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The relative clause resisting unification

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Abstract

Cinque (2020) presents a unified theory positing that various types of relative clauses (RCs) originate from a single, double-headed universal structure via raising or matching. The Frame Noun-Modifying Clause (FRC) as described and analyzed by Matsumoto et al. (2017a, 2017b) presents a significant challenge to Cinque's framework, as it does not conform to any of Cinque's identified RC types, which include amount RCs, kind(-defining) RCs, restrictive RCs and non-restrictive RCs. The FRC eludes derivation via the proposed matching or raising mechanisms. Determining the semantic link between the head noun and the FRC, as well as its external merger position, remains elusive. One might suggest that inserting additional material into the FRC, which incorporates a plausible internal head, could clarify their connection. This approach falls short of providing a systematic and coherent syntactic criterion, relying instead on semantic intuition that lacks operational reliability.

Keywords: Frame Relative Clause, raising, matching

Résumé

Cinque (2020) présente une théorie unifiée postulant que divers types de propositions relatives (PRs) proviennent d'une structure universelle à double tête, par déplacement ou appariement. La proposition de cadre de modification du nom (PCMN), telle que décrite et analysée par Matsumoto et al. (2017a, 2017b), représente un défi important pour le cadre de Cinque. Elle ne se conforme à aucun des types de PR identifiés par Cinque, qui comprennent les PRs de quantité, les PRs de genre, les PRs restrictives et les PRs non-restrictives. La PCMN échappe à la dérivation par les mécanismes d'appariement ou de déplacement proposés. Il demeure impossible de déterminer le lien sémantique entre le nom déterminé et la PCMN, ainsi que sa position de fusion externe. On pourrait suggérer que l'insertion de matériel

supplémentaire dans la PCMN, qui intègre une tête interne plausible, pourrait clarifier leur connexion. Cette approche échoue à fournir un critère syntaxique systématique et cohérent, s'appuyant plutôt sur l'intuition sémantique, qui manque de fiabilité opérationnelle.

Mots-clés: proposition de cadre de modification du nom, déplacement, appariement

1. THE FRAME NOUN-MODIFYING CLAUSE AS A (RARELY NOTICED) TYPE OF RELATIVE CLAUSE

The relative clause (henceforth RC) in question is what Matsumoto et al. (2017a, 2017b) dubbed Frame Noun-Modifying Clause (henceforth FNMC).¹ Matsumoto et al. establish a typology of noun-modifying clauses based on Eurasian languages in which a modifying clause and a modified noun form a unit. As one of the noun-modifying clauses, the FNMC is characterized by the fact that “the head noun instantiates some other frame element within the clause (not covered by the argument or adjunct)”² (Matsumoto et al. 2017a: 5), for example in Korean (1) and in Hup (Puinavean, Hupdë) (2):

- (1) [chayk-ul sa-n]_{FNMC} kesulumton
 books-ACC buy-ADN change
 ‘the change from buying books’ (Kim and Sells 2017: 73)
- (2) [ʔän hid yamhidəʔ-g’əp-əp]_{FNMC} məy
 1SG.OBJ 3PL sing-serve-DEP payment
 ‘the payment for their singing to and serving me’ (Lit. ‘their singing-and-serving-me payment’) (Epps 2008: 829)

Even though the FNMC does not occur as a type of RC in standard English (see section 3), we will argue that it is indeed a type of RC in the languages where it occurs. The RC is generally understood as a subordinate clause that modifies a head, as for example in:³

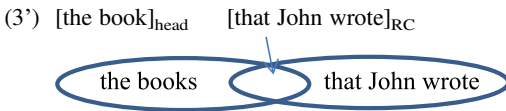
- (3) [the book]_{head} [that John wrote]_{RC}

¹The abbreviations are: 1/2/3 ‘1st/2nd/3rd person’, ABS ‘absolute’, ACC ‘accusative’, ADN ‘adnominalizer’, ART ‘article’, CL ‘classifier’, CL1/2/3... ‘noun class 1/2/3...’, COMP ‘complementizer’, COP ‘copula’, DAT ‘dative’, DEF ‘definite article’, DEM ‘demonstrative’, DEP ‘dependent marker’, EH ‘external head’, EM ‘external merge’, FNMC ‘frame noun-modifying clause’, FRC ‘frame relative clause’, IH ‘internal head’, IMP ‘imperative’, IMPERS ‘impersonal’, INTERR ‘interrogative’, IRR ‘irrealis’, M ‘masculine’, NEG ‘negative’, NOM ‘nominative’, NRRC ‘non-restrictive’, OBJ ‘object’, PAST ‘past tense’, PERF ‘perfect(ive)’, PL ‘plural’, PREP ‘preposition’, RC ‘relative clause’, REL ‘relativizer’, SG ‘singular’, SUBJ ‘subjunctive mood’.

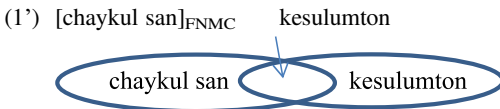
²Unlike the other types of noun-modifying clauses, the FNMC is defined negatively by Matsumoto et al. (2017a). This negative definition is nevertheless clear enough to distinguish the FNMC from Cinque’s (2020) putative gapless RC, which corresponds to Matsumoto et al.’s (2017a) adjunct noun-modifying clause and relational/perceptual noun-modifying clause.

³Note that Cinque himself did not give a precise operational definition of the RC, but see also note 2 above.

More specifically, the fact that the RC is a subordinate clause manifests itself in particular in the absence of root phenomena (e.g., word order change, illocutionary force, etc.) and the presence of specific subordinators: for instance (1) and (2) are marked respectively with the subordinate markers *-n* and *-op*; and in both languages the modifying clauses must be verb-final, contrary to independent clauses (see Sohn (1999) for Korean and Epps (2008) for Hup).⁴ As for the semantic modification (i.e., the RC modifies the head), there should be an intersection (whether in terms of “opération de restriction” (Creissels 2006: §32.1) or predication (Heim and Kratzer 1998)) between the set denoted by the head noun and the one by the RC, for example for (3):



The intersection is also in operation in the FNMC, for example for (1):



Note that both (1) and (3) are different from non-restrictive RCs and complement clauses in the new set resulting from the intersection: a subset for (1) and (3) and still the same set for the non-restrictive RC and the noun complement clause:⁵

- (4) [*the books, which John wrote...*] = [*the books...*] & [*John wrote the books*]
 (5) [*the conclusion that Pierre is guilty*] = [*the conclusion...*] & [*the conclusion is that Pierre is guilty*]

Hence, the FNMC satisfies the widely accepted definition of the RC given above, and thus it is indeed a type of RC.⁶ In what follows, we will use F(rame) RC instead of FNMC.

The FRC is attested largely in East Asian prenominal RC languages, including at least Japanese (Matsumoto et al. 2017a), Cantonese (Matthews and Yip 2017) and Mandarin, as in (6):

- (6) [(Lisi) mai shu de]_{FRC} lingqian
 Lisi buy book COMP change
 ‘the change from/for (Lisi) buying books’

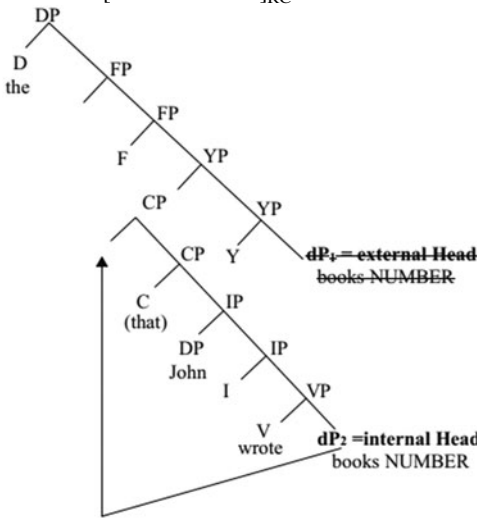
Beyond Eurasian languages, the FRC is rare, though it does exist in a few African languages and Indigenous languages of the Americas, including for example Hup (Amazonian, see (2) above) and Maale (Afro-Asiatic, Omotic), as in (7):

⁴For the morphophonological characteristics of the Hup dependent marker, see Epps (2008), who proposes *-Vp* as its basic form.

⁵For further discussion on the differences between the FNMC and the non-restrictive RC, see below.

⁶Li & Yin (2022: 788) also broadly agree that the FNMC (i.e., “gapless” in their terms) is a special kind of RC even though there is no internal representation of the head in it.

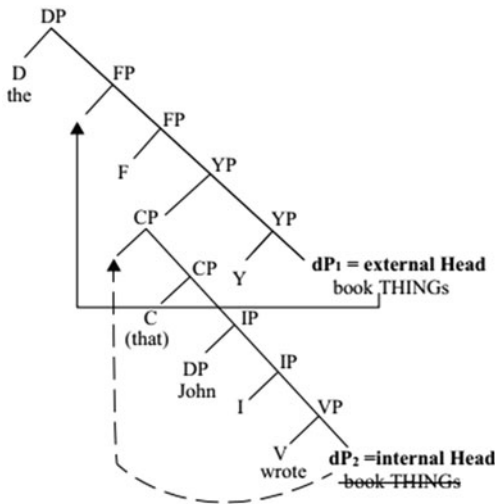
(13) the books [that John wrote]_{RC}



The internal head (henceforth IH) dP_2 and the external head (henceforth EH) dP_1 are categorially identical. The IH raises to [Spec, CP], licensing the deletion of the EH. Arguments in favour of reconstruction include binding and sensitivity to islands, among others.

Matching applies if the overt head noun does not or cannot be interpreted inside the RC, whereby there is no reconstruction effect, for instance (Cinque 2020: 36):¹⁰

(14) the books [that John wrote]_{RC}



¹⁰This phrase should be interpreted as ‘the specific individual books that he wrote’, not ‘the entire number of books that he wrote’ or ‘the kind of books that he wrote’. Thus, the IH and the EH are not necessarily categorially identical. See also note 9.

More generally, matching is forced when the raising derivation is not accessible, in particular when the EH and the IH are categorially distinct, for example, as in (14), for example: the EH (e.g., dP_1) raises to [Spec, FP] and licenses the deletion of the IH (e.g., DP, KP, or DP/KP inside a PP). Importantly, the IH will be realized by a *wh*-pronoun or *wh*-phrase, or by a resumptive pronoun or epithet. We will show that Cinque's unified analysis cannot properly account for the FRC.

3. CATEGORIAL PROBLEM: NO PLACE FOR THE FRC IN THE SYNTACTIC TYPOLOGY OF RC

The FRC does not fall into any of the RC types discussed by Cinque (2020). It cannot be the amount RC. It is not the non-restrictive RC, either, in that the FRCs given above clearly narrow down the reference of the head noun. In French, (11)–(12) are formally distinct from non-restrictive RCs, in at least two ways: the head nouns are indefinite and there is no pause (or comma in writing) between the head noun and the modifying clause.

The FRC is not the kind(-defining) RC. Even if the FRC is paraphrasable as *N such that* in English (e.g., 'the change such that it is from buying books' for (1) and (6)) just like the kind(-defining) RC (e.g., *He is a guy that (he) gets into a lot of fights*, which is paraphrasable as 'He is such that he gets into a lot of fights' (Cinque 2020: 184)), the FRC does not exhibit the typological properties recognized for the kind (-defining) RC (Cinque 2020).¹¹ Firstly, the kind(-defining) RC does not narrow down the reference of the head, but the FRC in contrast narrows down the reference of the head, as shown in (1'). Secondly, resumptive elements are not admitted in the FRC, contrary to certain kind(-defining) RCs. For example, resumptive pronominals are obligatory in certain RCs in Mandarin (as in (15)) and Mungbam (as in (16)):

- (15) [lisi song gei *(ta) liwu de]_{RC} na ge ren
 Lisi offer DAT 3SG present COMP DEM CL person
 Lit. 'the person that Lisi offered him a present'

- (16) ù-nè [nō mō lē fě ú-çě wù-nō]_{RC}
 CL1-person REL 1SG PAST give CL3-knife CL1-DAT
 Lit. 'the person that I gave a knife to him' (Lovegren and Voll 2017: 184)

In contrast with the RCs, resumptive pronominals are never possible in the FRCs in Mandarin and Mungbam. Thirdly, the FRC, contrary to the kind

¹¹Note that certain properties of the kind(-defining) RC listed by Cinque are rather language-specific (including the possibility of heavy pied-piping with the *il quale* paradigm in Italian, agreement of the RC with the subject of the matrix clause in Modern Colloquial French, and its compatibility with the presuppositional negative adverb *mica* in Italian) and will not be considered here.

(-defining) RC, cannot have an independent illocutionary force, for example in French:

- (17) *des feux [qu' est-ce qu' il faut appeler les
 ART fires COMP INTERR IMPERS be necessary call DEF
 pompiers tout de suite?]_{FRC}
 firefighter.PL at once
 Lit. 'fires [that is it necessary to call the firefighters at once?]'
- (18) *C' est un chien [que est-ce que je ne suis jamais
 DEM COP ART dog COMP INTERR 1SG NEG COP never
 toute seule?]_{FRC}
 very alone
 Lit. 'This is a dog [that am I never all alone?]'

This restriction is somewhat relaxed in Mandarin, but still in effect: although the FRC may be a *wh*-question, polar questions are not allowed:

- (19) [mai sheme de]_{FRC} lingqian
 buy what COMP change
 'the change from buying what' or 'What did you buy to have got the change?'
- (20) *[ni mai shu ma de]_{FRC} lingqian
 2SG buy book INTERR COMP change
 Literal translation: 'the change [that do you buy books?]'

Fourthly, the FRC cannot retain an IH. For example, even though there are internally headed RCs in Japanese (Ohara 2018), we find that Japanese head-internal RCs can never be FRCs.

As for the other properties listed by Cinque (heavy pied-piping with the *il quale* paradigm, agreement with the subject of the matrix clause, compatibility with the pre-suppositional negative adverb *mica*), they are language-specific and do not apply to the above languages. Consequently, it is clear that the FRC is not the kind(-defining) RC.

The FRC is not the restrictive RC, either. Take English and French, for example. First, contrary to the "standard" restrictive RCs of English and French introduced either by relative pronouns or by the complementizers *that* and *que*, *only* the complementizers *that* and *que* are used in the FRC, and more importantly, they *must* be used in the non-standard varieties where the FRC is observed, as in (9) and (11), repeated below as (21) and (22):

- (21) ...and they all had on the kind of hats [**(that)* you knew they didn't really live in New York]_{FRC}
- (22) des feux [**(qu')*il faut appeler les pompiers tout de suite]_{FRC}

Note that in the same non-standard varieties of American English, the complementizer *that* is, more often than not, omitted (e.g., in certain non-subject RCs), even in noun complement clauses. Here is a further example from *The Catcher in the Rye* (§6, last paragraph):

- (23) I had a feeling old Ackley'd probably heard all the racket and was awake.

The contrast between the possible zero marking in the noun complement clause and the obligatory use of *that* in the FRC on the one hand, and the possibility of omitting the complementizer in the noun complement clause and in the non-subject restrictive RC on the other, imply that the FRC is not a restrictive RC.

Secondly, different from the restrictive RC, the FRC is never gapped.¹² In logic terms, the FRC is not an open proposition. This is particularly clear in English and French examples (9)–(12), even though in English and in French gapping is a priori the most frequent strategy of relativization, or even the only possible strategy in the case of relativizing certain positions such as subject and object. The absence of gap differentiates the FRC from the restrictive RC. All in all, the FRC is not the restrictive RC.¹³

To sum up, the FRC does not belong to any of the RC types enumerated by Cinque (2020). Even so, a priori this does not automatically imply that it cannot be derived via his raising and/or matching operation(s). However, we will show that neither matching nor raising can be applied to the derivation of the FRC.

4. DERIVATIONAL PROBLEM: WHEN RAISING RAISES PROBLEMS AND MATCHING DOES NOT MATCH

Given that the overt head noun cannot be interpreted inside the FRC, a priori matching is the only possible derivation. The first issue, though, is that it is difficult to determine how the head noun and the FRC are semantically related unless one is satisfied with descriptives such as ‘frame’ or ‘aboutness’. Semantic indeterminacy leads to syntactic vagueness.

The second issue is that according to Cinque (2020: 37), in cases where matching applies, the IH can be realized by a *wh*-pronoun or *wh*-phrase, or by a resumptive pronoun or epithet, though not cross-linguistically.¹⁴ However, in none of the above FRCs is the head noun realized by a *wh*-pronoun or *wh*-phrase, or by a resumptive pronoun or epithet. As stated above, the FRC is only and must be marked with the complementizers *that* in English and *que* in French, although there are indeed *wh*-pronouns or *wh*-phrases introducing RCs in these two languages. In Mandarin and Mungbam,

¹²Cinque provides ample references for the view that not all Asian noun modifiers are gapless (hence “putative”). Some are indeed RCs (with a gap), but crucially, he also suggests that some are probably indeed gapless, that is, they belong to the true ‘frame’ type discussed here. It seems, then, that Cinque implicitly acknowledges that the presence of an internal gap is a necessary condition for defining and identifying the RC.

¹³We provide syntactic and morphological arguments in support of the FRC not being the restrictive RC here because we are against viewing “restrictive” as a (purely) semantic notion describing a clause (or other modifiers) that narrows the denotation of the expression that properly contains it. It is possible to speak of “restrictive” only if restrictive and non-restrictive RCs systematically show semantic *and* phono-morpho-syntactic differences. It is due to the lack of such formal differences that it has been argued that non-restrictive RCs do not exist in Basque (Oyharçabal 2003) or in Turkish (Göksel et Kerslake 2005). See also Lin (2003) for Mandarin.

¹⁴For example, there are matching pronominal and circumstantial RCs without a relative or resumptive pronoun. We thank an anonymous reviewer for bringing this point to our attention.

contrary to the obligatory use of resumptive elements in certain types of RC, the FRC cannot admit any resumptive elements. In other words, the FRC does not license the relevant *wh*-pronouns, *wh*-phrases, resumptive pronouns or epithets.

Third, Cinque (2020) discusses in great detail the External Merge (EM) positions of the different types of RC, as follows:

- (24) RC_{integr-nonrestr} > QP_{all} > DemP > RC_{kind-def} > RC_{fin.restr (marked)} > RC_{fin.restr (unmarked)} > RC_{amount/max} > RC_{infin} > Num_{Card} > RC_{particStage-1} > RC_{particIndiv-1} > AP > NP (§3.5)

None of these positions is adequate for the FRC. In languages in which non-restrictive RCs and restrictive RCs are formally distinct, such as English ((25)–(26)) and French ((27)–(28)), there seems to be no fixed order between the FRC and the non-restrictive RC or between the FRC and the restrictive RC:

- (25) the kind of hats [that you knew they didn't really live in New York]_{FRC(.)} [that you even never see in New York]_{RC}
- (26) the kind of hats(.) [that you never see in New York]_{RC(.)} [that you knew they didn't really live in New York]_{FRC}
- (27) mon chien [que je ne suis jamais toute seule]_{FRC(.)} [que je peux pas vivre un jour sans]_{RC}
- (28) mon chien(.) [que je peux pas vivre un jour sans]_{RC}, [que je ne suis jamais toute seule]_{FRC}

The FRC is not necessarily in a lower position than the non-restrictive RC or in a higher position than the restrictive RC. On the other hand, in languages where the restrictive RC and the non-restrictive RC are not formally distinct, such as Mandarin, it seems that the FRC must be nearer to the head noun than the other RCs:

- (29) [Lisi gei wo de]_{RC} [mai shu de]_{FRC} lingqian
Lisi give 1SG COMP buy book COMP change
'the change given to me by Lisi from buying books'
- (30) *[mai shu de]_{FRC} [Lisi gei wo de]_{RC} lingqian

According to Cinque's hierarchy (24), the non-restrictive RC occupies the highest EM position, so the fact that the FRC cannot be higher than any other types of RC in Mandarin imply that the FRC should not be the non-restrictive RC. However, in Mandarin the FRC can be separated from the head noun by a demonstrative, which nonetheless can also appear before the FRC:

- (31) naxie [mai shu de]_{FRC} lingqian
DEM.PL buy book COMP change
'those changes from buying books'
- (32) [mai shu de]_{FRC} naxie lingqian
'those changes from buying books'

Consequently, it remains unclear whether the demonstrative or the FRC is initially merged in a superior position before the latter is raised to an even higher level. But given (29)–(30), the FRC should be externally merged in a relatively low position. Thus, the dilemma is that in Mandarin the FRC must be lower than all the other types of RC, but higher than the demonstrative. One solution consists in

proposing other internal mergers in order for the right linear order to be derived properly, but this still leaves unsolved the problem of the EM position of the FRC.

5. CONCLUSION

To conclude, the FRC, as a particular type of RC, cannot be integrated into Cinque's syntactic and semantic typologies of RCs. The categorial problem aside, the FRC cannot be properly derived, via either raising or matching.

One possible derivation of the FRC is the Head External Analysis (Quine 1960, Ross 1967, Chomsky 1977, Jackendoff 1977, Meinunger 2000): The head originates outside the FRC, which is adjoined to the head. Semantically, the head and the FRC combine via intersective modification. This analysis relies on the controversial head-directionality parameter to account for prenominal FRCs (e.g., (1), (2), (6), (7) and (8)) and postnominal ones (e.g., (9)–(12)). However there is good reason to believe that this is currently the most promising syntactic analysis for deriving the FRC.

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