

### On competing degree morphemes in derived verbs of change in Southern Aymara

I address derived verbal predicates of change with the suffix *-cha* in Southern Aymara (an agglutinative Andean language). I propose that they combine with two degree morphemes in competition: verbal POS<sub>V</sub> and *-su*. *-su* restricts the standard of comparison to lexical/contextual maximal values, so it is preferred over POS<sub>V</sub> when such values are available. POS<sub>V</sub> is thus felicitous when there is no maximum.

**Derived verbs of change with *-cha*.** These denote an increase in the degree of a scale a theme holds in an event. The bases *-cha* takes derive creation predicates (1) or degree achievement kind of verbs (2) (Kennedy 2007, Beavers 2011).

- (1) Juwanu uta uta-**cha**-i. (2) Juwanu uta k'acha-**cha**-i.  
John house house-**cha**-3s John house beautiful-**cha**-3s  
'John built the house (and didn't finish).' 'John made the house (more) beautiful.'

*-cha* takes non-scalar and scalar nouns/adjectives (3). Scalar bases (3a) are open, partially open or closed. Non-scalar bases (3b) are coerced into scalar to combine with *-cha*: (3bi) involves a property open scale with dimension 'beautiful' just like (2,3ai): the derived verbs are true in the same contexts. (3bii) involves a lower closed scale with dimension 'cultivatedness'. (3biii) involves an extent closed scale measuring the degree of completion of house construction. As adverbials (*too much/a little bit*) are grammatical with verbs with *-cha* (4) (Kennedy 2012), a uniform treatment of them (i.e., as scalar verbs) seems appropriate.

(3)

	<i>Open scale</i>	<i>Partially open scale</i>	<i>Closed scale</i>
a. <i>Scalar</i>	i. k'acha 'beautiful'	ii. llusk'a 'straight' iii. qañu 'dirty'	iv. phuqa 'full'
b. <i>Non-scalar</i>	i. t'ika 'ornament'	ii. yapu 'sown field'	iii. uta 'house'

- (4) Juwanu sinti /juk'aki uta a. uta-**cha**-i / b. t'ika/k'acha-**cha**-i.  
John too much / a little bit house house-**cha**-3s / ornament/beautiful-**cha**-3s  
a. 'There was too much/a little bit of house building by John.'  
b. 'John made the house a lot/a little bit more beautiful (e.g., by decorating it).'

**Adding *-su*.** *-su* conveys a lexical/contextual maximal degree when combined with predicates with *-cha*. Whether or not the base provides a maximum, *-su* always expresses maximality, taking the maximum from context if necessary (5,6). Without *-su* no end point reading is available. This matches telicity facts—the ablative *-tha* appears in *in*-adverbials; *for*-adverbials lack it: *in*-adverbials are preferred with *-su* (telic reading); *for*-adverbials are ungrammatical (atelic reading) (8). The pattern is reversed without *-su* (7). Based on this, I propose that *-su* is a degree morpheme that restricts the standard of comparison to maximal values.

- (5) Mariya uta uta-**cha**(-su)-i. (6) Jusi ñik'uta llusk'a/qañu-**cha**(-su)-i  
Mary house house-**cha**(-su)-3s Jose hair straight/dirty-**cha**(-su)-3s  
a. *Without -su*: 'Mary built the house a. *Without -su*: 'Joe made the hair  
(and didn't finish).' straighter/dirtied the hair.'  
b. *With -su*: 'Mary built the house (and b. *With -su*: 'Joe made the hair fully  
finished).' straight/dirtied the hair (to high degree).'
- (7) Jaqi-naka ma: simana-{wa}/ ??ma: simana-tha uka uta uta/k'acha-**ch**(a)-i-{wa}.  
person-PL one week-EVI / one week-ABL this house house/beautiful-**cha**-3S-EVI  
'The people built this house for a week / ??in a week.'
- (8) Jaqi-naka ?\*ma: simana-{wa}/ ma: simana-tha uka uta uta/k'acha-**ch**(a)-su-(i)-{wa}.  
person-PL one week-EVI / one week-ABL this house house/beautiful-**cha**-su-3S-EVI  
'The people built this house ?\*for a week / in a week.'

There is morphological evidence suggesting this kind of analysis: *-su* is located next to *-cha* preceding all other suffixes (Gonzalo 2011), including those that change the valence of the verb, e.g., the reflexive *-si*, and aspectual ones, e.g., the durative *-ska*—thus, *-su* does not seem

to be an aspectual marker. This is consistent with the suggestion made in the literature (e.g., Pedersen 2015) that degree morphemes merge very low in the syntactic structure.

**Proposal.** I assume Kennedy & Levin’s (2008) differential measure function  $m_\Delta$ , derived from a measure function  $m$  (a scalar base).  $m_\Delta$  takes an object  $x$  and an event  $e$  and returns a degree  $d$  representing the amount  $x$  changes in the scale measured by  $m$  by participating in  $e$ . I propose that  $m_\Delta$  results from combining  $m$  as an argument of *-cha* (I also use  $m_\Delta$  as a variable below) (cf. Pedersen 2015).  $m_\Delta$  includes a maximum value (if  $m$  lexically includes it) and an obligatory minimal value ( $x$ ’s degree at the beginning of  $e$ ).  $\llbracket -cha \rrbracket(\llbracket m \rrbracket)$  is an argument of a verbal degree morpheme including a standard function s.t.  $m_\Delta$  is true of  $x, e$  iff the degree  $d$  of  $m_\Delta$  (the amount to which  $x$  changes in  $e$ ) exceeds the value (a maximal/minimal one) of the standard of  $m_\Delta$ —whose value is assigned by variable assignment  $g$  to an index  $i$  of type  $d$ .

In the spirit of Heim’s (1991) Maximize Presupposition, I propose that Aymara has two degree morphemes in competition (9): verbal POSV (Kennedy & Levin 2008) and *-su*. While  $g(i)$  could equal a maximal *max* or minimal *min* value of  $m_\Delta$  in POSV (10), it is restricted to *max* in *-su* (11). The alternative with a restricted domain is preferred, so *-su* blocks POSV when a lexical/contextual  $\max(m_\Delta)$  is available/salient (9)—in a context where *the house* is finished (5), or *the hair* ends up fully straight or dirty (6), *-su* is preferred to denote a lexical (*build, straighten*) or contextual (*dirty*)  $\max(m_\Delta)$ ; in contexts where *the house* is not finished (5), or *the hair* ends up straighter or dirtier (6), POSV is used.

(9) LEXICAL ALTERNATIVES = {POSV<sub>*i*</sub>, *-su*<sub>*i*</sub>}, where *-su*<sub>*i*</sub> blocks POSV<sub>*i*</sub> if  $\max(m_\Delta)$  is available

(10)  $\llbracket \text{POSV}_i \rrbracket^g = \lambda m_\Delta \lambda x \lambda e [m_\Delta(x)(e) \geq g(i)]$  ( $g(i) = \max/\min(m_\Delta)$ )

(11)  $\llbracket -su_i \rrbracket^g = \lambda m_\Delta : g(i) = \max_i(m_\Delta) . \lambda x \lambda e [m_\Delta(x)(e) \geq g(i)]$  ( $g(i) = \max(m_\Delta)$ )

I follow Kennedy & Levin (2008) in that Interpretive Economy guides the value  $g$  assigns to  $i$ . When  $\max(m_\Delta)$  is lexical,  $g(i)$  equals the lexical maximal value  $\max^l(m_\Delta)$  (12a). When  $\max(m_\Delta)$  is contextual,  $g(i)$  equals a contextual maximal value  $\max^c(m_\Delta)$  (12b). (12) is available for *-su* and POSV, but dispreferred with POSV, as *-su* has a restricted domain. For POSV, where no domain restriction holds (10,11), (13) is a third option, i.e.,  $g(i) = \text{minimal value } \min(m_\Delta)$ , as all  $m_\Delta$  include it—(13) is preferred over (12) with POSV, which follows from (9). The denotations of (5,6) appear in (14) with *-su* and in (15) with POSV.

(12) a. If  $m_\Delta$  has a maximal value  $\max$ ,  $g(i) = \max^l(m_\Delta)$ .

b. If  $m_\Delta$  does not have a maximal value,  $g(i) = \max^c(m_\Delta)$ .

(13) If  $m_\Delta$  does not have a maximal value,  $g(i) = \min(m_\Delta)$ .

(14) a.  $\llbracket (5) \rrbracket^g = \lambda e [house_\Delta(house)(e) = \max^l(house_\Delta)]$  (12a)

b.  $\llbracket (6) \rrbracket^g = \lambda e [straight_\Delta / dirty_\Delta(hair)(e) = \max^l(straight_\Delta) / \max^c(dirty_\Delta)]$  (12a,b)

(15) a.  $\llbracket (5) \rrbracket^g = \lambda e [house_\Delta(house)(e) > \min(house_\Delta)]$  (13)

b.  $\llbracket (6) \rrbracket^g = \lambda e [straight_\Delta / dirty_\Delta(hair)(e) > \min(straight_\Delta / dirty_\Delta)]$  (13)

**Predictions.** I predict that *-su* should be possible with lexical verbs of change that permit  $\max(m_\Delta)$ , which is the case (e.g., *t’unja-* ‘destroy’), but disallowed if  $\max(m_\Delta)$  is not available, which is also borne out: *-su* does not combine with predicates with *-pta/-ra*, the other two suffixes in verbs of change. *-pta* does not take scalar bases, and *-ra/-cha* differ in that *-ra* does not denote a maximal value—if *-su* were analyzed as an aspectual marker (e.g., introducing an event bound), it should be possible with these verbs, contrary to fact. As *-su* overrides POSV with maximal values, I further predict that a telic reading is preferred with *-su* (8) and an atelic one is preferred with POSV (7). Another positive outcome is that adverbials that do not target a maximal value (e.g., *juk’aki* ‘a little bit’) are infelicitous with *-su* but are fine without it (4).

**Conclusion.** I provided evidence for two competing verbal degree morphemes in Aymara, which yield different results in (derived) verbal predicates of change.

**Ref.** Beavers, J. 2011. On affectedness. *NLLT*. | Gonzalo, R. 2011. *La derivación verbal en el aimara de Pomata*. PUCP. | Heim, I. 1991. Artikel und Definitheit. In *Semantics Handbook*. | Kennedy, C. 2007. Vagueness and Grammar. *L&P* | Kennedy, C. 2012. The composition of incremental change. In *Telicity, change, state*. | Kennedy, C. & B. Levin. 2008. Measure of change. In *Adjectives and adverbs*. | Pedersen, W. 2015. A Scalar Analysis of *Again*-Ambiguities. *JoS*.