

On the derivation and interpretation of doubly-headed relative clauses

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1. Background: Recent work on doubly-headed relative clauses (DHRCs; Cinque 2011) raises the question of how this pattern is derived and interpreted. In this paper, I exploit the relatively well-studied case of Japanese DHRCs to clarify what appear to be universal properties of the construction. Erlewine & Gould (2016; E&G) claim that Japanese DHRCs (1a) are derived by a head extraction/copying mechanism parallel to head-external relative clauses (HERCs) (1b) and head-internal relative clauses (HIRCs) (1c). Standard Japanese (SJ) HIRCs are marked by the obligatory particle *no*, while DHRCs require a demonstrative in their external lexical head. The basis for E&G's claim that (1a-c) all involve head extraction is that all three patterns have the same two interpretations in the context (2), where there are two groups of six apples and only three apples in the first group are peeled (white circles). These interpretations are (i) that Junya ate the three peeled apples (the 'three apples' reading) and (ii) that Junya ate all six apples in the first group (the 'six apples' reading). The more salient reading is the 'three apples' reading. E&G claim that the demonstrative in (1a), which is invisible in (1b, c), gives us the 'six apples' reading.

(1) a. Junya-wa [Ayaka-ga ringo-o mit-tu muita] sono-ringo-o zenbu tabeta.


J.-TOP A.-NOM apple-ACC three-CL peeled that-apple-ACC all ate

Lit. 'Junya ate all of those apples [that Ayaka peeled three apples].' (E&G: (14))

b. Junya-wa [Ayaka-ga mit-tu muita] ringo-o zenbu tabeta.

J.-TOP A.-NOM three-CL peeled apple-ACC all ate

'Junya ate all of the apples [that Ayaka peeled three of].' (E&G: (15))

(2)  (E&G: (9))

c. Junya-wa [Ayaka-ga ringo-o mit-tu muita **no**]-o zenbu tabeta.

J.-TOP A.-NOM apple-ACC three-CL peeled NO-ACC all ate

Lit. 'Junya ate all of [that Ayaka peeled three apples].' (E&G: (13))

2. Proposal: I show that DHRCs do not involve movement, and that some instances of alleged HIRCs that do not show movement effects are in fact pronoun-headed DHRCs. I also examine Cinque's (2011) generalizations regarding DHRCs: DHRCs tend to be found in OV languages with prehead RCs, and furthermore, the external head, if distinct, is of more general reference than the internal head (3). I argue that there is an anaphoric relation between the two heads, involving simple anaphora and what Schwarz (2009) calls bridging anaphora. The external head of prehead DHRCs has an anaphoric status; this is why Japanese DHRCs need a demonstrative on lexical external heads. I argue that the external head of DHRCs is base-generated and the RC is attached as an adjunct to avoid a Condition C violation.

(3) [...A...] B, where $A \leq B$ in generality (e.g. A: apple, B: apple/fruit/one)

3. Islands: The obligatory particle *no* in HIRCs is lexically ambiguous in SJ: it can be a pronoun or a complementizer. Facts from Osaka Japanese (OJ) show that while HIRCs are C-headed, DHRCs have lexical or pronominal heads (Minamida 2017). In OJ, the pronominal DHRC head has the shape *non*, while true HIRCs have the C head *n*. OJ data also show that HIRCs exhibit island effects (4a) as in SJ (Watanabe 1992), while DHRCs do not (4b), indicating that DHRCs do not involve movement. See also Grosu & Hoshi's (2018) (22b, 25) for similar examples in SJ DHRCs with a lexical external head.

(4) a. *Taro-wa [Hanako-ga [; sakana-o sabaita] tomodati_i-o hometeta **n**]-o tabetemita.

T.-TOP H.-NOM fish-ACC filleted friend-ACC praised C-ACC tried.eating

Lit. 'Taro tried eating [that Hanako praised her friend [who filleted fish]].'

b. Taro-wa [Hanako-ga [; sakana-o sabaita] tomodati_i-o hometeta]

T.-TOP H.-NOM fish-ACC filleted friend-ACC praised

sono-sakana/sono-sashimi/'non-o tabetemita.

that-fish/that-sashimi/N-ACC tried.eating

Lit. 'Taro tried eating that fish/that sashimi/the one [that Hanako praised her friend [who filleted fish]].'

4. General-specific relation: Cross-linguistically, the two heads in DHRCs can be different, but if they are, the external head noun must be a more general term (Cinque 2011). In fact, the external noun of (1a) without quantifiers can be *kudamono* 'fruit', which is more general than the internal noun *ringo* 'apple' (5). The pronoun-headed (OJ N *non*) version also shows that if the two heads differ in terms of lexical specification, the external head must be the more general.

(5) Junya-wa [Ayaka-ga ringo-o muita] sono-kudamono/non-o tabeta.

J.-TOP A.-NOM apple-ACC peeled that-fruit/N-ACC ate

Lit. 'Junya ate that fruit/the one [that Ayaka peeled an apple].'

5. Anaphoricity: I claim that the obligatory demonstrative in DHRCs marks an anaphoric definite (Jenks to appear), contra E&G's claim that it marks a unique definite. In (6), *John* and *the man* are in an anaphoric relation, but *John*, which is less general than *man*, must come first, like *apple...that fruit* in (5). (7) is a cross-sentential paraphrase of (1a). *Kudamono* 'fruit' can appear in the second sentence; note that (7) gives us both three and six apples interpretations in (2). E&G claim that (7) does not yield the 'six apples' interpretation, but one of their consultants accepted that interpretation (see their fn. 8). The point here is the plurality of the pronoun *sorera* 'those' (cf. *sore* 'that') and the demonstrative *sorerano* 'those' (cf. *sono* 'that'). Minamida (2017) shows that the 'six apples' interpretation is impossible in (1a) if the demonstrative on the external head is *sono* 'that', but is possible if the demonstrative is *sorerano* 'those'. Anaphoric relations also explain the tendency of DHRCs to occur in OV languages with prehead relatives: in prehead

DHRCs, the order *internal head...external head* allows the anaphoric expression of more general reference to follow its antecedent.

(6) a. John_i came in. The man_i was wearing a scarf. b. #The man_i came in. John_i was wearing a scarf.

(7) Ayaka-wa ringo-o mit-tu muita. Junya-wa sorera/sorerano-kudamono-o zenbu tabeta.

A.-TOP apple-ACC three-CL peeled J.-TOP those/those-fruit-ACC all ate
 ‘Ayaka peeled three apples. Junya ate all of those/those fruits.’ (modified version of E&G: (17))

6. Resumptive pronouns: Japanese (8) looks like a counterexample to the general-specific relation of the two heads. However, this example is actually an HERC with a resumptive expression in a left branch island. (Notice that the internal head, not the external head, carries a demonstrative.) In non-island contexts, example like (8) are impossible; thus in (5), for example, the positions of ‘apple’ and ‘that fruit’ cannot be reversed. The fact that examples like (8), but not DHRCs, are limited to islands supports my claim that DHRCs are insensitive to islands, and thus do not involve extraction.

(8) [watakusi-ga sono-hito/sono-okyakusan-no namae-o wasuretesimatta] okyakusan
 I-NOM that-person/that-guest-GEN name-ACC have.forgotten guest

Lit. ‘a guest [that I have forgotten that person/that guest’s name]’ (Japanese; Kuno 1973: (20.10b))

7. Change-RCs: Japanese has a structure that looks like HIRC, which Tonosaki (1996) calls change-HIRC; like HIRC, these take the obligatory particle *no*; the internal head is interpreted as undergoing some property change (9). The OJ facts support Tonosaki’s claim that this pattern has a pronominal head: OJ change-RCs are headed by pronominal *non* (9). (9) also shows that the pronoun *non* can be replaced by the DHRC lexical head *sono kabe* ‘that wall’. In this case, the two heads denote different instantiations of “wall”; the internal head may refer to e.g. a white wall before painting, while the external head refers to a red wall after Taro’s painting. In the pronoun-headed version, the internal head is *kabe* ‘wall’, but the external head pronoun refers to the result of painting. These facts show that the change-RC pattern is a subtype of DHRC: the two DHRC heads need not be coreferent, and as in other DHRCs, there is no head extraction since two heads are disjoint. (4b) can also be interpreted as a change-DHRC because what Taro tried eating is the result of Hanako’s friend’s having filleted fish (= sashimi). As predicted by the DHRC analysis, on this interpretation as well, the RC is island-insensitive. The anaphoric relation in change-DHRCs is what Schwarz (2009) calls a “bridging” relation, specifically a ‘part-whole’ relation (e.g. ‘fish-sashimi’ in (4b)); in this case, the antecedent is more general (10).

(9) Watasi-wa [Taro-ga kabe-o nutta] non/sono-kabe-ga sukiya.
 I-TOP T.-NOM wall-ACC painted N/that-wall-NOM like

‘I like the result of Taro’s having painted a wall.’ / Lit. ‘I like the one [that Taro painted a wall].’

(10) The fridge was so big that the pumpkin could easily be stowed in the crispier. (Schwarz 2009: (4.58))

8. Definiteness and preheadedness: It has been claimed that Japanese HIRC are always definite descriptions (Shimoyama 1999; E&G, among others). OJ data (11) show that it is incorrect. Recall that HIRC are C-headed. (11) has the internal head *nan(i)ka* ‘something’ and is an indefinite expression. The pronoun-headed version is also dispreferred in (11). See also Kubota & Smith’s (2007) (7-9) for additional indefinite HIRC examples.

(11) [Nan(i)ka-(o) tukutta n/*non] mottekite! ‘Bring (me) something [that (you) made]!’
 something-ACC made C/N bring Lit. ‘Bring (me) [that (you) made something]!’

In contrast, Japanese DHRCs are always definite because they must carry a demonstrative in the external head, or are headed by an anaphoric pronoun. A similar pattern is observed in the prehead DHRC data cited by Cinque (2011) (12, 13). Although posthead DHRCs are rare, we might expect that when the internal head follows the external head, it is the internal head, not the external head, that may bear a demonstrative. This prediction is borne out in Kilivila (14), which is also cited by Cinque (2011).

(12) [mi qa nə-xe^t-m] mi-le: kə-ji.
 person 1SG DIR-scold-NOM person-DEF:CL go-CSM

Lit. ‘The person [that a person scolded me] has gone.’ (Ronghong Qiang; Huang 2008: (61))

(13) [Munon gemi bau-or] gemi-eng ye me ge-au.
 man bow take-3S.FP bow-the I not see-NOM

Lit. ‘I did not see the bow [that the man took a bow].’ (Usan; Reesnik 1987: (30b))

(14) A-meya kwiniini pela tau [m-to-na e-kato^oula].
 I-bring pills for man this-man-this he-be.ill

Lit. ‘I bring pills for a man [that this man is ill].’ (Kilivila; Senft 1986: 121)

9. The structure of DHRCs: The data so far show that the external head of DHRCs is externally merged, rather than derived by movement. Since the external head can be a pronoun, it would violate Condition C if it c-commands the RC. I thus propose that the RC is an adjoined modifier of DPs in DHRCs.

10. Conclusions: Head extraction is not involved in DHRCs. Cinque’s generalizations suggest that there is an anaphoric relation between the two heads and that the external head of prehead DHRCs is definite (15).

(15) [...A...] B, where A is the antecedent and B is an anaphoric definite

Selected references: Cinque 2011. On double-headed relative clauses. Erlewine & Gould 2016. Unifying Japanese relative clauses. *Glossa*. Minamida 2017. *Pronoun-headed doubly-headed relative clauses in Japanese and Korean*. Paper presented at JK25. Schwarz 2009. *Two types of definites in natural language*. Ph.D thesis, UMass. Tonosaki 1996. Change of state head-internal relative clauses in Japanese.