A geolinguistic analysis of directional prefixes in Qiangic languages

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1   Introduction

The Qiangic branch of languages are still under discussion with respect to their genealogical details such as its subclassification and position in Tibeto-Burman/Sino-Tibetan languages (Sun 1982, 1983, 2001, 2016; Thurgood 1985; Nishida 1987; Matisoff 2003; Jacques and Michaud 2011; Chirkova 2012). Although it is difficult to find shared phonological innovation in these languages, [1] they share plenty of typological characteristics such as a set of verbal prefixes to indicate the direction of movement ("directional prefixes"). Moreover, certain such typological characteristics including directional prefixes are also found in neighboring languages such as Pema, a Bodic language.

   This study examines the geographical distribution and relative chronology of representative directional prefixes in Qiangic languages: (i) "upward" ('UPW'); (ii) "downward" ('DWN'); (iii) "inward" ('INW'), "upriver" ('URV'), "eastward" ('ES'), and so on; and (iv) "outward" ('OUT'), "downriver" ('DRV'), "westward" ('WS'), and so on.[2] Note that I not only examine single morphemes such as in (i) and (ii) but also examine a group of directional prefixes shown in (iii) and (iv), because of their semantic shifts. I referred to Roche and Suzuki (2017) and H. Suzuki (personal communication) for the names of languages/dialects. As for the subgrouping of the Qiangic and neighboring languages mentioned in this paper, I tentatively followed Jacques and Michaud (2011: Appendix-6). The main sources of language data are shown in Table 1 with their subgroupings. Figure 1[3] shows their geographical distribution. The forms of directional prefixes involved in the discussion are listed in Table 2, in which the languages/dialects are roughly aligned from north to south.

Table 1: The main sources of language data with subgrouping. (Languages and dialects in italics, sources in roman.)

Na-Qiangic

    Qiangic

        rGyalrongic

            Japhug (*Ganmuniao*, Jacques 2008)

            Situ (*Mbola*, Nagano 2001)   rGyalrongish

            Tshobdun (*Caodeng*, Sun 2000)

            Khroskyabs (*Guanyinqiao*, B. Huang 2007, 2009; *Mu'erzong*, Sun 2000; *Wobzi*, Lai 2017; *Yelong*, Yin 2007)

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[1] Matisoff (2004) points out a quasi-common sound change in Qiangic, which he calls "brightening." Chirkova (2012: 138) mentions that brightening is "the only (phonological) innovation for the Qiangic subgroup proposed so far."

[2] (iii) and (iv) also include "leftward" ('L') vs. "rightward" ('R') in Prinmi; "leftward/southward" ('L/STH') vs. "rightward/northward" ('R/NTH') in Ersu; and "to the left bank" ('L.B.') vs. "to the right bank" ('R.B.') in Wobzi Khroskyabs.

[3] "n.d." in the map legend indicates that the language is not mentioned in Jacques and Michaud (2011: appendix-6).

sTodsde (*Puxi*, Sun 2000)   } Horpa

sTau (*Geshitsa*, Duoerji 1998; *Daofu*, Huang 2009)

Nyagrong Minyag (Suzuki 2012)

Other Qiangic

Northern Qiang (*Mawo*, Liu 1998; *Yadu*, LaPolla with Huang 2003)

Southern Qiang (*Longxi*, Zheng 2016; *Mianchi*, Evans 2001; *Puxi*, C. Huang 2007; *Taoping*, Sun 1981)

Choyu (*Youlaxi*, Wang 1991)

nDrapa (*Mätro*, my fieldnotes; *Southern*, Gong 2007; *Zhatuo*, Huang 2009)

Darmdo Minyag (Huang 1990, 2009)

Northern Prinmi (*Sanyanlong*, *Taoba* and *Tuoqi*, Lu 2001)

Central Prinmi (*Xinyingpan*, Ding 2014)

Southern Prinmi (*Qinghua* and *Zuosuo*, Lu 2001)

Naic

Na (*Yongning*, Michaud 2015)

Namuzi (*Luobo*, Huang 2009)

Shihing (*Upper Shuiluo*, Huang 2009; *Shuiluo*, Sun et al. 2014)

Other Na-Qiangic

Ersu (Zhang 2016)   } Ersuish

Lizu (Huang 2009)

Gochang (*Yutong*, Song 2011; *Qianxi*, Jiang 2015)
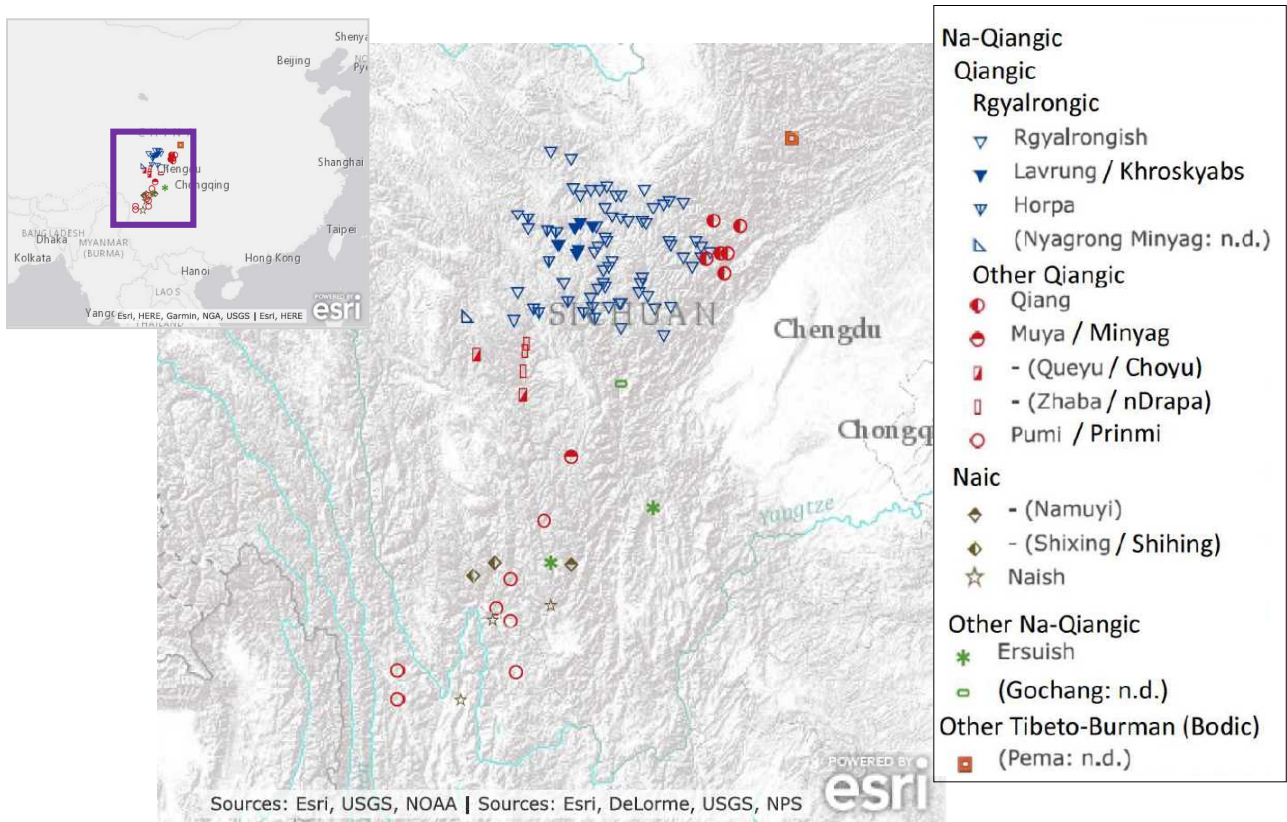
Bodic   *Pema* (*Pingwu*, Sun et al. 2007)

Figure 1: Qiangic languages and their neighboring languages.

Table 2: Directional prefixes in Qiangic and neighboring languages.

Language	'UPW'	'DWN'	'INW'	'URV'	'ES' etc.	'OUT'	'DRV'	'WS' etc.
Pema	khɛ⁵³-	ʒø³⁴¹-	nɔ¹³-	tɛɛ⁵³-	---	dʑø³⁴¹-	mo⁵³-	---
Caodeng Tshobdun	tə-	nɐ-	---	lɐ-	kə- 'ES'	---	thɐ-	nə- 'WS'
Ganmuniao Japhug	tɤ-	pɯ-	---	lɤ-	kɤ- 'ES'	---	thɯ-	nɯ- 'WS'
Mbola Situ	to-	no-	---	ko-	---	---	(no-)	---
Yadu Northern Qiang	tə-	ɦa-	ə-	nə-	---	ha-	sə-	---
Mawo Northern Qiang	tə-	a-	---	ŋu-	---	---	sə-	---
Mu'erzong Khroskyabs	ʌ-	nʌ-	---	lʌ-	kʌ- 'ES'	---	və-	nə- 'WS'
Yelong Khroskyabs	o-	na-	ko-	la-	(ko- 'ES')	ni-	vo-	(ni- 'WS')
Guanyinqiao Khroskyabs	æ³³-	nɛ³³-	kɛ³³-	(kɛ³³-)	---	rə³³-	nə³³-	
Puxi sTodsde	rə-	nə-	---	ldə-	ɣə- 'ES'	---	və-	gə- 'WS'
Wobzi Khroskyabs	æ-	næ-	---	kə-	læ- 'L.B.'	---	nə-	və- 'R.B.'
Longxi Southern Qiang	tə̀-	à-	jì-	---⁴	---	ʂə̀-	---	---
Taoping Southern Qiang	tə³¹	ə˞³¹	u⁵⁵	(u⁵⁵)	---	xɑ³¹	sl̩³¹	---
Puxi Southern Qiang	te-	ə˞-	kue-	y-	---	χa-	ʂe-	---
Mianchi Southern Qiang	tɛ̀ -	ɦà -	ì -	---	---	---	---	---
Daofu sTau	rə-	nə-	ɣə-	(ɣə-)	---	gə-	---	---
Nyagrong Minyag	rə	nə	wə	---	---	kə / ɣə	---	---
Geshitsa sTau	rə	nɑ	---⁵	---	wə 'ES'	---	---	gɑ 'WS'
Mätro nDrapa	ʌ-	a-	kʌ-	(kʌ-)	---	ŋʌ-	(ŋʌ-)	---
Zhatuo nDrapa	ə-	a-	kə-	(kə-)	---	ŋə-	(ŋə-)	---
Youlaxi Choyu	rə¹³-	lə⁵⁵-	kə⁵⁵-	(rə¹³-)	---	ɣɯ¹³-	---	---
Southern nDrapa	r⁵⁵-	a⁵⁵-	kə⁵⁵-	(kə⁵⁵-)	---	ŋə⁵⁵-	(ŋə⁵⁵-)	---
Yutong Gochang	thu³³	mi³³	---	---	---	---	(mi³³)	---
Qianxi Gochang	thu	mi	---⁶	ji-	---	wu	---	---
Darmdo Minyag	tə-	nɐ-	ɣə-	(ɣə-)	---	---	ɦæ-	---
Ersu	də-	nə-	kʰə-	---	kʰua- 'L/STH'	ŋə-	---	ŋua- 'R/NTH'
Sanyanglong Northern Prinmi	tə⁵⁵-	nə¹³-	xə¹³-	---	---	khə¹³-	---	---
Upper Shihing	dzi³³-	miæ³³-	khu³³-	(dzi³³-)	---	bə³³-	---	---
Shihing	dzi³³-	miɛ³³-	qho³³-	(dzi³³-)	---	by³³-	(miɛ³³-)	---
Lizu	de³⁵-	ne³⁵-	khe³⁵-	(khe³⁵-)	---	ŋe³⁵-	(ŋe³⁵-)	---
Luobo Namuzi	luo³³-	mi³³-	(luo³³-)	(luo³³-)	---	(mi³³-)	(mi³³-)	---
Taoba Northern Prinmi	tə⁵⁵-	nə³⁵-	xə³⁵-	---	---	khə³⁵-	---	---
Tuoqi Northern Prinmi	tə⁵⁵-	nə¹³-	xə¹³-	---	---	khə¹³-	---	---
Yongning Na	gɤ˩-	---⁷	---	---	---	---	---	---
Zuosuo Northern Prinmi	tə⁵⁵-	nə¹³-	xə¹³-	---	---	khə¹³-	---	---
Ludian Southern Prinmi	tə⁵⁵-	nə¹³-	xə¹³-	---	---	khə¹³-	---	---
Xinyingpan Central Prinmi	tʒ᷄ᴴ-	nʒ-	ʒ-/xʒ-	---	---	gə-/khə-	---	---
Qinghua Southern Prinmi	tə⁵⁵-	nə¹³-	xə¹³-	---⁸	(xə¹³- 'L')	khə¹³-	---	(khə¹³- 'R')

Legend: ---, no data or no mention; ( ), same as another directional prefix in the given language.

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⁴ "Directional markers in the Longxi dialect don't include direction upwards or downwards along a stream" (Zheng 2016: 182).

⁵ In Geshitsa, "directions such as "inward," "outward," "forward," and "backward" are expressed by adding a location word" (裏外方和前後方是以附加方位詞來表示的) (Duoerji 1998: 70).

⁶ Jiang (2015: 129) glosses the Gochang prefix *ji-* as 'inward,' Huang (2003: 249) and Song (2011: 116) gloss the correspondent forms as '向心' (toward center) and '朝說話者的方向' (toward the speaker), respectively.

⁷ cf. Yongning Na *mv˩tɕo˧* 'downward' (adverb(ial)) (Michaud 2015: 116).

⁸ Huang (2003 [1991]: 249) indicates that the "upward" and "downward" prefixes are used for "upriver" and "downriver" respectively in Southern Prinmi.

2   Previous studies

2.1   Genealogical or areal approaches to directional prefixes

Huang (2003 [1991]) mentions as follows:

> Most directional prefixes have a common origin. They have somewhat common manner or place of articulation. "大部分有共同來源" "大多數在發音方法或發音部位上總有某些共同點" (B. Huang 2003 [1991]: 251)

However, a comparative approach to the Qiangic directional prefixes is not straightforward, as Thurgood (2017: 16–17) points out, "with no obvious genetic connection to the genealogically related prefixes." Moreover, LaPolla (1994: 68–69) regards directional markers in Tibeto-Burman as one example of Sapir's "drift." These studies suggest that a comparative method is not fully efficient to solve the history of Qiangic directional prefixes.

2.2   Methodological backgrounds of geolinguistics

This presentation tries to examine the history of directional prefixes using a geolinguistic method, which is characterized as follows:

- "Linguistic geography (≒ geolinguistics) tries to construct a fine-grained history" 「言語地理学はキメの細かい歴史を構成しようとする」 Sibata (1977/1969: 11)
- "In a history that linguistic geography may construct does not show a change from a whole [linguistic system] to a new whole [system] but does show that a certain part [of the linguistic system] changes first." 「言語地理学が構成する歴史は、［体系の］全体が全体へ変わるようなものではなく、部分から変化するような性格のものである。」Sibata (1977/1969: 159)

There is a famous phrase of Jules Gilliéron, "Every word has its history," which is often regarded as the doctrine of geolinguistics (linghistic geography). However, I regard Sibata's (1977 [1969]) following view as more appropriate.

> This famous phrase means that every word has different geographical distribution. […] However, I don't think we can take this phrase at face value. […] because linguistic geography started from the point that to criticize the Young Grammarians' doctrine "phonetic laws have no exceptions." […] We can find a number of items that show a similar distribution through examining the maps of distribution of plenty items. 「非常に多くの項目にわたって、その分布図のすべてをよく見れば、類似の分布を示す項目はいくつもある。」Sibata (1977 [1969]: 39-40)

3   A geolinguistic analysis of directional prefixes

Figure 2 illustrates the number of directional prefixes that Qiangic and neighboring languages have. It shows a tendency for northern languages to have more and southern languages to have fewer. This distribution suggests that certain directional prefixes have developed in the areal context.
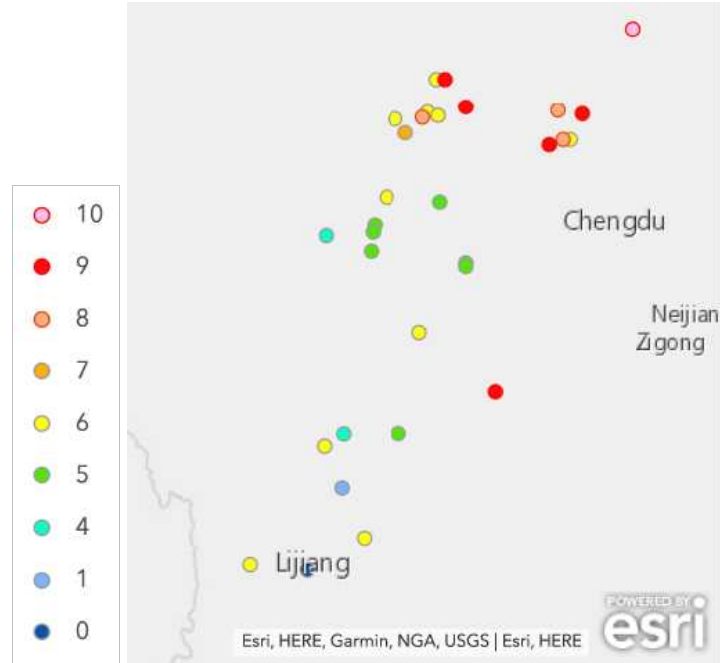
Figure 2: The number of directional prefixes.

3.1 Directional prefixes for the upward movement

Directional prefixes that mean "upward" are found all languages/dialects with a set of directional prefixes. Figure 3 illustrates their distribution. The forms in Qiangic languages/dialects are roughly classified into three types: [A] those with dental initial (marked with red in the figure); [B] those with vowel initial (i.e. without consonant initial) (marked with green); and [C] those with initial /r/.
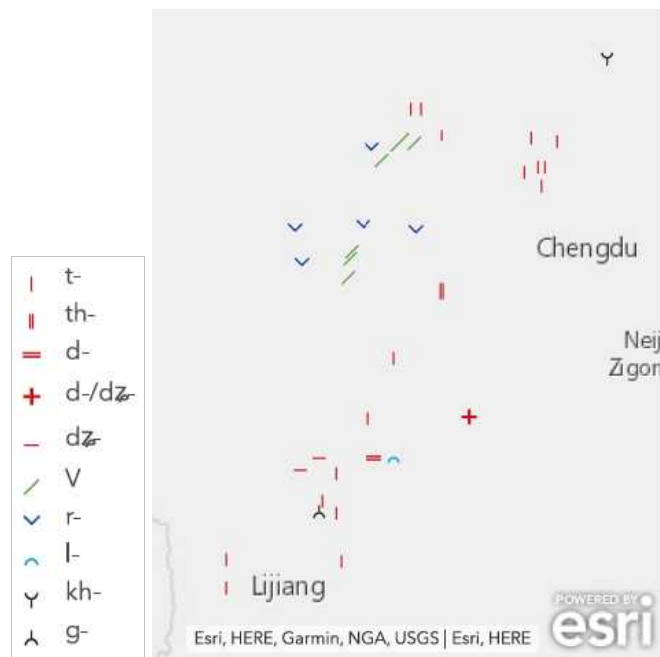
Figure 3: "Upward" prefixes

These three types show a significant distribution: [C] is concentrated in the northwestern spots, while [B] is divided into two areas in the north and south of [C]. Moreover, [A] is found around them.

This suggest that the relative chronology was [A] > [B] > [C], that is, at first [A] spread in the whole area; secondly, [B] spread in the northwestern area; and finally [C] was diffused from the northwest.

3.2   Directional prefixes for the downward movement

Figure 4 illustrates the geographical distribution of directional prefixes for the downward movement, based on the initials of their forms. In this classification, the forms in Qiangic are roughly divided into two main types with a few exceptions: [A] those with *n*-initial (marked with red) and [B] those with vowel or glottal initial (marked with blue). Moreover, *m*-initial type is found in Naic languages and Gochang, which are out of the proper "Qiangic" group. The distribution suggests that [A] is older than [B], since [B] is distributed in the middle of the two separate areas of [A].

Figure 5 illustrates the distribution of "downward" directional prefixes in Qiangic languages, according to their vowels. In some languages, the "downward" prefixes a low vowel which is typically invariable, while other prefixes show phonological assimilation of the vowel in many cases. Low vowels are marked with red in Figure 5. Its distribution is similar to that of [B] in Figure 4 but is rather wider.

These two maps suggest a story like this: First, a certain form like **nə-* ([A] plus a mid vowel) was spread widely in the whole area. Next, a low-vowel type like **a-* came from the northeast. Afterward, a mix type like *na-*, that is, a form with [A] and a low vowel, was formed in the area where the former two types met.
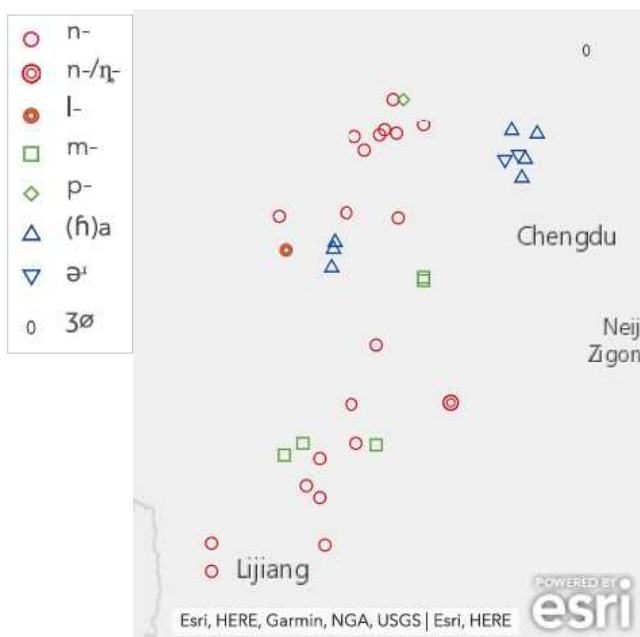

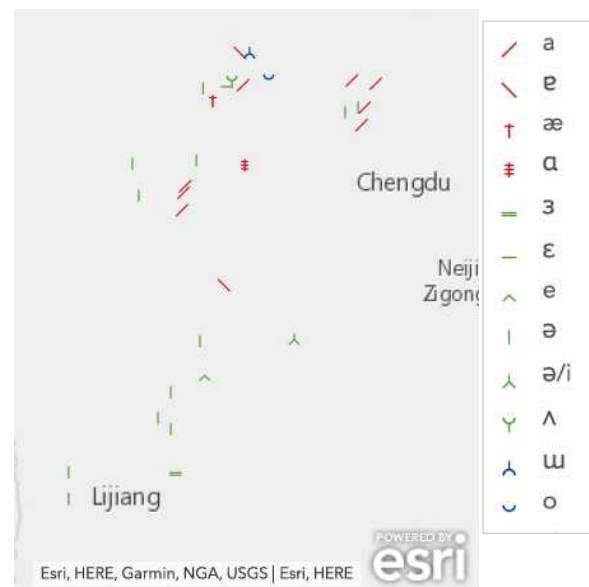Figure 4: Initials of "downward" prefixes.

Figure 5: Vowels of Qiangic "downward" prefixes.

3.3   Directional prefixes for inward, upriver, and related movements

This section examines a group of directional prefixes that includes "inward," "upriver," and "eastward." As is suggested in Table 2, several forms of these directional prefixes relate each other. In preceding studies, Huang (2003 [1991]: 249) regards "upriver/downriver" as the main notion, probably because it indicates natural geography, while Thurgood (2017: 16) lists "upstream" ("upriver") and "inward" in the same column (as well as "downriver" and "outward"). Lin (2002) discusses the relation between "upriver," "downriver," "east," and "west" in Situ (rGyalrongic).

However, for the present paper, I drew on separate maps and conclude that "inward" is the oldest notion among them. See Figures 6 to 8, which illustrate the geographical distribution of "inward," "upriver," and related prefixes such as "eastward" and "leftward," based on their initials, respectively.

Velars and uvulars are marked with red in all three figures. Figure 6 show the most homogeneous distribution. Figure 7 illustrates that "upriver" prefixes consist of various types and they vary among areas. Figure 8 suggests that the "eastward" and "leftward" prefixes were developed in a part of languages/dialects, probably from "inward/upriver" prefixes in most cases.
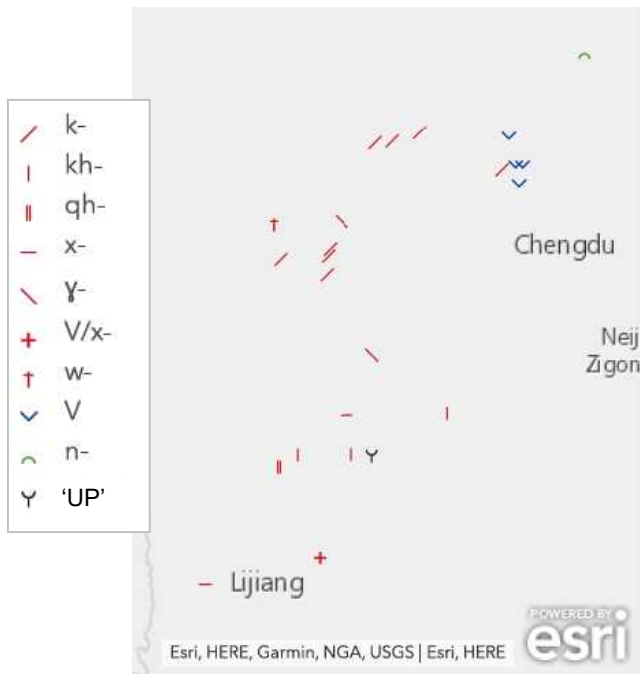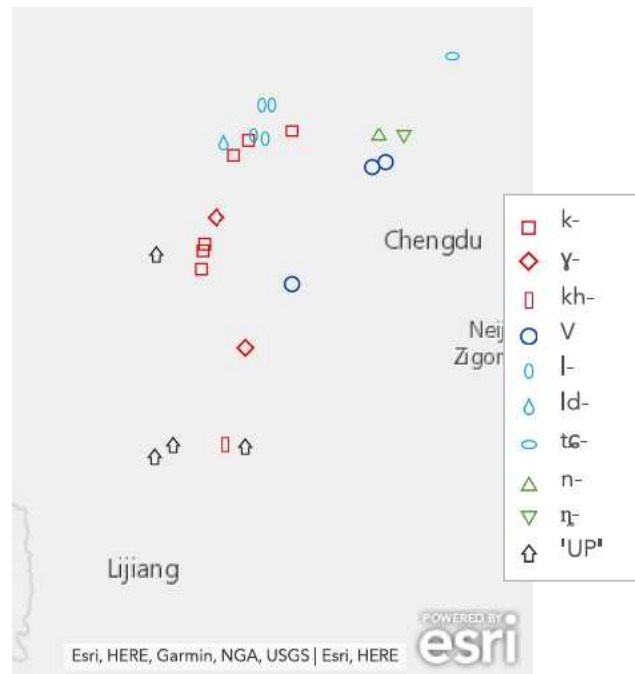

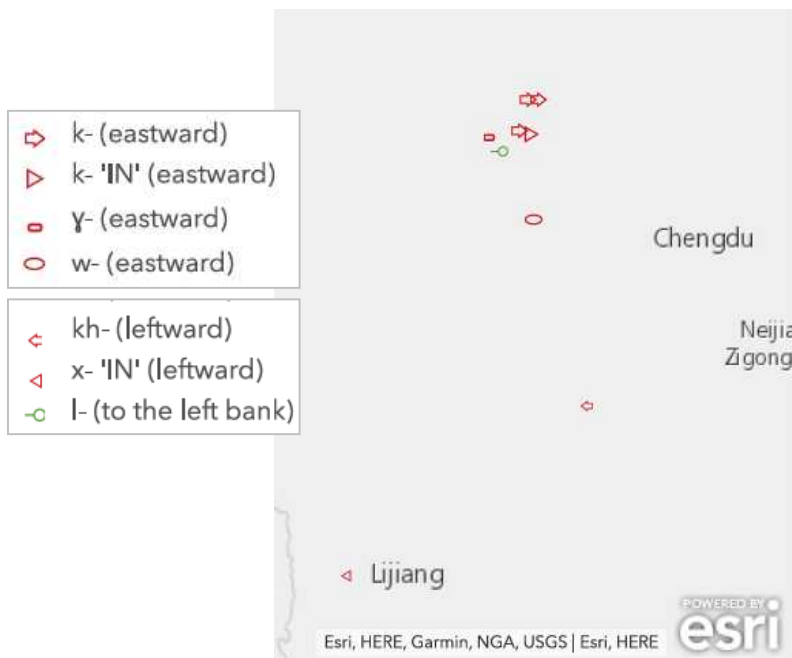Figure 6: "Inward" prefixes.

Figure 7: "Upriver" prefixes.

Figure 8: "Eastward" and "leftward" prefixes.

Several rGyalrongic languages/dialects have *l(d)*-type either for "upriver" or "to the left bank," which are probably developed later in rGyalrongic. Some Qiang dialects have verbal initial type for "inward" and/or "upriver," which are apparently related to the second-stage form of "upward" (Type [B] in 3.1). Moreover, part of Northern Qiang dialects have *n*-type for "upriver," which might be related to

n-type for "westward" (3.4) that is probably derived from "downward." However, the present paper will not discuss further details of such semantic shifts.

3.4   Directional prefixes for outward, downriver, and related movements

The situation is parallel to that of "inward," "upriver," and so on that was discussed in 3.3. See Figures 9 to 11. Some rGyalrongic languages have *n*-type either for "downriver" or "westward," which suggests they were semantically shifted from the "downward" prefixes (3.2).
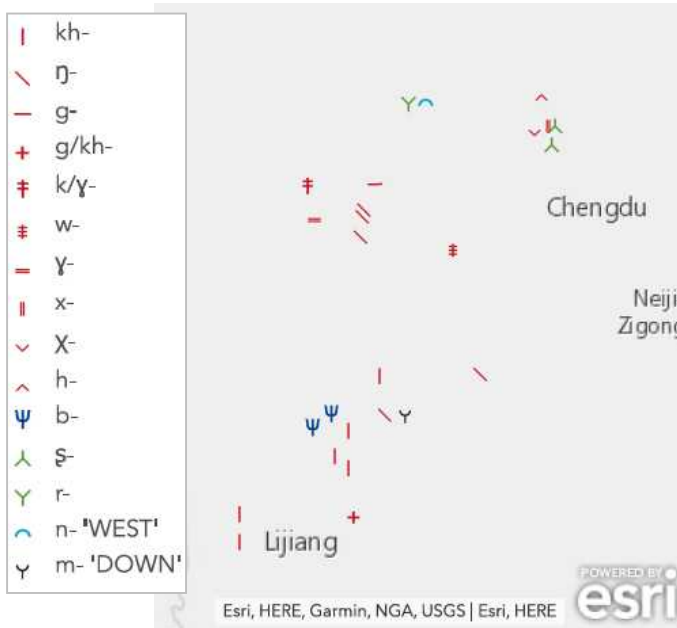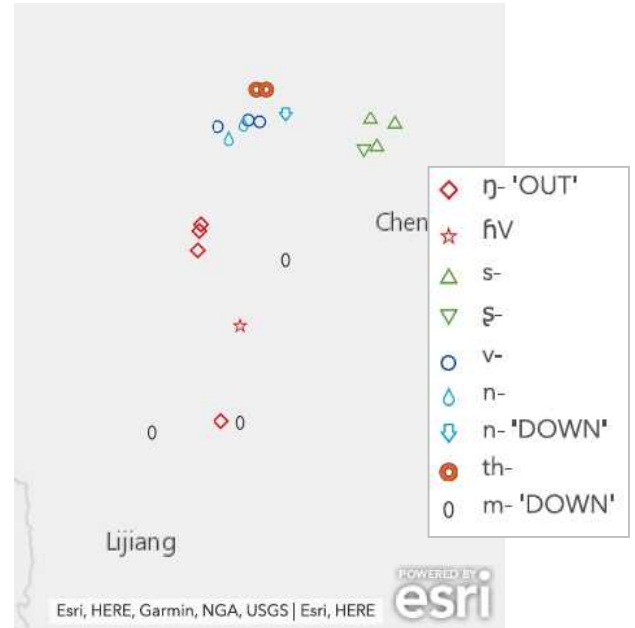

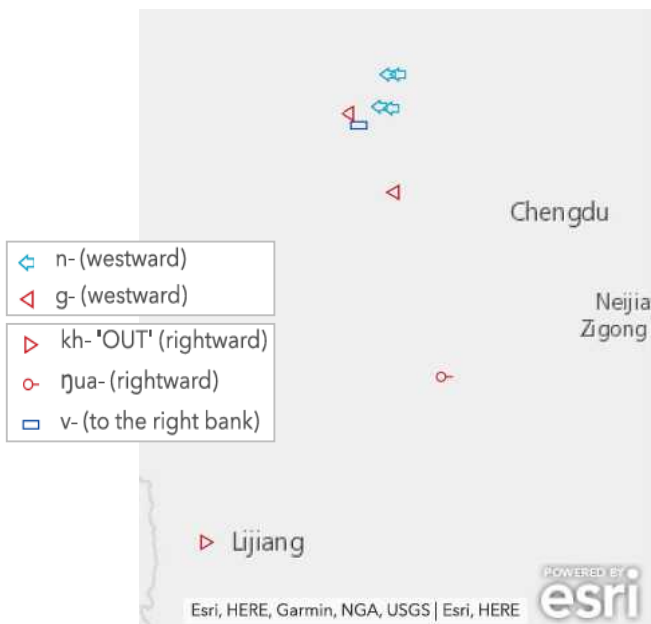Figure 9: "Outward" prefixes.

Figure 10: "Downriver" prefixes.

Figure 11: "Westward" and "rightward" prefixes.

4 Conclusion

In this study, I first pointed out the possibility of areal development of directional prefixes based on the number: the northern languages have more and the southern languages have fewer. Moreover, I examined the areal distributions of the following 4 groups of directional prefixes: (i) "upward"; (ii) "downward"; (iii) "inward," "upriver," and related movements, and (iv) "outward," downriver," and related movements.

    (i) The distribution of "upward" prefixes suggests the relative chronology that [A] those with a dental initial are the oldest; [B] those with a vowel initial came next; and then [C] those with initial /r/ came from the northeast.

    (ii) The distribution of "downward" prefixes suggests a story like this: First, a certain form like with an initial dental nasal spread widely in the whole area. Next, a low-vowel type came from the northeast. Finally, a mix type like *na-*—that is, a form with the initial like the former type and a low vowel like the latter type—was formed in the area where the former two types met.

    (iii) Among the group of related directional prefixes including "inward" and "upriver," the prefix for "inward" is the most basic in Qiangic. "Upriver" prefixes consist of various types and they vary among areas. "Eastward" and "leftward" prefixes were developed in a part of languages/dialects, probably from "inward/upriver" prefixes in most cases.

    (iv) A group of related directional prefixes including "outward" and "downriver" show a parallel situation with (iii).

Acknowledgements

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