# More exceedingly comparative: Adverbial and attributive Exceed comparatives

## Background

- Shan, a Kra-Dai language of Burma, forms comparatives as in (1). • The comparative morpheme derives from  $l\check{x}$  'be extra' and/or the connective  $s\check{e}$ 'and'; alternatively, the morpheme  $p\hat{o}n$  'exceed' is used. The form  $l\check{x}(-s\check{e})$  is most productive and is the focus of this analysis.
- The basic pattern: Subject Gradable-Predicate  $l\check{x}(-s\check{e})$  Comparand
- tsáaj lǎawkhám sǔŋ lǐ(-sě) / (lǐ-)sě (1)/ pôn jíŋ Jai Lao Kham tall be.extra-and be.extra-and exceed Ying lǎawŋún Lao\_Nguen

'Jai Lao Kham (JLK) is taller than Ying Lao Nguen (YLN).'

- Shan is an SVO language with serial verb constructions (2), which patterns with Stassen's (1985) serial verb Exceed-1 comparative, e.g., (3) from Thai.
- phǎj ?ǎw khǒŋlen kǒj (2)who take toy break 'Who broke the toy?'
  - (3) khaw jaj kwaa phom he big exceed me 'He is bigger than me' (Stassen 1985: p. 165)

### Goals

- Describe the Shan comparative construction
- Characterize the semantics using diagnostics from Beck et al. (2009) and Hohaus & Bochnak (2020)
- Provide a semantic account of
- the basic structure (1),
- the attributive adjective comparative (9), and
- the adverbial comparative (11)

## Crosslinguistic comparison

- Beck et al. (2009) propose three parameters of variation in comparatives.
- Shan patterns with English, Hindi, and Thai (a.o.) in having a + setting for
- Degree Semantics Parameter (+: has gradable predicates (type  $\langle d, \langle e, t \rangle \rangle$ ))
- Degree Abstraction Parameter (+: binds degree variables)
- Degree Phrase Parameter (+: degree arg. of grad. pred. can be overtly filled)
- This data adds to growing literature on exceed comparatives, e.g., Yoruba (Howell 2013); Tswefap (Clem 2019); Luganda (Bochnak 2018).
- Luganda has both phrasal and clausal comparatives but does not mention attributive adjective or adverbial comparatives (Bochnak 2018).
- Yoruba may (Beck et al. 2009) or may not (Howell 2013) have attributive adjective comparatives. Beck et al. (2009) characterize Yoruba as lacking degree abstraction, but this is disputed by Howell (2013).
- Shan has both attributive adjective and adverbial phrasal comparatives.

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Special thanks to Nan San Hwam and Sai Noom Hseng who provided the Shan data. Thanks also to the semantics reading group at the University of Rochester for their feedback. ခွပ်ံးလို့တေ.တေ.ချႈ

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Semantics and Linguistic Theory  $33 \cdot May 13$ , 2023

- Common analyses of phrasal comparative semantics (for gradable predicate G, associate x, and comparand y):

  - (5) comp  $\rightsquigarrow \lambda G_{\langle d, \langle e, t \rangle \rangle} . \lambda y . \lambda x . \max(\lambda d . G(d)(x) = 1) > \max(\lambda d' . G(d')(y) = 1)$ 
    - No parasitic DegP movement
- Following Bochnak's (2013) analysis of Luganda's subordinate exceed comparative, I propose the structure in (6). GP=Gradable Phrase, MP=Measure Phrase.
- (6)  $[GP [G s\check{u}n]] [DegP [ [Deg l\check{x}s\check{e}] [ YLN ] ] [MP s\check{i} cm. ] ] ]$ YLN comp tall
- Examples like (7) are ambiguous in the same way that the English translation is.
- (7) jín làawnún lajtsáu tsáaj làawkhám l $\check{x}$  jín làawsěn Ying Lao\_Nguen like Jai Lao\_Kham comp Ying Lao\_Saeng 'Ying Lao Nguen likes Jai Lao Kham more than Ying Lao Saeng.' ✓ Ying Lao Nguen likes Jai Lao Kham more than Ying Lao Saeng does' ✓ Ying Lao Nguen likes Jai Lao Kham more than she likes Ying Lao\_Saeng'
- The associate in (7) can be either the subject or the object.
- Also, since Shan has predicative, attributive, and adverbial comparatives, it is compatible with the phrasal comparative in (4) with parasitic DegP movement.
- (4) accounts for cases like (1) as in (8) and derives the ambiguous readings of (7).
- $\begin{bmatrix} \text{YLN} \begin{bmatrix} GP & [G & s\check{u}n \end{bmatrix} & [DegP & [DegP & [Deg & l\check{n} \end{bmatrix} & [IKn \end{bmatrix} \end{bmatrix} \begin{bmatrix} IKn \end{bmatrix} \begin{bmatrix} ILKn \end{bmatrix} \end{bmatrix} \end{bmatrix}$   $\stackrel{t}{\text{YLN}} \stackrel{\langle e,t \rangle}{\langle e,t \rangle} \stackrel{\langle e,t \rangle \rangle}{\text{tall}} \stackrel{\langle \langle d, \langle e,t \rangle \rangle, \langle e,t \rangle \rangle}{\text{tall}} \stackrel{\langle e,t \rangle \rangle, \langle e,t \rangle \rangle}{\langle e,t \rangle, \langle e,t \rangle \rangle} \stackrel{finst non-statement}{\text{comp}} \stackrel{e}{\text{JLK}} \end{bmatrix} \end{bmatrix}$ (8) $\max(\lambda d.tall(d)(yln)) > \max(\lambda d'.tall(d')(jlk))$

## Attributive adjectives

- With movement of the degree phrase and subject, it can account for attributive adjective comparatives like (9) as in (10) (object semantics abbreviated for space).
- (9) tsáaj låawkhám lajtsáj kín khawsój phét lýsě jín låawnún Jai Lao\_Kham like eat khao\_soi spicy comp Ying Lao\_Nguen Jai Lao Kham likes to eat spicier khao soi than Ying Lao Nguen.
- JLK | |DegP (10) $[NP [N khaws j] [AP phét t_{2,d}]]]]]$  (includes  $\exists$  object quantification)  $\langle e,t \rangle$  khao soi  $\langle e,t \rangle$  spicy
  - $\max(\lambda d.\exists x [\mathsf{eat}(\mathsf{jlk}, x) \land \mathsf{spicy}(d)(x)]) > \max(\lambda d'.\exists x [\mathsf{eat}(\mathsf{yln}, x) \land \mathsf{spicy}(d')(x)])$
- There is debate in the literature whether English uses a phrasal comparative in addition to the clausal one (Beck et al. 2012; Berezovskaya & Hohaus 2015).
- If phrasal comparative were used for examples like (9) instead of a reduced clausal comparative, it would need to be able to move, as with (10).

## References

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## Internal/External comparatives

## Adverbial comparatives

(4) comp  $\rightsquigarrow \lambda y. \lambda G_{\langle d, \langle e, t \rangle \rangle}. \lambda x. \max(\lambda d. G(d)(x) = 1) > \max(\lambda d'. G(d')(y) = 1)$ Allows parasitic DegP movement (from Bhatt & Takahashi 2011) (from Kennedy 1997)

four centimeters

- $\langle e, \langle v, t \rangle \rangle$  through Event Identification.

- (12)
- (13) $\begin{bmatrix} t_{1,e} & \begin{bmatrix} VP & \begin{bmatrix} VP & \begin{bmatrix} VP & tem \end{bmatrix} \\ \langle e, \langle v,t \rangle \rangle & \langle e, \langle v,t \rangle \rangle & \langle e, \langle v,t \rangle \rangle & \langle e, \langle e, \langle v,t \rangle \rangle \rangle & \text{write} \end{bmatrix}$

- in Hindi (Bhatt & Takahashi 2011).

- (14) tsáaj lǎawkhám sǔŋ lǐ-sě Jai Lao Kham tall be.extra-and comp 1 'Jai Lao Kham is taller than I thought.'

- supremum operator from Solt (2015).





• Adverbial comparatives can be integrated in a way similar to Berezovskaya & Hohaus (2015) by treating gradable adverbials as expressions of type  $\langle d, \langle v, t \rangle$ , using the comparative morpheme in (12), so it can compose with a VP of type

• This extension to include events would also be needed in languages like English.

(11) jín làawnún tem ponkwáam thýn lýsě tsáaj làawkhám Ying Lao\_Nguen write article slow comp Jai Lao\_Kham 'Ying Lao Nguen wrote articles more slowly than Jai Lao Kham.'  $\lambda x.\lambda G_{\langle d, \langle e, \langle v, t \rangle \rangle \rangle}.\lambda y.\lambda e_v.\exists e', e'' \leq e[\max(\lambda d.G(d)(y)(e''))]$  $> \max(\lambda d'.G(d')(x)(e'))]$ 

 $\begin{bmatrix} \text{closure} \left[ \begin{array}{c} \text{YLN} \left[ \begin{array}{c} DegP \\ \langle \langle v,t \rangle,t \rangle \end{array} \right] \left[ \begin{array}{c} \text{JLK} \end{array} \right] \right] \begin{bmatrix} 2 \\ \langle d,\langle e,\langle v,t \rangle \rangle \end{array} \right] \\ \langle \langle d,\langle e,\langle v,t \rangle \rangle \rangle \\ \langle \langle e,\langle v,t \rangle \rangle \rangle \\ \langle e,\langle v,t \rangle \rangle \rangle \\ \langle e,\langle v,t \rangle \rangle \\ \langle e,\langle v,t \rangle \rangle \rangle \\ \langle e,\langle v,t \rangle \\ \langle e,\langle v,t \rangle \\ \langle e,\langle v,t \rangle \rangle \\ \langle e,\langle v,t \rangle \\ \langle e,\langle v,t \rangle \\ \langle e,\langle v,t \rangle \rangle \\ \langle e,\langle v,t \rangle \rangle \\ \langle e,\langle v,t \rangle \\ \langle e,\langle v,t \rangle \\ \langle e,\langle v,t \rangle \rangle \\ \langle e,\langle v,t \rangle \\ \langle e,\langle$  $t \in m$  ] [NP [N pəŋ $kw \acute{a}am$  ]]] [AdvP thýn t<sub>2,d</sub> ]]]]]]]]

 $\langle v,t \rangle$  slow article  $\exists e \exists e', e'' \leq e [\max(\lambda d. \exists x [\text{write-art}(y | n, x, e'') \land \text{slow}(d)(e'')])]$ 

 $> \max(\lambda d' \exists x [write-art(jlk, x, e') \land slow(d')(e')])]$ • Shan quantity expressions, năm 'many/much' and ?è 'few/little', are used in comparative constructions when comparing amounts of objects.

• Unlike their English counterparts, these can only be used predicatively.

## Conclusion

• This adds to the cross-linguistic account of comparatives by adding new data on exceed comparatives and providing a synthesized semantic account. • The Shan comparative is semantically similar to the phrasal comparative found

Despite morpho-syntactic differences in the comparative morpheme source, the semantics fits within a few options: phrasal with(out) movement or clausal.

## Future work

• The comparand can be a headless relative clause, as in (14).

?ǎn háw wôn wâj think keep

• If there is a clausal comparative, is the phrasal one just a reduced clause? - seems unlikely given common ellipsis patterns in Shan

• What is the syntactic status of verbal 'adverbs' like th  $\hat{x}\eta$  'slow'?

• Account for negative antonyms like  $th \dot{x} \eta$  'slow' using, e.g., the direction-sensitive

• Analyze  $p \hat{o} n$  'exceed', used in phrases meaning 'no more than 5' and or 'too much'.