Superlatives across domains: Evidence from degree achievements in Southern Aymara

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This papers proposes that Southern Aymara, an understudied Andean language, has a verbal superlative degree morpheme, *-su*, that combines with degree achievements (DAs). I illustrate this with verbs with *-cha*, a suffix that derives DAs. Intuitively, *-su* in (1a,b) contributes the meaning of the underlined part in the informal English gloss (1c), where a maximum is reached in the events of *John's dirtying of that table* (1a) and *John's straightening of the hair* (1b):

 (1) a. Juwanu uka misa qañu-cha-su-i. John that table dirty-cha-su-3s
 b. Juwanu ñikuta llusk'a-cha-su-i. John hair straight-cha-su-3s
 c. 'John dirtied that table/straightened the hair to the greatest (possible) degree/extent.'

I show that the sentences with -su, just like the English paraphrase (1c), have an absolute and a comparative reading—the latter interacts with focus, as adjectival superlatives (adjectival superlatives in Aymara are set aside here). I propose that -su involves comparison across events.

Verbs with *-cha*. *-cha* takes gradable bases and derives DAs. (2,3) mean that *John* made the theme increase in its degree of dirtiness (2)/straightness (3). Besides the partially closed scales in (1-3), *-cha* takes gradable bases that have open (4a) and closed (4b) scales (Kennedy & McNally 2005).

(2)	Juwanu uka misa qañu -cha- i.			(3) Juwanu ñikuta llusk'a-cha-i			
	John	that table dirty-cha-3s		John	hair	straight-cha-3s	
	'John dirtied that table.'			'John straightened the hair.'			
(4)	a. k'acha 'beautiful'/ k'acha-cha- 'beautify'		b. p	b. phuqa 'full' / phuqa -cha- 'fill'			

-su as a verbal degree morpheme. -su added to (2,3), i.e., (1a,b), conveys a maximum. Whether the base does (1b) or does not (1a) provide a maximal degree, -su expresses maximality—in (1a) the greatest possible degree is contextual; in (1b) it is lexical. Without -su (2,3) no end point reading is available. This matches telicity facts (the ablative -tha appears in *in*-adverbials; foradverbials lack it): *in*-adverbials are good with -su (yielding a telic reading); for-adverbials are ungrammatical (yielding an atelic reading) (5a). The pattern is reversed without -su (5b). Based on this, I propose that -su is a verbal degree morpheme (see Martínez Vera to appear for an account of cases without -su).

- (5) Juwanu ma: ura / ma: ura-tha uka misa qañu-**cha**(-<u>su</u>)-i / ñikuta llusk'a-**cha**(-<u>su</u>)-i.
 - Juwanu one hour / one hour-ABL that table dirty- $cha(-\underline{su})$ -3s / hair straight- $cha(-\underline{su})$ -3s
 - a. With -su: 'John dirtied that table / straightened the hair ?* for an hour / in an hour.'
 - b. Without -su: 'John dirtied that table / straightened the hair for an hour / ?*in an hour.'

Morphological evidence suggests this analysis: -*su* is located next to -*cha* preceding all other suffixes (Gonzalo 2011), including those that change the valence of the verb, as the reflexive -*si*, and aspectual ones, as the durative -*ska* (thus, -*su* is not aspectual marker). This is consistent with the claim that degree morphemes merge very low in the syntactic structure (e.g., Pedersen 2015).

-su as a verbal superlative. Adjectival superlatives have an absolute and a comparative reading (Heim 1985, a.o.)—in what follows, I use (1a) for illustration. (i) The <u>absolute reading</u> appears in a sentence like *Bill climbed the highest mountain*; this sentence has a reading that *Bill* climbed Mount Everest, the highest among mountains. I propose that (1a) illustrates the absolute reading of a sentence with a verbal superlative. Under the assumption that degree achievement VPs denote

predicates of events (Kennedy & Levin 2008), (1a) describes an event of *dirtying that table* the most (=to a maximal degree) when compared to other relevant events of *dirtying that table* in a comparison set (e.g., it could be a comparison of these events happening at different times or in different worlds). (ii) Adjectival superlatives also have a <u>comparative reading</u>, which arises in a sentence like [*Bill*]_{*F*} *climbed the highest mountain*, where *Bill* is focalized. It means that, among a set of relevant individuals, *Bill* was the one that climbed the highest mountain (but not necessarily Mount Everest). (1a) with *-su* has a comparative reading when the focus marker *-wa* is added. The sentence with *-wa* in the object (6) means that *that table* was dirtied more than any other thing. The sentence with *-wa* in the subject (7) means that *John* dirtied *that table* more than anybody else. In these cases, *that table* may not be dirtied to a maximal degree in an absolute sense; what matters is that it was dirtied more than any other thing or that *John* dirtied it more than anybody else.

- (6) Juwanu [uka misa-wa] qañu-cha-su-i. John that table-FOC dirty-cha-su-3s
 'John dirtied that table more than any other table.'
- (7) [Juwanu-wa] uka misa qañu-cha-su-i. John-FOC that table dirty-cha-su-3s
 'John dirtied that table more than anyone else did.

Proposal. I assume the LF in (8) for vPs/VPs of DAs with *-su* (I assume the external argument is an agent, being introduced by v (Kratzer 1996)). Here I sketch an analysis à la Heim (1999): *-su* moves above vP leaving a trace $t \in D_d$.

(8) [[$[_{\nu P} \text{Agent}(-wa) [_{\nu P} [\text{Theme}(-wa) [\text{gradable base -cha }]] t_i] v] ~C] [<math>\cup C -su]_i$]

I assume gradable bases P denote relations between individual x and degree d (I assume that ds are downward monotonic). I adapt Kennedy & Levin's (2008) proposal to DAs under this approach: I assume that the core meaning of DAs is derived from P (labeled P_{Δ} , which I also use as a variable below), which denotes a relation between x and d in event e, where d is the result of subtracting the degree x holds at the end of e minus the degree x holds at the beginning of e (i.e., for gradable predicate P, individual x, degrees d,d',d'' and event e, $P_{\Delta}(x,d,e)$ holds iff P(x,d',ini(e))& P(x,d'',fin(e)) & d''-d'=d). I assume P_{Δ} results from combining P with -cha (cf. Pedersen 2015) and $P_{\Delta} \in D_{\langle e, \langle d, it \rangle \rangle}$ (t_d saturates its d argument; I use i for the type of events). I propose -su is a superlative morpheme involving comparison of events where degree of change d of P_{Δ} in event e is not held in any other event e' in comparison class X(9). I link this to the <u>absolute reading</u>, where a maximum is reached: with top open scale bases, this degree corresponds with the contextual maximal degree (1a); with top closed scale bases, I assume with Kennedy & Levin that lexical means are maximized, which guarantees that lexical maximums are reached (1b). The absolute reading is exemplified in the denotation of (1a) in (10): (10) says that in event e of John's dirtying of that table, that table was dirtied to a degree (of change) of dirtiness not reached in any other (relevant) event e' in comparison class X (where $X=\cup C$).

(9) $\llbracket -\mathbf{su} \rrbracket = \lambda X \lambda P_{\Delta} \lambda e \exists d [P_{\Delta}(d,e) \& \forall e' [e \neq e' \& e' \in X \to \neg P_{\Delta}(d,e')]]$ (10) $\llbracket (\mathbf{1a}) \rrbracket = \lambda e \exists d [ag(j,e) \& dirty_{\Delta}(t,d,e) \& \forall e' [e \neq e' \& e' \in X \& ag(j,e') \to \neg dirty_{\Delta}(t,d,e')]]$

Turning to -wa, I assume it is a focus marker (Klose 2015) in the sense of Rooth (1992), but adapt the proposal in terms of events here. Expressions like (6,7) have an ordinary o and a focus f value, where the former is the standard meaning of the expression under consideration and the latter is the set of alternatives. Of importance here for f are focalized individuals, so f of (6,7) will vary depending on which individual is focalized with -wa, i.e., the theme (6) or the agent (7). The set of event predicate alternatives are represented in (11,13) for (6,7), where comparison class X is a subset of these sets (Heim 1999). o of VP/vP of (6,7) (cf. (8)) is represented in (12,14). The

<u>relative reading</u> follows from this. It depends on the focus alternatives: what is relevant is that *that table* is dirtied more than any other thing (12) or that *John* dirtied *that table* more than anyone else (14). Thus, only a relative (not an absolute) maximum need be reached.

 $(11) \llbracket (\mathbf{6}) \rrbracket^{f} = \{ \lambda e[ag(j,e) \& dirty_{\Delta}(x,d,e)] \mid x \in D_{e} \& d \in D_{d} \}$ (12) $\llbracket (\mathbf{6}) \rrbracket^{o} = \lambda e \exists d[ag(j,e) \& dirty_{\Delta}(t,d,e)]$ (13) $\llbracket (\mathbf{7}) \rrbracket^{f} = \{ \lambda e[ag(x,e) \& dirty_{\Delta}(t,d,e)] \mid x \in D_{e} \& d \in D_{d} \}$ (14) $\llbracket (\mathbf{7}) \rrbracket^{o} = \lambda e \exists d[ag(j,e) \& dirty_{\Delta}(t,d,e)]$

Conclusion. This paper proposes to extend the domain of superlatives beyond adjectives. Aymara illustrates the case of a language with a verbal superlative combining with DAs. I claim that it involves comparison of events, which can be sensitive to focus, just like adjectival superlatives.

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