

Order & Interpretation in Prenominal Relative Clauses*

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In Japanese, Korean Chinese and Turkish, prenominal relative clauses expressing generic, individual-level properties order closer to the noun than those expressing temporally anchored, stage-level properties. We show that this correlation matches one observed by Larson (1998) for prenominal adjectives. These results appear to give further evidence for a “two domain” theory of nominal modification, according to which there are modifiers of DP and modifiers of NP. The difference of domain yields the difference of order, and the corresponding semantics.

1. Introduction

An apparent contrast between attributive adjectives and relative clauses is that the former show ordering preferences based on their semantic content, whereas the latter do not (Dixon 1977, Hetzron, 1978, Sproat and Shih 1991). Thus, English attributive adjectives of size uniformly precede those of material composition (1a,b), whereas the corresponding relative clauses seem to order freely (2a,b):¹

- (1) a. the [**large**] [**stone**] building
b. * the [**stone**] [**large**] building
- (2) a. the building [**that was large**] [**that was made of stone**]
b. the building [**that was made of stone**] [**that was large**]

In this paper we examine data from prenominal relative clauses which suggest that this distinction may be less sharp than assumed. Specifically, we show that prenominal relatives in Japanese, Korean and Turkish exhibit ordering preferences based on whether they express stage-level versus individual-level

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¹ We ignore ordering effects based on “heaviness” of the relative clauses, assuming this to be a processing effect and irrelevant to our discussion.

properties, in the sense of Carlson (1977). We relate these results to an ordering restriction with English attributive modifiers observed by Larson (1998), which is proposed to reflect a distinction between NP-modifiers and DP-modifiers. If our conclusions are correct, they suggest a more complex view of relative clause structure and attachment than is usually assumed.

2. Stage-Level vs. Individual-level Relative Clauses

2.1 Japanese relatives (Takahashi 1997)

Takahashi (1997) notes that relative clauses expressing generic, individual-level properties (like smoking) order freely among themselves (3a,b). The same is true of relative clauses expressing episodic, temporally anchored, stage-level properties (like meeting someone on a specific day); these also order freely (4):

(3) **Individual-level RCs**

- a. [Tabako-o suu] [sake-o nomu] hito-wa Tanaka-san desu.
[tobacco-ACC inhale][sake-ACC drink] person-TOP T.-COP
'The person who drinks sake who smokes is Miss Tanaka.'
- b. [Sake-o nomu] [tabako-o suu] hito-wa Tanaka-san desu.

(4) **Stage-level RCs**

- a. [Watashi-ga kinoo atta] [sake-o nonde ita] hito-wa Tanaka-san desu.
[1SG-NOM yesterday met][sake-ACC drinking] person-TOP T.-COP
'The person who was drinking sake who I met yesterday is Miss T.'
- b. [Sake-o nonde ita][watashi-ga kinoo atta] hito-wa Tanaka-san desu.

Interestingly, however, when the two types of relative clause are combined, an ordering restriction arises. Specifically, the individual-level relative must occur closer to the noun than the stage-level relative (5a,b).²

(5) **Individual-level RC, Stage-level RC**

- a. [Watashi-ga kinoo atta] [tabako-o suu] hito-wa Tanaka-san desu.
[1SG-NOM yesterday met][tobacco-ACC inhale] person-TOP T.-COP
'The person who smokes who I met yesterday is Miss Tanaka.'
- b. ?*[Tabako-o suu][watashi-ga kinoo atta] hito-wa Tanaka-san desu.

² This restriction is lifted if a substantial pause is inserted between the two relative clauses. Below we assume that such a pause is not made, and that its effects are not relevant to our discussion.

2.2 Korean relatives

Korean also contains prenominal relative clauses, and the facts of Korean are essentially identical to those of Japanese regarding the individual-level/stage-level contrast.³ Korean relative clauses expressing generic, individual-level properties order freely among themselves (6), as do relatives expressing episodic, stage-level properties (7):

(6) **Individual-level RCs**

- a. [ki-ka khun] [tampay-lul piwu-nun] salam-un Chelswu-ta.
[height-NOM tall] [tobacco-ACC inhale] person-TOP C.-DEC
'The person who smokes who is tall is Chelswu.'
- b. [tampay-lul piwu-nun][ki-ka khun] salam-un Chelswu-ta.

(7) **Stage-level RCs**

- a. [nay-ka ecey manan] [sojwu-lul masi ko-iss-dun] salam-un Chelswu-ta.
[I-NOM yesterday met][sake-ACC drink was] person-TOP C.-DEC
'The person who was drinking sake who I met yesterday is Chelswu.'
- b. [sojwu-lul masi ko-iss-dun][nay-ka ecey manan] salam-un Chelswu-ta.

However, when the two are combined, the individual-level relative must occur innermost (8):

(8) **Individual-level RC, Stage-level RC**

- a. [nay-ka ecey manan][tampay-lul piwunun] salam-un Chelswu-ta
[I-NOM yesterday met][tobacco-ACC inhales] person-TOP C.-DEC
'The person who smokes who I met yesterday is Chelswu.'
- b. ?*[tampay-lul piwunun][nay-ka ecey manan] salam-un Chelswu-ta.

Summarizing, the situation in Japanese and Korean appears to be as depicted in (9). Both languages allow multiple relative clauses (RCs) expressing either s(tage)-level or i(ndividual)-level predication. However both restrict the order in which these occur. Specifically, individual-level relatives must follow, and occur closer to the noun than, stage-level relatives.

- (9) S-LEVEL I-LEVEL
 RC ... RC | RC ... RC N **Japanese/Korean**

³ We are grateful to Sungeun Cho for the Korean data in (6)-(8), and for discussion of them.

(14) **Individual-level RC, Stage-level RC, Demonstrative**

- a. [_{RC} Zuotian meiyou lai de] nage [_{RC} hen xihuan shang ke de]
xuesheng jiao Zhangsan.
[yesterday not come DE] that [very like go class DE] student call Z.
'That student who didn't come yesterday who likes to come to class
very much is called Zhangsan.'
- b. * [_{RC} Hen xihuan shang ke de] nage [_{RC} zuotian meiyou lai de]
xuesheng jiao Zhangsan.
- c. Nage [_{RC} zuotian meiyou lai de][_{RC} hen xihuan shang ke de]
xuesheng jiao Zhangsan.
that [yesterday not come DE][very like go class DE] student call Z.
'That student who didn't come yesterday who likes to come to class
very much is called Zhangsan.'
- d. *Nage [_{RC} hen xihuan shang ke de][_{RC} zuotian meiyou lai de]
xuesheng jiao Zhangsan.
that [very like go class DE][yesterday not come DE] student call Z.

In summary, then, Chinese, like Japanese and Korean, allows more than one relative clause of a given sort, s-level or i-level, and again the former must precede the latter. Furthermore, when a demonstrative determiner appears, only s-level relative clauses may occur in pre-D position (15):

- (15) S-LEVEL S-LEVEL I-LEVEL
 RC ... RC D RC ... RC | RC ... RC N Chinese

2.4 Turkish relatives

Prenominal relatives in Turkish appear to follow the basic generalization uncovered for Japanese, Korean and Chinese. However, they exhibit a more complex pattern in terms of the form of relative clauses, the kinds of predication they can express, and their stacking possibilities.

2.4.1 Relative clause type

As has been widely discussed in the literature (Hankamer and Knecht 1976; Slobin 1986; Kornfilt 2000, 2002; Krause 2001), Turkish exhibits two forms of prenominal relative clause. What we will call "SUBJ relatives" occur when subjects are relativized; the verb in a SUBJ relative clause inflects with the morpheme *-en*. "NSUBJ relatives" occur when non-subjects are relativized; the verb inflects with either the morpheme *-dik* (PRES or PAST) or the morpheme *-ecek* (FUTURE).⁵ Stage-level relative clauses and individual relative clauses appear to be available with both types (SUBJ/ NSUBJ):

⁵ The data reported in this section are due to Mürvet Enç, and Jaklin Kornfilt. We report judgments by these two speakers on individual cases in footnotes.

Hence although the pairs in (18) and (19) are acceptable for these individuals, those in (19) and (20) are less acceptable:

(18) **SUBJ Stage-level RCs**

- a. [sigara iç-mek-te ol-an][kapi-dan içeri gir-en] adam
[cigarette smoke-ing be-REL][door-ABL inside enter-REL] man
'the man who entered through the door who is smoking'
- b. [kapi-dan içeri giren][sigara içmekte olan] adam

(19) **SUBJ Individual-level RCs⁶**

- a. [Ankara-da otur-an][arastirma yap-an] ogrenci-ler
[Ankara-loc live-REL][research do-REL] student-PL
'students who live in Ankara who do research'
- b. [Arastirma yap-an][biyoloji oku-yan] ogrenci-ler
[research do-REL][biology read-REL] student-PL
'students who do research who study biology'

(20) **NSUBJ Stage-level RCs⁷**

- a. ?[dün tan1s-t1g-1m] [sen-in bu sabah ders-te gor-dug-un] kadın
[yesterday meet-REL-1SG]
[you-GEN this morning class-LOC-REL-2SG] woman
'the woman whom I met yesterday whom you saw in class
this morning'
- b. ?[senin bu sabah derste gordugun] [dun tanistigim] kadın

⁶ Beste Yolcu notes that the ill-formedness of following examples of stacked individual-level Subj RCs (due to Mürvet Enç) appears to arise from their status as copular constructions.

(i) *[mühendis ol-an] [Turk ol-an] adam
[engineer be-REL] [Turkish be-REL] man
'the man who is Turkish who is an engineer'

(ii) *[Turk ol-an][mühendis ol-an] adam

We have no idea as to why copular RCs should be less freely than the non-copular examples in (19).

⁷ Enç rejects such cases of stacked stage-level nonsubject RCS. Kornfilt finds them awkward but acceptable.

(21) **NSUBJ Individual-level RCs**⁸

- a. *?[Ben-im sev-dig-im]
[I-GEN like-REL-1SG]
[asci-nin her zaman cok guzel yap-tig-i] pasta
[cook-GEN always very well make-REL-3SG] cake
'the cake that I like that the cook always makes very well'
- b. *?[Asci-nin her zaman cok guzel yap-tig-i] [ben-im sev-dig-im] pasta

SUBJ + NSUBJ combinations of the same predication type also appear be largely marginal; thus stacking is at best borderline when both relative clauses are stage-level (22), and similarly when both are individual-level (23):

(22) **SUBJ Stage-level RC, NSUBJ Stage-level RC**⁹

- a. ?[dün tan1s-t1g-1m][sigara iç-mek-te ol-an] adam
[yesterday meet REL-1SG][cigarette smoke-ing be-REL] man
'the man who is smoking who I met yesterday'
- b. ??[sigara içmekte olan][dün tan1st1g1m] adam

(23) **SUBJ Individual-level RC, NSUBJ Individual-level RC**¹⁰

- a. *[Turk ol-an][Mürvet-in sev -dig-i] adam
[Turkish be-REL][Mürvet-GEN like-REL-3SG] man
'the man who is Turkish who Mürvet likes'
- b. ?[Mürvet-in sev-dig-i][Turk ol-an] adam

2.4.3 *Relative clause stacking (Different predication type)*

The situation changes in an interesting way when we consider stacked relatives of mixed predication type (stage-level + individual-level). As it turns out multiple SUBJ relatives are possible when one is stage-level and the other individual-level. However, this pattern is licit in Turkish just in case the individual-level relative appears innermost, closer to N (24):

(24) **SUBJ Stage-level RC, SUBJ Individual-level RC**

- a. [Sigara iç-mek-te ol-an][mühendis ol-an] adam
[cigarette smoke-ing be-REL][engineer be-REL] man
'the man who is an engineer who is smoking'
- b. *[mühendis olan] [sigara içmekte olan] adam

⁸ Enç rejects such cases of stacked individual-level nonsubject RCs. Kornfilt finds them very marginal, but not entirely unacceptable.

⁹ Enç rejects such cases of stacked stage-level RCS. Kornfilt finds them awkward but acceptable.

¹⁰ Enç rejects such cases of stacked individual-level nonsubject RCs. Kornfilt finds (23a) very marginal, but (23b) considerably better.

Furthermore, it is possible for a NSUBJ relative and an individual-level SUBJ relative to co-occur. But here again, this pattern is licit just in case the individual-level relative occurs closer to the noun (25):

- (25) **NSUBJ Stage-level RC, SUBJ Individual-level RC**
- a. [dün tan1s-t1g-1m] [mühendis ol-an] adam
 [yesterday meet-REL-1SG][engineer be-REL] man
 ‘the man who I met yesterday who is an engineer’
- b. *[mühendis olan][dün tan1st1g1m] adam

Taken together, the generalization that emerges from these data is the following. In Japanese and Korean multiple relatives are possible before the modified noun, subject to the condition that stage-level relatives must precede individual-level relatives—the latter must occur closer to N. In Turkish the situation is essentially the same except that stacked non-Subj relatives are marginal to outright unacceptable. Again, the requirement that individual-level relatives occur closer to N is observed (26):

- (26)
- | | | | | | | |
|-----------|-----------|--|-----------|-----------|---|--------------------------------|
| S-LEVEL | RC ... RC | | I-LEVEL | RC ... RC | N | Japanese/Korean/Chinese |
| RC ... RC | RC | | RC ... RC | RC | N | Turkish |

We will not dwell further on the Turkish data at this point, or speculate on why non-subject relatives stack less freely. The main thing we wish to emphasize is the stage-level/individual-level ordering restriction, which appears to hold uniformly in Japanese, Korean, Chinese and Turkish prenominal relative clauses.¹¹

3. Positional Contrasts in English Prenominal Modifiers

The facts with prenominal relatives in Japanese, Korean and Turkish can, we believe, be related to certain prenominal modifier contrasts found in English, which also appear to involve proximity to N.

3.1 Bolinger contrasts

Bolinger (1967) notes a subtle, but systematic meaning difference in pairs like (27a-d):

¹¹ Importantly, the ordering facts observed in (24) and (25) are not apparently subject to the variation noted above in connection with whether Turkish speakers permit individual-level NSUBJ relatives, or whether they can stack individual-level SUBJ relatives or stage-level NSUBJ relatives. Thus Jaklin Kornfilt (p.c.), the more liberal of our two principle informants, reports that the reordering restrictions in (24) and (25) hold for her dialect as well.

- (27) a. the **stars visible** (include Capella and Sirius)
the **visible stars**
- b. the **rivers navigable** (include the Nile and the Ganges)
the **navigable rivers**
- c. the **individuals responsible** (were contacted.)
the **responsible individuals**
- d. the **jewels stolen** (were on the table.)
the **stolen jewels**

Bolinger characterizes this difference in the following way: postnominal adjectives attribute a **temporary property** (TP), one true on a particular occasion, whereas prenominal adjectives attribute a characteristic or **enduring property** (EP), one that holds generally. This difference is truth conditional, as shown by the pair in (28). On a night where clouds hide the sky, (28a) is false since Capella cannot be seen; however (28b) can still be true since, even when hidden, Capella is an intrinsically visible star.

- (28) a. The **stars visible** include Capella.
b. The **visible stars** include Capella.

Bolinger discusses the temporary property/enduring property distinction as if it correlated directly with prenominal/postnominal position. But this is not correct, as the pair in (29) makes clear. Note first that it is possible to get two instances of the same adjective, non-redundantly, in pre- and postnominal position. This is shown in (29a). Then notice that it is possible to get two instances in prenominal position, as shown in (29b). Furthermore, in this second case we have a clear intuition that the outer adjective attributes the temporary property, and that the inner one attributes the enduring property:

- (29) a. The **visible stars visible** include Capella.
b. The **visible visible stars** include Capella.

This intuition is confirmed by the contrast in (30), due to Barbara Citko. Whereas an intrinsically visible star can be temporarily non-visible, it's odd to talk of an intrinsically non-visible star being temporarily visible. The generalization thus seems to be that enduring property modifiers must occur closer to N than temporary property modifiers (31).

- (30) a. The **nonvisible visible** stars include Capella. *Coherent!*
b. # The **visible nonvisible** stars include Capella. *Odd!*

- (31) The **visible visible** stars include Capella.
TEMP PROP ENDURING PROP

3.2 Deictic-generic time modifiers

Consider next the examples in (32) and (33), which are reminiscent of the Bolinger cases. The postnominal time modifiers in (32a) and (33a) have a **deictic reading** referring to some particular Thursday. By contrast, the prenominal modifiers in (32b) and (33b) are ambiguous: they can refer deictically, as in the (a) cases. But they also have a **generic reading**. Under the latter, their noun refers to lectures or appointments recurring regularly on Thursdays:

- (32) a. the lecture **Thursday**
 b. the **Thursday** lecture
- (33) a. every appointment **Thursday**
 b. every **Thursday** appointment

Time modifiers like these can appear in pre- and postnominal positions simultaneously, where the former is generic and the latter is deictic (34). And with a little imagination, they can also be doubled in prenominal position, as in (35a,b), due to Jason Brenier.

- (34) My **Thursday** lecture **Thursday** (was interesting).
GENERIC DEICTIC
- (35) a. (Tuesday lectures are usually interesting and Thursday lectures boring, but:)
 the **Thursday Thursday** lecture (was interesting this week)
DEICTIC GENERIC
- b. the **Wednesday Thursday** lecture (was packed)
DEICTIC GENERIC
 (said of a regular Thursday lecture moved to Wednesday during one week)

Notice that in both of these cases, there is a clear intuition that the outer modifier is deictic and the inner modifier generic. Thus (35b) does not refer to a regular Wednesday lecture that happens to occur on Thursday, but rather the other way around. The generalization thus seems to be that generic time modifiers must occur closer to N than deictic time modifiers (36):

4. Two Domains of Nominal Modification

The facts cited above exhibit a series of outer modifier/inner modifier contrasts that we collect together in (42):

(42)	<u>OUTER</u> visible <i>TEMPORARY PROP</i>		<u>INNER</u> visible <i>ENDURING PROP</i>	stars
	b. Thursday <i>DEICTIC</i>		Thursday <i>GENERIC</i>	lecture
	c. beautiful <i>INTERSECTIVE</i>		beautiful <i>NON-INTERSECTIVE</i>	dancer

Larson (1998, 2000) proposes to draw these facts together using the broad idea of Abney (1987) that nominals are comprised of two distinct projections: NP and DP. The specific proposal is that NP and DP constitute two distinct domains of modification, and that the inner vs. outer contrasts noted earlier correspond to NP- vs. DP-modification, respectively:

$$[_{DP} D \ [_{NP} \ [N \] \] \] \quad (\square = \text{NP-modifier}; \ \square = \text{DP-modifier})$$

On their outer modifier readings, *visible*, *Thursday* and *beautiful* are thus attached outside NP, whereas on their inner modification readings they are attached inside NP.

4.1 NP-modification

What we are classing together as NP-modification readings appear to be generic in character, or to express individual-level predication in the sense of Carlson (1977) (43)-(45):

- (43) a. these visible stars
 b. These stars are **characteristically/intrinsically visible**.

- (44) a. my Thursday meeting
 b. They meet **on Thursday(s)**.

- (45) a. a beautiful dancer
 b. She dances **beautifully**.

Chierchia (1995) makes the attractive proposal that generic verbs, predicate nominals, and individual-level predicate adjectives are uniformly bound by a

generic quantifier λ , which ranges over eventualities. This idea is illustrated in (46)-(48), with candidate logical forms, where we read an example like (46b) as follows: “in general, for events (e) of the contextually relevant kind (Con) containing the star in question (s), those events are ones in which the star is visible”. Similarly for (47) and (48):

- (46) a. That star is characteristically visible.
 b. $\lambda e [\text{Con}(e, s)] [\text{visible}(e, s)]$
- (47) a. They meet on Thursday(s).
 b. $\lambda e [\text{Con}(e, \text{them}) \ \& \ \text{meeting}(e, \text{them})] [\text{Loc}(e, \text{Thurs})]$
- (48) a. Olga is a beautiful dancer. / Olga dances beautifully.
 b. $\lambda e [\text{Con}(e, \text{olga}) \ \& \ \text{dancing}(e, \text{olga})] [\text{beautiful}(e)]$

Larson (1998, 2000) proposes that NP in DP always contains a generic quantifier with scope limited to NP (49):

- (49) $[\lambda [\text{NP } \lambda e [\text{NP } N]]]$

It follows under this proposal that modifiers inside NP (λ) will have potential generic readings since they will fall within the scope of λ . But modifiers outside NP (λ) will be unable to get an individual-level/generic reading because they occur outside the scope of λ . This is the basic account of the noun proximity contrasts noted above. In order to obtain the inner modifier readings, the relevant modifiers must occur within a certain domain defined by the scope of λ . That domain is NP (50).

- (50) a. $[\text{visible } \lambda [\text{NP } \lambda e [\text{NP } \text{visible star}]]]$ visible]
- b. $[\text{Tuesday } \lambda [\text{NP } \lambda e [\text{NP } \text{Tuesday lecture}]]]$ Tuesday]
- c. $[\text{beautiful } \lambda [\text{NP } \lambda e [\text{NP } \text{beautiful dancer}]]]$ beautiful]

4.2 DP-modification

Larson (1998, 2000) proposes that outer modifiers are uniformly intersective, equivalent to what one gets with English relative clauses (51):

- (51) a. the **visible** stars
(cf. *the stars that are visible*)
- b. the **Thursday** lecture
(cf. *the lecture that was on Thursday*)
- c. a **beautiful** dancer
(cf. *a dancer who is beautiful*)

In fact, pronominal adjectives with intersective interpretation are taken to originate postnominally in the position of relative clauses, and to achieve their surface position by movement. Relative clauses are analyzed as low, inner-most complements of D, which subsequently raises away from them (52); intersective adjectives begin in the same site as relatives but later move to pronominal position for Case reasons (53a, b):¹³

(52) $[_{DP} \text{ the } [_{DP} [_{NP} \text{ stars}] [_{D'} \text{ t } [_{CP} \text{ that are visible}]]]]]$

(53) a. $[_{DP} \text{ the } [_{DP} [_{NP} \text{ stars}] [_{D'} \text{ t } [_{AP} \text{ visible}]]]]]$

b. $[_{DP} \text{ the } \text{visible} [_{DP} [_{NP} \text{ stars}] [_{D'} \text{ t } \text{ t }]]]]$

Larson (1998) suggests that the correlation between intersective semantics and DP-modifying syntax is absolute. However, the results above with pronominal relatives indicate that this conclusion is too strong. Relative clauses expressing generic, individual-level predication appear to fully intersective, in so far as the familiar entailment in (54a) holds (cf. (54b)):

- (54) a. DP is a NP MOD \square DP is a NP & DP is MOD
- b. Tanaka is a woman who smokes \square Tanaka is a woman & Tanaka smokes

However, pronominal relative clauses in Japanese, Korean, Chinese and Turkish that express generic, individual-level predication show the same ordering preferences as generic, individual-level modifiers in general. This suggests that, despite their status as intersective modifiers, they should be brought under the same analysis.

4.3 Two positions for pronominal relative clauses

We propose that pronominal relative clauses in Japanese, Korean, Chinese and Turkish have the same attachment possibilities as pronominal modifiers in

¹³ These proposals essentially resurrect old ideas originally due to Smith (1964) and Jacobs and Rosenbaum (1968), who derive (intersective) pronominal adjectives from relative clauses by reduction and movement.

English—specifically, they may attach to either NP or DP within the larger nominal (55):

- (55) $[_{DP} \text{ RC } [_{NP} \text{ } \square \text{e } [\text{ RC } \text{ N }]]]$
S-LEVEL I-LEVEL

We suggest that the generic force of individual-level relatives has the same source as that of generic/individual-level modifiers in English, viz., it originates with the quantifier over events \square located at the edge of NP. This proposal will account for the semantics of individual-level relative clauses; following Chierchia (1995), this becomes a matter of inherent generic quantification. The proposal will also account for the important ordering restrictions prenominal on relatives observed above. Modulo other movements, individual-level relative clauses will always need to occur inside stage-level ones, for only in this way will they fall within the scope of \square and be appropriately bound by it.

Our proposal raises a number of interesting additional points and questions. We noted at the outset that (tensed) postnominal relatives do not appear to show ordering restrictions. This includes relatives expressing stage- and individual-level predication of the kind investigated here; (56a,b) appear equally acceptable. Under our analysis, this suggests that postnominal relatives like *who smokes* must contain their own source of generic quantification independent of NP; not depending on NP, they would not require the proximity to NP that yields an ordering effect (57a,b).

- (56) a. the person [who I met] [who smokes]
 b. the person [who smokes] [who I met]

- (57) a. the $[_{NP} \text{ } \square \text{e person}]$ [who I met] [$\square \text{e who smokes}$]
 b. The $[_{NP} \text{ } \square \text{e person}]$ [$\square \text{e who smokes}$] [who I met]

If this is correct, it raises the interesting question of why prenominal relatives—like adjectives, and unlike postnominal relatives—cannot carry their own quantifier. We speculate that this has to do with the non-clausal status of adjectives and the reduced/participial status of prenominal relatives. In brief, the latter do not seem to constitute a large enough domain to include such a quantifier.¹⁴

There is also an important general question about modifier position that arises in this account. Given that we have postulated prenominal relatives that are DP-modifiers (RC1), prenominal relatives that are NP-modifiers (RC2), and postnominal relatives that are DP-modifiers (RC4). It is natural to ask whether there are also postnominal relatives that are NP-modifiers (RC3):

¹⁴ We note that Japanese prenominal RCs expressing individual-level properties contain the simple present tense found in generic sentences and imperatives, where the latter have traditionally been viewed as defective with respect to their tense projection.

(58) [DP RC1 [NP RC2 N **RC3**] RC4]

Larson (1998) hypothesizes that NP-modification includes not only modifiers that interact with the event parameter of N, but also with world, time and degree parameters as well.¹⁵ It is interesting to note that there is at least one set of postnominal relatives with modal force that do show strong ordering effects, viz., infinitival relatives. As various authors have noted, these must occur closer to N than tensed relative clauses (59)-(60):¹⁶

- (59) a. John knew a man [**to fix the sink**] [**that Mary met**]
b. *?John knew a man [**that Mary met**] [**to fix the sink**]

- (60) a. Alice spoke to the dealer [**to buy tickets from**]
[**that Mary mentioned**]
b. *?Alice spoke to the dealer [**that Mary mentioned**]
[**to buy tickets from**]

Another potential instance of RC3 are cases like the boldfaced items in (61a,b). Larson (1983) notes that such examples resemble relative clauses, but are not predicative/intersective in any obvious sense. Larson (1983) analyzes these as interacting with the event structure of NP—in effect NP-modifiers.¹⁷

- (61) a. The duty-officer [**when John was on-deck**] will be at the hearing tomorrow.
(cf. **The duty-officer was when John was on deck.*)
b. The mayor [**where I live**] is very exuberant.
(cf. **The mayor is where I live.*)

Note now that these structures must appear closer to N than “genuine RCs” in order to retain the relevant reading (62):

- (62) a. The duty-officer [**when John was on-deck**] [**who was tall**] will be there.
b. # The duty-officer [**who was tall**] [**when John was on-deck**] will be there.

¹⁵ Thus modal adjectives like *possible* in *possible candidate*, temporal adjectives like *former* in *former candidate*, and degree adjectives like *complete* in *complete fool*, are all analyzed as NP-modifiers interacting with an internal parameter in the semantics of N (w, t and d, respectively). In view of this, NP-modification might be referred to as “parametric modification”.

¹⁶ (60b) has an irrelevant reading where the infinitive is interpreted as a complement of *mention*.

¹⁷ This analysis is stated within the framework of Situation Semantics (Barwise and Perry 1983), but can easily be reformulated within the Davidsonian approach to events discussed in Larson (1998).

Infinitival relatives and the adverbial relatives in (62) thus appear to be potential candidates for the RC3 position that arises naturally within this account.

5. Conclusion

In this paper we have reviewed facts about the ordering of prenominal relative clauses in Japanese, Korean, Chinese and Turkish, and have reached a number of tentative but (we believe) interesting conclusions. First, prenominal relatives in Japanese, Korean, Chinese and Turkish show ordering restrictions that strongly resemble ones found with English prenominal modifiers. The English contrasts appear to reflect an important distinction between NP-modification versus DP-modification, with a corresponding difference of attachment. Hence if the parallel is a valid one, the apparent conclusion is that prenominal relative clauses also allow two different, corresponding attachments: within NP and DP. In a sense, then, prenominal relative clauses function more like adjectival/participial constructions than English finite relative clauses, which show no corresponding ordering effects. Finally, we observed that infinitival relative clauses, and certain postnominal adverbial relative clause-like structures in English may also reflect the NP-modifier/DP-modifier difference.

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