Zhuang
SET 1							
1.1 'sell'	ขาย	A1	khāi	xāi	khāi	kwāi	kāi, hāi
1.2 'kill'	ฆ่า	C1	khā	xā	khā	kā	kā
1.3 'leg'	ขา	A1	khā	xā	khā	kwā	kā, hā
SET 2							
2.1 'enter'	เข้า	C1	khao	xao	khao	hao	hao
2.2 'ascend'	ขึ้น	C1	khu'n	xu'n	khu'n	hu'n	hu'n
2.3 'hook'	ขอ	A1	khō	xō	khō	hō	hō
SET 3							
3.1 'ride'	ขี่	B1/B2	khī	khui	khi	khōi	ku'i
3.2 'son-in-law'	เขย	A1/A2	khōei	khoei	khoei	khōi	ku'i
3.3 'pit, ditch'	ขุม	A1/A2	khum	khum	khum	khum	kum
SET 4							
4.1 'rice'	ข้าว	C1/C2	khao	khao	khao	gao	xao
4.2 'excrement'	ขี้	C1/C2	khī	khi	khi	gai	xai
4.3 'bite'	ขบ	D1/D2	khop	khop	khop	gap	xap
SET 5							
5.1 'drive, push'	ขับ	D1	khap	Çap	hap	-	-
5.2 'imprison'	ขัง	A1	khang	cang	hang	thrang	klang
5.3 'beg'	ขอ	A1	khō	Cq	hq	thrō	

FIGURE 1. Velar cognate sets in selected Tai languages. (Sources : Donaldson & Dieu (1970) ; Wilaiwan Khanittanan (1976) ; Li (1977) ; Gedney (1979) ; Be, Saul & Wilson (1982) ; N. Zhuang is from field notes, in essential agreement with Li's (1977) Wuming. Transcriptions have been slightly standardized.)

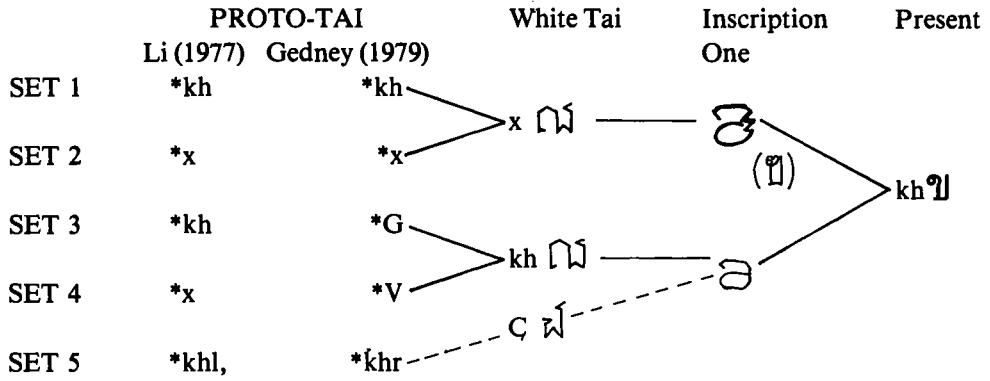


FIGURE 2. Velar merger patterns.