A semantic sketch of the functions of Tuvan *-daa*

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Introduction

- The Tuvan particle *-daa* [daː] appears in very narrow contexts, though it has a very wide array of meanings in these contexts.
- There is very little previous work on *-daa* other than descriptions (Iskhakov & Pal'mbakh 1961, Anderson & Harrison 1999, Harrison 2000, Baĭyr-ool 2012)
- Characterize its meaning, sketch a basic semantics

Main roles of *-daa*

- Tuvan *-daa* performs three main roles, depending what type of host it attaches to: (i) a marker of focused element (additive *also* focus, mirative *even* focus), (ii) a marker of coordinated elements ('both X and Y'; 'neither X nor Y' if verb is negated), and (iii) with a host WH-word, it forms *any*-like NPIs, *any*-like free-choice items, and universal *every*.
- Far wider range of uses than its cognate in Turkish *DA* (Kornfilt 1997) and Sakha *da(ɣanï)* (Kirby 2020, 2021).
- Tuvan examples on slides 13–16

		Tur *DA*	Sah *da(ɣanï)*	Tyv *-daa*
Focus	X also /(not) X either	✓	—	✓
	even X	~	✓	✓
Coord.	X-daa Y-daa (=and)	✓	✓	✓
	(not) X-daa Y-daa (=nor)	✓	✓	✓
Quant.	NPI *any*	—	✓	✓
	free-choice *any*	—	—	✓
	every universal	—	—	✓

Comparison to Japanese *-mo*

- The roles of Tuvan *-daa* are strikingly similar to Japanese *-mo/-demo* (Kuroda 1965, Haspelmath 1997, Kratzer & Shimoyama 2002, Nakanishi 2006, 2012, Shimoyama 2006, 2011, Kobuchi-Philip 2009, Szabolcsi 2010, 2015, 2017, 2018)

		Tyv *-daa*	Jpn *-mo/-demo*
Focus	additive *also/either*	X-*daa*	X-*mo*
	even X	X-*daa*	X-*mo*/X-*demo*
Coord.	*both..and*	X-*daa* Y-*daa*	X-*mo* Y-*mo*
	neither...nor	X-*daa* Y-*daa*	X-*mo* Y-*mo*
Quant.	NPI	WH-*daa*	WH-*mo*
	any free-choice	WH-*daa (bolza)*	WH-*demo*
	every universal	WH-*daa*	WH-*mo*

Comparative work on particles

- These multifunctional particles reveal intricate patterns of logical reasoning that are masked in languages like English that use discrete lexical items for each role.
- Crosslinguistic commonalities in distribution of particles ⇒ consistent meaning?
- Growing work on the crosslinguistic patterns (Szabolcsi 2015, 2017, 2018, Mitrović 2014, 2021, Mitrović & Sauerland 2014, 2016, Slade 2011, Jayaseelan 2011, Xiang 2020)

Sketch of the semantics of *-daa*

- *-daa* is activates a set of alternatives of an underlyingly existential host. The host has alternatives, and the particle makes them "obligatory" (in the sense of Chierchia 2013).
- Following the spirit Xiang (2020) on Mandarin *dōu*, *-daa* can be analyzed as a morphosyntactic correlated of a process of recursive exhaustification.

(1) $\llbracket$–daa$\rrbracket$ = $\lambda p : \exists q \in \text{SUB}(p, \text{ALT}).\ p = 1 \wedge \forall q \in \text{SUB}(p, \text{ALT})[O_{\text{ALT}}(q) = 0]$

                                                    (Xiang 2020: 183)

     (*-daa* asserts p and presupposes that p has subdomain alternatives q. For each of these subdomain alternatives q, it is false that only q is true).

Sample: How to make *or* into *and*

(2)　　a.　　Prejacent: (p ∨ q)
　　　　b.　　Alternatives: {p, q, p ∧ q}　　　　Sᴜʙ-ᴀʟᴛs={p, q}　　　　Scalar-ᴀʟᴛs={p ∧ q}
　　　　c.　　$O_{Exh-DA}(p \lor q) = \underbrace{(p \lor q)}_{prejacent} \land \underbrace{\neg O(p) \land \neg O(q)}_{pre-exhaustified}$
　　　　d.　　$= (p \lor q) \land \underbrace{\neg(p \land \neg q)}_{(p \to q)} \land \underbrace{\neg(q \land \neg p)}_{(q \to p)}$　　　$= (p \lor q)] \land (p \leftrightarrow q)$　　　$= (p \land q)$

- 'O_{Exh-DA}' is a "pre-exhaustification" version of O(nly) (Chierchia 2013)
- Existential without a scalar as an alternative + Recursive exhaustification
= *and* (Bowler 2014, Bar-Lev & Margulis 2014, Singh et al. 2016, Bassi & Bar-Lev 2016, Wong 2017, Szabolcsi 2017)

How to get (some of) the other readings

- Recursive EXH without a scalar gets you free-choice reading and negative-polarity (Chierchia 2013, Bar-Lev & Margulis 2014)
- *additive* 'also' reading ⇒ bifurcated alternatives (see Szabolcsi 2017; adopted for Sakha *da(γanï)* in Kirby 2021)
　　Extensions to *both...and* reading=each coordinand has an additive presupposition, mutually satisfied by the other coordinand.
- *even* reading ⇒ if sub-alternatives of element are probability-ordered, recursive exhaustification produces an LF where the prejacent is only true if it is the *least* likely (Xiang 2020: 200-1)

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-*daa* as a focus marker

- **Focus particle:** -*daa* attaches directly to the focused element
- Basic additive reading (3a), mirative focus (3b) (salient when -*daa* is stressed).

(3)　　Öörenikči-**daa** ol nom-nu nomču-du
　　　　student-DAA　　that book-ACC read-PST

　　　　a.　　'[The student]_F read that book, too.'
　　　　　　　(=the student read it, and somebody else read it)

　　　　b.　　'Even [the (young) student]_F read that book'
　　　　　　　(Unexpected that such a young student would read that book;
　　　　　　　öörenikči 'primary school student')

(4)　　Men-**daa** nom ekkel-be-di-m
　　　　I-*daa*　　book read-NEG-PST-1SG

　　　　a.　　'[I]_F didn't read the book, either'
　　　　b.　　'Even [I]_F didn't read the book'

-daa in coordination

- Marking each coordinand in a coordination. positive 'both...and', negative 'not X and not Y'

(5)　Men [kofe-**daa** šay-**daa**] iš-(pe)-di-m
　　I　coffee-*daa* tea-*daa*　drink-(NEG)-PST-1SG
　　a.　POS: 'I drank both coffee and tea'
　　b.　NEG:
　　　　(i)　　'I didn't drink coffee or tea' / 'I drank neither coffee nor tea'
　　　　(ii)　#'I didn't drink both coffee and tea' (= 'I only drank only coffee', '.. only tea')

- Cumulative readings are disallowed:

(6)　Buyan-**daa** Mergen-**daa** iji　metr　uzun
　　Buyan-*daa* Mergen-*daa* two　meter　tall
　　a.　'Buyan and Mergen are both two meters tall'　　　　Distributive
　　b.　#'Buyan and Mergen's combined height is two meters'　　Cumulative

-daa in NPIs, universal quantifiers

- Positive, episodic (=non-modal), WH-*daa* gets universal interpretation (7)

(7)　Men düün　{**čünü-daa**　/ **kïmnï-daa**}　kör-dü-m
　　I　yesterday {what.ACC-*daa* / who.ACC-*daa*} see-PST-1SG
　　'I saw every{thing/one} yesterday'　　　　　∀x[THING(x) → SEE(I, x)]

- Negative WH-*daa* (8) functions as a Negative Polarity Item (NPI):

(8)　Men düün {**čünü-daa**　/ **kïmnï-daa**}　kör-be-di-m
　　I　y.day {what.ACC-*daa* / who.ACC-*daa*} see-**NEG**-PST-1SG
　　a.　'I didn't see any{thing/one} yesterday'　　(i) [¬ > ∃]　≡　(ii) [∀ > ¬]
　　b.　*'I didn't see every{thing/one} yesterday'　(i) ✗ [¬ > ∀]

-daa in *any*-free choice items

- WH-*daa* in the scope of possibility modal also functions as universal free-choice item (∀-FCI) as in reading (9a).

(9)　Ežik-ti　**kïm-daa** sokta-p　bol-ur
　　door-ACC who-*daa* knock-CVB can-NPST
　　a.　'Anyone can/could/may knock at the door'　　　　∀-FCI
　　b.　'Everyone can knock at the door'　　　　　　　∀-GQ

- The free-choice reading can be reinforced with *bolza* (=conditional mood of *bol-* 'to be'):

(10)　Ežik-ti　**kïm-daa bolza** sokta-p　bol-ur
　　door-ACC who-*daa* IT.BE knock-CVB can-NPST
　　a.　'Anyone can/could/may knock at the door'
　　b.　*'Everyone can knock at the door'