

Squibs and Discussion

ARE THERE “DOUBLE RELATIVE
CLAUSES” IN KOREAN?

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It has been claimed that Korean allows the relativization of another relative clause, deriving the “double relative clause.” The presence of “double relative clauses” has led some researchers to argue that Korean relative clauses do not involve any operator movement, but instead involve a mechanism such as unselective binding (Sohn 1980, Y.-S. Kang 1986), where an operator binds variables in situ. In this squib, we argue that there is no true “double relative clause,” thus no real threat to the operator movement analysis for relative clauses in Korean. More specifically, we propose that “double relative clauses” are derived from double nominative constructions, through relativizing the first nominative NP that originates from an IP-adjoined position. Given our analysis, “double relative clauses” are not instances of island violations, and the operator movement analysis for relative clause formation in Korean can thus be maintained.

1 Issues

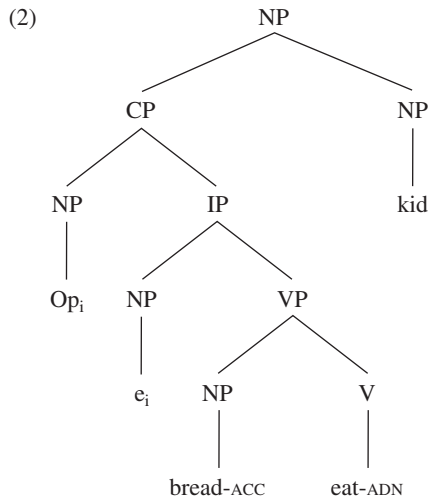
In Korean, the main verb in a relative clause is inflected with an adnominal morpheme *-(n)un* (glossed as *ADN*), which indicates that the clause is modifying a noun. The head noun occurs to its right, Korean being a head-final language. An example of a relative clause with a subject gap is given in (1).

- (1) [_{NP}[_{IP} e ppang-ul mek-nun] ai]
e bread-ACC eat-ADN kid
‘the kid who is eating bread’

Although Korean does not have any overt relative pronoun, it is stan-

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dardly assumed that there is an empty relative pronoun operator in Spec,CP that is syntactically associated with a gap in the relative clause (see D.-W. Yang 1989, H.-K. Yang 1990). The relative clause in (1) can be structurally represented as in (2) (throughout, English words are used in tree structures for convenience). The syntactic relation between the empty operator and the subject gap is instantiated by coindexation. Under the operator movement analysis, the subject gap e_i is a trace of the empty operator Op_i .¹

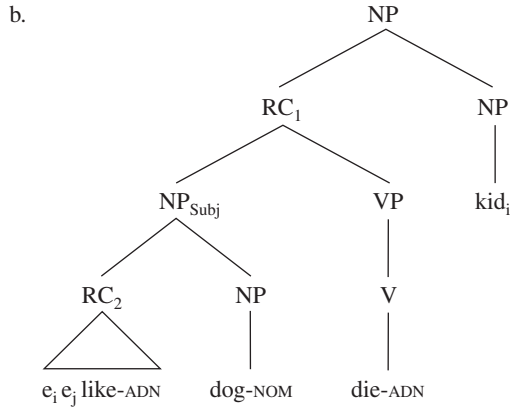


“Double relative clauses,” however, pose a problem for the operator movement analysis because they appear to involve relativization of another relative clause. For instance, in (3a) the object NP that is associated with *kangaci-ka* (‘dog-NOM’) has relativized and then the subject NP that is associated with *ai* ‘kid’ has relativized (‘dog’ is the subject of ‘die’). The problem for the operator movement analysis is caused by the subject gap (e_i): it appears to be a trace left by an island-violating movement out of another relative clause. This is illustrated in the tree structure in (3b).²

- (3) a. $[_{RC_1}[_{RC_2} e_i e_j \text{ cohaha-nun}] \text{ kangaci-ka}_j \text{ cwuk-un}] ai_i$
 $e_i e_j \text{ like-ADN dog-NOM}_j \text{ die-ADN kid}_i$
 ‘the kid $[_{RC_1} \text{ who}_i \text{ the dog } [_{RC_2} \text{ which}_j e_i \text{ liked } e_j]$
 died]’
 ‘the kid who the dog which [he] liked died’

¹ See J.-B. Kim (1998) for a nonmovement analysis of Korean relative clauses that posits no empty operator at all.

² When representing relative clauses in the rest of the squib, we leave out the empty relative pronoun operator and directly coindex the head noun and the gap in the relative clause for the sake of simplicity. We also simplify the tree diagrams to save space.



More examples of “double relative clauses” are given in (4).

- (4) a. [RC₁[RC₂ e_i e_j tha-ko tani-nun] cha-ka_j mesci-n]
 e_i e_j ride drive-ADN car-NOM_j stylish-ADN
 sinsa_i
 gentleman_i
 ‘the gentleman [RC₁ who_i the car [RC₂ which_j e_i is driving
 e_j] is stylish]’
 ‘the gentleman who the car that [he] is driving is stylish’
- b. [RC₁[RC₂ e_i e_j kackoiss-nun] khemphwute-ka_j
 e_i e_j have-ADN computer-NOM_j
 Mac-i-n] kyoswu_i
 Mac-COP-ADN professor_i
 ‘the professor [RC₁ who_i the computer [RC₂ which_j e_i has
 e_j] is Mac]’
 ‘the professor who the computer which [he] has is [a]
 Mac’

Because of examples like (3a) and (4), some have taken an unselective binding approach to the analysis of relative clauses in Korean. Under such an approach, the gaps in the relative clause are pronominal variables and are bound by the empty operator in situ (Sohn 1980, Y.-S. Kang 1986). This approach then predicts that there should be no island effects in relative clauses. However, there are many cases where island effects are clearly observed, as illustrated in (5) (see D.-W. Yang 1989, H.-K. Yang 1990).

- (5) a. *[John-i [CNP[kangto-ka e_i hwumchy-ess-tanun]
 John-NOM thief-NOM e_i steal-PAST-ADN
 sosik-ul] tul-un] posek_i
 news-ACC hear-ADN jewel_i
 ‘the jewel which_i John heard [CNP the news that the
 thief stole e_i]’

- b. *[wuli pan haksayng-i [CNP[e_i kapcaki mikwuk-ey
our class student-NOM e_i suddenly America-to
ka-n] sasil-ul] mola-ss-ten] sensayngnim_i
go-ADN fact-ACC not.know-PAST-ADN teacher_i
'the teacher who_i a student from our class didn't know
[CNP the fact that e_i suddenly went to America]'
- c. *[_{LAC} John-i ku namca-lul e_i manna-ss-ki
John-NOM that man-ACC e_i meet-PAST-NOMINAL
ttaymwuney] Sue-ka hwakana-n] sikan_i
because Sue-NOM be.angry-ADN time_i
'the time when_i Sue was angry [_{LAC} because John met
that man e_i']

An object and a subject have relativized out of a complex NP (CNP) in (5a) and (5b), respectively, and an adjunct has relativized out of an adjunct clause (AC) in (5c).³

Another possible approach is to say that the problematic gap in the lower relative clause is an empty resumptive pronoun whose licensing

³ An anonymous reviewer suggests that the examples in (5a–b) are degraded not because of a violation of a grammatical principle but because of a difficulty in processing. As a supporting argument, the reviewer shows that the acceptability of similar examples improves (though they are still not perfect) if the nominative case marker on the higher subject is replaced with a focus particle (a delimiter) *-man* 'only' and/or an adverb is inserted between the subject and the complex NP.

- (i) ??[John-man (papokathi) [_{CNP} [kangto-ka e_i hwumchy-ess-tanun]
John-only foolishly thief-NOM e_i steal-PAST-ADN
sosik-ul] mos tul-un] posek_i
news-ACC not hear-ADN jewel_i
'the jewel which foolishly only John didn't hear the news that the
thief stole'

The reviewer further argues that even when islands are not at stake, relativization of an embedded subject over a higher nominative-marked subject is degraded, and that the acceptability improves if the nominative case on the subject is replaced with *-man*.

- (ii) a. [nay-ka [e_i chencay-lako] sayngkakha-nun] ku salam;
I-NOM e_i genius-COMP think-ADN that person_i
'that person who I think is a genius' (cf. the reviewer's judgment:
*?)
- b. [na-man [e_i chencay-lako] sayngkakha-nun] ku salam;
I-only e_i genius-COMP think-ADN that person_i
'that person who only I think is a genius'

We, however, have reasons to doubt that the unacceptability of (5a–b) is a mere processing effect. First, the unacceptability of (5a–b) contrasts sharply with the acceptability of (3a) and (4). Second, out of 10 native speakers of Korean we consulted, 9 speakers judged (5a–b) to be unacceptable. If processing difficulty alone were at work, we would expect more variability among speakers. Third, all the native speakers we consulted judged (iia) to be as

conditions are not subject to movement constraints.⁴ This approach appears to be supported by the fact that the problematic gap in (3a) and (4) can be replaced with an overt pronoun, although the result is slightly degraded.

- (6) a. ?_{[RC₁[RC₂ ku-ka_i e_j cohaha-nun] kangaci-ka_j}
 he-NOM_i e_j like-ADN dog-NOM_j
 cwuk-un] ai_i
 die-ADN kid_i
 ‘the kid who the dog which [he] liked died’
- b. ?_{[RC₁[RC₂ ku-ka_i e_j tha-ko tani-nun] cha-ka_j}
 he-NOM_i e_j ride drive-ADN car-NOM_j
 mesci-n] sinsa_i
 stylish-ADN gentleman_i
 ‘the gentleman who the car that [he] is driving is stylish’
- c. ?_{[RC₁[RC₂ ku-ka_i e_j kackoiss-nun] khemphwute-ka_j}
 he-NOM_i e_j have-ADN computer-NOM_j
 Mac-i-n] kyoswu_i
 Mac-COP-ADN professor_i
 ‘the professor who the computer which [he] has is [a] Mac’

Given that resumptive pronouns are shown to “amnesty” island effects when an extraction has occurred from an island (Kroch 1981), it seems reasonable to suspect that something similar might be going on in “double relative clauses.” If, however, the resumptive pronoun strategy is available to rescue the relativization of another relative clause, it should also be available to rescue the relativization of complex NPs and adjunct clauses. But such a resumptive pronoun strategy does not appear to be readily available in these cases, as evidenced by the unacceptability of (5a–c). Further, unlike the problematic gap in “double relative clauses,” the gap in (5a–c) cannot be replaced with an overt pronoun, as illustrated in (7).⁵

perfectly acceptable as (iib), contra the reviewer’s judgments. This shows that the unacceptability of (5a–b) has little to do with the putative processing difficulty caused by the relativization of an embedded argument over a matrix nominative-marked subject. We do not yet clearly understand why manipulating examples such as (5a–b) in certain ways improves grammaticality for some speakers, as in (i). We will revisit this issue in footnote 5.

⁴ We thank an anonymous reviewer for raising this question.

⁵ Although the unacceptability of (5a–c) indicates that the resumptive pronoun strategy cannot be used in the analysis of these examples, this does not mean that Korean relative clauses never make use of resumptive pronouns. In fact, the improved acceptability of (i) in footnote 3 could be taken to suggest that insertion of a focus marker and adverbs somehow makes it easier for the resumptive pronoun strategy to apply to island-violating relative clauses. All these facts show that the use of resumptive pronouns in Korean (if possible) is highly restricted, subject to many syntactic and discourse constraints not yet clear to us.

- (7) a. *[John-i [CNP[kangto-ka ku-kes-ul;
 John-NOM thief-NOM it-ACC;
 hwumchy-ess-tanun] sosik-ul] tul-un] posek;
 steal-PAST-ADN news-ACC hear-ADN jewel;
 'the jewel which_i John heard [CNP the news that the
 thief stole it_i']
- b. *[wuli pan haksayng-i [CNP[ku-ka_i kapcaki
 our class student-NOM he-NOM_i suddenly
 mikwuk-ey ka-n] sasil-ul] mola-ss-ten]
 America-to go-ADN fact-ACC not.know-PAST-ADN
 sensayngnim;
 teacher;
 'the teacher who_i a student from our class didn't know
 [CNP the fact that he_i suddenly went to America']
- c. *[[AC John-i ku namca-lul kuttay_i
 John-NOM that man-ACC then;
 manna-ss-ki ttaymwuney] Sue-ka
 meet-PAST-NOMINAL because Sue-NOM
 hwakana-n] sikan_i
 be.angry-ADN time;
 'the time when_i Sue was angry [AC because John met
 that man then_i']

The resumptive pronoun approach then raises the question why relative clauses differ from other island environments when it comes to relativization, taking us back to our original problem of "double relative clauses."⁶

So far, we have shown that island effects attested in relative clauses provide strong evidence for the operator movement analysis, but also that this analysis cannot handle "double relative clauses." We have also shown that resorting to the resumptive pronoun approach does not help in resolving the problem because under this approach, we are led to the conclusion that only relative clauses freely allow

⁶ Another way of avoiding the island effects is to assume that Korean allows the subject of a relative clause to be genitivized if the relative clause describes a characteristic property of its head NP as assumed by M.-Y. Kang (1988) and D.-W. Yang (1989). Within such a system, the subject is first adjoined to the CP and then moved out of the relative clause, avoiding the violation of Subjacency or barrierhood. One serious question that arises from such an analysis is how to define the notion "characteristic property." See section 3 for our discussion of a similar semantic analysis set forth by Na and Huck (1993). Also see J.-B. Kim 1998 for more detailed discussion against such a genitive account.

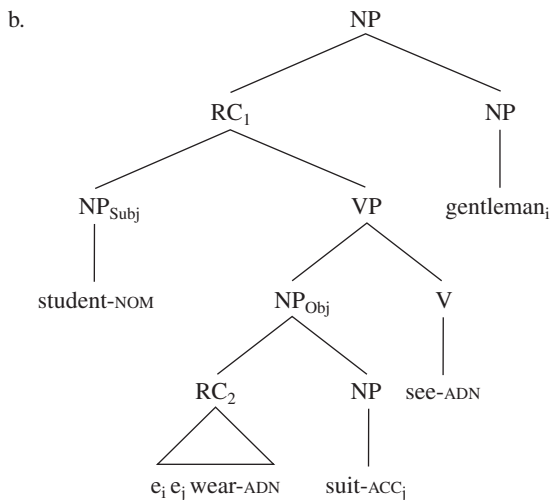
resumptive pronouns, while they are very restricted in other island-violating contexts. In section 2, we briefly discuss two other analyses of ‘‘double relative clauses’’: Han’s (1992) syntax-based account, and Na and Huck’s (1993) semantics-based account. We then present our analysis in section 3, where we provide an alternative syntax that does not involve relativization of another relative clause.

2 Previous Analyses

2.1 Han 1992

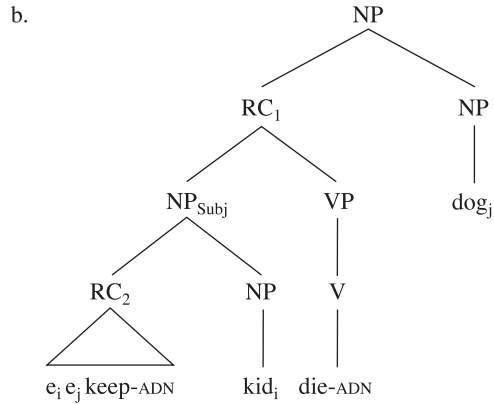
Han (1992) points out two restrictions on ‘‘double relative clauses.’’ First, the double relative clause formation is possible only when the lower relative clause is in subject position, as in (3). An example of an illicit case where an NP has relativized out of a relative clause in an object position is given in (8a) (with the corresponding tree structure in (8b)).

- (8) a. * $[_{RC_1}$ wuli pan haksayng-i $[_{RC_2}$ e_i e_j ip-un]
 our class student-NOM e_i e_j wear-ADN
 yangpok-ul_j po-n] sinsa_i
 suit-ACC_j see-ADN gentleman_i
 ‘the gentleman $[_{RC_1}$ who_i a student from our class saw
 the suit $[_{RC_2}$ which_j e_i wore e_j]]’
 ‘the gentleman who a student from our class saw the
 suit which [he] wore’



Second, a nonsubject NP cannot relativize out of another relative clause, as illustrated in (9a) (with the corresponding tree structure in (9b)). The example in (9) is degraded because an object NP has relativized out of the relative clause RC_2 , leaving the gap e_j .

- (9) a. $??$ [RC_1 [RC_2 e_i e_j khiwecwu-n] ai-ka $_i$ cwuk-un]
 e_i e_j keep-ADN kid-NOM $_i$ die-ADN
 kangaci $_j$
 dog
 ‘the dog [RC_1 which $_i$ the kid [RC_2 who $_j$ e_j kept e_i died]]’
 ‘the dog which the kid who kept [him] died’



Han (1992) argues in the spirit of Huang (1989) that in Korean relative clauses, the subject gap is a base-generated pro and is constrained by Huang's generalized control theory, which states that an empty pronominal should be coindexed with the closest nominal element. Han further argues that the object gap is a variable left by the movement of the empty operator. Accordingly, (8a) is ungrammatical because the presence of a closer potential antecedent *wuli pan hak-sayng-i* 'our class student-NOM' blocks the subject gap from being coindexed with the head noun *sinsa* 'gentleman'. Crucially, the ungrammaticality of (8a) is not caused by an island violation. In contrast, (9a) is ungrammatical because the object gap is a variable (trace) left by the movement of the empty operator out of another relative clause, which is an island violation.

However, there are problems with Han's analysis. For instance, we can construct good examples where nonsubject NPs do appear to have relativized out of another relative clause. Example (9a) becomes perfectly acceptable simply by changing the first head noun *ai* 'kid' to *cuwin* 'owner', as illustrated in (10).

- (10) [RC_1 [RC_2 e_i e_j khiwecwu-n] cwui- i_i cwuk-un] kangaci $_j$
 e_i e_j keep-ADN OWNER-NOM $_i$ die-ADN dog $_j$
 ‘the dog [RC_1 which $_i$ the owner [RC_2 who $_j$ e_j kept e_i died]]’
 ‘the dog which the owner who kept [him] died’

Furthermore, Han's proposal wrongly predicts that subject relativization of a complement clause will be unacceptable, since the matrix subject counts as a potentially closer antecedent of the subject gap.

For instance, (11) should be ungrammatical because the matrix subject *Mary* is a potentially closer antecedent for the gap e_i , blocking the coindexation between e_i and the head noun *ku namca* ‘that man’. But clearly, (11) is well formed.

- (11) [_{RC}[Mary-ka [e_i chencay-lako] malha-n]] ku namca_i
 Mary-NOM e_i genius-COMP say-ADN that man_i
 ‘the man that Mary said is a genius’

2.2 *Na and Huck 1993*

Na and Huck (1993) propose accounting for violations of Subjacency in relative clauses through the application of an interpretive condition called the Argument Condition.

- (12) *Argument Condition* (Na and Huck 1993:200)
 A relative clause must contain an element E that the clause predicates something of, where E is either
 a. a gap coindexed with the clause head, or
 b. a nominal whose denotation is thematically subordinate to that of the clause head.

According to Na and Huck, ‘‘X is *thematically subordinate* to an entity Y iff Y’s having the properties it does entails that X has the properties it does’’ (1993:194). Na and Huck classify this thematic subordination into five relations: *part-whole* (e.g., cover vs. book, voice vs. man), *quality-to-entity* (e.g., use vs. tool, color vs. eyes), *conventional* (e.g., car vs. man, dog vs. girl), *hierarchical* (e.g., parent vs. child, doctor vs. patient), and *taxonomic* (e.g., apple vs. fruit, chair vs. furniture). These classifications are the central part of their analysis.

Na and Huck’s analysis accounts for the (un)acceptability of a wide range of island-violating relative clauses. In (13a–b), the gap e_i in each example is coindexed with a nominal that is not the head of the minimal complex NP containing the gap—thus violating clause (a) of the Argument Condition. Each of them also violates clause (b) of the Argument Condition because the head noun of the higher relative clause and the nominal within it are not in a thematic subordination relation. Meanwhile, examples like (3a) and (4) are acceptable because of clause (b), even though they do not conform to clause (a). For instance, in (3a) there is a ‘‘thematic (i.e., conventional) subordination’’ relation between the head *ai* ‘kid’ and the nominal *kangaci* ‘dog’. The semantic relationship between the head nouns involved thus determines the grammaticality of ‘‘double relative clauses.’’⁷

⁷ Na and Huck (1993:203) note that their Argument Condition is rather different from the various versions of the Subjacency Condition given by Chomsky (1981, 1986) in that it is ‘‘antecedent oriented.’’ The condition tells us, given a clause head, where to look for a gap or a thematically subordinate nominal.

- (13) a. *[_{RC₁}[_{RC₂} e_i e_j ilkkoiiss-nun] ai-ka_j pappu-n]
 e_i e_j read-ADN kid-NOM_j busy-ADN
 chayk_i
 book_i
 ‘the book [_{RC₁} which_i the kid [_{RC₂} who_j e_j is reading e_i]
 is busy]’
- b. *[_{RC₁}[_{RC₂} e_i e_j ponaycwu-n] salam-i_j Seoul-ey
 e_i e_j send-ADN person-NOM_j Seoul-LOC
 iss-nun] senmwul_i
 be-ADN present_i
 ‘the present_i [_{RC₁} which_i the person [_{RC₂} who_j sent e_j
 e_i] is in Seoul]’

Na and Huck’s analysis is insightful in factoring out semantic and pragmatic effects from complicated Korean relative clauses as well as in providing an account for differences between English and Korean. However, a wider range of data reveals counterexamples to their analysis.

- (14) a. [_{RC₁}[_{RC₂} e_i e_j kapo-n cek-i eps-nun]
 e_i e_j go-ADN experience-NOM non.exist-ADN
 talnala-ka_j kuliw-un] Tom_i
 moon-NOM_j miss-ADN Tom_i
 ‘Tom [_{RC₁} who_i misses the moon [_{RC₂} where_j e_i has
 never been e_j before]]’
 ‘Tom who misses the moon where [he] has never been
 before’
- b. [_{RC₁}[_{RC₂} e_i e_j ticainha-n] phyoci-ka_j tangsentoy-n]
 e_i e_j design-ADN cover-NOM_j select-ADN
 ku haksayng_i
 that student_i
 ‘that student [_{RC₁} who_i the cover [_{RC₂} which_j e_i de-
 signed e_j] was selected]’
 ‘that student who the cover which [she/he] designed
 was selected’
- c. *[_{RC₁} John-i [_{RC₂} e_i e_j ssu-n] soseul-ul_j
 John-NOM e_i e_j write-ADN novel-ACC_j
 Mary-eykey cwu-n] cakka_i
 Mary-DAT give-ADN writer_i
 ‘the writer [_{RC₁} who_i John gave the novel [_{RC₂} which_j
 e_i wrote e_j] to Mary]
 ‘the writer who John gave the novel which [he] wrote
 to Mary’

In the grammatical examples (14a) and (14b), there is no thematic subordination relation between *talnala* ‘moon’ and *Tom* or between *phyoci* ‘cover’ and *haksayng* ‘student’. Moreover, although the two nominals in (14c), *soseul* ‘novel’ and *cakka* ‘writer’, are in a thematic subordination relation, the example is unacceptable. These examples

show that something more is at work in determining the grammaticality of “double relative clauses” than just the semantic relationship between the head noun of the higher relative clause and a nominal element within it.

3 Our Proposal

3.1 Double Nominative Constructions

We propose an analysis of “double relative clauses” that crucially depends on the availability of double nominative constructions in Korean, as illustrated in (15).

- (15) a. Ku ai-ka kangaci-ka cwuk-ess-ta.
 that kid-NOM dog-NOM die-PAST-DECL
 ‘As for that kid, the dog died.’
 b. Ku sinsa-ka yangpok-i telep-ta.
 that gentleman-NOM suit-NOM dirty-DECL
 ‘As for that gentleman, the suit is dirty.’

In terms of interpretation, the first nominative NP is in a certain semantic relation with the second nominative NP, the exact nature of which is determined by pragmatic implicature. For instance, sentence (15a) is about a kid, and it implies that the dog that died belongs to the kid. Sentence (15b) is about a gentleman, and it implies that the suit that is dirty is worn by the gentleman. Such double nominative constructions can only be formed with stative verbs or adjectives (Y.-J. Kim 1990). They cannot be formed with activity verbs, as shown in (16).

- (16) *Ku ai-ka kangaci-ka cic-ess-ta.
 that kid-NOM dog-NOM bark-PAST-DECL
 ‘As for that kid, the dog barked.’

Syntactically, we assume that the second nominative NP and the predicate form an IP, and the first nominative NP is adjoined to this IP (see J. Yoon 1986, J.-M. Yoon 1989, Heycock and Lee 1989, J.-B. Kim 2001, and references therein for discussion of the syntax and semantics of multiple nominative constructions in Korean). A supporting argument for this assumption is that the second nominative NP and the predicate can by themselves form a complete sentence, as shown in (17).

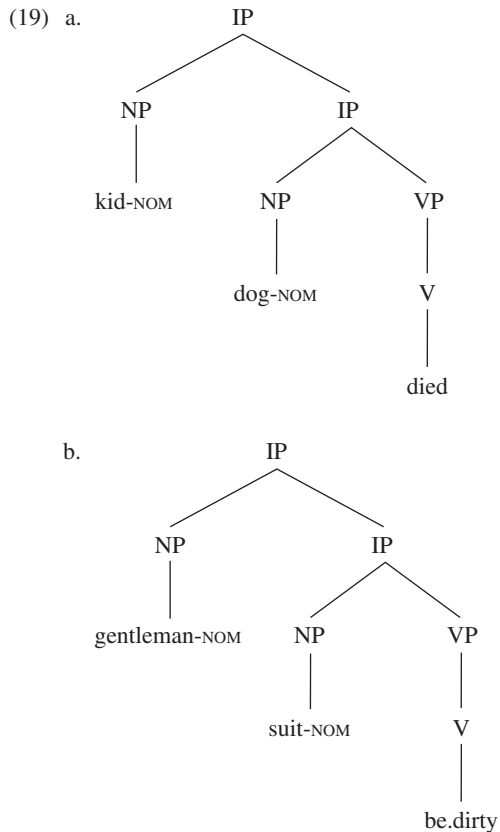
- (17) a. Kangaci-ka cwuk-ess-ta.
 dog-NOM die-PAST-DECL
 ‘The dog died.’
 b. Yangpok-i telep-ta.
 suit-NOM dirty-DECL
 ‘The suit is dirty.’

Moreover, the two nominative NPs can be separated by an adverb, as shown in (18). This fact rules out the structure where the first NP is

adjoined to the second NP as a possible structure for double nominative constructions.

- (18) a. Ku ai-ka sasil kangaci-ka cwuk-ess-ta.
 that kid-NOM frankly dog-NOM die-PAST-DECL
 'As for that kid, frankly, the dog died.'
 b. Ku sinsa-ka onul yangpok-i telep-ta.
 that gentleman-NOM today suit-NOM dirty-DECL
 'As for that gentleman, today, the suit is dirty.'

The adverb placement fact indicates that there is a position available for adverbs to adjoin between the two nominative NPs. If we assume that the second nominative NP and the predicate compose to form an IP, the adverb can adjoin to this IP. The structures we assume for the double nominative sentences in (15) are given in (19). For convenience, we will refer to the position for the first nominative NP as the *IP-adjoined position*.



Importantly, the first nominative NP in double nominative constructions can be relativized. Examples are given in (20a) and (20b).

- (20) a. [_{RC} e_i [kangaci-ka cwuk-un]] ai_i
 e_i dog-NOM die-ADN kid_i
 ‘the kid whose dog died’
 b. [_{RC} e_i [yangpok-i telew-un]] sinsa_i
 e_i suit-NOM dirty-ADN gentleman_i
 ‘the gentleman whose suit is dirty’

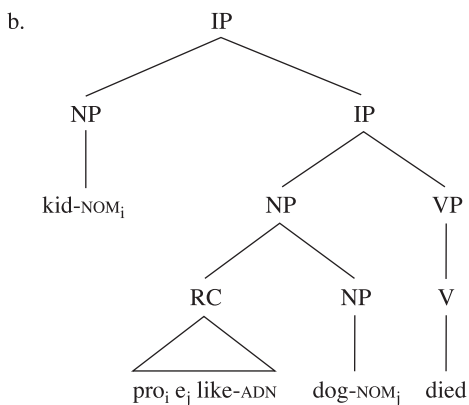
Moreover, the relativization of the first nominative NP involves operator movement, as evidenced by the fact that it is subject to island constraints (21).

- (21) *_{RC} Sue-ka papokathi [_{CNP} e_i yangpok-i telep-tanun
 Sue-NOM foolishly e_i suit-NOM dirty-ADN
 sasil-ul] molu-nun] sinsa_i
 fact-ACC not.know-ADN gentleman_i
 ‘the gentleman who Sue foolishly does not know the fact
 that his suit is dirty’

3.2 Proposed Analysis

We propose that the source sentences for ‘‘double relative clauses’’ are double nominative constructions, where the second nominative NP contains another relative clause that has an empty *pro* that is coindexed with the first nominative NP. This is illustrated in (22a) (with the corresponding tree structure in (22b)).

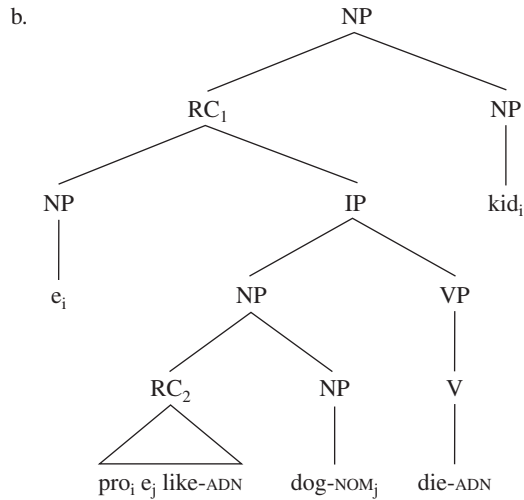
- (22) a. Ai-ka_i [_{RC} *pro*_i e_j cohaha-nun] kangaci-ka_j
 kid-NOM_i *pro*_i e_j like-ADN dog-NOM_j
 cwuk-ess-ta.
 die-PAST-DECL
 ‘As for the kid, the dog that he liked died.’



The relative clause in (22a) essentially specifies how the second NP is semantically related to the first NP. In this case, the referent of the second NP (‘the dog’) is something that the referent of the first NP (‘the kid’) likes.

By relativizing the first NP in (22a), we derive the relative clause in (23a) (with tree structure in (23b)). Under our analysis, the problematic gap in the ‘‘double relative clause’’ originates from the IP-adjoined first nominative NP position, and not from the subject position of a relative clause. Hence, no island violation has occurred.⁸

- (23) a. [_{RC₁} e_i [_{RC₂} pro_i e_j cohaha-nun] kangaci-ka]
 e_i pro_i e_j like-ADN dog-NOM_j
 cwuk-un] ai_i
 die-ADN kid_i
 ‘the kid whose dog which he liked died’



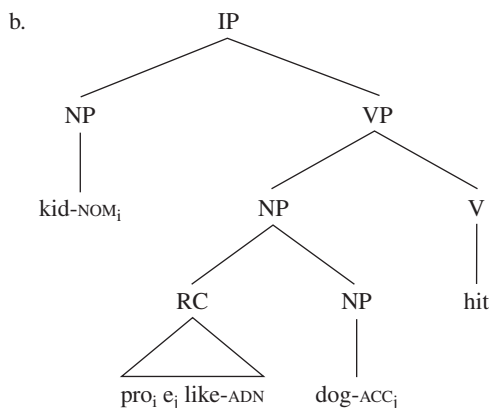
Examples (4a–b) and (14a–b) are derived in the same way, as a corresponding double nominative source sentence can be constructed for each of them.

- (24) a. Ku sinsa-ka cha-ka mesci-ta.
 that gentleman-NOM car-ACC stylish-DECL
 ‘As for that gentleman, the car is stylish.’
 b. Ku kyoswu-ka khemphwute-ka Mac-i-ta.
 that professor-NOM computer-NOM Mac-COP-DECL
 ‘As for that professor, the computer is [a] Mac.’
 c. Tom-i talnala-ka kulip-ta.
 Tom-NOM moon-NOM miss-DECL
 ‘Tom misses the moon.’
 d. Ku haksayng-i phyoci-ka tangsentoy-ess-ta.
 that student-NOM cover-NOM select-PAST-DECL
 ‘As for that student, the cover was selected.’

⁸ An anonymous reviewer has brought to our attention that H.-K. Yang (1990) proposed a similar analysis within the notion of barrierhood. See H.-K. Yang 1990 for details.

The *pro* we posit in the lower relative clause as in (23) is not a resumptive pronoun, but a regular pronoun that is subject to general coreference conditions on pronouns independently at work in Korean. For example, a *pro* in an embedded clause can be coreferential with the matrix subject, as in (25a).

- (25) a. Ai-ka_i [_{RC} *pro*_i e_j cohaha-nun] kangaci-lul_j ttayly-ess-ta.
 kid-NOM_i *pro*_i e_j like-ADN dog-ACC_j hit-PAST-DECL
 ‘The kid hit the dog he likes.’



This, then, is why the *pro* subject of *cohaha-nun* ‘like-ADN’ in the lower relative clause can be coreferential with the IP-adjoined nominative NP in (22) and (23a).

One piece of evidence for postulating the presence of *pro* in the lower relative clause comes from the possibility of replacing this *pro* with an overt pronominal or a reflexive, as illustrated in (26).

- (26) a. Ku cakka-ka [[ku-ka/caki-ka e_j ssu-n]
 the writer-NOM he-NOM/self-NOM e_j write-ADN
 sosel-i_j] manh-ta.
 novel_j many-DECL
 ‘As for the writer, the novels he/himself wrote are many.’
- b. [_{RC₁} e_i [_{RC₂} ku-ka/caki-ka e_j ssu-n] sosel-i_j
 e_i he-NOM/self-NOM e_j write-ADN novel-NOM_j
 manh-un] cakka_i
 many-ADN writer_i
 ‘the writer who the novels that he/himself wrote are many’

Accordingly, we now have an explanation for why overt pronouns in (6) are possible, in contrast to (7). The pronouns in (6) are not resumptive pronouns. They are regular pronouns coindexed with the extracted IP-adjoined first nominative NP.

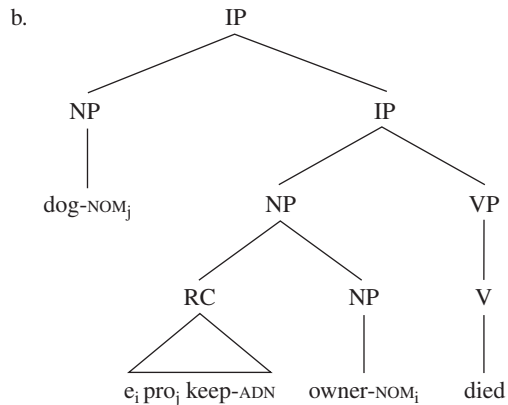
An even more compelling piece of evidence comes from the fact that the *pro* position in the lower relative clause can be filled with a nonpronominal element that is not coreferential with the first nomina-

tive NP, as in (27). These examples also show that the coreference requirement in the “double relative clause” is pragmatic in nature: given a proper context, an example that violates this requirement can be constructed.

- (27) a. [_{RC₁} e_i [_{RC₂} talun salam-i e_j molly ssu-n]
 e_i other people-NOM e_j secretly write-ADN
 sosel-i_j manh-un] cakka_i
 novel-NOM_j many-ADN writer_i
 ‘the writer who the novels that other people wrote in
 secret [for him] are many’
- b. [_{RC₁} e_i [_{RC₂} John-i e_j pilyekass-ten]
 e_i John-NOM e_j borrow.away-ADN
 os-i_j cciceci-n] sinsa_i
 clothes-NOM_j torn.up-ADN gentleman_i
 ‘the gentleman who the clothes John borrowed [from
 him] were torn up’

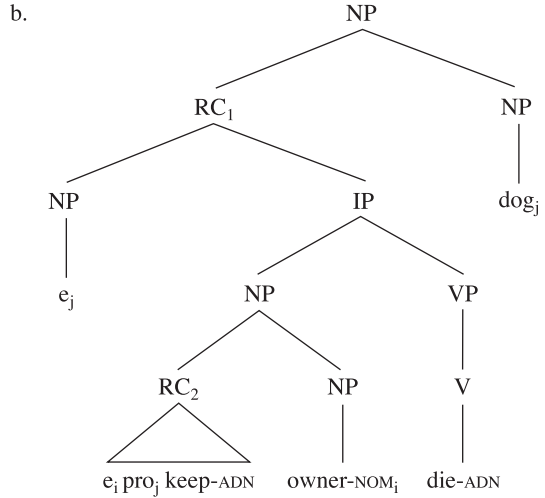
What about the cases in which an object NP seems to be able to relativize out of another relative clause, as in (10)? Under our analysis, the source sentence for this is a double nominative construction where the second nominative NP contains a relative clause and this relative clause has a *pro* object that is coindexed with the first nominative NP. An example double nominative source sentence for (10) is given in (28a) (with the corresponding tree structure in (28b)).

- (28) a. Ku kangaci-ka_j [_{RC} e_i *pro*_j khiwecw-n] cwuin-i_i
 that dog-NOM_j e_i *pro*_j keep-ADN owner-NOM_i
 cwuk-ess-ta.
 die-PAST-DECL
 ‘As for that dog, the owner who kept him died.’



By relativizing the first nominative NP, we derive the relative clause in (29a) (with tree structure (29b)) with no island violation.

- (29) a. $[_{RC_1} e_j [_{RC_2} e_i \text{ pro}_j \text{ khiwecwu-n}] \text{ cwuin-}i_1 \text{ cwuk-un}]$
 $e_j \quad e_i \text{ pro}_j \text{ keep-ADN} \quad \text{owner-NOM}_i \text{ die-ADN}$
 kangaci_j
 dog_j
 ‘the dog who the owner who kept [him] died’



Under our analysis, (9a) (repeated here as (30) with our proposed structural analysis) is degraded not because of the syntax but because of the interpretation, which is constrained by pragmatics, (30) having the same syntax as (29a).

- (30) $??[_{RC_1} e_j [_{RC_2} e_i \text{ pro}_j \text{ khiwecwu-n}] \text{ ai-ka}_i \text{ cwuk-un}]$
 $e_j \quad e_i \text{ pro}_j \text{ keep-ADN} \quad \text{kid-NOM}_i \text{ die-ADN}$
 kangaci_j
 dog_j
 ‘the dog which the kid who kept [him] died’

While it is easy to establish a relation between *dog* and *owner* (as in (28a)), it is not so easy to do so between *dog* and *kid* without any contextual information.⁹

⁹ A reviewer asks why an apparent gap in an island in double nominative constructions can be treated as a pronoun coindexed with the first nominative NP, while a similar strategy of coindexing a gap in an island and a head noun of a relative clause cannot work for examples such as those in (5). That is, if the structure in (ia) is possible with coindexing between the first nominative NP and a pronoun inside an island, then why isn't (ib) possible as a derivation for the island-violating examples in (5)? The reviewer notes that this asymmetry reveals an assumption implicitly presupposed in our analysis, stated as in (ii).

3.3 Further Supporting Arguments

Our analysis predicts that a ‘‘double relative clause’’ cannot be formed if a relevant double nominative construction cannot be formed as a source. This prediction is borne out through the restriction (see Han 1992) that double relative clause formation is possible only when the lower relative clause is in a subject position. In order to form a ‘‘double relative clause’’ when the lower relative clause is in an object position as in (8a) (repeated here as (31)), the source double nominative construction would have to be formed with a transitive predicate, as in (32). But double nominative constructions cannot be formed with transitive predicates. Accordingly, ‘‘double relative clauses’’ cannot be formed when the lower relative clause is in an object position.

- (31) *_{[RC₁ wuli pan haksayng-i [RC₂ ip-un] yangpok-ul}
 our class student-NOM wear-ADN suit-ACC
 po-n] sinsa
 see-ADN gentleman
 ‘the gentleman who a student from our class saw the suit
 which [he] wore’

-
- (i) a. [_{RC} . . . t_i (first nominative NP) . . . [_{island} . . . pronoun_i . . .] . . .]
 head noun_i
 b. [_{RC} . . . [_{island} . . . pronoun_i . . .] . . .] head noun_i
 (ii) The head noun (or the empty operator) of a relative clause cannot be coindexed with a regular (null or overt) pronoun contained in an island, while the first nominative NP in a double nominative construction can be.

But our analysis is not based on this assumption. The fact that in a double nominative construction, a pronoun in an island can be coindexed with the first nominative NP is part of a larger pattern having to do with how the relation between pronouns and their antecedents is established. In general, a pronoun in an island can be coindexed with a preceding NP, as in (iiia). And as in (iiib), a pronoun inside an island can have the gap of a relative clause as an antecedent, and in this case, the head noun and the pronoun are coindexed indirectly.

- (iii) a. John-un_i [_{island} Sue-ka ku-lul_i cohaha-n-tanun sasil-ul]
 John-TOP_i Sue-NOM he-ACC_i like-PRES-ADN fact-ACC
 molu-n-ta.
 not.know-PRES-DECL
 ‘John does not know that Sue likes him.’
 b. [_{RC} t_i [_{island} Sue-ka ku-lul_i cohaha-n-tanun sasil-ul]
 t_i Sue-NOM he-ACC_i like-PRES-ADN fact-ACC
 molu-nun] namca_i
 not.know-ADN man_i
 ‘the man who does not know that Sue likes him’

So, in principle, a head noun of a relative clause can be coindexed with a pronoun contained in an island, and the schema in (ib) is a possible derivation as long as there is no extraction from within the island. To us, the reason why the examples in (5) are unacceptable is orthogonal to coreference constraints on pronouns: they are degraded because an extraction has occurred out of an island.

- (32) *_{[IP} Sinsa-ka _{[IP} wuli pan haksayng-i
gentleman-NOM our class student-NOM
yangpok-ul po-ass-ta]].
suit-ACC see-PAST-DECL
'As for the gentleman, the student from our class saw his
suit.'

The only possible source sentence for (31) then would be (33). But relativization of the subject *sinsa* 'gentleman' from the relative clause would result in an island violation, hence the ungrammaticality of (8a).

- (33) Wuli pan haksayng-i [_{NP}[_{IP} sinsa-ka
our class student-NOM gentleman-NOM
e_j ip-un] yangpok-ul_j] po-ass-ta.
e_j wear-ADN suit-ACC_j see-PAST-DECL
'The student from our class saw the suit that the gentleman
wore.'

Examples (13a–b) and (14c) are ruled out for the same reason: a corresponding double nominative source sentence cannot be constructed for any of them (as illustrated in (34)), and alternative derivations that are not based on double nominatives would involve extraction out of islands.

- (34) a. *Chayk-i ai-ka pappu-ta.
book-NOM kid-NOM busy
'As for the book, the kid is busy.'
b. *Senmwul-i salam-i Seoul-ey iss-ta.
present-NOM person-NOM Seoul-LOC be-DECL
'As for the present, the person is in Seoul.'
c. *Cakka-ka John-i sosel-ul Mary-eykey
writer-NOM John-NOM novel-ACC Mary-DAT
cwu-ess-ta.
give-PAST-DECL
'As for the writer, John gave the novel to Mary.'

Note that this restriction on "double relative clause" formation completely rules out the resumptive pronoun analysis. If "double relative clauses" could arise simply through the use of resumptive pronouns, there should be no restriction on "double relative clause" formation and examples like (31) as well as the corresponding examples with overt pronouns as in (35) should be grammatical.¹⁰

¹⁰ In defense of the resumptive pronoun analysis of "double relative clauses," an anonymous reviewer observes that the example in (31) should not be judged as ungrammatical, but merely as difficult to process because *wuli pan haksayng-i* 'our class student-NOM', which is the subject of the higher clause, can be misinterpreted as the subject of the lower clause. However, recall that a relative clause such as (iia) in footnote 3 is perfectly acceptable even though misinterpreting the subject is also in principle possible. Further, even if we rule out the possibility of misinterpreting the subject, by placing an adjunct

- (35) *?_[RC₁] wuli pan haksayng-i [_{RC₂} ku-ka_i ip-un]
 our class student-NOM he-NOM_i wear-ADN
 yangpok-ul po-n] sinsa_i
 suit-ACC see-ADN gentleman_i
 'the gentleman_i whose clothes a student from our class
 saw [he_i] was wearing'

The question then is why "double relative clauses" cannot employ the resumptive pronoun strategy. We already showed in section 1 that the use of resumptive pronouns (if possible) is highly restricted in complex NPs and adjunct clauses. We can now conclude that it is just as restricted in relative clauses.

The merit of our analysis becomes clearer when we compare it with Na and Huck's (1993) analysis of (36a) and (37a). These examples are both well formed even though there is no subordinate relation between *salam* 'person' and *kwamok* 'course', or between *chinkwu* 'friend' and *sonye* 'girl'.

- (36) a. [[pomhakk-i-cy kaluchi-l] salam-i kyelcengtoy-n]
 spring.term-in teach-ADN person-NOM determine-ADN
 kwamok
 course
 'the course such that the person who will teach [it] in
 spring term has been determined'
- b. Ku kwamok-i salam-i kyelcengtoy-ess-ta.
 the course-NOM person-NOM determine-PAST-DECL
 'As for the course, the person has been determined.'
- (37) a. [[chinha-n] chinkwu-ka manh-un] sonye
 close-ADN friend-NOM many girl
 'the girl who has many close friends'
- b. Ku sonye-ka chinkwu-ka manh-ta.
 the girl-NOM friend-NOM many-DECL
 'As for the girl, she has many friends.'

that can only modify the higher verb between the subject and the lower relative clause, we do not improve acceptability.

- (i) *_[RC₁]?_[RC₂] wuli pan haksayng-i changmwun-ulo [_{RC₂} e_i e_j ip-un]
 our class student-NOM window-through e_i e_j wear-ADN
 yangpok-ul_j po-n] sinsa_i
 suit-ACC_j see-ADN gentleman_i
 'the gentleman [_{RC₁} who_i the student from our class saw the suit
 [_{RC₂} which_j e_i wore e_j]]'
 'the gentleman who the student from our class saw through the
 window the suit which [he] wore'

Of the 10 native speakers we consulted, 8 speakers judged (i) ungrammatical, and 2 speakers judged it marginal. Moreover, both speakers who judged it marginal judged (3)–(4) acceptable, confirming the sharp contrast in acceptability between the two types of configurations. We think this contrast deserves a grammatical analysis.

To account for (36), Na and Huck make an extra proposal that the relative clause in (36a) *pomhakki-ey kaluchi-l salam* ‘the person who will teach in the spring term’ is derived from a compound word *pomhakki kangsa* ‘spring term instructor’ as in (38), through a morphological process. (38) satisfies the semantic condition of clause (b) of their Argument Condition: *pomhakki kangsa* ‘spring term instructor’ is thematically subordinate to *kwamok* ‘course’. But the nature of this morphological process is far from clear.

- (38) pomhakki kangsa-ka kyelcengtoy-n kwamok
 spring.term instructor-NOM determine-ADN course
 ‘the course such that the spring term instructor has been determined’

To account for (37), Na and Huck introduce an interpretive-level representation called Full Interpretation and assign the structure in (39) for (37a).

- (39) [_{IP}₁ e_i [_{NP}[_{IP}₂ e_i e_j chinha-n] chinkwu-ka_j] manh-un]
 e_i e_i e_j close-ADN friend-NOM_j many-ADN
 sonye_i
 girl_i
 ‘the girl who the friends [she] is close to are many’
 ‘the girl who has many close friends’

They propose that in (39), the empty category e_i in the embedded clause IP₂ is first topicalized and then becomes the argument of the higher relative clause predicate *manh-un* ‘many’. Thus, the subject is no longer an argument of the lower clause predicate *chinha* ‘be close’. This process then satisfies the syntactic condition of clause (a) of their Argument Condition: that is, a gap in the relative clause should be coindexed with the relative head. But the question remains what the applicable domain of this syntactic process is and how a topicalized element can turn into an argument of the higher predicate from the lower predicate.

Note however that to account for (36a) and (37a), our syntactic analysis requires neither such a powerful morphological process nor an escape hatch for an additional syntactic or semantic process. The only thing we need to check is whether the highest predicate allows a multiple nominative construction or not. On our account, the relative clauses in (36a) and (37a) are formed by relativizing the first nominative NP from the double nominative sentences in (36b) and (37b).¹¹

¹¹ An anonymous reviewer points out that the IP-adjoined nominative NP tends to be definite, but the head noun in “double relative clauses” does not necessarily have this tendency. We note that in relative clauses, it is not the head noun that is extracted, but an empty operator. This extraction has the semantic effect of turning the relative clause into a predicate type. It has nothing to do with definiteness and hence the question of the head noun inheriting the definiteness of the source position of the empty operator does not arise. Rather, the definiteness of the head noun will depend on the context in which the noun phrase (with the relative clause) occurs within the sentence or the discourse.

Finally, our analysis also predicts that if a language has a double nominative construction and allows pro drop of the sorts presented here, it should have apparent “double relative clauses.” This prediction is borne out by the fact that Japanese has similar types of relative clauses. The acceptability of such relative clauses is reported by Kuno (1973:239, (20)), as illustrated in (40).

- (40) a. [[kite-iru] yoohuku-ga yogorete-iru] *sinsi*
 wearing-is suit-NOM dirty-is gentleman
 ‘gentleman who the suit [he] is wearing is dirty’
 b. [_{RC₁} e_i [_{RC₂} pro_i e_j kite-iru] yoohuku-ga;
 e_i pro_i e_j wearing-is suit-NOM;
 yogorete-iru] *sinsi*_i
 dirty-is gentleman_i

In our analysis, *sinsi* ‘gentleman’ has been relativized from the first nominative NP of the predicate *yogorete-iru* ‘is dirty’, and the second nominative NP *yoohuku-ga* ‘suit-NOM’ is modified by a relative clause that contains a pro subject that is coindexed with the first nominative NP.

4 Conclusion

In this squib, we have argued that the “double relative clause” in Korean is derived from a double nominative construction by relativizing the first nominative NP from an IP-adjoined position. We have also noted that Japanese, another language that has double nominative constructions and pro drop, allows a similar type of relativization. Under our analysis, there is no island violation in the apparent “double relative clause” formation. Therefore, the operator movement analysis for relative clauses in Korean can be maintained.

References

- Chomsky, Noam. 1981. *Lectures on government and binding*. Dordrecht: Foris.
 Chomsky, Noam. 1986. *Barriers*. Cambridge, Mass.: MIT Press.
 Han, Jong-Im. 1992. Syntactic movement analysis of Korean relativization. *Language Research* 28:335–357.
 Heycock, Caroline, and Young-Suk Lee. 1989. Subjects and predication in Korean and Japanese. In *Japanese/Korean linguistics 2*, ed. by Hajime Hoji, 239–254. Stanford, Calif.: CSLI Publications.
 Huang, C.-T. James. 1989. Pro-drop in Chinese: A generalized control theory. In *The null subject parameter*, ed. by Osvaldo Jaeggli and Kenneth J. Safir, 185–214. Dordrecht: Kluwer.
 Kang, Myong-Yoon. 1988. Syntactic movement in Korean relativization. In *Linguistics in the morning calm 2*, ed. by the Linguistic Society of Korea, 347–362. Seoul: Hanshin.

- Kang, Young-Se. 1986. Korean syntax and Universal Grammar. Doctoral dissertation, Harvard University, Cambridge, Mass.
- Kim, Jong-Bok. 1998. A head-driven and constraint-based analysis of Korean relative clause constructions: With a reference to English. *Language Research* 34.4:1–41.
- Kim, Jong-Bok. 2001. A constraint-based and head-driven approach to multiple nominative constructions. In *Proceedings of the HPSG-2000 Conference University of California at Berkeley*, ed. by Dan Flickinger and Andreas Kathol, 166–181. Stanford, Calif.: CSLI Publications.
- Kim, Young-Joo. 1990. The syntax and semantics of Korean case: The interaction between lexical and syntactic levels of representation. Doctoral dissertation, Harvard University, Cambridge, Mass.
- Kroch, Anthony. 1981. On the role of resumptive pronouns in amnesty-ing island constraint violations. In *Papers from the 17th Regional Meeting, Chicago Linguistic Society*, ed. by Roberta A. Hendrick, Carrie S. Masek, and Mary Frances Miller, 125–135. Chicago: University of Chicago, Chicago Linguistic Society.
- Kuno, Susumu. 1973. *The structure of Japanese*. Cambridge, Mass.: MIT Press.
- Na, Younghee, and Geoffrey Huck. 1993. On the status of certain island violations in Korean. *Linguistics and Philosophy* 16: 181–229.
- Sohn, Ho-Min. 1980. Theme-prominence in Korean. *Korean Linguistics: Journal of the International Circle of Korean Linguistics* 2:2–19.
- Yang, Dong-Whee. 1989. *The basis of the Government-Binding Theory* (in Korean). Seoul: Shinasa.
- Yang, Hyun-Kwon. 1990. Categories and barriers in Korean. Doctoral dissertation, University of Texas, Austin.
- Yoon, James. 1986. Some queries concerning the syntax of multiple subject constructions in Korean. *Studies in the Linguistic Sciences* 16:215–236.
- Yoon, Jeong-Me. 1989. ECM and multiple subject constructions in Korean. In *Harvard studies in Korean linguistics III*, ed. by Susumu Kuno, Ik-Hwan Lee, John Whitman, Sung-Yun Bak, Young-Se Kang, and Young-Joo Kim, 369–381. Seoul: Hanshin.