

Bringing creation predicates and degree achievements together: Evidence from Aymara

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Introduction. This talk addresses creation predicates CrPs and degree achievements DAs with *-cha* in Southern Aymara, an understudied Andean language. I make the novel observation that both CrPs and DAs can pattern together in a language, thus shedding light on how they are built cross-linguistically. I propose a coercion rule that turns non-gradable bases into gradable and propose that they can all be brought together with a semantics of DAs. I suggest that such rule is needed cross-linguistically.

Derived verbs with *-cha*. (1-3) illustrate that verbs with *-cha* derive DAs taking gradable bases. (1) includes gradable *qala* ‘hard’. (1) is felicitous in a context in which, e.g., the house’s structures are made harder (which is to be understood as strengthened). (2) include gradable base *k’acha* ‘beautiful’. The gradable bases *-cha* takes are not limited to open scales; partially open (*llusk’a* ‘straight’) and closed (*phuqa* ‘full’) scales are also possible (3) (Kennedy & McNally 2005).

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| <p>(1) Juwanu uka uta qala-cha-i.
John that house stone/hard-cha-3S
‘John strengthened that house.’</p> <p>(3) a. llusk’a-cha-ña ‘straighten’</p> | <p>(2) Juwanu uka uta k’acha-cha-i.
John that house beautiful-cha-3S
‘John beautified that house.’</p> <p>b. phuqa-cha-ña ‘fill’</p> |
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-cha also derives DAs with non-gradable bases (4). The base in this case is *t’ika* ‘ornament’ and the meaning of (4) is the same as in (2). (5) illustrates a CrP derived with *-cha* with base *uta* ‘house’ and verb meaning ‘build house-like things’. The object in (5) can be anything that is house-like, e.g., *yatichawi* ‘school’, etc. Similar verbs are *thaki-cha-* ‘build road-like things’ (base: *thaki* ‘road’) and *pata-cha-* ‘build platform-like things’ (base: *pata* ‘platform’).

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| <p>(4) Juwanu uka uta t’ika-cha-i.
John that house ornament-cha-3S
‘John beautified that house.’</p> | <p>(5) Jaqi uka uta uta-cha-i.
person that house house-cha-3S
‘John built that house.’</p> |
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I propose that all verbs with *-cha* (CrPs included) are to be understood as DAs. Three observations support this. **(i)** Sentences (1-2,4-5) allow modification by intensifier adverbs, e.g., *sinti* ‘a lot’, *juk’aki* ‘a little’ (Kennedy 2012)—in contrast to English sentences with CrPs, where this is not possible.

- (6) Juwanu *sinti* / *juk’aki* (uka) uta a.qala-/b. k’acha-/ c. t’ika-/ d. uta-**cha**-i.
John a.lot / a.little that house hard-/ beautiful-/ ornament-/ house-**cha**-3S
a. ‘John strengthened that house a lot/a little.’ | b. & c. ‘John beautified that house a lot/a little.’
d. ‘There was a lot/a little of John’s building that house.’

(ii) The sentences in (2,4) with gradable *k’acha* ‘beautiful’ and non-gradable *t’ika* ‘ornament’ are truth-conditionally equivalent (in the sense of ‘beautify’). (2,4) are felicitous if ornaments are added to the house, but crucially they are both felicitous if any improvement that beautifies the house is made, e.g., painting it, remodeling it, (this is not tied to actually putting ornaments in it, which is the literal meaning of *t’ika* ‘ornament’). **(iii)** Some bases in Aymara are ambiguous between a gradable and a non-gradable version, e.g., *qala* (1); its non-gradable version means ‘stone’ and its gradable one means ‘hard’. Crucially, in verbs with *-cha*, only the gradable version of the base is available, i.e., *qala* in this context can only mean ‘hard’, so *qala-cha-* can only mean ‘harden’. In fact, (1) is infelicitous in a context in which the ‘stone’ meaning is targeted, e.g., if the theme is turned into a stone. **(i-iii)** thus suggest that verbs with *-cha* are to be understood as DAs.

Analysis. I assume Kennedy & Levin’s (2008) analysis of DAs involving differential measure function m_{Δ} , derived from measure function m denoted by a gradable base (m is of type $\langle e, id \rangle$, where i is the type of times; I also use m for base predicates below). m_{Δ} takes object x and event e and returns degree d representing the amount x changes in the scale measured by m by participating in e . I propose that m_{Δ} results from combining a gradable base as argument of *-cha* (7,8) (cf. Pedersen 2015). (I set aside verbal degree morphology and do not address telicity here).

$$(7) \llbracket -cha \rrbracket = \lambda m_{(e,id)} \lambda x \lambda e [m_{\Delta}(x,e)]$$

$$(8) \llbracket -cha \rrbracket(\llbracket m \rrbracket) = \lambda x \lambda e [m_{\Delta}(x,e)]$$

The intuition for the proposal is to treat gradable and not gradable uniformly for them to be able to combine with *-cha*. I capture this intuition here by assuming an analysis in which gradable and non-gradable bases are type-wise distinct. Specifically, gradable bases (1-3) are of the relevant type, $\langle e, id \rangle$, so they are directly combined with *-cha*. Non-gradable bases (4,5) are not; they are of type *et*. I propose a coercion rule (9) (Pustejovsky 1995) to be understood as a function *f* that takes non-gradable bases and turns them into gradable (solving the type mismatch that results from having m_{et} as argument of *-cha*). Note that applying (9) entails that the output has a scale associated with it (as it is now gradable).

$$(9) f: m_{et} \rightarrow m_{(e,id)}$$

The crucial step in (9) is how to determine if the scale of the derived base is an extent (for CrPs) or a property (for DAs) scale (Beavers 2011). (Loosely) following Asher (2011), I assume lexical items LI have different aspects, stated by means of the Object Elaboration Relation *o-elab*, such that *o-elab*(x_1, \dots, x_n, y) holds iff x_1, \dots, x_n are aspects of object *y*. Building on an extensive literature, I assume two aspects are *physical object* (Pustejovsky 1995, Piñón 2008, Asher 2011) and *property* (Kennedy & McNally 2005, Beavers 2011)—under *property* I collapse *function* for simplicity here. I propose that these are hierarchically structured, in particular, one of them constitutes the prototypical aspect (Kamp & Partee 1995) of a given object (I represent this by underlining). For instance, *t'ika* ‘ornament’ is a *physical object* but is also a decorating one in the sense of making *beautiful* what it decorates (a *property* aspect); *uta* ‘house’ is also a *physical object* (something like *physical 4-walled roofed object*).

Specifically, I propose that (9) selects the prototypical aspect of the base to derive the nature of the scale. My proposal is that when the base’s prototypical aspect is *physical object*, the derived base has an extent scale associated with it thus yielding a CrP when combined with *-cha* (12)—this accounts for why physical objects like *uta* ‘house’, *thaki* ‘road’ and *pata* ‘platform’ derive CrPs. I revise (9) in (10). If the prototypical aspect of the base is not *physical object*, but *property*, a property scale is derived (11). This accounts for why *t'ika* ‘ornament’ and *k'acha* ‘beautiful’ are truth-conditionally equivalent (11d). The prototypical aspect of *qala* ‘stone/hard’ in Aymara would thus be *hard* (a *property*) to yield the *-cha* verb (gradable *m* outputs are marked with ‘; *p*=physical object; *b*=beautiful; the selected aspect is superscripted).

$$(10) f: m_{et} \rightarrow m_{(e,id)}, \text{ where } m_{(e,id)} \text{ derives an extent/property scale from } m_{et} \text{ 's prototypical aspect.}$$

$$(11) \text{ a. } o\text{-elab}(p, \underline{b}, \dots, \text{ornament}) \quad \text{b. } f(\llbracket t'ika \rrbracket) = \llbracket t'ika \rrbracket \quad \text{c. } \llbracket t'ika \rrbracket = \lambda x \lambda t [ornament^b(x,t)]$$

$$\text{d. } \llbracket -cha \rrbracket(\llbracket t'ika / k'acha \rrbracket) = \lambda x \lambda e [ornament^p_{\Delta} / beautiful_{\Delta}(x,e)]$$

$$(12) \text{ a. } o\text{-elab}(\underline{p}, \dots, \text{house}) \quad \text{b. } f(\llbracket uta \rrbracket) = \llbracket uta \rrbracket \quad \text{c. } \llbracket uta \rrbracket = \lambda x \lambda t [house^p(x,t)]$$

$$\text{d. } \llbracket -cha \rrbracket(\llbracket uta \rrbracket) = \lambda x \lambda e [house^p_{\Delta}(x,e)]$$

Cross-linguistic validity. Initial cross-linguistic considerations, specifically, in Romance, suggest that a rule like (10) is needed. In Spanish, for instance, verbs with *a-* derive DAs with gradable bases, e.g., *alargar* ‘lengthen’ (base: *largo* ‘long’). Crucially, DA readings with non-gradable bases are also derived, e.g., *acartonar* ‘grow stiff’ (base: *cartón* ‘cardboard’) (Gibert Sotelo & Pujol Payet 2015; they include more affixes with a similar behavior). Something like (10) is thus needed—here the rule restricts the output to property scales (i.e., it selects the *property* aspect).

Conclusion. I made the novel observation that degree achievements and creation predicates pattern together in Aymara *-cha* verbs and are to be analyzed as degree achievements, thus extending our understanding of how these are related cross-linguistically. To account for Aymara, I proposed a coercion rule to make non-gradable bases gradable, which would be needed cross-linguistically.

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