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THE TONAL SYSTEM OF CHIN FINAL STOPS

Lorenz Löffler
University of Zürich

Introduction: sources and problems

• Bawm-English dictionary, draft manuscript (S.L. Pardo 1968), including examples which allow reconstruction of the tones from recorded pitch levels/contours. Difficulty: in first position nearly all syllables are pronounced in the level pitch, irrespective of the tone. Tones to be reconstructed: 1) low, 2) high.

• Lai-English dictionary, draft manuscript (K. Lian Cung n.d., last revision 2001). Difficulty: the original version has no tone marks. I made a version for my personal use, integrated the above mentioned Bawm material with tone marks, and added further tones on the basis of the following sources. In both cases some adjustments were necessary, the principles of which will be mentioned below. Still, the results need to be checked.

• J.H. Lorrain's Lushai-English dictionary (1940) with tone marks added by A.S. Khawlhring (1976). A few minor errors (inconsistencies) are obvious, but not serious. Difficulty: Verbal Form II (in brackets after Form I) is shown only in case the tonal difference requires another spelling. Otherwise we have but one entry with but one tone (= Form I). Sometimes, however, Form II of the same verb appears in some compound. Though the spelling remains the same, the syllable bears another tone mark. Form II tones may appear on verbs in verbal constructions (noun + pronominal particle + verb).

Reason: Lorrain indicated the pronominal particle by inserting /"/ or /'/, but due to the purely verbal equivalents in English it has become common in the languages of the Chin group (I use "Chin" as a common term for Lushai, Lai, etc.) to treat these constructions without particle insertion as "verbs" though they are actually pronounced (and used) as nominal constructions (noun + atrribute). The possibility of using the infinitive preceded by "to" in English nominal constructions also veils the difference.

The consequences of this practice are already apparent in Lorrain's dictionary, in that under a single entry (same spelling) both transitive verbs and their past participles (both as adjectives and verbs) may be listed, plus possibly some nouns. Both past participle and noun, however, have a

different tone (Form II) which distinguishes both meanings but goes unheeded in the spelling, and thus also in the Chin peoples' conception of their grammar.

This fact may help to explain why Chin speakers tend to confound English "Form II" (ending: *-ed* or its equivalent) with Form I (the simple verb).[1] This problem is the more remarkable since the Chin languages in the past made their Form II in much the same way as English or German, viz. by adding something like a final **-t**. In Lushai and Lai this **-t** is still visible in Form II for verbs with Form I in tone 1 (flat) and open vowel. With open vowel and tone 2 it changed to **-k**; after tone 1 and final nasal or lateral it changed to tone 2, etc. (see below).

For comparative purposes I used a reorganized version of R.A. Lorrain's English-Maraa dictionary (1951) with tone marks added by a Siaha Committee (1998) and the word list given by E. Henderson for Tedim (1965).

In the following text "F1" will stand for "Form I", "t1" for "tone 1", and similarly for Form II, tones 2, 3, 4 and final glottal stop (ʔ), so that, for instance, "F2 t2" will stand for "Form II tone 2", "F2 tʔ" for "Form II with final glottal", etc. In our examples t2 will be marked /^{2}/ (in Bawm) or /$_{2}$/ (in Lushai), the final glottal will be written /h/ (the conventional spelling in Lushai and Lai), and t1 will go unmarked.

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These initial remarks already imply two hypotheses: A) Lai is a tonal language, B) all verbs have two forms: Form I and Form II.

Regarding A:

Already more than 30 years ago my Bawm-Lai informant told me that his language (unlike Lushai, Mru, Khumi and Marma) was not a tonal language. But he agreed that it had pitches, like any language. He was fortunately able to transform them into strokes, and we soon found minimal pairs where these "pitches" were decisive in distinguishing different meanings and grammatical functions.

Again, the author of the Lai dictionary, 30 years later, wrote me (I have never met him, he is living in Falam) that he knew nothing about tones. I confronted him with some minimal pairs for which I knew the tone must be different. His answer: "Yes, there are differences, but there is no use and no way to record them, since different people pronounce them differently." No

[1] This tendency may be strengthened by the fact that "Form II" in Lai (Kathol and VanBik 2000, but not in Lushai, Chhangte 1993) has to be used in ergative constructions as well. These might be rendered by an English passive construction (with English F2) but then would require (contrary to Chin) an exchange of subject and object.

doubt: differences in phonetic realization of tones do exist. Nevertheless they basically remain the same and can be identified as such. But if people from different regions come into prolonged close contact they may indeed run into difficulties with their tonal realizations. I came to know a Bawm lady who grew up in a village with a mixed Bawm and Paang (= Pângkhua) population. In Paang t2 is pronounced low (as in Lushai), while in Bawm it is pronounced high. As a result this lady pronounced all t2 syllables flat (that is like t1), but she used (Lushai) t4, which otherwise merged with t1 in Bawm.

Already 30 years ago, I opined that in order to proceed we would need a larger data basis. I helped myself to more data on Maraa, but until recently it was quite common for Lai speakers from Hakha to maintain that their language had no tones, and this conviction was even shared by such an eminent linguist on Chin as F.K. Lehman (personal communication 1998). The first Lai speaker from Hakha (D. Cung Bik Ling) whom I could contact in 1997 shared the same opinion. Still, he soon revised it, and from him I learned that whenever the Lai of Burma have to write their names in Burmese script, they use Burmese tone marks, since otherwise their names "would be pronounced wrongly". You see the paradox: when you use Latin letters, the existence of tones is denied; when you use Burmese letters, tone marks have to be added!

To be sure, not all Lai share this opinion. My best "witness" of recent times was a distinguished person from Lawngtlai (Southern Mizoram) who contacted me about a Lai dictionary, and who called – to my great surprise – the tonal system "the distinguishing feature of the Lai language". Hence a dictionary without tone marks would be no true Lai dictionary! (Hmun Hre, personal communication 1993).[2] But I did not need these witnesses, even if the Lai unfortunately have forgotten one of their national heroes: Pau Chin Hau (see Census of India 1931), who invented a new Chin script, because the Latin spelling offered by the missionaries did not represent tonal differences.

My conclusion: the educated elite, due to their contacts with people from different areas (and their single-minded belief in the Latin spelling system)[3] may indeed have lost their ability to identify and to use consciously the traditional tonal system. In reality, Lai always was and still is a tonal language, and tones are still the basic means of distinguishing, e.g., present and past participles or verbal nouns. If it were not so, there would be an abundance of homophones and new means of differentiation would have to be used. There must have been

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[2] For Zahao-Lai the existence of three tones had already been established by Osburne 1975. However, her dissertation seems to have escaped the notice of many people. I admit to having been one of those and have to excuse myself for not considering her work here.

[3] This strict adherence to the ordinary roman alphabet even leads them to a reluctance to indicate vowel length in the orthography.

a process of replacement which, however, is not discernible for Lai. (More on this topic below.)

To explain my inferences, I have to state a fundamental fact. Even though Lushai has 4, Lai, Maraa and Tedim have 3, and Bawm has but 2 tones, in the overwhelming number of cognates the tone remains basically the same. However, each of these distinctive tones may be realized quite differently in the different languages (and most probably – at least for Lai – even in different dialects) and may show different historical developments, including merger with another tone. On the basis of these differences in realization we may reconstruct some aspects of the history of the language, of the distinctive tones, and even of single syllables. We may, e.g., identify certain syllables as loans, even though the informants may consider them to be inherited vocabulary.

The following table provides a survey:

	Lushai	*Tedim*	*Lai*	*Bawm*	*Maraa*
t1	high	mid	low	low	low
t2	low	falling	rising	high	mid
t3	rising	rising	low	low	high
t4	falling	rising	high	low	high

As we can see, only Lushai has 4 tones; Tedim, Lai and Maara have 3; Bawm has merely 2. For Tedim Henderson actually recorded 5 tones, apart from those mentioned also high and low – but the latter are conditioned (see below). As can also be seen, t3 and t4 merged in all languages except Lushai and Lai – but in many cases Lai *t3 is still pronounced high like *t4; the conditions need further clarification (Olawski and VanBik 2000). Let me add that "low" does not always mean the same thing, in Lushai and Lai it may imply a slightly falling tendency. In Maraa (my own data) this tendency is so remarkable that I might better have called it "falling". I did not do so, because "falling" in Lushai means a "high-mid" contour (Chhangte 1993), quite different from the low-falling in Maraa. In Bawm there is a very conspicuous high-low falling tone, but I have not discussed it, since it is nothing but a conditioned "allotone" of t1 (Löffler 1972).

There are some deviations from the regular correspondence. In my view they are conditioned by the final, e.g. open vowels and final laterals. In this paper, however, I'll tackle the problem of syllables with a final stop (normally an occlusive) only. (These syllables are sometimes called "checked", although I prefer to call them "stopped".) The reader may expect me to provide first of all a phonological explanation for the apparent divergence in the realizations of what a comparative analysis easily shows to represent the same proto-tone. I

shall, however, refrain from doing so, since a final judgment must await analyses of the different finals. To be sure, on the basis of limited material I had already developed hypotheses (Löffler 1973), according to which the Chin languages primarily had two tones (t1 low and t3 high). These ideas may prove not to be true, but I have to mention them here, since I am still influenced by them.

Regarding B:

Let us have a closer look at the process of F1 > F2 just mentioned. To simplify the demonstration, let me for the moment exclude syllables ending in an open vowel or occlusive. (I'll come back to them immediately.) For the remaining sample, i.e., verbs ending in a nasal, lateral or glide, we may also disregard the distinction of t1 and t3, not only because it was not preserved in Bawm and Lai, but also because in Lushai too this distinction in F1 is not relevant for the formation of F2, since t1 and t3 verbs have the same tone in F2, viz. t2. If, on the other hand, F1 is in t2, F2 will become glottal-stopped, and if F1 ends in a glottal stop the final will remain unchanged, that is, there will be no separate F2. This statement needs two qualifications. 1) In Lushai (but not in Lai or Bawm) F2 nasal + glottal stop gave way to nasal + t4. 2) In Bawm, glottal-stopped verbs also take two tones: they are pronounced high after nouns and after the reflexive particle, but low after normal pronominal particles.

Basically the rules are:

Form I	Form II
tones 1 or 3	2
2	ʔ
ʔ	ʔ

With verbs ending in open vowels we have instead for Lushai:
1 or 3 → **-t**, 2 → **-k**, with the F2 tone depending on whether the vowel is short or long. If short, then always t2, and if long, then always t4.

The situation is made somewhat more complicated by the fact that Lushai replaces the glottal after nasals by t4 and lets some verbs jump from t1 directly to tʔ. The latter tendency is especially pronounced in Aizawl (Chhangte 1993)[4]. Less often it also appears in Lai. I'll return to this point later.

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[4] When Chhangte (who, misled by the surface structure, thinks that some verbs "do not have" F2 – they are just prevented from showing) maintains that no general rule can be set up, since e.g. F2 t4 can be derived from any tone in F1, she fails to realize that nearly everything hinges

In standard Lai the fundamental rules are the same, but with two qualifications: 1) t2 short stopped syllables (that is those with a final closed by an occlusive or a glottal constriction) cannot be realized with a rising (low-high) tone, and are pronounced high; 2) with long stopped syllables (those closed by an occlusive) Lushai falling t4 is replaced by a flat tone which need not be high. Thus, both short and long stopped syllables may be said to carry the wrong tone number. My preliminary solution is not to assign any tone mark to them, since until now their tonal behaviour seems predictable.

Regarding Bawm, the general rule holds good for intransitive verbs only, since with transitive verbs the distinction between F1 and F2 has been dropped and F2 is used throughout. When derived from open vowel F1, the unitary form closed by either **-t** or **-k** (former F1 t1 or t2) is always low (t1) when the vowel is long. When the vowel is short, the verb (like any short stopped verb, whether transitive or not) is pronounced low after pronominal particles, but high after nouns (and in some other positions to be mentioned below). But there are also (and they form the majority) transitive Bawm verbs with long vowel and final stop in t2 (high). Apparent reason: their final **(-k, -t,** or **-p)** is that of F1 as found in Lushai and Lai.

Examples:

Bawm **a sa** ("it is hot") **ni sat²** ("sun heat") : Lushai **sa** [sat_2];
Bawm **ka sak** ("I make" [it]) **thil sak²** ("thing made") : Lushai **sa_2** [sak_2];
Bawm **ka lâk** ("I take" [it]) **thil lâk** ("thing taken") : Lusahi **$lâ_2$** [$lâk^4$];
Bawm **ka ngâk²** ("I await" [it]) **fa ngâk²** ("child awaited") : Lushai **$nghâk^4$** [$nghah_2$].

The example in the fourth line requires a further explanation, since the rules stated so far require that Bawm use Form II throughout, while here it seems as if it used (instead of **ngah**) F1 tilted into t2. A parallel may be seen in the fact that Bawm transitive verbs with a final velar nasal show the same effect. In Lushai and Lai this final velar nasal in F1 (t1 or t3), nearly always gives way to a dental nasal in F2 (t2). In Bawm the velar nasal is kept, but the verb always shows t2. For instance: Lushai **chhâng** [$chhân_2$], Bawm **sâng²** (to reply). The initial aspirated fricative written **chh-** in Lushai, **ch-** in standard Lai, always becomes **s-** in Bawm – as already in Falam Lai, from which Bawm originally branched off (see below).

I did not find any case where the final velar nasal was not preserved in Bawm. Nevertheless, this does not deter me from maintaining that Bawm

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on the final of F1. A minimal number of exceptions are due to F1 tones which must be called "irregular" and are to be identified as loans. I'll exclude these from my analysis.

transitive verbs use old F2 throughout, since, as mentioned above, F2 owes its tone to a former suffixed **-t**, which in the different languages and for different finals left different results. To cite just one example: in the case of F1 t2, in Lai (including Bawm) the velar nasal was kept and F2 has, in conformity with the basic rules, final **-ngh**. However, in Tedim (the easternmost language related to Lai) F2 shows a final occlusive, in this case **-t**. Hence the possibility cannot be excluded that in Bawm, the westernmost Lai dialect, the suffixed **-t** did not have the power to transform the final velar nasal into a dental, but just resulted (as with final dentals and labials) in nothing but a tonal change.

This explanation, however, need not be valid for the final velar occlusive as well, i.e., final **-k**. All we can assume is that Bawm here started from a different basis, that is, in the example given above, ***hngaak** [*hngaak^2], while standard Lai has **hngaak** [hngah] – that is, despite the different spelling conventions, exactly the same forms as Lushai. On the other hand, F2 t2 **ngaak** is to be found in Tedim as well. Though the material is not copious, Tedim in cases of long stopped verbs (F1 t3) apparently has F2 t2 with preserved occlusive in all cases (that is, for any occlusive and for both transitive and intransitive verbs), while both Lushai and Lai show cognates with F2 t?. Unlike the situation with final nasals, for final occlusives Bawm in general (though not always) followed the same evolutionary path as Tedim.

In order to explain this, let us recall that in Lushai (a few exceptional cases apart) long syllables with final stop, whatever their category, always show t4, while short syllables with final stop always show t2. In Bawm, on the other hand, both long and short stopped syllables can show either t1 or t2. An innovation? One might be inclined to say "Yes", because the use of t1 and t2 is completely predictable when the vowel is short. When the vowel is long, the situation at first sight is less obvious when it comes to transitive verbs. There seem to be quite a few "irregular" transitive verbs. Most of these "irregularities", however, become fully predictable as well, provided only that the now obsolete F1 can be retrieved. In case of very common verbs with cognates in all languages this can easily be done.

Still, Lushai and Lai confront us with their own differential treatment of verbs with a final occlusive, irrespective of vowel length. In most cases F2 has the same form as F1, although in many cases F2 has a glottal stop. In the latter case the distinctive length of the vowel in F1 is lost in F2; it is written (and pronounced) short.[5] Until now, nothing has been offered to explain this

[5] Against this general convention, the author of my Lai dictionary also uses long vowels before glottal stop. This has the advantage that F1 can be identified easily and the number of glottal stopped homophones is considerably reduced, at least in writing. The reason he offers for this spelling is that he believes the shortening to be a modern development. According to him, the old people whom he knew in his youth still preserved the length. If he is right,

difference. I am inclined to assume that the Lushai and Lai attribution of only one tone each to long and short stopped syllables may be a more recent development, similar to the Lai and Bawm merger of former t3 and t1.

If we assume that in the past syllables with final occlusives (long or short medial vowel) had two tones as well, the modern apparent randomness of F2 (both in standard Lai and Lushai) will disappear and the formation of F2 may follow the same formula as set out above: 1 → 2; 2 → ʔ, for instance (a) F1 low → F2 high, F1 high → F2 tʔ (with tʔ high as well) or (b) the same with high and low reversed. Whether (a) or (b) will be correct, depends on the tonal effect of the former F2 suffix: if it was high, then (a), if it was low, then (b). The simple reason: unless the final was open, the former F2 suffix developed into a final glottal which disappeared whenever it could tilt the tone of F1. When this was impossible (since, e.g., high + high would remain high), the glottal was kept. The original sonorant finals were preserved, but occlusive finals had to be gulped by the glottal.

My thesis of a general F1/F2 system in Chin contradicts the interpretation (hopefully soon to be outdated) of the system as having a lot of "irregular" verbs which developed a Form II, while the "regular" verbs show one form only. This traditional interpretation is based on nothing but a defective spelling system which disregards the tones. Lorrain's Lushai dictionary with tone marks added could not really change the interpretation, since for most verbs Lorrain gave but one form and therefore but one tone mark could be added. And even when I found that Lushai verbs in t1 had t2 in Bawm, this fact could be explained away by assuming that Bawm had attributed t2 to all transitive verbs except those with an open vowel in Lushai F1, excluding also all short stopped verbs (whether transitive or not). A reversal of the tone in case the verb was used reflexively was another "rule" to bar the way to the much simpler solution offered above.

If we accept this analysis, we also have to accept another unexpected thesis, viz. that Bawm, despite its being a branch of Lai, preserved the now obsolete tonal difference longer than both Lushai and Lai. The fact that Bawm reduced the number of its tones to only two need not speak against this thesis, but may, on the contrary, help to explain a (temporary) consonantal preservation. Let me recall the fact that Bawm developed differently from both Lushai and Lai in another respect as well: in the preservation of the final nasal velar in F2. If Bawm had not done so when it came to use F2 only, it would have lost all its transitive verbs with final **-ng**, leading to a considerable increase in

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syllables with final glottal might have had different tones as well. In Bawm, however, such a distinction would be wrong. The tonal behavior of all glottal-stopped verbs, whatever their origin, is quite different from that of long stopped verbs, but exactly the same as that of any short stopped verb.

homophones with final **-n**. The preservation of the now obsolete tonal differentiation of verbs with final occlusives may have had the same reason: the prevention of additional homophones. I'll return to this process below.

When trying to add tone marks to standard Lai, I wondered whether the Bawm rule of a tonal tilt in reflexive forms would hold good for standard Lai as well. It does not. Afterwards I realized that there were also exceptions to this rule in my Bawm material which had escaped my notice, due to the fact that in these cases transitive and reflexive forms show a different spelling. While most glottal stopped verbs do tilt the tone when used reflexively, in these cases they "lose" the glottal and appear in t2! Another set of "irregular" verbs? On the surface yes, but underlyingly definitely not, since F2 t? can be derived from both F1 t? and F1 t2. The impression of "irregularity" is created by the fact that Bawm uses (for transitive verbs) F2 throughout – except for the reflexive form. You can predict F2 from F1, but not the other way round.[6]

Instead of being, due to the toneless spelling system, confronted with a lot of "irregular verbs" which give the Chin verbal system an "English appearance", by adding the tones and understanding their rules all becomes nicely regular, once we accept that every verb in Lushai and Lai has both F1 and F2. (Even if there were no tones, F2 would be required by the rules of grammar.) Most F2 have the same tone as F1 when F1 has a glottal stop, and since the tonal differentiation of F1 has been lost the same is true for many verbs with final occlusive, but in all other cases the tonal realization is different. Due to the spelling system F1 and F2 are often to be recognized by the tonal difference only; but in some cases (t2 verbs and those ending in an open vowel) F2 also results in additional final segmental elements, represented in the spelling system. Which element has to be added is predictable as well. To call those verbs where F2 becomes visible even in the toneless spelling system "irregular" is abstruse. The only language in our sample that apparently defies this general regularity is Maraa, for the simple reason that Maraa lost all final consonants (including the final glottal stop as an element of grammar) so that in most cases (but not all!) F1 and F2 could not avoid ending up in the same tone.

Irregularities by comparison

No "irregular" verbs anymore? There are some. I already mentioned the F1 t1 verbs with a F2 t?, which actually is "F2 of F2", that is, those which skip F2 t2. Irregularities also appear in syllables ending in an open vowel.

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[6] This could be changed by using different symbols if two homophonous F2 forms have different origins. It is extremely easy to devise such a system, but there is little hope that it will be adopted in practice. Useful as changes in an established spelling system might be, people will resent them.

According to my general rule, they should (depending on the tone in F1) show either **-t** or **-k** in F2. But some do not take the final consonant. Traditionally these cases are treated as regular, but I have to treat them as irregular. They form a small minority only, more often than not without cognates in the related languages. In my view these verbs therefore can be regarded as newcomers dating from a time when the suffix responsible for F2 had been replaced by t2 for verbs in F1 t1. Similar newcomers should be expected in verbs with final consonants as well. In these cases, however, no difference should be discernible since F2 has t2 anyhow. There are, however, (in Lai at least) some cases, though extremely rare and once more without cognates, where the final velar nasal in F1 t1 (instead of becoming a dental) seems to be kept in F2 as well, indicating that at the time of their appearance the F2 suffix **-t** had given way to a mere tonal change.

But even with verbs showing the regular F1 open vowel, F2 final **-t** or **-k** formation, "irregularities" do appear, since with these verbs vowel length in F2 is not predictable, while F1 open vowels are now long, as a rule. Some of these verbs also skip regular F2 t2 and jump on to t?. There are even two exceptions with F1 t2, but F2 with a final **-t** corresponding to F1 t1. One might assume a later change in the tone of F1, but this is implausible since in these cases F1 has t2 in all languages concerned. One may speculate about a lost final in F1 which when dropped caused the tonal change, but whatever the answer, it will not eliminate the present irregularity.

Still, these remaining irregularities reappearing in all languages confirm that tones are usually much more stable than other final elements (like consonants). This is not to deny that sometimes tonal changes in one or another verb do occur, as becomes clear when we compare their realizations in the different languages. Many of these irregular tonal correspondences are due to borrowings. Tones are realized differently in the different languages, and loanwords will have to change their primary tones whenever the intonation of the donor language is preserved. The sequence "21", for instance, is pronounced (comparatively) "low high" in Lushai. The Bawm keep this pronunciation, but it corresponds to their tonal sequence "12", that is, the loan (in this case) shows a reversal of the Lushai tones.

Let me also mention a whole group of syllables which will confront us with more problems once we have a tonalized dictionary of Lai: those with final laterals. Part of the problem is already apparent in Lushai, since here the laterals, unlike the nasals, show both t? and t4.

There remains yet another irregularity, common to Lushai, Lai and Tedim, but not shared by Maraa. There is one final with a glide, viz. /ow/, written "o" to be pronounced the English way, with F2 either "o" or "oh" or "awh."

The muddle disappears as soon as we add tones: F1 t1 as usual produces F2 t2, F1 t2 produces no less regularly F2 t?, but F1 t3 is not accompanied by the expected F2 t2, but by a final ("awh") which cannot be identified with t?, since the glide disappears, i.e. it defies the aforementioned possibility (valid for single verbs only, never for whole groups) that step 2 might be skipped. Since this phenomenon appears in Lai in the same way as in Lushai, it could have been used as a proof that Lai must have had, like Lushai and Tedim, at least 3 tones, thereby disproving the claim that Lai had no tones. Much more remarkable is the fact that, still today, F1 t3 > t1 "o" regularly produce an F2 of their own. Their former development (not shared by Maraa) remains to be explained. Bawm must have shared the development, but due to the reduction of transitive verbs to F2 only (and most of these verbs are transitive) the double form does not appear anymore. In the single case of an intransitive verb, however, F2 shows the same final as F1. We should treat this as a special development; if we treat it is as regular, the Bawm merger of t1 and t3 should have antedated the development of the special form for F2, which, however, can be excluded since this form appears with transitive verbs in Bawm as well. The only way out, i.e. to claim that Bawm for this intransitive verb did not have F1 t3 but F1 t1 from the start, brings us back to the first solution: to treat this as a special case, the more so as this word has a cognate in Lai only.

After all, it is obvious that irregularities do exist. As long as the irregular development only concerns an isolated verb, it seems rather useless to ponder over its cause on the basis of our present knowledge. I cannot proffer any handy answer to the question of how many irregularities of this type must accumulate in order to require a better solution. Moreover, tonal irregularities which are not at the same time reflected in the spelling system are specially fraught with uncertainty insofar as until now they represent nothing but the notation of a single individual who not only may make mistakes, but also may have his own idiosyncrasies. With the aforementioned series of verbs with final occlusives, we are back on a little firmer ground, since the differences in F2 (final occlusive or glottal) are reflected in the spelling system as well. Still, the question of how many examples are necessary to require a more general explanation than just assembling a group of irregular verbs must be left to personal judgment. In order to illustrate this, I'll present some statistical data.

Most transitive long stopped Bawm verbs (24 out of a sample of 29), which in Lushai and Lai have F2 t?, kept the occlusive, 5 did not but use the Lushai/Lai F2 instead. The possibility that the latter group contains nothing but loans can be excluded, since among them we find very common words like **kaap** [kah], to shoot, with cognates far beyond the range of languages mentioned here. My answer given before to the question why Bawm kept the

finals of F1, viz. in order to prevent a huge amount of homophones with final glottal, now gives rise to another question: why should this not have been valid for the small group of the five transitive verbs as well? The only answer I have to offer is that these verbs originally had different tones in F1, that is, in the case of this minority group, t2. This assumption would go well with the fact that in general (with the exception of the final dental nasal) F1 t2 appears remarkably less often than F1 t1. However, t2 is not corroborated by Tedim, which is the only language to use, according to Henderson, all three tones for long stopped syllables. Admittedly, some of her tone marks can be doubted, but her **kaap**^{3} [kaap$_2$] 'to shoot at' is exactly what we should regularly expect and what is confirmed by Maraa which, in this case, even preserved both F1 and F2. No cognates are recorded for the remaining four verbs, yet Henderson's Tedim sample is small. One of these remaining verbs, Lai **khawt** [khawh] 'to throw (a spear)' appears (with a prefix) in Maraa, and though prefixed verbs in Maraa often show a tone of their own, this verb has the tone to be regularly expected, that is t3. This verb also appears in Lushai, but most remarkably in its Lai F2 form only, that is, Lushai uses, like Bawm, **khawh** for F1 as well. The same is true for another of the "exceptions", Lai **phuut** [phuh] 'to spit; blow out of the mouth', Lushai and Bawm **phuh** only. The remaining two verbs seem to be restricted to Lai.

A reason for the reduction to F2 only may be that the meanings of these verbs became loaded with a second object. In Lai at least, doubly transitive verbs (with an "accusative" and an implied "dative" object) tend to appear with a final glottal, hence a sentence like "I throw a spear at him" can only be rendered by using **khawh**. Similarly, "to shoot" can imply two objects, one may shoot (with) a bow and (at) a victim. This is valid for Lushai too, although F1 has not been dropped. In fact, there is a considerable number of transitive verbs which can take a second object; and Bawm even goes a step further and uses F2 instead of F1 with all transitive verbs. Seen from this perspective the minority group of five verbs is completely regular; the deviant ones are those which in Bawm show the F2 tone only while preserving their F1 final, that is the majority group of long stopped verbs. To be sure, by doing so they serve a very useful general purpose (reduction of homophones), but all this cannot tell us why the minority group followed the general rule and the majority the special rule. Thus, the Bawm minority group does not support my supposition that old Lushai/Lai had two tones in long stopped syllables.

But let me recall the fact that modern Bawm does use both of its two tones for transitive long stopped verbs, the high tone for those with an occlusive final in Lushai and Lai F1, the low tone for those which in Lushai and Lai have an F1 t2 open final. This low tone stubbornly stays low, that is, it defies a general

rule followed by other t1 verbs and nouns in Bawm. This rule implies that a sequence of 3 low toned syllables develop a syntactic pitch contour: that is, low - low - low becomes low - mid - high falling; or with 4 low syllables, low - high - high - low. In the case of the verbs mentioned, it seems as if the general rule is superseded by another which demands that transitive verbs can have but one tonal realization.

But that's not quite true. There is still another small group of transitive verbs which defies even the rule that transitive long stopped verbs appear in F2 only. They do have both F1 t1 and F2 t2, as e.g. **thlaak** [thlaak^2] 'to exchange, to replace'. In order to explain this exceptional configuration, I assume that this word is a derivation of the main verb **thlaak** (Lushai **thlâ$_2$** [thlâk]) 'to let fall, to drop', so that the primary meaning of **thlaak** [thlaak^2] may be "to drop (one) for (another)". The word also appears in Lushai with the same meaning (to exchange), but in t4 only. Lai has it too, but with a different meaning, hence the word may be a Bawm loan from Lushai, now provided with a new F2 t2 according to the old rule F1 t1 ~ t3, F2 t2.

It must be objected that this rule had been abolished in Bawm for transitive verbs. How to explain its revival? Either my Bawm informant made a mistake (but in this case he would not have been able to distinguish between **thlaak** 'to drop' and **thlaak** 'to exchange', or the unitary t4 in Khawlhring's recording of long stopped syllables is not (or was not) valid for the Lushai dialect from which Bawm borrowed this word (as well as others treated similarly in Bawm). Tedim still uses two tones F1 t3, F2 t2 for long stopped verbs. Since in Bawm t3 > t1, Tedim would the ideal source for the Bawm form. Actually, Bawm and Tedim live far apart, but this need not have always been so, since the Bawm migrated westward from Falam. Unfortunately we have no data on Falam Lai. (The author of my Lai dictionary lives in Falam, but uses Hakha standard Lai). I know that there are endeavors to produce an English-Falam dictionary, but this may help to solve the question only if it records tones. In view of the present spelling convention, there is little hope that it will.

A tentative explanation

Let us now turn to the other set of the sample, the short stopped verbs. Short stopped verbs in general have t2 in Lushai, and (according to my hypothesis) F1 t2 regularly should lead to a F2 t?, that is, a glottal-stopped F2. While Lushai and Lai offer but one tone for short stopped syllables, Bawm syllables with a final stop may take both t1 and t2. Hence for modern Bawm there would be no reason to use glottalized F2 only. Therefore even short stopped transitive verbs might be rendered in their F2 t2 form, provided that their primary form had F1 t1.

However, short stopped t1 verbs cannot be expected to exist in any of the other languages, and in modern Bawm the use of two tones with short stopped verbs is completely predictable. When the syllable appears in phrase initial position it is always low, and when the syllable is a verb it must be low when directly following a low pronominal particle. In all other instances it must be high. Since a transitive verb when used reflexively appears in its original F1 form, there is a chance of finding its original final, but what about its tone? A short stopped verb is high after the singular reflexive particle. Still, this particle is high as well, and Bawm pitch contour rules demand that even a low toned short stopped syllable must stay high, since it is too short to develop a high falling pitch. However, Bawm uses, deviantly from standard Lai, a different reflexive particle in case the pronominal particle is in the plural. These two syllables stay low (counting so to say as one syllable in the vaulting process), hence the short stopped verb in this case, if it has t1, should stay low as well. It doesn't. This clearly shows that when used reflexively (and only then does the verb show its original final stop) the high pronunciation is due to its original tone 2, pronounced high in Bawm, but low in Lushai.

Examples: (´ = high pitch < t1 short, ^ = high falling pitch < t1 long):

B: **ka kaih** ("I bite" [it like a leech], "I infect"), **ka nan^2 kaih´** ("I infect you"); refl.: **kaa^2 kaih^2** ("I infect myself"), **kanna kaih^2** ("we infect us"); L **keih$_2$** [keih$_2$] (/aih/ and /eih/ are practically not to be distinguished);

B: **ka ât^2** ("I cut [it with a knife]"), **ka nan^2 ât^2** ("I cut you"); refl.: **kaa^2 ât^** ("I cut myself"), **kanna ât** ("we cut us"); L **ât^4** [ah$_2$];

B: **ka thuh** ("I hide"), **ka nan^2 thuh´** ("I hide you"); refl.: **kaa^2 thup^2** ("I hide myself"), **kanna thup^2** ("we hide us"); L **thup$_2$** [thuh$_2$].[7]

I added the long stopped verb /aat/ in order to show that whenever the verb can be used reflexively, the original F1 form can also be retrieved in Bawm.

[7] An answer to the question why the verbs when used reflexively keep F1 is given by Chhangte (1993, p. 93): reflexives function as "detransitivizers" and exclude the use of an ergative marker. However, in Lai and Bawm at least the reflexive particle can also be used in the sense of "for oneself" or in order to stress the fact that the object of the action is "one's own". The verb /aat/ primarily refers to cutting paddy, and the reflexive forms normally will not have the actor as the accusative object, but primarily mean "cut (paddy) for oneself" or "to cut one's own (paddy)." As long as a language uses both F1 and F2, this need not lead to any change from F1 to F2 (or vice versa) in case the actor does it for someone else. Since it does not in Lushai, Chhangte's characterization seems to go a step too far. In Lai, however, the addition of a beneficiary other than oneself will require the use of F2. Bawm uses F2 in any case, but returns to F1 when the beneficiary is oneself. That is, the verb remains transitive, but behaves as if it were intransitive. After all, the best approximation seems to be that reflexives "de-ergativize" and thereby also prevent F2.

Result: long stopped verbs had t1 (perhaps from t3), short stopped verbs had t2. There is nothing which would deviate from the original source (Lushai or Lai), provided only that we assume that Bawm (like Tedim) did not use the glottalized form for F2 in case the medial vowel was long. Still the last example shows that Bawm for short stopped verbs did follow the example of Lushai and Lai, that is, we should expect transitive short stopped Bawm verbs (except when used reflexively) to show a final glottal when Lushai and Lai have F1 t2, F2 t?. In fact the majority (20 out of a sample of 26) do, but a minority (the remaining 6) do not.[8]

The easiest way to explain these exceptions would be to assume that their full form was F1 t1, F2 t2. But this cannot be confirmed by Lushai and Lai. It seems as if Bawm here just kept F1. In one case (**tlak** 'to cut bamboo lashings') F2 t? (**tlah**) is to be found too, and serves (as F2 regularly can do) as the corresponding noun (bamboo lashings). In another case (**khek** 'to shell'), Tedim has the cognate, but treats it just the other way round: it uses F2 t? only. For another verb, Tedim has **khih** 'to tie, to tether', Lushai/Lai **khit** [khih], Bawm (regularly) **khih**. These cases where Tedim uses only the F2 t? form remind us of the Bawm minority group for long stopped verbs, where F2 t? is used. Thus whether the vowel is short or long, the Bawm minority groups cannot serve as evidence for a primary tonal distinction in verbs with a final occlusive. What remains is a considerable number of "irregular" verbs, though these do not appear on the surface, but only when we compare them with their cognates in Lushai and Lai.

Until now, I have treated Lushai and Lai as a unit, but even they do not treat all cognates alike. The same exception just stated for Tedim may be found in Lushai as well, e.g. Lai **thek** [theh] 'to sprinkle' Lushai **theh** only. Even more interesting is **bok** 'to lie down'. The intransitive verb in Lai is **bok** [bok], in Lushai **bawk** [bawh]. (The vowel length is the same, since Lushai uses "aw" for short /ɔ/). The transitive verb 'to lie down upon, to lean upon' in Lai is **bok** [bawh], in Lushai **bawh** only, this means that what is F2 in Lai is used as F1 in Lushai. The higher tendency of Lushai to use t? can also be seen in the Lai intransitive **thlep** [thlep] 'folded, crumpled, bent down', transitive **thlep** [thleh] 'to fold' while Lushai has F2 **thleh** also for the intransitive.

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[8] At the time when I tried to elucidate the tones of Bawm, I unfortunately had not yet realized that in Chin reflexive forms can also be used when the actor is not the accusative object, but may be the beneficiary dative object only. Hence I did not ask for the reflexive forms in these six cases, all verbs which would not lend themselves to a direct (accusative) reciprocal action. (Example: I cannot shell myself, but nevertheless I can shell something for me). Still, I surmise that even if I had elicited these forms, the tonal result would not have been different.

Instead of merely stating a great muddle, let us have a look at some Lai verbs with sonorant finals which can take any tone. The derivation of transitive verbs from intransitive verbs is to be found here as well.

Examples:

a) **thai** [thai^2] 'hang'; **thai^2** [thaih] 'hang up'
thiang [thian^2] 'be clean'; **thian^2** [thianh] 'make clean, cleanse'
lum [lum^2] 'be warm'; **lum^2** [lumh] 'make warm'

b) **dam** [dam^2] 'be healthy'; **damh** (but Tedim **dam^2** [dam^2]) 'heal'
diir [diir^2] 'stand'; **dirh** 'let stand erect'
chiing [chiin^2] 'be short'; **chinh** 'shorten'
nai [nai^2] 'be near' (Tedim **nai^3** [nai$_2$]; **naih** 'draw near to' (but Tedim **nai^2** [naih])

c) **chiim** [chiim^2] 'speak, say (a word)'; **chiim^2** [chimh] 'speak to'
fuun [fuun^2] 'wrap up' (Lushai fuun^3); **funh** 'wrap up for (smn)'
chhum^2 [chumh] 'cook (something); **chumh** 'cook for (someone)'

d) **cheet** [cheet^2] 'be deaf'; **cheet^2** [cheh] 'deafen (by noise)'
chuak^2 [chuah] 'come out'; **chuah** 'let come out, issue'
diip [diip^2] 'squeeze, press out'; **diip^2** [dih] 'throttle, strangle'
bok [bok^2] 'lie down'; **bok^2** [bawh] 'lie upon; **bawh** 'waylay'
zak^2 [zah] 'be bashful'; **zah** 'show respect for'

Examples a) use intransitive F1 t1 [F2 t2]; tr. F1 t2 [F2 t?]. The derived transitive verb sometimes uses the glottal stopped form only, as shown by examples b), but this may be a later development, as shown by the partly irregular cognates.[9] Examples c) show that the same process may also be used to indicate a second human object. This additional derivate can also be had from a1), viz. **thlaih** 'to hang something onto someone'.[10] Finally, under d) I not only added some examples with final occlusive, but also some (actually wrong) tone marks by following the same rule as in examples a-c. Even here we may find the additional derivate like **bawh** 'to waylay, to pounce upon someone'. The correspondence seems perfect – in reality, however, it is not, since for verbs with occlusive final the same tone is used throughout.

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[9] It may be noticed that the sample lacks examples with initial unaspirated occlusives and (except **nai**, for which Lushai has **hnai**) nasals. The reason: Lai (and Lushai) used a different means to make them transitive by transforming the simple initials into aspirates. (See VanBik 1999. His single example with initial **d-** must be a mistake).

[10] This verb implies both an inanimate accusative and an animate dative object (excluding oneself).

How could Lushai and Lai also use their system of tonal derivation in such a consistent way for verbs with final occlusives, if these lacked tonal differentiation? In my view the best answer is to assume that they once had different tones. When these were lost, they still left a trace in the different F2 (t? < F1 t2 and t2 < F1 t1 ~ t3). In the long run the loss of the tonal distinction in F1 must have caused some uncertainty about the correct final of F2 and thereby enabled changes. This modification process may help to explain the comparatively large number of inconsistent cognates.[11]

Moreover, my statement that the differentiation was lost is not quite true. Tedim uses it for long stopped verbs in order to distinguish F1 and F2. Still, nearly all of these F1 are in t3. The few exceptional cases in part derive from final **-r**, others lack cognates, two will be mentioned below. But there is a little bit of Bawm evidence which, however, may be a secondary development. I already mentioned the difference between t2 and t1 transitive long stopped verbs, the former from F1 with occlusive, the latter from F1 open vowel. The old F1 open vowel is preserved in Bawm only in case the verb is intransitive. Also for the F2 of these intransitive verbs the tonal rule for transitive verbs holds good: they must stay put as low also in 2nd position in a low - low - low sequence, even when nominalized. To give an example: Bawm [F2] **a ât nâk** (low-low-low; "his madness") < [F1] **a â** (low-low; "he is mad"), **mi â** ("madman"); Lushai **â**^{3} [ât^{4}]. The reason for this special behavior seems clear: these forms represent F2 t4 (Lai high), and since in Bawm t4 > t3 > t1, it makes no sense to pronounce it high once more – the high tone is reserved for t2.

On the other hand, intransitive verbs which had a final occlusive already in F1 (whether originally t1 or t3), still tilt their F2 into the high tone t2. Example: Bawm [F1] (lang-âk) **an âk** (the crows "they croak") (all low), [F2] (lang-âk) **âk**^{2} ("the croaking" of the crows); Lai **aak** [aak]; Tedim (noun only) **aak**^{2}. Lai here apparently has a (historically) wrong tone for F2, which indicates that Lai replaced t2 in long stopped verbs by t4 or t3. Lushai without low long stopped syllables apparently did the same. Still, since F2 in Lushai and Lai may show two different finals, t4 on the one hand and t? on the other, there is little reason to assume that F1 had t4 in any case. Since intransitive verbs show a very high tendency to have F1 t1 with open or sonorant finals, we may assume that "to croak" had it too, that is, that Bawm t1 here represents the original tone, while Lai (and Lushai in similar cases) replaced t1 in the course of their development by t4. But let me be clear: Bawm here cannot serve as a proof: even in Bawm

[11] The loss of the distinction between t1 and t3 for voiced finals in Bawm and Lai left no traces in F2. Hence one may maintain that Lai (except for final /ow^{3}/?) never had it. But would this be reasonable in view of the evidence furnished by Lushai, Tedim, and Maraa?

the development from long stopped t1 > t4 may have taken place, though later on this was reduced to t1 once more.

With transitive verbs, there are the few "irregular" Bawm cases which defied the rule that they should have F2 only, showing instead F1 t1, F2 t2. Maybe in these cases we can assume a primary t1 as well. Still, once more there is no way to confirm this independently. Moreover, F1 t1 is common, but not at all obligatory for intransitive verbs. A case in point is the common verb (not recorded for Lushai, but attested in Maraa) 'to ache': Bawm [F1] **a fâk** ("it aches"), [F2] **lu fâk²** ("headache"), for which we have Lai **faak** [fah]. Since Bawm (like Tedim, and contrary to Lushai and Lai) did not change the final of long stopped F1 t4 verbs to F2 tʔ, but kept F2 t2, the reconstruction may yield F1 t3. However, **faak** also has the meaning "to be loud, strong (so as to hurt?)", for which Tedim has **taak** [taak²] 'strong'. The change in the initial is regular, but the F1 t1 is not what we expected, even though the same as in Bawm – here t3 became t1 anyhow. Either the recorded Tedim t1 (when correct) is the result of the change in the initial, or we should not exclude the possibility that both meanings were merged, in Bawm regularly, in Lai irregularly.

After admitting tones for verbs with an occlusive final, now it is not Bawm and Tedim which have a special final in F2, but Lai and Lushai. According to the general rules for all sonorant finals, F1 t1 ~ t3 regularly have F2 t2. F1 t1, F2 tʔ appears only with a very small number of verbs (at best 2%). Why then should it appear in great numbers with long stopped verbs? It looks as if Lushai and Lai started from F1 t2, and under this tone I introduced them under the last set of examples above. Still, this need not be correct. But even though for example the Bawm equivalent of example #d2 is **suak** [suak²] 'to come out'; **suah** 'to issue', we need not exclude F1 t3 (as suggested by the Lai form) for Bawm, since for both Bawm F2 t2 and Lai F2 tʔ the F2 correspondence will be regular. Bawm implies the normal sequence intransitive F1 t1 (or t3) > F2 t2, transitive F1 t2 > F2 tʔ (with F1 no longer in use), Lai and Lushai imply the equally normal sequence intransitive F1 t2 > F2 tʔ, transitive tʔ (F1 = F2) only.[12] The latter, however, cannot have served as a basis for F2 t2 in Tedim and Bawm.

This leaves us with the question of what caused the apparently "irregular" development in Lushai and Lai (and most probably in Maraa as well). In order

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[12] Tedim here shows an irregular form: **suak³** [suah], to be born. Since otherwise Tedim is stubborn in not admitting tʔ for long stopped verbs (see: **aat³** [aat²] 'to cut', **aat²** [aat²] 'to cut for someone', Lai **aat** [ah]; ah), I suppose that in the restricted meaning of "to be born" (also present in Lai) this irregular verb was loaned by Tedim. There is another Tedim word with F1 = F2 t2, viz. **aap²**, to entrust. No cognates are recorded for Lushai and Lai, but Bawm has it too. Its tone (as usual F2 t2) is the same, but tells us nothing about the original tone of F1.

to solve it let me start with those long stopped verbs where Lushai and Lai F1 = F2. According to the general rule, F1 t1 > F2 t2, Lushai F1 t1 (high) + F2 glottal will yield F2 t2, which in the case of long stopped syllables will be realized as t4 (falling), Lai F1 t1 (low) + F2 glottal will yield F2 t2 (rising), but high (t4) might do so as well. Result: the final occlusive will be kept. The same is valid for Tedim and Bawm too.

For those long stopped verbs where Lushai and Lai have F2 t?, let us start with F1 t3. In Tedim t3 is rising, Tedim F2 suffix has (as in Lushai) a lowering effect, result: F2 t2 (falling). In Maraa the corresponding result was F2 t2 (mid level). In Bawm and Lai, on the other hand, the F2 suffix had a rising effect. Former t3 must have been (as shown by Tedim and Maraa) either high or rising, former t4 is still high in Lai, but both developed into t1 in Bawm. Add a rising effect: t2 will result, the final will be kept just as in Tedim, though the similarity in the development of Tedim and Bawm F2 can now be seen to be an epiphenomenon. But with Lai the development could not be the same: long stopped verbs are still high and the rising effect of the F2 suffix had to produce a final glottal. For Lushai the equivalent to Tedim t3 is t4 (falling). Add the lowering effect of the F2 suffix and nothing will happen, unless the glottal swallows up the occlusive. Result: Old Lushai and Lai F1 t4 > F2 t?.

There remains the question why at a later time t1 and t4 were merged. For Lushai the answer is quite simple: the occlusive final itself exerted a falling effect. For Lai the answer is less obvious, since the modern realization is level – but (as recorded by Olawski and VanBik 2000) not necessarily high, that is, there may be a trend, already finalized in Bawm, to bring long stopped t4 (high) down to t1 (low). We need not even exclude the possibility that in some dialects the old distinction is still kept.

For short stopped verbs we may assume a parallel development to that of long stopped verbs. Since short stopped syllables cannot take a contour tone, the situation is even easier here. Both the former high + rising effect of the F2 suffix and the former low + lowering effect of F2 will lead to F2 t?, in the other instances the F1 occlusive final will be kept, since the tone can be tilted. Since in all of these cases Lai high corresponds to Lushai (and Tedim) low[13], once more the development for the same tone will be the same for all languages, quite independently from the tonal identification currently attributed to them.

And yet there remains a problem. What prompted Lushai and Lai to unify the former high and low F1? For Lushai it is obvious that the mere final

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[13] This difference even appears when t4 open vowels are shortened. While for Lushai Khawlhring and Chhangte use the tone mark for t2, for Lai Olawski and VanBik (2000) identified them with the high level tone. This is no irregularity, it just confirms the general assumption that Lushai short low = Lai high. In Tedim and Maraa we find a similar effect: t1 long open vowels become high when shortened.

occlusive exerted a falling influence. This will explain why today all short stopped finals are low. I cannot explain why in Lai all are high, the more so as Bawm still uses both tones, but at the same time cannot yield any indication of formerly differentiated F1. The real problem is Tedim where with long stopped finals we find no lowering influence of the final occlusive (all t3 = t4 are rising), but all short stopped syllables (with a few exceptions) are low as in Lushai. This is the more remarkable since in the case of shortened open vowels Tedim seems to follow Lai.

The Tedim sample of short stopped verbs is small. In the only example of a cognate where Bawm has final **-k**, Tedim uses nothing but the final glottal. In another case where Tedim keeps the occlusive final for both F1 and F2 (unlike with long stopped verbs, the tone here remains the same), Bawm has the final glottal only.[14] To be sure, these two examples will not be sufficient to show that Bawm and Tedim underwent basically contrary developments.

In order to tackle the Tedim puzzle, I'll have to answer a question which I have evaded until now: were those short stopped syllables which developed F2 t? (and thereby the former F2 suffix) low (as suggested by Lushai) or high (as suggested by Lai and already maintained by me for long stopped syllables)? My tendency is to favor Lai, since Lushai is the only language where the lowering effect is already exerted by the mere occlusive final. Tedim, which today distinguishes itself by following the Lushai pattern more than the Lai pattern, does not show this tendency, nor did Maraa before it lost its final consonants altogether. If Tedim had followed it formerly, it could not have developed (like Bawm) its F2 t2 from F1 t1 for long stopped syllables. In syllables which always had the final glottal, Tedim (according to the notations of Henderson) still wavers between low and high.

To explain this I suggest that the Tedim changed their mind, so to speak. Today they are still regarded as the third Lai group, besides the Hakha and the Falam. Seen from the present linguistic state of affairs, this is nonsense, since Lai and Lushai are much closer to each other than either is to Tedim. But if there is some truth behind it, we can assume that final occlusives in Tedim (at least in long stopped syllables) had the same rising effect as (formerly) in Lai. But subsequently the reduced F2 final suffix (like short stopped syllables in general) definitely had a lowering effect – as in Lushai.

On mere phonetic grounds, a voiceless final should have a rising effect, a voiced final a lowering effect, that is, Lushai final occlusives should correctly have been written (as in Tibetan) as **-g**, **-d**, and **-b** (but there is no initial **g-**!), the Lai finals, as usual, as **-k**, **-t**, **-p**. Remarkably enough, even the present-

[14] Lushai **bât** [bah] 'to hook on to' (but Bawm **bât** 'to be hooked'), Lai 'to hook on to' **bat** [bah], Bawm **bah** (only), Tedim **bat** [bat] 'to wear in the ear'.

day Lai tend to interpret some of their occlusive finals (in probably recent innovations, since they lack cognates) as voiced and to write them accordingly. This means that a phonetic reinterpretation which once conquered Lushai, then invaded Tedim, has now reached Lai as well. Maraa, on the other hand, found its own way: it put all (formerly) short syllables into the mid level tone.

Summing up, I suggest that all Chin languages considered here formerly used their two basic tones low (t1) and high (t3) not only with sonorant finals, but with occlusive finals too. (Though some irregular forms in Bawm suggest a former F1 t2 for long stopped verbs as well, the other languages do not confirm this.) High and low tones are still used by Bawm and (in general for long stopped syllables only) by Tedim, but both languages indicate (like Lushai and Lai) an intermediate merger of both tones. Therefore, the former difference is reflected, in the case of long stopped verbs, by the F2 forms of Lushai and Lai only, but in the case of short stopped verbs in principle by all languages, although with considerable inconsistencies, probably due to time differences in dropping the old tonal difference, a process which (judging from the present-day number of "irregular" cases when comparing cognates) apparently started in Lushai with short stopped verbs. This last statement is based on a superficial impression and may need revision after a closer analysis.

The special case of Bawm

Still to be answered remains the question what prompted Bawm to drop, for transitive verbs, F1 and to favor F2 instead. I can offer nothing but some suggestions. While the functions of F2 with intransitive verbs are rather limited, with transitive verbs they are much more important. The author of my Lai dictionary in his manuscript listed F1 and F2 in separate entries with exactly the same English translations – thereby showing that he had not grasped the fact that F2 might better (or at least also) be translated by the English past (participle) forms for transitive verbs, and by nouns for intransitive verbs. Still, he was right insofar as in Lai F2 has to be used in case the second object is a person (and even if the actor is marked as the ergative subject).

With verbal constructions my author as a rule gave but one form, in most cases of transitive verbs that of F2. As mentioned above, Khawlhring in several similar cases also used F2. Useful as this is in confirming the F2 forms in cases where they went unnoticed in the main entry of the verb, the F2 is not normally consistent with the translations given in English. These facts may show the inherent tendency of both Lai and Lushai authorities to regard F2 as the main representative of the verb. Still, F1 cannot be abandoned without blurring differences in meaning and grammatical function (as can be experienced in many translations given by Lorrain for his unified F1 + F2 entries).

However, unitary forms had been present in Lai (F1 tʔ = F2 tʔ), and t language had developed means to express the primary difference whenev necessary (that is, especially when the object is a person). This possibili made it easier for Bawm to abandon the F1. Still, this does not answer t question why Bawm had to drop it. My answer: it served to reduce the numb of homophones. In order to show why this became necessary and wh triggered the process in Bawm, I'll have to adduce, in abbreviated form, sor ethnohistorical data on the Bawm and their neighbors in the Chittagong H Tracts.

Let me start with the ethnonym. The Bawm themselves equate it with tl word for "basket". In Lushai, however, the ethnonym is in tone 3, b 'basket' is in tone 1. If it had been the other way round, this would have be no argument against the Bawm interpretation (Bawm t3 = t1), but as it stanc Lushai contradicts the Bawm version. More relevant, however, is the reas given by the Bawm for this interpretation: They did form a "basket" in tl sense of a "*colluvies gentium.*" The Bawm-Lai (originally 28, now 26) desce groups, called "Sunthla" (divided into a formerly aristocratic gro "Lawncheu" and a commoner group "Siarronau") comprise but a minor half the population, the other 28 descent groups, called "Pânghawi", became trib members by "association" and, according to their tradition, derive from oth ethnic groups in the Chittagong Hill Tracts, among them Khumi (11) Mru (3 and Marma (1). There remain another 7 whose origin is doubtful (Pângkhua and yet another minority of 7 which are the more interesting as they a considered to be "original Bawm." (More details in Spielmann 1968). The "original Bawm" need not have spoken what today is called the "Bawr language before they became "associated with" (probably more corre overpowered by) the Sunthla who, expanding from the East towards the We no doubt spoke Lai. Most names of the "original Bawm" descent groups not sound very much like Lai names, and one would have to ask for instan the Brung-speaking Tipra (Usoy, see below) whether these names me something to them.

None of the 12 tribes presently inhabiting the Chittagong Hill Tracts, ev though they were already there when the English first came into contact wi them, can claim to represent the original inhabitants. But there were son These people did not die out, but their language disappeared (one tra survives in place names: **u**, probably the word for "river", Mru **o**, Chin gro **va**). Some "survivals" in the material culture suggest that in the North th probably contributed to a group nowadays called "Usoy", in Marma and M "Mrun", correctly "Brung", which is nothing but their own version

"Borok", that is Tipra,[15] the language they speak today. In the South they contributed to a group written and pronounced differently, but in my view originally "Tongcengya" (this name containing a Marma kernel and a Bangla ending). The Mru call them "Dengnak" which may be the older name as it appears in an Arakanized form also in the older sources (where they are said to be a very mobile people). Today they speak the Chakma dialect of Bangla. (The Chakma too are a "*colluvies gentium*", but their language became that of the dominant plains people, even though physically the latter contributed next to nothing to the Chakma). In the East, I found no cultural trace of the original inhabitants, but this does not exclude the possibility that some of them here survived as the "original" Bawm.

Be this as it may, neither Pângkhua (= Paang), nor Khumi, nor Mru have aspirated nasals and laterals. The loss of this aspiration in the westernmost dialect of Lai may therefore date back to the early days of the formation of the ethnic group nowadays called "Bawm". (This formation need not have happened earlier than in the 18th century.) Moreover, both standard Lai and Lushai distinguish between aspirated palatals (**ch-**) and sibilants (**s-**). In Bawm, Paang, and Mru, however, they are both are pronounced alike (and the same is true for Falam Lai, Tedim, and Maraa); Khumi shows **th-** instead of **ch-**. Taking these two phenomena together, the number of initial consonants and clusters is reduced to 25 in Bawm against 30 in Lai and Lushai, i.e., by one sixth.

Still, we may even suppose that the depletion in tones, from Lai 3 to Bawm 2, was largely due to the assimilation of all these "associates" with different systems of tonal realization. The reduction from 3 to 2 tones was roughly equivalent to the loss of one third of the possible number of distinctive syllables. Together with the loss of 1/6 of the initials, this meant the loss of approximately one half of the distinctive syllables or, the other way round, a doubling in the number of homophones. And this meant that something had to happen, even though the size of the vocabulary in this melting pot situation (as in any "bazaar" language) probably also dwindled of its own accord.

When Lushai and Lai reduced the number of tones for syllables with a final stop, the resulting increase in homophones was tolerable since the sample concerned consisted of two minority groups only. Bawm, however, reduced the 3 tones to 2 tones for all syllables, which gave them good reason to keep or revive the 2 tones for stopped verbs. But if any verb would have continued to use both low and high tone, the gain would have been nil, while unifying all F1

[15] Originally Tui-pra, under Hindu influence Sanskritized and reinterpreted as Tri-pura.

and F2 of a two-tone system would have halved the number of verbal homophones.

Still, it seems that the intransitive verbs were exempted from the process, but this can only be verified for the rather small number with a sonorant or glide F1 t2 and long stopped verbs in F1 t1.[16] Intransitive F2 should be used when the verb is nominalized or turned into a transitive verb. The normal way to achieve this is to add a nominalizing and a causative particle respectively, and both have t1 in Bawm. When the verb is in phrase initial position, these sequences stay low in any case; when used with a preceding low toned noun or pronominal particle, the above-mentioned vaulting process will set in and the verb will become high anyhow, whether t1 or t2. Thus, the tonal realization will remain the same, and this may have been the reason why old F2 t2 was kept. A tonal unification of F1 and F2 would have had nearly no effect in the reduction of homophones.

Furthermore Lai did increase the number of its homophones when it merged t3 and t1 for voiced finals. Even though we do not know when this happened, it must have had some repercussions. If it occurred rather recently, the stage where they can be identified easily may not yet have been reached. Compared with Bawm, the verbal system does not seem to have been affected. Still, another means of reducing homophony is the elimination of one word in a pair of homophones and its replacement by a near synonym, thereby producing a reduction in the vocabulary. A comparison of the number of basic syllables with a meaning of their own in the material so far recorded seems to support this.

The number of basic syllables recorded for Bawm is remarkably smaller than those for Lushai and Lai, and the number is smaller for standard Lai than for Lushai. But that's no real proof. For Bawm we'll probably have to accept it, but it remains to be seen whether the number of basic syllables in Lai is really smaller than that of Lushai. Already the comparatively small list of Hay-Neave (1948), made available to me by the courtesy of F.K. Lehman, contained a number of words which apparently escaped the attention of my Lai author. Moreover, many of my Bawm words at first not found in the dictionary have since been confirmed as native Lai vocabulary. If Falam Lai could be included,

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[16] Most remarkably, also some transitive verbs with long stopped F1 t1 went unreduced. Examples (both transitive and intransitive) have been mentioned above. There also are two very common transitive verbs with a final diphthong (implying a final glide) which escaped the unification process: **nei²** [neih] 'to have', and a verb with at least two meanings, both listed in Lushai as **ngai** [ngaih], but differentiated in Bawm into (irregular) F1 t1 [F2 t?], central meaning: "to long for", and (regular) F1 t2 [F2 t?], central meaning: "to heed, to listen to". (Still, the regular F1 t2 is doubtful, since in compounds, where the central meaning becomes "to consider, to think", the old F1 t1, F2 t? seems to reappear.)

their number probably would increase. Most of the remaining Bawm words have cognates in Lushai. They and many more Lushai words may be known in other Lai regions as well.

My Lai author, however, tried to eliminate all words from his dictionary which he judged to be of Lushai origin. This tendency to exclude apparently foreign words was already shown by my Bawm informant who, when translating from Lushai (which he knew very well since Lushai for many years had been the church language of the Bawm), had a tendency to avoid the direct correlate, offering a synonym instead – only to reverse the process when this synonym in its turn also appeared in Lushai. On the other hand, I found quite a number of Lai syllables used only in compounds, not mentioned as entries of their own, but appearing as such in the Lushai dictionary – a feature amply to be found in the Maraa dictionary. Maraa, due to the loss of all consonant finals, definitely could not retain all homophones independently: the words still exist in compounds, but cannot be used anymore by themselves.

After all, counting basic words in different dictionaries may be deceptive, since dictionaries never tell us which words are still in common daily use or just remembered by some persons. As a matter of fact, the everyday vocabulary may be different from region to region. Bawm is just one of these regions with a somewhat divergent "dialect" of its own. Bawm has a rich (though crumbling) folklore tradition, partly phrased in poetical form. When tapping into some tidbits of this poetry, containing some otherwise obsolete words, quite a few of the missing Lai words did appear. On the other hand, some of these poetical terms have cognates in Lushai. They today may have fallen into disuse in Bawm, but they also never might have been in common use. What remains is nothing but the impression already mentioned in the beginning.

Suggestions for dictionaries

In order to proceed, first of all we need a reliable Lai dictionary with tone marks. This might also serve to destroy the incredible belief in the absolute validity of the colonially inherited spelling system which does not recognize the existence of tones. To be sure, for a native speaker it is possible to read (after he has grasped the meaning) a Lai text written without any indications of tones or even vowel length. Therefore, this type of "short-hand writing" will survive. I would not mind this, provided Lai students would be enlightened about the underlying reality and the principles of their grammar. This, at present, is definitely not the case. As a result, the ability to grasp the structural features of a foreign language – though they may be more or less the same – becomes severely hampered.

Admittedly, clever students may grasp the underlying structure of their language intuitively, but they will never have a chance to apply it consciously, unless they are able to reanalyze it on the basis of their unconsciously correct pronunciation in the form they learned as a child. Higher education may, as a matter of fact, mislead them completely regarding the propensities of their language. In the end, after they may have managed to master a foreign language despite all the preprogrammed difficulties, they may even advocate the abolition of their language in favor of their newly acquired language, that has its grammatical principles clearly defined, for instance English. Here the grammar is OK (though at times difficult). In their mother tongue, on the other hand, everything seems in disorder once tonal distinctions have been lost.

Perhaps the modern conventions of negating tonal distinctions and even disregarding vowel length will in the end become self-fulfilling prophecy. The remainder of the F1/F2 distinctions will become what they are already considered to be (and have indeed become in neighboring Maraa): a cumbersome inheritance of "irregular" verbs. At any rate, a massive increase in the number of homophones will be the immediate result. A reduction of the vocabulary will follow and severely limit the possibilities of expressing one's ideas, and once more new ways will have to be found, among them first of all the use of compound words.

Maraa, though related to Lai and though it has kept three tones, today looks completely different from Lai because it has lost all of its final consonants. There still are monosyllabic words, but nearly all of them have homophones, and in order to come close to the special meaning of, for instance, Lushai monosyllabic verbs and nouns, it becomes necessary to use at least two syllables if ambiguities are to be avoided. Since the spelling of Maraa without tone marks (as introduced by the mission) further aggravated the problem, the Maraa themselves decided to improve the situation by marking one of their tones.

They chose (phonetically more correct than its use in Lushai and Lai) the /h/ as a final for their deep tone. The result, however, is not to be praised. As the Maraa tend (to some extent correctly) to write the syllables forming the new words together, and since they preserved the aspirated form of nasal and lateral initials, in many instances it now becomes dubious whether the "h" is the last letter of the first syllable or the first letter of the second syllable. Moreover, the new spelling neglected to correct another deficit. As in Lushai (but unlike in Lai which uses double vowels) you still must add circumflexes by hand when you use a simple typewriter which does not have them.[17] Quite

[17] Another sign not normally to be found on typewriters – not even in standard programs in computers – it that for (retroflex) ṭ. It represents the Lushai and Lai way of pronouncing OLL

often this additional task is omitted, making it still more difficult to read the text. No wonder that most people use the "new spelling" only selectively. Without a full command of Maraa you cannot read it. Maybe that's an advantage. It must of course be admitted that English or French spellings also tell you very little about the correct pronunciation of the syllable.

When I proposed a second amendment to their spelling system, the Maraa educated elite felt offended. Maybe with the Lai the situation is better insofar as they still use the old spelling system. But when they want to be modern, they replace their medial /o/ (short ɔ) by the Lushai equivalent /aw/, originally (except in open syllables and those closed by a glottal) reserved for the long ɔ. They thereby efface the difference in vowel length which, as a rule, they disregard in spelling anyhow for all vowels except (sometimes) /a/ – even in dictionaries, see the otherwise excellent English-Lai dictionary of David Van Bik (my guess: Vaan^2 Biik^3). Already Lorrain himself realized that the Lai way of using "aw" and "o" (which primarily was introduced by him for Lushai) was not the best way. He therefore changed it to /aw/ and /âw/ (for short and long ɔ), restricting the use of /o/ to the diphthong. He had done better, when he had used (as in any other case) the /o/ for the monophthong and /ou/ for the diphthong. Still, today the people have to live with this "irregular" heritage, which now tends (since in Lai the circumflex is replaced by double vowels) to destroy for Lai any possibility to distinguish vowel length in what logically should have been written /o/.

In view of this situation, I don't think that the people can be persuaded to use tone marks in writing. Those writing will always prefer the shortest way possible, even though those reading may have to read the text twice to understand it, because many written phrases become understandable only when the context tells you which vowel length and which tone is implied. But these distinctive features should at least be recorded in a dictionary in order to enlighten the users about their own language, the more so as this reduces the difficulties in learning the grammar of a foreign language like English in the case of a Lai (or Lushai) - English dictionary. As long as students are kept in the dark about the grammar of their own language, it will be difficult to grasp that of a foreign language even though in some parts its rules may be rather similar, as for instance in the Lai/Lushai and the English verbal "Form II" (which in

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tr-; in Maraa it merged with the palatal. Since **ţ** is not normally to be found on the keyboard, the easiest and most logical thing to do would be to replace it by what it once was, viz. **tr**. To be sure, the educated elite has been told nothing about the history of their language, but they still might be able to hear the correspondence when listening to their own pronunciation of /**ţh**-/ and /**hr**-/. /**ţh**-/ is pronounced exactly like /**hr**-/ with a dental before it, i.e. like **thr-**. But since people have not been taught to analyze the sounds they actually speak, the modern tendency is to replace /**ţ**/ by /**tt**/.

English may be split in two as in "went" and "gone" or merged with F1 as in "put" or "cut"). To be sure, the correspondence is far from being perfect – English lacks the lucidity of Chin languages – but the differences can be explained only when the Chin rules are not artificially veiled by a deficient spelling system.

Whenever double vowels are used to indicate vowel length, the tones could be marked by using diacritics. For the present comparative purpose, however, I used numbers, since the diacritics might easily be thought to indicate tonal height or contour. To be sure, if Chin linguists should one day decide to use a common spelling system, they will not advocate the cumbersome use of numbers. The use of diacritics, on the other hand, will obstruct the way to a common system, the greatest obstacle being the divergent behavior of t2. The most logical way out would be to "restore" the lost final, not in its original form (this would produce a wrong final for open syllables in t2), but perhaps in the form of a simple hyphen. A slash (or, less conspicuously, an apostrophe) might do for t3. No diacritics would be necessary any more.

In view of the present predilection for a minimized spelling system, it may seem futile to propose a new system. For a dictionary, however, one might go even a step further and use reconstructed forms, including tones for verbs with *an occlusive final, even though they are pronounced alike today. As a result, it* would become unnecessary to enter Form II – unless F2 is really irregular – and provided that the user has a full command of the derivation rules.

K. Lian Cung, when compiling his Lai dictionary, started with the reduced spelling system. Later on, realizing all the pseudo-homophones produced in this way, he decided that this was not the best way to present his language, since without the English translation and out of context nobody can come to know the correct pronunciation of the Lai word in question. For those, however, who don't know English the dictionary would be rather useless. He therefore reintroduced double vowels. He used them (phonetically correctly) also for /ai/ and /au/, and (as mentioned) also before the final glottal (in case F1 had a long vowel). Since he used the Latin alphabet as the ordering principle, this renewed and extended use of double vowels led to a completely changed sequence of the old entries. He had to rewrite everything.

After I had started to edit the manuscript, it appeared that in several instances he had forgotten to double the vowel, and finally he changed his mind and preferred to return to the usual writing /ai/ and /au/ instead of his /aai/ and /aau/. The latter are phonetically correct, but in fact unnecessary, since short /ai/ is written (and pronouced) /ei/. Finally, Lian Cung even decided to eliminate, for whatever reason, double vowels before final **-l**. Once more a great number of entries had to be shifted around.

It apparently never occurred to the author that potential users of his dictionary would experience a lot of trouble when they looked up a word and could not find it in the place they would expect according to their way of spelling it. To me, the disadvantage of this double vowel system for a dictionary arranged in the order of the Latin alphabet became only too obvious. It would be much more convenient to use the circumflex as in Lushai. The Lai spelling system produces even more nasty consequences for a dictionary. With long and short initial ɔ, spelled /aw/ and /o/ respectively, it even causes the F1 t2 and F2 tʔ of the same verb to appear under two different letters, "A" and "O" – unless one retains /aw/ also for tʔ.

Whatever you try, the problem remains the same: any change in the spelling system changes the place where you can find a word. Can there be an arrangement under which one can find the word in more or less the same place, irrespective of how you spell the vowels? Yes. The simple solution is to use the South Asian instead of the Latin alphabet. The South Asian alphabet school children will have to learn anyhow when they are going to learn the dominant language of the state they are subjected to, be this India or Burma. Still, this proposal hurts the national pride: better to use an always inconvenient and at times even abstruse system[18] of your own (invented by British missionaries spreading God's truth) than that of the dominant (but resented) majority in your country, even though it is best suited for your language. Since the resentment is politically justified, it may take some time to realize that it should constitute no reason to adhere to the distortions of writing one's own language imposed by the former colonial power.

K. Lian Cung argued that his people would not understand the new arrangement proposed by me. I am sure they will, as otherwise their forefathers must have been immensely brighter. They, though illiterate, were able to learn even the complicated system still in use today. People may not like the change – but that's quite another point. I know that I cannot change anything. Only Chin linguists can try to improve the situation by spreading a better knowledge of their language among their students. All I can do is to hope that they don't mistake my proposals on spelling and alphabet for something that I want to impose on them. In fact I'd be more interested to know what they, based on their far superior knowledge of their own language, think about my proposed reconstruction of two tones for verbs with final stop.

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[18] Syllable or word boundaries are completely disregarded. As a result compounds with the same first syllable will be interspersed with all other entries having the same initial letters. To give an example: under /ca/ "paper" we have to pass more than 560 entries before we reach the last compound /ca zuang/ "kite" (lit. "flying paper"). In between we find everything starting with /ca-/ from /caak/ via /cah/ to /cat/, and finally even everything with /caw-/.

REFERENCES

CHHANGTE, Lalnunthangi. 1993. *Mizo Syntax*. Ph.D. dissertation. University of Oregon.

HAY-NEAVE, D.R. 1948. *Lai Chin Grammar and Exercises*. Rangoon.

HENDERSON, Eugénie J.A. 1965. "Tiddim Chin, a descriptive analysis of two texts." *London Oriental Series* 15.

LIAN CUNG, K. n. d. *Lai-English Dictionary*. Draft manuscript. Falam, Burma.

KATHOL, Andreas, and Kenneth VANBIK. 2000. "Lexical constraints and constructural overrides: on the syntax of verbal stem alternations in Lai." Draft typescript. Berkeley.

LÖFFLER, Lorenz G. 1972. "Pitch and tone in Bawm. *Ethnologische Zeitschrift Zürich* 1:285–289.

_____ . 1973: "Bawm verbal forms and the tonal system of Central Chin." Typescript Zürich. Paper presented to the 6th ICSTLL, San Diego.

LORRAIN, James Herbert. 1940. "Dictionary of the Lushai Language." *Bibliotheca Indica* 261. Tone marks added by A. S. Khawlhring (1976).

LORRAIN, Reginald Arthur. 1951. *Grammar and Dictionary of Lakher or Mara Language*. Gauhati. Tone marks added by a Siaha committee (1998).

OLAWSKY, Knut J. and Kenneth VANBIK. 2000. "Introduction to Lai tonology." Draft Typescript. Berkeley.

OSBURNE, Andrea G. 1975. *A Transformational Analysis of Tone in the Verb System of Zahao (Laizo) Chin*. Ph. D. dissertation. Cornell.

PARDO S.L. 1968. *English-Bawm and Bawm-English Dictionary*. Typescript. Bandarban and Heidelberg.

SPIELMANN, Hans-Jürgen. 1968. *Die Bawm-Zo: eine Chin-Gruppe in den Chittagong Hill Tracts (Ostpakistan)*. Heidelberg.

VANBIK, David. 1996. *English-Chin (Hakha) Dictionary*, 2nd edition. Rangoon: Christian Association of Chin Churches (CACC).

VANBIK, Kenneth. 1999. "Causatives in Lai." Mimeographed typescript. Berkeley.