Accounting for Ersu gradable adjective forms under DM

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Ersu is an endangered language spoken in Southwest China, controversially classified as Qiangic. This study is based on novel linguistic data collected in a set of fieldwork by the author.

Data and observation

	Class A			Class B		Class C
	'thick (in diameter)'	'long'	'big'	'short'	'light,shallow'	'small'
simple (1)	*ya-bi*	*ya-ʂə*	*ya-*kʰua	dzǫdzǫ	ŋiŋi	*mala*
comp (2)	*ya-bi*	*ya-ʂə*	*ya-*kʰua	dzǫdzǫ	ŋiŋi	*mala*
'even'-comp (7) (8)	*(?)ya-bi*	*(?)ya-ʂə*	*(?)ya-*kʰua	*ya-*dzǫdzǫ	*ya-*ŋiŋi	*ya-mala*
equa (3)	*pa-bi*	*pa-ʂə*	*pa-*kʰua	*pa-*dzǫdzǫ	*pa-*ŋiŋi	*pa-mala*
degq (4)	*pa-bi*	*pa-ʂə*	*pa-*kʰua	*	*	*
exclam (5) (6)	*pa-ya-bi*	*pa-ya-ʂə*	*pa-ya-*kʰua	*pa-*dzǫdzǫ	*pa-*ŋiŋi	*pa-mala*
Inchoative	*ŋə-bi*	də-ʂə	də-kʰua	kʰə-dzǫ	nə-ŋi	*na-mala*

(1) siya tə-wo ***(ya-)bi**.
peach this ya-big
'This peach is big.'

(2) siya tə-wo sepɛ tɕʰo ***(ya-)bi**.
peach this plum than ya-big
'This peach is bigger than plums.'

(3) siya sepɛ da **pa** **(*ya-)bi**.
peach plum as equa ya-big
'The peach is as big as the plum.'

(4) sepɛ tsʰo **pa** **bi**?
plum wh equa big
'How big is the plum?'

(5) sepɛ tsʰo **pa** **ya-bi**
plum wh equa ya-big.
'How big the plum is!'

(6) ni sepɛ tsʰo **pa** **mala**
your plum wh equa small.
'How small your plum is!'

(7) siya **mala**, sepɛ **ya-mala**.
peach small plum ya-small
'Peaches are small, and plums are smaller.'

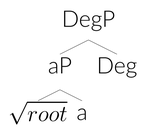
(8) a. sepɛ siya tɕʰo **(ya-)mala**.
plum peach than ya-small
'Plums are (even) smaller than peaches.'
b. Peaches are small, and *sepɛ siya* tɕʰo ***ya-mala***.(preferred)
c. Peaches are small, and *sepɛ siya* tɕʰo ***mala***. (dispreferred)

Research questions

1. Why reduplication (in Class B) is variable (cf. inchoatives)?
2. How to account for the distribution of *ya-*?
3. How to account for the semantics w.r.t. the varying forms?

Proposal

Adjectives are form from a category-neutral root merging with a functional morpheme a, which is c-commanded by a Deg (e.g. Pos, Comp, Equa, etc.).



Deg carries the features [+/−comp] and [+/−eval], and a itself carries a feature, which I refer to as [+/ − f], which is determined by (the semantics of) the root. Roughly, positive relative adjectives are [+f], and the rest are [−f].

(9) Readjustment rule: reduplicate $\sqrt{X}$ / $a+\_\_$, $X=\sqrt{ni}, \ldots$
(Reduplication does not happen if inchoatives involve merging with a v head. (Answer to RQ1)

Vocabulary Items

(10) a. a ⇔ /ya-/ / ___ $\{+\alpha, +\beta\}$
b. a ⇔ ∅ / elsewhere

In other words, two Vocabulary Items can be inserted at the terminal node a, namely /ya-/ and ∅. The insertion is conditioned by the features [+f], [+comp] and [+eval]. (The last two conditioning features come from Deg, so a less strict locality restriction needs to be specified.) (Answer to RQ2)

(11) Positives and Comps
a. Pos ⇔ ∅
b. Comp ⇔ ∅
c. Than ⇔ /tɕʰo/

(12) Equatives and DegQs
a. Equa ⇔/pa-/
b. As ⇔/da/
c. How ⇔/tsʰo/

Results

	positive [+eval]	non-eval comp covert std [+comp]	eval comp covert std [+comp,+eval]	non-eval comp overt std [+comp]	eval comp overt std [+comp,+eval]
[+f]	ya-bi	ya-bi	ya-bi	tɕʰo ya-bi	tɕʰo ya-bi
[−f]	ŋiŋi	ŋiŋi	ya-ŋiŋi	tɕʰo ŋiŋi	tɕʰo ya-ŋiŋi

Table 1. Positives and Comps

	equa [-eval]	equa [+eval]	degq [-eval]	degq [+eval]	exclam [+eval]
[+f]	da pa-bi	***da pa-ya-bi**	tsʰo pa-bi	tsʰo pa-ya-bi	tsʰo pa-ya-bi
[−f]	da pa-ŋiŋi	da pa-ŋiŋi	tsʰo pa-ŋiŋi	tsʰo pa-ŋiŋi	tsʰo pa-ŋiŋi

Table 2. Equatives, DegQs and Exclams

The form "pa-ya-bi" is ungrammatical with no sensible readings. An impoverishment rule is used to rule out this form.

(13) [+/- eval] ⇒ ∅/ ___ AsP

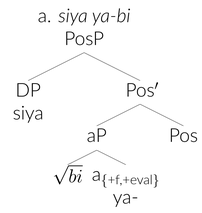
Note: Assume there is an EvalP (maybe above DegPs) that gives rise to an evaluative interpretation as well as giving the [+ eval] feature to the terminal node a. With the impoverishment rule, the feature [+/- eval] is deleted in the presence of AsP (at the PF). So even if an EvalP is present in the syntax, the terminal node a does not get a [+ eval] feature, hence a is never spelled out as *ya-* in equatives.

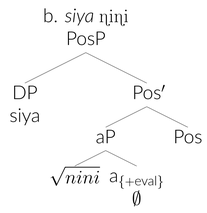
Semantic translations (Svenonius & Kennedy 2006; Alrenga et al. 2012)

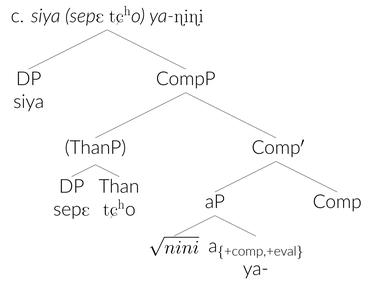
(14) a. $\sqrt{bi} \Leftrightarrow \lambda d.\ \lambda x.\ \text{height}(x) \geq d$
b. pos ⇔ $\lambda G_{\langle d,et\rangle}.\ \lambda x.\ \exists d[\text{standard}(d)(G)(C) \wedge G(d)(x)]$
c. comp ⇔ $\lambda G_{\langle d,et\rangle}.\ \lambda d.\ \lambda x.\ \sup(G(x)) > d$
d. than ⇔ $\lambda y.\ \lambda G_{\langle d,et\rangle}.\ \lambda x.\ \sup(\lambda d.\ G(d)(x)) > \sup(\lambda d.\ G(d)(y))$
e. equa ⇔ $\lambda G.\ \lambda d.\ \lambda x.\ \sup(G(x)) \geq d$
f. as ⇔ $\lambda y.\ \lambda G.\ \lambda x.\ \sup(G(x)) \geq \sup(G(y))$

Sample derivations

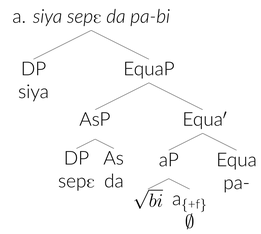
(15) Positives, non-eval Comps, and eval Comps(ya-bi vs. ŋiŋi vs. ya-ŋiŋi)

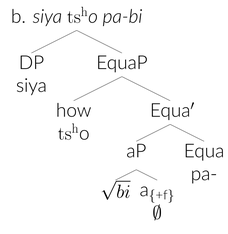
a. *siya ya-bi*


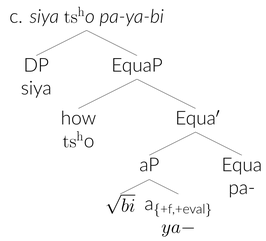
b. *siya* ŋiŋi


c. *siya (sepɛ* tɕʰo*) ya-*ŋiŋi


(16) Equatives, DegQs and Exclams (da pa-bi vs. tsʰo pa-bi vs. tsʰo pa-ya-bi)
(I assume that Ersu DegQs are formed based on equatives, e.g. 'siya is as tall as what degree'.)

a. *siya sepɛ da pa-bi*


b. *siya* tsʰo *pa-bi*


c. *siya* tsʰo *pa-ya-bi*


Pragmatic competition (Key to RQ3)

The proposed analysis gives a set of form-meaning pairs that can be further sent to Pragmatic competition. Two opposing markedness rules are in play, one preferring the less marked of two synonymous forms (cf. Horn's R-principle), and one preferring less marked interpretations (Horn's Q-principle).

- Class A roots: Always ambiguous between an evaluative and a non-evaluative reading
- Class B & C: *ya-* gives rise to an evaluative reading
- Degree questions: Negative antonyms are competed out by positive antonyms for non-evaluative interpretations
- Exclamatives: *ya-* gives rise to an exclamative interpretation for Class A; no *ya-* is needed for Class B & C

Discussions and remaining questions

- The features (e.g. comp, eval) essential for this analysis are closely related to the semantics, raising a broader question of formal and semantic alignment under the framework of DM.
- Color and flavor modifications in Ersu make use of the inchoative forms. When putting into comparatives, an additional *ya-* is often required (cf. *Siya da-*ŋi 'This peach is red' vs. *Siya sepɛ* tɕʰo ***ya****-da-*ŋi 'This peach is more red than plums'. Revision of this analysis is necessary to account for this class of "adjectives".