

The Verbal Directional Categories in Cheyi

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Abstract: The study examines the verbal directional categories of Cheyi, an endangered Tibeto-Burman language spoken in Ganzi Tibetan Autonomous Prefecture, Sichuan, China. It analyzes 381 verbs and 48 example sentences from a first-hand Cheyi corpus. The paper initially provides a detailed description of the directional prefix system of Cheyi verbs and their usage, as well as investigates the grammatical function of the directional prefixes. Cheyi verbs are categorized into 7 groups based on the number of directional prefixes that can be added before the verb. The categories are omnidirectional verbs, hexadirectional verbs, pentadirectional verbs, quaddirectional verbs, tridirectional verbs, bidirectional verbs, and unidirectional verbs. Additionally, Cheyi directional prefixes serve to extend aorist, aspect, and mood grammatical functions, more specifically marking for aorist, iterative (reciprocal), and continuous aspects, imperative, irrealis, and assertive mood*.

Keywords: Cheyi, directional prefixes, grammatical functions

1 Introduction

Cheyi, also known as Choyo, Choyul, or Queyu in English, is a non-Tibetan language used by some Tibetan people and is referred to as ‘却域语’ in Chinese. It was initially discovered in Yajiang and Xinlong Counties of Ganzi Tibetan Autonomous Prefecture in Sichuan Province, China. However, there are also small communities in Daofu, Litang, and Kangding Counties where Cheyi is spoken. The place where the Cheyi people are located looks like a *khyung* bird, so the residents living in these areas are known as *tc^hji pa*, which may originate from Tibetan རྩུང་ཡུལ་བ་ *khyung.yul.ba*, meaning ‘People from the *khyung* Region’. We will use the native speakers’ self-reference and refer to the language as ‘Cheyi’.

This paper investigates Cheyi spoken in the Yazhong village of Pubarong Township, Yajiang County, Ganzi Tibetan Autonomous Prefecture, Sichuan Province. Figure 1

*I would like to thank Freya Schumann for her valuable comments and suggestions on this paper. I also extend my gratitude to the anonymous reviewers for their constructive feedback, as well as to the editorial team for their professional guidance and support throughout the review process.

shows the location of Sichuan Province in China, highlighting its geographical context. Figure 2 presents a detailed map of Yajiang County, illustrating the specific location of the villages in Pubarong Township. Yajiang County is situated in the western part of Sichuan Province.



Fig. 1: Map showing the location of Sichuan Province in China

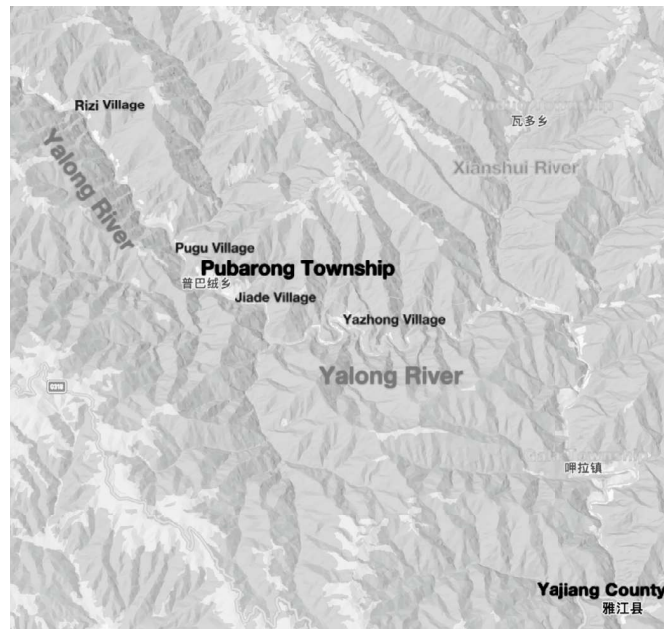


Fig. 2: Map of the locations of villages in Pubarong Township

The structure of the paper is as follows: Section 1 will provide an overview of the research background and objectives, highlighting the importance of studying directional prefixes in Cheyi verbs. §1.1 will detail the phonological features of Pubarong Cheyi, including phonemes and syllable structure, laying the foundation for understanding the morphological analysis. §1.2 will describe the sources of data used in the research, including the methods of data collection and specifics about the sources. §1.3 will review existing literature on the verbal directional category to provide theoretical support for the study. §1.4 will analyze the morphological features of Cheyi verbs, including their formation and inflectional patterns.

Section 2 will explore the categories of directional prefixes and their relationship with orientation lexemes in Cheyi. It will analyze the usage of directional prefixes across different categories of verbs, including omnidirectional, hexadirectional, pentadirectional, quaddirectional, tridirectional, bidirectional, and unidirectional verbs. Additionally, this section will examine the grammatical functions of directional prefixes, specifically their roles in aorist, aspect, and mood marking.

Section 3 primarily discusses the directional prefixes in some languages of the Qiangic branch and their grammaticalization. Section 4 will conclude with a summary of the main findings and suggest directions for future research.

1.1 Phonology of Cheyi

Pubarong Cheyi has a total of 47 single-consonant phonemes (see Table 1 below for details), which include 11 plosives, 9 affricates, 15 fricatives, 8 nasals, 2 approximants, and 2 lateral consonants. The plosive consonants can be divided into 4 groups: bilabial, dental-alveolar, velar, and uvular, consisting of the following sounds: *p*, *p^h*, *b*, *t*, *t^h*, *d*, *k*, *k^h*, *g*, *q*, *q^h*. The affricate consonants are categorized into 3 groups: dental-alveolar, retroflex, and alveolo-palatal, including *ts*, *ts^h*, *dz*, *tʂ*, *tʂ^h*, *dʒ*, *tɕ*, *tɕ^h*, *dʑ*. There are 3 types of affricates based on phonation: voiceless unaspirated, voiceless aspirated, and voiced. The fricatives can be categorized into 6 groups, with 3 featuring voiceless and voiced oppositions, represented by *f*, *v*, *x*, *ɣ*, *χ*, *ʁ*. The other 3 groups have voiceless unaspirated, voiceless aspirated, and voiced oppositions, consisting of *s*, *s^h*, *z*, *ɕ*, *ɕ^h*, *ʑ*, *ʑ^h*, *ʑ̥*. Cheyi has 4 groups of nasals: bilabial, dental-alveolar, palatal, and velar, which can be classified as voiceless or voiced, represented by *m*, *ɱ*, *n*, *ɲ*, *ɳ*, *ɳ̥*, *ŋ*, *ŋ̥*. Additionally, there are 2 approximants in Cheyi: *w* and *j*, along with 2 lateral consonants: the lateral approximant *l* and the lateral fricative *ɬ*.

Table 1: Consonants in Cheyi

		Bilabial	Labio-dental	Dental-alveolar	Retroflex	Alveolo-palatal	Velar	Uvular
Plosives	voiceless unaspirated	/p/		/t/			/k/	/q/
	voiceless aspirated	/pʰ/		/tʰ/			/kʰ/	/qʰ/
	voiced	/b/		/d/			/g/	
Affricates	voiceless unaspirated			/ts/	/tʂ/	/tɕ/		
	voiceless aspirated			/tsʰ/	/tʂʰ/	/tɕʰ/		
	voiced			/dz/	/dʒ/	/dʒ/		
Nasals	voiced	/m/		/n/		/ɲ/	/ŋ/	
	voiceless	/ɱ/		/ɳ/		/ɳ̥/	/ɳ̥̊/	
Fricatives	voiceless unaspirated		/f/	/s/	/ʂ/	/ç/	/x/	/χ/
	voiceless aspirated			/sʰ/	/ʂʰ/	/çʰ/		
	voiced		/v/	/z/	/ʐ/	/ʒ/	/ɣ/	/ʁ/
Approximants		/w/				/j/		
Lateral	voiced			/l/				
	voiceless			/ɭ/				

There are 143 consonant clusters in Cheyi (see Table 2 for details), including 8 pre-initial C1: bilabial plosive p -, bilabial nasal m -, bilabial fricatives ϕ -, β -, and velar fricatives x -, γ - and uvular fricatives χ -, $\var�$ -.

Table 2: Consonant clusters in Cheyi

C1	C1C2
p-	pt- ptʰ- pd- pk- pkʰ- pg- pq- pqʰ- pts- ptsʰ- pdz- ptʂ- ptʂʰ- pdʒ- ptc- ptcʰ- pdʒ-
m-	mp- mpʰ- mb- mt- mtʰ- md mk- mkʰ- mg- mq- mqʰ- mts- mtsʰ- mdz- mtʂ- mtʂʰ- mdʒ- mtc- mtcʰ- mdz- mn-
ϕ-	ϕs- ϕsʰ- ϕc- ϕcʰ- ϕʂ- ϕʂʰ- ϕl- ϕl-
β-	βz- βz- βʒ- βl- βl-
x-	xp- xpʰ- xt- xtʰ- xk- xkʰ- xts- xtsʰ- xtʂ- xtʂʰ- xm- xɲ- xn- xp- xn- xɳ- xɳ̥- xs- xsʰ- xc- xcʰ- xʂ- xʂʰ- xl-
ɣ-	ɣb- ɣd- ɣg- ɣdz- ɣdz- ɣm- ɣɲ- ɣn- ɣɳ- ɣɳ̥- ɣv- ɣz- ɣz- ɣl-
χ-	χp- χpʰ- χt- χtʰ- χq- χqʰ- χts- χtsʰ- χtʂ- χtʂʰ- χm- χɲ- χn- χɳ- χɳ̥- χl- χl-
ϣ-	ϣb- ϣd- ϣg- ϣdz- ϣdz- ϣm- ϣɲ- ϣn- ϣɳ- ϣɳ̥- ϣv- ϣz- ϣz- ϣl-

The vowel phoneme system of Cheyi demonstrates considerable complexity and diversity, consisting of 11 phonemes: i , $ɜ$, u , e , $ɔ$, o , $ə$, $ɐ$, $æ$, a . These vowels are classified based on tongue position (front, central, back) and lip shape (rounded or unrounded), clearly illustrating contrasts in frontness, backness, height, and roundedness, thereby enriching the phonological characteristics of the language.

Furthermore, the syllable structure of Cheyi includes 2 significant glides, j - and w -. The glide j - typically occurs before the vowels e , i , u , forming je , ji , ju , while w - appears

¹ In Cheyi, the two phonemes ϕ - and β - occur only as onset consonants and do not appear as single consonants.

before the vowels *e*, *ɣ*, *əʰ*, *a*, *i*, resulting in syllables such as *we*, *wɣ*, *wəʰ*, *wa*, *wi*. These glides function both as syllable constituents and as syllable codas following the vowels *a*, *e*, *o*, producing structures like *aj*, *ej*, *ow*. The glide *w* can precede the vowels *a* and *e*, while *j* can act as a coda after them, forming triphthongs such as *waj* and *wej*. These features offer a rich analytical perspective on the phonology of Cheyi, revealing the internal structure and evolutionary dynamics of its phonological system.

Therefore, we can summarize that there are 7 main types of syllable structure: VCV, CV, CCV, CCCV, CVC, CCVC and CCCVC, where C represents a consonant and V represents a vowel. Table 3 shows examples for each syllable type.

Table 3: Syllable structure of Cheyi

Syllable Structure	Examples	Glossing	Examples	Glossing	Examples	Glossing
VCV	<i>aŋoʰ</i>	above	<i>æwɣ</i>	below	<i>abəʰ</i>	grandfather
CV	<i>vuu</i>	belly	<i>bu</i>	breath	<i>tɕʰi</i>	salt
CCV	<i>χpʰəʰ</i>	spit	<i>xtɕu</i>	sell.3	<i>tje</i>	above
CCCV	<i>χtsʰwəʰ</i>	cough	<i>ɸzɣwɣ</i>	hit.3	<i>φsʰje</i>	comb.3
CVC	<i>kow</i>	price	<i>tʰej</i>	drink.2	<i>qaj</i>	root
CCVC	<i>xwaj zu</i>	calf	<i>ɸwaj ɕow</i>	left side	<i>βzej</i>	road
CCCVC	<i>χtwej</i>	support.3	<i>χqʰwaj</i>	half	<i>χsʰwaj</i>	think; contemplate.3

1.2 Corpus Source

The corpus that this paper is based on is a digitized corpus of Pubarong Cheyi, which I compiled during fieldwork with several native speakers of Cheyi in Yajiang County during the summers of 2021 and 2022. The corpus consists of two main parts: naturalistic data, such as traditional stories, daily spontaneous conversations, traditional activity descriptions, and procedural descriptions of activities; and elicited data, including grammatical task-based recordings, wordlists, phrases, and example sentences. This corpus has been continuously expanding and currently contains 20 minutes of extended natural speech data, 30 minutes of elicited data, and 2000 words.² These 30-minute elicited data were specifically designed to examine the directional prefixes in the language. The appendix includes a table illustrating possible combinations of specific verbs and direc-

² I would like to express my gratitude to the primary language consultants for this corpus: Gamo (81 years old), Asan (50 years old), and Dengzhu (76 years old). The speakers in this database are all Yazhong villagers (Suoyi group) among the Cheyi Tibetan residents in Pubarong Township, Yajiang County.

tional prefixes.

According to the location of upstream and downstream, the people of Cheyi in Souyi, Yazhong, and Yizha groups of Pubarong Township, Yajiang County, call the inhabitants living upstream *lɿ ndzɿ pi*. The residents of the villages of Jiade, Pugu, and Rizi call the residents downstream *mə^ʰ tso^ʰ pi*³. There is quite a big difference between the upstream Cheyi and the downstream Cheyi. Table 4 is a statistical table of the resident population of Pubarong Township taken from the 2020 census when the total number of households was 554 and the total population was 2018.

Table 4: The population of Pubarong Township

Administrative Village	Village Groups	Households	People
Yazhong Village	Suoyi Group, Yazhong Group, Yizha Group	222	778
Jiade Village	Jiade Group, Guali Group, Muju Group	96	302
Pugu Village	Pugu Group, Quru Group, Lede Group	117	464
Rizi Village	Rizi Group, Yinglong Group, Gerang Group	119	474
In total		554	2018

According to my current survey, native speakers of Cheyi in Yajiang County are primarily concentrated in the northwestern part of the county. This includes Pubarong Township, as well as villagers from Baizi Village, Kule Village, Baigu Village, Kundi Village, and other villages in Gala Township. Additionally, some villagers from Hekou Township are also native speakers of Cheyi. However, significant differences exist among these dialects, highlighting the need for further fieldwork, such as the collection and transcription of natural language data.

Concerning the genealogical affiliation of Cheyi, Sun (1982) initially classified Cheyi as belonging to the Qiangic branch of the Tibeto-Burman group of the Sino-Tibetan language family, more specifically, he situated Cheyi between the northern and southern branches of Qiangic. Sun (2016) argues that Cheyi should be categorized as the middle branch of Qiangic, which also includes the Qiang and nDrapa languages. Zhang et al. (2019) also categorizes Cheyi as a Qiangic language branch along with Muya, Pumi, and Qiang.

³ The phrase *lɿ ndzɿ pi* means ‘the people living upstream,’ while *mə^ʰ tso^ʰ pi* means ‘the people living downstream.’

1.3 Previous Research on Verbal Directional Category

In the study of Qiangic languages within the Tibeto-Burman branch of the Sino-Tibetan language family, the directional category of verbs has garnered considerable attention. As LaPolla (2016:30) noted, “[t]he Qiangic branch is characterized by a set of 5-10 directional prefixes on the verb that indicate actions such as up, down, upstream, downstream, inward, outward, and toward or away from the speaker. However, the actual forms of these systems are not entirely consistent across languages.”

There have been several studies investigating the directional category of languages belonging to the Qiang-rGyalrongic branch. Lin & Luo (2003) discusses the variations of directional prefixes and verb stems in Chabao Dazang, a rGyalrongic language. The directional category in Dazang contains seven orientations: east, west, up, down, terrain high, terrain low, and neutral orientation. Additionally, the Chabao Dazang prefixes have grammatical meanings such as aorist, imperative, imperfective, and indirect evidentiality. Song (2006) depicts the directional prefixes and aspect markers of the Ershu language, approaching the topic from cognitive psychology. Among three grammatical meanings: spatial displacement, past tense, and imperative mood. Spatial displacement was identified as the most typical, while past tense and imperative mood were considered later developments. Song also hypothesizes a grammaticalization process transitioning from spatial to temporal categories and from objective to subjective categories. Liu (2013) explored the directional category of the Pumi language using the theory of linguistic inventory typology (Liu 2011), focusing on what is termed the ‘mighty category’.⁴ The Pumi language is a typical example of mighty categories, and it conforms to the following five criteria: high degree of grammaticalization or functional strength; expansive force towards other categories; occupying the status of prototype or core category of this grammatical form; rich in analogy, productivity, and obligatory use; high psychological accessibility and easy activation.

Shirai (2020) conducts a geolinguistic or regional linguistic study of the directional prefixes of the Qiangic languages. She points out that northern languages have more directional prefixes, while southern languages have a tendency to have fewer directional prefixes. Zhang (2023) investigates the directional system of Situ rGyalrong. It demon-

⁴ The mighty category is one of the core concepts in Linguistic Inventory Typology. It states, ‘If a category semantics is expressed by a highly grammaticalized or syntactically powerful formal device and becomes the core prototypical semantics expressed by that device, the category becomes both prominent and strong in that language, i.e., a mighty category Liu (2012:06)’.

strates how to apply the historical-comparative method to solve semantic issues in morphologically complex language branches by considering typological commonalities and local topographical features.

There have been few investigations of Cheyi’s verbal directional system. Lu (1985), taking the survey on Cheyi at Tuanjun Township, Yajiang County, mentions that the category of direction is expressed by adding various different kinds of prefixes to the verb. He observed 4 kinds of prefixes, *tə-* indicating from bottom up, *lə-* indicating top-down, *kə-* indicating outward to inward, and inward to outward, and *thə-* indicates that they are often added in front of the verb to indicate the past tense, but the grammatical significance of the directional prefixes is not very obvious. Wang (1991) in a study concentrating on the area of Youlaxi Township, Xinlong County, mentions that there are 4 kinds of directional prefixes, which are: *rə-* ‘up’, *lə-* ‘down’, *kə-* ‘inward’, and *yur-* ‘outward’. Further, Song & Piao (2022) examined Cheyi spoken in Rizi Village, Pubarong Township, Yajiang County, and found that there are 5 directional prefixes in the dialect: *ku-* indicates that the action is carried out in the direction of the speaker; *wu-* indicates that the action is carried out outwardly with the speaker at the center; *yur-* indicates that the action is performed either vertically in open space or uphill on mountainous terrain; *le-* indicates that the action is carried out downwards, either in space, on mountainous terrain, or underwater, directing towards the bottom; and *te/ta-* indicates that the action is carried out from the place of departure back to the place of origin or in the opposite direction. In conclusion, we can summarize Table 5 below. Previous studies have identified four to five distinct directional prefixes in Cheyi.

Table 5: Comparison of Directional Prefixes in Cheyi

Previous Research	Location	Directional Prefixes	Description
Lu (1985)	Tuanjun Township, Yajiang County	<i>tə-</i> , <i>lə-</i> , <i>kə-</i> , <i>thə-</i>	<i>tə-</i> : indicates from bottom up <i>lə-</i> : indicates top down <i>kə-</i> : indicates outward to inward and inward to outward <i>thə-</i> : often added to indicate past tense
Wang (1991)	Youlaxi Township, Xinlong County	<i>rə-</i> , <i>lə-</i> , <i>kə-</i> , <i>yur-</i>	<i>rə-</i> : up <i>lə-</i> : down <i>kə-</i> : inward <i>yur-</i> : ‘outward’
Song and Piao (2022)	Rizi Village, Pubarong Township, Yajiang County	<i>ku-</i> , <i>wu-</i> , <i>yur-</i> , <i>le-</i> , <i>te/ta-</i>	<i>ku-</i> : indicates action towards the speaker <i>wu-</i> : indicates outward action with speaker at center <i>yur-</i> : indicates action either vertically or uphill <i>le-</i> : indicates downward action <i>te/ta-</i> : indicates returning action to the place of origin

Since Cheyi is an endangered and poorly documented minority language, this paper attempts to fill the gap in research on the category of verbal directional category in Cheyi through an in-depth review of previous research work.

1.4 Morphological Characteristics of Cheyi Verbs

Cheyi has a morphologically rich verbal system. There are two ways to express these grammatical categories, one is to add the corresponding affixes before and after the verb as core markers, and the other is to have an inflected change within the vowels of the verb stem. For example, the grammatical markers that can be paired with verbs in Cheyi are directional prefixes, negative prefixes, person markers, conditional markers, applicative markers, imperative markers, demonstrative markers, question markers, etc.

2 Directional Category of Cheyi Verbs

In Cheyi, the expression of directional semantics within verbs is facilitated through the addition of directional prefixes preceding the verb stem. These prefixes predominantly derive from topographical features such as rivers and mountains, as well as the spatial orientation relative to the speaker's position. Figure 3⁵ illustrates the geographical context of the linguistic setting under investigation (Yazhong Village, Pubarong Township, Yajiang County). Native speakers inhabit the vicinity of the Yalong River, which is characterized by mountainous terrain and aquatic features.



Fig. 3: The location map of Yazhong Village

Consequently, directional prefixes in Cheyi can be systematically classified along

⁵ The map is sourced from the website: <https://www.amap.com/search?query=普巴乡亚中村&city=513300&geoobj=100.774992%7C30.220712%7C100.781395%7C30.224553&zoom=17.5>

three principal axes: (1) vertical ascent and descent, which correspond to the elevation gradients of mountainous terrain; (2) upstream and downstream trajectories, which align with the directional flow of the river; and (3) spatial positioning and containment, related to the inside and outside of containers.

2.1 Categories of Directional Prefixes in Cheyi

There are a total of 8 directional prefixes in Cheyi, indicating behavioral actions in 7 directions. We find that the meanings of these directional prefixes can be paired (see Table 6). *jw/ji-*, *zɯ-* and *nɣ-*⁶ denote upward or downward direction; *lɣ-* and *jw/ji-* indicate towards the upstream side and downstream side of the water flow; *kw-* and *jw/ji-* indicate towards the inside and outside of the space. In addition to this, there is also the neutral orientation prefix *tɣ-*. Below we look at some specific examples in Cheyi.

Table 6: The Verbal Directional Prefixes in Cheyi (taking verb ‘take’ as an example)

Dimension	Direction	Directional prefixes	Cheyi	Glossing
Vertical direction	upward	<i>jw/ji-</i>	<i>jw- βzje</i>	DIR:UW-take.3
		<i>zɯ-</i>	<i>zɯ- βzje</i>	
	downward	<i>nɣ-</i>	<i>nɣ- βzje</i>	DIR:DW-take.3
Stream direction	upstream	<i>lɣ-</i>	<i>lɣ- βzje</i>	DIR:US-take.3
	downstream	<i>jw/ji-</i>	<i>jw- βzje</i>	DIR:DS-take.3
Spatial location	inward	<i>kw-</i>	<i>kw- βzje</i>	DIR:IW-take.3
	outward	<i>jw/ji-</i>	<i>jw- βzje</i>	DIR:OW-take.3
	neutral direction	<i>tɣ-</i>	<i>tɣ- βzje</i>	DIR:ND-take.3

(1) The two prefixes *jw/ji-* and *zɯ-* both signify actions conducted in an upward direction and are interchangeable.

⁶ In this paper, a dash ‘-’ following the directional prefixes indicates that the verb can be combined with the corresponding directional prefix.

<i>xpɣ</i>	<i>jɯɯ-xpɣ, zɯɯ-xpɣ</i>
to move.3	(he or she) moved up
<i>zje</i>	<i>ji-zje, zɯɯ-zje</i>
to take.3	(he or she) took up
<i>zɣ</i>	<i>ji-zɣ, zɯɯ-zɣ</i>
to throw.3; to call (on phone).3	(he or she) threw up; (he or she) called up

(2) The prefix *nɣ-* denotes actions conducted in a downward direction.

<i>xpɣ</i>	<i>nɣ-xpɣ</i>
to move.3	(he or she) moved down
<i>zje</i>	<i>nɣ-zje</i>
to take.3	(he or she) took down
<i>zɣ</i>	<i>nɣ-zɣ</i>
to throw.3; to call (on phone).3	(he or she) threw down; (he or she) called down

(3) The prefix *lɣ-* signifies actions directed towards the source of water in valleys or rivers.

<i>xpɣ</i>	<i>lɣ-xpɣ</i>
to move.3	(he or she) moved up the river
<i>zje</i>	<i>lɣ-zje</i>
to take.3	(he or she) took up the river
<i>zɣ</i>	<i>lɣ-zɣ</i>
to throw.3; to call (on phone).3	(he or she) threw up the river; called up the river

(4) The prefix *jɯɯ/ji-* denotes actions directed towards the downstream direction of rivers in valleys or towards the exterior of spatial or container contexts.

<i>xpɣ</i>	<i>jɯɯ-xpɣ</i>
to move.3	(he or she) moved down the river or moved out
<i>zje</i>	<i>ji-zje</i>
to take.3	(he or she) took down the river or took out
<i>zɣ</i>	<i>ji-zɣ</i>
to throw.3; to call (on phone).3	threw down or threw out; called down or called out

(5) The prefix *kuɯ-* signifies actions directed towards the interior.

<i>xpɣ</i>	<i>kɯɯ-xpɣ</i>
to move.3	(he or she) moved in
<i>zje</i>	<i>kɯɯ-zje</i>
to take.3	(he or she) took in
<i>zɣ</i>	<i>kɯɯ-zɣ</i>
to throw.3; to call (on phone).3	(he or she) threw in; (he or she) called in

(6) The prefix *tɣ*- denotes actions with an indefinite or neutral direction.

<i>xpɣ</i>	<i>tɣ-xpɣ</i>
to move.3	(he or she) moved away
<i>zje</i>	<i>tɣ-zje</i>
to take.3	(he or she) took away
<i>zɣ</i>	<i>tɣ-zɣ</i>
to throw.3; to call (on phone).3	(he or she) threw away; (he or she) called away

Based on the examples above, we can observe that the 3 homomorphic directional prefixes *juu/ji*-, signify upward, downstream, or outward motion. Since these prefixes are homomorphic, there is a need for contextual disambiguation to differentiate between them, with tonal distinctions providing an additional means of discrimination. In Cheyi, monosyllabic words exhibit a fundamental tonal difference: the high (H) tone can be realized as either a high-level [H] or high-falling [F], which are in free variation, whereas the low (L) tone is realized solely as middle-rising [R].

For disyllabic words, the H tone appears as a high-level [H], while the L tone manifests as a low-falling [L]. As shown in Table 7, when the directional prefix *juu/ji*- indicating upward motion is added to a verb, a tonal contour of ‘high-level + low-falling’ with values of ‘55+21’ emerges, regardless of whether it is in the past or non-past tense. Conversely, when the prefix *juu/ji*- indicating downstream or outward motion is added, the non-past tense shows tonal combinations like ‘high-level + high-level’ with values of ‘55+55’, whereas in the past tense, the contour shifts to ‘low-falling + high-level’ with values of ‘21+55’.

Table 7: Tonal Sandhi of Directional Prefixes in Cheyi

Cheyi	Upward	Downstream/outward	Glossing
	Non-past/Past	Non-past	Past
	<i>juw/ji-</i>	<i>juw/ji--</i>	<i>juw/ji-</i>
$z\chi^{55}$	$ji^{55}-z\chi^{21}$	$ji^{55}-z\chi^{55}$	$ji^{21}-z\chi^{55}$
H	HL	HH	LH
$xp\chi^{35}$	$ji^{55}-xp\chi^{21}$	$ji^{55}-xp\chi^{55}$	$ji^{21}-xp\chi^{55}$
L(R)	HL	HH	LH

2.2 Directional Prefixes and Orientation Lexemes in Cheyi

The Cheyi language exhibits a relatively diverse array of orientation lexemes. As depicted in Table 8, these lexemes are categorized into two groups of orientation nouns and one group of orientation adverbs. The first group consists of orientation nouns such as *tepa* (*tje*), *wopa* (*wɣ*), *luipa*, *vuipa* (*juipa*), *kupa*, *jaqu* (*nurwa*), *gowtxpa* (*q^həⁿnoⁿ*), *ygwɣ* (*xɲuzi*), *ɸwajcow*, and *χtoⁿcow*. The second group, comprising directional nouns with a vowel initial, includes *ənoⁿ*, *əwɣ*, *əli*, *əvuu*, and *əku*. Finally, the directional adverbs encompass *zow*, *nɣwu*, *lɣwu*, *jow*, and *kow*.

Table 8: Orientation Lexemes in Cheyi

Orientation Nouns 1	Orientation Nouns 2	Glossing	Orientation Adverbs	Glossing	Directional Prefixes
<i>tepa, tje</i>	<i>ənoⁿ</i>	up	<i>zow</i>	upward	<i>zuw-, juw/ji-</i>
<i>wopa, wɣ</i>	<i>əwɣ</i>	down	<i>nɣwu</i>	downward	<i>nɣ-</i>
<i>luipa</i>	<i>əli</i>	upstream	<i>lɣwu</i>	upstream	<i>lɣ-</i>
<i>vuipa, juipa</i>	<i>əvuu</i>	downstream	<i>jow</i>	downstream	<i>juw/ji-</i>
<i>kupa</i>	<i>əku</i>	inside	<i>kow</i>	inward	<i>kuw-</i>
<i>jaqu, nurwa</i>	<i>əvuu</i>	outside	<i>jow</i>	outward	<i>juw/ji-</i>
<i>gowtxpa, q^həⁿnoⁿ</i>		back			
<i>ygwɣ, xɲuzi</i>		front			
<i>ɸwajcow</i>		left			
<i>χtoⁿcow</i>		right			

Huang et al. (1994: 133-151) states that the directional prefixes of the Qiangic branch languages may have originated from the orientation adverbs, perhaps the earliest orientation adverbs were used as modifiers in front of the verb, and then attached to the verb in a simplified form in the course of long term use.’ In Table8, it can be seen that there is indeed are latively tight pattern of phonological correspondence between the orientation adverbs and the directional prefixes of Cheyi: the consonants of thed irectional prefixes and the initial consonants of the orientation adverbs are identical. Therefore, it

is very likely that Cheyi's directional prefixes are derived from its orientation adverbs.

2.3 The Usage of the Directional Prefixes in Cheyi

The directional prefixes can be added in front of verbs (except the existential verb *zo*) in Cheyi. Different verbs can be preceded by different directional prefixes to indicate different directionality of the action. Verbs are categorized based on the number of prefixes they can accommodate, ranging from omnidirectional to unidirectional, with the prefixes indicating diverse spatial orientations. The decision whether to prefix verbs and the selection of appropriate prefixes are intricately linked to the cultural setting, customary practices, cognitive frameworks, and cognitive strategies of the Cheyi people.

In this paper, a total of 381 verbs of Cheyi are examined, of which the percentage of each direction is as follows (Figure 4): There are 58 unidirectional verbs, accounting for 15.2%; two-way and three-way verbs are the most numerous, 114 and 106 respectively, accounting for 29.9% and 27.8%; four-way, five-way, and six-way verbs are the least numerous, with 17 verbs each, all accounting for 4.5%; and the seven-way, or the verbs capable of adding all directional prefixes, are comparatively numerous, with 52 verbs, accounting for 13.6%.

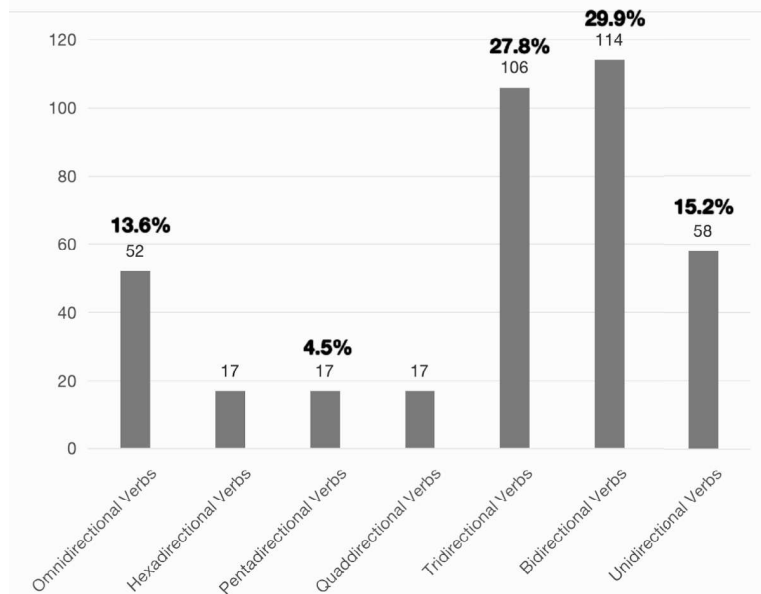


Fig. 4: The proportion of seven types of verbs in Cheyi

2.3.1 Omnidirectional Verbs

There are some verbs that can be used with all directional prefixes, and in this paper, we call these verbs ‘omnidirectional verbs’. The percentage of omnidirectional verbs is 13.6% (52/381), and Table 9 below shows examples of the collocations of the directional prefixes with omnidirectional verbs in Cheyi.

Table 9: Prefix-Verb Pairings for Omnidirectional Verbs

Verbs	Glossing	<i>zuw</i> -(<i>juw/ji</i> -) DIR:UW	<i>ny</i> - DIR:DW	<i>ly</i> - DIR:US	<i>juw/ji</i> - DIR:DS	<i>kuw</i> - DIR:IW	<i>juw/ji</i> - DIR:OW	<i>ty</i> - DIR:ND
<i>pæ</i>	carry on(child)	<i>zuw-pæ</i>	<i>ny-pæ</i>	<i>ly-pæ</i>	<i>juw/ji-pæ</i>	<i>kuw-pæ</i>	<i>juw/ji-pæ</i>	<i>ty-pæ</i>
<i>c^hu</i>	go.2sg	<i>zuw-c^hu</i>	<i>ny-c^hu</i>	<i>ly-c^hu</i>	<i>juw-c^hu</i>	<i>kuw-c^hu</i>	<i>juw-c^hu</i>	<i>ty-c^hu</i>
<i>uza^s</i>	hit.2	<i>zuw-uza^s</i>	<i>ny-uza^s</i>	<i>ly-uza^s</i>	<i>juw-uza^s</i>	<i>kuw-uza^s</i>	<i>juw-uza^s</i>	<i>ty-uza^s</i>
<i>zy</i>	throw.12	<i>zuw-zy</i>	<i>ny-zy</i>	<i>ly-zy</i>	<i>juw-zy</i>	<i>kuw-zy</i>	<i>juw-zy</i>	<i>ty-zy</i>
<i>cvzej</i>	look.2	<i>zuw-cvzej</i>	<i>ny-cvzej</i>	<i>ly-cvzej</i>	<i>juw/ji-cvzej</i>	<i>kuw-cvzej</i>	<i>juw/ji-cvzej</i>	<i>ty-cvzej</i>
<i>χtwi</i>	close(door).3	<i>zuw-χtwi</i>	<i>ny-χtwi</i>	<i>ly-χtwi</i>	<i>juw/ji-χtwi</i>	<i>kuw-χtwi</i>	<i>juw/ji-χtwi</i>	<i>ty-χtwi</i>
<i>uɖzu</i>	run.3	<i>zuw-uɖzu</i>	<i>ny-uɖzu</i>	<i>ly-uɖzu</i>	<i>juw/ji-uɖzu</i>	<i>kuw-uɖzu</i>	<i>juw/ji-uɖzu</i>	<i>ty-uɖzu</i>
<i>tuɸti</i>	push.3	<i>zuw-tuɸti</i>	<i>ny-tuɸti</i>	<i>ly-tuɸti</i>	<i>juw/ji-tuɸti</i>	<i>kuw-tuɸti</i>	<i>juw/ji-tuɸti</i>	<i>ty-tuɸti</i>
<i>q^hwə^sptsje</i>	jump.3	<i>zuw-q^hwə^sptsje</i>	<i>ny-q^hwə^sptsje</i>	<i>ly-q^hwə^sptsje</i>	<i>juw-q^hwə^sptsje</i>	<i>kuw-q^hwə^sptsje</i>	<i>juw-q^hwə^sptsje</i>	<i>ty-q^hwə^sptsje</i>
<i>yq^hwɿlej</i>	revolve.2	<i>zuw-yq^hwɿlej</i>	<i>ny-yq^hwɿlej</i>	<i>ly-yq^hwɿlej</i>	<i>juw-yq^hwɿlej</i>	<i>kuw-yq^hwɿlej</i>	<i>juw-yq^hwɿlej</i>	<i>ty-yq^hwɿlej</i>

In the table above, we can see that: All-directional or omnidirectional verbs are highly directional action verbs. So before the action, we can add all directional prefixes in the tangential meaning to express the direction of movement that the action is going to take.

From the following example sentences (1)-(4), we can see that the native speakers of Cheyi must consider the geographical location of the participants in the conversation and the direction of the movement in which the action will be carried out, and then add the corresponding directional prefixes before the verb. Native speakers also tend to express themselves from the listener’s point of view, choosing directional prefixes according to the listener’s position. For example, you push me up (when climbing stairs), you push me down (when going downhill), you push the cow in (when closing the cow in the pen), etc.

- (1) *næ zuwqo yɖzuɸbu ɸluw zuw nuw ŋɣ jidjexo=pa zuw-tutej*
 1SG.POSS backpack very heavy EVI 2SG 1SG rooftop=LOC DIR:UW-push.2
ɸaj.
 MOOD
 ‘My backpack is too heavy, could you please push me up to the rooftop?’ (when climbing stairs)
- (2) *nuw ŋɣ=xə^ɸ ny-tutej ly ŋɣ æwɣ zo tɕu.*
 2SG 1SG=POSS DIR:DW-push.2 COND 1SG down fall EVI
 ‘If you push me, I’ll fall off.’ (when descending a mountain)

- (3) *t^hur=k^himi=ji* *βə^htsu^hlo=qaj* *zu-χk^hwi=n^hi* *ku^h-tu* *ma=βzaj* *zu*
 DEF=COW=ERG doorsill=LOC DIR:UW-stand.3=LNK DIR:IW-come NEG=can.3 EVI
nur q^hə^hno^h=pa=n^hi *ku^h-tutej*.
 2SG behind=LOC=LNK DIR:IW-push.2
 ‘The cow is standing at the door and won’t come in. Could you push from behind?’ (when herding the cow into the pen)
- (4) *pus^hur nazi* *ə^hnts^hur mur* *æ χtowzo^h=ji* *ygjetʃi ydzɤ* *βzæ=wu=n^hi*
 Today morning 1PL people CLF=ERG car courtyard=inside=LNK
jiaqu ju^h-tutæ.
 outside DIR:OW-push.1PL
 ‘This morning, ten of us pushed the car from the courtyard to the outside.’ (pushing the car from the courtyard outwards)

According to the example sentence (5), we can also find that the directional prefix *lɤ-* + verb + directional prefix *ju^h/ji-* + verb’ also expresses the category of interaction, which means that the actions affect each other, which is similar to the Chinese expression ‘V + come + V + go’.

- (5) *ɕ^howɕ^hi=tʃa* *ɤdzupdzæ nɤ-xkej=k^hejn^hje* *lɤ-tutej* *ju^h-tutej*
 children=PL play DIR:DW-LV=LNK DIR:US-push.2 DIR:DS-push.2
tæ=vej *mtɕ^hɤlɤ ydə^hpdo^hza tʃur a*.
 PROH=do.2PL COND hurt EVI MOOD
 ‘Children, don’t push each other when playing, or you might get hurt, okay?’

2.3.2 Hexadirectional Verbs

In Cheyi, certain verbs allow for the addition of 6 directional prefixes, categorized as ‘hexadirectional verbs’. These are relatively scarce, constituting 4.5% (17/381) of the total verbs examined. Specific examples can be found in Table 10 below.

Table 10: Prefix-Verb Pairings for Hexadirectional Verbs

Verbs	Glossing	<i>zuw</i> -(<i>juw/ji</i> -) DIR:UW	<i>ny</i> - DIR:DW	<i>ly</i> - DIR:US	<i>juw/ji</i> - DIR:DS	<i>kuw</i> - DIR:IW	<i>juw/ji</i> - DIR:OW	<i>ty</i> - DIR:ND
<i>pts^hje</i>	untie	—	<i>ny-pts^hje</i>	<i>ly-pts^hje</i>	<i>juw/ji-pts^hje</i>	<i>kuw-pts^hje</i>	<i>juw/ji-pts^hje</i>	<i>ty-pts^hje</i>
<i>χtco^s</i>	swim	—	<i>ny-χtco^s</i>	<i>ly-χtco^s</i>	<i>juw/ji-χtco^s</i>	<i>kuw-χtco^s</i>	<i>juw/ji-χtco^s</i>	<i>ty-χtco^s</i>
<i>ygu</i>	exchange.3	—	<i>ny-ygu</i>	<i>ly-ygu</i>	<i>juw/ji-ygu</i>	<i>kuw-ygu</i>	<i>juw/ji-ygu</i>	<i>ty-ygu</i>
<i>wuwo^s</i>	help.1/3	—	<i>ny-wuwo^s</i>	<i>ly-wuwo^s</i>	<i>juw/ji-wuwo^s</i>	<i>kuw-wuwo^s</i>	<i>juw/ji-wuwo^s</i>	<i>ty-wuwo^s</i>
<i>tc^hioptc^hej</i>	stampede.3	—	<i>ny-tc^hioptc^hej</i>	<i>ly-tc^hioptc^hej</i>	<i>ji-tc^hioptc^hej</i>	<i>kuw-tc^hioptc^hej</i>	<i>ji-tc^hioptc^hej</i>	<i>ty-tc^hioptc^hej</i>
<i>xp^hu</i>	beg.3	<i>zuw-xp^hu</i>	<i>ny-xp^hu</i>	<i>ly-xp^hu</i>	<i>juw/ji-xp^hu</i>	<i>kuw-xp^hu</i>	—	<i>ty-xp^hu</i>
<i>cu</i>	put.3	<i>zuw-cu</i>	<i>ny-cu</i>	<i>ly-cu</i>	<i>juw/ji-cu</i>	<i>kuw-cu</i>	<i>juw/ji-cu</i>	—
<i>tu</i>	come.3	<i>zuw-tu</i>	<i>ny-tu</i>	<i>ly-tu</i>	<i>ji-tu</i>	<i>kuw-tu</i>	<i>ji-tu</i>	—
<i>ts^ho</i>	add	<i>zuw-ts^ho</i>	<i>ny-ts^ho</i>	<i>ly-ts^ho</i>	<i>juw/ji-ts^ho</i>	<i>kuw-ts^ho</i>	<i>juw/ji-ts^ho</i>	—

- (6) *tsɿ nə^hβə^h = χə^h zuw-tu* *ty-mp^hi* *tɕsu.*

3SG hiltop=LOC DIR:UW-arrive.3 DIR:ND-stand EVI

‘He came up here.’ (implying surprise that he managed to endure the hardship of climbing up the mountain)

- (7) *tsɿ nətɕ^hwuko=nɪ tɕɿŋtu* *ny-tu* *s^hu.*

3SG Yajiang=LOC Chengdu DIR:DW-arrive.3 EVI

‘He came to Chengdu from Yajiang.’ (because Chengdu is at a lower altitude than Yajiang, it’s down to Chengdu)

Based on examples (6) and (7), it can be observed that the directional prefixes *zuw*- and *ny*- are added before the directional verb *tu* ‘to come’, denoting upward and downward directional actions respectively. In these two sentences, the reference point for directionality is the vertical elevation.

2.3.3 Pentadirectional Verbs

In Cheyi, certain verbs permit the addition of five directional prefixes, categorized as ‘pentadirectional verbs’. These are also relatively scarce, constituting 4.5% (17/381) of the total verbs examined. Specific examples of such verbs can be found in Table 11 below.

Table 11: Prefix-Verb Pairings for Pentadirectional Verbs

Verbs	Glossing	<i>zuw</i> -(<i>juw/ji</i> -) DIR:UW	<i>ny</i> - DIR:DW	<i>ly</i> - DIR:US	<i>juw/ji</i> - DIR:DS	<i>kuw</i> - DIR:IW	<i>juw/ji</i> - DIR:OW	<i>ty</i> - DIR:ND
<i>βza</i>	hide.1/3	—	<i>ny-βza</i>	<i>ly-βza</i>	<i>juw/ji-βza</i>	<i>kuw-βza</i>	—	<i>ty-βza</i>
<i>χsuwzwa</i>	mix.3	—	<i>ny-χsuwzwa</i>	<i>ly-χsuwzwa</i>	<i>juw/ji-χsuwzwa</i>	<i>kuw-χsuwzwa</i>	—	<i>ty-χsuwzwa</i>
<i>φcow</i>	fall.1/3	—	<i>ny-φcow</i>	<i>ly-φcow</i>	<i>juw/ji-φcow</i>	<i>kuw-φcow</i>	<i>juw/ji-φcow</i>	—
<i>ptɿ</i>	spit.3	—	<i>ny-ptɿ</i>	<i>ly-ptɿ</i>	<i>juw/ji-ptɿ</i>	<i>kuw-ptɿ</i>	<i>juw/ji-ptɿ</i>	—
<i>χnuw χno^s</i>	sniff.1sg	<i>zuw-χnuw χno^s</i>	<i>ny-χnuw χno^s</i>	—	—	<i>kuw-χnuw χno^s</i>	<i>juw/ji-χnuw χno^s</i>	<i>ty-χnuw χno^s</i>

Based on the example sentence (8) below, we can further observe that the combination of the directional prefix *kuw*- denoting inward direction on a verb, followed by the

directional prefix *jw/ji-* denoting outward direction on a second verb, suggests repetitive actions or the continuation of a certain state.

- (8) *t^hu=χtē^hu=ji mdu ku-tē^hu ygwɣ ku-χnu χno^ʰ jw/ji-χnu χno^ʰ wu*
 DEF=dog=ERG food DIR:IW-eat.3 before DIR:IW-sniff.3 DIR:OW-sniff.3 do.3
zu.
 EVI
 ‘This dog sniffs around before he eats.’

2.3.4 Quaddirectional Verbs

In Cheyi, certain verbs allow for the addition of four directional prefixes, categorized as ‘quaddirectional verbs’. These are also relatively scarce, comprising 4.5% (17/381) of the total verbs surveyed. Examples of such verbs can be found in Table 12 below.

Table 12: Prefix-Verb Pairings for Quaddirectional Verbs

Verbs	Glossing	<i>zu-</i> (<i>jw/ji-</i>) DIR:UW	<i>ny-</i> DIR:DW	<i>ly-</i> DIR:US	<i>jw/ji-</i> DIR:DS	<i>ku-</i> DIR:IW	<i>jw/ji-</i> DIR:OW	<i>ty-</i> DIR:ND
<i>χp^hə^ʰ</i>	vomit	—	<i>ny-χp^hə^ʰ</i>	<i>ly-χp^hə^ʰ</i>	—	—	<i>jw/ji-χp^hə^ʰ</i>	<i>ty-χp^hə^ʰ</i>
<i>tɕu</i>	to heat	<i>zu-tɕu</i>	<i>ny-tɕu</i>	—	—	<i>ku-tɕu</i>	—	<i>ty-tɕu</i>
<i>ɕwɕsi</i>	tear.3	—	<i>ny-ɕwɕsi</i>	<i>ly-ɕwɕsi</i>	<i>jw/ji-ɕwɕsi</i>	—	—	<i>ty-ɕwɕsi</i>
<i>χto^ʰ</i>	fight over.13	<i>zu-χto^ʰ</i>	<i>ny-χto^ʰ</i>	<i>ly-χto^ʰ</i>	<i>jw/ji-χto^ʰ</i>	—	—	<i>ty-χto^ʰ</i>
<i>mtɕv</i>	climb(tree)	<i>zu-mtɕv</i>	—	<i>ly-mtɕv</i>	<i>jw/ji-mtɕv</i>	—	—	<i>ty-mtɕv</i>

- (9) *nu mə^ʰ ku-tē^hɣ=ni p^hwlo zu-tɕu ty-p^hu.*
 2SG fire DIR:IW-light.2=LNK buns DIR:UW-heat.up DIR:ND-allow.2
 ‘You start the fire, then heat the buns.’
- (10) *nu mə^ʰ ku-tē^hɣ=ni p^hwlo χkɣmə^ʰ nuc^hu=xtje ny-tɕu*
 2SG fire DIR:IW-light.2=LNK buns minute twenty=around DIR:DW-heat.up
ty-p^hu tɕɣlx ηɣ ygwɣ=ni ku-tow.
 DIR:ND-allow.2 COND 1SG early=LNK DIR:IW-arrive.1SG
 ‘You start the fire, heat the buns for twenty minutes, and I’ll come back earlier.’
- (11) *nu mə^ʰ ku-tē^hɣ=ni p^hwlo ku-tɕu ty-p^hu.*
 2SG fire DIR:IW-kindle.2=LNK buns DIR:IW-heat.up DIR:ND-allow.2
 ‘You start the fire, then heat up the buns.’
- (12) *ηɣ juwu ku-tow=k^hejnej zo^ʰ=ji mə^ʰ ku-tē^hɣ=ni*
 1SG home DIR:IW-arrive.1SG=LNK daughter=ERG fire DIR:IW-kindle.2=LNK

p^hu^{lo} tɣ-tɕu *p^hu* *wu* *s^hu*.

buns DIR:ND-heat.up allow.3 finish.3 EVI

‘When I got home, my daughter had already started the fire and heated up the buns.’

In Cheyi, the verb *tɕu* ‘to heat’ can be preceded by directional prefixes indicating upward, downward, inward, and nondirectional tendencies, as illustrated in examples (9) to (12). The semantics of these directional prefixes differ in the respective sentences. In example (9), *zu-tɕu* emphasizes external factors contributing to the heating process; in example (10), *ny-tɕu* highlights the duration of heating; in example (11), *ku-tɕu* underscores internal factors involved in the heating; while in example (12), *tɣ-tɕu* indicates nondirectional action, primarily emphasizing the completion of the heating process.

2.3.5 Tridirectional Verbs

‘Tridirectional verbs’ can be preceded by 3 directional prefixes. These verbs comprise the second-largest group among the directional verbs, making up 27.8% (106/381) of lexical items. Specific examples of these verbs can be seen in Table 13 below.

Table 13: Prefix-Verb Pairings for Tridirectional Verbs

Verbs	Glossing	<i>zu</i> -(<i>ju</i> / <i>ji</i> -) DIR:UW	<i>ny</i> - DIR:DW	<i>ly</i> - DIR:US	<i>ju</i> / <i>ji</i> - DIR:DS	<i>ku</i> - DIR:IW	<i>ju</i> / <i>ji</i> - DIR:OW	<i>tɣ</i> - DIR:ND
<i>ɕeje</i>	thirst	<i>zu-ɕeje</i>	<i>ny-ɕeje</i>	—	—	—	—	<i>tɣ-ɕeje</i>
<i>ptsje</i>	filter	<i>zu-ptsje</i>	<i>ny-ptsje</i>	—	—	—	—	<i>tɣ-ptsje</i>
<i>t^hu βla</i>	pick up.3	<i>zu-t^hu βla</i>	<i>ny-t^hu βla</i>	—	—	—	—	<i>tɣ-nt^hu βla</i>
<i>ɕe^hjep^hu</i>	kowtow.3	<i>zu-ɕe^hjep^hu</i>	<i>ny-ɕe^hjep^hu</i>	—	—	—	—	<i>tɣ-ɕe^hjep^hu</i>
<i>ptɣ</i>	serve(food).3	<i>zu-ptɣ</i>	<i>ny-ptɣ</i>	—	—	—	<i>ju/ji-ptɣ</i>	—
<i>ñu</i>	sprouting	<i>zu-ñu</i>	—	—	—	—	<i>ju-ñu</i>	<i>tɣ-ñu</i>
<i>ptə^s</i>	chop(firewood)	—	<i>ny-ptə^s</i>	—	—	—	<i>ju/ji-ptə^s</i>	<i>tɣ-ptə^s</i>
<i>ɣdza</i>	collapse(of building)	—	<i>ny-ɣdza</i>	—	—	—	<i>ju/ji-ɣdza</i>	<i>tɣ-ɣdza</i>
<i>ɳwa</i>	open(mouth).3	—	<i>ny-ɳwa</i>	—	—	—	<i>ju/ji-ɳwa</i>	<i>tɣ-ɳwa</i>
<i>pdzje</i>	get drunk	—	<i>ny-pdzje</i>	—	—	—	<i>ju/ji-pdzje</i>	<i>tɣ-pdzje</i>
<i>p^how</i>	lose	—	<i>ny-p^how</i>	—	—	<i>ku-p^how</i>	—	<i>tɣ-p^how</i>
<i>ɣtɕ^hje</i>	freeze	—	<i>ny-ɣtɕ^hje</i>	—	—	<i>ku-ɣtɕ^hje</i>	—	<i>tɣ-ɣtɕ^hje</i>
<i>ymaj</i>	fall asleep	—	<i>ny-ymaj</i>	—	—	<i>ku-ymaj</i>	—	<i>tɣ-ymaj</i>
<i>ptɕ^hɣ</i>	kindle.3	—	<i>ny-ptɕ^hɣ</i>	—	—	<i>ku-ptɕ^hɣ</i>	—	<i>tɣ-ptɕ^hɣ</i>

(13) *ny puɕ^ho^s tɕ^huts^haj ænɣzo^s=tje=xtje* *ku-ymaj*.

1SG last.night time twelve=LOC=about DIR:IW-fall.asleep

‘I went to sleep at about twelve last night.’

(14) *ny puɕ^ho^s tɕ^huts^haj ænɣzo^s=xtje* *ny-ymaj* *s^hu*.

1SG last.night time twelve=around DIR:DW-fall.asleep EVI

‘I got about twelve hours of sleep last night.’

- (15) *ɲɣ pɯɕ^ho^ʰ jɯgu tɕ^huɾs^haj ænɿzo^ʰ=tje=xtje kɯ-tow=k^hejn ej*
 1SG last.night home time twelve=LOC=around DIR:IW-arrive.1SG=LNK
ɕ^howɸɕ^hi=tʂa tɿ-ɣmaj wu s^hu.
 kid=PL DIR:ND-fall.asleep finish.3 EVI
 ‘When I got home last night around 12:00, the kids were already asleep.’

In Cheyi, the verb *ɣmaj* ‘to fall asleep’ is a tridirectional verb. When preceded by the directional prefix *kɯ-* denoting inward direction, see example (13), the primary connotation is the directional tendency of the action itself. However, when the directional prefixes *nɿ-* denoting downward direction and *tɿ-* denoting nondirectional tendency is added before the verb, some abstract meanings are extended. Specifically, in example (14), *nɿ-ɣmaj* emphasizes the continuity of the action, while in example (15), *tɿ-ɣmaj* emphasizes the completion of the action.

2.3.6 Bidirectional Verbs

In Cheyi, some verbs allow for the addition of two directional prefixes, categorized as ‘bidirectional verbs’. Bidirectional verbs constitute 29.9% (114/381) of the total verbs surveyed. Specific examples of such verbs can be found in Table 14 below.

Table 14: Prefix-Verb Pairings for Bidirectional Verbs

Verbs	Glossing	<i>zu-</i> (<i>jɯ/ji-</i>) DIR:UW	<i>nɿ-</i> DIR:DW	<i>lɿ-</i> DIR:US	<i>jɯ/ji-</i> DIR:DS	<i>kɯ-</i> DIR:IW	<i>jɯ/ji-</i> DIR:OW	<i>tɿ-</i> DIR:ND
<i>ɕ^hu</i>	wake up	<i>zu-ɕ^hu</i>	—	—	—	—	—	<i>tɿ-ɕ^hu</i>
<i>so</i>	fill	<i>zu-so</i>	—	—	—	—	—	<i>tɿ-so</i>
<i>βzo^ʰ</i>	hold(pen).3	<i>zu-βzo^ʰ</i>	—	—	—	—	—	<i>tɿ-βzo^ʰ</i>
<i>ptɕ^huɿ</i>	weigh(food).3	<i>zu-ptɕ^huɿ</i>	—	—	—	—	—	<i>tɿ-ptɕ^huɿ</i>
<i>dʒɰ</i>	grow up	<i>zu-ɣdʒɰ</i>	—	—	—	—	—	<i>tɿ-ɣdʒɰ</i>
<i>xk^hwej</i>	stand up.3	<i>zu-xk^hwej</i>	—	—	—	—	—	<i>tɿ-xk^hwej</i>
<i>duɳdɿ</i>	tremble;shake	—	<i>nɿ-duɳdɿ</i>	—	—	—	—	<i>tɿ-duɳdɿ</i>
<i>ygo</i>	like	—	<i>nɿ-ygo</i>	—	—	—	—	<i>tɿ-ygo</i>
<i>tʂo^ʰ</i>	become	—	<i>nɿ-tʂo^ʰ</i>	—	—	—	—	<i>tɿ-tʂo^ʰ</i>
<i>ɰzə^ʰ</i>	get spicy	—	<i>nɿ-ɰzə^ʰ</i>	—	—	—	—	<i>tɿ-ɰzə^ʰ</i>
<i>mt^hej</i>	sing.3	—	<i>nɿ-mt^hej</i>	—	—	—	—	<i>tɿ-mt^hej</i>
<i>nu</i>	listen.3	—	<i>nɿ-nu</i>	—	—	<i>kɯ-nu</i>	—	—
<i>pɿ</i>	get wet	—	—	—	—	<i>kɯ-pɿ</i>	—	<i>tɿ-pɿ</i>
<i>βzej</i>	marry.3	—	—	—	—	<i>kɯ-βzej</i>	—	<i>tɿ-βzej</i>
<i>mtʂ^hɿ</i>	suit	—	—	—	—	<i>kɯ-mtʂ^hɿ</i>	—	<i>tɿ-mtʂ^hɿ</i>
<i>mts^ho^ʰ</i>	gather	—	—	—	—	<i>kɯ-mts^ho^ʰ</i>	—	<i>tɿ-mts^ho^ʰ</i>

- (16) *ɲɣ pɯɕ^ho^ʰ zje s^ho^ʰ=ɕ^hɿ nɿ-nt^how.*
 1SG last.night folk.song three=CLF DIR:DW-sing.1SG
 ‘I sang three folk songs last night.’

- (17) *ŋɣ kʷɪ-tʷɣ=k^hejnɛj mɛjno^s zje tɣ-mt^hej wu s^hu.*
 1SG DIR:IW-arrive=LNK others folk.song DIR:ND-sing.3 finish.3 EVI
 ‘Others had finished singing by the time I arrived.’

In Cheyi, the verb *mt^hej* ‘to sing’ is a bidirectional verb. It can be preceded by the directional prefix *nɣ-* denoting downward direction and the directional prefix *tɣ-* denoting non-directionality. In example (16), *nɣ-nt^how* emphasizes the duration of singing, while in example (17), *tɣ-mt^hej* emphasizes the completion of the singing action.

2.3.7 Unidirectional Verbs

Unidirectional verbs refer to verbs that can only be prefixed by a single directional prefix. These verbs exhibit a relatively weak actionality and lack explicit directional characteristics inherent in the verb itself. They primarily encompass items such as existential verbs, verbs of judgment, and modal verbs. The proportion of unidirectional verbs in the data set is 15.2% (58/381), with specific examples provided in Table 15 below.

Table 15: Prefix-Verb Pairings for Unidirectional Verbs

Verbs	Glossing	<i>zʷɪ-(jʷɪ/ji-)</i> DIR:IW	<i>nɣ-</i> DIR:DW	<i>lɣ-</i> DIR:US	<i>jʷɪ/ji-</i> DIR:DS	<i>kʷɪ-</i> DIR:IW	<i>jʷɪ/ji-</i> DIR:OW	<i>tɣ-</i> DIR:ND
<i>c^hɣ</i>	to be tired	—	<i>nɣ-c^hɣ</i>	—	—	—	—	—
<i>tu</i>	to be hot	—	<i>nɣ-tu</i>	—	—	—	—	—
<i>q^ha</i>	to be thin	—	<i>nɣ-q^ha</i>	—	—	—	—	—
<i>nɔw</i>	pain	—	<i>nɣ-nɔw</i>	—	—	—	—	—
<i>mə^s</i>	hear	—	—	—	—	<i>kʷɪ-mə^s</i>	—	—
<i>mdi</i>	see.3	—	—	—	—	<i>kʷɪ-mdi</i>	—	—
<i>χsaj</i>	save.2	—	—	—	—	—	<i>jʷɪ/ji-χsaj</i>	—
<i>ynuu</i>	have a rest.3	—	—	—	—	—	<i>jʷɪ/ji-ynuu</i>	—
<i>ɣdə^spdo^sza</i>	get hurt	—	—	—	—	—	<i>jʷɪ/ji-də^spdo^sza</i>	—
<i>s^hi</i>	die	—	—	—	—	—	—	<i>tɣ-s^hi</i>
<i>kʷɪ</i>	lock	—	—	—	—	—	—	<i>tɣ-kʷɪ</i>
<i>βzi</i>	pick up.3	—	—	—	—	—	—	<i>tɣ-βzi</i>
<i>qʷlo</i>	disperse(meeting)	—	—	—	—	—	—	<i>tɣ-qʷlo</i>
<i>c^hiowɸc^hi wə^s</i>	get pregnant	—	—	—	—	—	—	<i>tɣ-c^hiowɸc^hi wə^s</i>

From Table 15, we can observe that among unidirectional verbs, some verbs can be reduplicated to form adjectival expressions indicating a poor state of bodily functions. For example, verbs like *c^hɣ* ‘to be tired’, *tu* ‘to be hot’, *q^ha* ‘to be thin’, and *nɔw* ‘to be painful’ are reduplicated to form *c^hɣc^hɣ* ‘tired’, *tu^htu* ‘hot’, *q^haq^ha* ‘thin’, and *nɔwnɔw* ‘painful’ respectively. These verbs in Cheyi tend to be accompanied by the directional prefix *nɣ-*, indicating a downward direction.

In example (18) below, the neutral directional prefix *tɣ-* is used three times. This prefix in Cheyi, which I label as a ‘neutral direction’ marker in this paper, does not indicate a specific spatial direction. Instead, it serves an abstract grammatical function, primarily

marking the completion or realization of an action. This grammaticalization makes *tx-* the most frequent directional prefix in Cheyi.

- (18) *mandzo=tci tx-tci* *s^huu tx-ni* *tx-p^hi* *tʂuu*
 unike=NMLZ DIR-NEUT:-exist EVI DIR-NEUT:-say.3 DIR-NEUT:-run.away.3 EVI
ni tʂuu.
 say.3 EVI
 ‘It said that the (merchants) realized they were extraordinary and fled.’

In summary, we can categorize the use of directional prefixes before verbs in Cheyi into two types. The first type is direct usage, where the prefixes directly indicate the direction of the action, with a clear and fixed motion direction. The second type is figurative usage, where the prefixes indirectly represent the direction of the action, but extend to express more than the direction of motion, reflecting the cognitive patterns of native speakers of Cheyi.

2.4 Grammatical Functions of Verb Directional Prefixes in Cheyi

The number and percentage of each directional prefix in the 381 verbs of Cheyi examined in this paper (Figure 5): in Cheyi, the directional prefix *tx-*, which denotes neutral direction, is the one with the largest distribution, appearing 332 times in 381 verbs, accounting for a high percentage of 87.1%; the directional prefix *nx-* occurs the second most frequent, with 280 verbs collocated with it, or 73.5%; the directional prefix *zu-* (*ju/ji-*), which denotes upward movement, and the two prefixes denoting the direction of water flow, *lx-*, which denotes the direction toward upstream, and *ju/ji-* are about the same in number, with 108, 95, and 91 occurrences, while the percentages are 28.3%, 24.9%, and 23.9%, respectively; the directional prefixes *ku-*, which denotes inward spatial orientation, and the directional prefixes *ju/ji-* occur in relatively large numbers, 181 and 134 respectively, accounting for 47.5% and 35.2%.

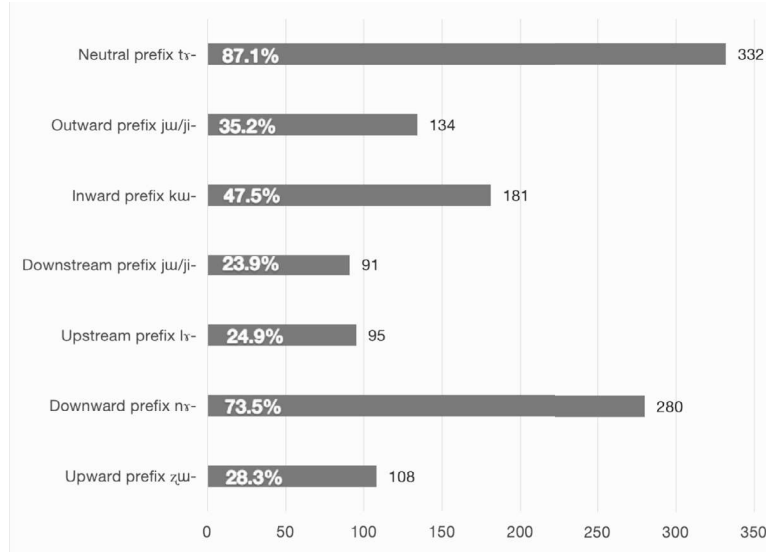


Fig. 5: Combinations of Directional Prefixes and Verbs in Cheyi

Speakers of Cheyi continuously pay attention to the relative position and trajectory of discourse referents. In Cheyi, directional prefixes can convey typical directional meanings. Additionally, when combined with verbs, these prefixes have developed powerful grammatical functions, serving as markers of aorist, aspect, and mood.

2.4.1 Aorist Marking of Directional Prefixes in Cheyi Verbs

In Cheyi, the verbal directional prefixes *juw/ji-*, *zu-*, *nx-*, *lx-*, *juw/ji-*, *kuw-*, *juw/ji-*, *tx-* are necessary in sentences with aorist forms. For example, *zu-mdzɿ* ‘I climbed up’, *nx-vow* ‘I did’, *lx-c^how* ‘I went over’, *juw/ji-tow* ‘I came’, *kuw-cow* ‘I put it in’, *juw/ji-c^how* ‘I went out’, and *tx-p^how* ‘I ran’, all express that this action has occurred. Directional prefixes thus function as a grammatical marker of the aorist in Cheyi, which typically emphasizes the occurrence of an action without specifying its duration, repetition, or connection to the present. This aorist is common in languages like Ancient Greek and is used to describe a completed action in a straightforward, unmarked manner.

- (19) *ŋɿ juus^hu ɬo^vptɕa=wu juw-c^how.*
 1SG yesterday school=LOC DIR:OW-go.1SG
 ‘I went to school yesterday.’

In example (19), the verb *c^how* ‘go’ is prefixed with the directional prefix *juw-*, indicating that the action has already taken place.

2.4.2 Aspect Marking of Directional Prefixes in Cheyi Verbs

The downward directional prefix *ny-* in Cheyi serves as a typical marker of the continuous aspect. From examples (20) and (21), it can be observed that when the downward directional prefix *ny-* is prefixed to the verb, it not only indicates that the action has already taken place but also emphasizes the duration of the action.

- (20) *ny ydzxygwxy kuw-tə^how=ni juwzej ny-yzə^h.*
 1SG chili DIR:IW-eat.1SG=LNK long.time DIR:DW-spicy
 ‘I eat chili and then it’s spicy for me for a long time.’

- (21) *lamur juw^hur koŋli φcxyzo^h ny-ydzu s^hu.*
 ANTHR yesterday kilometers eight DIR:DW-run.3 EVI
 ‘Lhamo ran eight kilometers yesterday.’

In addition, the directional prefixes in Cheyi also have the function of marking the iterative or reciprocal aspect. Semantically speaking, it sometimes emphasizes the repetitiveness of the action, and other times it highlights the domain of interaction or mutual action. The specific expression paradigm can be summarized as ‘directional prefix + verb + directional prefix + verb’, where the selection of directional prefixes is very careful, generally directional prefixes indicating upstream and downstream and directional prefixes indicating inward and outward appear in pairs, refer to example sentences (22) and (23).

- (22) *ptcala=tša kuw-zxy juw-zxy tæ=vej*
 thing=PL DIR:IW-throw.2 DIR:OW-throw.2 PROH=do.2PL
 ‘Don’t throw things around.’ (the mom speaking to kids)

- (23) *nyæ xyuzix ly-tšutsey juw-tšutsey ny-vej=ni nyæ q^ho^h*
 1SG.DAT front DIR:US-walk.2 DIR:DS-walk.2 DIR:IW-do.2=LNK 1SG.POSS head
now zuu.
 pain EVI
 ‘Walking around in front of me gives me a headache.’

To sum up, we can conclude that Cheyi directional prefixes fulfill several grammatical functions including the three functions of aorist marking, continuous marking, and iterative marking.

2.4.3 Mood Marking of Directional Prefixes in Cheyi Verbs

The mood category refers to the subjective attitude of the speaker towards the content of the sentence and can be classified into several types: communicative function categories such as speech acts in Chinese research; modalities for making moral judgments on propositional content and epistemic modalities for making judgments on reality; and categories of transmission indicating the speaker's judgment basis. In Cheyi directional prefixes have developed grammatical functions for imperative marking, assertive marking, and irrealis marking.

In terms of syntactic form, imperative sentences are characterized by predicates primarily consisting of verbs expressing actions. In terms of communicative function, their main purpose is for the speaker to request the listener to do or not do something. Imperative sentences can be classified into three categories and six types based on meaning: commands and prohibitions, suggestions and dissuasions, and requests and appeals. In Cheyi, directional prefixes are required before verbs in imperative sentences.

Commands and prohibitions generally indicate that the speaker believes they have some degree of control over the listener and hence issues commands directly, the tone being more straightforward or resolute. Imperative commands indicate that the speaker instructs the listener to do something. The structure of an imperative command sentence is 'directional prefix + verb'.

- (24) *juu-t^hej*
 DIR:OW-drink.2
 'Drink!'

- (25) *ji-tc^hej*
 DIR:UW-open.2PL
 'Open (the lid)!'

- (26) *ny-tc^haj*
 DIR:DW-press.2
 'Press!'

In imperative prohibitive sentences, the speaker prohibits the listener from doing something, effectively forming a negative form of a command. The sentence structure of imperative prohibitive is 'directional prefix + verb + negation + verb'.

- (27) *juu-tæ=t^hej*
 DIR:OW-NEG=drink.2
 'Don't drink!'

- (28) *ji-tæ=te^hej*
 DIR:UW-NEG=open.2PL
 ‘Don’t open!’

- (29) *ny-tæ=te^haj*
 DIR:DW-NEG=press.2
 ‘Don’t press!’

In suggestions and dissuasions, the speaker generally considers themselves not qualified or suitable to issue commands to the listener, hence the tone is more gentle or polite. Imperative suggestive sentences usually express suggestions or advice for someone to do something. Imperative suggestive sentence structure is ‘directional prefix + verb + modal particle’.

- (30) *juw-t^hej* *a*
 DIR:OW-drink.2 MOD
 ‘Drink!’

- (31) *ji-te^hej* *a*
 DIR:UW-open.2PL MOD
 ‘Open!’

- (32) *ny-te^haj* *a*
 DIR:DW-press.2 MOD
 ‘Press!’

Imperative dissuasive sentences express dissuasion to the listener from doing something, forming the negative form of suggestive sentences. Imperative dissuasive sentence structure is ‘directional prefix + negation + verb + modal particle’.

- (33) *juw-tæ=te^hej* *a*
 DIR:OW-NEG=drink.2 MOD
 ‘Don’t drink, okay!’

- (34) *ji-tæ=te^hej* *a*
 DIR:UW-NEG=open.2PL MOD
 ‘Don’t open, okay!’

- (35) *ny-tæ=tɕ^haj* *a*
 DIR:DW-NEG=press.2 MOD
 ‘Don’t press, okay!’

In requests and pleadings, the speaker generally seeks something from the listener and the tone is humble or respectful. Imperative requestive sentences express a request for someone to do something. Imperative requestive sentence structure is ‘directional prefix + verb + modal particle’.

- (36) *juu-t^hej* *ɸaj*
 DIR:OW-drink.2 MOD
 ‘Please drink it!’

- (37) *ji-tɕ^hej* *ɸaj*
 DIR:UW-open.2PL MOD
 ‘Please open it!’

- (38) *ny-tɕ^haj* *ɸaj*
 DIR:DW-press.2 MOD
 ‘Please press it!’

Imperative pleadings express a request for the listener not to do something. Imperative pleading sentence structure is ‘directional prefix + negation + verb + modal particle’.

- (39) *ny-tæ=tɕ^haj* *ɸaj*
 DIR:DW-NEG=press.2 MOD
 ‘Please don’t press, okay!’

- (40) *juu-tæ=t^hej* *ɸaj*
 DIR:OW-NEG=drink.2 MOD
 ‘Please don’t drink, okay!’

- (41) *ji-tæ=tɕ^hej* *ɸaj*
 DIR:UW-NEG=open.2PL MOD
 ‘Please don’t open, okay!’

- (42) *ly-tæ=qwə^h* *ɸaj*
 DIR:US-NEG=shout.2 MOD
 ‘Please don’t shout, okay!’

- (43) *kɯ-tæ=tɕ^hɯ* *ɤaj*

DIR:IW-NEG=eat.2SG MOD

‘Please don’t eat, okay!’

- (44) *tæ=p^hej* *ɤaj*

DIR:ND.NEG=run.2 MOD

‘Please don’t run, okay!’

In imperative prohibitive, dissuasive, and pleading sentences, we can observe that when the negation marker is preceded by a neutral directional prefix, the neutral directional prefix is directly omitted because the consonants of these two syllables are the same.

Based on the specific examples discussed above, we can summarize Table 16, which illustrates that the imperative marking function of the verb directional prefixes is reflected in all six imperative sentence patterns.

Table 16: Types of Imperatives in Cheyi

Type	Example Sentences	Glossing
Commands	<i>jɯ-t^hej</i>	Drink!
	<i>ji-tɕ^hej</i>	Open (the lid)!
Prohibitions	<i>jɯ-tæ=t^hej</i>	Don’t drink!
	<i>ji-tæ=tɕ^hej</i>	Don’t open!
Suggestions	<i>jɯ-t^hej a</i>	Drink!
	<i>ji-tɕ^hej a</i>	Open!
Dissuasions	<i>jɯ-tæ=t^hej a</i>	Don’t drink, okay!
	<i>ji-tæ=tɕ^hej a</i>	Don’t open, okay!
Requests	<i>jɯ-t^hej ɤaj</i>	Please drink it!
	<i>ji-tɕ^hej ɤaj</i>	Please open it!
Pleadings	<i>jɯ-tæ=t^hej ɤaj</i>	Please don’t drink, okay!
	<i>ji-tæ=tɕ^hej ɤaj</i>	Please don’t open, okay!

Additionally, in Cheyi, the directional prefix *tɕ-* can be placed before the copula *tsɯ* to express the speaker’s mood of affirmation, certainty, and conviction regarding the

sentence proposition.

- (45) *ta t^hu^htsaj nɣ-wu=lɣ kow muw=ts^haj=χə^h ydzub^hu=χə^h ɲu^h*
 LNK 3DU DIR:DW-do.3=TOP value NEG=measure=POSS very=POSS person
tɣ-tsui ni tɕui jep^hi xtɕupa kuw-tɕ^hæ k^hej.
 DIR:ND-COP say.3 EVI once ancestor DIR:IW-settle when
 ‘It is said that when the ancestors first settled down, they were immensely famous figures.’

- (46) *ɕ^hə^hmow=χə^h kow tɕ^hej=tɕi tɣ-tsui s^hui.*
 matsutake.mushrooms=POSS price expensive=NMLZ DIR:ND-COP EVI
 ‘The price of matsutake mushrooms is high.’

Based on the examples in (45) and (46), we can tell that the directional prefix *tɣ-* is used to indicate that a statement is presented as a fact. In other words, it is commonly used to express declarative sentences that assert or state something directly.

Certain languages express conditional-result relationships using main-subordinate clause structures and conjunctions. In some languages, the predicate verb of a conditional sentence requires a distinct mood form to indicate that the content is hypothetical and has irrealis status. In Cheyi, directional prefixes also function as markers of the irrealis mood.

- (47) *ɲɣ ɸo^htɕ^hej tuzo^h tɣ-tsui=lɣ, latɕuna ydej χs^ho^h zu.*
 1SG bird CLF DIR:ND-COP=COND everywhere fly want.1SG EVI
 ‘If I were a bird, I’d fly everywhere.’
- (48) *ɲɣ x^hmimbi tɣ-tɕo^h=lɣ, tej ɲɣ nuw=χə^h ɸu^hɸo^h tɕui.*
 1SG doctor DIR:ND-become.1SG=COND LNK 1SG 2SG=DAT help.1SG EVI
 ‘If I am a doctor, I would help you.’

As we can see in examples (47) and (48), ‘If I were a bird’ deals with an imaginary or hypothetical situation, while ‘If I am a doctor’ deals with a real, possible condition. However, in Cheyi, they have the same mood markers, which are directional prefixes.

From the above content, we can summarize Table 17, which illustrates the grammatical functions of directional prefixes in Cheyi. Firstly, in terms of aorist marking, the seven directional prefixes are used to indicate the aorist. Secondly, in aspect marking, these prefixes also convey the iterative (reciprocal) aspect, while the downward prefix *nɣ-* is employed to mark the continuous aspect. Lastly, in mood marking, the seven

directional prefixes are used to express imperative moods (such as commands, suggestions, and requests) as well as the irrealis mood, whereas the neutral prefix *tx-* is utilized for the assertive mood. These functions demonstrate the fine-tuned modification and grammatical expression of verbs through directional prefixes in Cheyi.

Table 17: Grammatical Functions of Directional Prefixes in Cheyi

Function	Prefix	Description
Aorist Marking	Seven directional prefixes	Aorist
Aspect Marking	Seven directional prefixes	Iterative (reciprocal) aspect
	Downward prefix <i>\nx-</i>	Continuous aspect
Mood Marking	Seven directional prefixes	Imperatives (commands, suggestions, requests, etc.)
	Neutral prefix <i>\tx-</i>	Assertive marking

3 Discussion

The directional prefix system in Cheyi not only demonstrates the complexity of verb morphology in this language but also reveals significant differences in function and grammaticalization paths compared to other Qiangic languages. By deeply examining the directional prefix system in Cheyi, we can better understand its multiple functions related to verb aorist, aspect, and modality, and highlight the unique position of this language within the Tibeto-Burman language family.

In some Qiangic languages such as Shixing, Guiqiong, and Baima, directional prefixes primarily serve to indicate the physical direction of actions, marking spatial movement like up/down or forward/backward (Huang & Wangmu 1991, Sun 1983 : 111-125). Their grammatical role is relatively limited to spatial functions. In contrast, Cheyi’s directional prefixes have undergone significant grammaticalization, moving beyond marking spatial direction to encode aorist, aspect, and modality. For instance, the neutral prefix *tx-* in Cheyi not only expresses neutral spatial direction but also serves as a marker for aorist and assertive meanings, demonstrating the multifunctional nature of Cheyi’s directional system.

However, in most Qiangic languages, such as Qiang, Pumi, and nDrapa, directional prefixes on verbs are optional in the non-perfective aspect but mandatory in the perfective aspect. Huang (1985) points out that in Minyag, the alternation of vowels in directional prefixes is used to differentiate between reflexive and causative actions, thereby

customizing the verb. Gao & Rao (2017) proposes two hypotheses regarding the vowel *u-* in directional prefixes of Minyag: Hypothesis A suggests that the *u-* located between the directional prefix and the verb stem may originate from the third-person agent marker; hypothesis B suggests that the prefix *u-* might be another causative prefix distinct from the prefix *i-*. Li (1999) notes that in Tangut, directional prefixes also exist, and their grammatical function has partially shifted to marking the perfective aspect. Sun (2000) points out that Caodeng rGyalrong has four sets of directional prefixes that can express categories such as aorist, aspect, mood, verb transitivity, person, and number. Jacques & Chen (2007) indicates that most verb forms in Chabao rGyalrong have a directional prefix that includes information about TAM, transitivity, and, in the case of motion and concrete action verbs, the direction of the action.

Bybee et al. (1994) mentions the grammaticalization pathway of ‘perfective from bounders’. This concept suggests that the usage of adverbials can differ significantly within a language. Verb-adverb pairs may be limited to specific combinations, or they can become widely adopted, resulting in adverbs being grammaticalized and used with a variety of verbs.

van der Auwera et al. (2009) provides a pragmatic explanation for the cross-linguistic tendency of the perfective aspect being incorporated into imperative structures, suggesting that when instructing someone to take action, there is usually an expectation that the action will be completed. This offers an explanation for the grammaticalization path from the perfective to the imperative aspect. This grammaticalization path from directional prefix to perfective aspect to imperative aspect has been confirmed in Zhuokeji rGyalrong (Lin 2011) and Yonghe Qiang (Sims & Genetti 2017).

Huang & Wu ((2018) finds that in nDrapa, the grammaticalization path of directional prefixes follows this sequence: locative noun > directional prefix > perfective marker. Once the directional prefix evolves into a perfective marker, its functions diverge, further developing along two paths: perfective marker/instantaneous marker > state-change marker and perfective marker > imperative marker > assertive marker. This evolution belongs to a ‘Polygrammaticalization’ model.

Therefore, we can summarize the grammaticalization path of the Cheyi directional prefixes as follows: **Orientation adverb > directional prefix > aorist marker > imperative marker**. The directional prefix system of Cheyi provides a compelling example of ‘polygrammaticalization’ in grammaticalization theory. In the polygrammaticalization model, grammatical markers often serve multiple functions and can produce

different grammatical effects in various syntactic contexts. The Cheyi directional prefix system exemplifies this multi-functionality by its extensive application across different grammatical categories, such as aorist, aspect, and modality.

Furthermore, by comparing with other languages in the Tibeto-Burman family, the Cheyi directional prefix system offers new empirical support for the study of verb morphology within Tibeto-Burman, contributing to the reconstruction of the original forms of directional prefixes in the entire Qiangic language family.

4 Conclusion

Through the research presented in this paper, several key conclusions can be drawn regarding the directional prefixes in Cheyi:

(1) Phonological Correspondence: The directional prefixes and orientation adverbs in Cheyi exhibit a strict phonological correspondence. This suggests that the directional prefixes are likely derived from orientation adverbs.

(2) Governance by Lexical Meaning and Idiom: The type of directional prefixes added before each verb in Cheyi is governed by the specific lexical meaning of the verb and the idiom of the native speakers. Directional prefixes in Cheyi indicate orientation as well as aorist, aspect, or mood categories. The concept of direction becomes somewhat abstract in certain contexts, leading to the development of additional grammatical functions.

(3) Grammaticalization: The directional prefixes in Cheyi have undergone further grammaticalization. They combine with different lexical categories and can be used in various contexts, marking aorist (e.g., aorist marking), aspect (e.g., continuous marker, iterative (reciprocal) marker), and mood (e.g., imperative marking, assertive marking, irrealis marker). Among these, aorist marking and imperative marking are particularly notable in the grammaticalization process of Cheyi prefixes.

(4) Uniformity in Grammaticalization: The degree of grammaticalization among the seven directional prefixes is not uniform. The most frequently used prefix is *tx-*, indicating a neutral direction, followed by the downward directional prefix *nx-*.

Future research could explore the following areas:

(1) Comparative Studies: Conduct studies comparing Cheyi with other Qiangic languages to understand the evolution and grammaticalization processes of directional prefixes in a broader context. (2) Dialectal Variations: Investigate the variations in the use of directional prefixes across different dialects of Cheyi to identify any regional patterns or unique usages. (3) Historical Linguistics: Employ historical linguistic methods to trace

the origins and development of directional prefixes over time, providing a diachronic perspective on their grammaticalization. (4) Functional Analysis: Further analyze the functional load of directional prefixes in different syntactic constructions to understand their role in Cheyi syntax and morphology.

By addressing these areas, future research can deepen our understanding of the complexity and nuances of directional prefixes in Cheyi.

Abbreviations

ANTHR: Anthroponym; CLF: Classifier; COND: Conditional marker; DAT: Dative; DEF: Definite marker; DU: Dual marker; EVI: Evidentiality; ERG: Ergative; EXV: Existential verb; LOC: Locative marker; LNK: Linker; MOD: Mood marker; NEG: Negative; NMLZ: Nominalizer/Nominalization; PL: Plural marker; POSS: Possessive; PROH: Prohibitive; Q: Question marker; TOP: Topic marker; 1PL: First person plural; 1DU: First person dual; 1SG: First person singular; 2PL: Second person plural; 2DU: Second person dual; 2SG: Second person singular; 3PL: Third person plural; 3DU: Third person dual; 3SG: Third person singular; DIR:UW-Directional prefix indicating an upward trend; DIR:DW-Directional prefix indicating a downward trend; DIR:US-Directional prefix indicating an upstream trend; DIR:DS-Directional prefix indicating a downstream trend; DIR:IW-Directional prefix indicating an inward trend; DIR:OW-Directional prefix indicating an outward trend; DIR:ND-Directional prefix indicating a neutral trend or nondirectional tendency.

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5 Appendix

Table 18: Prefix-Verb Pairings for Omnidirectional Verbs

Verbs	Glossing	<i>zu-</i> (<i>juu/ji-</i>) DIR:UW	<i>ny-</i> DIR:DW	<i>ly-</i> DIR:US	<i>juu/ji-</i> DIR:DS	<i>ku-</i> DIR:IW	<i>juu/ji-</i> DIR:OW	<i>ty-</i> DIR:ND
dei	Fly	+	+	+	+	+	+	+
ygje	Cross (cross river)	+	+	+	+	+	+	+
ŋq ^h wɿlej	Spin; Turn	+	+	+	+	+	+	+
k ^h ɣxtʂu	Turn (turn around)	+	+	+	+	+	+	+
ɰzwy	Nail; Hammer	+	+	+	+	+	+	+
zɿ	Throw	+	+	+	+	+	+	+
mbv	Catch fire	+	+	+	+	+	+	+
mdzɿ	Stick (stick a letter)	+	+	+	+	+	+	+
ŋwɿ	Suck in	+	+	+	+	+	+	+
p ^h wɿ	Dissect	+	+	+	+	+	+	+
puuptɔje	Lick	+	+	+	+	+	+	+
q ^h wə ^h ptsje	Jump (long jump)	+	+	+	+	+	+	+
qwə ^s	Shout (call for a meeting)	+	+	+	+	+	+	+
puqlaj	Roll on the ground	+	+	+	+	+	+	+
kv	Fetch water	+	+	+	+	+	+	+
xlwɿ	Arrive	+	+	+	+	+	+	+
xpwɿ	Move (move house)	+	+	+	+	+	+	+
tɕ ^h uuptɕ ^h u	Press	+	+	+	+	+	+	+
χnwa	Peel (peel cow skin)	+	+	+	+	+	+	+
xqo ^s	Scrape	+	+	+	+	+	+	+
xtɕ ^h u	Insert (insert sign)	+	+	+	+	+	+	+
χtwej	Support	+	+	+	+	+	+	+
ɰzwa	Thread (thread needle)	+	+	+	+	+	+	+
po ^s	Pile (pile grass)	+	+	+	+	+	+	+
χtwi	Close (close door)	+	+	+	+	+	+	+
ɣɰwej	Mix (mix mud); Knead dough	+	+	+	+	+	+	+
xtɕuuxtɕwɿ	Suck	+	+	+	+	+	+	+
βzɿ	Throw	+	+	+	+	+	+	+
φlə ^s	Drive (drive car)	+	+	+	+	+	+	+
tʂ ^h uuptʂ ^h ə ^s	Wipe (wipe table)	+	+	+	+	+	+	+
xkwɿ	Make carry	+	+	+	+	+	+	+
ɣdzwɿ	Fold (fold quilt)	+	+	+	+	+	+	+
ɕ ^h wɿ	Sprinkle water	+	+	+	+	+	+	+
xtswɿ	Connect	+	+	+	+	+	+	+
xtʂwɿ	Install	+	+	+	+	+	+	+
ɣdzwɿ	Fold (fold quilt)	+	+	+	+	+	+	+
vwɿ	Carry on shoulder	+	+	+	+	+	+	+
xtswɿ	Connect	+	+	+	+	+	+	+
xtɕuuxtɕwɿ	Suck	+	+	+	+	+	+	+
βzɿ	Throw	+	+	+	+	+	+	+
φlə ^s	Drive (drive car)	+	+	+	+	+	+	+
tʂ ^h uuptʂ ^h ə ^s	Wipe (wipe table)	+	+	+	+	+	+	+
xkwɿ	Make carry	+	+	+	+	+	+	+
tɕæŋow	Bend	+	+	+	+	+	+	+
βzej	Lead the way	+	+	+	+	+	+	+
xqə ^s dzu	Shake in container	+	+	+	+	+	+	+
xkygu	Shake	+	+	+	+	+	+	+
ɕə ^h lwaj	Twist (twist towel); Rotate	+	+	+	+	+	+	+
ɕ ^h wɿ	Piss, pee	+	+	+	+	+	+	+

Table 19: Prefix-Verb Pairings for Hexadirectional Verbs

Verbs	Glossing	<i>zɯr-(jɯw/ji-)</i> DIR:UW	<i>ny-</i> DIR:DW	<i>ly-</i> DIR:US	<i>jɯw/ji-</i> DIR:DS	<i>kuw-</i> DIR:IW	<i>jɯw/ji-</i> DIR:OW	<i>ty-</i> DIR:ND
χlwe	Peel (peel skin)	+	+	+	+	—	+	+
ptʂ ^h je	Untie	—	+	+	+	+	+	+
ts ^h o	Add; Increase	+	+	+	+	+	+	—
ɰuɰo ^s	Help	—	+	+	+	+	+	+
tɕ ^h uɰtɕ ^h u	Press	—	+	+	+	+	+	+
χtɕo ^s	Swim	—	+	+	+	+	+	+
βlæ	Work	—	+	+	+	+	+	+
dʒuɰdʒu	Arrange neatly	—	+	+	+	+	+	+
ɣgu	Change	—	+	+	+	+	+	+
tɕ ^h iɔptɕ ^h ej	Step	—	+	+	+	+	+	+
tu	Come out	+	+	+	+	+	+	—
ɕu	Put (place)	+	+	+	+	+	+	—
xp ^h u	Beg (beg for food); Marry	—	+	+	+	+	—	+
ptɣ	Water (plants)	+	+	+	+	+	+	—
ptɣ	Serve (serve food)	+	+	+	+	+	+	—
zu βzə ^s	Rub (rub rope)	—	+	+	+	+	+	+
xtʂ ^h wɣ	Break (break thread)	—	+	+	+	+	+	+

Table 20: Prefix-Verb Pairings for Pentadirectional Verbs

Verbs	Glossing	<i>zɯr-(jɯw/ji-)</i> DIR:UW	<i>ny-</i> DIR:DW	<i>ly-</i> DIR:US	<i>jɯw/ji-</i> DIR:DS	<i>kuw-</i> DIR:IW	<i>jɯw/ji-</i> DIR:OW	<i>ty-</i> DIR:ND
lo ^s	Be stuck	—	—	+	+	+	+	+
pæ	Carry (a child on back)	+	+	+	+	—	—	+
φɕɣ	Tell (a story)	—	+	+	+	—	+	+
pdə ^s /wu	Blow (wind blows)	—	+	+	+	+	—	+
tɕ ^h uɰpo ^s	Cover	—	+	+	+	+	—	+
zo	Drop (fall)	+	+	+	+	+	—	—
βza	Hide (things)	—	+	+	+	+	—	+
χsuɰzwa	Mix	—	+	+	+	+	—	+
χto ^s	Snatch	—	—	+	+	+	+	+
χtɕ ^h u	Stab (with a knife)	—	—	+	+	+	+	+
χnuu χno ^s	Smell (sniff)	+	+	—	—	+	+	+
φɕow	Jump down	—	+	+	+	+	+	—
χtu	Smash	—	+	+	+	+	—	+
ptɣ	Spit.3	—	+	+	+	+	+	—

Table 21: Prefix-Verb Pairings for Quaddirectional Verbs

Verbs	Glossing	<i>zɯ-(juw/ji-)</i> DIR:UW	<i>ny-</i> DIR:DW	<i>ly-</i> DIR:US	<i>juw/ji-</i> DIR:DS	<i>ku-</i> DIR:IW	<i>juw/ji-</i> DIR:OW	<i>ty-</i> DIR:ND
mo ⁶	Wipe (apply moisturizer)	—	—	+	+	+	—	+
mtɕɤ	Climb (climb tree)	+	—	+	+	—	—	+
mtɕɤ	Paste	—	—	+	+	+	—	+
ɤdo	Bind; Tie	—	—	+	+	+	—	+
χp ^h ə ⁶	Vomit	—	+	+	—	—	+	+
βzo ⁶	Carry money	+	—	+	+	—	—	+
χto ⁶	Fight for	—	+	+	+	—	—	+
va	Hide	—	+	—	—	+	+	+
φlæ	Braid (braid hair)	—	+	—	—	+	+	+
ʂuφʂi	Dismantle (dismantle clothes)	—	+	+	+	—	—	+
guɣu	Exchange	—	+	—	—	+	+	+
tʂu	Heat (heat food)	+	+	—	—	+	—	+
mt ^h u	Tall	+	+	—	—	—	+	+
pow	Get cold	—	+	—	—	+	+	+
ʂuφʂi	Tear.3	—	+	+	+	—	—	+

Table 22: Prefix-Verb Pairings for Tridirectional Verbs

Verbs	Glossing	<i>zu-</i> (<i>juw/ji-</i>) DIR:UW	<i>ny-</i> DIR:DW	<i>ly-</i> DIR:US	<i>juw/ji-</i> DIR:DS	<i>ku-</i> DIR:IW	<i>juw/ji-</i> DIR:OW	<i>ty-</i> DIR:ND
tɕʰu	Boil (water boils)	+	+	—	—	—	—	+
muɪɸswɪ	Get light (day breaks)	+	—	—	—	—	+	+
ɸɕje	Be thirsty	+	+	—	—	—	—	+
ptsje	filter	+	+	—	—	—	—	+
ytɕʰje	freeze	—	+	—	—	+	—	+
yɸæ	Bury	—	+	—	—	+	—	+
ygwɪ	Bake	—	+	—	—	+	—	+
ylɔʰ	Sunbathe	—	+	—	—	+	—	+
ymaj	Fall asleep	—	+	—	—	+	—	+
ntsʰu	Dislocate	—	+	—	—	+	—	+
ŋkʰej	Freeze (meat freezes)	—	+	—	—	+	—	+
pəʰ	Rot	—	+	—	—	+	—	+
pʰow	Defeat	—	+	—	—	+	—	+
pdziow	Lie down	—	+	—	—	+	+	—
qʰæ	Steam	—	+	—	—	+	—	+
ptɕɪ	Break (thread breaks)	—	—	+	+	—	—	+
bdzow	Stretch	—	—	+	+	—	—	+
ydzə	Collapse	—	+	—	—	—	—	+
pdzje	Get drunk	—	+	—	—	—	+	+
ptəʰ	Chop (firewood)	—	+	—	—	—	+	+
mtsʰɪ	Fit	—	+	—	—	+	+	—
ɕɪpwɪ βɕɪ	Chat	—	+	—	—	—	+	+
tɕu	Burn (burned)	—	+	—	—	+	+	—
ptsje	Untie (shoelace untied)	—	+	—	—	—	+	+
tɕej	Recall	+	+	—	—	—	—	+
tɕɪukɪkwɪ	Turn corner	—	+	—	—	—	+	+
vu	Be numb	—	+	—	—	+	—	+
xmej	Cooked (rice cooked)	—	+	—	—	+	—	+
xɪɪ	Soak	—	+	—	—	+	—	+
xpwɪ	Bloom (flower blooms)	—	+	—	—	—	+	+
ɕqo	Scold	+	+	—	—	—	—	+
xtsʰwəʰ	Cough	—	+	—	—	+	—	+
xtɕɪuxɕɪwɪ	Disturb; Wake up	+	+	—	—	—	—	+
zu	Laugh	—	+	—	—	—	+	+
zow	Dry up (dried up)	+	+	—	—	—	—	+
βsʰje	Comb	—	+	—	—	—	+	+
βzu	Be Hungry	+	+	—	—	—	—	+
ɕŋwəʰ	Bite	—	+	—	—	+	—	+
ɕqʰwəʰ	Tie (tie cow)	—	+	—	—	+	—	+
βzoʰ	Hold umbrella	+	+	—	—	—	—	+
ɕzwa	Keep secret	—	+	—	—	+	—	+
ɕlo ɕlwaj	Surround	—	+	—	—	+	—	+
tʰu βla	Pick up.3	+	+	—	—	—	—	+
ŋtɕʰala	Chew	—	+	—	—	—	+	+
ɕwa	Open mouth	—	+	—	—	—	+	+
xŋa βla	Chew	—	+	—	—	—	+	+
ylɔʰ	Warm (warm by fire)	—	+	—	—	+	—	+
ɕtəʰ ɕtoʰ	Ask	—	+	—	—	+	—	+
ɕtoʰ	Meet	—	+	—	—	+	—	+
mdzu	Grab	—	+	—	—	+	—	+
ptɕʰi	Eat	—	+	—	—	+	—	+
ntɕʰəʰɕu	Hunt	—	+	—	—	+	—	+
ylu	Wait	—	+	—	—	+	—	+
kʰimixlu	Herd	—	+	—	—	+	—	+
βlej	Plow	—	+	—	—	+	—	+
xtsʰu	Pour (pour water)	—	+	—	—	+	—	+
xtɕɪuxɕu	Coax	—	+	—	—	+	—	+
xŋwej	Borrow (borrow money)	—	+	—	—	+	—	+
xku	Buy	—	+	—	—	+	—	+
ɸsej	Endure	—	+	—	—	+	—	+

Continued on the next page

Table 23: Prefix-Verb Pairings for Tridirectional Verbs

Continued from the previous page

Verbs	Glossing	<i>zu-</i> (<i>ju/ji-</i>) DIR:UW	<i>ny-</i> DIR:DW	<i>ly-</i> DIR:US	<i>ju/ji-</i> DIR:DS	<i>ku-</i> DIR:IW	<i>ju/ji-</i> DIR:OW	<i>ty-</i> DIR:ND
βlej	Plant (plant tree)	—	+	—	—	+	—	+
tɕʰioptɕʰej	Crush; Squash	—	+	—	—	+	—	+
ku	Wear (wear clothes, wear shoes)	+	+	—	—	—	—	+
ptɕʰu	Hang	+	+	—	—	—	—	+
su	Support (raise)	+	+	—	—	—	—	+
ɕɕʰjepʰu	Kowtow	+	+	—	—	—	—	+
ptʰu	Build	+	+	—	—	—	—	+
χtɕʰɿpu	Ride	+	+	—	—	—	—	+
xku	Carry	+	+	—	—	—	—	+
pdu	Smoke (smoke out)	+	+	—	—	—	—	+
sʰuɿtɕu	Think	+	+	—	—	—	—	+
ɕsi	Grind (sharpen knife)	+	+	—	—	—	—	+
kʰwej	Cushion	+	+	—	—	—	—	+
sʰuɿtɕu	Worry	+	+	—	—	—	—	+
ptʰej	Drink	+	+	—	—	—	—	+
tsuɿptɕi	Count (count numbers)	+	+	—	—	—	—	+
βloʰpʰu	Melt (make melt)	+	+	—	—	—	—	+
sʰuɿɕsʰi	Select	+	+	—	—	—	—	+
ptʰej	Smoke (smoke cigarette)	+	+	—	—	—	—	+
ɕɕʰuɿɕɕʰi	Break open	+	+	—	—	—	—	+
lejeu	Answer	—	—	—	—	+	+	+
ypu	Pour out (pour out water)	—	—	—	—	+	+	+
mdzow	Swallow	—	+	+	—	—	—	+
ptɕuɿtʰɿ	Puncture (puncture with needle)	—	+	—	—	+	—	+
χqʰwəʰ	Boil	—	+	—	—	+	—	+
pʰɿli βzy	Patch (patch clothes)	—	+	—	—	+	—	+
βzy	Wear (wear hat)	—	+	—	—	+	—	+
ptɕʰɿ	Burn	—	+	—	—	+	—	+
ɲæɿtʰje βzy	Fish (catch fish)	—	+	—	—	+	—	+
tɕowxkwɿ	Punish	—	+	—	—	+	—	+
ɕʰwɿ	Put (add salt)	—	+	—	—	+	—	+
ptɕɿ	Sew	—	+	—	—	+	—	+
ptɕʰɿ	Measure (length)	—	+	—	—	+	—	+
βzy	Sleep	—	+	—	—	+	—	+
xtɕwɿ	Wear	—	+	—	—	+	—	+
xtɕwɿ	Milk (milk cow)	—	+	—	—	+	—	+
xɲuxɿtɕʰwɿ	Kneel	—	+	—	—	+	—	+
ptɕʰɿ	Ignite	—	+	—	—	+	—	+
pu χcwəʰ	Squeeze (squeeze toothpaste)	—	+	—	—	—	+	+
kʰwej	Dry (dry clothes)	—	+	—	—	—	+	+
ky pty	Search	—	+	—	—	—	+	+
xtɕʰu xtɕʰi	Tear apart	—	+	—	—	—	+	+
ygo	Happy and excited	+	+	—	—	—	—	+
tʰje	Thick	—	+	—	—	—	+	+
tsʰoʰ	Short	—	+	—	—	+	—	+
tsaj	To be wet	—	+	—	—	+	—	+

Table 24: Prefix-Verb Pairings for Bidirectional Verbs

Verbs	Glossing	<i>zu-</i> (<i>ju/ji-</i>) DIR:UW	<i>ny-</i> DIR:DW	<i>ly-</i> DIR:US	<i>ju/ji-</i> DIR:DS	<i>ku-</i> DIR:IW	<i>ju/ji-</i> DIR:OW	<i>ty-</i> DIR:ND
<i>e'u</i>	Wake up (wake up from sleep)	+	—	—	—	—	—	+
<i>do^a</i>	Be enough	+	—	—	—	—	—	+
<i>ndzu</i>	Grow; Grow up; Water rises	+	—	—	—	—	—	+
<i>pdzje</i>	Be full	+	—	—	—	—	—	+
<i>so</i>	Be filled (filled up)	+	—	—	—	—	—	+
<i>so</i>	Grow taller	+	—	—	—	—	—	+
<i>χqo</i>	Go crazy	+	—	—	—	—	—	+
<i>zu-tsa</i>	Recover (from illness)	+	—	—	—	—	—	+
<i>dundv</i>	Shiver	—	+	—	—	—	—	+
<i>ygo</i>	Like	—	+	—	—	—	—	+
<i>tso^a</i>	Become	—	+	—	—	—	—	+
<i>eu</i>	Want (want to go)	—	+	—	—	—	—	+
<i>mt^hej</i>	Sing	—	+	—	—	—	—	+
<i>ndv</i>	Bark (dog barks)	—	+	—	—	—	—	+
<i>ni; βev</i>	Speak	—	+	—	—	—	—	+
<i>niow</i>	Be sick	—	+	—	—	—	—	+
<i>ndzæ</i>	Heal (swelling reduces)	—	+	—	—	—	—	+
<i>ntsej</i>	Have diarrhea	—	+	—	—	—	—	+
<i>ŋaj</i>	Wilt (flower wilts)	—	+	—	—	—	—	+
<i>ptsa</i>	Cry	—	+	—	—	—	—	+
<i>qo^a</i>	Crow (rooster crows)	—	+	—	—	—	—	+
<i>qo^a βlwe wu</i>	Lightning	—	+	—	—	—	—	+
<i>ndi</i>	Burst out; Have a nosebleed	—	+	—	—	—	—	+
<i>ɳnaj</i>	Be noisy	—	+	—	—	—	—	+
<i>ɳzæ^a</i>	Be spicy	—	+	—	—	—	—	+
<i>qv</i>	Chirp (bird chirps)	—	+	—	—	—	—	+
<i>pv</i>	Land	—	+	—	—	+	—	—
<i>dv</i>	Sting (wasp stings)	—	+	—	—	+	—	—
<i>pv</i>	Get wet	—	—	—	—	+	—	+
<i>mumu</i>	Get dark	—	—	—	—	+	—	+
<i>ŋje</i>	Cover	—	—	—	—	+	—	+
<i>mts^ho^a</i>	Be complete (all together); Gather	—	—	—	—	+	—	+
<i>tæ</i>	Get old	—	—	—	—	+	—	+
<i>βzɣ</i>	Write	—	+	—	—	+	—	—
<i>xmv</i>	Ripen (fruit ripens)	—	—	—	—	+	—	+
<i>βsu</i>	Bear fruit	—	+	—	—	+	—	—
<i>ts^hupizɣ</i>	Be angry	—	+	—	—	—	—	+
<i>tɕundzo</i>	Dance	—	+	—	—	—	—	+
<i>tsuptsv</i>	Squeeze (foot squeezed)	—	+	—	—	—	—	+
<i>tso^a</i>	Be free	—	+	—	—	—	—	+
<i>wə^axtcə^a</i>	Be afraid	—	+	—	—	—	—	+
<i>pwɣ</i>	Split open	—	—	—	—	—	+	+
<i>xtɕu</i>	Give birth (give birth to child); (piglet birth)	—	—	—	—	—	+	+
<i>βzɣ</i>	Lay eggs	—	+	—	—	—	+	—
<i>βzwy</i>	Peel (with knife)	—	+	—	—	—	—	+
<i>zu-tso</i>	Catch cold	+	+	—	—	—	—	—
<i>βzo^a</i>	Hold (hold pen)	+	—	—	—	—	—	+
<i>χq^hwa</i>	Dismantle (dismantle house)	—	+	—	—	—	—	+
<i>χsuɕzwa</i>	Mix (mix water)	—	+	—	—	+	—	—
<i>χq^hwa</i>	Knock down (knock down wall)	—	+	—	—	—	—	+
<i>χc^hwaj</i>	Break (break stick)	—	+	—	—	—	—	+
<i>q^hwa</i>	Avoid (avoid food)	—	+	—	—	—	—	+
<i>βzaj</i>	Be willing	—	+	—	—	—	—	+
<i>χc^hwaj</i>	Break (break bowl)	—	+	—	—	—	—	+
<i>tɕuptɕo^a</i>	Rinse (rinse mouth); Wash	—	+	—	—	—	—	+
<i>q^a βza</i>	Scratch (scratch itch)	—	+	—	—	—	—	+
<i>χqo^a</i>	Dig	—	+	—	—	—	—	+

Continued on the next page

Table 25: Prefix-Verb Pairings for Bidirectional Verbs

Continued from the previous page

Verbs	Glossing	<i>zu-</i> (<i>ju/ji-</i>) DIR:UW	<i>ny-</i> DIR:DW	<i>ly-</i> DIR:US	<i>ju/ji-</i> DIR:DS	<i>ku-</i> DIR:IW	<i>ju/ji-</i> DIR:OW	<i>ty-</i> DIR:ND
χqwa	Boil	—	+	—	—	—	—	+
mt ^h ej	Extract (extract out)	—	—	—	—	—	+	+
k ^h wej	Dry (dry clothes)	—	—	—	—	—	+	+
ku	Wear (wear bracelet)	—	—	—	—	—	+	+
xoku	Understand	—	—	—	—	—	+	+
ptsu ^{bu} wu	Force	—	+	—	—	—	—	+
ts ^h yt ^h wu	Guess (guess riddle)	—	+	—	—	—	—	+
p ^h ut ^h u	Lose	—	+	—	—	—	—	+
wu	Complete	—	+	—	—	—	—	+
ndzyndzi	Fight	—	+	—	—	—	—	+
nteytu wu	Fight	—	+	—	—	—	—	+
wyku	Knockdown	—	+	—	—	—	—	+
gigi	Move	—	+	—	—	—	—	+
y ^h u	Read	—	+	—	—	—	—	+
ji	Tell	—	+	—	—	—	—	+
ts ^h yzow wu	Marry	—	+	—	—	—	—	+
xtcu	Sell	—	+	—	—	—	—	+
æpw ^h ej wu	Bully	—	+	—	—	—	—	+
nbawu	Kiss (kiss child)	—	+	—	—	—	—	+
s ^h o ^h ps ^h i	Make noise	—	+	—	—	—	—	+
tšw ^h du wu	Discuss	—	+	—	—	—	—	+
tə ^h ətə ^h æ wu	Tidy up	—	+	—	—	—	—	+
duv ^h wu	Break (grain breaks)	—	+	—	—	—	—	+
mæzej wu	Damage	—	+	—	—	—	—	+
nu	Listen	—	+	—	—	—	—	+
tə ^h uxkwej	Steal	—	+	—	—	—	—	+
dzu ^h pdzæxku	Play	—	+	—	—	—	—	+
ku	Feed (breastfeed)	—	+	—	—	—	—	+
χtə ^h βzi	Scare	—	+	—	—	—	—	+
βzow	Learn	—	+	—	—	—	—	+
xkygu	Shake (shake head)	—	+	—	—	—	—	+
tsə ^h dzi wu	Prepare	—	+	—	—	—	—	+
ptsu	Sit	—	+	—	—	—	—	+
xtš ^h owpt ^h y	Pull out (pull out weeds)	—	+	—	—	—	—	+
ydzwy	Cut	—	+	—	—	—	—	+
xk ^h wy	Chop (chop bone)	—	+	—	—	—	—	+
pt ^h y	Take off (take off clothes)	—	+	—	—	—	—	+
xk ^h wej	Stand	+	—	—	—	—	—	+
ptə ^h u	Weigh (weigh grain)	+	—	—	—	—	—	+
ptə ^h u	Open	+	—	—	—	—	—	+
ptə ^h u	Raise hand	+	—	—	—	—	—	+
du	Gather	+	—	—	—	—	—	+
xtu	Hug (hug in arms)	+	—	—	—	—	—	+
tciowxku	Compensate	+	—	—	—	—	—	+
ŋq ^h u	Want	—	—	—	—	+	—	+
lvs ^h yptə ^h i	Celebrate New Year	—	—	—	—	+	—	+
du	Close (close umbrella)	—	—	—	—	+	—	+
βzej	Marry (take a wife)	—	—	—	—	+	—	+
to ^h p ^h u	Stuck (make stuck)	—	—	—	—	+	—	+
ptə ^h u	Open (open door)	—	—	—	—	+	—	+
zu	Teach	—	—	—	—	+	—	+
βzy	Button (button up)	—	—	—	—	+	—	+
mdzy	Nail (nail a nail)	—	—	—	—	+	—	+
cwy	Ferment	—	—	—	—	+	—	+
βzy	Shoot (shoot gun)	—	—	—	—	+	—	+
zymow βzy	Draw (draw a picture)	—	—	—	—	+	—	+
pty	Cover (cover with a blanket)	—	—	—	—	+	+	—

Table 26: Prefix-Verb Pairings for Unidirectional Verbs

Verbs	Glossing	<i>zu-</i> (<i>juw/ji-</i>) DIR:UW	<i>ny-</i> DIR:DW	<i>lv-</i> DIR:US	<i>juw/ji-</i> DIR:DS	<i>ku-</i> DIR:IW	<i>juw/ji-</i> DIR:OW	<i>tv-</i> DIR:ND
ɕʰɿ	Be tired	—	+	—	—	—	—	—
du	Rain (rain falls)	—	+	—	—	—	—	—
ɦu	Burn (hand burns)	—	+	—	—	—	—	—
nɔw	pain	—	+	—	—	—	—	—
ŋqʰazaptsej	Itch	—	+	—	—	—	—	—
mdzuqɿ	Thunder	—	+	—	—	—	—	—
qʰa	Get thinner (lost weight)	—	+	—	—	—	—	—
kʰi	Win	—	—	—	—	+	—	—
məʰ	Hear	—	—	—	—	+	—	—
ndzo	Gather	—	—	—	—	+	—	—
xtje	Remember	—	—	—	—	+	—	—
zo	Hit the mark	—	—	—	—	+	—	—
tʰo	Take turns	—	—	—	—	+	—	—
βzɿwɿ	Rake (rake field)	—	—	—	—	+	—	—
ntʰaj	Fit in	—	—	—	—	—	—	+
pvzɔw	Swell	—	—	—	—	—	—	+
ptɕuxlwɿ	Tear (clothes tear)	—	—	—	—	—	—	+
ɕʰiowɕʰi wəʰ	Be pregnant	—	—	—	—	—	—	+
kɿwɿ	Lock (lock door)	—	—	—	—	—	—	+
qɿlo	Scatter (meeting adjourned)	—	—	—	—	—	—	+
tɕʰu	Have (bowl has water)	—	—	—	—	—	—	+
tsʰɿdu ndu	Have fever	—	—	—	—	—	—	+
tsu	Be (to be)	—	—	—	—	—	—	+
wəʰ	Have (mountain has trees)	—	—	—	—	—	—	+
wəʰ	Have (have eyes)	—	—	—	—	—	—	+
xtwɿ	Repay (repay debt)	—	—	—	—	—	—	+
xu	Set (sun sets)	—	—	—	—	—	—	+
χaj	Forget	—	—	—	—	—	—	+
χɕaj	Break (stick breaks)	—	—	—	—	—	—	+
zɿ	Resemble	—	—	—	—	—	—	+
zu	Leak (leak water)	—	+	—	—	—	—	—
xkwaj	Be shy	—	+	—	—	—	—	—
χatu	Yawn	+	—	—	—	—	—	—
zej	Leave out; Remain	—	—	—	—	—	+	—
tu	Appear (sun appears)	—	—	—	—	—	+	—
doʰpdoʰza	Injure (injure hand)	—	—	—	—	—	+	—
χsai	Accumulate; Save	—	—	—	—	—	+	—
nje	Block; Cover	—	—	—	—	+	—	—
χtwəʰ	Repay	—	—	—	—	—	—	+
ptɿ	Defecate	—	—	—	—	—	+	—
βzi	Obtain	—	—	—	—	—	—	+
ku	Set fire	—	—	—	—	—	—	+
pʰu	Allow	—	—	—	—	—	—	+
xnuu	Dare	—	—	—	—	—	—	+
ŋu	Can (can write)	—	—	—	—	—	—	+
xsuzɿwa pʰu	Mix (make mix)	—	—	—	—	—	—	+
mæ ɕʰu	Not have	—	—	—	—	—	—	+
xpʰi	Extinguish (fire extinguishes)	—	—	—	—	—	—	+
puɿlejygu	Owe (owe money)	—	—	—	—	—	—	+
βzej	Yield	—	—	—	—	—	—	+
sʰi	Die	—	—	—	—	—	—	+
ɕʰu	Have (have money)	—	—	—	—	—	—	+
tɕi	Be (be in house)	—	—	—	—	—	—	+
doʰzo wu	Be careful	—	+	—	—	—	—	—
zɿ βzu wu	Sleepy	—	+	—	—	—	—	—
mdi	See	—	—	—	—	+	—	—
ynuu	Rest	—	—	—	—	—	+	—
βzi	pick up. ³	—	—	—	—	—	—	+

チヨユ語における動詞の方向範疇

取米拉姆

【要旨】：本稿は、中国四川省甘孜チベット族自治州で話されるチベット・ビルマ語諸語の危機言語であるチヨユ語の動詞の方向範疇について記述する。分析はチヨユ語コーパスを用いて収集した 381 の動詞と 48 の例文に基づく。まず、チヨユ語動詞の方向接辞体系とその用法を詳細に記述し、方向接辞の文法機能を明らかにする。チヨユ語の動詞は、動詞に前接できる方向接辞の数に基づいて、全方向動詞、六方向動詞、五方向動詞、四方向動詞、三方向動詞、二方向動詞、単方向動詞の 7 グループに分類できる。さらに、この言語の方向接辞は、時制・アスペクト・ムード（TAM）の文法機能に拡張され、時制（アオリスト）、アスペクト（継続相および反復相）、ムード（命令法、直説法および非現実法）の標識として機能する。

【キーワード】：チヨユ語、方向接辞、文法機能

受領日 2024年6月13日
受理日 2024年10月6日