JAPANESE INTERNALLY-HEADED RELATIVE CLAUSES AND RELABELING

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1 Introduction

Generally, when two syntactic objects (SOs) of the same type, α and β, are set-Merged (Chomsky 2008), either α or β may supply the label for {α,β}. In principle, Set Merge permits (1a) to be either analyzed as a free relative (DP), as in (1b), or an embedded interrogative (CP), as in (1c):

(1) a. what you wrote (Chomsky 2008:145)
    b. read [$_{DP}$[$_D$ what][you wrote ~~what~~]]
    c. wonder [$_{CP}$[$_D$ what][you wrote ~~what~~]]

Relabeling describes the situation that obtains when a single head, e.g. *what* in (1b), nominalizes a clause by raising from within to label the aggregate SO. Cecchetto & Donati (2015), hereafter C&D, develop a comprehensive theory of relativization based on relabeling. For example, the *wh*-relative construction in (2a) is derived using the head *man* to relabel the underlying clause *John saw which man* as shown in (2b):

(2) a. the man which John saw
    b. [$_{DP}$ the [$_{NP}$ [$_N$ man] [$_{CP}$ [$_{DP}$ which ~~man~~] [John saw [$_{DP}$ ~~which man~~]]]]]

In this theory, relabeling is necessary for relativization, e.g. (3a) cannot be interpreted as an (*in-situ*) free relative, and only heads are permitted to relabel, e.g. (3b), in which the XP *what book* has raised, permitting only a clausal reading (cf. (1a)):[1]

(3) a. you read what
    b. [CP [what book] you read ~~what book~~]

The relabeling analysis, at first glance, fails to account for Japanese relative clauses, because Japanese permits relativization without English-style relative head raising. In particular, Japanese permits both internally headed relative clauses and externally headed relative clauses. (4a) is an internally-headed relative (IHR) clause with a nominalizing morpheme (NM) *-no* (cf. Kuroda 1992). The NM *-no* is co-referential with the object *keeki-o* 'cake', which appears in a position internal to the relative clause. (4b) is an externally-headed relative (EHR) clause with the external head *keeki* 'cake', which appears to have been displaced from the relative clause-internal object position.[2]

(4) a. Yoko-wa [[Taro-ga   sara-no   ue-ni   **keeki**-o oita]-**no**]-o tabeta
       Yoko-Top Taro-Nom plate-Gen on-Loc cake-Acc put-NM-Acc ate
    b. Yoko-wa [[Taro-ga   sara-no   ue-ni oita] **keeki**]-o tabeta
       Yoko-Top Taro-Nom plate-Gen on-Loc put   cake-Acc ate
      'Yoko ate the cake that Taro put on the plate' (Shimoyama 1999:147)

One possible solution is to permit invisible (to Spellout) raising of the relative clause head. However, Shimoyama argues against an invisible LF-raising account of IHRs based on scope facts. (5a-b) exhibit a scope contrast with respect to *hotondo* 'most'. In (5a) most of the cookies were in the fridge and, according to Shimoyama, *hotondo* 'most' cannot obtain matrix scope. If *kukkii* 'cookie' were to undergo LF raising to the position of the NM *-no* together with *hotondo* 'most', then *hotondo* should be able to get high scope, even with *kukkii-o hotondo* in the relative clause head position (cf. Shimoyama 1999). In (5b) most of the cookies were brought to the party, and thus *hotondo* 'most' has scope outside of the relative clause.

(5) a. Taro-wa [[Yoko-ga reezooko-ni   kukkii-o **hotondo** irete-oita]-**no**]-o paatii-ni motte-
       Taro-Top Yoko-Nom fridge-Loc cookie-Acc most   put-Aux-NM-Acc party-Dat
       itta
       brought
       'Yoko put most cookies in the fridge and Taro brought them to the party.'
    b. Taro-wa [[Yoko-ga   reezooko-ni irete-oita] kukkii-o   **hotondo**] paatii-ni motte-itta
       Taro-Top Yoko-Nom fridge-Loc   put-Aux   cookie-Acc most   party-Dat brought
       'Taro brought most cookies that Yoko put in the fridge to the party.' (Shimoyama
       1999:149-150)

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[1] C&D must simultaneously reinterpret apparent cases of phrasal free relatives as externally-headed relatives (e.g., "I will buy whichever book you will buy" (C&D:51)), and non-relabeling *wh*-words (such as *which*) as phrases (e.g., "what happened is terrible" vs. "*which happened is terrible" (C&D:49)).
[2] Although there is no overt relative pronoun in Japanese, assuming the Phase Impenetrability Condition (Chomsky 2008), in (4b) we posit that *keeki* moves through the edge of the clause, a strong phase, in order to be visible for relabeling.

If relabeling is necessary for relative clause formation, then the question arises of how relabeling works in Japanese relative clauses, if there is no raising in IHRs. In this paper, we attempt to answer this question.

2 Proposals

We argue that no relabeling obtains in IHRs, but there is relabeling in EHRs instead, as in the case of English.

We propose that the nominalizer *-no* is the relabeler that precipitates relativization. When *-no* is present, it appears to block extraction of the head noun. Any adequate theory will need to explain why. Consider the following (unattested) situation: suppose *-no* occurs in the numeration, and also *kukkii* (freely) raises. The categorizer *n* for the entire *n*P may only license a single root; i.e. either *-no* or *kukkii*. (Moreover, all roots must be categorized.) So *kukkii* cannot raise because there is no second categorizer available. Note we cannot simply introduce a second categorizer as a relative clause cannot have two heads at the same time.[3] Hence *kukkii* and *-no* must be in complementary distribution, and thus there is no raising and relabeling in an IHR such as (5a), shown in Fig. 1. Note that we assume that the relative clause is pair-Merged with the nominalizer, where pair-Merge is indicated in the diagram with an arc. Also, we assume that *hotondo* 'most' is pair-Merged with the nominal *kukkii*. In (5a), note that the phrase *kukkii-o hotondo* 'most cookies' is formed *in-situ* and does not raise. The nominalizer *-no* selects for a CP, and since the CP functions as an adjunct, the nominalizer labels. We assume *-no* will be parsimoniously identified with the salient argument *kukkii* via some search procedure that takes into account context and other factors: this is a matter we leave to semantic interpretation. Finally, the *n*-categorizer is Merged and labels the entire phrase.[4]

Contrast (5a) with the EHR (5b), shown in Fig. 2. For EHRs, relabeling must obtain. In this example, *kukkii* 'cookie' raises and Merges (via pair-Merge) with the CP. As a result *kukkii* relabels, and the CP functions as an adjunct. The categorizer *n* is Merged, and it categorizes the root *kukkii* 'cookie' as a nominal. Finally, *hotondo* 'most' adjoins (via pair-Merge) to the phrase headed by the categorizer *n*.

In both (5a-b), we assume that the accusative case particle *-o* which appears on the relative clause head is the result of a Spell-Out rule. Specifically, checked case on the *n* categorizer appears as an affix on the NM *-no* in (5a) and on the relative clause had *kukkii* in (5b).

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[3] More generally, given binary Merge, a double-headed structure cannot be built for any construction.

[4] We assume that *-no* is a nominalizer that is distinct from the categorizer *n*. (In other words, *-no* can be considered to be root-like under our account.) In all nominal expressions, we use *n* as the functional element that undergoes φ-feature agreement and receives case. In (5b), {*n, kukkii*} receives case and participates in φ-feature agreement twice; once within the CP, and once as the head of the entire *n*P. This is unproblematic if we have two distinct *n*'s, as shown (cf. C&D:62). (5a) parallels (5b) in the sense that two distinct *n*'s are also present; one associated with *-no*, and one with *kukkii* inside the CP. Both *n*'s are required since all roots must be categorized.
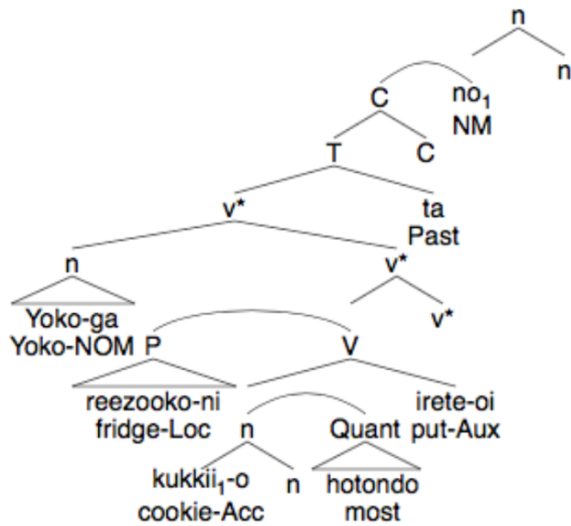
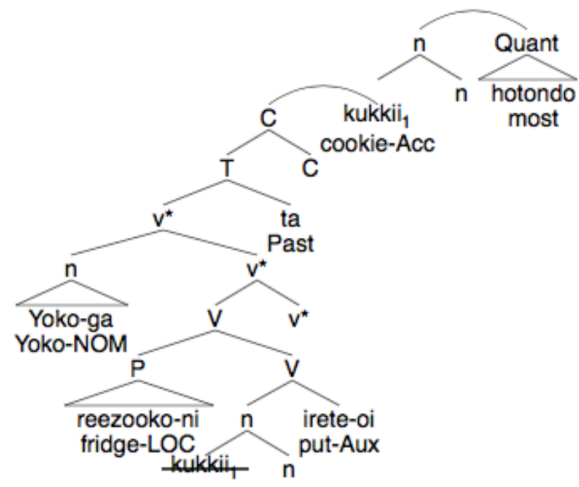Figure 1: Structure of internally-headed relative clause (5a)

Figure 2: Structure of externally headed relative clause (5b)

3 Evidence

In this section, we give evidence with scope facts for these proposals that in an IHR, but not an EHR, there is no raising of the relative clause head.

The scope facts of (6) below indicate that the relative clause head moves in (5b). In (5b), *kukkii* raises to become the head of the relative clause, which then merges with *hotondo* at the matrix clause level, thereby deriving the attested scope facts. The IHR (6) has the same truth conditions as (5b), indicating that *hotondo* merges with the relative clause headed by *no*:

(6) Taro-wa [[Yoko-ga reezooko-ni kukkii-o   irete-oita]-**no**]-o **hotondo** paatii-ni motte-itta
     Taro-Top Yoko-Nom fridge-Loc cookie-Acc put-Aux-NM-Acc most   party-Dat brought
    'Taro brought most cookies that Yoko put in the fridge to the party.'

Shimoyama (1999) observes that, under scrambling, an expected scope difference with a quantificational IHR fails to materialize. For example, (7a-b) have the same interpretation. The expected scope difference is observed when EHRs are substituted for the IHRs in (7a-b). The fact that the scope difference is not observed can be straightforwardly accounted for by the lack of relative clause head displacement.

(7) a. **Hotondo-no gakusei-ga** [[Taro-ga **dono syukudai-mo** sikenmae-ni dasita]   -no] -o
      most-Gen student-Nom Taro-Nom every homework before-exam-at assigned-NM-Acc
      teisyutusita
      turned in
    b. [[Taro-ga **dono syukudai-mo** sikenmae-ni   dasita]-no]-o$_i$ **hotondo-no gakusei-ga**
      Taro-Nom every homework before-exam-at assigned-NM-Acc most-Gen student- Nom
      t$_i$ teisyutusita
      turned in

‘Most students turned in every homework that Taro assigned before the exam.’
(Shimoyama 1999:153)

4 Conclusions

To summarize, in a Japanese EHR, the root of the relative head freely re-Merges and relabels the CP, followed by obligatory Merge of an external *n* (as all roots must be categorized) (cf. Fig. 2). In a Japanese IHR, since Merge is free, the available option of no re-Merge by the internal relative root is taken; a nominalizer *-no* is externally Merged to nominalize the CP (cf. Fig. 1). The fact that relabeling and the nominalizer *-no* are in complementary distribution falls out from our assumption that *-no* is root-like.

    In an IHR, we have attempted to show that the relative clause head does not move, which raises the question of how it obtains its interpretation. Following Shimoyama (1999) and Hoshi (1995), we could assume a covert N (encoding an E-type pronominal) be externally merged to satisfy the head relabeling requirement, perhaps spelled-out as the NM *-no*. There is no raising, and the nominalizer *-no* identifies with a salient argument in the RC. The identification of the relevant internal head is extra-syntactic and subject to semantic/pragmatic factors, as in (8).

(8) Sono omawari-wa gakuseitati-ga CIA-no supai-o   kumihuseta-no-o   utikorosita
    that   cop-Top students-Nom CIA-Gen spy-Acc held-down-NM-Acc shot-and-killed
    ‘That cop shot and killed the students who held down the CIA spy’
    ‘That cop shot and killed the CIA spy who(m) the students held down.’ (Tsujimura
2007:306, per Kuroda 1992:153)

Note that extra-syntactic head identification is also required in gapless relatives, as in (9).

(9) [meizin-ga ryoori-sita] azi
    expert-Nom cooked   flavor
 ‘the flavor that results when an expert cooks’ (Tsujimura 2007:305, per Kitagawa 1982:201).

    Questions also arise regarding which arguments *no* can identify with (bind). In the IHR (10a/4a) the object *keeki* ‘cake’ can be relativized. In (10b), the subject *Taro* cannot be relativized. Why it is that a subject cannot be relativized in this type of IHR is an issue for further examination.

(10) a. Yoko-wa [[Taro-ga   sara-no   ue-ni   **keek**i-o oita]-**no**]-o tabeta
       Yoko-Top Taro-Nom plate-Gen on-Loc cake-Acc put-NM-Acc ate
       ‘Yoko ate the cake that Taro put on the plate.’ (Shimoyama 1999:147)
     b. *Yoko-wa [[**Taro**-ga yuka-no ue-ni   keeki-o otoshita]-**no**]-o nagusameta
       Yoko-Top Taro-Nom floor-Gen on-Loc cake-Acc dropped-NM-Acc comforted
       Yoko comforted Taro who dropped his cake on the floor.

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