

Focusing on coordination: the case of Japanese *-toka* and *-tari*

Synopsis: In this paper, we investigate the nature of the Japanese non-exhaustive particles *-toka* and *-tari*. At first glance, the distribution of these particles is very similar to that of the focus particles *-mo* 'also' and *-sae* 'even': they are both used as coordinators and stand-alone particles, are incompatible with topic, and induce intervention effects. However, while *-sae* and *-mo* carry presuppositions that project out of non-veridical contexts, *-toka* and *-tari* do not, and instead receive disjunctive interpretations in this context. We analyze *-toka* and *-tari* as items that introduce alternatives, which, once they expand into propositions, are either universally or existentially quantified depending on the veridicality or non-veridicality of their environment, respectively, and derive their coordinative use from their basic use as single particles.

Data: In Japanese, the particles *-toka* and *-tari* are used in veridical contexts to provide non-exhaustive conjunctions of nominal and verbal structures, respectively, as shown in (1).

- (1) a. Taro-toka Hanako-toka-ga kita b. Taro-wa heya-o soojisi-tari eigo-o benkyoosi-tari sita
 T-toka H-toka-NOM came T-TOP room-ACC clean-tari English-ACC study-tari did
 'Taro, Hanako, and others came' Taro cleaned his room, studied English, and did other things'

At first glance, *-toka* and *-tari* seem to pattern very closely with the focus particles *-mo* and *-sae*. First, *-toka* and *-tari* can stand on their own, acting much like focus particles themselves.

- (2) a. John-wa Nihongo-toka-o benkyoosi-ta. b. Taro-wa Eigo-o benkyoosi-tari suru.
 J-TOP Japanese-toka-ACC study-Past T-TOP English-ACC study-tari do
 'John studied Japanese among other things' 'Taro studies English among other things'

Additionally, *-mo* and *-sae* can themselves act as coordinators, as demonstrated in (3).

- (3) a. Taro-mo Hanako-mo paatii-ni ki-ta b. Kare-wa nusumi-mo/sae, korosi-mo/sae su-ru
 T.-mo H.-mo party-to come-Past he-Top rob-mo/sae murder-mo/sae do-Pres
 'Taro and Hanako also came to the party.' 'He also/even robs and murders.'

Moreover, all of these items are unacceptable with topical *-wa* in (4). Likewise the nominal particles induce focus/(LF) intervention effects (Hoji 1986) in (5). Note that they become grammatical when the *wh* is overtly scrambled over the intervener.

- (4) a. *Taro-mo/sae-wa kita. (5) a. *?Hanako-mo/sae dare-o hometa no?
 T-mo/sae-TOP came H-mo/sae who-ACC praised Q
 'As for also/even Taro, they came.' 'Who did also/even Hanako praise?'
 b. *Taro-toka-wa kita. (^{ok}contrastive/*topic) b. *Dare_i-o* Hanako-mo/sae *t_i* home-ta no?
 'As for also Taro, came.' c. *?Taro-toka-ga *nani-o* tabeta no?
 c. *Soojisi-tari-wa Taro-ga sita. (^{ok}contrastive/*topic) T-toka-NOM *who*-ACC ate Q
 clean-tari-TOP T-NOM did 'What did also Taro eat?'
 'As for also cleaning, Taro did.' d. *Nani_i-o* Taro-toka-ga *t_i* tabe-ta no?

However, *-toka* and *-tari* differ from *-mo* and *-sae* in one crucial respect: although *-mo* and *-sae* are conjunctive regardless of their environment and carry additive presuppositions that project out of non-veridical contexts, such as the conditionals in (6a-b), *-toka* and *-tari* lack such presuppositions, and instead gain a disjunctive-like interpretation in such contexts (6c-d). For instance, *-toka* and *-tari* (6c-d) do not entail that Taro himself comes to the party along with someone else, or that Taro actually eats broccoli, unlike *-mo* 'also' and *-sae* 'even' in (6a-b), which do.

- (6) a. Taro-mo kita-ra, Ryo-wa ocha-o dasu.
 T-mo come-if R-TOP tea-ACC serve
 'If Taro also comes to the party, Ryo serves tea.'
 b. Taro-ga burokkori-o tabe-sae sur-eba, mama-wa yorokobu.
 T-NOM broccoli-ACC eat-sae do-if mom-TOP be.happy
 'If Taro even eats broccoli then his mom will become happy.'
 c. Taro-toka (Hanako-toka)-ga kita-ra, Ryo-wa ocha-o dasu.
 'If Taro (or Hanako or someone else) comes to the party, Ryo serves tea.'
 d. Taro-ga burokkori-o tabe-tari gyuunyuu-o non-dari su-reba, mama-wa yorokobu.
 'If Taro eats broccoli (or drinks milk or does something else) his mom becomes happy.'

To summarize, *-toka* and *-tari* exhibit many parallels with focus particles syntactically, but they differ from them in their semantic properties.

Analysis: Syntactically, we follow the spirit of previous analyses of *-mo*, such as Mitrovic & Sauerland (2014), and claim that *-toka* and *-tari* are actually not the coordinator head, but are focus

particles that attach to each conjunct coordinated by a silent coordinator J, as in (7a-b). Since the appearance of the second *-toka* is optional and does not affect semantics, we assume that it is syntactically always there, but optionally has phonetic content in (7a).

(7) a. $[_{JP} [_{tokaP} NP-toka] [_J J [_{tokaP} NP-(toka)]]]$ b. $[_{JP} [_{tariP} VP-tari] [_J J [_{tariP} VP-tari]]]$

On its own, *-toka* selects for an NP complement. As for *-tari*, given parallels between it and the *-mo/-sae*, we propose that it selects a projection below TP.

Semantically, we propose that sentences with *-toka* and *-tari* simply denote a set of individual and predicate alternatives, respectively, as in (8a-b), with no additive presuppositions like those that come with *-mo* and *-sae*.

(8) a. $\llbracket \text{Taro-toka} \rrbracket = \{\text{Taro, Ryoichiro, Ziro, ...}\}$

b. $\llbracket \text{heya-o soojisi-tari} \rrbracket = \{\lambda x.\lambda w.x \text{ clean the room, } \lambda x.\lambda w.x \text{ study English, } \lambda x.\lambda w.x \text{ eat dinner, ...}\}$

In the case of coordination with *-toka/tari*, we depart from Mitrovic & Sauerland's treatment of J by analyzing it as simply collecting alternatives introduced by each conjunct in exactly the same way that *or* does in the analysis of Alonso-Ovalle (2006, 2008). This allows the alternatives to be composed with other elements of the sentence in the same way regardless of whether coordination is present or not.

(9) Where $\llbracket XP \rrbracket$ and $\llbracket YP \rrbracket \subseteq D_\tau$, $\llbracket \llbracket XP \rrbracket [_J \llbracket YP \rrbracket] \rrbracket \subseteq D_\tau = \llbracket XP \rrbracket \cup \llbracket YP \rrbracket$

The alternatives are composed with other elements of the sentence via Pointwise Functional Application (Hamblin 1973), ultimately yielding a set of propositional alternatives.

(10) $\llbracket \text{Taro-toka ga kita} \rrbracket = \{\lambda w.\text{Taro came, } \lambda w.\text{Ryoichiro came, } \lambda w.\text{Ziro came, ...}\}$

(11) $\llbracket \text{Taro wa heya-o soojisi-tari sita} \rrbracket = \{\lambda w.\text{Taro cleaned the room, } \lambda w.\text{Taro studied English, } \lambda w.\text{Taro ate dinner, ...}\}$

Once the alternatives become propositional, they can be manipulated by one of two propositional quantifiers, defined below (Kratzer & Shimoyama 2002; Alonso-Ovalle 2006, 2008).

(12) a. $\llbracket \exists \rrbracket^w (A) = \{\lambda w'. \exists p \in A \ \& \ p(w')\}$

b. $\llbracket \forall \rrbracket^w (A) = \{\lambda w'. \forall p \in A \rightarrow p(w')\}$

In non-veridical contexts, the set of alternatives is existentially quantified as in (12a), which gives rise to the interpretation that at least one of the propositions in the alternative set is true, but not necessarily the one overtly mentioned, the interpretation required for (6c-d). In veridical contexts, the alternatives are instead universally quantified as in (12b), which makes all of the propositions in the alternative set true, and thus gives rise to the conjunctive interpretation observed in (1a-b) and (2a-b). Moreover, because the J head merely denotes the union of the alternatives generated by each conjunct, the analysis requires no extensions to derive the correct interpretation of the cases involving coordinate structures.

Conclusion: In this paper, we have shown that *-toka* and *-tari* pattern much like the focus particles *-mo* and *-sae* in terms of their syntactic distribution: they can be used as stand-alone particles and as polysyndetic coordinators, are incompatible with topical *-wa*, and induce intervention effects. However, they differ from other focus particles in lacking additive presuppositions and having interpretations sensitive to the (non-)veridicality of their environment. This paper proposes an analysis of these particles as introducing alternatives, which are then manipulated by propositional quantifiers higher in the structure, and unifies their use as single particles and as coordinators.

References:

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