Japanese/Korean alternative questions are disjunctions of polar questions
Category: formal syntax; formal semantics

Korean and Japanese alternative questions (AltQs) are known to be syntactically more constrained than thier English counterparts (Han and Romero 2004; Beck and Kim 2006). For instance, a disjunction of object DPs in the unmarked word-order only allows an Yes/No-question (YNQ) reading, and does not license an AltQ reading, as shown below. (For the Japanese version, I use embedded question because the Q-marker *ka* (without Politeness) is stylistically more natural in the embedded environment than in the matrix environment although a parallel fact holds for the matrix case as well.)

(1) a. Chelswu-ka   khephi-na cha-lul masi-ess-ni? (**Korean**)
        Chelswu-Nom coffee-or   tea-Acc drink-Past-Q
        'Is it the case that Chelswu drank coffee or tea?' (only YNQ; from H&R)

    b. watashi-wa [Taro-ga   koohii-ka ocha-o non-da-ka]   shitteiru (**Japanese**)
        I-Top   Taro-Nom coffee-or tea-Acc drink-Past-Q
        'I know whether it is the case that Chelswu drank coffee or tea?' (only YNQ)

On the other hand, what looks like a VP/clausal-disjunction licenses an AltQ reading:

(2) Watashi-wa [Taro-ga koohii-o   non-da   ka   *pro* ocha-o non-da-ka] shitteiru. (**Japanese**)
    I-Top   Taro-Nom coffee-Acc drink-Past Disj?   tea-Acc drink-Past-Q know
    'I know whether Taro drank coffee or Tea' (both YN-Q and AltQ)

Han & Romero (2004) (H&R) point out the Korean version of this fact as side-evidence for their claim that English AltQs involve deletion in the second disjunct of the underlying structure schematized in (3).

(3)   [Q [[$_{TP1}$ ...] Disj [$_{TP2}$ ...]]]

(2) satisfies this schema. On the other hand, in order for the sentences in (1) to be derived from the underlying structure in (2), they have to undergo the deletion indicated in (4), which, H&R assume, is illicit.

(4)   *[[S O-~~Acc V~~] Disj [pro O-Acc V] Q]

Thus, we can conceive of H&R's argument as assuming the following cross-linguistic generalization:

(5) **Uniform structure for AltQs**: Cross-linguistically, AltQs have a uniform underlying structure where Q-operator scopes above the disjunction of two clauses i.e., (3). The cross-linguistic difference in the syntactic distribution of AltQs can be accounted for by the possibility of the deletion operation that is necessary to derive the surface form from (3).

However, upon scrutiny, this analysis turns out to be problematic at least for Japanese and Korean. The first problem concerns the status of the illicitness of the deletion operation in (4). As H&R note, when we use a different disjunctive marker (*animyen* in Korean, *soretomo* in Japanese), Korean, as well as Japanese, (at least marginally) allows deletion of the verb in the first disjunctive clause leaving the Acc-marker on the object, with a pause after the first clause:

(6)   ? watashi-wa [Taro-ga   koohii-o   ~~non-da-ka~~,   soretomo *pro* ocha-o non-da-ka]   shitteiru.(**Jp**)
        I-Top   Taro-Nom coffee-Acc drink-Past-Q Disj   tea-Acc drink-Past-Q know
        'I know which of the following is true: Taro drank coffee or Taro drank tea.' (AltQ)

Thus, deleting the first V in (4) *par se* is not problematic. Therefore, assuming that *ka* in (2) serves as a disjunction marker in the schema in (3) just like *soretomo*, it is predicted that the version of (1b) with the Acc-marker on the object should be OK under the AltQ reading, However, the prediction is not borne out: (7) is ungrammatical. (The surface sequence of Acc *o* + *ka* is possible in other sentences, see e.g., (13).)

(7)   * watashi-wa [Taro-ga   koohii-o   ~~non-da~~   **ka** *pro* ocha-o non-da-ka]   shitteiru.
        I-Top   Taro-Nom coffee-Acc drink-Past Disj   tea-Acc drink-Past-Q
        'I know which of the following is true: Taro drank coffee or Taro drank tea.' (Intended)

Another problem with the analysis is that there are cases where the AltQ reading is not available although the structure should conform to (3) without illicit deletion. Below, we see that it is impossible to get the AltQ reading when the Q-particle, along with Politeness *desu* or modal *beki*, scopes above disjunction. (The Politeness/Modal-sharing interpretation is possible if we replace the disjunction with conjunction.)

(8) a. Taro-wa koohii-o   non-da   ka   *pro* ocha-o non-da-no-**desu**-ka?
        Taro-Top coffee-Acc drink-Past Disj?   tea-Acc drink-Past-Nmnl-Polite-Q
        'Did Taro drink coffee or tea or not?' (Only YNQ reading)

b. watashi-wa [Taro-ga koohii-o nomu ka *pro* ocha-o nomu-**beki**-ka] shira-nai
I-Top   Taro-Nom coffee-Acc drink Disj? tea-Acc drink-Past-should-Q know-Neg
*'I don't know which is true: Taro should drink coffee or he should drink tea.'

This paper proposes that Japanese/Korean AltQs as in (2), do not have the structure in (3) but the one in (9) i.e., disjunction of polar questions, where the disjunction marker is null or *soretomo/animyen*.

(9) [[...Q] Disj [...Q]]

That is, an AltQ reading arises as the result of interpreting (9) as 'Is it the case that A, or is it the case that B?'. One important premise of this analysis is that the first *ka* in (2) is a Q-marker rather than a disjunction marker under the AltQ reading. A support comes from the fact that the clause-final particle in the first disjunct have to match the Q-particle of the second disjunct in AltQ: In (10), the use of *no/ka* in the first disjunct correlates with AltQ/YNQ readings. (Similar fact holds for the Korean Q-particles *ni/na*.)

(10) John-wa koohii-o nonda-**no/ka** *pro* ocha-o non-da-**no**?
John-Top coffee-Acc drink-Q/Disj   tea-Acc drink-Past-Q (only AltQ/only YNQ)

In this view, there is a natural account for why (1) does not have the AltQ reading: the deletion operation needed to derive (1) from structure (9) involves deleting the verb *non-da*, stranding the Q-particle *ka*, violating the PF principle in (12), which I assume to exist in Japanese/Korean.

(11) Watashi-wa [Taro-ga koohii-o̶ n̶o̶n̶-d̶a̶-ka] [*pro* ocha-o non-da-ka] shitteiru (**Japanese**)
I-Top   Taro-Nom coffee-Acc drink-Past-Q tea-Acc drink-Past-Q know

(12) A clause-final particle is licensed at PF only when its sister predicate is present at PF as well.

This also accounts for the contrast between *soretomo* and *ka* in (6) and (7) under the AltQ reading. Constraint (12) is violated in (7), but not in (6). Also, (13) below is okay with AltQ reading since it involves a cleft without deletion of the moved nominal predicate *koohii-o* in the sister of *ka*. On the other hand, (14) does not allow an AltQ reading since it cannot be derived from a (balanced) disjunction with licit deletion.

(13) watashi-wa [[Taro-ga non-da-no]-ga koohii-o-ka] [*pro* ocha-o-ka]] shira-nai.
I-Top   Taro-Nom drink-Past-Nmnl-Nom coffee-Acc-Q tea-Acc-Q know-Neg.
'I don't know which is true: Taro drank coffee or Taro drank tea.' (AltQ)

(14) watashi-wa [[Taro-ga non-da-no]-ga koohii ka ocha-o-ka] shira-nai
I-Top   Taro-Nom drink-Past-Nmnl-Nom coffee Disj tea-Acc-Q know-Neg
'I don't know whether or not it is coffee or tea that Taro drank.' (only YNQ)

Let us next address a question about cross-linguistic variation. We have seen that Japanese (and probably Korean) AltQs are always underlyingly disjunctions of polar questions. In other words, disjunction under the (underlying) scope of a Q-operator can never receive an AltQ reading in these languages whereas it can in other languages such as English and German. In Karttunen's (1977) semantics of questions, this means that languages differ in whether they allow DisjPs to out-scope the Q-operator. In fact, this variation in the scopal property can be found within a language: *who* and *someone* in English are both existentials in Karttunen's semantics, but the former always scopes out a Q-operator while the latter never does. Thus, extending the [WH] feature as a necessary and sufficient condition to scope out the Q-operator, we can capture the cross-linguistic difference as follows, replacing (5) assumed by H&R.

(15) **Variable features of DisjP**: Cross-linguistically, DisjPs {*may/may not*} bear the [WH] feature.

Finally, I would like to address a challenge posed by Beck and Kim (2006), who report that Korean AltQs are subject to intervention effect, arguing for an in situ Hamblin-analysis of Korean AltQs:

(16) a. ?* [Mina]$_F$-**man/to** cha-lul masi-ess-ni animyen [*pro*]$_F$-**m̶a̶n̶/t̶o̶** khephi-lul masi-ess-ni?
Mina-**only/also** tea-Acc drink-Past-Q if.not   coffee-Acc drink-Past-Q
'Did only Mina drink tea or did only she drink coffee?' (intended)

Although this fact is a potential problem for the current analysis, it can be attributed to a constraint on the distribution of *pro*. Specifically, I assume that *pro* cannot bear the focus associated with operators like *only* and *also*. As a support for this, an intervener which is not supposed to be associated with the position of *pro* in the second clause (e.g., *often*) does not induce the intervention effect in Korean/Japanese.

References: Beck, S. & S-s. Kim. 2006. Intervention Effects in Alternative Questions. *J. Comp. German Ling. 9* ◇ Han, C-h & M. Romero. 2004. The Syntax of *Whether/Q. . . or* Questions: Ellipsis Combined with Movement. *NLLT* 22.