Head-Internal Relatives: In-Situ Focus Effect

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In this paper, I present two focus-induced syntactic/semantic constraints in Korean head-internal relatives, namely, the incompatibility of individual-level predicates and the definiteness effect. It is argued that none of the current proposals is tenable to provide a systematic account for these phenomena. Analyzing *kes* in the head-external position as a focus marker whose function is similar to that of English expletive *there*, I claim that head-internal relatives license VP-internal "(information) Focus" and LF focus feature checking within VP is obligatorily required in the matrix as well as in the embedded clause.

1. Introduction

A number of languages are known to allow "head-internal" relatives (HIRs) as a different strategy of relativization in which the nominal head (underlined in bold) remains in-situ within the relative clause resulting in the absence of a gap, as shown in the Korean and Tagalog examples (1a)-(2a) respectively, along with regular "head-external" relatives (HERs) with a gap in the relative clause (1b)-(2b)[1].

(1)   a. John-un [[Mary-ga   **chayk**-ul sao-n]   kes^2-ul] pilyeka-ss-ta.
              J. -Top   Mary-Nom book-Acc buy_bring-Rel kes-Acc   borrow-Pst-Dec

        b. John-un [[Mary-ga   *e*   sao- n]   **chayk**-ul] pilyeka-ss-ta.
              J. -Top Mary-Nom   buy_bring-Rel book-Acc borrow-Pst-Dec
            John borrowed a/the book that Mary had bought.

(2)   a. [b-in-ili   **libro** ni Maria]
             -Tr.Perf-buy book Erg Maria

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[1] In this paper, the following abbreviations are used: Acc=accusative, Aux=auxiliary, C=complementizer, Cl=classifier, Dat=dative, Dec=declarative, DE=the definiteness effect, Erg=ergative, ES=the existential sentence, Gen=genitive, Imper=imperfective, IL=individual-level, HIRs=head-internal relatives, HERs=head-external relatives, Hor=honorific, Loc=locative, Nom=nominative, Pass=passive, Perf=perfective, Pst=past, Prog=progressive, Q=question, Rel=relativizer, Top=topic, SL=stage-level.

[2] In colloquial speech, *kes* is more commonly realized in the contracted form *ke*. Although in the traditional grammar *kes* is analyzed lexically with the literal meaning 'the thing/one [-human]', a number of authors including Kuroda (1974) with respect to the Japanese counterpart *no* have viewed it as a complementizer (cf. Lee, L-O 1990; Whiteman, Lee and Lust, 1991) in that its main role is functional rather than lexical. The argument that the role of *kes* is functional rather than lexical can be supported by the examples such as (i) which does not show ungrammaticality even though the internal head is '(my) father': if the lexical meaning plays a major role, then the sentence should be unacceptable since it denotes a derogatory interpretation when it refers to a [+Human] NP.

(i) na-nun [[apeci-ka   unhayng-eyse nao-si -nun] kes-ul] manna -ss -ta.
    I- Top   father-Nom bank-from   come-Hor-Rel kes-ul meet -Pst-Dec
    I met (my) father who was coming out of the bank.

b. [b-in-ili-ng   *e*   ni   Maria] **libro**
   -Tr.Perf-buy   Erg Maria   book
   a/the book that Maria bought.   (Aldridge, 2002)

Contrary to what has been generally assumed, the cross-linguistic occurrence of HIRs is found not only in head-final languages such as Korean (Kim, 1997; Whitman, 1990; Jhang, 1991; Kim 2002), Japanese (Kuroda, 1974, 1992; Watanabe, 1992, 2002; Fukui and Takano, 1998[3]; Matsuda 2002), Ancash Quechua (Cole, 1987), but also in head-initial languages such as Seedig and Tagalog (Aldridge, 2002), and in many of the bi-directional Tibeto-Burman languages such as Tangkhul Naga and Hmar (Lee 2001). In defining their syntactic as well as semantic properties, head-internal relatives pose two fundamental questions: (i) how should the internal head be understood to play two argument roles in the matrix as well as in the embedded clause, and (ii) does this additional strategy accompany different syntactic/semantic properties, as opposed to the head-external device. As to the first question, the standard assumption has been that the head undergoes covert raising to the head external position (Broadwell, 1986; Cole, 1987; Ito, 1986; Whitman, 1990), hence the key difference between head-external versus head-internal has been attributed to the optional way to spell out either the tail or head of the chain, for which the promotion analysis (Schatcher, 1973; Vergnaud, 1974; Kayne, 1985) has the great advantage of accounting for in terms of "a direct head raising."[4] Regarding the second question, Kuroda (1975) noted for the first time that Japanese HIRs are relative clause syntactically but are subject to a different semantic/pragmatic condition. In recent years, however, various alternative claims have been made that (i) HIRs are not relativizations semantically but quantifications due to which the head moves out of VP to escape the existential closure to be bound by the definite determiner operator (Basilico, 1996; Watanabe, 2002); (ii) the head does not move and receives the E-type pronoun interpretation *in-situ* (Shimoyama, 1998); (iii) "meaningful relations between events" is necessary (Kim, 2002); and (iv) HIRs are subject to "event sensitivity" (Matsuda, 2002).

Extending the idea that syntactic trees are split into VP-external versus VP-internal domains and "(information) focus" can project only VP-internally (*cf.* Diesing, 1992), this paper claims that, in addition to the regular [+rel] clausal-feature checking (in the sense of Cheng, 1991), crucially the internal head has to be raised to the VP-internal focus licensing position to check its focus feature not only in the matrix clause but also in the relative clause due to which HIRs are subject to the focus-induced syntactic/semantic constraints, namely the incompatibility of individual-level predicates both in the matrix clause and in the relative clause, and the definiteness effect. The paper is organized as follows: in section 2, I briefly go over the previous analyses, the relevancy condition and eventuality-based accounts (2.1), and the E-type pronoun analysis (2.2). In section 3, I present the first evidence of focus-induced constraints, individual- versus stage-level distinctions in the matrix clause (3.1), the same distinction within the embedded relative clause (3.2), and ill-behavior of the object argument of transitive experiencer verbs (3.3). Section 4 discusses the definiteness effect in HIRs, and section 5 deals with LF Focus movement, Subjacency issues and the focus feature percolation.

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[3] Fukui and Takano argue that Japanese relative clauses are licensed by the "aboutness" condition, however they recognize the presence of head-internal relatives in Japanese.

[4] There are two major approaches to the relative clause construction, the promotion analysis and the operator movement analysis. The promotion analysis assumes that the relative head originates within the relative clause, on the basis of reconstruction, the relativization of idiom chunks and predicate nominals (Schatcher, 1973, Vergnaud, 1974:56-68, 1982). In the operator movement analysis (Chomsky, 1977; Browning 1991), the head is base-generated outside the relative clause, and linked to the *wh*-dependency by the rule of predication or binding. Alternatives to these two approaches, more recently Aoun and Li (2001), based on relative constructions in English, Lebanese Arabic and Chinese, propose that mechanisms to derive relative clauses across languages or even within a language are not uniform: a definite relative is derived by head-raising whereas an indefinite relative is based-generated with or without the operator movement.

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2. Previous Analyses
2.1 The relevancy condition and event-based accounts

Kuroda (1992:147) observes that although the Japanese head-internal relative (actual term he used is "pivot-independent" relative clause) is a relative clause syntactically, "it should be interpreted pragmatically in such a way that it would be directly relevant to the pragmatic content of its matrix clause."[5] Consider the examples below (Kuroda 1992:151):

(3) a.　John wa [[**Bill** ga　osoikakatte　　kita]　no o]　nezihuseta
　　　　　J.　Top　B. Nom　approach-to-attack　　no Acc　floor-and-hold-down
　　　　　John floored and held down Bill who had approached him to attack.

　　b. # John wa [[**Bill** ga　harubaru tazunete kita　] no o]　nezihuseta
　　　　　J.　Top　B. Nom　a-long-way visit　come no Acc　floor-and-hold-down
　　　　　John floored and held down Bill who had come a long way to visit him.

Since the head-internal clause should be "purposively or motivationally" related to the matrix clause, in Kuroda's account, the unacceptability of (3b) is due to the lack of relevancy because someone having come a long way to visit is unlikely to motivate a violent reaction. Observe another example:

(4)　Wareware wa [[John ga　**tai**　　　o　　tutte kita] no o]]　minna de　tabeta
　　　we Top　　　J. Nom　red-snapper Acc　fished　　no Acc　together　ate
　　　We ate red snapper together which John had fished.

Kuroda argues that the relevancy condition can disambiguate the ambiguity in (4) by deciding which NP should be the relative head, because of which the subject head *John* cannot be a head pragmatically even if either subject or object NP can potentially be the head. Although Kuroda's insight that HIRs are relative clauses but are subject to different constraints unlike HERs should receive due credit, the condition is too general to capture the main properties of HIRs. For example, in (4), the selectional restriction of the matrix verb *eat* will automatically block the raising of the subject DP *John* to the external-head position to be the direct object of *eat*. In (3), unnaturalness of the sentence is not related to a head-internal specific constraint per se because its head-external

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[5] According to Kuroda the example (ia) is acceptable only with a simultaneous reading, and since the simultaneous reading is blocked because of the time adverbial 'yesterday' (ib) is unacceptable (Kuroda, 1992:147).

(i) a.　John wa [[　Mary ga **ringo** o　sara no ue　ni iota] no o]　totte.
　　　　J.　Top　　M. Nom apple Acc plate Gen on　put　　no Acc　picked up
　　　　John picked up an apple which Mary had (just) put on a plate.
　　b. # John wa [[　Mary ga kinoo　　　**ringo** o　sara no ue　ni iota] no o]　totte.
　　　　J.　Top　M. Nom yesterday apple Acc plate Gen on　put　　no Acc picked up
　　　　John picked up an apple which Mary had put on a plate yesterday.

Such a simultaneous reading, however, is not required in Korean HIRs as illustrated in the well-formedness of both sentences below: even in (iia), a simultaneous reading is not necessary; rather a non-simultaneous interpretation is more natural and preferred.

(ii)　　a.　John-un [[Mary-ka **sakwa-** lul　cepsi-wie olyenoh-un] kes-ul]　cip-ess-ta.
　　　　　　J.　Top　M. Nom apple - Acc　plate on　put -Rel　kes- Acc　picked up
　　　　　　John picked up an apple which Mary had put on a plate.
　　　　b.　John-un [[Mary-ka ecey　　**sakwa-** lul　cepsi wie olyenoh-un] kes-ul]　cip-ess-ta.
　　　　　　J.　Top　M. Nom yesterday apple - Acc　plate on　put -Rel　kes- Acc picked up
　　　　　　John picked up an apple which Mary had put on a plate yesterday.

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Korean counterpart (5a) also shows the similar amount of unnaturalness, like the head-internal counterpart (5b) (nonetheless, both are not unacceptable), since the reaction of attacking someone who had come a long way to visit oneself is not a natural one under a normal circumstance.

(5) a. John$_i$-un [[e   caki$_i$-lul mannaki-wihay menkil-ul chachao –n]   Bill-ul]
       J.-Top   self-Acc meet-to long way-Acc visit_come-Rel B. –Acc
       patak-e ttaylyenwuphyessta.
       floor-on struck down

    b. John$_i$-un [[Bill-i caki$_i$-lul mannaki-wihay menkil-ul chachao –n]   kes-ul]
       patak-e ttaylyenwuphyessta.
       John struck Bill, who came a long way to visit him, down on the floor,.

Moreover, the relevancy condition provides no systematic account to answer more fundamental questions such as what brings out different constraints only in HIRs, which is the main purpose of this paper.

Kim (1997, 2002) claims that Kuroda's relevancy condition can be extended in a more concrete way as "meaningful relations" between matrix clauses and relative clauses by making use of Kratzer's (1995) stage-level (SL) versus individual-level (IL) predicate distinction in terms of temporal and spatial binding. Since two events should be "temporally or spatially in a specific configuration," Kim argues that the events are more closely related to each other, due to which (6b), with the temporal adverbs, is ungrammatical, compared to (6a) (Kim 2002:550).

(6) a. John-un [[e tosekwan-eyse mayil pam nuckey-kkaci kongpwuha-nun]   tongsayng-ul]
       J.-Top   library-at   every night late -till   study   -Rel   brother -Acc
       onul achim-ey   manna-ss-ta.
       today morning-at meet-Pst-Dec
       This morning John met his younger brother, who studies in the library until late every night.

    b. *John-un [[tongsayng-i tosekwan-eyse mayil pam nuckey-kkaci kongpwuha-nun] kes-ul]
       J. -Top brother-Nom library-at   every night late-till   study   -Rel kes-Acc
       onul achim-ey   manna-ss-ta.
       today morning-at meet-pst-Dec
       (Intended) This morning John met his younger brother, who studies in the library until late
       every night.

Although Kim's overall observation that Korean HIRs cannot be constructed with IL predicates is correct, "the meaningful relationship" of events based on temporal-spatial configuration cannot adequately account for the contrast in grammaticality between head-external (6a) and head-internal (6b), for example, because the temporal-spatial configuration between the event of 'John's brother studying in the library until late every night' and the event of 'John's meeting of his brother this morning' is the same in both sentences. The unacceptability of (6b) is, in fact, straightforwardly explainable in terms of an IL versus SL predicate distinction: the habitual denotation of *study*, which behaves like an individual-level, predicate is incompatible with HIRs, but when *study* denotes a temporary activity of stage-level predicate, it is perfectly acceptable as in (6') (The reason that this IL versus SL distinction matters only in HIRs, unlike head-external relatives, will be discussed in section 4).

(6') John-un onul achim-ey [tongsayng-i tosekwan-eyse kongpwuha-ko iss-nun]kes-ul   manna-ss-ta.
     J.-Top this morning brother-Nom library-at   study   -Imper-Rel kes-Acc meet-pst-Dec
     This morning John met his younger brother, who was studying in the library.

Matsuda (2002:633), along the same lines as Kratzer (1995), argues that ill-formedness of HIRs such as (7a) in Japanese is created by IL-type predicates, whereas the external counterpart (7b) is well-formed.

(7) a. * John wa [**onna** no hito ga yuumei - na] no -o] sit - te iru.
      J. Top woman Nom famous no-Acc acquainted
      (Intended) John is acquainted with a/the woman who is famous.

    b. John wa [e yuumei - na] **onna** no hito -o] sit - te iru.
      J. Top famous woman Acc acquainted
      John acquainted with a/the woman who is famous.

This difference, in her analysis, is derived due to the event-sensitivity of the HIR clause which is a definite description denoting a plural entity consisting of an individual and an event (="hybrid entities" in her terms)[6]. Though her observation that HIRs are sensitive to the predicate-type is correct, the analysis again fails to answer what brings out this contrast only in HIRs, letting aside the question of the validity of hybrid-event entities.

2.2. The E-type pronoun analysis

Shimoyama (1999:147-182) claims that the LF head raising analysis has no account of the truth conditional difference in (8) since the restrictions for the domain of *most* and the nuclear scopes are not identical: in (a) 'Mary put x in the refrigerator' forms the restriction for the domain of *most* along with *cookies* whereas in (b) the head-internal clause 'Mary put x in the refrigerator' does not restrict the domain of *most*, it is restricted only by *cookies*. Also in (a) the matrix clause 'John brought x to the party' is the nuclear scope of *most*, whereas in (b) the matrix clause is not the nuclear scope of *most*. Therefore, she argues, in a situation that Mary put 10 cookies in the refrigerator and John brought 7 of them to the party, (a) is true while (b) is false.

(8) a. John-wa [Mary-ga reezooko -ni irete-oita] **kukkii-o** **hotondo** paatii- ni motte itta.
      J . -Top M. -Nom refrigerator-in put -Aux cookie-Acc most party- to brought
      John brought most of the cookies that Mary had put in the refrigerator

    b. John-wa [Mary-ga reezooko -ni **kukkii-o** **hotondo** irete-oita] no-o paatii-ni motte itta.
      J. -Top M.-Nom refrigerator-in cookie-Acc most put-Aux no-Acc party-to brought
      Mary put most of the cookies in the refrigerator and John brought **them** to the party

Therefore, she argues, the interpretation of HIRs involves E-type anaphora in which the head-internal clauses are treated as a separate clause and the head remains in-situ to get the E-type interpretation whose referent is picked up from the head-internal clause[7].

The most serious drawback with the E-type analysis comes from the treatment that HIRs are not relative clauses; therefore, they are interpreted as a simple sentence that is separate from the matrix sentence (Shimoyama 1998:166). Hence it cannot explain the direct syntactic/semantic relationship of the relative head to the matrix predicate since the matrix clause does not form a nuclear scope for the head-internal clause. This problem has also been pointed out by Matsuda (2002: 633) with respect to Japanese HIRs, which are sensitive to the type of predicate, as in the following.

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[6] Matsuda (2002: 633): a. The semantics of non-stative sentences involves existential quantification over events or hybrid entities; b. The semantics of stative sentences (including generics) do not involve existential quantification over events or hybrid entities.

[7] E-type pronouns are pronouns that are neither free variables nor bound variables, but are like a definite description, which picks up their referent from the context (see Cooper, 1979; Evans, 1980).

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(9) * [Sara   no ue   ni **abokhado**- ga atta]   no-wa] oisi- soo-datta.
        plate Gen above at avocado- Nom located no-Top delicious
        The avocadoes that were on the plate were delicious.

The unacceptability of (9) cannot be explained with the E-type approach because the sentence should be equivalent to "Avocadoes were on the plate and they (= avocadoes that were on the plate) were delicious."

Another problem is related to the treatment of floating strong quantifiers such as *hotondo* 'most' upon which her arguments are solely based. It is well known that floating quantifiers are restricted in scope to their surface position as shown in the English example (10), as noted in Pesetsky (2000:65): *each student* has wide scope over *at least one teacher* in (a), whereas it does not in (b), which indicates frozen scope with floating quantifiers.

(10) a. At least one teacher made <u>each student</u> sing the national anthem.
     b. At least one teacher made <u>the students each</u> sing the national anthem.

Suppose the floating quantifier in (8b) occurs outside the relative clause as in (11a), then there is no difference in the truth conditions between HIR and HER: in a situation that Mary put 10 cookies in the refrigerator and John brought 7 of them to the party, both sentences are true.

(11) a. John wa[[Mary ga   reezooko   ni **kukkii** o irete-oita]no-o] **hotondo** paatii- ni motte itta.
        J. -Top   Mary-Nom refridgerator in cookie Acc put -Aux no-Acc **most**   party -to brought
        John brought most of the cookies that Mary had put in the refrigerator

     b. John wa [[Mary ga reezooko   ni irete oita] **kukkii o   hotondo**] paatii- ni motte itta.
        J.   Top M. Nom refridgerator in put Aux cookie Acc **most**   party- to   brought
        John brought most of the cookies that Mary had put in the refrigerator

Otherwise, the strong quantifiers *every/most* cannot occur in the head-internal position in Japanese as in (12) (cf. Watanabe 2002) as well as in Korean, unless they are floated.

(12) *John wa [[Mary ga reezooko-ni **hotondo-no kukkii-o**   irete-oita]no-o]   paatii-ni motteitta.
       J. Top M.Nom refrigerator-in most-Gen cookie-Acc put-Aux no-Acc party-to brought
       (Intended) John took most of the cookies that Mary put in the refrigerator.

To summarize, I have illustrated the inadequacy of the previous analyses in capturing the key properties of HIRs which are absent in HERs. In the following section, I will present the focus-based analysis with the claim that the incompatibility of IL predicates in HIRs are the result of a "focus" effect on the head.

3. In-situ focus effect

I argue that the crucial factor differentiating HIRs from their external counterparts lies in the 'focus' effect on the internal head. Observe the contrast in acceptability in (13)-(14). In (13)-(14), (a) and (b) sentences differ only in terms of the type of the matrix predicate: the SL predicate in (a) and the IL predicate in (b).

(13) a. [[wuli-ka   ecey   **poke**-lul   sao - n]   kes-i] ta sanghay pelie-ss-ta.
         we –Nom yesterday blowfish-Acc buy_bring- Rel kes-Nom all got spoiled
         The blowfish that we bought yesterday all got spoiled.

b.*??[[wuli-ka   ecey   **poke**-lul   sao - n]   kes-un[8]]   tok-i manhun sayngsen i-ta
we–Nom yesterday blowfish-Acc buy_bring-Rel kes-Top   poisonous be
(Intended) The blowfish that we bought yesterday is poisonous (fish).

(14)   a. [[Mary ga   reezooko ni   **abokado** o   irete oita]   no-ga]   kusatta
M.   Nom refrigerator Loc avocado Acc put Aux   no Nom spoiled
The avocadoes that Mary put in the refrigerator got rotten.

b. *[[Mary ga   reezooko   ni   **abokado** o   irete oita]   no-wa] kudamono da
M.   Nom refrigerator Loc avocado Acc put   Aux no-Top fruit   is
(Intended) The avocadoes that Mary put in the refrigerator are fruit.

None of the existing proposals can account for this contrast: in the E-type analysis, (14b) should be equivalent to "Mary put avocadoes on the table and **they** (= the avocadoes that Mary put on the table) are fruit", hence there can be no legitimate explanation for the ill-formedness. In the same way, the definite determiner approach cannot provide any convincing account, nor can the standard head-raising analysis explain the contrast since there is no reason for blocking the raising of the head in (14b) to the external position, as it does in (14a). This contrast is completely absent in HERs as in (13')-(14'):

(13')   a. [[wuli-ka   ecey   *e*   sao -   n   ] **poke**-ka]   ta sanghay pelie-ss-ta.
we –Nom   yesterday buy_bring- Rel blowfish-Nom all got spoiled
The blowfish that we bought yesterday got spoiled.

b. [[wuli-ka   ecey   *e*   sao -   n   ] **poke**-nun]   tok-i manhun sayngsen i-ta
we–Nom   yesterday   buy_bring-Rel blowfish-Top poisonous be
The blowfish that we bought yesterday is poisonous (fish).

(14')   a. [[Mary ga   reezooko   ni   *e*   irete oita]   **abokado** ga]   kusatta
M.   Nom   refrigerator Loc   put Aux   avocado Nom   spoiled
The avocadoes that Mary put in the refrigerator got rotten.

b. [[Mary ga   reezooko   ni   *e*   irete oita]   **abokado** wa] kudamono da
M.   Nom   refrigerator Loc   put Aux   avocado Top fruit   is
The avocadoes that Mary put in the refrigerator are fruits.

Diesing (1992) argues that syntactic trees are split into two parts and mapped into two different logical representations, and various syntactic/semantic properties of the subjects of the stage- vs. individual-level predicate types (Carlson 1977b) provide support for her hypothesis (15).

(15)   Mapping Hypothesis
Material from the VP is mapped into the nuclear scope.
Material from the IP is mapped into a restrictive clause.

She further suggests that the focus phenomena can be accounted for within this framework, hence, as shown in the English examples below, focus can project from the VP-internal subject position whereas it is blocked VP-externally:

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[8]   As also pointed out by Chungmin Lee (1991: 329), generic subject NPs are normally realized as a Topic in Korean:
(i)   pakcwi- nun (*ka)   cecmeki tongmwul   i - ta
bat -   Top (*Nom)   mammal animal   be -dec
The bat is a mammal.

(16) a.   I only said that EGGPLANTS are available.
     b. * I only said that EGGPLANTS are poisonous. (Diesing, 1992)

With no focus effect, Diesing argues, (16a) should be derived from '$\exists_x$ x is an eggplant $\wedge$ x is available' and (16b) from 'Gen$_x$ [x is an egg plant] x is poisonous in general.'[9] But the interaction of the focus effect on the bare plural yields the unacceptability of (16b) since the subject of the individual-level predicate has to be generated outside the nuclear scope, whereas Focus has to be generated VP internally and this yields the unacceptability in (16b).

Along the same line, I claim that the contrast in grammaticality in (13)-(14), whose contrast is absent in head-external counterparts, is created by the [+focus] effect on the internal head which has to be raised obligatorily to the focus licensing the VP-internal subject position of the higher matrix clause. Focus movement of the head to [Spec, VP] of the matrix clause is blocked in (13b)-(14b) since the subject of the individual-level predicate must stay in [Spec, IP] of the matrix clause, unlike (13a)-(14a) in which movement is not blocked. By contrast, in their external counterparts (13')-(14') the subject NP is not required to undergo LF movement to the VP-internal subject position due to the absence of the [+focus] effect on the relative head, hence the sentences are well-formed. This phenomenon of different representations of bare plural nouns at LF is also applied in the same way to nouns in general in the Korean HIR construction.

3.1 Individual-level (IL) vs. Stage- level (SL) predicate distinction in HIRs

As Carlson (1977b: 68) describes a stage predicate roughly as "a spatially and temporally bounded manifestation of something" and an individual predicate as "stages of the same thing," SL predicates typically correspond to temporary/transitory state/activities such as *available, destroy* and *fall down*, whereas IL predicates correspond to more or less permanent states/qualities such as *intelligent, tall, poisonous* (cf. Kratzer 1989, Diesing 1992, Chierchia 1995)[10]. Ill-formedness the of head-internal construction in Korean is typically associated with the canonical type of IL predicates as in (18).

(17)   [**totwuk**-i   unhayng-ulo tuleka -n] kes-i]   hyenkum-ul kangthalha –yess-ta
        thief -Nom bank –to   enter-Rel   kes-Nom cash-Acc   rob   -Pst-Dec
        A thief who got into the bank stole the cash.

(18) * [**totwuk**-i   unhayng-ulo tuleka –n] kes- un]   khi-ka khe–ss-ta
        thief -Nom bank –to   enter-Rel   kes-Top   tall   –Pst-Dec
        The thief who got into the bank was tall.

In (17) the matrix predicate is *rob,* the SL predicate, but in (18) is *tall,* the IL predicate. The HER counterpart of (18) is completely well-formed. The same contrast is observed with the predicates *handsome, beautiful, intelligent,* and *poisonous,* which are related to typical IL predicates, namely, having/possessing a property of something that is more or less permanent. Predicates denoting psychological and emotional states such as *happy, cheerful, tired, angry, nasty* also behave like IL predicates, hence they are excluded from the HIR construction as in (19): their denotation is about one's temper or psychological/emotional states, which cannot be transitory but are something rather a persistent pattern, even though they may be associated with describing transitory states too.

(19) a. * [**taythonglyong**-i pihayngki-eyse nayli-nun] kes-i]   hayngpokha-yss-ta
        president -Nom   plane –from   get-off-Rel kes-Nom happy   -Pst-Dec
        (Intended) A/the president who was getting off the plane was happy.

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9   An abstract Generic operator binds variables to produce a generic reading.

10   Besides stativity, IL predicates typically show different properties with respect to their incompatibility with locatives, temporal modifiers, perception verbs, and with the existential *there*-constructions, as noted by Carson (1977b), Kratzer (1989), Chierchia (1995).

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b. * phikonhayssta/ * hwaka nassta/ *yukhwayhay-ss-ta
was tired / was angry / was cheerful

But when these predicates form a complex predicate with a verb such as *look/appear*, which gives a clear indication of transitory states, they behave like a SL predicate, and therefore are acceptable. Observe that the ill-formedness of (19) completely disappears in (20) when the predicate *look happy* replaces the predicate *happy*: all the predicates in (b) can replace the predicate in (a).

(20) a. [**taythonglyong**-i pihayngki-eyse nayli-nun] kes-i]   **yukhayhay-poye-ss-ta**.
       president -Nom plane –from   get-off-Rel kes-Nom cheerful   -look-Pst-Dec
       A/the president who was getting off the plane looked cheerful
     b. phikonhaypoyossta /hwanapoyossta / hayngpokhaypoyossta
        looked tired   / looked angry / looked happy

Although there are some predicates whose distinctions are not clear but rather seem to be subject to a context or a combination of different complex predicates, overall, however, there is a pretty clear demarcation between the predicates describing having /possessing a property of something that is more or less permanent/non-transitory hence creating unacceptability in HIRs and the predicates which describe transitory activities and therefore do not give rise to such ill-formedness. This constraint, depending on the type of matrix predicate, is completely absent in head-external relatives.

3.2 IL- vs. SL- predicate distinction in the relative clause

The same distinction of SL vs. IL predicates is observed in the embedded relative clause, which indicates that the focus feature has to be checked not only in the matrix clause but also in the subordinate relative clause. Observe the contrast below.

(21) a. * John-un [[(ku) **yepaywu**-ka   yungmyongha – n] kes-ul   ] an- ta
        J. -Top (the) actress-Nom famous   -Rel kes-Acc know
        (Intended) John knows an (the) actress who is famous.

     b. John-un [[e   yungmyongha – n] (ku) **yepaywu**-lul   ] an- ta.
        J. -Top   famous   - Rel (the) actress -Acc   know-Dec
        John knows an (the) actress who is famous.

(21a) is ill-formed, in which both embedded as well as matrix predicates are IL-types, whereas (22b), a head-external counterpart, is well-formed. Within the proposed analysis, ill-formedness of (21a) receives a natural account: the focused in-situ head **yepaywu** 'an actress' cannot be generated within the VP internal subject position of the relative clause because the embedded predicate is an IL type for which the subject has to be generated in [Spec, IP] of the relative clause. Even if the matrix predicate is replaced by a SL predicate *meet*, leaving the IL embedded predicate intact, the sentence is still unacceptable as in (22): with the embedded predicate *famous* the sentence is out.

(22) John-un [[(ku) **yepaywu**-ka USC-ey o-n / *yungmyengha – n] kes-ul   ] manna-ss- ta.
     J. -Top (the) actress-Nom USC-to come-Rel/ famous -Rel   kes-Acc meet-Pst Dec
     John met an (the) actress who came to USC/ * who is famous.

In example (22) with the SL embedded predicate *come*, the internal head 'an actress' can be derived from the embedded VP-internal subject position because the embedded predicate is the SL-type. This contrast in the embedded clause occurs because of the interaction of the focus factor with the internal head is predicted and consistent with the focus effect observed in the matrix clause. Moreover, this is the crucial piece of evidence for the argument that HIRs are relative clauses proper in which the head noun has the direct syntactic and semantic relationship with the matrix predicate

as well as the embedded predicate. Therefore, separating the internal clause from the matrix clause, like in the case of the E-type analysis, cannot capture key features of HIRs.

3.3 Transitive experiencer verbs

Another interesting fact comes from the cotrast in examples below in which the internal head functioning as the object in the matrix clause is not compatible with the IL predicate.

(23) a. John-un [[(ku) <u>yepaywu</u>-ka USC-ey o – n] kes-ul] manna-ss- ta.
       J. -Top the actress-Nom USC-to   come-Rel kes-Acc meet-Pst-Dec
       John met an (the) actress who came to USC.

     b. *John-un [[(ku)<u>yepaywu</u>-ka USC-ey o – n] kes-ul] salangha/hyemoha/cohaha-yss ta.
       J. -Top the actress-Nom USC-to come-Rel kes-Acc love/ hate/   like-Pst-Dec
       (Intended) John loved /hated/liked an (the) actress who came to USC.

On the other hand, the head-external counterparts lack this sensitivity completely:

(23') John-un [[e USC-ey o – n] (ku) <u>yepaywu</u> -lul] manna-/salanghay-/hyemohay-ss-ta
     J.   -Top   USC-to come-Rel the actress-Acc   meet / love / hate -Pst-Dec
     John met /loved/hated an /the actress who came to USC.

Since the canonical transitive object position is VP-internal, the internal head 'an actress' in (23b) is expected to stay within the nuclear scope having an existential reading like in (23a), thus it should not create any conflict with the VP-internal focus projection. However, the incompatibility of IL predicates not only with the subject but also with the object head noun when the predicate is a transitive experiencer verb such as *love/fear/like/hate* suggests that the object argument of these verbs has a different LF structural position on the syntactic tree, i.e., outside VP, unlike canonical transitive verbs such as *meet* whose object argument is positioned within the VP. The ungrammaticality of (23b) is directly related to the reason that the internal head playing the object argument role of the matrix IL predicate cannot check its focus feature within the matrix VP because it is positioned outside the matrix VP.

    In section 3, I have presented the full paradigm of the incompatibility of IL predicates in HIRs whether in the matrix clause or in the relative clause and argued that this is due to the VP-internal focus effect on the head whose feature has to be checked obligatorily in both clauses[11]. In the

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[11] Although the main role of *kes* is mainly functional, its literal denotation as 'a thing/one ([human, -polite])' still creates some amount of independent restraint against [+human] internal head nouns whose reason seems to be purely related to the interference of the lexical meaning of *kes*. For example, when [+human] internal head nouns functions as an agent of the matrix predicate, the sentence does not sound polite unless that [+human] internal head is a little boy/baby.

(i) [[ccokuman <u>ay hana</u>- ka   yokie tuleo-n] kes-i]   ku chayk-ul kacyekankes kath-ta.
    Little   boy one –Nom here   enter   kes-Nom the book-Acc take seem-Dec
    A small boy who entered here seems to have taken that book.

Since the head, the agent of the matrix predicate, is *a small boy*, the sentence does not sound derogatory nor impolite and is therefore perfectly well-formed. But if *a father/a teacher* replaces the subject, the same sentence becomes completely unacceptable (though grammatical), unless it is intended to be derogatory on purpose, as shown in (ii).

(ii) # [[<u>sensaynqnim hana-ka</u> yokie tuleo-n] kes-i]   ku chayk-ul   kacyokankes kath-ta
    Teacher   one-Nom here enter   kes-Nom the book-Acc   take seem
    (Intended) 'The teacher who entered here seems to have taken that book'

Contrastingly, however, if the honorific markers are attached to the noun head and to the predicates, the sentence sounds acceptable as in (iii).

following section the range of the definiteness effect in HIRs will be presented with the claim that the definiteness effect is also a focus-induced constraint.

4. The Definiteness Effect (DE)

Since Milsark (1977, 1979), NPs have been grouped into two classes on the basis of what is allowed and what is not allowed in the existential sentence (ES), and definite NPs such as *the, demonstratives, proper names, pronouns* and the universally quantified NPs *every/all/most* are all grouped into the same class as "strong NPs (determiners)" which are disallowed in ES (along with quantificational use of indefinites), as in (24b).

(24)   a.   There is/are *a/three/some/many* book (s) on the table.
       b.   * There is *the /that/John's/every/almost* book on the table.

Non-appearance in ES is generally taken as the criterion of definiteness and Milsark's explanation was that the quantificational nature of strong NPs crashes with non-quantificational existential interpretations of ES. Even though there has been no known syntactic/semantic correspondence between ES and HIRs, the definiteness effect has been widely assumed to hold in HIRs as well (Kuroda, 1974; Williamson, 1987; Basilico, 1996; Watanabe, 2002). The range of the DE in Korean HIRs shows a similar distribution: weak determiners such as *a/two/some/several* in cardinal readings can occur with the internal head, whereas the strong determiners such as *every/almost* are not allowed (25b). This definiteness constraint is completely absent in head-external counterparts, as illustrated in (26).

(25)   a.   [[John-i   **chayk**-ul /**sey-kwen-yi chayk**-ul   sao-n] kes-i]   epsecye pelye-ss-ta.
            J. -Nom   book-Acc three-Cl-Gen book-Acc buy-Rel   kes-Nom was disappear-Pst Dec
            A/three book(s) that John had bought disappeared.

       b.   *[[John-i   **motun / taypwunyi**   **chayk**-ul   sao-n] kes-i]   epsecye pelye-ss ta.
            J.   -Nom   every / most   book-Acc   buy-Rel kes-Nom   was disappeared
            (Intended)   Every/most book(s) that John had bought disappeared.

(26)   [[John-i e sao -n]   **chayk**-i / **sey-kwen-yi chayk**-i /   **motun chay**-i] epsecye pelye-ss ta.
            J. -Nom   bought-Rel book-Nom/three-Cl-Gen book-Nom every book-nom disappeared
            A book/three books/every book that John had bought disappeared.

Korean HIRs, however, show a different distribution with respect to the strong determiners, which are referential: these determiners *the/that/this/ names/pronouns* can occur in the head position.

(27)   a.   John-un [[Mary-ka   **ku umsik**-ul   kacyeo -n] kes-ul]   mek-ess-ta.
            J.   -Top   Mary-Nom   the food –Acc brought-Rel kes-Acc   eat-Pst-Dec
            John ate the food which Mary brought.

(iii) [[**sensayngnim han pun**-i   yokie tuleo-si- n]   kes-i/key]   ku chayk-ul   kacyoka-sin- kes kath-ta.
      teacher   one Hor-Nom here enter-Hor.-Rel kes-Nom   the book-Acc take Hor-seem-Dec
      (Intended) The teacher who entered here seems to have taken that book.

One common way to minimize any possible transfer of the semantic denotation of *kes* as 'a thing' is to use the reduced form *ke*, instead of *kes*, which significantly neutralizes its literal meaning. Kim (2002) also points out the same opinion about this.

b. [[**John**-i/ **ku**-ka konghang-eyse nao –nun] kes-i] phikonhay po-yess-ta.
  J. -Nom/ he-Nom airport-from come out_Rel kes-Nom look tired
  John/He, who was coming out of the airport, looked tired.

This fact a priori suggests that to account for the DE strong determiners have to be grouped into definite NPs that are referential and the strong quantifiers *every/all/almost*. The DE has been argued to be a supporting argument for the quantificational determiner analysis because strong NPs in relative clause will create vacuous quantification since they do not provide variables to be bound (Basilico 1995; Watanabe, 2002). In this approach head movement to outside the VP is required to escape existential closure in order for the quantificational definite determiner operator to bind the variable introduced by the head, which means according to this analysis that the internal head should not be a definite NP, which is not the case. Moreover, the determiner analysis of HIRs has to explain there is such a close dependency between the definite determiner and the relative clause why only in HIRs.

4.1. Why the definiteness effect in HIRs?

In arguing that the DE is a focus-induced constraint, the natural question is how the DE is related to the role of focus, and why only strong quantifiers *every/most* create the intervention effect as in (25b). As discussed by various authors (cf. Hawkins, 1978; Rando and Napoli 1978 among others), the main difference between definites and indefinites can be described as anaphoric vs. non-anaphoric. This fundamental distinction between the two has been elaborated as "file change semantics" in Heim (1982): definites and indefinites differ crucially in terms of their ability in providing "old" versus "new" information since definites must have a discourse referent whereas indefinites cannot have an antecedent in the discourse. Analyzing *kes* functioning as a focus marker and HIRs as licensing "(information) focus" structurally encoded within VP, I argue that the ability of weak NPs to stay within the VP is due to their semantic property of "existentiality," which is compatible with the discourse notion focus highlighting new information in the sentence. However, I claim that unlike the DE in ES, the reason that the definite NPs can also occur in the head position of HIRs as in (27) is because the head along with the modifying relative clause can provide a new information to the sentence, therefore being compatible with (information) focus, although the semantic property of definite NPs is presuppositional hence old information cannot be allowed by themselves. ES also relaxes the constraint when there is an additional element modifying the definite NP, for instance, sentences often referred to as the "indefinite use of the definite NPs" such as *this/that* which function like weak determiners (*cf.* Diesing 1992; Larson and Segal 1995).

(28) a. There's this cow that I see every morning. (Diesing, 1992)
    b. There's this cow that Egbert is painting this wonderful pictures of.

(29) There is this book I'm reading (It's pretty long.) (Larson and Segal, 1995)

This also seems to be in accordance with what Rando and Napoli (1978) have termed as the "List" type of English ES as in (30), which normally occurs as an answer to questions and allows both definite and indefinite NPs in which the main stress is spread on the whole list as indicated in brackets.

(30) Q: What's worth visiting here?
    A: There's [the park, a very nice restaurant, and the library ...]

There have been numerous proposals to account for different behaviors of strong NPs versus weak NPs. Based on German data[12], Diesing (1992a:78) argues that all strong NPs including *every/all/most*

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[12] Diesing illustrates this point with the German examples in (i) in that two subject positions correspond to an alternate interpretation between the cardinal and presuppositional readings of a weak determiner on a subject NP

are presuppositional NPs associated with [Spec, IP] by undergoing QR, therefore they are disallowed in ES. However, with the assumption that *there*-sentences license VP-internal (information) focus due to which post-copular NPs are in focus positions, I claim that it is not presuppositionality of universal quantifiers that disallow them in ES, but it is because, unlike weak NPs, they lack existentiality and therefore cannot be compatible in the focus position. One question that may arise is whether "specificity" plays a role, as claimed by Enç (1991: 9), who based on Turkish facts argues that definiteness and the notion of specificity of NPs are related phenomena and what is not allowed in English *there*-construction is specific NPs. As noted by Higginbotham (1987: 53), however, specific NPs can also occur as in (31).

(31)   There was a certain man I knew in the garden; namely, John.

It has been known that existentiality plays an important role in *there*-sentences, *e.g.*, Keenan (1987) notes that existential *there*-sentences are used to affirm, deny, or query the existence of objects, and NPs that can naturally occur in the post-copular position are existential NPs (32), whereas the NPs in (33) are not existential hence ungrammatical.

(32) a.   There wasn't more than one student at the party.
     b.   There was no one but John in that building.
(33) a.   * There were most students on the lawn.
     b.   * Was there every student in the garden?

My claim, however, is that existentiality of post-copular NPs plays an important role because these NPs are in the focused position whose discourse information must contain a new entity with which only existential NPs are compatible.

Similarly, in HIRs *every/most* differ crucially from weak NPs as well as from definite strong NPs in two major respects. First, they lack existentiality, which can be illustrated by using the pseudo-cleft sentence.

(34) a.   [John-i   ecey   **myech-kwen-yi chayk**-ul   sa- n]   kes
           J. -Nom yesterday a few –Cl-Gen   book-Acc   buy-Rel kes
           A few books that John bought yesterday.

     b.   [[John-i   ecey   sa- n]   kes-un]   **myech-kwen-yi chayk** i-ess-ta.
           J.   -Nom yesterday buy-Rel   kes-Top   a few-Cl-Gen   book is-Pst-Dec
           What John bought yesterday was a few books.

The equivalence of (a) to (b) in (34) shows the property of weak NPs *few/several* in cardinal reading as existential, whereas *every/most* crucially lack this property as shown in (35):

(35) a. * [John-i   ecey   **motun chayk**-ul   sa- n]   kes
            J.-Nom   yesterday   every book -Acc   buy-Rel kes
            (Intended) Every book that John bought yesterday.

(i) a. ... weil   ja doch zwei   Celllisten in diesem Hotel abgestiegen sind.
          Since 'indeed' two   cellists   in this   hotel have-taken-rooms
    b. ... weil   zwei Cellisten ja doch   in diesem Hotel abgestiegen sind
          since two cellists   'indeed' in this   hotel have-taken-rooms

In (ia), with the subject NP in [Spec, VP], the cardinal reading is most salient, viz, the sentence asserts the existence of two cellists who have taken rooms in this hotel. But in (ib) the subject NP is in [Spec, IP], hence the presuppositional reading is obtained: the two cellists are two of some larger set of cellists.

b. * [[John-i   ecey   sa- n]   kes-un]   **motun chayk** i-ess-ta.
   J.-Nom yesterday buy-Rel   one-Top   every   book is-Pst-Dec
   ?? What John bought yesterday was every book.

Second, all other strong NPs which are referential show the property of (existential) presuppositionality as in (36), unlike *every/most* lacking this property, as in (37) since (b) cannot be equal to (a).

(36) a. [John-i   ecey   **ku   chayk**-ul   sa- n]   kes
        J. -Nom yesterday   the/that book-Acc   buy-Rel kes
        The/that book that John bought yesterday.

     b. [[John-i   ecey sa- n]   kes-un]   **ku   chayk** i-ess-ta.
        J. -Nom yesterday buy-Rel kes-Top   that book is-Pst-Dec
        What John bought yesterday was the/that book.

(37) a. *[[**motun kangto**-ka   ecey   unhayng-ulo   tuleo- n] kes]
        every robber-Nom   yesterday bank-to   enter-Rel kes
        (Intended) Every robber that entered the bank yesterday.

     b. *[[ecey   unhayng-ulo   tuleo- n]   kes –un]   **motun kangto** i-yess-ta
        yesterday bank-to   enter-Rel   kes –Top every   robber   is-Pst-Dec
        ?? The one that entered the bank yesterday was every robber.

Strong quantifiers *every/all//most* therefore, unlike weak NPs, are raised out of VP existential closure to VP-external position (undergoing QR to adjoined [Spec, IP]) and intervene focus movement of the DP head to the focus-licensng position in the matrix clause because strong quantifiers lack existentiality and hence cannot be compatible with information focus licensed VP-internally. If we extend the notion of the intervention effect (cf. Beck, 1996; Beck and Kim, 1996; Pesetsky, 2000; Aoun and Li, 2001; Vergnaud and Zubizarreta, 2001) to the focus movement in HIRs, the configuration below is ruled out because intervening strong quantifiers with the feature [-existential] block LF movement of focus:

(38)   *[$_{CP}$... X$_i$ ... [$_{IP}$ Q$_j$(-existential) ...[$_{FP}$ [$_{VP}$[$_{DP}$ t$_j$ NP ^{LF}...]$_i$]]]]

The QR landing site is a potential intervener in the focus movement of the head to the focus-licensing position of the matrix VP through [Spec, CP] of the relative clause because strong determiners raised in the adjoined [Spec, IP] position within the relative clause intervene in the focus movement of the head first to [Spec, CP] of the relative clause. However, once these strong quantifiers acquire the property of existentiality provided by the additional information from the modifying phrase/clause, then they are allowed as in (39), which shows a stark contrast to the ill-formedness of (25b), repeated below.

(39) John-i [$_{DP}$[$_{AP}$ ipen hakki-ey   philyohan] **motun chayk**-ul] sao- n   kes-i   epecepelyessta.
     J.   -Nom   this semester-in needed   every book-Acc   buy-Rel kes-Nom disappeared
     Every book [(that is) needed for this semester] that John bought disappeared.

(25) b. *[[John-i   **motun / taypwunyi chayk**-ul   sao-n]   kes-i]   epsecye pelye-ss-ta.
        J.   -Nom every / most   book-Acc buy-Rel kes-Nom was disappeared
        (Intended) Every/most book(s) that John had bought disappeared.

If the expletive *there* in the English ES is analyzed as a focus marker in terms of the function to which *kes* has a great resemblance, besides its surface fulfillment to check the EPP feature on T, then the position of the post-copular NP is VP-adjoined [Spec, FP], where VP-internal (information) focus is

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licensed via Spec-head agreement. Under this assumption the difference between 'some men are in the garden' and 'there are some men in the garden' is absence versus presence of focus effects on the NP *some men*, and both of the sentences preserve their existential meaning, which indicates that the existential meaning in *there*-sentences does not come from the word *there* itself but from the copular verb *be*. The cross-linguistic fact that some languages including Korean/Japanese do not use the expletive *there* for the construction of existential sentences seems to support this argument. What is more, if we take into consideration another type of *there*-sentence in English with intransitive verbs such as *arrive/emerge* (cf. Higginbotham, 1987 among others) as in *there arrived a man*, it is immediately clear that treating all *there*-sentences as existential sentences is not the right generalization.

For reasons of space, I will not discuss the definiteness effect in ES in greater detail. What is relevant for our purposes here is that this phenomenon of the DE, whether in ES or in HIRs, is in effect a focus-induced constraint, created by the discourse notion of focus for which existentiality plays a major role since it can introduce a new information. Within the Focus-based analysis the important demarcation between existentiality and presuppositionality lies in the fact that existential NPs (weak NPs) introduce new information into the discourse and hence are compatible in the focus position, whereas presuppositional strong NPs whose entity/reference is already shared and being old information cannot be compatible with focus by themselves, which can be a natural explanation for the disallowance of referential strong NPs in *there*-sentences in general. However, once these definite NPs are accompanied by a modifying phrase/clause, they are not disallowed anymore, which is the case in HIRs about which I will argue for LF focus feature percolation of the head to the modifying clause/phrase. Similarly, the distinction between existentiality and non-existentiality, when there is an interaction of focus, plays an important role due to which the strong quantifiers *every/most*, lacking existentiality, cannot be compatible in the internal head position. Thus *every/most* moves out of VP and undergoes QR to an IP-adjoined position, unlike other strong NPs and weak NPs which stay within the VP, which means only the quantifiers that undergo QR can intervene in the Focus movement of the internal head first to [Spec, CP] of the relative clause then to the VP-internal Focus licensing position of the matrix clause. The claim that the role of existentiality in *every/most* has a direct correspondence with the execution of QR can be supported from the fact that when the scope of *every/most* becomes narrowed enough to denote existentiality due to the presence of a modifying phrase/clause, they do not undergo QR by being able to stay within the VP. The observation that focus-affected readings arise only in weak NPs but not with the universal quantifiers *every/most*, as discussed in Herburger (1993:523), Zubizarreta (1998:5), may be a further support for the incompatibility of universal quantifiers in the focus position therefore creating the intervention effect in the focus movement.

(40)   a.   Few/many/no/some INCOMPETENT cooks applied.
       b.   Most/all/every/each INCOMPETENT cook(s) applied.

The NPs in (40a) can be focus-affected, which can be interpreted as 'few cooks that applied were incompetent.' On the other hand, in (40b) NPs cannot have a focus-affected reading such as 'most cooks that applied were incompetent,' instead focus in (40b) is only contrastive and emphatic.

I have presented so far the two seemingly different phenomena observed in Korean HIRs, the incompatibility of IL predicates and the definiteness restraint, about which I have argued that both constraints are focus-induced, created by obligatory focus feature checking within the VP-internal Focus Projection in the matrix clause as well as in the embedded clause. As mentioned in the footnote, there is one more independent constraint which is purely due to the politeness factor since the lexical meaning of *kes* may denote a derogatory sense, e.g., when it refers to the [+human] head NP whose thematic role in the matrix clause is agentive (see examples in footnote 11). In this sense, although the role of *kes* is mainly functional, its semantic interference is not completely absent. Other than this, what is not allowed in HIRs are mainly IL-type predicates and universal quantifiers *every/all/most*, to which HERs are completely insensitive. In the following section I will attempt to elaborate how this focus movement can be executable structurally.

5. LF Focus movement, Subjacency, and pied-piping

The saliency of focus is generally assumed to lie in the "novelty" of the information since focused elements introduce new information, which is not already shared in the discourse pool. Strong exhaustivity normally associated with contrastive focus (*cf.* Kiss, 1998; Vergnaud and Zubizarreta, 2001) is not found in HIRs, which convey new, non-presupposed information. For instance, in (41) the internal head and the relative clause do not necessarily imply that 'only the book that John bought' which is clearly distinguishable from the contrastive focus meaning 'it was the book that John bought' such as that in the cleft sentence.

(41) [[John-i **chayk**-ul sa-n] kes-i] tonan tanghay-ss-ta.
　　　 John-Nom book-Acc buy-Rel kes-Nom was stolen
　　　 The book that John bought was stolen.

Some authors (Rochemont 1983, Rochemont and Culicover 1990) have categorized the type of the focus found in English *there*-sentence as a *presentational* focus in the sense that focus is licensed by a special syntactic construction, though the focus in *there*-construction is certainly an information focus. It is interesting to note that Focus in HIRs resemble that in the *there*-sentences in several respects and are subject to the similar constraints. First, both of them are syntactically licensed by a certain syntactic construction, hence the licensing mode is mainly syntactic rather than prosodic, though it may accompany a stress especially in English. Second, both constructions are not compatible with individual-level predicates: the incompatibility of IL predicates in the English *there*-construction is already well known, *e.g., there are several doctors available* vs. **there are several doctors smart*-- (cf. Milsark, 1979; Diesing, 1992, Kratzer, 1995; Chierchia, 1995). Also, both display the definiteness effect. Certainly the two belong to different types of constructions, however what may be common between the two could be the VP-internal Focus effect due to which they are subject to the same constraints.

　　Kiss (1998) argues that only contrastive focus displays a weak cross over effect and has to move to the specifier of a functional projection, unlike information focus which does not show this effect and hence does not move. However, as discussed in Choi (1995), Korean focus movement shows several diagnostics of movement such as strong cross-over (SCO) and weak cross-over (WCO) effects whether foci syntactically move or not (cf. Choe, 1995: 275-276).

(42) a. * ku-ka/nun₁ Mary-ka JOHN-ul₁ salanghan-ta-ko sayngkakha-n-ta.
　　　　 He-Nom/Top Mary-Nom John-Acc love –Dec-C 　 think –Pre-Dec
　　　　 * He₁ thinks Mary loves JOHN₁.

　　 b. * JOHN-ul₁ ku-ka/nun₁ Mary-ka salanghan-ta-ko] sayngkakha-n-ta.
　　　　 * He₁ thinks Mary loves JOHN₁.

(43) a. [ku/caki-ka₁ ku il-ul 　 haynay-ss-ta-nun sasil-i] John-ul₁ kippukeyhay-ss-ta.
　　　　 He/self-Nom the thing-Acc finish-Pst-Dec-NM fact-Nom John-Acc happy-make-Pst-Dec
　　　　 The fact that he₁/self₁ finished the work made John₁ happy.

　　 b. [[*ku/??(?)caki-ka₁ ku il-ul 　 haynay-ss-ta-nun] sasil-i] JOHN-ul₁ kippukeyhay-ss-ta.
　　　　 He/ self-nom 　 the thing-Acc finish-Pst-Dec-Rel fact-Nom John-Acc happy-make-Pst-Dec
　　　　 The fact that *he/??(?)self₁ finished the work made JOHN₁ happy.

　　 c. JOHN-ul₁ [[*ku/??(?)caki-ka₁ ku il-ul haynay-ss-ta-nun] sasil-i] kippukeyhay-ss-ta.

　　In (42), SCO effects show whether focus moves overtly (b) or covertly (a). In (43a), when the object is not focused the sentence is well-formed. On the other hand, when JOHN is focused, regardless of syntactic movement, the sentence shows WCO effects as in (43b)-(43c): the effect is

strong with the pronoun but with the anaphor there is a weak WCO effect[13]. So it seems to be legitimate to argue that information focus also undergoes A-bar movement either in LF or in PF, whose position I propose in this paper is a VP-adjoined [Spec, FP] position. Additionally another immediate problem with Kiss' analysis is how the focus feature is licensed without Spec-head agreement by moving to the feature licensing specifier position of FP. Positing the VP-adjoined focus projection which licenses information foci looks to be another advantage in capturing contrastive focus along similar lines but as a VP-external phenomenon raised out of VP and adjoined to CP. Subjacency, another important diagnostic of movement, is also well obeyed in HIRs.

(44) a. [DP[CP[CP **pay**$_i$-ka   pata-mithulo chimmolhay-ss-ta-ko]cenhayote-n]kes$_i$-i]   palkyen-toi-ess ta.
              ship-Nom sea-under   sink   -Pst-Dec-C said   -Rel kes-Nom discover-Pst-Dec
              A ship that was said to have sunk into the sea has been discovered.

   b. [DP[CP[CP Mary-ka **chayk**$_i$-ul sa- ss -ta -ko] calanghayte-n] kes$_i$-i]   tonan-tang-hayss-ta.
              M.-Nom book-Acc buy-Pst-Dec-C   boasted -Rel   kes-Nom steal-Pass-Pst-Dec
              A/the book that Mary boasted that (she) bought has been stolen.

However, the effect of the Subjacency violation is stronger in HIRs, compared to HERs whose effect is relatively weaker. For example, although both sentences violate Subjacency, HIR (45a) is completely unacceptable whereas HER (45b) is far better.

(45)   a.   * John-i [[e$_i$ **kkoch**-ul$_j$ sao-n]   yeca-lul$_i$ manna –n] kes$_j$-i   situlepelyessta
             John-Nom   flower-Acc bought-Rel woman-Acc met-Rel   kes-Nom withered
       b. ?/??John-i [[e$_i$ e$_j$ sao-n]   yeca-lul$_i$ manna –n] kkoch-i$_j$]   situlepelyessta
             John-Nom   bought-Rel woman-Acc met-Rel   flower-Nom withered
             The flower which John met the woman who bought (it) was withered.

Similarly in (46) although both sentences violate the island condition, the degree of unacceptability of HIR (a), compared to the external counterpart (b), is far worse. This discrepancy between head-external and head-internal may be attributed to the focus effect on the internal head due to which not only the internal head but also the entire HIR-DP constituent is focus-affected therefore the intimacy of the head with the relative clause as a single constituent is more strongly highlighted in HIRs than in the case of HERs and subsequently the effect of the Subjacency violation is felt stronger.

(46) a.*John-I [[e$_i$ kumnyeney **nonmwun**$_j$-ul machi-n]salam$_i$-ul chingchanha-n] kes-i$_j$
    chwulphantoiessta
    J.-Nom   this year   paper-Acc   finished-Rel person-Acc praised-Rel kes-Nom published
    (Intended) A paper which John had praised the person who finished (it) this year was
    published.

   b.?/?? John-i [[e$_i$ e$_j$ kumnyeney machi-n]   salam-ul$_i$ chingchanha–n]nonmwun$_j$-i
    chwulphantoiessta
    J. -Nom   this year   finished-Rel person-Acc praised-Rel   paper-Nom published
    A paper which John had praised the person who wrote (it) this year was published.

The Japanese examples below are from Watanabe (1992), who points out that the Subjacency is also obeyed in Japanese HIRs as the ungrammaticality of (47b) shows.

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[13] As is well known, unlike English, the anaphor *casin* 'self' is more naturally interpreted as a variable in Korean. Even though the use of pronominal *ku* 'he' is normally not preferred whether as a bound variable or as a correferential pronoun, there are also cases that a variable reading of *ku* is also possible, as noted in Kang (1985). Saito and Hoji (1983) note in Japanese *zibun* 'self' can be construed as a variable, whereas the overt pronoun *kare* 'he' cannot.

(47) a. John-ga[[[kaizoku-ga kaitei-ni   **takara**-o sizumeta to] iwareta ita]   no- o] hakken sita.
        J.–Nom pirate-Nom bottom-of-sea-Loc treasure-Acc sank C said-Pass had no-Acc discovered
        John discovered the treasure which it had been said that the pirates had sunk into the bottom of
        the sea.

    b. * [[John-ga [**subarasii ronbun**-o kaita] hito –o]   homete ita]-no-ga] shuppan-sareta.
        J. -Nom   excellent paper-Acc wrote person-Acc praised had no-Nom Published-Pass
        An excellent paper which John had praised the person who wrote (it) was published

Choe (1984) and Nishigauchi (1984) based on *wh*-questions in head-external relatives and felicitous answers to them in Korean/Japanese argue that the Subjacency applies to LF movement as well[14]. They claim that answers either using a *wh*-word or using the complex DP are the indication that not only the *wh*-phrase but also the whole complex NP provide information, and this supports a large scale pied-piping depending on the categorical match. Note that *wh*-questions containing HIRs such as (48) can also be answered either in a shorter mode using a *wh*-noun (49a) or in using the whole HIR-DP (49b).

(48)   ne- nun [[nwu-ka   **chayk**-ul ssu – n] kes-ul] ilk-ess-ni?
        You-Top   who-Nom book-Acc wrote-Rel kes-Acc read-Pst-Dec?
        (Lit.) You read a book that who wrote?

(49) a.   Hemingway-ka   yo
        Hemingway-Nom is.
        It is Hemingway.

    b. [Hemingway-ka   (**chayk**) ssu – n]   ke(s)]   yo/ ilk-ess-eyo[15]
        H. –Nom   book   wrote-Rel   kes   is /read
        It is a book that Hemingway wrote.

If we take the LF Subjacency issue seriously and a large scale pied-piping is necessarily required, we can argue that, in a similar manner, the head first moves to the VP-adjoined [Spec, FP] to check its [+F] feature within the relative clause, then the rest of the elements in VP are adjoined to the head DP moved in to [Spec, FP] where the feature [+F] of the head noun will percolate to the whole clause. Then the complex DP will move to [Spec, CP] of the relative clause where it checks the [+rel] clausal-typing feature, from where it will further move up to the [Spec, FP] of the matrix clause, as shown in the structural representation below for the case of the head-internal relative whose relative head is the subject of the matrix clause.

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[14] In Nishigauchi's (1986: 66) typical examples such as (i), possible elliptical answers are as in (ii)
(i)   Kimi-wa [NP [S dare-ga   kai-ta]   hon]- o   yomi –masi-ta ka ?
       you-Top   who-Nom write-Pst book-Acc read –Hon-Pst-Q
       You read books that who wrote?
(ii) a. Austen –desu '(It is) Austen.'
     b. Austen-ga kai-ta hon desu. '(It is) the book that Austen wrote.'
[15] Hajime Hoji (*p.c.*) pointed out that the corresponding Japanese answer is not good since Hemingway is not a contemporary author, as noted in Kuroda (1975). But in Korean HIRs, no such simultaneous reading is required as mentioned in footnote 5.

(50)
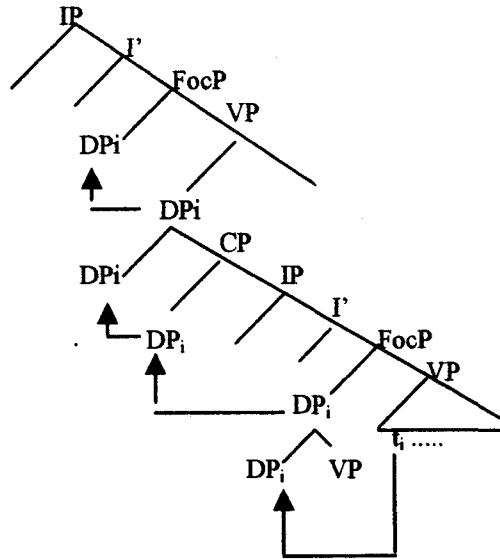
If there is a wh-phrase like in (48), the complex DP at [Spec, CP] of the relative clause will have the features [+wh] [+F] (besides [+rel] feature which is already checked off in this position), and these features have to be checked at different scope positions as the complex DP is pied piped to the matrix clause: [+wh] at [Spec, CP] of the matrix clause and [+F] at [Spec, FP] within the VP. Percolation of the focus feature of the head to the relative clause can also be achieved via a Focus assignment rule in a similar manner proposed in Selkirk (1984), Rochemont (1986) and Huck and Na (1991) that a constituent may be a focus if the constituent that is its head is a focus. The advantage of the structural account of focus feature percolation via LF pied-piping seems to be that it can incorporate the phenomenon of head-external and head-internal relatives in a unified manner. Another advantage of taking this line of LF pied-piping is that it can deal with the problem of adjunct wh-phrases in the relative clause in a better way. It has been widely discussed in the literature (Nishgauchi, 1986; Watanabe, 1992; Chung, 1996; among others) that non-argument wh-phrases, unlike argument wh-phrases, cannot occur within the head-external relative clause as in (51).

(51) a. * John-un [Mary-ka   way   ssu - n]   chayk-ul   ilk- ess-ni ?
        J. -Top   M.   -Nom why   wrote-Rel book-Acc read-Pst-Q
        John read the book that Mary wrote why?

     b. John-un [nwu-ka ssu - n]   chayk-ul   ilk- ess-ni ?
         J. -Top   who   wrote-Rel book-Acc read-Pst-Q
         John read the book that who wrote?

Observe that the same contrast holds in HIRs.

(52) a. * John-i [[Mary-ka   way chayk-ul   pilyeo - n] kes-ul] kayeka- ss-ni ?
        J. -Nom   M.   -Nom why book-Acc borrow-Rel kes-Acc take-Pst-Q
        John took the book that Mary borrowed why?

     b. John-i [nwu-ka chayk-ul   pilyeo - n] kes-ul   kayeka- ss-ni ?
         J. -Nom who   book-Acc wrote-Rel kes-Acc read-Pst-Q
         John read the book that who wrote?

Nishigauchi's solution (1986) for the disallowance of adjunct wh-phrases in HERs was based on categorical mismatch due to which 'why' cannot move to [Spec, CP] of the relative clause from which

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it will further move up to the matrix [Spec, CP]. The similar argument can hold for the contrast in (52), and the fact that by adding argument *wh*-phrases into the same clause the ill-formedness can be repaired as in (53) seems to support the necessity of positing LF-pied-piping: 'why' can adjoin to the argument *wh*-word 'who' and then since there is a categorial match between 'who' and the relative DP both as a nominal, feature [+wh] of both wh-phrases can move to [Spec, CP] of the matrix clause to get their scope.

(53)   John-un [**nwu-ka** **way** ku chayk-ul   pilyeo - n]   kes-ul   kacyeka-ss-ni ?
        J. -Top **who**   **why** the book-Acc borrowed-Rel kes-Acc take-Pst-Q
        (Lit.) John took the book that who borrowed why?

6. Concluding Remarks

In this paper I have attempted to account for two seemingly unrelated phenomena observed in head-internal relatives in Korean, that is, what makes head-internal relatives be sensitive to the type of the predicates and consequently not allow the occurrence of individual-level predicates, and why HIRs display the definiteness effect. I have argued that both phenomena can be syntactically captured by positing the VP-adjoined Focus Projection which licenses information focus and whose feature has to be checked in the matrix clause as well as in the embedded clause. Though left untouched in this paper, in the current framework of the generative grammar head-internal relatives provide an especially interesting theoretical as well as empirical domain for using the mechanisms of chain formation to investigate how the concept of *economy* plays a core part in the syntax of relative constructions. In the Minimalist program (Chomsky, 1993, 1995), *movement*, which is one of the two core operations in the computational system along with *merge*, is not optional but triggered by the need to check necessary features. In the base-generated adjunction analysis of the relative clause construction (Chomsky, 1977; Browning, 1991), the existence of head-internal relatives in languages is puzzling and unaccountable because the head is base-generated externally and what moves within the relative clause is the null-operator, whereas in the direct movement analysis (Vergnaud, 1974; Kayne, 1994) head-internal relatives receive a natural explanation in terms of the notion *chain formation* whose phonology targets the tail of the chain, instead of the head, due to which movement takes place covertly. One question that could arise naturally is why head-internal relatives rather than head-external relatives are focused, especially in languages such as Korean in which, unlike *in-situ* mechanism for *wh*-question formation, there is an apparent overt movement of the relative head noun involved in the head-external relativization strategy, leaving a gap within the relative clause. I would like to suggest that the structural properties of relative clauses as a clausal embedding under an NP of the higher clause which have to fulfill double argument roles in two clauses provide a straightforward argument for the chain formation where movement is a copying operation targeting the head of the chain, *i.e.*, [+rel] clausal-typing feature checking, is universally strong across languages triggering overt movement due to the greater structural weight/visibility of the matrix argument position than that of the embedded position. And when it triggers covert movement of the head due to the spell-out of the lower copy of the chain, this strategy accompanies an additional property, namely the effect of focus, which supports the idea of a "partial chain" (Aoun and Li, 2001). This paper supports the direct movement analysis of the relative clause construction, I have argued, however, that the proposed analysis casts some new insight on HIRs, whose syntactic as well as semantic properties have remained largely unclear.

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