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Issues in the historical phonology of Gauri Jingpho

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ABSTRACT

The aim of this paper is two-fold: (a) to argue that Gauri Jingpho, an underdescribed dialect of Jingpho spoken by small populations in hill tracts east of Bhamo, Burma (Myanmar), belongs to the Southern group within Jingpho dialects despite its superficial similarity to the Northern group; and (b) to provide phonological developments and a notable retention of Gauri phonology. This paper classifies Gauri into the Southern group within Jingpho dialects on the basis of irregular phonological developments in which proto-final **-k* and proto-prefix **n-* dropped in some specific lexical items, and on the basis of not having all the four phonological innovations which all the Northern dialects share. This paper will show that the phonological similarities between Gauri and Northern dialects are due to shared retentions or parallel innovations occurred independently. This paper also provides phonological developments in Gauri, which can be summarized as follows: **ph- > f-*; **kh- > h-*; **-k > -ʔ*; **-k > Ø* (sporadic);**-a > -o/*w-* or **ʔw-__* (sporadic); **-a > -e/*y-* or **ʔy-__* **-t* or **-n*. This paper also shows that Gauri is well preserves Proto-Jingpho medial **-r-* as *-r-*, which has irregularly developed into *-y-* in some Jingpho dialects, on the basis of comparative evidence.

KEYWORDS

Jingpho, Gauri, Tibeto-Burman, Classification, Sound change

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1 Introduction

Jingpho (Singpho) is a Tibeto-Burman language belonging to the Jingpho-Asakian (Jingpho- Luish) branch of Tibeto-Burman (Matisoff 2013). It is mainly spoken in Kachin and northern Shan State of northern Burma (Myanmar), but there are also speakers in western Yunnan in China and northeastern India. While the exact number of speakers of Jingpho is unknown, estimates range between 630,000 (Bradley 1996) and 940,000 (Lewis et al. 2014). Jingpho is used as a lingua franca in northern part of Burma and spoken not only by Jingpho people but also by peoples whose native languages belong to different branches of Tibeto-Burman (TB), such as Lhaovo/Maru (TB: Burmish), Lacid/Lashi (TB: Burmish), Zaiwa/Atsi (TB: Burmish), Bola/Bolo (TB: Burmish), Lisu (TB: Loloish) and Rawang (TB: Nungish). Jingpho is also reported to be spoken by some Khamti Shan (Tai-Kadai: Southwestern Tai) and Rumai Palaung (Austroasiatic: Palaungic) speakers.

The aim of this paper is two-fold: (a) to argue that Gauri Jingpho, an underdescribed dialect of Jingpho spoken by small populations in hill tracts east of Bhamo, Burma, belongs to the Southern group within Jingpho dialects despite its superficial similarity to the Northern group; and (b) to discuss phonological developments and a notable retention in Gauri phonology.

The rest of this paper is organized as follows. Section 2 outlines the Jingpho dialects and previous studies on them. Section 3 provides previous and updated information on Gauri Jingpho. Section 4 presents a brief synchronic description of Gauri phonology. Section 5 discusses the genetic position of Gauri within Jingpho dialects. Section 6 provides phonological innovations and a notable phonological retention in Gauri.

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2 Jingpho dialects

2.1 Previous studies on Jingpho dialects

Studies on Jingpho dialects can be divided into three main categories: (a) identification of dialects; (b) description of individual dialects; (c) classification of dialects.

Hanson (1896: 6) is one of the early studies of Jingpho, which identified three dialectal divisions in Jingpho. Hanson (1907: 385) divides Jingpho of Burma into three divisions, which he calls Jinghpaw (or southern Kachin), Hkauri (those under Chinese influence), and Hkahku (up-river or northern Kachin). Kuhn (1896) also identified some dialectal varieties within Jingpho based on a comparison of numerals from previous descriptions. Leach (1954: 44–5, 57–8) divides Jingpho dialects into normal Jinghpaw, Gauri, Tsasen, Duleng, Hkahku, and Htingnai, noting that all dialects are more or less mutually intelligible. Nishida (1960: 4) notes eight dialect divisions in Jingpho, which include Chingpaw, Myitkyina Chingpaw, Bhamo Chingpaw, Gauri, Tsasen, Duleng, Hka-hku and Htingnai, noting that their details are still unknown. Liu (ed. 1984: 2) identified three dialect divisions within Jingpho of China, which are Nkhum, Shatan and Kauri. Matisoff (ed. 1996: 37) summarizes previous studies, dividing Jingpho dialects into Bhamo, Duleng, Tsasen, Hkauri, Hka-hku, Htingnai, Jili, Nhkum, Shidan and Darung. Morey (2010) divides Singpho of northeastern India into Turung, Numhpuk, Diyun and Tieng, noting that these divisions are recognized by Singpho speakers themselves.

Standard Jingpho (Hanson 1896, 1906, Manam 1977, Maran's MS, among others) and Nkhum (Dai et al. 1983, Liu ed. 1984, Dai and Xu 1992, Dai 2012, among others) are two well described and documented dialects of Jingpho with grammars and dictionaries. Jingpho dialects of northeastern India (Singpho) such as Turung and Numphuk are also described and documented to a considerable extent (Needham 1889, Das Gupta 1979, Morey's MS a and b, Morey 2010). Recent researches on Duleng, Shang and Dingga, which are divergent but previously undescribed, provide new data to Jingpho dialectology (Yue 2006, Kurabe 2012, 2013a, 2013b).

Recent researches on previously underdescribed or undescribed Jingpho dialects enable us to investigate Jingpho dialects from the perspective of historical linguistics. Kurabe (2013c, 2014a) provides a preliminary classification of some Jingpho dialects on the basis of phonological and lexical innovations, dividing Jingpho dialects into Southern and Northern groups with the latter being further subdivided into Northeastern and Northwestern groups.

2.2 Jingpho dialects

Figure 1 shows the distribution of Jingpho dialects known to date based on previous studies and my field research. Note that many of the Jingpho dialects are located in the northern part of Burma, especially in Kachin State. As can be seen, the Jingpho-speaking area spreads from northeastern India through northern Burma into southwesternmost China, lying to the north of the equator approximately between the 23rd and 27th degrees of north latitude and between the 93rd and 98th degrees of east longitude.

Abbreviations of Jingpho dialects

DG	=	Dingga	KK	=	Khakhu	TI	=	Tieng
DL	=	Duleng	NK	=	Nkhum	TN	=	Thingnai
DP	=	Dingphan	NP	=	Numphuk	TR	=	Turung
DY	=	Diyun	SD	=	Shadan	TS	=	Tsasen
GR	=	Gauri/Khauri	SH	=	Shang			
JL	=	Jilí	SJ	=	Standard Jingpho			

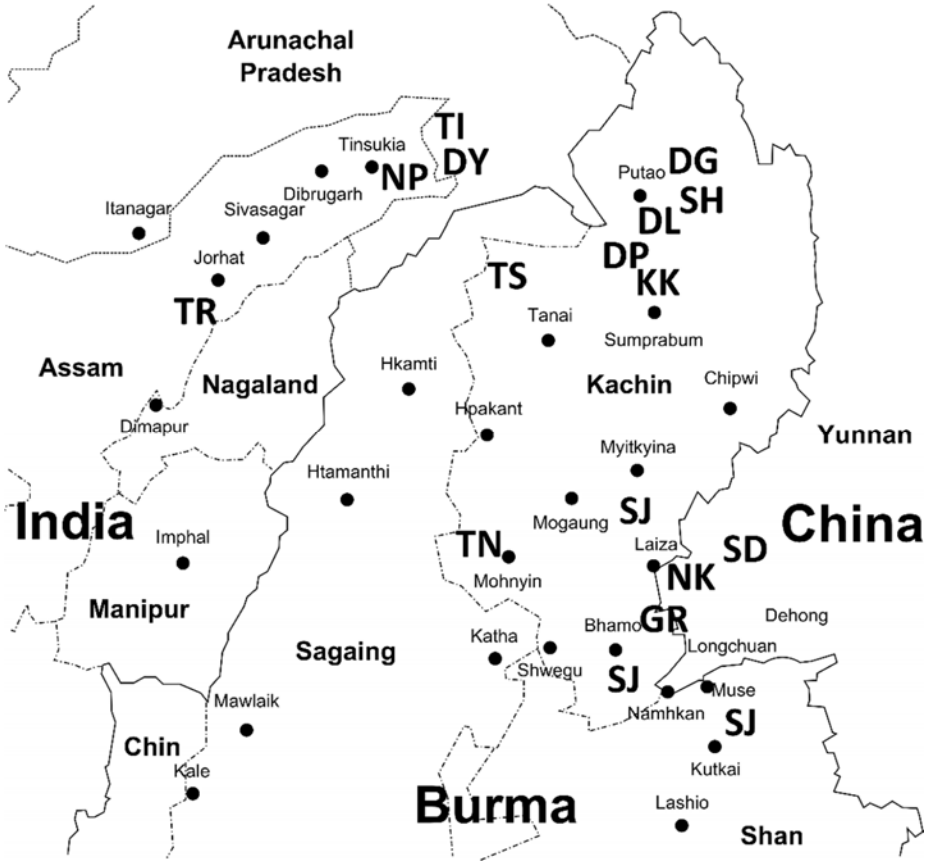

Figure 1. The distribution of Jingpho dialects

It should be noted that the degree of endangerment of Jingpho dialects depends on the particular dialect, ranging from stable to definitely endangered and even to extinct. That is, although the standard dialect of Jingpho is widely used by both native and non-native speakers, most of the

other dialects of Jingpho are losing their speakers. The Jilí dialect (language) of Jingpho became extinct in the 1800s, leaving only a quite short wordlist (Brown 1837: 1033).

3 The Gauri dialect

3.1 Gauri and their speakers

Gauri is a Jingpho dialect mainly spoken in hill tracts east of Bhamo, Burma, known as the Gauri hills. According to my consultant, the Gauri speaking villages in Burma include Prang Hkudung, Man Dau, Hkarawm Kong, Manda, Ka Daw, Lamai Bang, Bumwa, Ma Htang, Jahkai and Loi Ming. Figure 2 shows these locations. Liu (ed. 1984: 2) notes that Gauri is also spoken in the Longchuan and Yingjian counties of Dehong Dai-Jingpo autonomous prefecture, Yunnan province, although speaking population in China numbers only a few dozen people. Although Hanson (1906: 172) notes that Gauri is generally pronounced *Hkauri*, speakers of modern Gauri as well as of Standard Jingpho call them only Gauri [gàurì]. We will thus use the name Gauri to refer to this dialect throughout this paper.

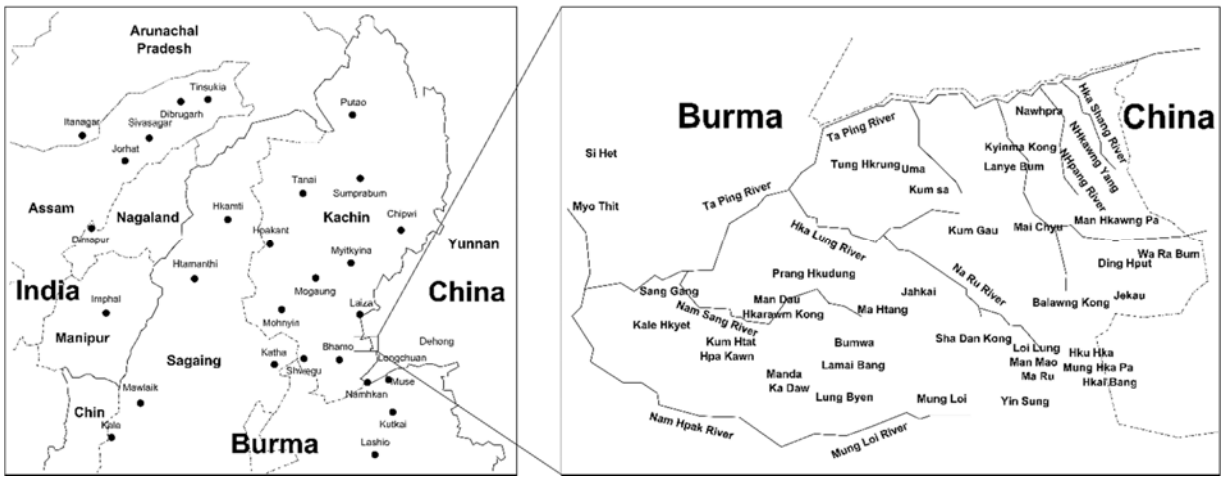

Figure 2. The Gauri-speaking area

Gauri and Standard Jingpho are mutually intelligible to some extent although the speakers of Standard Jingpho sometimes find it difficult understanding Gauri. Phonological differences between Gauri and Standard Jingpho will be discussed in Section 6.

Gauri has been known since the work of Olaf Hanson, a Swedish-American Baptist missionary who worked for the Kachins in northern Burma from 1890 until 1928. Hanson (1906: 172) describes Gauri as follows: "[Gauri is] A large clan of the *Lăhpai* tribe, inhabiting a score or more villages due east of Bhamo. The *Gauris*, or as the word is generally pronounced *Hkauris*, differ to a certain extent in dialect from the *Jinghpaws*, and are more under Chinese influence."

3.2 Previous studies on Gauri

There are previous studies which provide some linguistic data on Gauri. Hanson (1896) provides 28 Gauri lexical items, comparing them with those of Standard Jingpho. A similar comparison between Gauri and Standard Jingpho is also found in Hanson (1907: 385–6). Hanson (1896: 6–7) summarizes the characteristics of Gauri as follows: (a) difference of vocabulary; (b) use of different preformatives; (c) different use of aspirates and labials; (d) different use of final letters and syllables; (e) use of Chinese words introduced into Gauri. Some of these examples in Hanson (1896) are exemplified below using the Jingpho orthography devised by Hanson. Note that the letter *kh* appears to represent [x] in contrast to *hk* [k^{h}] and *pf* appears to represent [f] in contrast to *hp* [p^{h}] when we compare them with modern Gauri in which *kh* corresponds to [x] and *pf* corresponds to [f].

	Standard Jingpho	Gauri
(a)		
'be sharp'	*dai*	*jung*
'be moist'	*mădi*	*ke*
'CONNECTIVE'	*ai*	*de*
(b)		
'work'	*bungli*	*mangli*
'morning star'	*gintawng*	*kantawng*
'worm'	*shingtai*	*dungtai*
(c)		
'water'	*hka*	*kha*
'wood'	*hpun*	*pfun*
'feel happy'	*pyaw*	*praw*
(d)		
'child'	*ma*	*mang*
'from'	*na*	*nai*
'burst'	*kăbawng*	*kăbum*
(e)		
'saddle'	*hking*	*shian*
'food for a journey'	*jărit*	*shizau*

Another previous study which provides linguistic data of Gauri is Hanson (1906). It is a dictionary of Standard Jingpho, but also includes about 300 items of Gauri vocabulary.

Although these previous studies revealed some aspects of the Gauri phonology and lexicon, the information is still patchy and no previous studies have provided systematic description of the Gauri phonology. Also, tones, preglottalized sonorants and glottal stop are not indicated in the transcription of previous studies although these are fully phonemic in Gauri, distinguishing such minimal pairs as *woy* 'monkey' vs. *wóy* 'faded', *yén* 'you two' vs. *ʔyén* 'we two' and *dù* 'arrive' vs. *dùʔ* 'neck'. Section 4 provides a synchronic description of Gauri phonology based on my own data. Note also that although Hanson (1896, 1907) provides comparisons between Gauri and Standard Jingpho, no systematic comparison is presented. Based on sound correspondences, Section 5 discusses the

genetic position of Gauri within Jingpho dialects and Section 6 provides phonological innovations and a notable phonological retention in Gauri.

The Gauri data presented in this paper are based on primary data collected during my fieldwork in Myitkyina, the capital city of Kachin State, Burma, conducted in December 2013 and January 2015. My consultant is a native speaker of Gauri who was born in 1957 and grew up in Prang Hkudung, the largest village of Gauri, during the period of language acquisition and who still speaks Gauri at home on a daily basis.

4 Outline of Gauri phonology

4.1 Syllable and word structure

The basic syllable structure (major syllable) of Gauri allows up to two prenuclear consonants and one postnuclear consonant, so that the maximal syllable can be represented as $C_1C_2VC_3$. All consonant phonemes can occur as C_1 when C_2 is not filled. Complex onsets (C_1C_2) may consist of a stop (bilabial, velar), fricative (labiodental, velar) or nasal (bilabial, alveolar) plus *-r-* or *-y-*, as exemplified by *fròŋ* 'white', *məgrù* 'lean', *fyé* 'liquor' and *kyà* 'soft'. The combinatorial possibilities of consonants can be summarized as follows:

	p-	*b-*	*k-*	*g-*	*f-*	*h-*	*m-*	*n-*	*ʔm-*	*ʔn-*
-r-	+	+	+	+	+	+				
-y-	+	+	+	+	+	+	+	+	+	+

Table 1. Onset clusters

There are nine consonants which occur as the coda: *-p*, *-t*, *-k*, *-ʔ*, *-m*, *-n*, *-ŋ*, *-w*, *-y*. These are exemplified by the examples in (1). Note that the fact that diphthongs *ui*, *oi*, *ai* and *au* never occur in closed syllables indicates that they can be interpreted phonologically as sequences of vowel plus glide (i.e. /uy/, /oy/, /ay/ and /aw/, respectively).

(1)

a. *hràp* 'weep'
b. *hrùt* 'wash'
c. *ʔəsàk* 'life'
d. *táʔ* 'hand'
e. *ŋám* 'salty'
f. *ʔyén* 'we two'
g. *fràŋ* 'awake'
h. *ŋóy* 'kettle'
i. *sáw* 'oil'

Gauri also has a reduced (minor) syllable which has a schwa /ə/ or syllabic nasal /n/ as its nucleus, as exemplified in (2). It is reduced in that it is phonetically shorter than a major syllable and its distribution is much more limited. That is, a minor syllable can occur only when it is followed by a major syllable. A word in Gauri thus must consist of at least one major syllable. Also note that a syllabic nasal assimilates in place of articulation with the initial of the following syllable.

(2)

a.	*kərá*	[kərá]	'hair'
b.	*ɕəprèŋ*	[ɕəprèŋ]	'bean'
c.	*mənoŋ*	[mənoŋ]	'mouth'
d.	*ǹbuŋ*	[m̀buŋ]	'wind'
e.	*ǹtá*	[ǹtá]	'house'
f.	*ǹgùn*	[ŋ̀gùn]	'strength'

Almost all simplex words in Gauri are monosyllabic or disyllabic and simplex words longer than disyllabic are not found in a vocabulary of Gauri consisting of about 1,400 lexical items. Note also that most disyllabic words in Gauri are sesquisyllabic words — disyllabic words with a reduced (minor) syllable as their first element (Matisoff 1973).

4.2 Consonants

Gauri has thirty consonant phonemes as listed in Table 2. Phonemes /*th, ts, dz, ʔm, ʔn, ʔŋ, ʔr, ʔl, ʔw, ʔy*/ are not consonant clusters, but single consonants. There are some co-occurrence restrictions between onset and vowel. Onset *ŋ-*, for example, does not occur before front vowels (*-i* and *-e*), except in the case of syllables derived through morpho-phonological processes.

	onset consonants					coda consonants			
voiceless unaspirated stops	*p*	*t*		*k*	*ʔ*	*p*	*t*	*k*	*ʔ*
voiced stops	*b*	*d*		*g*					
voiceless aspirated stop		*th*							
voiceless affricates		*ts*	*c*						
voiced affricates		*dz*	*j*						
voiceless fricatives	*f*	*s*	*ɕ*	*h*					
plain nasals	*m*	*n*		*ŋ*		*m*	*n*	*ŋ*	
preglottalized nasals	*ʔm*	*ʔn*		*ʔŋ*					
plain liquids		*l*	*r*						
preglottalized liquids		*ʔl*	*ʔr*						
plain glides	*w*		*y*			*w*	*y*		
preglottalized glides	*ʔw*		*ʔy*						

Table 2. The consonant system

Note that, although Standard Jingpho has three aspirated stops, Gauri has only a single aspirated stop (/th/) and other aspirated stops in Standard Jingpho correspond to fricatives in Gauri (see Section 6). The phonemic status of preglottalized sonorant series can be established on the basis of such minimal pairs as *yén* 'you two' vs. *ʔyén* 'we two' and *ɯòn* 'one million' vs. *ʔɯòn* 'fire'.

4.3 Rhymes

There are six vowel phonemes in Gauri: /*i, e, a, o, u, ə*/. There is no diphthong or contrastive vowel length. The vowel phoneme /*ə*/ is secondary in nature and does not occur in closed syllables. Table 3 provides the combination possibilities of codas plus preceding vowels:

	-Ø	*-p*	*-t*	*-k*	*-ʔ*	*-m*	*-n*	*-ŋ*	*-ɯ*	*-y*
i	*i*	*ip*	*it*	*ik*	*iʔ*	*im*	*in*	*iŋ*	—	—
e	*e*	*ep*	*et*	*ek*	*eʔ*	*em*	*en*	*eŋ*	—	—
a	*a*	*ap*	*at*	*ak*	*aʔ*	*am*	*an*	*aŋ*	*aɯ*	*ay*
o	*o*	*op*	*ot*	*ok*	*oʔ*	*om*	*on*	*oŋ*	—	*oy*
u	*u*	*up*	*ut*	*uk*	*uʔ*	*um*	*un*	*uŋ*	—	*uy*
ə	*ə*	—	—	—	—	—	—	—	—	—

Table 3. The rhyme system

4.4 Tones

Gauri has four syllabic tones on vowel and sonorant-final syllables and two on stop-final syllables, as represented by the examples in (3). The low tone in Gauri is realized with a low-falling contour as in Standard Jingpho. Note that some words with the high-falling tone in Standard Jingpho correspond to those with the high level tone in Gauri (e.g. 'house' SJ *ńtâ* vs. GR *ǹtá*) and some with the mid tone in Standard Jingpho correspond to those with the falling (high-falling) tone in Gauri (e.g. 'begin' SJ *phaŋ* vs. GR *fâŋ*).

(3)

a.	Low	*sàn*	'clear'
b.	Mid	*dan*	'worth'
c.	High	*sán*	'ask'
d.	Falling	*sân*	'empty'
e.	Low	*dàʔ*	'weave'
f.	High	*táʔ*	'hand'

5 Genetic position of Gauri within Jingpho dialects

This section and the next section discuss Gauri phonology from the perspective of historical linguistics. This section argues that Gauri belongs to the Southern dialect group within Jingpho dialects despite its superficial similarity to the Northern group on the basis of irregular phonological innovations and of not having all the four phonological innovations shared by all the dialects belonging to the Northern group.

5.1 Similarity between Gauri and Northern dialects

Some speakers of Standard Jingpho report that Gauri is more similar to Northern dialects such as Duleng than to Standard Jingpho. This observation may be supported, in part, on the basis of partial similarities between Gauri and some Northern dialects, which are exemplified in Table 4:[2]

		Southern		Northern			
	GR	SJ	NK	DL	DG	NP	TR
'female'	*ɯ̀*	*yì*	*yì*	*ɯ̀ɯ̀*	*ɯ̀*	*ɯ̀ii*[1]	*ɯ̀ii*[1]
'sweep'	*ɯ́*	*yé*	*yé*	*ɯ̀ʔ*	*ɯ̀k*	*ɯ́ʔ*[8]	*ɯ́ʔ*[4]
'tiger'	*ɕəroŋ*	*ɕəro*	*ɕə̀ro*	*ɕəluŋ*	*ɕəluŋ*[3]	*sərooŋ*[1]	*sərooŋ*[3]
'wing'	*sùŋkôŋ*[4]	*sìŋko*	*sìŋko*	*ɕìŋkúŋ*	*jìŋkhúŋ*	*siŋ*[4]*kooŋ*[1]	*siŋ*[3]*kooŋ*[2]
'begin'	*fâŋ*	*phaŋ*	*phaŋ*	*phaŋ*	*faŋ*	*phaŋ*[4]	*phaŋ*[1]
'twenty'	*hûn*	*khun*	*khun*	*khún*	*hún*	*khun*[1]	*khun*[3]
'soon'	*yét*	*yát*	*yát*	—	—	*yet*[1]	*yet*[3]

Table 4. Similarity between Gauri and Northern dialects

Onset *ɯ-* in Gauri, for instance, corresponds to *ɯ-* in Northern dialects but to *y-* in Southern dialects, as can be seen in 'female' and 'sweep'. Notice also that the words for 'tiger' and 'wing' have coda *-ŋ* in Gauri as well as in Northern dialects, but Southern dialects do not have coda *-ŋ*. As can be seen in the words for 'begin' and 'twenty', onsets *ph-* and *kh-* in Southern dialects correspond to *f-* and *h-* respectively in Gauri as well as in DG which belongs to the Northern

[2] The data from Standard Jingpho, Gauri, Duleng and Dingga are based on primary data collected during my field research in northern Burma. The data on the other dialects are secondary data taken from previous studies: Nkhum (Dai et al. 1983), Turung (Morey's MS a), Numphuk (Morey's MS b). Data of Nkhum are given in slightly modified transcription: *ə* for *ă*, *ɕ* for *ʃ*, *c* for *ʧ*, *r* for *ʒ*, *y* for *j*. Tone marks of Nkhum are also modified as follows: *mà* for ma^{31}, *ma* for ma^{33}, *má* for ma^{55}, *mâ* for ma^{51}.

I will transcribe coda consonants *-ɯ* and *-y* in Gauri as *-u* and *-i* in order to keep consistency with transcription systems of the other dialects and previous studies although they can be analyzed as coda consonants in Gauri as discussed in Section 4.1.

[3] Although I described the words for 'tiger' and 'wing' in Dingga as *ɕəluŋ* and *sìŋkúŋ* in Kurabe (2014b), these forms seem to be Duleng-influenced forms, and the correct Dingga forms are *ɕəluŋ* and *jìŋkhúŋ*.

[4] Although I described this word with a low tone in Kurabe (2014b), more data indicate that this word bears a falling tone.

group. Morey (2010: 111) notes that in Turung, another dialect belonging to the Northern group, there is a tendency for spirantization of /ph/ to [ɸ]. He also observes a realization of /kh/ as [x] in the word for 'bread' although this development is less frequent. Finally, note that the word for 'soon' in Gauri shows more similarity to Numphuk and Turung which belong to the Northern group rather than to Standard Jingpho and Nkhum which belong to the Southern group in that Gauri has a vowel *-e* for this lexical item as do Numphuk and Turung.

We, however, group Gauri with the South dialects rather than with Northern dialects, as represented below, despite the similarities between Gauri and Northern dialects exemplified above. We assume that the similarities between Gauri and Northern dialects are superficial due to shared retentions or parallel innovations which occurred independently. The following sections are devoted to discussing evidence for this classification. Section 5.2.1 provides evidence for grouping Gauri into the Southern group. Section 5.2.2 and 5.2.3 present similarities between Gauri and the Northern dialects caused by shared retentions or parallel innovations, respectively.

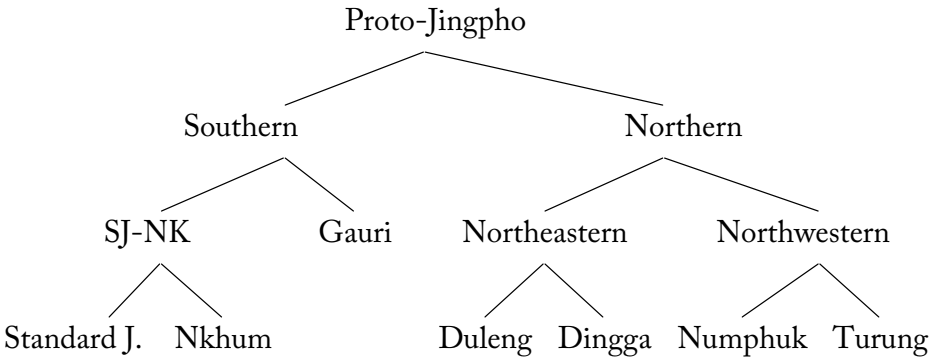

Figure 3. Classification of some Jingpho dialects

5.2 Classifying Gauri into the Southern group

5.2.1 The Evidence

Evidence for grouping Gauri with South dialects is based on three observations.

(a) Gauri shares an irregular phonological innovation with Southern dialects, in which coda **-k* of Proto-Jingpho dropped in some lexical items, as exemplified by 'gold', 'sweep', 'phlegm', 'sap', 'high', 'tear' and 'uproot' in Table 5. Compare them with PTB **tsyak* 'gold' (Matisoff 2003: 617), PTB **py(w)ak* 'sweep' (Matisoff 2003: 609), PTB **k·ak* 'phlegm' (Matisoff 2003: 594), Proto-Luish (PL) **nók* 'sap' (Huziwara in press), PL **cók* 'long/tall' (Huziwara 2012: 45), PL **sék* 'tear' (Huziwara 2012: 54) and PL **pók* 'pull out' (Huziwara in press), all of which have coda **-k*. Note that the regular reflex of Proto-Jingpho **-k* in Southern dialects is *-ʔ*, which is established by a large number of correspondence sets as demonstrated by examples in Table 12, and that the innovation **-k* > Ø is an irregular development which occurred only in some specific lexical items which are semantically as well as phonologically unrelated. The development **-k* > Ø in Gauri thus provides a strong evidence for grouping it within the Southern group.

(b) Gauri shares an innovation with Southern dialects, in which a proto-prefix dropped, as in 'earth'. Compare it with PTB **r-ka* 'earth' (Benedict 1972: 33, Matisoff 2003: 593). As pointed out by Benedict (1972: 109–10), the PTB prefix **r-* is reflected in Standard Jingpho by *n-* ~ *niŋ-* ~ *num-* in noun roots and thus the prefixal syllable *n-* in the Northern dialects must be reconstructed at the proto-stage.

(c) Gauri does not share all the four phonological innovations shared by all Northern dialects, which are **ts-* > *c-*, **dz-* > *j-*, **ʔy-* > Ø before proto-front vowels, and **preglottalized sonorants* > plain sonorants (Kurabe 2013c), as can be seen in 'high', 'quiet', 'close' and 'father'.

		Southern		Northern			
	GR	SJ	NK	DL	DG	NP	TR
'gold'	*jà*	*jà*	*cà*	*jàʔ*	*jèk*	*jaaʔ²*	*jaʔ¹*
'sweep'	*wé*	*yé*	*yé*	*wèʔ*	*wìk*	*weʔ³*	*weʔ¹*
'phlegm'	*məhá*	*məkhá*	*mə̀khá*	*məkhàʔ*	*məkhàk*	—	—
'sap'	*nó*	*nó*	*nó*	*nuùʔ*	*nǒk*	*noʔ²*	*noʔ²*
'high'	*tsò*	*tsò*	*tsò*	*cŭʔ*	*cùk*	*coʔ³*	*coʔ³*
'tear'	*jé*	*jé*	*cé*	*jèʔ*	*jèk*	*jeʔ²*	*jeʔ³*
'uproot'	*bò*	*bó*	*pó*	—	*bùk*	*boʔ²*	*boʔ¹*
'earth'	*gá*	*gá*	*ká*	*ǹgàʔ*	*ǹgàʔ*	*ŋ⁴gaa⁴*	*ŋ¹gaa¹*
'quiet'	*dzìm*	*dzìm*	*tsìm*	*jìm*	*jìm*	*jim¹*	—
'close'	*ʔyép*	*ʔyép*	*yép*	*ép*	*ép*	*ep³*	*ep³*
'father'	*ʔwâ*	*ʔwâ*	*wâ*	*wá*	*wá*	*waa¹*	*waa¹*

Table 5. Evidence for grouping Gauri into the Southern group

5.2.2 Similarity due to retention

Some of the similarities between Gauri and Northern dialects can be explained in terms of shared retention. For the correspondence Gauri *w-* vs. Southern dialects *y-* vs. Northern dialects *w-*, we reconstruct Proto-Jingpho **w-* rather than **y-*. One argument for this reconstruction is based on naturalness of sound change. That is, this correspondence is observed only before **-i* and **-e*, as exemplified by the examples in Table 6,[5] and sound change **w-* > *y-* before front-vowels is phonetically more natural than vice versa (for more details, see Kurabe 2014b). The similarity between Gauri and Northern dialects thus comes from shared retention and does not provide evidence for grouping Gauri with Northern dialects.

[5] (K) in Table 6 indicates that the form is taken from my field notes, not listed in Morey's MS a and b.

		Southern		Northern			
	GR	SJ	NK	DL	DG	NP	TR
'fan'	*wìt*	*yìt*	*yìt*	*wìt*	*wìt*	*wit*^{3}	*wit* ^{1}
'swidden'	*wí?*	*yí?*	*yí?*	*wí?*	—	*wi?*^{2}	*wi?*^{2}
'turn'	*gəwin*	*gəyin*	*kə̀yin*	*khəwin*	*gəwin*	*gəwin*^{1}	*gəwin*^{3}
'sweep'	*wé*	*yé*	*yé*	*wè?*	*wìk*	*we?*^{3}	*we?*^{1}
'go aside'	*wén*	*yén*	*yén*	*wèn*	*wìn*	*wen*^{4}	*wen*^{1} (K)

Table 6. GR *w-* vs. Southern *y-* vs. Northern *w-*

We could also explain the correspondence Gauri *-ŋ* vs. Southern dialects Ø vs. Northern dialects *-ŋ* in terms of shared retention rather than innovation. Compare lexical items showing this correspondence in Table 7 with PTB **(p/b)wa(ŋ)* 'head' (STEDT #388), **r-kwa(ŋ)* 'foot' (STEDT #5621), **g-r(w/y)a(ŋ/k)* 'bone' (STEDT #238), **r-kwa(:)k* 'outer covering' (Matisoff 2003: 596), **k-m-ra-ŋ* 'horse' (Matisoff 2003: 609), **s/k-roŋ* 'cat/wild cat' (Matisoff 2003: 611), **k(w)aŋ* 'arm/wing' (STEDT #240) and **m-kya(ŋ/n)* 'see/know' (STEDT #1229), respectively.[6] Note the fact that Standard Jingpho sometimes preserves *-ŋ* in compounds, as in *bùŋkhúm* 'pillow', *bùŋwàm* 'top of the head', *ròŋbà* 'big tiger' and *ròŋcaŋ* 'black leopard'. Note also the form *boŋ* 'head' is used in religious poetry in Standard Jingpho (Hanson 1906: 71).

		Southern		Northern			
	GR	SJ	NK	DL	DG	NP	TR
'head'	*boŋ*	*bo*	*po*	*gəbɯŋ*	*gəbuŋ*	*booŋ*^{1}	*booŋ*^{3}
'foot'	*ləgoŋ*	*ləgo*	*lə̀ko*	*ləgɯŋ*	*khúŋ*	*ləgooŋ*^{1}	*ləgooŋ*^{3}
'bone'	*ǹraŋ*	*ǹra*	*ǹra*	*gìnláŋ*	*gìnláŋ*	*n*^{4}*raaŋ*^{1}	*n*^{3}*raaŋ*^{3}
'eyebrow'	*kôŋ*	*ko*	*ko̲*	*kúŋ*	*khúŋ*	*kom*^{4}	—
'tiger'	*gùmràŋ*	*gùmrà*	*kùmrà*	*gùmlàŋ*	*gùmlàŋ*	*gum*^{4}*raaŋ*^{1}	*gum*^{1}*raaŋ*^{2}
'wing'	*ɕəroŋ*	*ɕəro*	*ɕə̀ro*	*ɕəluŋ*	*ɕəluŋ*	*sərooŋ*^{1}	*sərooŋ*^{3}
'know'	*sùŋkôŋ*	*sìŋko*	*sìŋko̲*	*ɕìŋkúŋ*	*jìŋkhúŋ*	*siŋ*^{4}*kooŋ*^{1}	*siŋ*^{3}*kooŋ*^{2}
	cêŋ	*ce*	*ce̲*	*ceŋ*	*ciŋ*	*ceŋ*^{4}	*ceŋ*^{3}

Table 7. GR *-ŋ* vs. Southern Ø vs. Northern *-ŋ*

[6] The morpheme for 'eyebrow' in Table 7 occurs in compounds, normally preceded by the word for 'eye' and followed by 'hair', as in SJ *myì?-ko-mun* 'eyebrow', although they are omitted in Table 7 due to space limitation. The *-ŋ* of 'eyebrow' in contrast to PTB **-k* may be accounted for in terms of assimilation to the initial consonant of the following word 'hair'.

5.2.3 Similarity due to parallel innovation

Some of the similarities between Gauri and Northern dialects can be explained in terms of parallel innovations which occurred separately. Proto-Jingpho **ph-* and **kh-*, for example, are spirantized to *f-* and *h-* in Gauri as well as in Dingga (and Shang) which belong to the Northern group (Kurabe 2013a, 2013b), as demonstrated by the examples in Table 8. We consider, however, that these developments are not shared innovations since the conditioning factor is not same. That is, although the sound change **ph-* (or **kh-*) > *f-* (or *h-*) in Gauri is unconditioned, occurring in all etyma with **ph-* and **kh-*, the similar sound change in Dingga (and Shang) is conditioned, normally occurring in word-initial position. Compare the words 'thin' and 'flee' with 'shoulder', and 'walk' and 'weep' with 'fog' in Table 8, respectively. Also note that Turung has a tendency for spirantization of /ph/ to [ɸ], but this change is still in progress, as noted above. Compare this situation with that of Gauri in which the change has already finished. The sound changes **ph-* > *f-* and **kh-* > *h-* thus are not shared innovations between Gauri and some Northern dialects. We assume that they occurred separately although the sound changes are superficially similar to each other. This may be possible given the fact that spirantization is a typologically common sound change and thus may occur several times independently in the history of a single language group.

		Southern		Northern			
	GR	SJ	NK	DL	DG	NP	TR
'thin'	*fà*	*phà*	*phà*	*phà*	*fà*	*phaa*[1]	*phaa*[2]
'flee'	*frôŋ*	*phroŋ*	*phroŋ*	*phoŋ*	*foŋ*	—	*phroŋ*[3]
'shoulder'	*ləfà?*	*ləphà?*	*kə̀phà?*	*ləphà?*	*ləphà?*	*kəpha?*[2]	*kəpha?*[2]
'walk'	*hôm*	*khom*	*khom*	*khum*	*hum*	*khoom*[1]	*khoom*[3]
'weep'	*hràp*	*khràp*	*khràp*	*khàp*	*hàp*	*khap*[3]	*khrap*[1]
'fog'	*məhúp*	*məkhúp*	*mə̀khúp*	*məkhúp*	*məkhúp*	*məkhup*[3]	—

Table 8. GR *f-* vs. DG *f-* and GR *h-* vs. DG *h-*

We could explain the correspondence Gauri *-e* vs. Numphuk/Turung *-e* in terms of parallel innovations which occurred independently since this correspondence is held only partially in Numphuk and Turung. Compare 'soon' with 'beat', in which Numphuk has *-a*, not *-e*. Note also that this correspondence is observed only when **-a* is preceded by a palatal glide (**y-* or **ʔy-*) and simultaneously followed by an alveolar stop or nasal (Kurabe 2014b). A sound change in which **-a* became *-e* after **y-* or **-a* became *-e* before **-t* or **-n* is a common sound change resulting from assimilation to adjacent segments. This sound change thus may have occurred several times separately in the history of Jingpho.

		Southern		Northern			
	GR	SJ	NK	DL	DG	NP	TR
'soon'	*yét*	*yát*	*yát*	—	—	*yet*[1]	*yet*[3]
'beat'	*gəyèt*	*gəyàt*	*kə̀yàt*	*khəyàt*	*gəyàt*	*gəyat*[1]	—
'slow'	*ʔyèt*	*ʔyàt*	*yạ̀t*	—	—	—	—
'DUAL'	*ʔyén*	*ʔyán*	*yán*	—	—	*yen*[4]*/een*[4]	—

Table 9. GR *-e* vs. NP/TR *-e*

6 Historical phonology of Gauri

This section treats phonological innovations and a notable retention observed in Gauri on the basis of sound correspondences between Jingpho dialects and of the Proto-Jingpho (PJ) phonological system.

*6.1 PJ *ph-*

As discussed in Section 5 above, PJ **ph-* is reflected in Gauri by *f-*. The sound change **ph-* > *f-* is unconditioned, occurring in all cases of PJ **ph-* regardless of their position. Some additional examples are provided in Table 10:

	GR	SJ	NK	DL	DG	NP	TR
'back'	*fâŋ*	*phaŋ*	*phaŋ*	—	—	—	—
'full'	*fríŋ*	*phríŋ*	*phríŋ*	*phíŋ*	*fíŋ*	*phriŋ*[4]	—
'skin'	*fyìʔ*	*phyìʔ*	*phyìʔ*	*phyìʔ*	*fik*	*phiʔ*[2]	*phiʔ*[2]
'carry'	*fâi*	*phai*	*phai*	*phai*	*fai*	*phai*[1]	*phai*[3]

Table 10. Reflexes of PJ **ph-*

*6.2 PJ *kh-*

As discussed in Section 5, PJ **kh-* is reflected in Gauri by *h-*. The sound change **kh-* > *h-* is unconditioned, occurring in all cases of PJ **kh-* regardless of their position. Some additional examples are presented in Table 11:

	GR	SJ	NK	DL	DG	NP	TR
'weep'	*hràp*	*khràp*	*khràp*	*khàp*	*hàp*	*khap*^{3}	*khrap*^{1}
'water'	*hà?*	*khà?*	*khà?*	*khà?*	—	*kha?*^{3}	*kha?*^{1}
'two'	*ləhóŋ*	*ləkhôŋ*	*lə́khôŋ*	*khóŋ*	—	*ŋ*^{1}*khoŋ*^{5}	*ŋ*^{1}*khoŋ*^{2}
'touch'	*hrá*	*khrá*	*khrá*	*khá*	*há?*	*khraa?*^{2}	*cəkhraa*^{3}

Table 11. Reflexes of PJ **kh-*

*6.3 PJ *-k*

PJ **-k* is normally reflected in Gauri by *-?*. The sound change **-k* > *-?* is observed in almost all modern dialects of Jingpho except Dingga and Shang which preserve PJ **-k* as *-k* (Kurabe 2013a). As pointed out by Benedict (1972: 14 note 50), PJ **-k* is also retained as such in Jilí, an extinct dialect (language) of Jingpho, as in *tawak* 'pig', *pakyók* 'mosquito' and *maphik* 'skin' (Brown 1837: 1033).

	GR	SJ	NK	DL	DG	NP	TR
'pig'	*ʔwà?*	*wà?*	*wà?*	*wà?*	*wàk*	*wa?*^{2}	*wa?*^{2}
'neck'	*dù?*	*dù?*	*tù?*	*gədù?*	*gədùk*	*du?*^{2}	*du?*^{3}
'breast'	*cú?*	*cú?*	*cú?*	*cú?*	*cúk*	*cu?*^{2}	*cu?*^{1}
'open'	*fô?*	*phò?*	*phò?*	*phò?*	*fôk*	*pho?*^{3}	*pho?*^{3}

Table 12. Reflexes of PJ **-k*

*6.4 PJ *-a*

PJ **-a* is sporadically reflected in Gauri by *-o*. This development is only attested when the vowel is preceded by a proto-bilabial glide **w-* or **ʔw-* (see Kurabe 2014b), as are exemplified by 'faded', 'one million' (possibly from Chinese *wàn* 'ten thousand') and 'fire' in Table 13. Note that this is a sporadic sound change which occurred only in a very small subset of the Gauri lexicon, as can be seen from 'father' and 'fast', which show a more regular correspondence.

	GR	SJ	NK	DL	DG	NP	TR
	-o	*-a*	*-a*	*-a*	*-a*	*-a*	*-a*
'faded'	*wói*	*wái*	*wái*	—	—	—	—
'one million'	*wòn*	*wàn*	*wàn*	—	—	—	—
'fire'	*ʔwòn*	*ʔwàn*	*wàn*	*wàn*	*wàn*	*wan*[1]	*wan*[2]
	-a	*-a*	*-a*	*-a*	*-a*	*-a*	*-a*
'father'	*ʔwâ*	*ʔwâ*	*wâ̲*	*wá*	*wá*	*waa*[1]	*waa*[1]
'fast'	*ləwan*	*ləwan*	*lə̀wan*	*ləwan*	—	*ləwan*[1]	—

Table 13. Reflexes of PJ **-a* after bilabial glides

PJ **-a* is reflected in Gauri by **-e* when preceded by a palatal glide **y-* or **ʔy-* and followed by an alveolar stop or nasal **-t* or **-n*, as are exemplified by 'soon', 'beat', 'slow' and 'DUAL, and' in Table 14 (Kurabe 2014b). Compare them with 'now' and 'itching' which are not followed by an alveolar stop or nasal.

	GR	SJ	NK	DL	DG	NP	TR
	-e	*-a*	*-a*	*-a*	*-a*	*-a*	*-a*
'soon'	*yét*	*yát*	*yát*	—	—	*yet*[1]	*yet*[3]
'beat'	*gəyèt*	*gəyàt*	*kə̀yàt*	*khəyàt*	*gəyàt*	*gəyat*[1]	—
'slow'	*ʔyèt*	*ʔyàt*	*yà̲t*	—	—	—	—
'DUAL'	*ʔyén*	*ʔyán*	*yá̲n*	—	—	*yen*[4]*/een*[4]	—
	-a	*-a*	*-a*	*-a*	*-a*	*-a*	*-a*
'now'	*yáʔ*	*yáʔ*	*yáʔ*	*yàʔ*	*yák*	*yaʔ*[2]	*yaʔ*[1]
'itching'	*gəyá*	*gəyá*	*kə̀yá*	*khəyá*	*gəyá*	*gəyaa*[4]	*gəyaa*[1]

Table 14. Reflexes of PJ **-a* after palatal glides

*6.5 PJ *-r-*

Gauri is notable in that it well preserves PJ **-r-* as *-r-* which partially became *-y-* in some dialects. That is to say, although PJ **-r-* is preserved as such in most Jingpho dialects except Duleng, Shang and Dingga (Kurabe 2013b), **-r-* in some words irregularly became *-y-* in almost all dialects of Jingpho. Gauri well preserves such **-r-* as *-r-*, as demonstrated by the examples in Table 15. Compare 'plank', 'delight' and 'match' in Table 15 with PTB **plyaŋ* 'plank' (Matisoff 2003: 607), PTB **pro* 'delight' (Matisoff 2003: 607) and Written Burmese *mī*[3]*-khrac* 'match'.[7] The same may

[7] The words for 'plank' and 'match' in Jingpho are used in compounds, preceded by words for 'tree' and 'fire', respectively, although they are omitted in Table 14 due to space limitations.

be said for the other items in Table 15 although comparative evidence is not available. Note that this characteristic of Gauri was, in part, already pointed out in Hanson (1896: 7), as noted in Section 3.2.

	GR	SJ	NK	DL	DG	NP	TR
'plank'	*pren*	*pyen*	*pye̲n*	*pyen*	*pyen*	*pen*[4]	—
'delight'	*pro*	*pyo*	*pyo̲*	*pyo*	*pyo*	—	—
'match'	*hrèt*	*khrèt*	*khrèt*	*khyèt*	*khyèt*	*khet*[1]	*khet*[1]
'alongside'	*gəpròn*	*gəpyòn*	*kə̀pyò̲n*	—	—	—	—
'hollow'	*hrók*	*khyók*	*khyók*	—	—	—	—
'opium pipe'	*pròŋ*	*pyòŋ*	*pyò̲ŋ*	—	—	—	—
'cluster'	*tàŋkráŋ*	*ɕìŋkyáŋ*	*ɕìŋkyá̲ŋ*	—	—	—	—

Table 15. Reflexes of PJ **-r-*

7 Conclusions

This paper investigated the characteristics of the Gauri phonology from the perspective of historical linguistics. We argued that Gauri belongs to the Southern group of Jingpho based on irregular phonological developments in which proto-final **-k* and proto-prefix **n-* disappeared in some specific words which are not related phonologically and semantically, and on not having all the four phonological innovations which all the Northern dialects share. This paper showed that some aspects of Gauri phonology are similar to those of Northern dialects and argued that this similarity is due to shared retentions or parallel developments which occurred separately.

This paper also discussed phonological developments in Gauri, which can be summarized as follows: **ph- > f-*; **kh- > h-*; **-k > -ʔ*; **-k > Ø* (sporadic); **-a > -o/*w-* or **ʔw-__* (sporadic); **-a > -e/*y-* or **ʔy-__*-t* or **-n*. We also noted that Gauri well preserves Proto-Jingpho medial **-r-* as *-r-*, which has irregularly developed into *-y-* in some dialects of Jingpho, on the basis of comparative evidence.

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