

# PROTO-JEH-HALANG AND PROTO-NORTH-BAHNARIC REVISITED

Paul Sidwell

**Abstract**

*Scholars of Mon-Khmer historical phonology have traditionally complained about apparently poor vowel correspondences. To deal with this problem in Bahnaric, quite low level reconstructions were done as a first step, and then these were compared for the purpose of suggesting Proto-North-Bahnaric. This approach is methodologically flawed, as errors in low level reconstruction will skew results at a higher level. In this paper it is argued that this has unfortunately happened, and revision of Proto-Jeh-Halang and Proto-North-Bahnaric vowels is proposed*

**0. Introduction**

It is curious that the Thomas & Smith 1967) reconstruct/on of Proto-Jeh-Halang (PJH) has often been cited but never challenged. The reconstructed PJH phonology and lexicon has been used and cited uncritically by various Mon-Khmerists<sup>1</sup> and today remains a classic of Mon-Khmer (MK) reconstruction with its extensive lexicon and clear correspondences. However, there are potential hazards in pursuing reconstruction by uncritically comparing proto-languages, as these are only constructs inherently less reliable than directly observable language.

In this paper it is argued that Thomas & Smith analysed the data inappropriately, as a result of not adhering to established reconstruction methodology. Also scholars of Bahnaric historical phonology have tended to make unsupported assumptions about the origin of register tone which have influenced their reconstructions. A reanalysis of the same data helps to solve problems left unanswered by the authors, and throws light on the issue of the origin of register tone in North-Bahnaric.

**1. Why Proto-Jeh-Halang?**

The question which introduces this section is not rhetorical. Jeh and Halang are two MK languages of the Vietnam central highlands. Thomas & Smith inform us that they are “linguistically very close, though not to the point of being the same language”. From the data presented in Thomas & Smith (1967) it would be most remarkable if these tongues were not mutually intelligible. On the surface these languages appear to be very similar dialects. There are nearly 500 cognate sets presented, and the consonants of the main syllables are almost all identical. In about 70 examples Halang forms show a diphthong corresponding to a Jeh long vowel. It is among the short vowels that the interesting correspondences occur. The vowel inventories of these languages compare as follows:

- |  |           |           |              |  |           |           |          |          |           |           |           |              |   |           |           |          |   |           |           |          |          |           |           |  |          |           |           |  |  |  |           |  |          |
|--|-----------|-----------|--------------|--|-----------|-----------|----------|----------|-----------|-----------|-----------|--------------|---|-----------|-----------|----------|---|-----------|-----------|----------|----------|-----------|-----------|--|----------|-----------|-----------|--|--|--|-----------|--|----------|
| <p>(1) <b>Jeh</b> from <i>Gradin et. al. (1974)</i><br/>Tense register (clear phonation)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"><i>ia</i></td> <td style="width: 25%;"><i>ua</i></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> <tr> <td><i>i:</i></td> <td><i>u:</i></td> <td><i>i</i></td> <td><i>u</i></td> </tr> <tr> <td><i>e:</i></td> <td><i>a:</i></td> <td><i>o:</i></td> <td><i>e a o</i></td> </tr> </table>  | <i>ia</i> | <i>ua</i> |              |  | <i>i:</i> | <i>u:</i> | <i>i</i> | <i>u</i> | <i>e:</i> | <i>a:</i> | <i>o:</i> | <i>e a o</i> | <p>Lax register (breathy phonation)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"><i>ia</i></td> <td style="width: 25%;"><i>ua</i></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> <tr> <td><i>i:</i></td> <td><i>:u</i></td> <td><i>i</i></td> <td><i>u</i></td> </tr> <tr> <td><i>e:</i></td> <td><i>o:</i></td> <td></td> <td><i>a</i></td> </tr> </table> | <i>ia</i> | <i>ua</i> |          |   | <i>i:</i> | <i>:u</i> | <i>i</i> | <i>u</i> | <i>e:</i> | <i>o:</i> |  | <i>a</i> |           |           |  |  |  |           |  |          |
| <i>ia</i>  | <i>ua</i> |           |              |  |           |           |          |          |           |           |           |              |   |           |           |          |   |           |           |          |          |           |           |  |          |           |           |  |  |  |           |  |          |
| <i>i:</i>  | <i>u:</i> | <i>i</i>  | <i>u</i>     |  |           |           |          |          |           |           |           |              |   |           |           |          |   |           |           |          |          |           |           |  |          |           |           |  |  |  |           |  |          |
| <i>e:</i>  | <i>a:</i> | <i>o:</i> | <i>e a o</i> |  |           |           |          |          |           |           |           |              |   |           |           |          |   |           |           |          |          |           |           |  |          |           |           |  |  |  |           |  |          |
| <i>ia</i>  | <i>ua</i> |           |              |  |           |           |          |          |           |           |           |              |   |           |           |          |   |           |           |          |          |           |           |  |          |           |           |  |  |  |           |  |          |
| <i>i:</i>  | <i>:u</i> | <i>i</i>  | <i>u</i>     |  |           |           |          |          |           |           |           |              |   |           |           |          |   |           |           |          |          |           |           |  |          |           |           |  |  |  |           |  |          |
| <i>e:</i>  | <i>o:</i> |           | <i>a</i>     |  |           |           |          |          |           |           |           |              |   |           |           |          |   |           |           |          |          |           |           |  |          |           |           |  |  |  |           |  |          |
| <p>(2) <b>Halang</b> from <i>Cooper &amp; Cooper (1967)</i><br/>Tense register (clear phonation)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"><i>ia</i></td> <td style="width: 25%;"><i>ua</i></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> <tr> <td><i>i:</i></td> <td><i>u:</i></td> <td><i>i</i></td> <td><i>u</i></td> </tr> <tr> <td><i>ea</i></td> <td><i>oa</i></td> <td><i>e</i></td> <td><i>o</i></td> </tr> <tr> <td><i>e:</i></td> <td><i>a:</i></td> <td><i>o:</i></td> <td><i>a</i></td> </tr> </table> | <i>ia</i> | <i>ua</i> |              |  | <i>i:</i> | <i>u:</i> | <i>i</i> | <i>u</i> | <i>ea</i> | <i>oa</i> | <i>e</i>  | <i>o</i>     | <i>e:</i>   | <i>a:</i> | <i>o:</i> | <i>a</i> | <p>Lax register (breathy phonation)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"><i>ia</i></td> <td style="width: 25%;"><i>ua</i></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> <tr> <td><i>i:</i></td> <td><i>u:</i></td> <td></td> <td></td> </tr> <tr> <td><i>e:</i></td> <td><i>o:</i></td> <td></td> <td></td> </tr> <tr> <td></td> <td><i>a:</i></td> <td></td> <td><i>a</i></td> </tr> </table> | <i>ia</i> | <i>ua</i> |          |          | <i>i:</i> | <i>u:</i> |  |          | <i>e:</i> | <i>o:</i> |  |  |  | <i>a:</i> |  | <i>a</i> |
| <i>ia</i>  | <i>ua</i> |           |              |  |           |           |          |          |           |           |           |              |   |           |           |          |   |           |           |          |          |           |           |  |          |           |           |  |  |  |           |  |          |
| <i>i:</i>  | <i>u:</i> | <i>i</i>  | <i>u</i>     |  |           |           |          |          |           |           |           |              |   |           |           |          |   |           |           |          |          |           |           |  |          |           |           |  |  |  |           |  |          |
| <i>ea</i>  | <i>oa</i> | <i>e</i>  | <i>o</i>     |  |           |           |          |          |           |           |           |              |   |           |           |          |   |           |           |          |          |           |           |  |          |           |           |  |  |  |           |  |          |
| <i>e:</i>  | <i>a:</i> | <i>o:</i> | <i>a</i>     |  |           |           |          |          |           |           |           |              |   |           |           |          |   |           |           |          |          |           |           |  |          |           |           |  |  |  |           |  |          |
| <i>ia</i>  | <i>ua</i> |           |              |  |           |           |          |          |           |           |           |              |   |           |           |          |   |           |           |          |          |           |           |  |          |           |           |  |  |  |           |  |          |
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| <i>e:</i>  | <i>o:</i> |           |              |  |           |           |          |          |           |           |           |              |   |           |           |          |   |           |           |          |          |           |           |  |          |           |           |  |  |  |           |  |          |
|  | <i>a:</i> |           | <i>a</i>     |  |           |           |          |          |           |           |           |              |   |           |           |          |   |           |           |          |          |           |           |  |          |           |           |  |  |  |           |  |          |

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<sup>1</sup> e.g. Smith 1972, Gregerson & Smith 1973, Gregerson 1976, Benedict 1990

Given that in most cases, the Jeh lax *i* and *u* correspond to the Halang tense *i* and *u* the two systems appear to differ mainly in their diphthongs. It is clear that there is a greater contrast between the vowel systems of Australian and American English than the above ‘languages’. Given this high degree of similarity a reconstruction might seem to be superfluous.

So what motivated Thomas & Smith? It is no secret that vowel correspondences between MK languages are often complex. Thomas (1964) suggested that finding the solution to these ...

lies in starting at the very lowest level of comparison, working on adjacent languages to establish proto-forms at that level, then using these reconstructions as the basis for comparison on the next. Only in this way, I feel, will the Mon-Khmer vowels be able to be solved.

Despite his worthy intentions it is argued here that there is a better approach to reconstruction than comparing low level reconstructions.

One may legitimately reconstruct the mother tongue of any genetic grouping, ever mindful that the reconstructed language is an hypothesis, being the apparent pattern of correspondence of its attested daughters. Given rigorous application of the comparative method, the reconstruction will only be as good as the data. In order to maximise reliability of reconstruction, data used should not be lower level proto-forms, as any errors, in these will skew reconstruction at a deeper level. Rather, the data used for reconstruction at any level should be based as far as possible on direct comparison of the attested daughter languages.

The comparative method requires that the distribution of correspondences within the group being considered should be the first guide when assigning proto-forms. Then if the internal evidence has been exhausted and still proves to be inadequate, external comparison is warranted. The temptation is to look only at the putative cognates in a higher level proto-language, if one has been suggested. However direct consideration of the immediate “cousin” languages will give a more complete basis on which to posit reconstructions. The principle here is to work upwards from attested languages not downwards from posited proto-forms.

Illustrating this is a problem that arises when considering a grouping of just two languages: ie. where two corresponding phonemes differ, internal reconstruction may give little guide as to the likely proto-form. In such a case one should look at the pattern of correspondences in closely-related languages, in order to give some guide as to which forms are secondary in the daughter tongues. A deeper level proto-language based on a limited number of daughter languages and/or intermediated proto-languages can not be as reliable a guide when reconstructing shallower levels. Thomas & M. Smith appear not to have fully appreciated the internal evidence, nor made use of external comparison when reconstructing their PJH. Further, K. Smith erred in using this PJH uncritically in his PNB, In subsequent papers the same author also used the reconstructed forms of this PNB as a guide in determining the historical phonology of languages such as Todrah and Cua which were not included in his PNB reconstruction.

## 2. The PJH Vowels

The Thomas & Smith reconstructed PJH vowel inventory is presented as follows (the layout is theirs, but vowel length is indicated in the PA manner this is the only change):

### (3) PJH from Thomas & Smith (1967)

*Tense register (clear phonation)*

<i>ia</i>	<i>ua</i>		
<i>i:</i>	<i>u:</i>	<i>i</i>	<i>u</i>
<i>e:</i>	<i>o:</i>	<i>e</i>	<i>o</i>
	<i>a:</i>		<i>a</i>

*Lax register (breathy phonation)*

<i>ia</i>	<i>ua</i>		
<i>i:</i>	<i>u:</i>		
<i>e:</i>	<i>o:</i>	<i>i</i>	<i>u</i>
			<i>a</i>

Both Jeh and Halang are register languages, as are some of their neighbours in the North Bahnaric family. On this basis there would seem to be no issue with reconstructing a register contrast at the PJH level. In any case, PJH is a low level reconstruction, only some of hundreds of years old. One might assume that register was firmly established by this time and that this will be reflected in PJH. However we must put such assumptions to one side and be guided by the principle that the reconstructed system must be both consistent with the distribution of cognate phonemes and typologically plausible.

The PJH system presented above shows some problems. Glaringly there is no lax *a*: reconstructed, and there are five short tense vowels compared to only three short lax vowels. On the latter point Thomas & Smith make no comment, on the former they only state that the lack of lax *a*: “seems strange”. On the basis of a single cognate pair (*ma:ʔ refrain* : *ma:ʔ refrain*) they are “tempted” to postulate one

There is another solution to this imbalance, namely, to eliminate the short lax *a*. The reconstruction of lax *a* is based on 25 cognate pairs. In all cases the Jeh form is lax *a*, but for Halang the reflexes vary. In two cases the Halang reflex is lax *o* before *w*, in four cases lax *e* before *j* and *jh*, and in the remainder the reflex is indicated with the symbol *â*. This *a* is a higher vowel than *a*, and this difference in vowel height gives us the clue that the reflexes of this proto-phoneme may have been lowering in height since PJH or earlier.

On this basis one may reconstruct \**ə* for this vowel, representing a short back unrounded vowel which is distinctly higher than *a*. In some sense the exact symbol does not matter, an *â* should do, but perhaps this. symbol is too easily confused with plain *a*.

It is no secret that the breathy vowels of North-Bahnaric *languages* are generally higher than their tense siblings. This correlates the effect of tongue root advancement/retraction in making the phonation contrast (Smith 1972,1979, Gregerson 1976). There is no doubt among Mon-Khmerists as to this relationship, but there has been little discussion about the ultimate origin of this phonation contrast. Most studies have assumed that register is a feature of these languages for as far back as can be reconstructed. This assumption has guided scholars in their reconstructions despite contrary distributional evidence. Why is there little or no evidence for construction PJH lax *a*: or *a*? Perhaps PJH is in a transitional stage in which phonemic register is still developing and not all vowels are eligible to be articulated in either register.

A close look taken at the distribution of the short tense vowels proves to be highly instructive. There are only three cognate pairs presented to support tense \**i*. In one of these cases the Jeh reflex shows tense *e*, which makes the reconstruction open to question. Of the other two, one of them (*biŋ L full*) has cognates with *e* throughout the rest of Bahnaric. The reminder (*ciw L go*) does not appear to have parallels in North-Bahnaric, indicating a recent origin. This compares with 13 sets supporting the reconstruction of tense *e* (perhaps this should be 15, given the above). In support of tense \**u*, only four cognate pairs are offered. In three of these the Halang reflex is tense *o*, and for the remainder the Halang reflex is a long tense *u*:. This compares with 21 sets supporting the reconstruction of tense \**o*. In the light of these facts. it clear that the evidence for reconstructing tense \**u* and \**i* is rather feeble

The internal distributional evidence compels us to reconstruct the PJH short vowels as such:

- (4) • \**i*                    \**u*  
                                  \**ə*  
                  \**e*                    \**o*  
                                  \**a*

All of the short vowels may be distinguished by quality alone. As register correlates perfectly with height, there is no phonemic register in the PJH short vowels. Furthermore, the absence of a long lax *a:* from the proto-3system indicates that register was not yet fully phonemic for the long vowels at the PJH stage. A count of the distribution of long vowels supports this view, for example: 62 cognate pairs support the reconstruction of tense *\*o:* while only 18 support the reconstruction of lax *\*o:*. This is strongly suggestive that register developed originally from a vowel height distinction among the long vowels, and later the short vowels also came to be articulated with this phonation contrast. In such a model register is a fairly recent development within to North-Bahnaric.

### **3. Implications for Proto-North-Bahnaric**

The *revised* PJH system of short vowels is the same as that presented in Smith (1972) (see below) in his reconstruction of Proto-North-Bahnaric (PNB). This should come as no surprise as Smith's PNB vowel system probably represents a much more recent stage than Smith intended. For this reconstruction Smith compared Bahnar, PJH and Proto-Hrê-Sedang (PHS, another low level grouping). Bahnar was included because it is geographically within the North Bahnaric area, but this is problematic. Bahnar shows no register and has a three height vowel system like the South-Bahnaric languages. Smith assumed that PNB had register tone, and further assumed that this opposition was faithfully reflected in PJH and PHS. With this as his guide, the vowel correspondences with Bahnaric were ignored and PNB vowels reconstructed with the register and quality of their PHS and PJH reflexes as model. However, there are strong reasons to believe that Bahnar is not genetically North-Bahnaric. Particularly the fact that Bahnar has uniquely retained glottalised stops from the Proto-Bahnaric level. Gregerson (1976), in his inconclusive paper on the place of Bahnar within Bahnaric, discusses this feature but lamely concludes, that "the uniqueness of the B preglottalised is not an aid in the present problem". It appears to this author that the evidence of the glottalised stops argues strongly for Bahnar being uniquely descended from PB This means that the vowel system that Smith reconstructed as actually an approximation of the vowel system of PNB, and not something like.. Proto-Bahnaric" as Smith tentatively suggested (1972:11).

In Sidwell 1993a, 1993b and 1995 internal evidence is presented that Proto-Bahnaric did not have phonemic register, but a system of 6 long and 6 short monophthongs plus a couple of diphthongs. Significant independent confirmation of this model comes from the fact that Lee (1966) and ... Despite his worthy intentions it is argued here that there is a better approach to reconstruction than comparing low level reconstructions.

One may legitimately reconstruct the mother tongue of any genetic grouping, ever mindful that the reconstructed language is an hypothesis, being the apparent pattern of correspondence of its attested daughter Given rigorous application of the comparative method, the reconstruction will only be as good as the data. In order to maximise reliability of reconstruction, data used should not be lower level proto-forms, as any errors in these will skew reconstruction at a deeper level. Rather, the data used for reconstruction at any level should be based as far as possible on direct comparison of the attested daughter languages.

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(6) **Rengao from Gregerson & Gregerson (1977)**

<i>Tense register (clear phonation)</i>					<i>Lax register (breathy phonation)</i>			
<i>i:</i>	<i>u:</i>				<i>i:</i>	<i>u:</i>	<i>ɪ</i>	<i>ʊ</i>
					<i>e:</i>	<i>ə:</i>	<i>o:</i>	<i>ə</i>
<i>ɛ:</i>	<i>a:</i>	<i>ɔ:</i>	<i>ɛ</i>	<i>ɔ</i>				

Here the correlation between height and register is clearly seen in the long low vowels and the set of short vowels. However, according to Gregerson & Smith (1973:147), all Rengao vowels are articulated at clearly different heights in each register. Using their IPA transcription, the vowels can be set out as follows:

(7)

<i>ei</i>	<i>ou</i>					tense
<i>i:</i>	<i>u:</i>	<i>i</i>	<i>u</i>			lax
<i>e:</i>	<i>ə:</i>	<i>o:</i>		<i>ə</i>		lax
<i>ɛ:</i>	<i>a:</i>	<i>ɔ:</i>	<i>ɛ</i>	<i>a</i>	<i>ɔ</i>	tense

Note that *ei* and *ou* represent the phonetic values of tense *i:* and *u:*. This eliminates register entirely as a contrastive feature.

Compare Rengao with Bahnar and Chrau (a South Bahnaric language):

(8) **Bahnar from Smith (1972)**

<i>i:</i>	<i>i:</i>	<i>u:</i>	<i>i</i>	<i>u</i>		
<i>e:</i>	<i>ə:</i>	<i>o:</i>		<i>ə</i>		
<i>ɛ:</i>	<i>a:</i>	<i>ɔ:</i>	<i>ɛ</i>	<i>a</i>	<i>ɔ</i>	

(9) **Chrau from Thomas (1972)**

<i>i:</i>	<i>(i:)</i>	<i>u:</i>	<i>i</i>	<i>(i)</i>	<i>u</i>	<i>iə</i>	<i>(i:ə)</i>	<i>uə</i>
<i>e:</i>	<i>ə:</i>	<i>o:</i>		<i>ə</i>				
<i>ɛ:</i>	<i>a:</i>	<i>ɔ:</i>	<i>ɛ</i>	<i>a</i>	<i>ɔ</i>			

*Chrau vowels in parentheses are found in Vietnamese loan words)*

Comparing the vowel systems it is apparent that not only Bahnar, but now Rengao barely looks like a North-Bahnaric language. It is now apparent PNB, being that node in the Stammbaum at which register first became contrastive in the long vowels, is the mother of a rather low level sub-grouping. The members of this grouping are: Jeh, Halang, Hrê, Sedang and Todrah (and their various dialects). Only a few hundreds of years separate these languages. This new model, based on analysis of shared phonological innovations, also casts doubt upon the longstanding lexicostatistical classification of these languages.

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