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More exceedingly comparative: Adverbial and attributive Exceed comparatives*

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Abstract Novel fieldwork data from Shan (Kra-Dai) adds to the cross-linguistic account of comparative constructions, especially Exceed-type comparatives. Shan can form comparative expressions from adverbs, which had not been analyzed in previous accounts of Exceed-type comparatives (Bochnak 2013; Howell 2013; Clem 2019; a.o.). Synthesizing previous semantic accounts of phrasal comparatives can account for the presented data.

Keywords: comparative, phrasal, cross-linguistic, Tai, exceed

1 Introduction

A growing body of literature on comparative constructions crosslinguistically identifies some significant differences between comparative constructions as the syntax of comparison, the lexical categories that can be compared, whether there are phrasal or clausal comparatives or both, and whether internal or external comparison is possible (Hohaus & Bochnak 2020). This paper describes how Shan, an understudied Kra-Dai language of Burma, expresses comparison and assesses the features of comparison formation for Exceed comparative languages, which describes the morphosyntax of comparison from Stassen 1985. Additionally, I provide a semantic account of phrasal adverbial comparatives for languages which allow external comparison, building on Berezovskaya & Hohaus's (2015) analysis for Russian.

Section 2 describes the Shan comparative construction, including its position within the Exceed comparative category in Section 2.1, its morphosyntactic properties in Section 2.2, and its semantic properties in Section 2.3. Section 2.4 addresses the question of whether Shan comparatives are phrasal or clausal, and Section 2.5 surveys the properties described in other Exceed languages. Section 3 provides a semantic account of Shan comparatives, including an account of phrasal adverbial comparatives. Section 4 concludes.

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2 Shan comparative construction

Shan, a Kra-Dai language of Burma, forms comparatives as in (1).[1] The basic pattern has the form: Subject Gradable-Predicate *lɤ̌(-sě)* Standard. The comparative morpheme is homophonous with *lɤ̌* 'be extra' and/or the connective *sě* 'and'. The form *lɤ̌(-sě)* is most productive and is the focus of this analysis.

(1) tsáaj lăawkhám sŭŋ lɤ̌(-sě) / (lɤ̌-)sě jíŋ lăawŋúŋ
Jai Lao_Kham tall Lɤ̌(-sĕ) (Lɤ̌-)sĕ Ying Lao_Nguen
'Jai Lao Kham (JLK) is taller than Ying Lao Nguen (YLN).'

Shan is an SVO language with serial verb constructions (SVCs), as in (2). Serial verb constructions are described as being monoclausal and formed of a sequence of verbs that characterize a single event (Aikhenvald 2006). For discussion of SVCs in Thai, a related language, see Sudmuk 2005. Stassen's (1985) serial verb Exceed-1 comparative, e.g., (3) from Thai, are associated with SVC languages.

(2) phăj ʔăw khɔ̌ŋlen kɔ̌j
who take toy break
'Who broke the toy?'

(3) Maria suung gwaa Hans.
Maria tall gwaa Hans
'Maria is taller than Hans.'
(Thai, Hofstetter 2013: (2a))

By itself, *lɤ̌* means something like 'be extra' or 'be leftover'. Examples of this use can be seen in (4) and (5).

(4) pâplik nâj mán lɤ̌
book this 3 be.extra
'This book, it is extra.'

(5) pâplik nâj pĕn ʔăn lɤ̌ mán
book this cop COMP.REL be.extra 3
'This book is an extra one.'

The other component that often appears with *lɤ̌* or, less frequently, by itself, is the connective *sě*. A typical use of *sě* can be seen in (6). The other place where *sě* appears is in examples like (7) where *sě* is part of a construction that negative

1 Unless otherwise noted, all data in this paper comes from data the author collected working with two speakers from the southern part of Shan State in Burma who speak the *táj lɔ̌ŋ* 'Great Tai' variety. Glossing conventions: 1: first person, 2: second person, ACC: acusative, ACH: achievement, ANML: animal, AUG: augment, DU: dual, CLF: classifier, COMP.REL: relative clause complementizer, GEN: genitive, HUM: human, MASC: masucline, NC# noun class number, NEG: negation, NOM: nominative, NMZ: nominalizer, PFV: perfective, PL: plural, STD: standard marker, THAN: comparative morpheme, TOP: topic marker

polarity item. It appears in a negated sentence with a classifier-like element and has the meaning ‘none’ or ‘not at all’.

(6) tsáajkhám laj jín khăa ʔùp kăn sĕ mán-tsáaj khɯ́n tɔ̀p waa,
Jai_Kham ACH hear 2DU speak together and 3-MASC back reply say
‘Jai Kham heard the pair of them talking and replied, …’

(7) ʔàm tsɛŋ lɛ́ŋ sĕ ʔít
NEG clear bright even small.thing
‘(It’s) not clear at all.’

No meaning distinctions have been observed between the combinations of *lɤ̆* and *sĕ* in comparative constructions, so these will be glossed as THAN in the following. Investigating the differences between them will be left to future work.

2.1 Exceed comparatives

The Shan comparative construction appears to be derived from a verb form, and the language commonly employs serial verb constructions. Thus, it seems reasonable to characterize the Shan comparatives as one of the three exceed types described by Stassen (1985). Stassen (1985) refers to them as Exceed-1 (serial verb), Exceed-2 (main verb), and Exceed-3 (subordinate). The difference is in whether the comparative morpheme is the second verb in a serial verb construction (Exceed-1), the main verb (Exceed-2), or a subordinate expression (Exceed-3). The Exceed-1 type can be seen in (8) with an example from Yoruba, a Niger-Congo language of Nigeria. Luganda, a Bantu language of Uganda, allows both the main verb (Exceed-2) type, as in (9), and a subordinate type (Exceed-3), as in (10).

(8) Joko yii da ju iyen lo
Chair this be.good exceed that.one STD
‘This chair is nicer than that one.’ (Yoruba, Howell 2013: (14))

(9) Kizito asinga Kato obuwanvu.
Kizito a-singa Kato o-bu-wanvu
K NC1-exceed K AUG-NC14-tall
‘Kizito is taller than Kato.’
(lit.: ‘Kizito exceeds Kato in height.’) (Luganda, Bochnak 2013: (3a))

(10) Kizito muwanvu okusinga Kato.
Kizito mu-wanvu o-ku-singa Kato
K NC1-tall AUG-NC15-exceed K
‘Kizito is taller than Kato.’
(lit.: ‘Kizito is tall to exceed Kato.’) (Luganda, Bochnak 2013: (3b))

Shan would fit within the Exceed-1 category, where the gradable predicate typically functions as the main verb, and the comparative morpheme follows it. Thai, which uses the comparative morpheme *kwaa*, is one of Stassen's (1985) examples of this category; however, Hofstetter (2013) excludes Thai from the exceed comparatives because (i) Thai speakers do not translate *kwaa* as 'exceed' and (ii) Thai comparatives do not use a nominalized gradable predicate, such as Luganda does in (9).

Both of these facts are also true of the Shan comparative construction. I would argue, however, that reason (ii) is not a valid one for excluding Thai (or Shan) from the exceed-type comparatives given that the nominalized gradable predicate appears in Exceed-2 constructions, such as (9), but not Exceed-1 constructions, such as (8). Exceed-1 type constructions tend to involve serial verb constructions instead. Reason (i) for exclusion is worth considering. If the comparative morpheme must have a main verb 'exceed' meaning, Shan and Thai would be ruled out. We might consider, instead, that the Exceed-1 type verbs are simply ones that are derived from serial verb constructions—i.e., the morpheme is derived from a verb rather than, for example, a preposition. If that were the case, Thai and Shan comparatives could still belong to the Exceed-1 category.

2.2 Morphosyntactic properties

Shan comparatives can be formed using predicate adjectives, attributive adjectives,[2] and adverbs, which I will refer to collectively as 'gradable predicates'. In all cases, the comparative morpheme follows the gradable predicate. (11) shows an example of a predicate adjective *tsǎj-lǐ* 'be good-hearted' followed by the comparative morpheme, *lɤ̌*, and the comparative standard, 'Jai Lao Kham'.

(11) jíŋ lǎawŋúm tsǎj-lǐ lɤ̌ tsáaj lǎawkhám
Ying Lao_Nguen heart-good THAN Jai Lao_Kham
'Ying Lao Nguen is more good-hearted than Jai Lao Kham.'

An example where the comparative appears with an attributive adjective can be seen in (12). Here, the comparative morpheme follows the adjective *phét* 'spicy', which is describing the noun *khawsɔ́j* 'khao soi' (a type of noodle dish).

(12) tsáaj lǎawkhám lajtsǎj kǐn khawsɔ́j phét lɤ̌sě jíŋ lǎawŋúm
Jai Lao_Kham like eat khao_soi spicy THAN Ying Lao_Nguen
Jai Lao Kham likes to eat spicier khao soi than Ying Lao Nguen.

2 Though, see discussion of attributive adjective comparatives in Section 2.5.

It is also possible to have adverbial comparatives such as in (13). Here, the comparative morpheme *lɤ̌sě* follows *thɤ́ŋ* 'slow', which describes the speed with which the action is done. What is being compared here is the speed with which the subject, Ying Lao Nguen, writes articles to the speed with which the standard, Jai Lao Kham, writes articles.[3]

(13) jíŋ lǎawŋúun tɛm pɔŋkwáam thɤ́ŋ lɤ̌sě tsáaj lǎawkhám
Ying Lao_Nguen write article slow THAN Jai Lao_Kham
'Ying Lao Nguen wrote articles more slowly than Jai Lao Kham.'

As (14) demonstrates, it is possible to have the comparative morpheme immediately following something that is not a gradable predicate in a few cases. Here, the morpheme follows the nominal expression *pi-náaŋ lǒŋ khǎw* 'their oldest sister' which is the object of the verb *hâk* 'love'. These cases appear to be with psychological predicates like *hâk* 'love' and *lajtsǎj* 'like', but this is by no means an exhaustive list. I would suggest that such verbs together with their objects form a gradable predicate that is compatible with the comparative morpheme.

(14) phutsáaj ku kɔ̂ hâk pi-náaŋ lǒŋ khǎw sě pɤn jâw
man every CLF.HUM love older.sib-fem large 3PL THAN others PFV
'Every man loves his oldest sister more than others.'

(14) also shows the common strategy for forming a superlative interpretation, the comparative standard is *pɤn*, meaning 'others' or 'people in general'.

Shan quantity expressions, *nǎm* 'many/much' and *ʔè* 'few/little', are used in comparative constructions when comparing amounts of objects. Unlike their English counterparts, these can only be used predicatively. In (15) is an example of amount comparison. The quantity expression *nǎm* 'many/much' appears after the predicate, perhaps as an adverb or reduced relative clause. In (15), the quantity expression follows the noun, giving it the appearance of an attributive adjective; however, it is not possible to have the noun and quantity expression appear together as the subject, suggesting that *nǎm* is restricted to predicative positions. For this reason, comparison involving the amount of the clause subject uses relativization so that the 'more than' component is expressed as part of the predicate, rather than adnominally.

(15) háw mí mǎa nǎm lɤ̌ sǔ
1 have dog many THAN 2
'I have more dogs than you.'

3 See Solt 2015 for discussion of how to account for negative antonyms like *thɤ́ŋ* 'slow'.

As (16) shows, it is possible to have a differential measure expression, such as *sì cm.* 'four centimeters', in Shan comparative constructions. The differential measure expression always follows the standard.

(16) tsáaj lăawkhám sŭŋ lɤ̆ jíŋ lăawŋúːn sì cm.
Jai Lao_Kham tall THAN Ying Lao_Nguen four cm.
'Jai Lao Kham is four centimeters taller than Ying Lao Nguen.'

While comparative constructions commonly have just a nominal expression following the comparative morpheme, it is also possible to have a structure that looks more like a clausal comparative, as in (17).

(17) tsáaj lăawkhám sŭŋ lɤ̆sĕ (ʔăn) háw wôn wâj
Jai Lao_Kham tall THAN COMP.REL 1 think keep
'Jai Lao Kham is taller than I thought.'

Such constructions start with ʔăn, which in other contexts functions as a generic numeral-classifier and as the relative clause complementizer. In casual speech, *ʔăn* is frequently omitted. The clausal comparative in (17) resembles a headless relative clause. This is similar to what has been described for clausal comparatives in Yoruba (Howell 2013).

Following Bochnak's (2013) analysis of Luganda's subordinate exceed comparative, I tentatively propose the structure in (18) for the phrasal comparative structure. Here, GP is Gradable Phrase and MP is Measure Phrase. The degree morpheme *lɤ̆sĕ* is the degree head that takes the standard as its complement. The gradable predicate here can be predicate adjective, an adverb, a quantity expression meaning 'many' or 'few', or a limited set of verb phrases, such as *hâk* 'love' or *lajtsăj* 'like', along with their associated objects.

(18) [$_{GP}$ [$_{G}$ *sŭŋ*] [$_{DegP}$ [[$_{Deg}$ *lɤ̆sĕ*] [YLN]] [$_{MP}$ *sì cm.*]]]
tall THAN YLN four centimeters

2.3 Semantic properties

The labeling of predicate adjectives, attributive adjectives, and adverbs in Shan as gradable predicates takes for granted that gradable predicates are found in the language. However, there are languages that have been argued not to have gradable predicates, e.g., Washo (Bochnak 2013, Bochnak 2015), Warlpiri (Bowler 2016), and Nez Perce (Deal & Hohaus 2019). Whether a language has degree semantics and gradable predicates has been described as the Degree Semantics Parameter (DSP), which was proposed by Beck, Krasikova, Fleischer, Gergel, Hofstetter, Savelsberg, Vanderelst & Villalta (2009):

(19) Degree Semantics Parameter (DSP): A language does/does not have gradable predicates (type $\langle d, \langle e, t \rangle \rangle$ and related), i.e., lexical items that introduce degree arguments. (Beck et al. 2009: 19, (62))

While languages without gradable predicates and with a minus DSP setting often do not have an overt comparative morpheme, some, like Nez Perce have been described as having one (Deal & Hohaus 2019). A useful diagnostic for determining whether a language has gradable predicates is to check whether it allows differential measure expressions (Hohaus & Bochnak 2020).

In Shan it is possible to have comparison with a degree, as in (20), and differential measure expressions, as in (16), repeated below in (21). Thus, I claim that Shan is a +DSP language, meaning that it is a language with gradable predicates. In (20), the standard is a degree, which suggests a way for that to be incorporated as an argument in the comparative semantics. In (21), there is a differential measure expression, *sì cm.* 'four centimeters', which is a degree expression.

(20) tsáaj lăawkhám sŭŋ lɤ̆ 160 cm.
Jai Lao_Kham tall be.extra 160 cm
'Jai Lao Kham is taller than 160 cm.'

(21) tsáaj lăawkhám sŭŋ lɤ̆ jíŋ lăawŋúŋ sì cm.
Jai Lao_Kham tall THAN Ying Lao_Nguen four cm.
'Jai Lao Kham is four centimeters taller than Ying Lao Nguen.'

Another parameter proposed by Beck et al. (2009) is the Degree Phrase Parameter (DegPP), shown in (22).

(22) Degree Phrase Parameter (DegPP): The degree argument position of a gradable predicate may/may not be overtly filled. (Beck et al. 2009: 28, (91))

Shan also allow degree questions, as in (23), and measure phrases, as in (24), which supports an analysis where degree argument can be overtly represented with a gradable predicate like *sŭŋ* 'tall'. Thus, I propose that Shan is +DegPP. A positive setting for this parameter seems to presuppose a +DSP language.

(23) jíŋ lăawŋúŋ sŭŋ kaahŭ̆
Ying Lao_Nguen tall how.much
'How tall is Ying Lao Nguen.'

(24) jíŋ lăawŋúŋ sŭŋ 164 (cm.)
Ying Lao_Nguen tall 164 cm
'Ying Lao Nguen is 164 cm tall.'

Another point of variation found in crosslinguistic accounts of attributive adjective comparatives, such as Hohaus & Bochnak 2020, is in whether the standard that follows the comparative morpheme is compared directly to the individual associated with the comparative gradable property, which is called the (noun phrase) internal reading, or whether the standard stands in some relation to the individual associated with the property being compared, which is called the external reading. Russian is a language that lacks the external reading for phrasal comparatives, as shown in (25). Here, the power of the computer can only be compared to the genitive-marked comparative standard *Vani* 'Vanja', which is the internal reading. This form cannot make a comparison between the power of the computers that Masha and Vanja bought, meaning that the external reading is not possible.

(25) #Maša kupila moščnee Vani kompjuter.
Masha bought more.powerful Vanja(gen) computer(acc)
'Masha bought a more powerful computer than Vanja is.'
(Russian, Berezovskaya & Hohaus 2015: 428, (22b))

(26)–(27) demonstrate that both an external and internal readings of the comparative are possible with Shan comparatives. In (26), what is being compared is the size of the dogs that the two women have. In (27), what is being compared is the size of Ying Lao Nguen's dogs to the size of Ying Mo Horm. The inclusion of *tŏ* 'body' in the standard of (27) makes it clear that the comparison is between Ying Lao Nguen's dogs and Ying Mo Horm. This suggests that the external reading is more salient in this example.

(26) jíŋ lăawŋúːn mí măa tŏ-jàj lɤ̆sĕ jíŋ mŏhɔ̆m
Ying Lao_Nguen have dog body-large THAN Ying Mo_Horm
'Ying Lao Nguen has larger dogs than Ying Mo Horm.' EXTERNAL

(27) jíŋ lăawŋúːn mí măa tŏ-jàj lɤ̆sĕ tŏ jíŋ mŏhɔ̆m
Ying Lao_Nguen have dog body-large THAN body Ying Mo_Horm
'Ying Lao Nguen has larger dogs than Ying Mo Horm's body.' INTERNAL

In summary, Shan has gradable predicates whose degree argument can be overtly filled and has both internal and external interpretations in comparatives where the gradable property modifies a noun.

2.4 Phrasal or clausal

Given that Shan has what appears to be clausal comparatives, one must consider whether the phrasal comparatives are simply reduced versions of clausal comparatives. If the comparative standard is a nominal phrase, this is in line with a 'direct

analysis' account, where the comparative standard is a phrasal expression. If, instead, the 'phrasal' comparative is a reduced clause, that would be in line with a 'reduction' account. Hankamer (1973); Beck, Hohaus & Tiemann (2012) have argued for a direct analysis of phrasal comparatives in English, while Bhatt & Takahashi (2011) argue for a direct analysis for Hindi but a reduction analysis for English. Other proponents of the reduction analysis of phrasal comparatives in English include Lechner (2001, 2020).

The third parameter proposed by Beck et al. (2009) that relates to the phrasal/clausal distinction is the Degree Abstraction Parameter (DAP), shown in (28).

(28) Degree Abstraction Parameter (DAP): A language does/does not have binding of degree variables in the syntax. (Beck, Oda & Sugisaki 2004: (120))

The robustness of the Degree Abstraction Parameter has been debated in the literature, particularly in discussion of the Japanese comparative. Beck et al. (2004) note three points of variation between Japanese and English which they attribute to the −DAP setting in Japanese. First, there is a contrast for many speakers between comparison involving a quantity, as in (29), versus an adjective property, as in (30). Second, subcomparatives of the sort in (31) are not possible. Finally, Japanese does not exhibit the negative island effect that English does, shown in (32). Beck et al. (2004) take all of this to indicate that the *yori* clausal comparative in Japanese should be analyzed as describing individuals, rather than degrees.

(29) Taroo-wa [Hanako-ga katta yori (mo)] takusan (-no) kasa-o
Taroo-TOP [Hanako-NOM bought YORI (mo)] many (-GEN) umbrella-ACC
katta
bought
'Taroo bought more umbrellas than Hanako did.' (Beck et al. 2004: (3))

(30) ?*Taroo-wa [Hanako-ga katta yori (mo)] nagai kasa-o katta
Taroo-TOP [Hanako-NOM bought YORI (mo)] long umbrella-ACC bought
'Taroo bought a longer umbrella than Hanako did.' (Beck et al. 2004: (4))

(31) *Kono tana-wa [ano doa-ga hiroi yori (mo)] (motto) takai
this shelf-TOP [that door-NOM wide YORI (mo)] (more) tall
'This shelf is taller than that door is wide.' (Beck et al. 2004: (5))

(32) John-wa [dare-mo kawa-naka-tta *(no) yori] takai hon-o katta
John-TOP anyone buy-NEG-Past NO YORI expensive book-ACC bought
'John bought a more expensive book than nobody did.'
(not acceptable in English) (Beck et al. 2004: (6),(90a))

While subcomparatives with attributive adjectives are bad, amount subcomparatives as in (33) are acceptable in Japanese.

(33) Mary-wa [John-ga manga-o yonda]-yori takusan hon-o yonda
Mary-TOP [John-NOM comic-ACC read]-than many book-ACC read
'Mary read more books than John read comics' (Sudo 2015: (51))

Shimoyama (2012) and Sudo (2015) dispute Beck et al.'s (2004) claim that Japanese lacks degree abstraction. Instead, Sudo (2015) accounts for the distinctions between English and Japanese by positing that Japanese comparatives include a nominal structure whose noun head is deleted, making all comparatives phrasal. In the accounts by Beck et al. (2004) and Sudo (2015), the comparative standard is phrasal rather than clausal.

Shan subcomparatives largely pattern in a similar way to Japanese. Subcomparatives of the kind seen in (34) are not accepted. These tend to be rephrased using a nominalization of at least one gradable predicate, as shown in (35).

(34) ??phɤ̌n sŭŋ lɤ̌ ʔăn pháktŭ kwaaŋ
table tall THAN COMP.REL door wide
intended: 'The table is taller than the door is wide.'
Consultant comment: People do not say this.

(35) phɤ̌n sŭŋ/jáaw lɤ̌ táaŋ-kwaaŋ pháktŭ
table tall/long THAN NMZ-wide door
'The table is taller/longer than the door's width.' (Offered correction of (34))

The type of subcomparative that is acceptable is the quantity one in (36). Here, the dimensions that are being compared are the same (number of individuals instead of length versus width). This is the same kind of subcomparative that is allowed in Japanese, as shown above in (33).

(36) jíŋ lăawŋʊ́n sû̌ măa năm lɤ̌sě ʔăn tsáaj lăawkhám sû̌ mɛ́w
Ying Lao_Nguen buy dog many THAN COMP.REL Jai Lao_Kham buy cat
'Ying Lao Nguen bought more dogs than Jai Lao Kham bought cats.'

Japanese and Shan data clearly differ in the acceptability of negative islands, as (37) shows in comparison to (32) above. Shan patterns with the English data here. Notably, the acceptable Japanese negative island example requires the morpheme *-no*, as shown in (32) above. Beck et al. (2004), citing Kikuchi (1987), note that this morpheme is sometimes glossed as 'the one'. If (37) included a classifier before the relative complementizer, it would also be acceptable and have the meaning 'the one that Jai Lao Kham didn't buy'.

(37) *jíŋ lăawŋʊ́n sû̌ pâplik jàj lɤ̌sě ʔăn tsáaj lăawkhám ʔàm sû̌
Ying Lao_Nguen buy book big THAN COMP.REL Jai Lao_Kham NEG buy
intended: 'Ying Lao Nguen bought a bigger book than Jai Lao Kham didn't buy.'

More work must be done before it is possible to determine clearly whether Shan comparatives are phrasal or clausal (or both), but the data presented here tentatively supports a phrasal analysis.

2.5 Exceed comparative semantics

Exceed comparatives that have been analyzed thus far include Yoruba (Beck et al. 2009; Howell 2013), Mooré (Beck et al. 2009), Luganda (Bochnak 2013, 2018), and Tswefap (Clem 2019). All of these languages have been argued to include gradable predicates, but they vary in which lexical categories can be gradable predicates.

In both Yoruba and Tswefap the attributive adjectives cannot participate in comparison; instead, verbal forms are used in predicative constructions, including comparative constructions (Howell 2013; Clem 2019). Mooré also does not allow attributive adjective comparison (Beck et al. 2009). In Shan, attributive and predicative adjectives have the same form. Shan includes constructions that look like attributive adjective comparatives, and Thai does as well (Beck et al. 2009). However, given that all of these Exceed-1 type languages are incompatible with attributive adjectives, it raises the question of whether the Shan 'attributive adjective' comparatives are in fact that rather than something like a reduced relative clause; this will be addressed in future work.

Mooré and Yoruba reportedly allow adverbial comparatives (Beck et al. 2009). Accounts of other exceed-type languages do not address whether those languages have adverbial comparatives or not. My expectation is that the Exceed-1 type comparatives are more likely to be compatible with adverbial comparison than main verb Exceed-2 constructions because the Exceed-2 constructions often include nominalized gradable predicates, but this would need to be tested.

There is variation in whether clausal comparatives are available and what form they take. Beck et al. (2009) characterize Yoruba as lacking degree abstraction since it does not form subcomparatives and does not show negative island effects and scope ambiguities in comparatives, but this is disputed by Howell (2013) based on the fact that Yoruba does have degree free relatives that can serve as the standard in comparatives. It might be that Yoruba 'clausal' comparatives are similar to the Shan ones. Tswefap allows for subcomparative constructions but does not have a construction that can be used to test for negative islands (Clem 2019). Luganda does not have typical clausal comparatives, but Bochnak (2018) argues the language has a two-place comparative operator—which is generally reserved for clausal comparative analyses—in addition to the three-place operator associated with phrasal comparatives. Apparent clausal comparatives in these languages need to be described more fully before anything conclusive can be said about them.

The takeaway from this seems to be that the source of the comparative mor-

pheme does not strongly predict its semantic properties, but the lack of attributive adjective comparatives in other Exceed type languages raises an additional avenue of investigation for Shan, as well as Thai.

3 Analysis

This analysis focuses on the phrasal comparative, which I have proposed is the comparative available in Shan, but the clausal comparative is standardly defined as a two-place relation between degrees (von Stechow 1984; Heim 1985). This is shown in (38). For clausal comparatives, the properties of degrees being compared are formed using operator movement.

(38) $\textsc{than}_{\textsc{clausal}} \rightsquigarrow \lambda D'_{\langle d,t\rangle}.\lambda D_{\langle d,t\rangle}.\textsc{max}(D) > \textsc{max}(D')$
(Hohaus & Bochnak 2020: (18))

The phrasal comparative is a three-place operator that takes in a gradable predicate and two individuals as arguments. Below are common analyses of phrasal comparative semantics (for gradable predicate G, associate x, and comparand y):

(39) $\textsc{than}_{\textsc{phrasal1}} \rightsquigarrow$
$\lambda y.\lambda G_{\langle d,\langle e,t\rangle\rangle}.\lambda x.\textsc{max}(\lambda d.G(d)(x)=1) > \textsc{max}(\lambda d'.G(d')(y)=1)$
Allows parasitic DegP movement (from Bhatt & Takahashi 2011)

(40) $\textsc{than}_{\textsc{phrasal2}} \rightsquigarrow$
$\lambda G_{\langle d,\langle e,t\rangle\rangle}.\lambda y.\lambda x.\textsc{max}(\lambda d.G(d)(x)=1) > \textsc{max}(\lambda d'.G(d')(y)=1)$
No parasitic DegP movement (from Kennedy 1997)

The difference between these two is just the order in which the arguments combine together. However, Beck et al. (2012) and Berezovskaya & Hohaus (2015) note that (40) accounts for a subset of cases of (39), and only (39) allows for the possibility of parasitic degree phrase movement. This, in turn, limits the comparative morpheme in (40) from deriving the external reading for attributive adjective comparatives.

Since Shan has predicative, attributive, and adverbial comparatives, it is compatible with the phrasal comparative in (39) with parasitic DegP movement. (39) accounts for cases like (1) as in (41) and derives a reading for both (26) and (27).

(41) $[\ \underset{t}{\text{YLN}}\ [_{GP}\ [_{G}\ \underset{\langle e,t\rangle}{}\ \ \underset{\langle d,\langle e,t\rangle\rangle}{s\check{u}\eta}\ ]\ [_{DegP}\ \underset{\langle\langle d,\langle e,t\rangle\rangle,\langle e,t\rangle\rangle}{}\ [_{Deg}\ \underset{\langle e,\langle\langle d,\langle e,t\rangle\rangle,\langle e,t\rangle\rangle\rangle}{l\check{\gamma}}\ \ \underset{\textsc{than}}{}\ ]\ [\ \underset{e}{\text{JLK}}\ ]\ ]\ ]\ ]$
$\underset{\text{YLN}}{}\ \underset{\text{tall}}{}$
$\textsc{max}(\lambda d.\mathsf{tall}(d)(\mathsf{yln})) > \textsc{max}(\lambda d'.\mathsf{tall}(d')(\mathsf{jlk}))$

With movement of the degree phrase and subject, it can account for attributive adjective comparatives like (12) as in (42) (object semantics abbreviated for space).

(42) [JLK [[$_{DegP}$ [$_{Deg}$ *lɤ̌*] [YLN]] [2 [1 [$t_{1,e}$ [$_{VP}$ [$_{V}$ *kǐn*]
$_{t}$ JLK $_{\langle e,t\rangle}$ $_{\langle\langle d,\langle e,t\rangle\rangle,\langle e,t\rangle\rangle}$ THAN $_{e}$ YLN $_{\langle d,\langle e,t\rangle\rangle}$ $_{\langle e,t\rangle}$ $_{t}$ $_{\langle e,t\rangle}$ $_{\langle e,\langle e,t\rangle\rangle}$ eat

[$_{NP}$ [$_{N}$ *khawsɔ́j*] [$_{AP}$ *phét* $t_{2,d}$]]]]]] (includes ∃ object quantification)
$_{\langle e,t\rangle}$ khao soi $_{\langle e,t\rangle}$ spicy

$$\textsc{max}(\lambda d.\exists x[\mathsf{eat}(\mathsf{jlk},x) \wedge \mathsf{spicy}(d)(x)]) > \textsc{max}(\lambda d'.\exists x[\mathsf{eat}(\mathsf{yln},x) \wedge \mathsf{spicy}(d')(x)])$$

Even if Shan attributive adjective comparatives would better be analyzed as reduced relative clauses, the relative clause would still be interpreted as a property of individuals that is modifying the noun. Thus, the semantic account would remain the same.

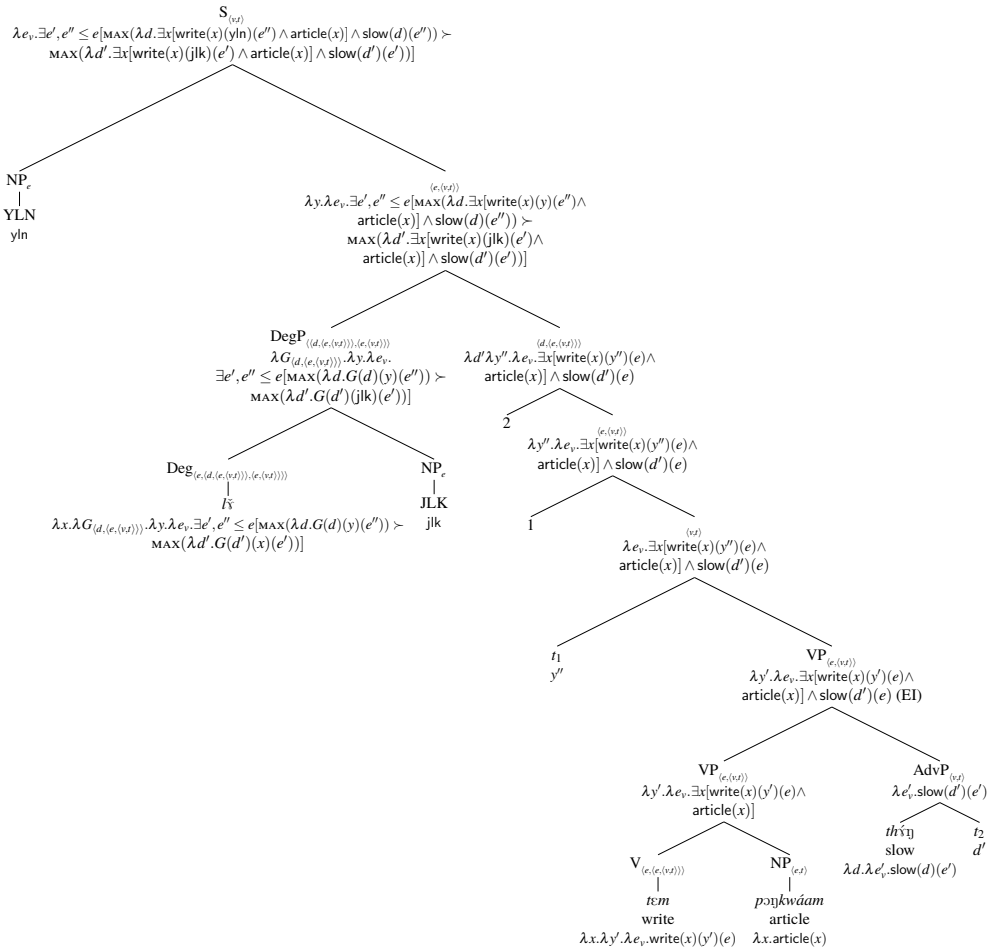
Adverbal comparative analysis Adverbial comparatives can be integrated in a way similar Berezovskaya & Hohaus's (2015) account of Russian adverbial comparatives by treating gradable adverbials as expressions of type $\langle d,\langle v,t\rangle$, using the comparative morpheme in (43), so it can compose with a VP of type $\langle e,\langle v,t\rangle\rangle$ through Event Identification (EI).

The phrasal comparative operator in Russian is argued to be the one in (40) based on the fact that attributive adjective comparatives only allow for the internal reading, where the standard is compared to the noun that the attributive adjective modifies. Thus, Berezovskaya & Hohaus (2015) propose that the adverbial comparative morpheme in Russian combines with arguments in the same order as the basic phrasal comparative in (40). I will assume the same for Shan, where the adverbial comparative operator is identical to (39) with some additions to incorporate event semantics. This extension to include events would also be needed in any languages with phrasal comparatives like (39) that allow for adverbial comparatives.

(43) $\lambda x.\lambda G_{\langle d,\langle e,\langle v,t\rangle\rangle\rangle}.\lambda y.\lambda e_v.\exists e',e'' \leq e[\textsc{max}(\lambda d.G(d)(y)(e'')) > \textsc{max}(\lambda d'.G(d')(x)(e'))]$

(44) provides the derivation for (13) using (43). The gradable predicate of events *thɤ́ŋ* 'slow' combines with the verb phrase using Event Identification. The comparative morpheme introduces two separate subevents of the event described by the sentence in order for them to be compared. The top of the tree is a predicate of events. This would be predicated of some topic time that would have a relation to a reference time, speech time, etc. through aspect marking and utterance context. This is left unspecified here.

(44) Adverbial comparative



It is important that existential quantification over the relevant event takes scope over the MAX operator. Otherwise, it would return the maximum degree to which that gradable predicate of events has ever been for each individual, which is not the interpretation of this sentence. If we commit to including event arguments to account for cases like (13), it is also necessary to include them in cases like (12), which also involve verbs which are properties over events. The same issue of event closure arises, so the same comparative morpheme semantics would be used, the one in (43). For other comparative cases, such as ones with predicate adjectives, the same comparative would in principle apply. However, stative predicates, like *tall* are not generally considered to include an event argument in the same way as many verbs and event predicates (Katz 2003), so one possibility would be to say that the comparative morpheme has a different semantics depending on whether it is used with a stative predicate or not. Another possibility is to follow Rothstein (1999) in treating stative predicates as being associated with states and eventive predicates as

being associated with events and providing a way these are semantically connected to one another.

Berezovskaya & Hohaus (2015) included VP internal movement for their adverbial comparative morpheme. In this analysis, I propose that the same parasitic movement is possible for all the phrasal comparatives in Shan. Berezovskaya & Hohaus (2015) makes the prediction that if a phrasal comparative could do parasitic movement for an adverbial comparative, it would be possible to get multiple scope possibilities with modals. This is a prediction of this analysis that needs to be tested extensively, but preliminary results suggest that multiple scope possibilities are available for Shan adverbial comparatives.

This account for adverbial comparatives can be extended to any language that has phrasal adverbial comparatives. For example, Hindi has been argued to be a language that has only a phrasal comparative with the semantics in (39) (Bhatt & Takahashi 2011). Additionally, Hindi appears to allow adverbial comparatives (Beck et al. 2009: 40). Thus, the phrasal account should be extendable to adverbial cases to provide a more complete cross-linguistic account.

4 Conclusion

This paper has described and analyzed the Shan comparative construction. I have argued that Shan is an Exceed-1 type language that does explicit comparison, making use of phrasal comparatives. Both internal and external comparative interpretations are possible. This suggests that a semantics where the comparative morpheme first combines with the standard allowing for parasitic degree phrase movement best fits with the data. Additionally, this paper has provided an account of adverbial comparatives in Shan, which can be extended to phrasal comparatives that allow for external interpretations, such as Hindi. The adverbial comparative semantics includes event arguments, which could be extended to use in non-adverbial comparative cases.

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