Non-exhaustive coordination in Japanese: a domain-widening account

**Introduction:** The Japanese particles *ya, –toka* and *–tari* are used in veridical contexts to express non-exhaustive conjunctions of individuals and predicates, respectively. However, in non-veridical environments, these particles receive a disjunctive-like interpretation. We analyze non-exhaustive coordinators as domain wideners along the lines of Chierchia’s (2006) treatment of polarity items, which restrict the domain to objects similar in some way to the conjuncts. In veridical contexts, the alternatives to the propositions are enriched by an anti-exhaustive operator, just like *any*, which results in the selection of the widest contextually salient domain. In non-veridical contexts, this implicature is canceled, leading to the selection of some member of the domain, deriving the disjunctive-like interpretation. We argue that this analysis constitutes an improvement on previous analyses, which focus mostly on *ya* and treat it as an inclusive disjunction with a conjunctive implicature (Sudo 2014, Sauerland et al. 2015).

**Data:** The Japanese particles *-ya, -toka* and *–tari* are used in veridical environments to denote non-exhaustive conjunctions of individuals and predicates, respectively. To illustrate, (1a) is true if Taro, Hanako, and at least one other person come, and (1b) is true if Taro cleaned his room, studied English, etc.

(1) a. Taro-toka/ya Hanako-ga kita b. Taro-wa heya-o soojisi-tari eigo-o benkyoosi-tari sita
   T-ya/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, etc.’

However, in non-veridical environments, such as the antecedent of a conditional (2), questions (3), the restrictor of a universal (4), and modals (5), these elements receive a disjunctive interpretation. In (2a), for example, Yosuke will serve tea if both Taro and Hanako come, if either one comes, or if someone else similar comes. Similarly in (2b), Taro’s mom will be happy if he eats broccoli, drinks milk, or does something else along those lines.

(2) Antecedent of a conditional
   a. Taro-ya/toka Hanako-ga kita no? b. Taro-wa heya-o sooji-si-tari sentaku-sitari sita no?
   T ya/toka H-NOM came Q T-Top room-ACC clean-do-tari laundry-do-tari did Q
   ‘Did Taro or Hanako (or someone else) come?’ ‘Did Taro clean the room or do laundry, etc.?'

(3) Questions
   a. Taro-ya/toka Hanako-ga kita no? b. Taro-wa heya-o sooji-si-tari sentaku-sitari sita no?
   T ya/toka H-NOM come-if Y-TOP tea-Acc serve
   ‘If Taro or Hanako (or someone else) comes to the party, Ryo serves tea.’

(4) Restrictor of a universal
   a. niku-ya/toka sakana-o taberu hito-mina kenkoo-da
   T-ya/toka fish-Acc eat person-every well-Cop
   ‘Everyone who eats meat or fish (or something) is well’

b. hasit-tari kintoresi-tari sita  hito     zen’in nagaikisita
   run-tari workout-tari did person all lived.long
   ‘Everyone who ran or worked out etc. lived long’

(5) Modals
   a. (Ganbare-ba), shoosin-ya/toka overseas.assignment-Nom be-modal-Pres
   ‘There is a possibility that you attain promotion or cwork abroad, (if you work hard).’
b. Godzilla-wa machi-o hakaisi-tari, teki-o taosi-tari si-u-ru
   G -Top town-Acc destroy-tari, enemy-Acc defeat-tari do-modal-Pres
   ‘Godzilla may destroy the town or defeats his enemies (or do something else)’

**Analysis:** We propose that Japanese non-exhaustive coordinators be treated as domain wideners, along the same lines as Chierchia (2006) analyzes polarity items like English *any*: in essence, *-ya/toka* and *–tari* assert the existence of an individual/predicate in the domain that is similar to the overtly mentioned conjuncts. By virtue of being self-similar, the overtly mentioned conjuncts are also in the domain. In addition to this, they trigger a set of alternatives, which, depending on the environment, appear with an additional operator, leading to an enriched meaning. We provide the following basic denotations for *-ya/toka* and *–tari*.

\[
\begin{align*}
&\text{(6) a. } -\text{ya/toka } \lambda x. \lambda y. \lambda P. \exists z[P(z) \land z \sim x \land z \sim y] \\
&\text{b. } -\text{tari } \rightarrow \lambda P. \lambda Q. \lambda x. \exists R[R(x) \land R \sim P \land R \sim Q]
\end{align*}
\]

In a veridical context, the alternatives are enriched by an anti-exhaustive operator, O’ (Chierchia 2004), which does not permit any of the alternative propositions to be excluded. This will lead to a quasi-universal reading, in which all of the alternative propositions in the context are true. This brings about the conjunctive-like reading observed in veridical contexts.

In the non-veridical (implicature-cancelling) contexts discussed above, the anti-exhaustive implicature is not appropriate, and will not arise. This will lead to a more or less bare existential interpretation, in which at least one individual/predicate in the domain similar to the overtly mentioned conjunct maps to true. It may be the overtly mentioned conjunct, or some other one. This gives rise to what we have been calling the disjunctive-like interpretation.

**Previous analyses** Previous work on non-exhaustive coordinations mostly focuses on *ya*, and has attempted to analyze them as inclusive disjunctions with a conjunctive implicature in veridical contexts (Sudo 2014; Sauerland et al. 2015). The problem that these analyses face is that the disjunction need not be truly inclusive; that is, these analyses do not take into consideration the fact that, for instance in (2a), it need not be the case that one of Taro or Hanako comes for Yosuke to serve tea. If non-exhaustive coordinators were inclusive disjunctions, we would expect at least one of Taro or Hanako to have to come, but this is not the case. Rather, it seems that, in these environments, at least one individual, who is similar to Taro and Hanako in some way, comes, and may in fact happen to be Taro, Hanako, both, or neither. This is captured by the type of analysis we have sketched here.

**Conclusion:** We have proposed an analysis of the Japanese non-exhaustive coordinators *–ya, -toka* and *–tari* in which they are treated as domain wideners along the lines of *any* with a similarity restriction. This analysis improves on treatments of these coordinators as inclusive disjunctions whose conjunctive reading in veridical contexts comes about via scalar implicature, due to the failure of those accounts to capture the behavior of these items in non-veridical contexts.

**References:**

