### LEXICAL CORRESPONDENCES BETWEEN BARAM AND THAMI

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Baram and Thami share seventy-two PTB reflexes. Eighteen of them are identical in both languages indicating a higher level of shared retention. Twenty-four of them are identical in Baram and Thami, depicting a higher level of shared innovations. The similarities in the remaining thirty reflexes show the shared retention, and the similar patterns of phonological changes in Baram and Thami present the situation of shared innovations. Twenty similar roots in Baram and Thami, but not Proto-Tibeto-Burman (PTB) reflexes, present further evidence of shared innovations. All the pieces of evidence justify the very close genetic affinity between Baram and Thami.

Keywords: Baram, PTB reflex, lexical similarity, shared innovations, lexical correspondences

# 1. Introduction

This paper attempts to assess the genetic proximity of Baram and Tahami based on the lexical correspondences between them. Despite a large number of attempts, there are still several problems regarding the genetic classification of the Tibeto-Burman (TB) languages spoken in Nepal. The classification of the Rai-Kirati group and the Tamang-Gurung-Thakali group is relatively more stable, whereas the classification of the Himalayan group is unstable. In several classifications, some of them are completely missing, and in some classifications, they are labeled as "not definitely classified." The situation can be vividly presented by the following extract from Matisoff (2003, p. 8).

The current state of comparative/historical TB research is quite uneven. While some branches of the family are relatively well studied to the point where 'mesolanguages' have been reconstructed at the subgroup level, large gaps remain- we have nothing approaching well-worked out reconstructions for such key subgroups as Qiangic, Baic, Luish and Nungish. Still unclear is the exact genetic

position of many transitional languages like Chepang, Kham, Lepcha, Newar (all lumped currently with 'Himalayish').

Grierson (1909) placed Chepang and Baram in one group, Newar and Magar in another group, and Thami in another group. Shafer (1966) grouped Thami and Baram in one group, Chepang and Magar in another group and tags Newar as an unclassified. Bradley (1997) and Eppele et al. (2012) classify Baram and Thami into a common group. Based on just nine lexical similarities, Shafer asserted that Baram and Thami were genetically close. Loeffen (1995) pointed out that, out of nine, seven lexical correspondences between Baram and Thami were also attested in other Tibeto-Burman languages. Therefore, Shafer's based on only two lexical claim was correspondences. It concluded that there was no ground for grouping Baram and Thami into a common genetic group based on the lexical similarity. Based on the morphological and syntactic features, Kirati group of languages have a complex agreement system and Dolakha Newar has a simplified agreement system. Based on the agreement morphemes, van Driem (1992) assumed that Kirati and Newar belong to a common hypothetical genetic group, and he named the group "Mahakiranti" which includes all the so called Hilalavish languages. He states, "Kiranti and Newar together form the hypothetical genetic unit within Tibeto-Burman which I propose be known as Mahakiranti." Later, he gave up his Mahakiranti hypothesis and proposed another group of languages called "Newaric" which comprises Newar, Thami, and Baram (van Driem, 2003). Turin (2012) supported the idea and elaborated that Thami, to some extent, retains the verbal morphology of the Kirati languages. Dolakha Newar verbal morphology is reminiscent of the Kirati verb morphology, and Baram has some vestigial forms of the Kirati agreement system. He concludes that Thami is closer to

Nepalese Linguistics, vol. 36(1), 2022, pp. 22-28. DOI: https://doi.org/10.3126/nl.v36i1.49453

Newar than to Baram. He further compares the lexical similarity between Thami and the classical Newar and concludes that no language is as close to Thami as the classical Newar. He did not compare the lexical similarity with Baram himself and assumed that there was a lexical similarity between nine lexical items in Baram and Thami.

Kansakar et al. (2011) identified that Baram and Thami share around 45 similar lexical items within the Swadesh 100-word list. The finding falsified the assumption that Baram and Thami have phonological similarity between only 9 corresponding lexical items. Similarly, based on the lexicostatistic analysis, Chalise (2015) justified that the closest genetic relative to Baram is Thami. Chepang, Newar, and Magar are the next genetically closest languages respectively.

2. Methodology

# 2.1 Theoretical motivation

The fundamental concept of this study is that sound similarity in corresponding lexical items, particularly in the basic vocabulary, provides strong evidence for the genetic link between languages (Hock, 1991, pp. 559-561). Similarly, according to Crowley and Bowern (2010, p. 109), it is obvious that languages that are members of the same subgroup have regular correspondences in lexical items. If the corresponding sounds in the corresponding lexical items in the genetically related languages are different, their relationship should be justified using logical patterns of sound change that apply to all comparable circumstances. This is the most reliable method of establishing genetic relationship between and among the languages. (Hock, 1991, p. 562) states, 'We can strengthen our case for genetic relationship by showing the cognates recur in a systematic fashion." The linguistic structures like agreement, phrase and clause structure, constituent order, etc., are less reliable evidences to justify the genetic relationship of languages because they are more vulnerable to linguistic changes. It is a natural phenomenon that the higher-level structures are less stable than the lower-level structures. When organic molecules with complex structures are decomposed, their complex structures no longer exist, but the lower-level structures are not affected. If they further undergo changes, the structures of the compound get changed, but the simple structure of the carbon remains constant.

Hock (1991, p. 561) does not regard the linguistic structures to be reliable evidences for this purpose for two reasons. Firstly, genetically unrelated or distantly related languages may have similar/same because linguistic structures of language convergence as a result of long bilingual contact. Conversely, genetically close languages may develop distinct linguistic structures if they remain out of contact for a long time. Even in such situations the basic vocabulary is likely to remain unchanged except in the case of onomatopoeia. Secondly, derivational and inflectional morphemes generally are shorter than the lexical items so that there will be a greater possibility of encountering chance similarities.

# 2.2 Data collection

For the purpose of this research the list of the basic vocabulary containing 207 words in The Lingua Descriptive Studies Questionnaire 5.2, Max Planck Evolutionary Institute for Anthropology, Department of Linguistics has been taken as the standard wordlist. First, the basic word lists for the languages were prepared using the existing dictionaries: Turin (2004) for Thami and Kansakar et al. (2011) for Baram. For each language, the word lists were checked by two native speakers for the correct pronunciation of the words and for the possible availability of the native words in place of the loan words. The corresponding Tibeto-Burman proto forms for the word's roots were taken from Matisoff (2003).

# 2.3 Data analysis

The words were compared to identify the shared retention and shared innovation in the languages. Language similarities can be attributed to shared retention from the time of the protolanguage or since the time of shared advances the protolanguage (Crowley & Bowern, 2010, p. 111). Therefore, the lexical items were classified in order to identify the shared retention and shared innovation between Baram and Thami. For this purpose, the cognate words were broadly classified into four classes. The first class consists of the words whose roots are PTB reflexes with same or similar phonological shapes in the languages. The

### 24 / Lexical correspondences between ...

second class consists of the words whose roots are not the PTB reflexes, but have similar phonological shapes in the languages. The third class consists of the words whose roots are the reflexes of the PTB roots, but which have a phonologically similar shapes in any one of the languages. The rest of the words, with roots not similar to the PTB roots as well as in the languages, are grouped into the fourth class. The first class of words depicts the cases of shared retention, and the rest of the classes depict shared retention as well as shared innovation.

# 3. Findings

Out of the 207, there are 72 words whose roots are the reflexes of the PTB roots and have similar phonological shapes in Baram and Thami. There are 20 words whose roots are not the PTB reflexes but have similar phonological shapes between Baram and Thami. There are 11 words that are the reflexes of the PTB roots in Baram but not in Thami, and the roots of 13 words are the reflexes of the PTB roots in Thami but not in Baram. Likewise, the roots of 42 words are neither the reflexes of the PTB roots nor have comparable phonological shapes in both languages. Amongst the 51 remaining words, Baram has only one native word, but its corresponding reconstructed PTB root is not available, and it does not have a corresponding Thami native word. Similarly, amongst the 51 remaining words, Thami has 22 native words and 29 Nepali loans. None of the 22 native words are the reflexes of the PTB roots.

3.1 Patterns of shared retention and innovation

3.1.1 PTB reflexes with same phonological shapes

There are 18 lexical correspondences that have exactly the same phonological shapes in PTB, Baram, and Thami as presented in Table 1.

Table 1: Roots with the same phonological shapes

PTB	Baram	Thami	English
*naŋ	naŋ	naŋ	'you'
*su	su	su	'who'
*ma	ma-	ma-	'not'
*ni	nis	nis	'two'
*mi	mi	mi	'man'
*mi,	mi	mi	'person'
*wa	wa	wa	'hen'
*sam	sjam	sam	'hair'

*sat	sat	sat	'kill'
*la	tsəlauni	tsəlauni	'moon'
*sya	sja	sja	'animal'
*mut	mut	mut	'blow'
*ca	u-tsa	hu-tsa	'child'
*ma	a-ma-i	a-ma	'mother'
*sa	nə-sa	na-sa	'earth'
*la	ho-la	wa-la	'leaf'
*nam	pə-nam	nam-si	'smell'
*b-ŋa	bə-ŋa	bal-ŋa	'five'

\**mi* is the proto form for both person and man because, in languages, they are used synonymously. The case is same with Thami, but Baram has a distinct word *bal* for 'people', but *mi* is also used for people as in *seymi* 'Gurung'.

These exact lexical correspondences between PTB, Baram, and Thami indicate that Baram and Thami have retained relatively a large number of PTB reflexes. It justifies that Baram and Thami are among the typical members of the TB language family.

3.1.2 PTB reflexes with similar phonological shapes

Between PTB, Baram, and Thami, there are 30 lexical roots with somewhat varying in phonological shapes, but they are unmistakably cognates of one another as presented in Table 2.

Table 2: Roots with similar phonological shapes in all

РТВ	Baram	Thami	English
*ŋa	ŋa	ga-i	ʻI'
*dik	de	di	'one'
*kʷəy	a-kja	ku-tsu	'dog'
*yəw	a-ju	puja	'seed'
*hywəy	tsi-hwui	tswoi	'blood'
*tsow	u-tsho	ts <sup>h</sup> jou	'fat'
*na	ku-na	kunla	'ear'
*mik	mik	me-sek	'eye'
*na	tsi-na	tsi-ŋa	'nose'
*swa	swa	suwa	'teeth'
*dzya	tsa	tsya	'eat'
*mey	mui	me	'fire'
*miŋ	umin	name	'name'
*su	to/u	to	'he'
*tu:ŋ	tuku	duŋ	'in(side)'
*nam	nəm-bu	nem-bo	'side'
*tuk	ak-tuŋ	us-tok	'spit'
*dziŋ	dzen	dzi	'split'

*tsyip suck	dzjut	sip	'squeeze'
*dzyip, *dzyup	a-dzip	ku-dzut	'suck'
*sum	som	sum	'three'
*siŋ	siŋ	teŋ-seŋ	'woods'
*syey	Tsi	sai	'know'
*byam, *pir	uble	per	'fly'
*la, *hwaŋ	hyuŋtsel	kelet	'arrive'
*nu:l, *sap	nəi	u-sup	'rub'
*bəw/ru:l	pəihu	rul	'snake'
*gil	Hil	biliŋ	'turn'
*dz(y)	dzigu	su	stab/pierce
*syey	tsi	sai	'know'

If we study the lexical correspondences, we find that the simple onsets in PTB are almost retained in Baram and Thami. There are slight but natural variations in some cases. For examples,  $\eta > n$  or vice versa; t > d or vice versa; s > ts/dz or vice versa, etc. There is one instance where \*g > h and b in Baram and Thami respectively. The PTB complex onsets, like the palatalized or labialized consonants, are mostly simplified in Baram and Thami, but in some instances, they are retained. For example, the \*tsy, \*dzy, \*sy are changed into ts, dz, s, etc.

The nucleus \*a is retained in both Baram and Thami in all cases except in one case, where \*a is changed into  $\vartheta$  and e. The nucleus \*i is mostly retained, but in some instances, it is changed into e. The nucleus \*u is either retained or changed into o. The glide nuclei are either simplified or remain glide. \*ey is changed into i, e, ui or ai; \*ow is changed into o or  $\vartheta$ u; and \* $\vartheta$ y is changed into o or  $\vartheta$ u. The codas are retained or changed into the corresponding members in their natural classes. In some instances, they are deleted.

The evidences justify that there are a large number of instances of shared retention, and shared innovations in Baram and Thami. The evidences of shared innovations justify that Baram and Thami are genetically very close languages.

3.1.3 PTB reflexes with the same phonological shapes in Baram and Thami

As presented in Table 3, there are 24 lexical roots that have the same phonological shapes in Baram

and Thami but slightly different shapes in PTB. Out of them, 12 roots have the same onset in PTB, Baram, and Thami, but they have different rhymes. In rest of them, we find the trend of devoicing of the plosives in onset as: b > p, d > t, and dz > ts. The complex onsets in PTB are simplified in Baram and Thami, i.e., nw > n and ny > n. All the evidences present the retained innovations in the onset of the syllable.

Amongst the simple nuclei, \*a is retained in Baram and Thami in almost all instances. The nuclei \*u and \*o are retained in almost all cases, or they are changed into one another. The complex nuclei are consistently changed into simple ones in Baram and Thami, as: \* $\vartheta y > i$ , \*ey > e, \* $\vartheta w > u$ , and \*ay> o. The complex nucleus \*iy changes into the diphthong ui.

Table 3: PTB reflexes with same phonological shapes in Baram and Thami

PTB	Baram	Thami	English
*day	to	to	'that'
*siŋ	seŋ-ma	seŋ	'tree'
*?u	wom	wom	'egg'
*səy	si	si	'die'
*bəy	pi	pi	'give'
*nəy	uni	uni	'sun'
*nəy	u-nis	u-ni	'day'
*p <sup>w</sup> a	a-ba-i	a-pa	'father'
*dz(y)u	tsum	tsum	'hold/catch'
*nwi(y)	nui	nui	'laugh'
*tsa	tsha	tsha	'salt'
*sey	umse <sup>1</sup>	sek	'fruit'
*bu	kə-pu	ka-pu	'head'
*low	a-lam	ə-ləm-ga	'long'
*mow	mama	tsa-mai-tsa	'woman'
*ŋya	nə-ŋa	na-ŋa	'fish'
*ley	tse-le	tsi-le	'tongue'
*nyam	ki-nja	nja	'rotten' (soft)
*kəw	is-ku	as-ku	'smoke'
*nəw	nə-nu	nu-nu	'breast'
*tsik	dzo	dzjo	'burn'
*bok	a-bo	u-bo	'white'
*ba, *ma	ha-i	ha-ra	'what'
*pat	a-khat	a-khak	'vomit'

<sup>&</sup>lt;sup>1</sup> Baram does not have a word to fruit in general but it uses *se* to refer to fruit in *umse* 'banana'.

#### 26 / Lexical correspondences between ...

3.1.4 Roots with similar phonological shapes in Baram and Thami but not PTB reflexes

As presented in Table 4, there are 19 lexical roots that have the same or similar phonological shapes in Baram and Thami but different phonological shapes in the corresponding PTB roots. The correspondences in Baram and Thami have the same onsets in all the cases, and are slightly different in the rhyme where they are not the same. The variations are simple and natural like variation in voicing, affrication, and vowel alternation within the same class, etc.

These examples are further evidences to justify a remarkable retention of innovation in Baram and Thami, which are the good examples to justify the genetic proximity of the languages.

Table 4: Similar phonological shapes in Baram and Thami but not in PTB

Proto TB	Baram	Thami	English
*mya	hja	a-he	'many'
*hyen	səi	na-sai	'hear'
*duŋ/k	huk	hok	'sit'
*rap	ț <sup>h</sup> iŋ	theŋ	'stand'
*sar	ka-wui	na-ka	'new'
*b <sup>w</sup> ar	ak-tshja	tsi	'throw'
*ləy	a-si	pha-s:a	'wind'
*dut	tshju	tshju	'tie'
*tsa	udum	adum	'hot'
*ney	a-jo	јо	'look'
*su <sup>2</sup>	u	to	'he'
	ni	ni	'we'
	to-baŋ	to-baŋ	'they'
	uma-i	uma	'wife'
	ku-ni	ku-ta	'where'
	-gəi, -ga	-kai, -gai <sup>3</sup>	'at'
	he-4	hen	ʻgo'
	ap	hap	'hit'
	1 . 1.	1 .	<b>61 2</b>

3.5 Roots with similar phonological shapes in PTB and Baram or Thami

We identified 29 lexical roots that have similar phonological shapes in PTB and Baram or Thami. It does not necessarily mean that these are the independent innovations in Baram and Thami.

The words for small ikine and utsja in Baram and Thami were developed from PTB roots \*zəy and \*nay respectively. \*zay is the root to diminutive particle, and \*nav is the root to refer to small in size. It is unknown what was the root to  $k^{h}at$  'louse' in Baram. The word tsitsi 'meat' in Thami was possibly derived from the combination of si 'dead' and sia 'animal/flesh', or from the combination of tsil 'oil' and sya 'meat'. The word pin 'nail' in Thami was possibly derived from \*tsin 'nail', bit it is less convincing. Thami \*lak 'hand' evidently corresponds to PTB \*lak 'hand', but Baram hit 'hand' does not have any corresponding PTB root. Still Baram has retained the root *\*lak* 'hand' in the word lagdzin 'finger nail'. Thami tun 'drink' corresponds to PTB \*don 'drink whereas Baram sjan 'drink' less similar to the corresponding PTB root \*?am 'drink'. The roots for 'sleep', 'fly', and 'arrive' corresponds to different PTB roots. The root for sleep is likely to be derived form different concepts, 'lie' and 'fall asleep'. The motion verbs like come, go, fly, etc. have directionality in both Baram and Thami. The motion from different directions is expressed using different verbs is a common phenomenon.

Table 5: Similar phonological shapes in PTB and Baram or Thami

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Proto TB	Baram	Thami	English
*zəy, *ŋay	ikine	ucya	'small'
*s(y)ar	kʰat	sirik	'louse'
*sya	ku-sya	tsi-tsi	'meat'
*tsyen	ləgdziŋ	pin	'nail'
*lak	hit (luŋdziŋ)	lak	'hand'
*doŋ, *?am	syaŋ	tun	'drink'
*nyi:t, *mwəy	nu	ammi	'sleep'
*byam, *pir	uble	per	'fly'
*la, *hwaŋ	hyuŋ-tsel	ke-let	'arrive'
*luk	kumba	lyuŋ, liŋ	'stone'
*məw	amu	k <sup>h</sup> asu	'cloud'

<sup>4</sup> *he*- is a prefix in Baram which means 'go'. For example, he-tsa means go to eat. But it is a distinct word in Thami.

<sup>&</sup>lt;sup>2</sup> The third person pronouns in Baram and Thami are derived from the demonstrative pronouns, so they do not correspond the PTB root.

<sup>&</sup>lt;sup>3</sup> The locative marker in Baram is used as the dative marker in Thami.

*tal	mau	tarba	'ash'
*wa	keuwo	melu	'yellow'
*bliŋ	kipoŋ	ir-ir	'full'
*gaŋ	ki-kəsi	gaŋdu	'dried'
*muk	amu	dhumba	'fog(gy)'
*ləy	bi	boli	'four'
*ney	kanek	kherte	'near'
*nu:l *sap	nəi	u-sup	'rub'
*(g)rup	su	tsu-ruk	'sew'
*gar	liŋ	kari	'sing'
*bəw, *ru:l	pəihu	rul	'snake'
*gil	hilgo	biliŋ	'turn'
*hur/syal	huigo/ujago	dzek	'wash'
*ta	kəilan	kutaleŋ	'when'
*bəw	abu	kere	'insect'
*lam	uŋma	ulam	'way/path'
*wam	uyaŋ	baŋkal	'abdomen'

The same word is used for 'cloud' and fog in Baram, whereas different words are used in Thami for them. But the word for 'fog' in Thami seems to be a Nepali word  $d^humm\Lambda$  'foggy'. 'yellow', and 'full' correspond the respective PTB roots in Baram but not in Thami. The color words are derived from the verbal root in Baram. This may cause for different roots for colors in Barama and Thami. The root for 'dry' is derived from the root for 'dead' in Baram, so it is different from the PTB root. The roots for 'rub' are derived from different PTB roots in the languages. Baram *nai* expresses the sense of apply something on the surface. Similarly, the roots for 'abdomen' may be derived from the sense of belly or gut.

# 4 Discussion and conclusions

This study reveals that Baram and Thami have a relatively large number of shared retentions and shared innovations. There are 18 PTB reflexes with the same phonological shapes in PTB, Baram, and Thami which evidence a higher level of shared retention. It shows that Baram and Thami are core members of the Tibeto-Burman language family, and they are genetically close to each other. There are 30 PTB reflexes with similar phonological shapes in PTB, Baram, and Thami which suggests the level of shared retention and shared innovation. The similar patterns of innovations in Baram and Thami justify their genetic proximity more evidently. Similarly, there are 24 PTB reflexes with the same phonological shapes in Baram and Thami to evidence the strong cases of shared innovation to justify their genetic proximity. In this way, in total, there are 72 PTB reflexes which suggest a higher degree of shared retention and shared innovation in Baram and Thami.

Furthermore, there are 20 lexical correspondences between Baram and Thami with the same phonological shapes but whose corresponding PTB roots are either unavailable or are completely different in phonological shape. These evidences strongly present the cases of shared innovation to further justify the genetic proximity between Baram and Thami.

Loeffen (1995) claimed that Shafer's classification of Baram and Thami into a single group was not convincing because it was based on only two lexical items that show phonological innovations. But this study has identified 92 evidences to justify their genetic proximity.

Based on the shared agreement system, van Driem (1992, 2003) showed that Thami was genetically closer to Dolakha Newar and Kiranti group of languages rather than Baram. Later, he changed his idea and tried to connect Thami, Dolakha Newar, and Baram into a single group. But our study revealed that Baram and Thami have a very close genetic affinity although they have vast differences in agreement systems. In fact, Baram almost does not have any agreement system except conjunct vs. disjunct distinction. It points out that similarities in higher level grammatical structures like agreement system do not signify their genetic proximity. This study supports Hock's (1991) assertion that strong evidence for the genetic connection between languages can be found in the sound similarities between lexical items in the basic vocabulary of the languages.

This study does not support the conclusion made by Turin (2012) that Thami and Classical Newar share the largest number of lexical similarities, and no other languages share that number of lexical similarities with them. He made this claim without any lexical comparison of Thami with Baram. This study identified that Baram and Thami share a larger number of lexical correspondences than Thami and Classical Newar do. Thami and Newar have a shared history, which allows chances for lexical borrowing. However, Baram and Thami do not share a common history at all. So, the only reason for the linguistic similarities between the

### 28 / Lexical correspondences between ...

corresponding Baram and Thami lexical items is their strong genetic affinity. Moreover, this result is obtained comparing only 207 basic words, so we can find a larger number of lexical similarities if we compared a larger number of lexical correspondences between Baram and Thami.

This some theoretical study has and methodological implications. The genetic classifications based on a limited data generally produce misleading results. If Loeffen (1995) had compared a number of Baram and Thami words, his conclusion would have been far different. Similarly, Turin (2012) compared the lexical correspondences between Thami and Classical Newar and made the conclusion. If he had compared lexical correspondences from Baram, too, his conclusion would have been far different. So, if we want to identify the genetic proximity of a group of languages, we have to compare the lexical correspondences between all the languages in the group using the same methodology.

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