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ABSTRACT

Space is categorized and expressed in Lisu in all areas of structure, both nominal and verbal. Within the nominal system, there is a complex deictic system which differs between dialects and which has distinct fused locative forms, as well as a large set of spatial frame nominals, some derived from body parts, as well as directional suffixes and a spatial marker suffix; the ways in which these suffixes combine with nouns and noun stems differ slightly between dialects. There are also some general nouns for location in space and a spatial numeral classifier. Some of these nominal spatial forms are metaphorically extended to temporal, comparative and more lexicalized uses. Within the verbal system, directions of motion and types of location are expressed by lexically distinct verbs. As in most Ngwi languages related to Lisu, there is a morphosyntactically distinct set of dimensional extent stative verbs expressing spatial extension as well as temporal extent. There is also a set of posthead directional serial verbs. Finally, there are spatial adverbial forms productively based on the dimensional extent verbs.

KEYWORDS

deictic, locative, directional, spatial, dimensional extent

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Space in Lisu

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1 Introduction

Lisu or ꓡꓲꓧ-ꓢꓴꓧ /li⁴⁴ su⁴⁴/ is a Central Ngwi (Loloish, Yi Branch) language of the Burmic (Burmese-Lolo, Lolo-Burmese) branch of Tibeto-Burman (TB), spoken by about a million people in Yunnan and Sichuan, China; northern Burma; northern Thailand and northeastern India. It has four main dialects: Northern or ꓡꓳꓬ ꓪꓴ. /lo³³ wu⁵⁵/ 'upriver' spoken in northern Burma, northwestern Yunnan and northeastern India; Central or ꓫꓬꓧ-ꓫꓬꓧ /ɕɑ⁴⁴ ɕɑ⁴⁴/ (a name with no meaning) spoken in northeastern Burma and western Yunnan; Southern or ꓡꓳꓬ ꓫꓴꓧ /lo³³ ʂɿ⁴⁴/ 'long river' spoken in northern Thailand and nearby in eastern Burma; and Eastern (no specific autonym), spoken in north central Yunnan and Sichuan. There is also a divergent local subdialect of Central Lisu spoken at Shibacha village in Tengchong County, Yunnan and described by Yu (2007). Since the mid-1970s, some speakers of Northern and Central Lisu have moved southwards and live in northern Thailand, with some contact between dialects.

Lisu forms are here cited in Lisu orthography[1] and in IPA. The Eastern Lisu dialect should not be confused with closely related but quite distinct Lipo, also called Eastern Lisu in some of the early 20th century literature; Lipo is spoken in north central Yunnan and the southern tip of Sichuan, between the Eastern Lisu and the other Lisu. In China, nearly half of the Lipo are officially classified as members of the Lisu nationality; the rest are classified as members of the Yi nationality. This paper does not further discuss Lipo, which has a different deictic and other spatial marking system from Lisu.

For a general overview of Lisu structure, see Bradley (2003a); Bradley (1994) is a dictionary of Northern Lisu, and Bradley et al. (2006 is a dictionary of Southern Lisu, both with extensive examples of all the forms and structures discussed here.

This paper first summarizes the phenomena related to nominal forms, including the deictic system and its contracted locative forms; the use of semantically extended body part nouns such as 'hand/arm' to express spatial meanings; the specific spatial frame nouns with meanings like 'in front'

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[1] This is a romanization developed from 1914 using 25 upright upper case letters and 15 inverted upper case letters with different values to represent consonants and vowels; in partial similarly with Burmese, tones are indicated by punctuation following the syllable, and a period is indicated by an equals sign. This script has official status in the two Lisu autonomous areas in China, Nujiang Prefecture and Weixi County in northwestern Yunnan. The orthography is slightly redundant and thus able to express nearly all dialect differences clearly. Lisu writers omit many of the tones to simplify writing, but in this paper all are included for clarity. There are two other main Lisu orthographies, one indigenous and now hardly used, another based on the principles of Chinese *pinyin* and used by some people in China; see Bradley and Bradley (1999) and Bradley (1997, 2006) for further information. Lisu examples are cited in their Central Lisu form unless specified otherwise.

and so on; directional suffixes which may be attached to nominal forms; the spatial marker suffix; other nominal forms with extended spatial meanings, such as 'pig' extended to mean 'in front'; and one numeral classifier with a spatial meaning. The verbal forms are then discussed, including spatial motion verbs like 'go'; posthead directional serial verbs; copula verbs expressing spatial location; dimensional extent verbs like 'big' and 'long', which are extensively grammaticalized in Lisu as in nearly all closely related languages; and deverbal adverbs. Finally, there are two illustrations how some spatial forms with a specific meaning operate in different syntactic patterns: firstly, an example of one form ti. /ti⁵⁵/ which is used in a variety of structures to mean 'on top', and secondly an example of a set of etymologically related but distinct forms used in a similar variety of structures with an 'upward' meaning. One unusual characteristic of the spatial frame system is that the form with the meaning 'in front' is extended to mean 'in the past', and similarly 'behind, at the back of' is extended to refer to future time. This extension has sometimes been regarded as remarkable in other parts of the world, for example in Quechua/Almara (Everett 2013: 116ff), but is found in many closely-related TB languages in this area.

2 Nominal forms

2.1 Deictics

Lisu has a complex deictic system described in Bradley (2003b) which distinguishes distance and height. Yu (2007: 137-147) briefly describes the deictic system of the Shibacha subdialect of Central Lisu, whose forms differ slightly from the rest of Central Lisu. The Southern Lisu dialect also distinguishes anaphoric reference in its deictic system. The syntax of deictics differs greatly among languages closely related to Lisu; for example in Burmese a deictic immediately precedes the head noun, while the numeral plus numeral classifier follows it (Okell 1969: 76-78, 102-104). In Akha the deictic follows the head noun and is obligatorily combined with a following numeral classifier; a numeral or numerals can also occur between them (Lewis 1968: xxi-xxii). In Lahu the deictic is normally followed by the nominalizer /ve³³/, and the position of this deictic phrase before or after the head nominal if any differs on a semantic/pragmatic basis, between deictics and between dialects (Bradley 1979a), but it always precedes the entire numeral plus numeral classifier. As in Lahu, the Lisu deictic most frequently has a following general nominalizer, in the case of Lisu this is ᵐH /mɑ⁴⁴/. Interestingly, and unlike Akha and Lahu and most other Ngwi languages, if a numeral plus classifier is present in Lisu, it comes between the deictic and the nominalizer as in (1). It is also possible for the nominalizer to be absent when a deictic followed by a numeral plus numeral classifier phrase is present, but many Central and Southern Lisu speakers reject this possibility. In Lisu as in Lahu, Akha and other Ngwi languages, a deictic phrase such as Lisu (2) without a head noun is a very frequent type of noun phrase. Unless otherwise specified, examples below are from the Central Lisu dialect and written Lisu, but the same syntactic patterns with some phonological and lexical differences are seen in other dialects.

(1) FoY p. R: TEY   nyi: roH   ᵐH
     tsʰo³³ pɑ⁵⁵ zɑ²¹   tʰø³³   ɲi²¹   ʐo⁴⁴   mɑ⁴⁴
     man   this   two   CLF.human   NMLZ

     'these two men'

(2) goY   li.   roH   mH
     go^{33} li^{55} ʐo^{44} mɑ^{44}
     that.level   four   CLF.human   NMLZ

     'those four people'

Rather than the general nominalizer, a deictic may instead be followed by another nominal postposition, such as lEH /lø^{44}/ 'manner' as in (3), kwH /kwɑ^{44}/ 'locative' (loc) as in (4); or by a nominal or non-final clause temporal marker TA: /tʰæ^{21}/ as in (5); or by certain numeral classifiers such as 'occasion' hw, /hwɑ^{35}/ as in (6); in the latter case, as in Akha, a numeral must intervene in some dialects, as in Central Lisu (7). Locative forms like (4) most frequently have a contracted alternative form as discussed in 2.1.1 below. The locatives occur freely with all deictics, but the other alternative postpositions occur mainly with the proximal and distal same level forms (and in Southern Lisu their anaphoric counterparts as well), though very occasionally other combinations may occur. Nominal forms like (3) to (7), unlike the forms like (1) and (2) with the basic nominalizer mH /mɑ^{44}/, do not normally occur following a head noun; they are already a complete noun phrase without a head noun.

(3) goY   lEH
     go^{33} lø^{44}
     that.level   manner

     'in that manner'

(4) nEY   kwH
     nø^{33} kwɑ^{44}
     that.up   LOC

     'up there'

(5) goY   TA:
     go^{33} tʰæ^{21}
     that.level   TEMP

     'then, at that time'

(6) TEY   hw,
     tʰø^{33} hwɑ^{35}
     this   occasion

     'on this occasion'

(7) TEY   Ti: hw,   (mH)
     tʰø^{33} tʰi^{21} hwɑ^{35} mɑ^{44}
     this   one   occasion   NMLZ

     'on this (one) occasion'

Northern Lisu also uses an additional numeral classifier form Ꮏ. /to⁵⁵/ 'occasion' which occurs in exactly the same structures as ᏏᏪ, /hwɑ³⁵/; in other dialects this is a numeral classifier for groups of things or for the load of a pack animal. When a deictic combines with a manner or temporal form, there can be no intervening numeral plus classifier; but this does occur with an uncontracted locative, as in (8).

(8) ᎫEY   nyi: K,   kwH
     dzø³³   ɲi²¹   kʰɑ³⁵ kwɑ⁴⁴
     that.down two   village LOC

     'at those two villages down there'

The bound directional suffixes discussed further in 2.4 below can also occur in this slot, alone with a deictic, as in (9). Like the locatives, but unlike manner and temporal forms, these directionals can occur with any deictic category.

(9) TEY b: goY   pEH   nEY   po.
     tʰø³³ bɑ²¹   go³³   pø⁴⁴   nø³³   po⁵⁵
     this dir.side that.level dir.direction.near that.up dir.direction

     'this side'   'nearby in that direction on the level' 'in that upward direction'

The least complex deictic system is that of the Northern and Eastern dialects, which are similar apart from minor phonological differences; they have a four-term system plus augmentative[2] forms expressing greater distance, as seen in Table 1. The augmentative distal forms can be within sight, and the non-augmentative distal forms can be out of sight; augmentative forms are infrequent in discourse.

Northern dialect		Eastern dialect		meaning
TEY/TeY	tʰø³³/tʰe³³	TEY	tʰø³³	this
goY/gLY/o.	go³³/gɯ³³/ʔo⁵⁵	goY	go³³	that on the same level
nEY	nø³³	nEY	nø³³	that at a higher level
jLY	dʒɯ³³	jEY	dzø³³	that at a lower level
ko.	ko⁵⁵	ko.	ko⁵⁵	that, same level, far
nE.	nø⁵⁵	nE.	nø⁵⁵	that, higher level, far
cLY	tʃɯ⁵⁵	cE.	tɕø⁵⁵	that, lower level, far

Table 1. Northern and Eastern Lisu deictics

The augmentative forms refer to things at a greater distance; in addition to the expressive high tone, note also the voiceless initial where possible; synchronically, Lisu has no voiceless nasals.

In Central Lisu, the system is similar but has an additional medial form which refers to things close to the addressee; the distal and distal augmentative forms refer to things which are neither near

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[2] For more on diminutives and augmentatives in Lisu, see Bradley (2015).

the speaker nor near the addressee; again it is the degree of distance and relative height which determines the selection of a distal deictic, not whether it is visible or not.

Normal deictic		Augmentative deictic		meaning
TEY	tʰø³³			this by speaker
a. TEY	ʔɑ⁵⁵ tʰø³³			that by addressee
goY	go³³	ko.	ko⁵⁵	that on the same level
nEY	nø³³	nE.	nø⁵⁵	that at a higher level
jEY	dʐø³³	cE.	tɕø⁵⁵	that at a lower level

Table 2. Central Lisu deictics

In addition to all the forms found in the Northern and Eastern deictic systems, Southern Lisu has an additional set of anaphoric deictics, which refer to a previously mentioned nominal: 'this one which has been mentioned before' and so on, which have a prefixed a. /ʔɑ⁵⁵/. There are again some minor differences in phonological forms. Notice that the Central Lisu medial deictic and the Southern Lisu proximal anaphoric deictic are identical in form; this leads to misunderstandings between speakers of these two dialects.

Normal deictic		Augmentative deictic		meaning
TeY	tʰe³³			this
goY	go³³	ko.	ko⁵⁵	that on the same level
nEY	nø³³	nE.	nø⁵⁵	that at a higher level
jEY	dʐø³³	cE.	tɕø⁵⁵	that at a lower level

Table 3. Southern Lisu deictics

Normal deictic		Augmentative deictic		meaning
a. TeY	ʔɑ⁵⁵ tʰe³³			this
a. goY	ʔɑ⁵⁵ go³³	a. ko.	ʔɑ⁵⁵ ko⁵⁵	that on the same level
a. nEY	ʔɑ⁵⁵ nø³³	a. nE.	ʔɑ⁵⁵ nø⁵⁵	that at a higher level
a. jEY	ʔɑ⁵⁵ dʐø³³	a. cE.	ʔɑ⁵⁵ tɕø⁵⁵	that at a lower level

Table 4. Southern Lisu anaphoric deictics

Apart from the proximal form which is extremely frequently used, all the other Southern Lisu anaphoric forms are very infrequent.

In addition to all these, there is a further set of reduplicated distal deictics used infrequently in Northern, Central and Southern Lisu. These combine the augmentative /55/ tone and normal /33/ tone distal forms in that order to refer to a medium distance between the normal distal and the augmentative distal; or a reduplicated /55/ tone augmentative form for something further away than even the augmentative distal.

In order of distance, (10) to (13) illustrate these forms, which are productive for all three distal forms in all three dialects.

(10) goY   mH
      go³³   mɑ⁴⁴
      that.level   NMLZ

      'that one (on same level)'

(11) ko.   mH
      ko⁵⁵   mɑ⁴⁴
      that.level.AUG NMLZ

      'that one (on same level), very far'

(12) ko.   goY   mH
      ko⁵⁵   go³³   mɑ⁴⁴
      that.level.AUG that.level   NMLZ

      'that one (on same level), fairly far'

 (13) ko.   ko.   mH
      ko⁵⁵   ko⁵⁵   mɑ⁴⁴
      that.level.AUG that.level.AUG NMLZ

      'that one (on same level), extremely far'

For the medial reduplicated forms, there is variation in the voicing of the initials of such forms; so for example (11) can also be ko. koY mH /ko⁵⁵ ko³³ mɑ⁴⁴/, go. goY mH /go⁵⁵ go³³ mɑ⁴⁴/ or go. koY mH /go⁵⁵ ko³³ mɑ⁴⁴/ with no difference in meaning; the forms with a voiced initial in the first syllable are very infrequent and some speakers reject them, though they do occur. For some speakers, a frequent use of the augmentative forms like (11) is to refer to something across a river; for example, a distant but possibly visible village at the same level on the other side of a deep river valley.

Some of the deictics grammaticalize into extremely frequent discourse markers, for example in all dialects goY lEH bAH /go³³ lø⁴⁴ bæ⁴⁴/ 'then', from the distal same level deictic, the manner postposition and the verb 'say'. In Southern Lisu a. TeY0 /ʔɑ⁵⁵ tʰe³³ ɑ⁴⁴/ 'so' is from the anaphoric proximal plus the short form of the uncontracted locative. There are also some temporal extensions, such as the form a: nEY /ʔɑ²¹ nø³³/ 'in ancient times' found in all dialects which appears to be derived from the distal higher deictic.

2.1.1 Locative deictics

The full form of the locative postposition after any nominal deictic form is kwH /kwɑ⁴⁴/ as seen in (4) above. This postposition varies between kwH /kwɑ⁴⁴/, wH /wɑ⁴⁴/ and just 0 /ɑ⁴⁴/.[3] Like most other nominal postpositions, this is not obligatory if a head noun is present and clearly has the relevant meaning; for example after some spatial frame nouns, spatial nouns and so on. A locative can also have an allative meaning in context, but allative and ablative meanings are more fully

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[3] The clitic /ɑ⁴⁴/ is written as an underline O in Lisu orthography. In addition to being a reduced form of the locative postposition, this is homophonously the most frequent postverbal declarative marker, as seen in (14) and elsewhere.

expressed by adding an additional deverbal element after the locative postposition. The allative is fully expressed by adding ꓚꓲꓧ /tɕʰi⁴⁴/ which is also the verb 'arrive', and the ablative is expressed in Northern and Central Lisu by adding ꓐꓰꓧ /be⁴⁴/ which is probably related to the verb ꓐꓰꓽ /bø²¹/ 'depart, separate'. In Central and Northern Lisu (14), due to the meaning of the verb, the locative and the allative are not obligatory; this can be used with no nominal postposition, with just the locative, or with both locative and allative (but not allative alone without locative). In Southern Lisu, instead of ꓐꓰꓧ /be⁴⁴/, the ablative ꓞꓳꓸ /tso⁵⁵/ as in (15) is used, borrowed from Chinese 从 *cóng*.[4]

(14)

yi.	K,	(kwH	(CiH))	dU:	lY	0	VoY=
ji⁵⁵	kʰɑ³⁵	kwɑ⁴⁴	tɕʰi⁴⁴	dy²¹	lɑ³³	ɑ⁴⁴	ŋo³³
he/she	village	LOC	ALL	enter	come	DECL	FUT

'He/she will enter the village.'

(15)

yi.	ꓝai. ꓝiH	kwH	ꓝo.	doH	yeH	oH=
ji⁵⁵	tsai⁵⁵ tsi⁴⁴	kwɑ⁴⁴	tso⁵⁵	do⁴⁴	je⁴⁴	o⁴⁴
he/she	village	LOC	ABL	come.out	DIRV.away	PFV

'He/she came out of the village.' (Southern Lisu)

The most frequent type of locative deictic is the outcome of a contraction of the locative postposition kwH /kwɑ⁴⁴/ onto the end of any deictic. In fact the locative postposition itself varies between kwH /kwɑ⁴⁴/, wH /wɑ⁴⁴/ and just O /ɑ⁴⁴/ so this contraction is not so surprising. The contracted forms sometimes have different initial allophones from the corresponding non-locative deictics, conditioned by the rhyme /ɑ/. They keep the tone of the deictic rather than taking that of the locative postposition. This contraction does not occur when blocked by a numeral plus numeral classifier between the deictic and the locative postposition, nor where meter requires two syllables in song, proverb or other environments; otherwise it is extremely frequent, much more frequent than forms like (4) above. Table 5 shows the contacted locative deictics, including alternative Southern Lisu forms which have alternative forms showing a further contraction.

Northern		Central		Southern		meaning
TY	tʰɑ³³	TY	tʰɑ³³	TY	tʰɑ³³	here
	-	a. TY	ʔɑ⁵⁵ tʰɑ³³		-	there by addressee
gwY	gwɑ³³	gwY	gwɑ³³	gwY	gwɑ³³/gɔ³³	there, same level
nwY	nwɑ³³	nwY	nwɑ³³	nwY	nwɑ³³/nɔ³³	there, higher
jwY	dʒwɑ³³	jwY	dʒwɑ³³	jwY	dʒwɑ³³/dʒɔ³³	there, lower
kw.	kwɑ⁵⁵	kw.	kwɑ⁵⁵	kw.	kwɑ⁵⁵/kɔ⁵⁵	there, level, far
nw.	nwɑ⁵⁵	nw.	nwɑ⁵⁵	nw.	nwɑ⁵⁵/nɔ⁵⁵	there, higher, far
cw.	tʃwɑ⁵⁵	cw.	tʂwɑ⁵⁵	cw.	tʃwɑ⁵⁵/tʃɔ⁵⁵	there, lower, far

Table 5. Contracted locative deictics

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[4] Southern Lisu has more Yunnanese Chinese loanwords than other dialects; in (15) 'village' is from the Yunnanese form of Chinese 寨子 *zhàizi*.

The distal lower locative form � /dʐwɑ³³/ is also variably zwY /dzwɑ³³/ in Central and especially in Southern Lisu. In addition, there are the usual reduplicated deictics; in this case the reduplication synchronically affects the locative form as a whole: both syllables have the locative form with /ɑ/, the forms with high tone on the first syllable and mid tone on the second syllable are intermediate between the distals and the augmentative distals, the forms with high tone on both syllables are farther than the augmentative distals, and there is the same variation of voicing in the initials of the medial distals giving multiple possible forms for each. For example, all of kw. gwY /kwɑ⁵⁵ gwɑ³³/, kw. kwY /kwɑ⁵⁵ kwɑ³³/, gw. kwY /gwɑ⁵⁵ kwɑ³³/ and gw. gwY /gwɑ⁵⁵ gwɑ³³/ mean 'there, on the same level, fairly far'; some speakers reject some of these forms, but all do occur. Southern Lisu also has fairly infrequent anaphoric locative deictics with a. /ʔɑ⁵⁵/ prefix before any of the above locative forms.

2.2   *Extended body part nouns*

There are two antonymous pairs of body part nouns very frequently used metaphorically extended as highly productive suffixes on nominal stems. One pair is wu. /wu⁵⁵/ 'head' (Northern Lisu o. /ʔo⁵⁵/) and mL. /mɯ⁵⁵/ 'tail' which refer to top and bottom. These are also extended to refer to upriver and downriver, as in (16).

(16) loY   wu.   loY   mL.
      lo³³   wu⁵⁵   lo³³   mɯ⁵⁵
      river head   river tail

      'upriver and downriver'

There is a separate bound nominal form doY /do³³/ for 'lower part' as in (17), and another bound form ti. /ti⁵⁵/ for 'bottom', discussed further in section 4 below. Both are often used as paired antonyms of wu. /wu⁵⁵/ 'head/top' with appropriate meaning differences, instead of mL. /mɯ⁵⁵/ 'tail' as in (17).

(17) K,   wu.   K,   doY
      kʰɑ³⁵ wu⁵⁵   kʰɑ³⁵ do³³
      village head   village lower.part

      'the upper and lower parts of the village'

The second pair of extended body-part nominal forms is jH /dʐɑ⁴⁴/ 'right' (also yH /jɑ⁴⁴/ or occasionally BH /ɣɑ⁴⁴/ in Southern Lisu) and L. /ɣɯ⁵⁵/ 'left'. These are bound forms and often but not always occur with a preceding lA; /læʔ²¹/ 'hand/arm' as in (18), or with a directional suffix as seen below.

(18) lA;   yH   lA;   L.
      læʔ²¹   jɑ⁴⁴   læʔ²¹   ɣɯ⁵⁵
      hand   right hand   left

      'on the right and the left'

There is a general tendency for nominal forms to have two or four syllables,[5] so the repeated syllable lA; /læ?²¹/ 'hand/arm' fills this template here; or there can be a following directional suffix instead, as seen in (23) and (24) in 2.4 below, which also makes these forms four syllables long. This template applies not just here, but throughout the Lisu nominal system; see for example two- syllable proper name forms such as the name of the Lisu and of the three named dialects; the basic combination of a one-syllable deictic plus a one-syllable nominal postposition as in (3), (4), (5), (6), (9), (10) and (12); and the extremely frequent combination of one-syllable numeral plus one-syllable numeral classifier. Four-syllable combinations are seen in (16), (17) and (18) as well as deictic, numeral, numeral classifier and nominal postposition sequences such as (1), (2) and (8), among many other parallel patterns seen below. It is not the case that one-syllable or three-syllable noun phrases are rare, but other than contacted locative deictics, they are much less frequent.

In Northern Lisu only, kH tAH /kɑ⁴⁴ tɛ⁴⁴/ 'upper back (of body)' is extended to mean 'on top', alongside the general bound spatial frame noun TA: /tʰæ²¹/ 'top' plus the spatial marker suffix siH /si⁴⁴/. In Southern Lisu only, kL. fi. /kɯ⁵⁵ tsi⁵⁵/ 'neck' is extended to refer to 'above'. Body part terms that have been extended to spatial meanings can sometimes be followed by one of the directional suffixes discussed in 2.4 and/or the spatial marker suffix discussed in 2.5.

2.3 Spatial frame nouns

In this paper, the term spatial frame noun (hereafter SFN) is used to refer to locational nouns (other than extended body part nouns) which describe particular spatial relationships. In Lisu, they may occur after a noun whose location they are describing. The two-syllable forms are independent nouns which can occur alone; one-syllable forms are bound and require something to follow them. Table 6 shows the main lexical SFNs. The additional syllable added to a one-syllable SFN can be a directional suffix as discussed in 2.4, the spatial marker suffix discussed in 2.5, a locative postposition or a topic postposition; or several of these, in this order. The various one-syllable forms differ in their exact combinatory behavior, as discussed below. The two-syllable forms may also be followed by these additional elements, but also occur frequently without them.

Northern		Central		Southern		meaning
TA:	tʰæ²¹	TA:	tʰæ²¹	TA:	tʰæ²¹	top/above
nA.	næ⁵⁵	nA.	næ⁵⁵	nA.	næ⁵⁵	bottom/under
mL: jy:	mɯ²¹ dzæ²¹	mi: TA:	mi²¹ tʰæ²¹	mL: TA:	mɯ²¹ tʰæ²¹	front
k. nA.	kɑ⁵⁵ næ⁵⁵	k. nA.	kɑ⁵⁵ næ⁵⁵	k. ny.	kɑ⁵⁵ ɲa⁵⁵	back
g;	gɑ?²¹	g;	gɑ?²¹	g;	gɑ?²¹	uphill
o;	?o?²¹	wo;	wo?²¹	wo;	wo?²¹	downhill
me,	me³⁵	tA, Kw:	tæ³⁵ kʰwɑ²¹	tA, Kw:	tæ³⁵ kʰwɑ²¹	backward
o. ti.	?o⁵⁵ ti⁵⁵	wu. ti.	wu⁵⁵ ti⁵⁵	wu. ti.	wu⁵⁵ ti⁵⁵	upside down
nAS	næ⁵⁵æ?²¹	nAS	næ⁵⁵æ?²¹	nAS	næ⁵⁵æ?²¹	inside

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[5] Matisoff (1982: 81-86) calls four-syllable noun compound forms nominal elaborate expressions, and gives many Lahu examples; they are usually ABAC with the first and third syllable identical, as in (16), (17) and (18), or ABCB with the second and fourth syllable identical, as in (23) and (24).

dA, Kw: dæ³⁵ kʰwɑ²¹				underground
bY (j yH) bɑ³³ (dʒɑ⁴⁴)	bY (k.) bɑ³³ (kɑ⁵⁵)	bY (k.) bɑ³³ (kɑ⁵⁵)		next to/outside

Table 6. Lisu spatial frame nouns

The one-syllable SFN forms TA: /tʰæ²¹/ 'top' and Northern Lisu me, /me³⁵/ 'backward' cannot be followed by any of the directional suffixes discussed in 2.4 below; they are obligatorily followed by the spatial marker suffix siH /si⁴⁴/ (Southern Lisu xUH /ʃɹ⁴⁴/), see 2.5 below. After the spatial marker suffix, a locative postposition is possible but not obligatory.

The nA. /næ⁵⁵/ 'bottom' and nAS /næ⁵⁵æʔ²¹/ 'inside' forms cannot have a directional or spatial marker suffix, they are obligatorily and only followed by a locative postposition. These are related to the verb nA. /næ⁵⁵/ 'deep' discussed in 3.4 below; see example (44).

The g; /gɑʔ²¹/ 'uphill' and wo; /woʔ²¹/ (Northern Lisu o; /ʔoʔ²¹/) 'downhill' forms must have a following directional suffix in Central and Southern Lisu, which may then occasionally be followed by the spatial marker suffix as in (19).

(19)   g;   pEH   (siH)
        gɑʔ²¹   pø⁴⁴   si⁴⁴
        uphill dir.direction.near   SPA

        'to a nearby uphill place'

In Northern Lisu, these forms also occur with the spatial marker suffix directly after the SFN, as in (20), which is not possible in Central or Southern Lisu. Sequences such as that seen in (19) also occur in Northern Lisu, as in other dialects.

(20)   g;   siH
        gɑʔ²¹   si⁴⁴
        uphill SPA

        'uphill'

The bY /bɑ³³/ 'next to'/'outside' form has an alternative bound one-syllable form in all dialects, which cannot be followed by a directional marker but must be followed by the spatial marker suffix. There is also a nonbound two-syllable form in all dialects, which can be followed by what other two-syllables forms occur with. Like the Northern Lisu form bY j yH /bɑ³³ dʒɑ⁴⁴/, Southern Lisu also has an alternative two-syllable form bY cyH /bɑ³³ tʃɑ⁴⁴/.

There is a minor phonological change and major semantic shift implied in the Northern Lisu dA, Kw: /dæ³⁵ kʰwɑ²¹/ 'underground' form versus the similar Central and Southern tA, Kw: /tæ³⁵ kʰwɑ²¹/ 'backward' forms. There is no SFN form for 'underground' in Central or Southern Lisu; in Northern Lisu the original 'backward' SFN has been replaced by the grammaticalized verbal form me, /me³⁵/ 'turn inside out'.

Note that the SFNs mi: TA: /mi²¹ tʰæ²¹/ (Northern Lisu mL: j y: /mɯ²¹ dʑæ²¹/, Southern Lisu mL: TA: /mɯ²¹ tʰæ²¹/) 'in front' and k. nA. /kɑ⁵⁵ næ⁵⁵/ (Southern Lisu k. ny. /kɑ⁵⁵ ɲɑ⁵⁵/) 'in back' are not related to the body part nouns for the front and back of the body; woH KL: /wo⁴⁴ kʰɯ²¹/ or woH mL: /wo⁴⁴ mɯ²¹/ 'chest' and Southern Lisu kH kuH /kɑ⁴⁴ ku⁴⁴/, Northern Lisu kH tAH /kɑ⁴⁴ tɛ⁴⁴/

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'upper back (of body)'; conversely, as we have seen, in Northern Lisu the latter term is extended to mean 'on top', alongside the general form TA: SiH /tʰæ²¹ si⁴⁴/ with the spatial marker suffix.

Temporal metaphorical extension of SFNs like Lisu mi: TA: /mi²¹ tʰæ²¹/ 'front' and k. nA. /kɑ⁵⁵ næ⁵⁵/ 'back' is fairly widespread among languages of the world; in Lisu, as in many other Tibeto-Burman languages in the area such as Lahu (Matisoff 1982: 183-185), Akha (Lewis 1968: 200, 215), Hani (Lewis and Bai 1996: 331, 361) and so on, 'back' is extended to refer to the future (which one has not yet seen and does not know), and 'front' is extended to refer to the past (which one has seen in front of oneself and already knows about). These extended uses may be followed by the temporal postposition TA: /tʰæ²¹/ temp, but may also be unmarked and still have temporal meaning; they can also be followed by a locative postposition. mi: TA: /mi²¹ tʰæ²¹/ also means 'dawn'; this could be a metaphorical extension to refer to the front part of the day.[6]

There is one striking and unexplained semantic extension of an animal noun into the spatial frame system; a. wA; /ʔɑ⁵⁵ wæʔ²¹/ 'pig' means 'in front', but only when a directional suffix and/or the spatial marker suffix is added to it, a. wA; po. /ʔɑ⁵⁵ wæʔ²¹ po⁵⁵/ or a. wA; po. siH /ʔɑ⁵⁵ wæʔ²¹ po⁵⁵ si⁴⁴/ 'in a frontward direction' and , a. wA; siH /ʔɑ⁵⁵ wæʔ²¹ si⁴⁴/ 'in front'. These forms can only have a spatial meaning, and are not used in temporal or other extended senses.

There is one lexicalized form containing wo; /woʔ²¹/ 'downhill', whose meaning is not surprising given that many Lisu live along deep valleys where the lower slopes are in the shade most of the day: wo; po. /woʔ²¹ po⁵⁵/ with a directional suffix, 2.4 below, means both 'in a downhill direction' and also 'in the shade'; the same form is also extended in Southern Lisu to mean 'everything'; as Lisu villages are often on the top of a hill, most things are indeed downhill from them. Another lexicalized from found in Northern Lisu is g; jyH /gɑʔ²¹ dʒɑ⁴⁴/ with an unusual spatial marker possibly derived from the bound stem for jyY /dʒɑ³³/ 'road'; it does not mean 'on an uphill path' as one might expect, but rather 'in front of' or 'next to'; we have also seen the same Northern Lisu second syllable with bY /bɑ³³/ 'side' as first syllable.

Another semantic extension found in Lisu as in many other languages is the use of SFNs in comparative constructions. The SFN for 'top' plus the spatial marker suffix is often used, as in (21).

(21) yi.   VwY   TA: siH   sH   Ko;   wu:0   VY=
      ji⁵⁵   ŋwɑ³³ tʰæ²¹ si⁴⁴   sɑ⁴⁴ kʰoʔ²¹ vu²¹ ɑ⁴⁴ ŋɑ⁴⁴
      he/she I   SFN.top SPA   three year big DECL   cop

'He/she is three years older than me'.

Similarly, Northern Lisu extends its metaphorical body part form from 'upper back' to 'on top' to a comparative as in (22).

(22) VwY   Ti: nyiY   kH tAH   ny,   m: mLY=
      ŋwɑ³³ tʰi²¹ ɲi³³   kɑ⁴⁴ tæ⁴⁴ ɲɑ³⁵   mɑ²¹ mɯ³³
      I   one   day   upper.back LCOP.human NEG get

'I can't stay more than one day'. (Northern Lisu)

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[6] Another possible explanation is that 'dawn' derives from the first syllable of the archaic word mi: miY /mi²¹ mi³³/ 'sun' plus the temporal postposition TA: /tʰæ²¹/, thus meaning 'sun time'.

In Southern Lisu, the form TeY g; po. /tʰe³³ gɑʔ²¹ po⁵⁵/ with an initial proximal deictic means 'uphill from this' as expected, but also lexicalizes to mean 'more than this'. There are several other ways of expressing comparison, including one used only with dimensional extent verbs, discussed further in 3.4 below, one using the adverb my: ni. /mjɑ²¹ ni⁵⁵/ 'a lot' derived from the antonymous dimensional extent stative verbs my: /mjɑ²¹/ 'many' and ni. /ni⁵⁵/ 'few' and another using si. m: FiH /si⁵⁵ mɑ²¹ tsʰi⁴⁴/ 'next neg exceed', both in the same position seen for the SFN in (21) and extended body part noun in (22). For comparison expressed in terms of lesser rather than greater amount or extent, nA. kwH /næ⁵⁵ kwɑ⁴⁴/ 'bottom' plus locative can be used similarly.

2.4   Directional suffixes

There is a very frequently occurring set of three contrasting suffixes which occur most often after nominal forms including SFNs, but can also occur after a verb or a clause, thus producing a spatial nominal form. Clausal forms include two of the compass directions discussed in 2.6 below. The three suffixes are po. /po⁵⁵/ 'direction of motion', pEH /pø⁴⁴/ 'direction of motion (to a nearby place)' and b: /bɑ²¹/ 'location on the side'. They are mutually exclusive, highly productive, and may sometimes be followed by the neutral spatial marker suffix siH /si⁴⁴/.

They can all combine with the one-syllable bound body part 'right' and 'left' forms discussed in 2.2, as in (23) and (24).

(23)   yH   po.   L.   po.
       jɑ⁴⁴   po⁵⁵   ɣɯ⁵⁵   po⁵⁵
       right   DIR.direction left   DIR.direction

       'to the right and to the left'

(24)   yH   b: L.   b:
       jɑ⁴⁴   bɑ²¹   ɣɯ⁵⁵   bɑ²¹
       right   DIR.side   left   DIR.side

       'on the right and left sides'

These directional suffixes frequently combine with most SFNs discussed in 2.3. They can also combine with any deictic, one-syllable or otherwise, with no other postposition required. Interestingly, when combined with the proximal deictic or other forms containing this, the deictic form must be the fused locative TY /tʰɑ³³/ 'here', but with all other deictics, the base form is used, as shown in (25). It is possible but not frequent for the directional to be followed by a locative postposition.

(25)   TY   b: goY   b:
       tʰɑ³³   bɑ²¹   go³³   bɑ²¹
       here   DIR.side   that.level   DIR.side

       'on this side and on that side (on the same level)'

It is highly likely that the semantically related SFN bY /bɑ³³/ 'side' and the directional suffix b: /bɑ²¹/ 'side' are derived from the same source; they do not co-occur.

There is an interesting lexicalized form (26), which combines the emphatic copula plus the contracted proximal locative deictic and the most frequent of the three directional suffixes, po. /po⁵⁵/, but with an unexpected meaning.

(26) VY   TY   po.
      ŋɑ³³   tʰɑ³³   po⁵⁵
      COP   here   DIR.direction

      'everywhere, in all directions'

2.5 *Spatial marker suffix*

The extremely frequent spatial marker suffix, abbreviated spa in glosses, is siH /si⁴⁴/, or in Southern Lisu xUH /ʃɿ⁴⁴/; in addition to being added after nouns, this is very frequently added after some one-syllable and any two-syllable SFNs, as discussed in 2.3 and seen in (19), (20) (21) and passim, with or without an intervening directional suffix, and in many other environments: with extended body part spatial forms, on a number of reduplicated expressive motion spatial forms, and in Northern Lisu only, directly onto the one-syllable bound SFNs g; /gɑʔ²¹/ 'uphill' and o; /ʔoʔ²¹/ 'downhill' as discussed above, 2.3. It can be followed by a locative postposition, especially if this contributes to a nominal outcome with an even number of syllables.

This suffix occurs fairly productively in a number of reduplicated forms which express adverbial meanings in all dialects of Lisu, though functionally they are nominal and formally many are reduplicated verbs. Some are reduplicated nominal forms, others are reduplicated verbal forms, as shown in Table 7 which gives the Central Lisu forms; Southern Lisu uses the form xUH / ʃɿ⁴⁴/ for the spatial marker suffix here as elsewhere.

Reduplicated Form	meaning	Source Form		form class/meaning
tH tH siH tɑ⁴⁴ tɑ⁴⁴ si⁴⁴	vertically upward	tH	tɑ⁴⁴	stative verb 'be vertical'
ti. ti. siH ti⁵⁵ ti⁵⁵ si⁴⁴	downward	ti.	ti⁵⁵	various, see 4 below 'down/bottom'
to. to. siH to⁵⁵ to⁵⁵ si⁴⁴	upside down			
kL. kL. siH kɯ⁵⁵ kɯ⁵⁵ si⁴⁴	near the top	kL.	kɯ⁵⁵	noun stem 'neck'
jE; jE; siH dzøʔ²¹ dzøʔ²¹ si⁴⁴	on the side, sideways	jE;	dzøʔ²¹	bound noun 'edge'
me, me, siH me³⁵ me³⁵ si⁴⁴	backward	me,	me³⁵	transitive verb 'turn inside out'
mo; mo; siH moʔ²¹ moʔ²¹ si⁴⁴	face down, forward	mo;	moʔ²¹	transitive verb/noun 'weed'?

Table 7. Central Lisu reduplicated forms

Of the forms listed in Table 7, only the first two are attested in Northern Lisu; the other meanings are expressed in other ways there. There is another Northern Lisu adverbial suffix muH

/mu⁴⁴/ discussed further in 3.5 below which can be used after a number of reduplicated stative forms; most of these do not relate to spatial location or orientation, but some do, including some of the forms seen in Table 7 such as **tH tH muH** /tɑ⁴⁴ tɑ⁴⁴ mu⁴⁴/ 'vertical' and others such as **jU: jU: muH** /dʒɿ²¹ dʒɿ²¹ mu⁴⁴/ 'sloping', **tiH tiH muH** /ti⁴⁴ ti⁴⁴ mu⁴⁴/ 'flat' and so on.

The reduplicated form **to. to. siH** /to⁵⁵ to⁵⁵ si⁴⁴/ appears not to have an obvious source; there is a ditransitive verb 'set fire to', a transitive verb 'decorate', a noun 'poison' and a numeral classifier for groups or pack loads (or for occasions in Northern Lisu), all with the form **to.** /to⁵⁵/, but these have no obvious semantic connection with the meaning 'upside down'. For **mo; mo; siH** /moʔ²¹ moʔ²¹ si⁴⁴/, the semantics is also not entirely clear; of course one does bend forward when weeding, but is not normally completely face down. For the meaning 'backward' there is also the SFN **tA, Kw:** /tæ³⁵ kʰwɑ²¹/ in Central and Southern Lisu; the form **me,** /me³⁵/ is an SFN meaning 'backward' in Northern Lisu, derived from a transitive verb meaning 'turn inside out' found in all dialects, alongside the Central and Southern Lisu reduplicated form discussed here.

2.6 Other nominal forms

Compass directions are asymmetrical in structure: 'east' and 'west' are phrasal, with the noun 'sun', then the verb 'move out' or 'enter' discussed in 3.1 below, and then the directional suffix **po.** /po⁵⁵/, and are thus three syllables.

(27) **bLY**   **doH**   **po.**   **bLY**   **dU:**   **po.**
      bɯ³³   do⁴⁴   po⁵⁵   bɯ³³   dy²¹   po⁵⁵
      sun   move.out DIR.direction   sun   enter   dir.direction

      'east'   'west'

However, 'north' and 'south' are two-syllable lexicalized noun compounds, with bound **guY** /gu³³/ 'polar compass direction' plus the extended body part nouns **wu.** /wu⁵⁵/ 'head' and **mL.** /mɯ⁵⁵/ 'tail' as in (28), and thus two syllables. Note the metaphor that north is up and south is down, as seen in many other societies.

(28) **guY**   **wu.**   **gu**   **mL.**
      gu³³   wu⁵⁵   gu³³   mɯ⁵⁵
      polar.direction head   polar.direction tail
      'north'   'south'

There is one general abstract noun which refers to spatial location or direction in general, **tA. mo.** /tæ⁵⁵ mo⁵⁵/ 'side/direction'. In addition to being used as a noun on its own, this can also be used after an SFN with a spatial marker suffix, as in (29), or without this suffix if the SFN has two syllables; this is not compatible with a directional suffix, so here it is effectively a less specific alternative to those three directional forms, in the same slot.

(29) **TA:**   **siH**   **tA. mo.**
      tʰæ²¹   si⁴⁴   tæ⁵⁵ mo⁵⁵
      SFN.top   SPA   direction

      'in an upward direction'

It is also used after a noun phrase with the meaning 'concerning, with reference to, about', as in (30).

(30) TEY   mH   tA. mo.   VwY   m: sD.=
      tʰø³³   mɑ⁴⁴   tæ⁵⁵mo⁵⁵   ŋwɑ³³   mɑ²¹   sɤ⁵⁵
      this   NMLZ   direction   I   NEG   know

'I don't know about this.'

The first syllable of this form, tA. /tæ⁵⁵/ 'side/direction' also occurs as a non-specific bound SFN before the spatial marker suffix, as in (31), and also occurs compounded with the numeral classifier CE: /tɕʰø²¹/ 'side' discussed in 2.8 into an independent noun meaning 'location'.

(31) tA.   siH
      tæ⁵⁵   si⁴⁴
      direction   SPA

'in some direction'

2.7 *Numeral classifier*

The numeral classifier CE: /tɕʰø²¹/ 'side' occurs fairly frequently as part of a noun phrase after a head noun plus the number Ti: / tʰi²¹/ 'one', as in (32).

(32) loH PEH   Ti: CE:
      lo⁴⁴pʰø⁴⁴   tʰi²¹   tɕʰø²¹
      city   one   CLF.side

'one side of the city'

As noted in 2.6, a combination of the bound noun tA. plus the numeral classifier CE: /tæ⁵⁵ tɕʰø²¹/ also occurs in Southern Lisu as an independent noun meaning 'location'.

3 Verbal forms

3.1 *Dynamic spatial motion verbs*

There are the usual pairs of motion verbs whose source is the speaker or the focus of action. This includes verbs for motion away from and motion toward this focus, as well as a separate pair with a vertical focus, motion upward and motion downward. The forms are given in Table 8.

Northern		Central		Southern		meaning
giY	gi³³	jeY	dʑe³³	geY/jeY	ge³³/dʒe³³	motion away
lY	lɑ²¹	lY	lɑ²¹	lY	lɑ²¹	motion toward
dAH	dæ⁴⁴	dAH	dæ⁴⁴	dAH	dæ⁴⁴	motion up
yA;	jæʔ²¹	yA;	jæʔ²¹	y;	jɑʔ²¹	motion down

Table 8. Motion verbs

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There are also intransitive and transitive verbs for inward and outward motion, as seen in Table 9. The transitive verbs are mainly used with inanimate objects, or in cases where a person or animal can be moved physically. The 'put in' verbs in Central and Southern Lisu have similar meanings, ho: /ho²¹/ has a stronger implication that what is put in will stay there, and may become inseparable, as when mixing liquids or putting salt into food.

Northern		Central		Southern		meaning
dU:	dy²¹/du²¹	dU:	dy²¹	dU:	dy²¹	enter (Vi)
doH	do⁴⁴	doH	do⁴⁴	doH	do⁴⁴	move out (Vi)
kDH	kɤ⁴⁴	ho:/kDH	ho²¹/kɤ⁴⁴	ho:/kDH	ho²¹/kɤ⁴⁴	put in (Vtr)
ruY	ʒu³³	ruY	ʑu³³	RuY	zu³³	take out (Vtr)

Table 9.   Inward and outward verbs

There is also a pair of goal-oriented motion verbs, CiH /tɕʰi⁴⁴/ 'arrive/reach' and bE: /bø²¹/ 'depart/separate'.

Any other motion verb can be followed by one or other of the 'motion toward' or 'motion away' verbs, as in (33) and (34).

(33) yi.   nyH   PH Ti.   0   dU: jeY   m: pL.=
      ji⁵⁵   ɲɑ⁴⁴   pʰɑ⁴⁴ tʰi⁵⁵   ɑ⁴⁴   dy²¹   dze³³   m²¹   puɯ⁵⁵
      he/she TOP   near   LOC   enter go   NEG   dare

'He/she does not dare to go in nearby.'

(34) bLY   doH   lY   0=
      buɯ³³   do⁴⁴   lɑ³³   ɑ⁴⁴
      sun   move.out   come   DECL

'The sun rises'.

This sequence of two motion verbs is extremely frequent, so one could be tempted to say that the 'motion toward' and 'motion away' verbs are moving toward becoming posthead serial directional verbs; however there is a partly separate set of fully grammaticalized posthead directional serial verbs discussed in 3.2 which can follow such a combination of two motion verbs. Of course for semantic reasons, it is not possible to have a combination of jeY lY /dze³³ lɑ³³/ motion toward plus motion away, nor a combination of lY jeY /dze³³ lɑ³³/ motion away plus motion toward, in the same clause. As a sequence of two clauses sharing the same nominal elements, this is possible, but then there could be an intonation break or pause, which does not occur when two motion verbs are in the same clause and describe one motion event.

3.2   *Directional posthead serial verbs*

There is a posthead serial verb slot immediately after the main verb for one of a set of mainly directional serial verbs. There are two opposed forms yeH /je³³/ 'motion away' and lY /lɑ³³/ 'motion toward'; also ti. /ti⁵⁵/ 'motion downward' and leH /le⁴⁴/ 'change of state'. Combining a stative verb with leH /le⁴⁴/ 'change of state' produces a non-stative meaning, as in (35).

(35) wu: I eH   oH=
     vu²¹   le⁴⁴   o⁴⁴
     big   DIRV.change   PFV

'It became big'.

There is no upward motion form in this system. Notice that there is no phonological distinction between the directional I Y /lɑ³³/ 'motion toward' and a sequence of two head verbs, the second of which is the homophonous full verb I Y /lɑ³³/ 'come'.

The first of these directional serial verbs is homophonous with the lexical verb yeH /je⁴⁴/ 'do'. While it is perfectly felicitous to have the lexical verb j eY /dʑe³³/ 'go' in any dialect form followed immediately by the semantically-related directional yeH /je⁴⁴/, it is not possible to have the lexical verb yeH /je⁴⁴/ 'do' followed by the directional yeH /je⁴⁴/, nor the lexical verb I Y /lɑ³³/ 'come' followed by the directional I Y /lɑ³³/. The directional forms are very frequent.

3.3 Locational copula verbs

Like some other Ngwi and other TB languages in the area, Lisu distinguishes location between human nouns and other nouns. For human nouns, the locational copula is ny, /ɲɑ³⁵/ in Northern Lisu, cy, /tɕɑ³⁵/ in Central Lisu, and cy, /tʃɑ³⁵/ in Southern Lisu; this is also the verb for 'live' or 'stay' in a place. For unknown reasons, in Lisu orthography this is written ty, as if it were pronounced /tjɑ³⁵/, and many literate Lisu now pronounce it this way. The rising tone of this form is the outcome of a fusion with the sentence-final declarative form; the underlying form has the /33/ tone which surfaces when this animate locational copula is negated, as in (36).

(36) VwY   TY   m: cyY=
     ŋwɑ³³   tʰɑ³³   mɑ²¹   tɕɑ³³
     I   here   NEG   LCOP.human

'I am not here/I don't live here.'

For other nouns, including animals, there are two locational copulas. dY /dɑ³³/ is the general locational copula, and dAY /dæ³³/ refers to location inside something else, as in (37) and (38).

(37) Ti: mY   hLH   m: dY=
     tʰi²¹   mɑ³³   huɯ⁴⁴   mɑ²¹   dɑ³³
     one   CLF.general   also   NEG   LCOP.nonhuman

'There isn't even one here.'

(38) nAH   yiY   Ku: kwH   Vw.   dAY   0=
     næ⁴⁴   ji³³   kʰu²¹   kwɑ⁴⁴   ŋwɑ⁵⁵   dæ³³   ɑ⁴⁴
     black   liquid inside   LOC   fish   LCOP.in   DECL

'There are fish in the river.'

The human locational copula form with an invariant rising tone also grammaticalizes into a continuous action progressive form in all dialects, as in Northern Lisu (39). It this progressive meaning, it does not co-occur with the homophonous human locational copula.

(39)   mi: yeH   ny,0=
        mi²¹   je⁴⁴   ɲɑ³⁵   ɑ⁴⁴
        work   do   PROG   DECL

        '(Someone) is working'. (Northern Lisu)

3.4 *Dimensional extent verbs*

Bradley (1995) describes the diachronic and some of the synchronic properties of a set of stative verbs of dimensional extent, which show parallel grammaticalization in nearly all Ngwi languages. In Lisu the eight verbs in Table 10 follow this pattern. All are the positive members of pairs of antonymous dimensional extent stative verbs, and all have a range of derived verbal, nominal and adverbial forms; the table shows the verbal stems. Nominal stems apart from 'deep' (which does not change its tone) have /44/ tone, in reduplicated adverbial stems, the forms have /44/, /55/ or /21/ tone; in some languages, there are also differences in the initial consonants of non-verb forms reflecting former prefixes, but not in Lisu where the phonology does not accommodate such differences. There are various syntactic constructions which only these verbs enter into, such as direct question nominal forms containing the verb, abstract nouns based on the verb stem and so on.

Northern	Central	Southern	meaning
mo⁴⁴	mu⁴⁴	mo⁴⁴	high
mjɑ²¹	mjɑ²¹	mjɑ²¹	many
ɣɯ²¹	ɣɯ²¹	ɣɯ²¹	far
ʃɻ̩⁴⁴	ʂɻ̩⁴⁴	ʃɻ̩⁴⁴	long (distance)
mɯ⁴⁴ ʃɻ̩⁴⁴	mɯ⁴⁴ ʂɻ̩⁴⁴	mɯ⁴⁴ (ʃɻ̩⁴⁴)	long (time)
vu²¹	vu²¹	wu²¹	big
næ⁵⁵	næ⁵⁵	næ⁵⁵	deep
ɕe⁴⁴	hin⁴⁴	ɕi⁴⁴	wide
tʰu³³	tʰu³³	tʰu³³	thick

Table 10. Dimensional extent verbs in Lisu

(40) illustrates the various form classes which these forms can have; their syntactic behavior is quite different from that of other stative verbs. (41) is a typical question containing a dimensional extent form; this can also have the structure of a normal substance question as in (42), which is the only structure available for substance questions with other stative verbs is as in (43), using the dimensional extent question form of 'many'.

(40)   L.   aH LH   yi. LH   aH LH LH   a: L. L:
        ɣɯ⁵⁵   ʔɑ⁴⁴ ɣɯ⁴⁴   ji⁵⁵ ɣɯ⁴⁴   ʔɑ⁴⁴ ɣɯ⁴⁴ ɣɯ⁴⁴   ʔɑ²¹ ɣɯ⁵⁵ ɣɯ²¹
        EXT.far   EXT.how.far? EXT.distance EXT.far   EXT.very.far
        far   how far?   distance   far   very far
        verb   question noun noun   adverbial   expressive adverbial

(41) aH LH   CiH   joY   0;=
ʔɑ⁴⁴ ɣɯ⁴⁴   tɕʰi⁴⁴ dʐo³³ ɑʔ²¹
EXT.how.far? arrive exist Q

'How far is it?'

(42) aH myH   CiH   L: 0;=
ʔɑ⁴⁴ mjɑ⁴⁴   tɕʰi⁴⁴ ɣɯ²¹ ɑʔ²¹
EXT.how.many? arrive EXT.far Q

'How far is it?'

(43) aH myH   CiH   li: 0;=
ʔɑ⁴⁴ mjɑ⁴⁴   tɕʰi⁴⁴ li²¹ ɑʔ²¹
EXT.how.many? arrive heavy Q

'How heavy is it?'

The dimensional extent nominal forms can be used as SFNs followed by a directional suffix, the spatial marker noun, a locative postposition as in (44), or combinations of two or three of these; most then have their nominal /44/ tone, except for 'deep' which keeps its /55/ tone when used nominally.

(44) moH b: LH   siH   nA.   kwH
mo⁴⁴ bɑ²¹   ɣɯ⁴⁴   si⁴⁴   næ⁵⁵ kwɑ⁴⁴
height DIR.side   distance SAP   depth LOC

'on the high side'   'far away'   'in a deep place'

There are also special comparative constructions in which all and only these verbs participate: directly with a deictic (usually only TEY /tʰø³³/ 'this' and goY /go³³/ 'that (same level)'), and with tEH /tø⁴⁴/ 'equally'; when in these constructions (apart from 'deep'), they have the /44/ nominal or /55/ adverbial tone, not the basic verbal tone; see (45). The Northern and Southern Lisu form for 'equal' is teH /te⁴⁴/.

(45) TEY LH   goY LH   tEH LH   tEH L.   0;
tʰø³³ ɣɯ²¹   go³³ ɣɯ⁴⁴ tø⁴⁴ ɣɯ⁴⁴ tø⁴⁴ ɣɯ⁵⁵ ɑʔ²¹
this distance   that distance equal distance equal distance expressive

'this far'   'that far'   'equally far'   'exactly as far'

3.5 Deverbal adverbs

Temporal and locative adverbial meanings are expressed by nominal forms, such as the locative deictics discussed in 2.1.1 above. Many spatial adverbial meanings are expressed in various ways discussed above, especially including the spatial marker suffix siH /si⁴⁴/ (Southern Lisu xUH /ʃ̩⁴⁴/) discussed in 2.5. Manner adverbial meanings are expressed mainly by verbal forms, often reduplicated and usually two syllables, or in three syllable verbal forms including the Northern Lisu

adverbial suffix мuH /mu⁴⁴/ or the Southern Lisu adverbial prefix ciVH /tʃɪŋ⁴⁴/ or variably various similar forms (Bradley et al. 2006: 125-126); these are fully discussed in Bradley (2018), where it is concluded that the only non-derived adverbs are a small set of mainly onomatopoetic two-syllable forms, which also occur partly reduplicated in an ABB pattern.

To express adverbial meanings related to motion upwards and downwards in space, there is an opposed pair of verbal forms. Both are two-syllable compounds of relevant lexical material. tA. dA; /tæ³⁵ dæʔ²¹/ 'upwards' is a compound of the stative verb tA. /tæ³⁵/ 'slope uphill' and a form of the verb dAH /dæ⁴⁴/ 'go up' but with a different tone in this compound. ti. yA; /ti⁵⁵ jæʔ²¹/ 'downwards' is a compound of the bound directional form ti. /ti⁵⁵/ 'down' discussed in 4 below with the verb yA; /jæʔ²¹/ 'go down'. Verbal forms with manner adverbial meanings normally occur immediately before the verb and its associated elements. The nominal forms with adverbial meaning may occur in a variety of positions in the clause, as examples above have shown.

4 One form, many functions: ti. /ti⁵⁵/ 'down'

The form ti. /ti⁵⁵/ occurs in a variety of syntactic frames with a range of related meanings. It is a bound noun, for example in yi. ti. /ji⁵⁵ ti⁵⁵/ 'bottom/base', with the productive nominalizing yi. /ji⁵⁵/ prefix (Northern Lisu e̱. /ʔe⁵⁵/, Southern Lisu also variably i. /ʔi⁵⁵/) or with other nouns or noun stems in the first slot. It is the second syllable in the sfn wu. ti. /wu⁵⁵ ti⁵⁵/ 'upside down', where it is functioning as the antonym of wu. /wu⁵⁵/ 'top'. It is seen reduplicated in the form ti. ti. siH /ti⁵⁵ ti⁵⁵ si⁴⁴/ 'downward' with the spatial marker suffix siH / si⁴⁴/. It is a posthead directional serial expressing downward motion, as in lE. ti.0 /lø⁵⁵ ti⁵⁵ a⁴⁴/ 'roll downhill'. It is also seen, again in bound form, in the adverb ti. yA; /ti⁵⁵ jæʔ²¹/ 'downward', where the second syllable is the verb for downward motion. Thus it functions as a bound nominal and as a bound verbal form, but never alone; there are many other ways of expressing similar nominal and verbal meanings, as we have seen above. The etymological origin of ti. /ti⁵⁵/ is unclear.

5 One meaning, many related forms: dAH /dæ⁴⁴/ 'up'

Forms derived from the Tibeto-Burman etymon *l–dak 'go up' are found with various related forms in different functions in Lisu, but all with related meanings. It is clear that the verbal meaning of upward motion is primary, and the other forms are derived from the same allofam. There is the dynamic spatial motion verb dAH /dæ⁴⁴/ 'go up'; there is a stative verb tA. /tæ³⁵/ 'slope uphill'. An adverbial form tA. dA; /tæ³⁵ dæ²¹/ 'uphill' combines the preceding two, but with a different tone on the second syllable which reflects the final *k but with a different prefix on the syllable, perhaps the effect of the final *k in the preceding syllable here. Nominal forms include tA. /tæ⁵⁵/ as bound first syllable in the noun tA. мo. /tæ⁵⁵ mo⁵⁵/ 'direction', or as a non-specific bound one-syllable spatial sfn obligatorily followed by the spatial marker suffix tA. siH /tæ⁵⁵ si⁴⁴/ 'in (some) direction'. Another is the bound one-syllable sfn meaning 'top', TA: /tʰæ²¹/. Finally, there is the nominal postposition indicating object, tA. /tæ⁵⁵/; see the corresponding Lahu form /tʰaʔ²¹/ which is homophonously 'on top of', cognate to Lisu TA: /tʰæ²¹/, and object marker, cognate to Lisu tA. /tæ⁵⁵/.

6 Conclusion

Lisu has many ways of expressing spatial relationships in every area of its structure. The deictic system is particularly rich, but there are also noun, noun suffix, numeral classifier and a variety of verbal and adverbial forms. Many of the nominal forms encode relative vertical location, and many of the verbal forms encode vertical movement, which is not surprising given the steep contours of much of the traditional Lisu homeland. Sometimes the same form is used with multiple functions in different syntactic environments; sometimes semantically-related forms used in different syntactic environments are historically related but synchronically diverse. Bradley (1979b, 1995, 2003b) explore some of the Tibeto-Burman cognates of these forms, Bradley (1994) and Bradley et al. (2006) provide extensive data and examples from two dialects, Northern and Southern, and Bradley (2018) summarises the overall system in the context of Lisu grammar.

ABBREVIATIONS

AUG	augmentative	LCOP	locational copula
DIR	directional suffix	SPA	spatial marker suffix
DIRV	directional posthead serial verb	SFN	spatial frame noun
EXT	stative verb of dimensional extent	TEMP	temporal

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