More exceedingly comparative: Adverbial and attributive Exceed comparatives

Novel fieldwork data from Shan (Kra-Dai) adds to the cross-linguistic account on the Exceed-type comparative construction. Shan can form comparative expressions from both adverbs and attributive adjectives, which had not been reported 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.

Comparatives. The comparative expression in Shan involves a gradable predicate followed by the morpheme *lɤ̌* (2), which is also used as a verb meaning 'exceed', and the connective *sě*, followed by the comparand (an individual or a relative clause). One or both of the morphemes *lɤ̌* and *sě* must appear. This patterns with the serial Exceed-1 comparative construction (Stassen 1985), given that Shan is a language with serial verb constructions (1).

(1) phǎj ʔǎw khɔ̌ŋlen kɔ̌j
who take toy break
'Who broke the toy?'

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

Based on diagnostics summarized by Hohaus & Bochnak (2020), (3) shows that Shan has an explicit comparative since it can appear with a differential measure *sɔ̌ŋ pǐ* 'two years', and (2) provides an external comparative example ('more dogs than you have' not 'more dogs than you are'). The comparative also combines with adverbs (4) or attributive adjs. (5).

(3) jíŋ lǎawŋʊ́n jàj lɤ̌ tsáaj lǎawkhám sɔ̌ŋ pǐ
Ying Lao_Nguen big exceed Jai Lao_Kham two year
'Ying Lao Nguen is two years older than Jai Lao Kham.'

(4) jíŋ lǎawŋʊ́n tɛm pɔŋkwáam thɤ́ŋ lɤ̌sě tsáaj lǎawkhám
Ying Lao_Nguen write article slow exceed Jai Lao_Kham
'Ying Lao Nguen writes articles more slowly than Jai Lao Kham.'

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

This data adds to growing literature on exceed comparatives, e.g., Yoruba (Howell 2013); Tswefap (Clem 2019); Luganda (Bochnak 2018). Exceed comparatives differ from each other in several ways. Tswefap attributive adjectives cannot form comparatives, which Clem (2019) says indicates that they lack degree arguments. Yoruba adjectives have the same property but have clausal comparatives (Howell 2013). Luganda has both phrasal and clausal comparatives but does not mention attributive adjectives (Bochnak 2018). Shan, in contrast, clearly has both attributive adjective and adverbial phrasal comparatives. There is also evidence that the comparand of the comparative construction can be a headless relative clause (6). Future work will determine whether there is distinct a clausal comparative construction.

(6) sǔ hét kǎan nǎm lɤ̌sě ʔǎn sǔ thùklǐ hét sì tsomɔ́ŋ
2 do work many exceed comp.rel 2 should do four hour
'You worked four hours more than what you should.'

Exceed Comparative Summary.	Shan	Yoruba	Tswefap	Luganda
Attr. adj.	✓	✗	✗	?
Adverbial	✓	?	?	?
Clausal comp.	?	✓	?	✓

Analysis. Following Bochnak's (2013) analysis of Luganda, I propose the structure in (7). GP=Gradable Phrase, MP=Measure Phrase. The comparative *lɤ́sě* has an NP complement.

(7) $[_{GP}\ [_{G}\ \underset{\text{more}}{\textit{nǎm}}\ ]\ [_{DegP}\ [\ [_{Deg}\ \underset{\text{exceed}}{\textit{lɤ́sě}}\ ]\ [\ \underset{\text{JLK}}{\text{JLK}}\ ]\ ]\ [_{MP}\ \underset{\text{two baskets}}{\textit{sɔ̌ŋ\ sâa}}\ ]\ ]\ ]$

Shan adjectives of quantity (*nǎm* 'many/much' and *ʔè* 'few/little') are used in comparative constructions when comparing amounts of objects. The morpheme *nǎm* is unlike typical adjectives in that it can be separated from the noun by, e.g., an indirect object (8).

(8) YLN ʔǎw màakmoŋ pǎn JLK nǎm/*wǎan lɤ́ jíŋ lǎawsɛ̌ŋ
YLN take mango give JLK many/sweet exceed Ying Lao_Saeng
'YLN gave more/*sweeter mangoes to JLK than to Ying Lao Saeng.'

In comparative constructions with adjectives, *nǎm* cannot be used (e.g., **wǎan nǎm* 'more sweet'). Therefore, there is no indication that *nǎm* introduces measure functions for adjectives as in Wellwood's (2015) account of English (verbal comparatives are still being examined).

Since external comparative readings are available in Shan, I use the phrasal comparative morpheme semantics in (9). This can account for cases like (3) (without differential) as in (10). With movement of the degree phrase and subject, it can account for attributive adjective comparatives like (5) as in (11) (verb-object semantics abbreviated for space).

(9) $\lambda x.\lambda G_{\langle d,\langle e,t\rangle\rangle}.\lambda y.\textsc{max}(\lambda d.G(d)(y)) \succ \textsc{max}(\lambda d'.G(d')(x))$ (Hohaus & Bochnak 2020)

(10) $[\ \underset{t}{\text{YLN}}\ [_{GP}\ [_{G}\ \underset{\langle d,\langle e,t\rangle\rangle}{\textit{sŭŋ}}\ ]\ [_{DegP}\ \underset{\langle\langle d,\langle e,t\rangle\rangle,\langle e,t\rangle\rangle}{\text{tall}}\ [_{Deg}\ \underset{\langle e,\langle\langle d,\langle e,t\rangle\rangle,\langle e,t\rangle\rangle\rangle}{\textit{lɤ́}}\ ]\ [\ \underset{e}{\text{JLK}}\ ]\ ]\ ]\ ]$
$\textsc{max}(\lambda d.\mathsf{tall}(d)(\mathsf{yln})) \succ \textsc{max}(\lambda d'.\mathsf{tall}(d')(\mathsf{jlk}))$

(11) $[\ \underset{t}{\text{JLK}}\ [\ [_{DegP}\ \underset{\langle\langle d,\langle e,t\rangle\rangle,\langle e,t\rangle\rangle}{\ }\ [_{Deg}\ \underset{\text{exceed}}{\textit{lɤ́}}\ ]\ [\ \underset{e}{\text{YLN}}\ ]\ ]\ ]\ [\ \underset{\langle d,\langle e,t\rangle\rangle}{2}\ [\ \underset{\langle e,t\rangle}{1}\ [\ \underset{t}{\text{t}_{1,e}}\ [_{VP}\ \underset{\langle e,t\rangle}{\ }\ [_{V}\ \underset{\langle e,\langle e,t\rangle\rangle}{\textit{kǐn}}\ ]\ [_{NP}\ \underset{\text{eat}}{\ }$
$[_{N}\ \underset{\langle e,t\rangle}{\textit{khawsɔ́j}}\ ]\ [_{AP}\ \underset{\langle e,t\rangle}{\textit{phét}}\ \underset{\text{spicy}}{\text{t}_{2,d}}\ ]]]]]]$ (includes existential quantification over object)
$\underset{\text{khao soi}}{\ }$

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

Adverbial comparatives can be integrated in a way similar to Berezovskaya & Hohaus (2015) by treating gradable adverbials as expressions of type $\langle d,\langle v,t\rangle\rangle$, using the comparative morpheme in (13), so it can compose with a VP of type $\langle e,\langle v,t\rangle\rangle$ through Event Identification. This extension to include events would similarly be needed in languages like English.

(12) $[\ \underset{t}{\textsc{closure}}\ \underset{\langle\langle v,t\rangle,t\rangle}{\ }\ [\ \underset{\langle v,t\rangle}{\ }\ \underset{\text{YLN}}{\text{YLN}}\ [\ [_{DegP}\ \underset{\langle\langle d,\langle e,\langle v,t\rangle\rangle\rangle,\langle e,\langle v,t\rangle\rangle\rangle}{\ }\ [_{Deg}\ \underset{\text{exceed}}{\textit{lɤ́}}\ ]\ [\ \underset{e}{\text{JLK}}\ ]\ ]\ ]\ [\ \underset{\langle d,\langle e,\langle v,t\rangle\rangle\rangle}{2}\ [\ \underset{\langle e,\langle v,t\rangle\rangle}{1}$
$[\ \underset{\langle v,t\rangle}{\ }\ \underset{t}{\text{t}_{1,e}}\ [_{VP}\ \underset{\langle e,\langle v,t\rangle\rangle}{\ }\ [_{VP}\ \underset{\langle e,\langle v,t\rangle\rangle}{\ }\ [_{V}\ \underset{\langle e,\langle e,\langle v,t\rangle\rangle\rangle}{\textit{tɛm}}\ ]\ [_{NP}\ [_{N}\ \underset{\text{article}}{\textit{pɔŋkwáam}}\ ]]]\ [_{AdvP}\ \underset{\langle d,\langle v,t\rangle\rangle}{\textit{thɤ́ŋ}}\ \underset{\text{slow}}{\text{t}_{2,d}}\ ]\ ]]]]]]]$
$\underset{\text{write}}{\ }$

$\exists e,e'[\textsc{max}(\lambda d.\exists x[\mathsf{write\text{-}art}(\mathsf{yln},x,e)\wedge\mathsf{slow}(d)(e)]) \succ \textsc{max}(\lambda d'.\exists x[\mathsf{write\text{-}art}(\mathsf{jlk},x,e')\wedge\mathsf{slow}(d')(e')])]$

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

Accounting for the differential comparative in (3) simply requires adding a degree argument after the first individual argument (14) based on von Stechow 1984.

(14) $\lambda x.\lambda d.\lambda G_{\langle d,\langle e,t\rangle\rangle}.\lambda y.\textsc{max}(\lambda d.G(d)(y)) \succ \textsc{max}(\lambda d'.G(d')(x)) + d$

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 English phrasal comparative *-er*. Despite morpho-syntactic differences in comparative formation, there can be similarities in semantic derivation.

Select references. Berezovskaya, Polina, and Vera Hohaus. 2015. The crosslinguistic inventory of phrasal comparative operators: Evidence from Russian. *Proceedings of FASL*, v. 23 • Bochnak, Michael Ryan. 2013. *Cross-linguistic variation in the semantics of comparatives* • Clem, Emily. 2019. Attributive adjectives in Tswefap: Vague predicates in a language with degrees. *Proceedings of Sinn und Bedeutung*, v. 23 • Hohaus, Vera, and M Ryan Bochnak. 2020. The grammar of degree: Gradability across languages. *Annual Review of Linguistics* 6 • Howell, Anna. 2013. Abstracting over degrees in Yoruba comparison constructions. *Proceedings of Sinn und Bedeutung*, v. 17 • von Stechow, Arnim. 1984. Comparing semantic theories of comparison. *Journal of semantics* 3 • Stassen, Leon. 1985. *Comparison and universal grammar*.