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ON THE INTERPRETATION OF CONTEXTUALLY AMELIORATED FLOATING QUANTIFIERS*

1 INTRODUCTION

Even though paradigms have shifted and theoretical frameworks have drastically diverged, our pursuit is the same as those of decades ago. The inquiries into our innate ability to acquire a command of languages are progressing from the novice intuition of our predecessors, yet their style and trends are in somewhat pendulum fashion.

This thesis, as one such pursuit, investigates the behaviors of dislocated Numeral Quantifiers (NQs)/Floating Numeral Quantifiers (FNQs). The ways in which researchers have described dislocated NQs has varied over time and among different frameworks, but regardless, their intentions have been unequivocal: their aim is to identify the nature of dislocated NQs.

FNQs are manifested in languages that allow a relatively free word order operation called scrambling. However, how and to what extent this flexibility is allowed in scrambling differ among languages. In languages that do not allow scrambling operations, such as English, FQs are possible only in the limited type of quantifiers. That is, normal numerals are not conducive to FQs.

(1) a. All
    b. Both
    c. Each

(2) The scientists (all) would (all) have (all) been (all) adjusting their theories (*all). (Tsoulas 2003: 161)

The important thing to note regarding the distribution of English FQs is that they cannot immediately precede an extraction site, which is demonstrated in Sag (1978). Yet characteristic examples can be seen in the dialect of West Ulster English in

* This paper is a revised version of my MA thesis. I am deeply indebted to Yukio Oba, Sadayuki Okada, Masaharu Kato, Yoichi Miyamoto, Shiro Kori, Masao Ochi, and Mayumi Yoshimoto. They provided me with irreplaceable guidance and feedback on my MA works. I would like to express my gratitude to my friends who helped me with inquiry sheets as informants. Of course, all the remaining problems and errors are mine.

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McCloskey (2000). Example (3) is often cited as supporting evidence for local wh-movement. The phenomenon of *all* occurring in the intermediate position of the wh-movement also supports Miyagawa and Arikawa (2007; M&A, hereafter), who adhere to the stranding (strict locality) analysis of the FQ and its host NP.

(3) *West Ulster English*
a. *What all* did he say (that) he wanted *t*?
b. *What* did he say (that) he wanted *all t*?
c. *What* did he say *all* (that) he wanted *t*? (McCloskey 2000: 61)

Japanese is a typical scrambling language, and thus, I would mainly consider Japanese FNQs to have been created through a scrambling operation. Although Japanese retains flexible word order by the presence of scrambling, an unmistakable asymmetry between subject and object is observable.

Unlike object NPs, subject NPs are uncongenial with the linear order S-O-NQ, in which the object intervenes between the subject and subject orient / modifying NQ. Needless to say, the object is fully congruent with O-S-NQ, in which the object and its modifier NQ are separated by the subject interjection (4).

(4) *Standard Paradigm*
a. Gakusei-ga san-nin sake-o nonda.
student-NOM 3-CLS sake-ACC drank
'Three students drank sake.'
b. *Gakusei-ga sake-o san-nin nonda.
student-NOM sake-ACC 3-CLS drank
'Three students drank sake.'
c. Hon-o gakusei-ga go-satu katta.
book-ACC student-NOM 5-CLO bought
'Students bought five books.' (M&A 2007: 648)

In Section Two, I will refer to the primary reason for which this asymmetry is attributable to the linear ordering system. According to Ko (2007), linear order should be decided in each phase in the form of Spell-Out. The ungrammaticality of S-O-NQ arises due to an infringement in the order preservation (except in special cases, which will be seen in Section Two).

However, in M&A's view, the ungrammaticality of S-O-NQ comes from different sources, viz., the misinterpretation created through phonological structure and the semantic crash between the nature of the classifier and its host NP. In accordance with M&A, I assume that the derivation itself is not liable to the low acceptability. If this is so, how can we attain the intended modification between the subject NP and the NQ? This thesis extends M&A's analysis further by investigating a solution for amelioration in terms of modification and explicates the mechanism for how an ameliorating effect can be attained.

Lastly, this type of investigation indicates the importance of delivering the

interdisciplinary approach. Such an approach may be key to uncovering the erudite nature of FQs.

2 PRECEDENT ANALYSES

2.1 Synopsis of Ko (2007)

In this section, I present the key concepts of the precedent analyses that have provided inspiration for this work. First, I review Ko (2007), who uses the phenomena seen in instances of FNQs and possessor raising constructions in Korean to demonstrate that the scrambling operation is regulated by the interface condition between syntax and phonology. Let us examine the main points that concern my analysis. The chief consequence of her analysis is that the notion of Cyclic Linearization allows us to capture the acceptability in subject and object scrambling.

At the outset, she proves the unavailability of subject scrambling to be false by providing examples (5) and (6). In these examples, the subject can be scrambled from the embedded clause to the matrix clause crossing the matrix subject. Also, in (6), the embedded subject NP can strand the numerals at the position following the matrix NP.

(5) John-i_1 [$_{CP}$ na-nun [$_{CP}$ t_1 Mary-lul mannassta-ko] sayngkakhanta].
John-NOM I-TOP Mary-ACC met-C think
'John$_1$, I think that t_1 met Mary.'

(6) **Haksayng-tul-i**$_1$ [na-nun [t_1**sey-myeng** Mary-lul mannassta-ko]
student-PL-NOM I-TOP 3-CL Mary-ACC met-C
sayngkakhanta].
think
'Students$_1$, I think that three t_1 met Mary.'

(7) a. **Haksayng-tul-I** **sey-myeng** maykcwu-lul masi-ess-ta.
student-PL-NOM 3-CLperson beer-ACC drink-PAST-DEC
'Three students drank beer.'

b. ***Haksayng-tul-i** maykcwu-lul **sey-myeng** masi-ess-ta.
student-PL-NOM beer-ACC 3-CL drink-PAST-DEC
'Three students drank beer.'

(Ko 2007: 52)

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(8) Linearization Preservation
The linear ordering of syntactic units is affected by Merge and Move within a Spell-Out Domain, but is fixed once and for all at the end of each Spell-out Domain. (Fox and Pesetsky 2003:1)

Ko, following F&P, assumes that at each spell-out domain, the linear word order should be decided when it is sent to PF. The spelled-out domain for Korean, in her notion, is CP and *v*P, an idea that differs slightly from Chomsky's (2001) concept of phases, in which the domains that undergo Spell-Out are the complements of the CP and *v*P. Thus, TP and VP are actually sent to PF. Based on the examples Ko gives for Object Shift languages, it seems that these Spell-Out domains can be varied. For example, in Scandinavian languages, the domains are said to be VP.

Once the word order has been decided at the previous domains, the later derivations are only allowable in adding further linear order information, which should not contradict the previous order (otherwise, the sentence will not be pronounced at PF, and thus the derivations crash, and ungrammatical sentences arise). It seems that for Ko, to nullify ungrammatical sentences such as (6b), the Spell-Out domain should be *v*P. If the VP is the domain, the intended effect that rules out the contradictory linear order among the spelled-out domains cannot be reaped from. Although I admit that there is elegance in Ko's idea of Spell-Out domains and in the derivation of her examples, I cannot help but perceive the impression that linear order preservation is taken too highly, and the legitimacy of each movement sometimes less so.[1] I agree that subject movement within the same *v*P to outer spec *v*P is regulated under the assumption that the probe-goal feature driven movement should occur. This explains why only the object can be moved to the spec *v*P at the initial domain.

[1] In Ko's example (i), the embedded subject moves from the Spec TP (case position) to another TP (case position), resulting in double case and improper movement. Also, I would think that the movement of an embedded NOM-marked subject should be related to some instance of focus (at least in Japanese, this is the case; also, in the latter part of her analysis, Ko herself claims that the case-marked NP is different from the caseless NP, probably for reasons related to focus). Thus, the legitimacy of the movement itself is sacrificed for the sake of securing the word order preservation among phases.

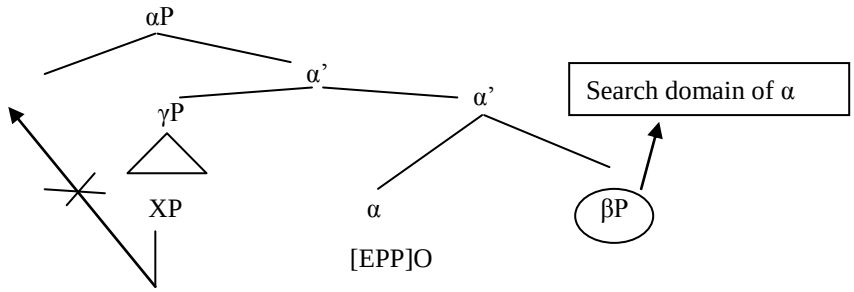
(i) a. $[_{vP}$ Se NQsubj O Ve ve]
Ordering in the embedded vP: Se<NQsubj<O<Ve<ve

b. $[_{CP}[_{TP}$ Se1$[_{vP}$ t_1 NQsubj O Ve ve] Te] Ce]
Ordering in the embedded CP: Se<NQsubj<O<Ve<ve<Te<Ce

c. $[_{vP}$ Se1$[_{v'}$ Sm $[_{CP}[_{TP}$ t_1 $[_{vP}$ t_1 NQsubj O Ve ve] Te] Ce] Vm vm]]
Ordering in the matrix vP: Se<Sm<NQsubj<O<Ve<ve<Te<Ce<Vm<vm

d. $[_{CP}[_{TP}$ Se $[_{vP}$ te1$[_{v'}$ Sm $[_{CP}[_{TP}$ t_1 $[_{vP}$ t_1 NQsubj O Ve ve] Te] Ce] Vm vm]] Tm] Cm]
Ordering in the matrix CP: Se<Sm<NQsubj<O<Ve<ve<Te<Ce<Vm<vm<Tm<Cm
(Ko 2007: 59)

(9) probe-goal based movement restriction on the subject



(Ko 2007: 57)

In (9), the XP can be seen as the subject NP, and the complement position of α can be deemed as the object NP. Ko assumes that the numerals are the complement of the subject NP at the base, as does Sportiche (1988), and that they form DP. This is crucially important for her analysis to spurn the unwelcoming derivation that otherwise allows the interjection of the object NP between the subject NP and the subject modifying numeral. Nevertheless, the complement analysis of the numeral and its host NP are not free of controversy.[2]

In the inalienable possession construction (IPC) in which multiple case marking is allowed, Ko provides another paradigm that is seen in FNs. Normally, according to her, the double nominative elements (S-possessor and its possessee) cannot tolerate the interjection of the object / *v*P internal elements (10), but the double accusative elements (O-possessor and its possesse) can enclose the subject (11). These data further support her constituent analysis. However, Ko (2007) describes in Footnote 42 that the constituent approach (12) is only fully compatible with double nominative cases. However, double accusative cases are said to be captured by both the

[2] I would like to present relatively strong counter-examples to the base c-commanding analysis from Bobaljik (2003). Bobaljik (2003) points out the critical problems for the Sportiche type of the base mutual c-command relation. Although the base c-command relation account predicts the grammaticality of both the base and dislocated positions of FQs, the cases he provides do not have felicitous base relations [Q, DP] (i)–(iii). As is obvious from his examples, the base position of the NP/DP and the Quantifiers is not allowed, and only the dislocated position is allowed. Furthermore, in (iii), the baseless French cases, the FQs are said to have agreement with the NP/DP without obtaining the mutual c-command relation [Q, DP] through which the agreement is supposed to be licensed. For Bobaljik's data, it seems that the mutual c-command analysis may not be an attractive option.

(i) a. Larry, Darry$_i$ and Darry$_i$ have all come into the café.
b.?* All (of) Larry, Darry$_i$ and Darry$_i$ have come into the café.
(ii) a. Some (of the) students might all have left in one car.
b. * All (of) some (of the) students might have left in one car.
(iii) a. We have all three of us completed the assignment on time.
b. * [$_{NP}$All three of us we]...
c. Elles sont [toutes les trois] intelligentes.
They-F are all-F.PL the three intelligent.
'They are all three (of them) intelligent.'
d. * [$_{NP}$Toutes les trois elles]... (Bobaljik 2003: 23)

constituent and non-constituent approaches: (12) and (13). Interestingly, she mentions in Footnote 39 that body-part and kinship IPCs behave differently within IPC constructions. For unclear reasons (she states that the reason is unknown), the double nominative IPC for the body part is said to be disallowed in (14). Yet for the kinship IPC, the IPC seems more acceptable in (15). In regard to the grammatical status of (14a) versus (14b), the insertion of the object is not the reason for the grammatical degradation of (14a). If this were the case, the complement approach would simply not be supported, even in the cases of double nominative IPC. I have added the gloss and small details to Ko's original foot note.

(10) IPC constructions

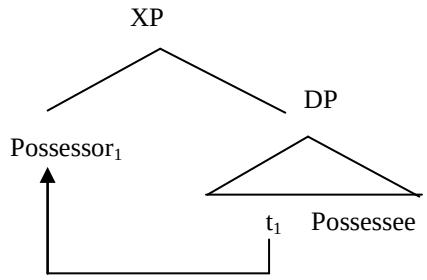
a. John-i apeci-ka pwuca-ta.
John-NOM father-NOM rich-DEC
'John's father is rich.'

b. Mary-ka **John-ul t** **ali-lul** cap-ass-ta.
Mary-NOM John-ACC leg-ACC grab-PAST-DEC
'Mary grabbed John's leg.' (Ko 2007: 72)

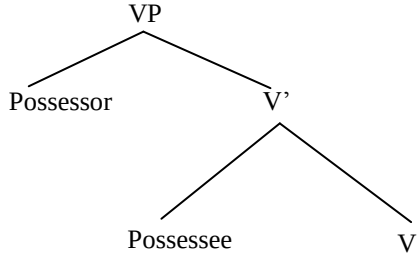
(11) a. ***John-i** kong-ul **apeci-ka** cha-ss-ta.
John-NOM ball-ACC father-NOM kick-PAST-DEC
'John's father kicked a ball.' (cf. (3b))

b. **John-ul** Mary-ka **tali-lul** cha-ss-ta.
John-ACC Mary-NOM leg-ACC kick-PAST-DEC
'Mary kicked John's leg.' (ibid.: 73)

(12) IPC constituent



(13) IPC non-constituent



(ibid.: 72)

(14) a. * **John-i** kong-ul **tali-ka** cha-ss-ta. (*body part*)
John-NOM ball-ACC *leg*-NOM kick-PAST-DEC
'John's leg kicked the ball.'
b. * **John-i** **tali-ka** kong-ul cha-ss-ta.

(15) ? **John-i** **apeci-ka** kong-ul cha-ss-ta. (*kin-ship*)
John-NOM *father*-NOM ball-ACC kick-PAST-DEC
'John's father kicked the ball.'

(Ko 2007: 72) with my gloss.

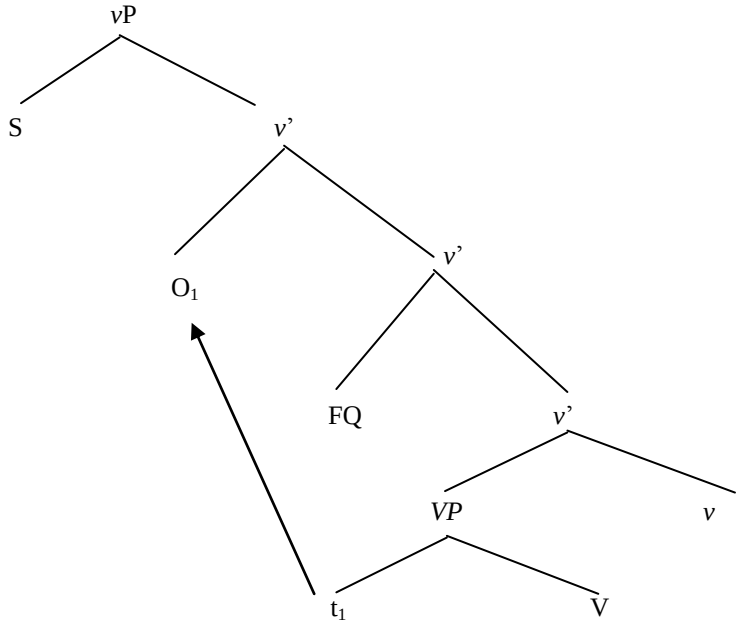
In the last section of her work, Ko entertains the exceptional cases that appear to be unfavorable to her strategy (S < O < subject numeral). She claims that these exceptional cases show the difference in grammaticality. At the same time, according to Ko, a numeral and its host subject NP do not form a constituent in the exceptional cases.

In her logic, as long as the *v*P-internal element cannot intervene between the numerals and the subject NP, constituency is required. Thus, if the element can be inserted in between them, they should not form a constituent (15). The availability of the S < O < subject numeral order seems to be a natural consequence of the non-constituency of the subject NP and the numerals. According to Ko, in Korean, the types that do not form constituents are the case marked NQ, focus marked NQ, and quantifier phrases. Although she avoids any particular statement regarding the status of the exceptional cases, Ko seems to capture these type of NQs as adverbial adjuncts in terms of the position in which they occur (a view I would not conform to); see (16) and (17).

(16) S<O<FQsubj<V
a. Haksayng-tul-I khempywuthe-lul
student-PL-NOM computer-ACC
twu-myeng-i/ina/man sa-ss-ta.
2-CL-NOM/DELIMITER/only buy-PAST-DEC
'Two/Even two/Only two students bought computers.'
b. Haksayng-tul-i sakwa-lul motwu(-ka) mek-ess-ta.
student-PL-NOM apple-ACC all(-NOM) eat-PAST-DEC
'All the students ate apples.'
c. Haksayng-tul-I sakwa-lul amwuto(*-ka).
student-PL-NOM apple-ACC anyone(-NOM)
mek-ci-anh-ass-ta
eat-CI-NEG-PAST-DEC
'No student ate apples.'

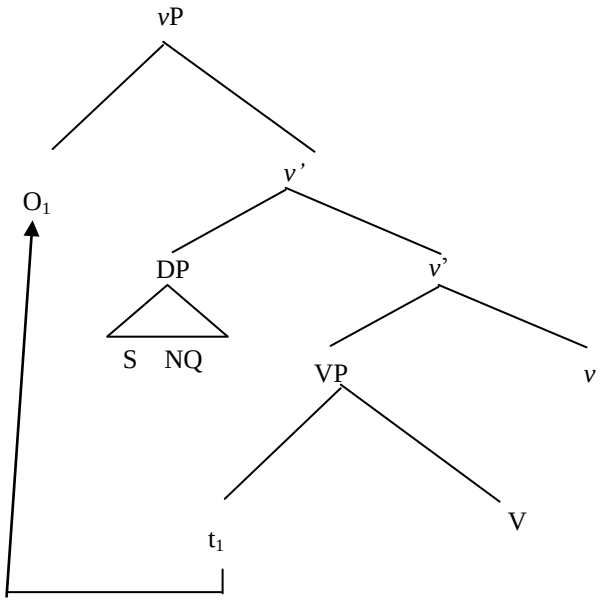
(ibid.: 75)

(17) a. Exceptional type of FQ



Linearize vP: **S<O<FQ$_{subj}$**<V<v (Ko 2007: 76)

(17) b. Exceptional type of FQ



Linearize vP: **O<S<NQ$_{subj}$**<V<v (Ko 2007: 76)

In summary, in Ko's analysis, Korean FQs can be classified into two types. The first type form a constituent with subject NP in a mutual c-command fashion, and the second (exceptional) do not form a constituent. The behavioral differences in syntax can be derived from non/constituency.

If the object can intervene between the subject and the numerals, or at least a modification relation between the subject and numerals is secured, the subject NP and the numerals should not form a mutual c-command relation. Indeed, this prediction is also applicable to Japanese cases.

2.2 Miyagawa (1989) and Fukushima (1991)

Before moving on to a discussion of M&A (2007), I address other contentious issues regarding the mutual c-command analysis. In Miyagawa (1989), FQs are licensed through the mutual c-command relations between the quantifiers (numerals) and their host NPs.

If the quantifiers and the host NPs are in VPs at base structure, they are licensed by the verb. This license is also applicable to their traces; thus, the felicitous FQs ensue. In this case, the position of the trace created by the FQ is understood as the

"virtual argument (A) position." Also, the traces of quantifiers are licensed if they modify the NPs, which have "affected theme." Here is Miyagawa's definition of the licensing (18) (19).

(18) Predicate Licensing: The position of a predicate (NQ) is licensed by the verb if the predicate takes an affected Theme NP as its antecedent, and the NP and the predicate are governed by the verb that assigns this thematic role. (Miyagawa 1989: 55)

(19) Theme Rule
a. Either assign lexically idiosyncratic roles or
b. Assign Theme to the object if there is one, otherwise, assign Theme to the subject. (ibid.: 57)

In order to see which verb can offer affected theme, Miyagawa (1989) provides an intransitivizing test, which adds *–tearu* to a transitive verb to render the sentence into an intransitivizing-resultative sentence. He then judges the grammaticality of the outcome.

According to his argument, if the resultant is grammatical, the FQs are theoretically licensed, and if it is ungrammatical, the FQs should be disallowed.

(20) If the object is an (affected) Theme, the NQ that takes it as an antecedent is in virtual A-position, so the NQ is free to move.

(21) If the object is a nontheme, the NQ that takes it as an antecedent is not in virtual A-position, so the NQ-cannot move. (ibid.: 60)

(22) Affected Theme Test
Ringoga katte aru. → Affected Theme verb
Apples NOM bought
'Apples are bought.'

(23) * Hanako ga aisite aru. → NOT Affected Theme verb
'Hanako is loved.' (ibid.: 59)

(24) a?* 2-ri, Tarooga zyosei o aisite iru (koto).
2-CL NOM womenACC love
'Taro loves two women.'
b. * Anozyoseiga aisite aru.
That womanNOM love
'That woman is loved. (ibid.: 60)

(25) a. 2-tu Tarooga madoo aketa (koto)
2-CL TarooNOM windowsACC opened
'Taro opened two windows.'
b. Madoga aketearu.
window NOM opened
'The window is opened.' (ibid.: 61)

In his examples, this prediction is borne out. However, his notion of the "affected theme" stands on quite dubious grounds.

Fukushima (1991) carefully remonstrates that intransitivizing tests do not fit well with reality. To begin, he introduces selections of Martin's (1975) verbs with affected theme roles, from which Miyagawa (1989) has adopted.

(26) Verbs with Affected Theme Roles.
- a. that which is moved: *okur* 'send,' das 'put out,' *tor* 'take (away),' etc.
- b. that which is exchanged: *(tori-) kae* 'exchange,' etc.
- c. that which is created: *tukur* 'make,' *tate* 'build,' *iw* 'say,' *hanas* 'speak,' etc.
- d. that which is converted: *naos* 'repair,' *su* 'make someone something'
- e. that which is extinguished, consumed, destroyed, or gotten rid of: kes 'extinguish,' tabe 'eat,' kowas 'break,' wasure 'forget,' etc.
- f. that which is to be put on to be worn or which is worn: ki 'wear,' hak 'wear,' kabur'wear,'etc.
- g. that which is perceived: mi 'see,' kik 'hear,' kanzi 'feel,' etc.
- h. that to which attention is paid for the purpose of direct or indirect perception; mi 'look at,' kik 'listen,' kag 'smell,' etc.

(Fukushima 1991: 64)

Then, in his discussion of the affected theme, Fukushima (1991) observes the highly problematic cases to Miyagawa (1989).

(27) a. * Monogatari-ga hanasite-aru.
Fairy tale-NOM speak-exist-pres
'(INT.) The fairy tales have been told.'

b. Huta-tu Taroo-ga kodomo-ni monogatari-o
Two -NOM child-to fairytale-ACC
hanasi-ta.
speak-past
'Taroo told two fairy tales to the child.'

(28) a. * Yakusoku-ga wasurete-ar-u.
promise-NOM forget-exist-pres
'(INT.) The promise has been forgotten.'

b. Mit-tu Taroo-ga yakusoku-o wasure-ta
three -NOM promise-ACC forget-past
'Taroo forgot three promises.'

(29) a. *Tomedonai ikari-ga kanzite-aru.
Unsuppressable fury-NOM feel-exist-pres
'(INT.) An unsuppressable fury has been felt.'

b. Hito-tu Taroo-ga tomedonaiikari-o kanzi-ta.
one -NOM unsuppressable fury-ACC feel-past
'Taroo felt an unsuppressable fury.'

(30) a. *Nioi-ga kaide-ar-u.
Smell-NOM sniff-exist-press
'The smell has been sniffed.'
b. Hito-tu Taroo-ga henna nioi-o kai-da.
One -NOM strangesmell-ACC sniff-past
'Taroo sniffed one strange smell.'
(Fukushima 1991: 65-66)

Regardless of being ruled out by the intransitivizing *–tearu* tests, in (a) cases (27)–(30), the examples that Fukushima (1991) shows are perfectly felicitous with the FQs, which are seen in (b) cases (27)–(30). Not only did Miyagawa's prediction about the grammaticality of the affected theme verbs not hold, but the parallelism with respect to the grammaticality of the FQs suffered. According to Fukushima, some of the verbs that are not included as proper licensers of the affected theme and that are supposed to be uncongenial with intransitivization can perfectly comply with the FQs. The verbs that he mentions are *hakkensu* "discover," *kizuk* "notice," *hazime* "begin," and so forth.

Given that one of Miyagawa's (1989) most fundamental presuppositions relied on the affected theme, these questionable aspects negatively affect his proposal on the FQs, which are captured by the mutual c-commanding at base.

Alternatively, Fukushima (1991) regards the FQs as adverbials. He utilizes semantics to explain the phenomena, and his semantic system rules out the order S<O<NQ. His analysis does not assume the movement analysis. Instead, he adopts the slash feature strategy to capture the relation between the subject NP and the dislocated NQ. However, his systems seem quite rigid and cannot explain the grammatical cases with problematic word orders, which he himself points out. (The beauty of Miyagawa's analysis is that it can capture those inexplicable grammatical sentences (31b–c).)

(31) a.?*Sannin, hon-o akusei-ga kat-ta
Three book-ACC student-NOM buy-past
'Three students bought the book.'
b. Sannin, sonohon-o gakusei-tati-ga kat-te-it-ta.
Three thatbook-ACC student-plural-NOM buy-go-past
'Three students bought the book and left.'
c. Sannin, sorezore/issyoni, hon-o sorera-no
three separately/together book-ACC those
gakusei-ga kat-ta
student-NOM buy-past
'Those three students bought the book separately/ together'
(ibid.: 53)

As I am not using a semantic analysis, and I am afraid an in-depth discussion of Fukushima's analysis would be a digression from the arguments. I will not address it any further here. It seems that it is difficult to describe the distribution of FQs solely

from a particular field. It may well be said that the behaviors of FQs should be defined in terms of interdisciplinary fields, which I explore in later sections.[3] Before arriving at my analysis, I present another precedent research by M&A (2007), which gave me the inspiration to carry out my investigation intended to ameliorate the infelicitous interpretation.

2.3 M&A's Analysis

This section serves as a review of M&A's arguments. M&A uphold the locality approach to NQ and its host NP in a strict sense and are dedicated to using Japanese data. Their aim is to refute the counter-arguments that do not require the sisterhood (mutual c-command relation) between the subject and its associate NQ by pointing out that the ostensible counter-examples are actually accommodated under their analysis, which necessitates the locality and the existence of a trace of the dislocated subject NP.

In regard to the mutual c-command requirement, Miyagawa assumes NQ to be a type of secondary predicate. In order to maintain the predication in the sense of Williams (1980), the host NP and the NQ should form a constituent, and the resultant is NumP.

M&A exhibit two instances that are crucial to their analysis: the position of the subject NP is A' in the S<O<NQ order, and the trace of the subject NP is visible to license the stranded NQ.

In the most ubiquitous occasion (SOV), the subject moves up to Spec TP to satisfy the T's EPP. When the derived order is OSV, however, the object is available to check EPP. Actually, in Miyagawa's framework, the Spec of vP is not equi-distant from the target T; if the object NP moves to outer Spec vP, it is closer to T, and thus, the object NP is chosen over the subject NP. By pointing out the scope interaction of *all* and negation, Miyagawa demonstrates that the object NP has undergone A-movement to Spec TP (25). Since he assumes that the NOM case is checked in AGREE rather than the Spec-Head relation, the notion that anything can satisfy the EPP of TP does not seem far-fetched.

(32)	Taroo-ga	*zen'in-o*	sikar-ana-katta.
	Taro-NOM	all-ACC	scold-NEG-PAST

[3] Indeed, Fukushima (2007) conducts one of such interdisciplinary study of Head Driven Phrase Structure Grammar (HPSG). In his analysis, pragmatic information such as contextual information plays an integral part in obtaining the informative feed for the semantics. Particularly, it is integral in dealing with somewhat unusual constituents, for example, his "lonesome NC constructions," which include [ringo-o (kyoo) ni-ko] in (i). For a detailed account, please refer to Fukushima (2007).

(i) Taroo –no oyatu-ni-wa [*ringo*-o (*kyoo*) *ni-ko*]-ga datoo-da
-GEN snack-for-TOP [apple-ACC (today) 2-CL]-NOM adequate-COP.PRES
'As for Taroo's snack, (eating/consuming/giving him/etc.) two apples (for today) is adequate'
(Fukushima 2007: 962)

'Taro didn't scold all.'
'not >all','all >not'

(33) *Zen'in*-ga tesuto-o uke-na-katta.
all-NOM test-ACC take-NEG-PAST
'All did not take the test.'
'*not > all','all >not'

(34) Tesuto-o_i *zen'in*-ga t_i uke-na-katta.
test-ACC_i all-NOM t_i take-NEG-PAST
'That test, all didn't take.'
'not>all','all>not' (M&A 2007: 654)

As far as Miyagawa's judgment is concerned, the object NP in (34) has moved to Spec of TP, so *all* is allowed stay inside *v*P. Thus, the scope of *not>all* is obtained. It seems that in (33) and (34), placing stress on *test* allows him to make the intended reading clearer. In for my view, the *not>all* interpretation is almost impossible to come by, at least in this stress assignment position. Although I do not know why, it seems that if the stress is placed on *all*, the intended reading can be rather perceptible. Yet, generally, the partial negation of *all* in (34) is quite hard for me.[4] As mentioned Section 2.2, Ko (2007) tries to rule out ungrammatical S<O<NQ order by Cyclic Linearization; however, M&A attributes its deviance to the phonological structure caused by the misinterpretation of the object NP and the NQ as a complement. Miyagawa accommodates the counter-examples to the complement analysis as supporting evidence by resorting to phonological structures.

At the risk of prolonging the explanation, I would like to present examples from M&A that are closely related to the ones we have looked at above.

(35) a. Gakusei-ga futa-ri zen'in-o mi-na-katta.
student-NOM 2-CL all-ACC see-NEG-PAST
'Two students did not see all.'
'not >all', 'all>not'

b. Gakusei-ga zen'in-o futa-ri-tomo mi-na-katta.
student-NOM all-ACC 2-CL-both see-NEG-PAST
'Both of the two students didn't see all.'
'*not > all', 'all > not'

c. Gakusei-ga zen'in-o futa-ri-dake mi-na-katta.
student-NOM all-ACC 2-CL-only see-NEG-PAST
'Only two students didn't see all.'
'*not > all', 'all> not' (ibid.: 657)

Contrary to the analogy that can be drawn from (34), the partial negation reading

[4] For those who are not congenial with the partial negation reading in (34), I would like to mention the following: Miyagawa notes in his Footnote 6 that the subject NP has moved into the Spec of TP. I agree with him on this point.

of *all* is cancelled in the scrambled (35b, c). Actually, when the object NP follows the subject NP, *not>all* is a possible reading in (34). Miyagawa claims that the unacceptability of *not>all* in (35b, c) should come from the fact that the object NP moves to TP by A-movement. Since Miyagawa adopts Mahajan (1990), A-movement is not subject to reconstruction, whereas A' movement is. For his analysis, this is a welcome result.[5] (However, if we assume QR in (35), we are able to attain the wider scope of *all*. It is probable to assume that the strict wide reading of *all* should be deemed as a requirement that strong quantifiers have to satisfy.)[6]

Miyagawa refers to Kishimoto (2001) for another paradigm for the Spec TP movement of objects. Kishimoto assumes that the indeterminate pronouns are licensed only when they are m-commanded by the particle *mo*. *Mo* is congruent with *v* and C, but not T. Also, he argues that the subject and TP-adverbs are interpreted in the TP area, and the low adverb and the *v*P-internal elements are interpreted in *v*P. Also, Kishimoto assumes that only head movement can expand the scope. Look at Miyagawa's example in (36).

(36) a. Kodomo-ga san-nin *dono-eiga*-o
child-NOM 3-CL which-movie-ACC
mi-*mo*-mi-na-katta.
see-MO-do-NEG-PAST

[5] Additionally, Miyagawa comments in his Footnote 8 that the other readings are possible. In fact, for me his "unpredicted interpretation" is the possible one: the interpretation in which the NQs and *all* both take the scope over the negation. For this reading, Miyagawa suggests the possibility that the examples in (28) have the NQs with the focus particles *dake* "only" and *tomo* "both," and these NQs undergo optional movement higher than negation. Another possibility is that the subject and the NQ initially move to TP, and the scrambling of the object NP follows. In order to exclude the possible effect of the focus particle, he gives example (i).

(i) Gakusei-ga zen'in-o futa-ri mi-na-katta.
student-NOM all-ACC 2-CL see-NEG-PAST
'Two students didn't see all.' (M&A 2007: 658)

Theoretically, (i) can only predict the reading of *not>two*, but to Miyagawa's surprise, his informants accept *two>not*, even in (i). He seems to be at wits ends with this instance. Although I am not confident, I attempt an analysis. Suppose all undergo QR in LF, then suppose, usually, numerals cannot undergo QR-like movement. The *all>not* reading is almost always a given. Here, I would suspect the nature of this object: *all*, unlike other NPs, is one of the strong quantifiers. If so, accompanied by the nature of NP, this QR-movement of *all*, which will vacate the *v*P, will be helpful for the NQ to be construed with the subject NP. Because the subject NP is outside of the negation, the NQ takes higher scope than negation in the reading. To attribute this effect to the nature of *all*, let us replace it with a normal NP.

(ii) Gakusei-ga sensei-o futa-ri mi-na-katta.
student-NOM teacher-ACC 2-CL see-NEG-PAST
'Two students didn't see the teacher.'

The reading in which the NQ modifies the object is preferred over the reading the NQ construed with subject. Importantly, reading of NQ modifying the subject is quite hard if not possible. It seems legitimate to attribute wide scope of NQ to be the nature of object: all. The alternative is as follows: Since there is preference in reading which connects the object with the NQ, NQ in (i) might have undergone QR in a way as of a free-rider.

[6] I request that the reader refer to Diesing (1991), in which she demonstrates her Mapping Hypothesis. The relevant point here is that the definite NP and the quantified elements are supposed to be interpreted in the IP/TP areas. Undoubtedly, all is a strong quantifier and should move up to the TP area by LF.

'Three children did not see any movie.'

b. *Kodomo-ga *dono-eiga*-o imamadeni
child-NOM which-movie-ACC so.far
san-ninmi-*mo*-si-na-katta.
3-CLsee-MO-do-NEG-PAST
'Three children did not see any movie so far.' (M&A 2007: 658-659)

Miyagawa attributes the ungrammaticality of (36b) to the object, which has moved out from the domain of *mo* to Spec of TP. However, Kishimoto (2001) does not assume the visibility of traces. Moreover, by observing (36b) closely, we can see that the object NP precedes the TP adverb. Suppose that the TP adverb is interpreted in the TP area; then, the preceding object NP must be in the TP area or even the CP area. Although I basically uphold Miyagawa's logic on the movement of the object NP, I still contemplate the option that the object may not have to undergo A-movement. Examples (37) and (38) are supporting data for the A'-movement of the subject from Miyagawa.

(37) Dareka-ga daremo-o sikatta.
someone-NOM everyone-ACC scolded
'Someone scolded everyone.'
'some >every','*every > some'

(38) Dareka-ga daremo-o tugitugito sikatta.
someone-NOM everyone-ACC one.after.another scolded
'Someone scolded everyone one after another.'
'some >every', 'every >some's (ibid.: 659)

Miyagawa takes (38) as an instance in which the subject has undergone A' movement. Thereby, the presence of a copy/trace of the subject NP makes the inverse scope possible (due to the reconstruction of the subject NP); otherwise, as in (37), it is not allowed in Japanese. The trace is said to be contributed to maintain the strict locality of the dislocated NQ.

Even more examples from M&A that I find convincing for the effectiveness of the trace of the subject NP will be presented. As is evident from (32), passives and unaccusatives are congenial with dislocated NQs, whereas unergatives are not.

The reason that the trace of the subject NP in (39c)–(41) cannot work as a proper licenser of the dislocated NQ comes from the low adverb. Miyagawa explicates this by referring Ko (2007), who states that the high adverb can appear in the same position between the subject NP and the NQ perfectly in unergative case (40). Transitive sentences such as (42) also reject the existence of the low adverb between the subject NP and its NQ. However, if (42) is passivized, as in (43), the interjection of the low adverb becomes felicitous. This felicity regarding the low adverb interjection also holds for the unaccusative (44), but not for the unergative (45). Based on this, Miyagawa concludes that the low adverb interjection can be an effective test for separating the unergative and the transitive from unaccusative and passive examples. He argues that the grammaticality of (39)–(45) is dependent on the

availability of leaving the NQ inside VP, and this supports his trace analysis.[7]

(39) a. Kurumai-ga doroboo-ni t_i ni-dai
car$_i$-NOM thief-by t_i 2-CL
nusum-are-ta. (passive)
steal-PASS-PAST
'Two cars were stolen by a thief.'

b. Doai-ga konokagi-de t_i futa-tu aita. (unaccusative)
doori-NOM thiskey-with t_i 2-CL opened
'Two doors opened with this key.'

c. *Kodomo-ga geragerato san-nin waratta. (unergative)
child-NOM loudly 3-CL laughed
'Three children laughed loudly.'

(40) Kodomo-ga kinoo san-nin
child-NOM yesterday 3-CL
kurasu-de waratta.
class-in laughed
'Three children laughed yesterday in class.'

(41) *Kodomo-ga$_i$ [$_{vP}$ t_i [$_{VP}$ geragerato san-nin waratta]]. (unergative)
child-NOMi t_i loudly 3-CL laughed

(42) *Doroboo-ga *umaku* san-nin kuruma-o nusunda.
thief-NOM skillfully 3-CL car-ACC stole
'Three thieves stole cars deftly.'

(43) Kuruma$_i$-ga doroboo-ni *umaku* t_i san-dai
car$_i$-NOM thief-by skillfully t_i 3-CL
nusum-are-ta.
steal-PASS-PAST
'Three cars were stolen deftly by a thief.'

(44) Doa$_i$-ga *umaku* t_i mit-tu aita.
door$_i$-NOM well t_i 3-CL opened
'Three doors opened nicely.'

[7] At the risk of sounding meticulous, I would like to consider Miyagawa's take on (34). If I understand correctly, Ko (2007) assumes that the low adverb is inserted in *v*P. Personally, I believe it is quite possible to insert it in VP. Also, if I adopt Kishimoto's (2001) view, low adverbs are interpreted in *v*P by LF eventually. Given that *geragerato* "loudly" is a low adverb, and if the constituent analysis stands, can the NQ stay in VP at all? Probably, it is related to the licensing ability of traces, but I do not know, because in his example (35), which I provide as (i), *geragerato* "loudly" is placed outside of *v*P, which seems quite fine. In order to maintain a constituent analysis, the subject NP and the NQ should be inside the same phrase, at least at base. Example (i) seems to be compatible with this notion. It may be a matter of order preservation. If the adverb is inserted in *v*P (outer Spec), it cannot undergo scrambling at *v*P, so the order inside *v*P would be L Adv < Subject < NQ, yet the final derivation is S < L Adv < NQ. Thus, an order contradiction results. In the same way, when the Adv is inserted in VP, it should be able to scramble to *v*P (outer Spec because the subject and NQ are a constituent). This results in the order contradiction.

Admitting that (i) may not explain the difference in the trace's licensing ability between the grammatical counterparts (i.e., unaccusatives and passives), I do not understand Miyagawa's argument.

(i) *Kodomo-gai geragerato [$_{vP}$ t_i san-nin [$_{VP}$ waratta]]. (unergative)
child-NOMi loudly t_i 3-CL laughed (M&A 2007: 660)

(45) * Kodomo-ga *umaku* san-nin oyoida.
child-NOM well 3-CL swam
'Three children swam well.' (M&A 2007: 660-661)

Thus far, I have given supporting examples for M&A's analysis. Finally, I would like to take up M&A's signatory exploration based on the prosodic structure. An interesting point is that there is a difference in the prosodic structure between the standard and non-standard paradigms.[8] According to M&A, in even ostensibly the same sentence, the prosodic structure changes with respect to whether NQ is interpreted with subject NP or object NP. They effectively utilized Praat (acoustic analysis software) to show those prosodic structures.

(46) Sakanaya-ga yaoya-o yo-nin yonda.
fish.seller-NOM vegetable.seller-ACC 4-CL called
Object NQ: 'A fish seller called four vegetable sellers.'
Subject NQ: 'Four fish sellers called a vegetable seller.'
(47) a. Object NQ: [(sakanaya-ga) (yaoya-o) (yon-in yonda)]
b. Subject NQ: [(sakanaya-ga) (yaoya-o)][(yo-nin yonda)]
(ibid.: 662)

They show the intonation phrasing using [brackets] (47). Crucially, in (47b), when the NQ is interpreted with the subject, it is separated from the bracket where the object NP resides. M&A provide the pitch contour of each type. As a result, there are palpable differences between them. Although I would like to reproduce their figures of the pitch contours, I am not able to here, and thus, I must forgo them and instead try to review them concisely.

For the subject reading case, the pitch of the peak point of the NQ is approximately 230 Hz. For the object reading case, it is roughly 200 Hz. Merely comparing these numerical values may not sound convincing; however, in the preceding phonological word, the cardinality can be captured easily. In the object reading case, the starting point and peak of the NQ are basically the same, but in the subject reading case, they are not. The starting point of NQ is approximately 200 Hz, just as in the object case, but the peak is boosted. Normally, in a natural utterance, the pitch tends to lower gently toward the end of the utterance even if it is not easily perceptible (declination). Given that there is a marked boost on the NQ, this kind of boosting can be deemed as a reset that signals the phrase boundary. Now that I have, hopefully, covered the details from their figures, let us proceed to a discussion of their arguments.

The reading in which the NQ is interpreted as the complement of the object NP,

[8] Miyagawa claims that in the initially ungrammatical sentence with the order S<O<NQ, the object NP and the NQ subject are mistakenly interpreted as a constituent, and thereby the ungrammaticality arises (standard paradigm / judgment). When the NQ subject is not deemed as a constituent with object NP due to the prosodic difference, the subject and the NQ subject can be seen as grammatical (nonstandard judgment.)

forms one intonation phrase (IP). Therefore, no pitch rest is observed in the example. The reading in which the dislocated NQ is interpreted with the subject is expressed in brackets. Also, there is a pitch reset in the NQ, which shows that the NQ is not inside the same IP as the object NP.

From their analysis, we can say that there is correspondence in syntax and phonology. The data are fully compatible with M&A's prediction: the NQsubject reading can be related to Miyagawa's nonstandard judgment cases, and the NQobject reading can be affiliated with the standard judgment cases. It seems quite promising to ascribe the ameliorating effect to the interaction of the prosodic structures.

In essence, I agree with M&A's argument, but the testing example that they use leads me to be doubtful. In any case, I cannot get the interpretation of the NQ that (as M&A claim) should be differentiated between the subject reading and the object reading according to the way they are pronounced. (It may be the case that my intuition as a native speaker is strange, but it may also be that the interpretation is difficult if not impossible.)

Therefore, I suspect that merely inserting the prosodic boundary / IP boundary may not be effective. Then, what ensures the felicitous subject reading of the dislocated NQ? I would like to pursue this inquiry in Chapter Three.

3 EXPERIMENTS

3.1 Prolegomena

In this section, by partially introducing the sources of the precedent studies, I conduct research on my interests. The main considerations are directed to the derivatives of M&A's (non)/standard (judgment) cases, (S<O<NQ). Like M&A, I assume that the derivation of the standard (judgment) cases, (S<O<NQ), itself is not ungrammatical, and the sources of unacceptability are the phonological structure and clash in agreement.

I present several examples to show that the phonological phrasing (introducing the Intonation Phrase (IP) boundary) has leverage in disambiguating the sentences.

In Section Two, we saw that the phonological structure of nonstandard judgment is distinct from that of standard judgment. Because of this difference, there is an improvement in acceptability. In the case of nonstandard judgment, in lieu of mistakenly associating the object NP with the NQ, the different phonological structure helps to deter this interpretation, and the right modification between the dislocated subject and the NQ can be maintained.

I present examples (48)–(54) to show that the phonological phrasing (introducing the Intonation Phrase (IP) boundary) leverages to disambiguate the sentences.

(48) Help keep the dog off! (= Help to keep the dog off.)

(49) Help!| Keep the dog off! (= I ask for help! Keep the dog off.)
(50) You can have cheese | salad or quiche. (three options are available.)
(51) You can have cheese salad |or quiche. (two options are available.)
(52) You can have cheese salad or quiche. (either three options or two options are available)
(53) The flags are red, white and blue.
'Each flag has three colors.'
(54) The flags are red, |white, |and blue.
'Some flags are red, some white, and some are blue.'

(Wells 2006: 188-189)

The underlines indicate the nuclear stress in the IP, and | indicates the IP boundary, viz., a pause is inserted at each |. With the introduction of IP phrasing, a stark difference in meaning is observed in (48)–(54). Example (52) is obscure because it has two possible readings: one consists of three options (cheese, salad, and quiche) and the other consists of only two (cheese salad and probably cheese quiche.) Yet the nebulousness disappears when the IP boundaries are inserted. Incidentally, as an alternative possibility, Tomioka (2007a) points out that disambiguation in meaning is assisted by the context and by our knowledge of the world.

In a sense, the phenomena in which prosodic phrasing disambiguates equivocal sentences are not uncommon. Yet, it may be imprudent to decide this without investigation.

Based on what I mentioned as a caveat in Sectionr Two, I pursue my research on the following concept: the source of the ameliorated reading of the $NQ_{subject}$ may not be solely attributable to prosodic phrasing.

In order to detect what actually contributes to the ameliorated reading, I have conducted a survey based on an inquiry sheet by consulting with native speakers of Japanese.

3.2 Method

- Eight native speakers of Japanese served as consultants (age approximately 20s–50s). (Their main residences varied.) They were asked 52 questions. For the sake of space, I will present only the parts that will be relevant to the core of this thesis in the Appendix.
- Informants were asked to read each sentence silently and to insert a deliberate pause each time |appeared.
- They were asked to choose the acceptable (felicitous) reading for the host of the NQ: subject NP, object NP, or both.
- They were asked to comment on what they perceived or noticed when they filled out the sheet.
- The data were collected and translated into percentages. They are shown in the Appendix, and the parts that require close attention are colored.

3.3 Stimuli

The variations of the following examples were used as stimuli. All other stimuli are listed in the Appendix.

(53) a. kooti-ga (|) roku-nin (|) senshu-o eranda.
coach-NOM 6-CL player-ACC chose
'Six coaches chose the player'—Intended reading
Before scrambling

b. kooti-ga (|) senshu-o (|) roku-nin eranda.
coach-NOM player-ACC 6-CL chose
'Six coaches chose the player'—Amelioration reading
'Coach chose six players—Failed Amelioration reading
After scrambling

3.4 Predictions

- When the informants associate the subject with the NQ, the amelioration is fulfilled.
- When the informants associate both the subject and object NPs with the NQ as possible interpretations, amelioration is detectable.
- When the informants reject the subject reading of the NQ completely, the amelioration fails.
- When the definite demonstrative sono "the" is added to the object NP, instead of adding the particles to the NQs, theoretically, the NQ object reading is prevented.
- If adverb insertion is effective, as Ko and others claim, then adverb insertion into places where pauses are originally inserted may be helpful.

3.5 Results

In this subsection, I advert the readers to the Appendix. The "(number)" in "Stimulus (number)" refers to the Appendix. Readers should be aware of a caveat in dealing with the initial case, (55a). Although the reading of (55a) has an intended reading, there is also another possible one: "The coach chose six players." As is evident from the outcome of Stimulus (1) (please consult the Appendix), native speakers showed the tendency to disambiguate in meaning even before scrambling. They preferred the object reading of the NQ when the pause was inserted immediately

before the object NP.[9] When the pause was inserted before the NQ, the subject reading was preferred. When it was inserted into the positions both preceding and following the NQ, the reading was twofold. These results confirm that pausing is effective in disambiguating the meaning in the pre-scrambling environment.

However, in the post-scrambling environment, as in Stimulus (2), pause insertion of any type did not exhibit sufficient effectiveness, so merely inserting a pause (phonological boundary) may not be enough to derive the amelioration in reading (contra M&A).

What may well be confirmed is as follows: to derive the ameliorated reading of the NQs, the phonological boundary insertion corroborates with the particle attachment to the NQs.

Absolute amelioration is seen in Stimuli (3) and (4), where the *de*- particle data show an unfaltering subject reading of NQs, irrespective of the pausing type. It seems the *de*- data is quite invincible.

Another relatively strong amelioration is seen in the *dake*- particle data. The effectiveness of this particle is seen or fortified in the negative environment in Stimulus (14). The *-tomo* particle also shows a trend that is comparable to that of *-dake* (Stimulus (6)).

The particles *-sika* and *-mo* in Stimuli (7), (8), (10), and (11) show a slightly milder effect in comparison to the others. The least of all is *-sika*, which can only occur in the negative environment.

In these data, the combination of pausing and negation does not show a compelling/decisive contribution as a focus (yet it does not mean the effect should be ignored). This can be seen in Stimuli (16) and (17), in which no subject prominent reading is observed.

Although rather noticeable improvements in the subject reading of NQs are observed in *sono*-insertion in the object NP, which was intended to disambiguate the modification, it was not as effective as the theory predicts it to be. Thus, it can be said that the association between the NQ and the object NP are not readily severed in S<O<NQ when the particles are absent. Especially when the subject and object NPs are elongated, the amelioration is less likely to be obtained.

In order to detect the effectiveness of adverbials themselves, I also inserted adverbials into the places that had been saved for pauses. Yet in most cases, the strong tendency to prefer the object reading of the NQs seemed unwavering, even though a certain amount of amelioration was observed.

To summarize, I would like to argue that effective amelioration is the combination of the particles and the IP boundary insertion, and it is quite tangible. Further exploration of the adverbial and negation data is suggested for future research.

[9] M&A claim that after the context of scrambling, the insertion of a pause just before the NQ makes the subject reading of NQ acceptable. They do not argue about pre-scrambling environments.

4 PROPOSAL AND ANALYSIS

4.1 Proposal and Evidence

By deducing the results elicited in the relation of pausing pattern and the reading preferences in the pre/post scrambling environment in Appendices 1 and 2, I would assume pausing type (a) to be the subject/object type, (b) to be the object type, and (c) to be the subject tending type.

On the basis of the results, particles-attached NQs (PANQs) are divided into three types: (i) attendant participles, that is, the (de-) particle, (ii) NPI particles, and (iii) presuppositional particles. They are strongly affected by the attributes of the particles they attached to.

(56) (i) attendant participle: *de*-particle
(ii) NPI particles: *sika, mo*
(iii) presuppositional particles: *dake, tomo*

It is evident that *de*- particle addition cases transcend all other particles that were used in this research. Regardless of phrasing type (for example, even in pausing type (b), the subject reading is observed), they are unaffectedly successful at producing only the subject reading of the NQs. Thus, the amelioration effect is perfectly accomplished in these cases. Hence *de*- should be categorizes as its own type (i). I assume that *de*-PANQs form the attendant participle; thereby, the strong subject reading ensues. In this sense, this usage of *de*- is not the realization of the instrument case. Let us take a look at the English adverbial participle, as given in Nakajima (1990).[10] In (57), both adverbial participles are unmistakably construed with the subject NP. I would like to exploit this property.

(57) a. Being drunk, John drove a car happy.
b. Being sober, John drove in Boston undismayed.
(Nakajima 1990: 290)

Let us entertain the core NQ example. I assume the following structure for the *de*-PANQs. By introducing pro, which is ubiquitous in Japanese, the subject NP and

[10] Nakajima claims that the adverbial participle in English is distinct from the secondary predicate in its behavior. According to Nakajima, adverbial participles are consonant with individual-level predicates, but secondary predicates are not. Incidentally, secondary predicates and adverbial participles are said to co-occur in the same sentence, as in (ia).
(i) a. Being intelligent, John sang foreign songs.
b. * John sang foreign songs intelligent.
c. * Intelligent, John sang foreign songs. (Nakajima 1990: 290)

the NQ can gratify their intended association. The *de*-PANQs do not involve movements at LF.

(58) a. Being six in number, the coaches chose the player.
b. kooti-ga$_i$ senshu-o [**pro**$_i$ roku-nin-*de*] eranda.
coach-NOM player-ACC 6-CL-Part chose

Let us consider the NQs with type (ii) particles. In my research, NPI particles consist of *sika* and *mo*. Their distributions are most likely restricted to the negative environment. Following Beck (1996), Tanaka (1997), and, to some extent, Hornstein (2009), I assume that NPI-PANQs are required to be locally licensed by negation, specifically in Spec-Head fashion. This movement is to occur at LF. Because this licensing requirement is the highest priority for type (ii) particles, they inevitably go up to the Spec of NegP. However, once the requirement is discharged, there is longer a need to be checked for type (ii). In regard to Beck's intervention effect, negation causes the intervention effect if NPI-PANQs attempt to move further. Thus, they are stuck with the Spec of NegP. That is why the informants strongly objected to the subject reading of the type (ii) PANQs.

Hereafter, I take the type (iii) PANQs into consideration. When I termed them presuppositional particles, I applied the essence of Diesing (1992). Diesing proposes the Mapping Hypothesis, which is closely related with the nature of NPs. In her analysis, indefinite NPs are mapped into the VP, and the presuppositional elements are supposed to be interpreted in IP (TP). Type (iii) PANQs show quite a detectable preference for the NQsubj reading, even in the supposedly impossible negative environment, and there must be reasons for this. I assume this predisposition could be attributed to their nature of strong focus-hood and their presuppositionality, from which contrastiveness arises. When we interpret *–dake, tomo*, I have the impression that we incidentally call upon the preexisting (given) group or substance and redefine the information with the particles. Thereby, somehow contrastive focus reading is elicited from the nature of the particles. For example "*6 nin dake*" implies a situation in which there are more than ten in the context, but only *six people* (not ten) is relevant as information. Whereas "*6 nin tomo*" implies that there are six people, and not only some, but all of them, are relevant to the conversation. Contrastive focus is a relatively strong type of focus that can be assigned to a position irrespective of what the nuclear stress assignment rule predicts.

By this reasoning, it is quite plausible for the type (iii) PANQs to undergo movement to Spec of TP. On the premise that type (iii) PANQs newly acquire the countenance that QP has, they need to move up to Spec of TP for the sake of the scope. Added to this requirement, they also have the urge to be discharged, that is, a strong focus requirement. If the additional information seen in type (iii) PANQs is attributable to the focus, this feature must me checked at the relevant position in the legitimate way: Spec-CP. In order to fulfill the need to check the focus feature, type (iii) PANQs undergo further travel to their final destination. In the negative context, they move up to TP by way of Spec NegP. Here I would like to avert to the fact that

some informants confidently remark that only the subject reading of the NQs are possible in the case of *dake*, even in the negative context. On the one hand, it is apparently surprising, considering that type (ii) is stuck with the NegP. On the other hand, it is a welcoming outcome that supports the trait that distinguishes type (iii) from (ii) to be attributable to focus-hood. Thus, I postulate that this strong focus requirement overrides the intervention effect otherwise effective in banning the movement of the quantified elements.

It may sound peculiar, but a focus effect that renders impossible to possible can be seen even in English. A well-known example is that of multiple-wh-questions. Tomioka (2007a) gives examples in which focus makes the difference for the availability of the wh-phrases to take matrix scope. Normally, the wh-phrases can be taken to have the matrix scope only when they occupy the matrix position, so the embedded wh-phrase are not interpreted as a matrix element. However, with the presence of focus, as in (b), the embedded wh-phrase is allowed to be taken as a matrix element.

(59) a. WHO *asked who bought what* ? Only the embedded scope for *what*
b. WHO a*sked who bought*WHAT? The matrix scope for *what* possible
(The *italicized* letters are to be phonologically reduced. The capital letters are to be focused.) (Tomioka 2007b: 109)

Also, as supporting evidence for LF movement of the PTA-NQs, I would like to draw on Hurburger (2001). Hurburger (2001) reports on the impressive behavior of *only*. (Recall that the particle *-dake* is equivalent to "only" in meaning.)

According to Hurburger, *only* induces the ambiguity in meaning, when it attaches to NP. However, such ambiguity disappears when it is placed in the adverbial position. Apparently, in the NP example of *only*, it does not move, but NP modifying *only* has an equivocal meaning. Thus, we are able to assume that this ambiguity originated in LF movement.

(60) a. The man at the nursery told us to water [only THEAZALEAS.]
b. The man at the nursery told us to only water THEAZALEAS.
c. The man at the nursery only told us to water THEAZALEAS.
Reading
1. Azaleas are the only kind of plant the man at the nursery told us to water. (*only* takes the matrix scope.)
2. The man explicitly told us to water nothing else but the azaleas. (*only* takes the embedded scope.) (Hurburger 2001: 88-89)

According to Hurburger, (a) has two meanings, and the scope of NP-modifying *only* is dependent on its NP. Whereas the *only* that modifies the verb does not show the scope interaction, which (a) has, (b) has the second reading, and (c) is interpreted as the first reading. Also, the adverbial is said to take scope-rigid interpretation where it occurs. This predisposition may bring an auspicious outcome when we take adverbs

into consideration.[11]

From (60), I would like to postulate *dake*-attached NQs as the semantic counterpart of *only*, which are introduced with the NP. Therefore the scope interaction of the *dake*-attached NQs can be paraphrased as a natural consequence of the movement at LF.

4.2 Prefatory Theoretical Proposal

Hereafter, I would like to propose my analysis of the product of the subject scrambling sentences. On the basis of the precedent analyses, I would like to take the position that the subject scrambling itself is perfectly operable. Also, I would like to emphasize that the sentences that Ko (2007) ruled out by her notion of Cyclic Linearization are not turned down in my definition in terms of the order preservation among Spell-Out domains. Concisely, my Spell-Out domains do not coincide with hers. In my position, the chunks that are sent to PF at Spell-Out domains are supposed to be VP and the TP, which are equivalent to the complement of Chomsky's (2001) phase heads. Also, my notion of Spell-Out domains is compatible with Ishihara's (2003) notion of Multiple-Spell-Out. Additionally, Ko pointed out that the Spell-Out domain of Scandinavian languages is VP. If the domains can be tailored to the languages, and they are to be VPs and TPs in Japanese, there is no reason to prevent us from assuming the domains to be TPs and VPs in Japanese. If the portion that is sent out to PF is VP, we can explain why the objects have to be shifted to vP when the resulting order is S<O<NQ. This is actually a welcome result for order preservation among phases. Thus, M&A and my analysis show that ordering can be acceptable.

In Ko's analysis, unless the NQ is an exceptional type, that order is ruled out. Ko ruled out the possible two derivations that produce S<O<NQ. Regardless of whether the object NP undergoes movement to the outer Spec of vP or not, her system filters out such order.[12] Therefore, her order preservation mechanism requires the

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[11] According to her, the interpretation of *always* in (i)–(ii) is exactly what we get from the surface word order, namely in (i), partial negation with respect to *always*. On the other hand, in (ii), *always* scopes over the negation, whereby we have the interpretation that it is always the case that Brian does not interrupt.

(i) Brian does not always interrupt
(ii) Brian always does not interrupt. (Hurburger 2001: 89)

[12] Here, I would like to refer to Ko's two scenario. In so doing, how my assumption rules in one of which and how Ko's suspends are both briefly mentioned.

(i) [$_{vP}$ S NQ_{subj} O V *v*] Base
Case 1: The object does scramble in *v*P
(ii) a. Ordering in *v*P: O<S<NQsubj<V<*v*
b. [$_{CP}$ O_1 Adv [$_{vP}$ t_1 [$_{v'}$ S NQsubj t_1 V *v*]] T C]
c. [$_{CP}$ S_2 O_1 (Adv) [$_{vP}$ t_1 [$_{v'}$ t_2 NQsubj t_1 V *v*]] T C]
Ordering in CP: S<O<Adv<NQsubj<V<*v*<T<C [ordering contradiction!]
Case 2: The object does not scramble in *v*P
(iii) a. Ordering in *v*P: S<NQsubj<O<V<*v*
b. [$_{CP}$ S_2 O_1 (Adv) [$_{vP}$ t_2 NQsubj t_1 V *v*] T C]

exceptional filtering gadget when she deals with the exceptional NQs. In a sense, the behavior of NQs is too intricate to be treated in one single system. It is highly probable that the phenomena require an interdisciplinary approach to capture them at a deeper level. That is why M&A's investigation from the viewpoint of phonology is so appealing. Still, Ko's approach in regard to the treatment of the exceptional cases, seems somewhat inconsistent to me because her cardinal proposal pushes the complement analysis and treats NQs as pieces of nominal elements. Probably, that is why she does not clearly explain the status of NQs with respect to the exceptional cases. (In my understanding, she places NQs in the position that is considered to be the environment for adverbials.)

In other words, the presence of grammatical sentences with the problematic order by itself proves the validity of the linear order. If scrambling has interactions with phonology, syntax may not be a silver bullet. To a certain extent, syntax may well delegate the authority to judge acceptable/unacceptable to some interfaces such as phonology, semantics, or pragmatics.[13] It is beyond the scope of this thesis to demonstrate such interdependence in an integrated manner. The main point is that syntax regulation may not decide everything and should be lax enough to adjust to manipulations from other interfaces: an overly restrictive system denies the possible derivations, which should have been salvaged.

Although this is merely a stipulation at the moment, I think my analysis of the domain accommodates such space, especially when we derive the S<O<NQ order. In my analysis of VP as a Spell-Out chunk, the only derivation in which object undergoes a shift to vP is ruled in. (Only one of two possible cases from Ko (2007) is chosen as an acceptable derivation. Thus, syntactically, the idea that this order should not be rejected stands well while preventing superfluous derivation.) This is a good outcome because M&A and my analysis show that even in that ordering, SNQ reading can be acceptable. Thereby, my analysis accommodates her order preservation account and M&A's argument of phonological structure theoretically.

Ordering in CP: S<O<Adv<NQsubj<V<*v*<T<C [ordering contradiction!]

(Ko 2007: 60-61)

When the object undergoes movement in *v*P, as in (ii), the order between the subject and the object breaks her rule. Even if the object stays inside VP and does not move to outer Spec of *v*P initially, the order contradiction occurs with respect to the object and NQ. Either way, her system disallows such order.

In my view, when the object shifts to the outer Spec of *v*P (Case 1), the order that is fixed inside VP is only the head V. The rest of the derivation in (ii) does not infringe on anything, and further order information is accumulated to the next Phase. In Case 2, the order would be O<V. Suppose this order does not allow any intervention between these two elements. Then, the ultimate order in (iii) is not an agreeable one. While it maintains her order preservation strategy, the necessary order which should be allowable is somehow salvaged. It may be a matter of theoretical muse; nevertheless it may not be impossible to assume this view.

[13] Other semantic alternative by Nakanishi (2004), in which she utilized the event arguments and the monotonicity to capture the difference between non-FQs and FQs is insightful as well. This line of possibility should be looked into in the future.

4.3 The Essential Background for the Assumption

Additionally, I will give my analysis of NQs. To begin, I introduce Saito, Murasughi, and Lin (2008); hereafter (SM&L) as a supporting evidence of my assumption.

The main argument of SM&L is to compare and differentiate the nominal structure of Japanese and Chinese. I will not report in detail because that would be a digression from the core discussion. I only address what is relevant.

SM&L claim that the NP is not selected by the numerals from the NP-deletion data. If the NP is the argument of the numerals, just as the D-head selects NP as complement, NP deletion should be allowed, but, in fact, it is ungrammatical. This leads them to assume that there is no Spec-Head agreement between them, and thereby the deletion is not licensed. Although their nominal structure regards the [NQ-no NP] type, I infer that the essence is no different from that of the dislocated type. Incidentally, SM&L regard the no to be a contextually inserted case marker, thus the NQ-no parts are not supposed be occupied in DP-Spec. Here are some cardinal examples from SM&L.

In English, NP deletion is licensed only when the Spec of DP is filled, hence (61a) allows it. The grammaticality of (61a) is attributed to be the Spec-Head agreement, which somehow license the deletion. When a no-phrase has the argument status as in (62), the deletion is licensed because they are selected. However, when the no-phrase has the status of an adjunct, as in (63), NP deletion is banned. Unlike from Japanese NQs, the NP is selected by QP in English. Thus, NP deletion is grammatical with respect to numerals in English.

(61) Evidence from S&M&L
  a. I have read Bill's book, but I haven't read [$_{DP}$ John's ~~[$_{NP}$ book]]~~
  b. *I have edited a book, but I haven't written [$_{DP}$ a ~~[$_{NP}$ book]~~]
  c. *I have seen the book, but I haven't had a chance to read [$_{DP}$ the ~~[$_{NP}$ book]]~~ (S&M&L 2008: 252)

(62) a. [Taroo no taido] -wa yoi ga,
  no attitude-TOP good though
  [Hanako no ~~taido~~] -wa yokunai
  no attitude-TOP good-not
  'Though Taroo's attitude is good, Hanako's isn't.'
  b. [Rooma no hakai] –wa [Kyooto no ~~hakai~~] -yorimo
  Rome no destruction-TOP no destruction-than
  hisan datta
  was miserable
  'Rome's destruction was more miserable than Kyoto's.'
  (ibid.: 253)

(63) a. * [Hare no hi] -wa yoi ga, [ame no ~~hi~~] –wa otikomu
  clear no day-TOP good though rain no day-TOP feel-depressed
  'Clear days are OK, but I feel depressed on rainy days.'

b. * Taroo-wa iti-niti-ni [san-satu no hon]-o
-TOP one-day-in three-CL no book-ACC
yomuga, Hanako -wa [go-satu no hon]-o yomu
readthough -TOP five-CL no book-ACC read
'Taroo reads three books in a day, but Hanako reads five.'
(S&M&L 2008: 254)

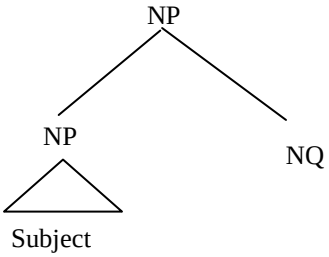
(64) John bought [$_{QP}$ three [$_{NP}$ books]], and Mary bought [$_{QP}$ five ~~[$_{NP}$ books]]~~
(ibid.: 256)

4.4 The Structural Assumption and the Analysis

By observing the empirical evidence, I endorse denying the complement analysis of NQ and assuming the NP as a complement of NQ. Then, I proceed with my assumption.

Now that I have established a legitimate reason to deny the complement analysis, I propose the following structure for the NQ on the basis of SM&L. Because Japanese is said to be a head-final language, the ordering in (65) is achieved through the scrambling of NQ.

(65) Structure of NP and NQ

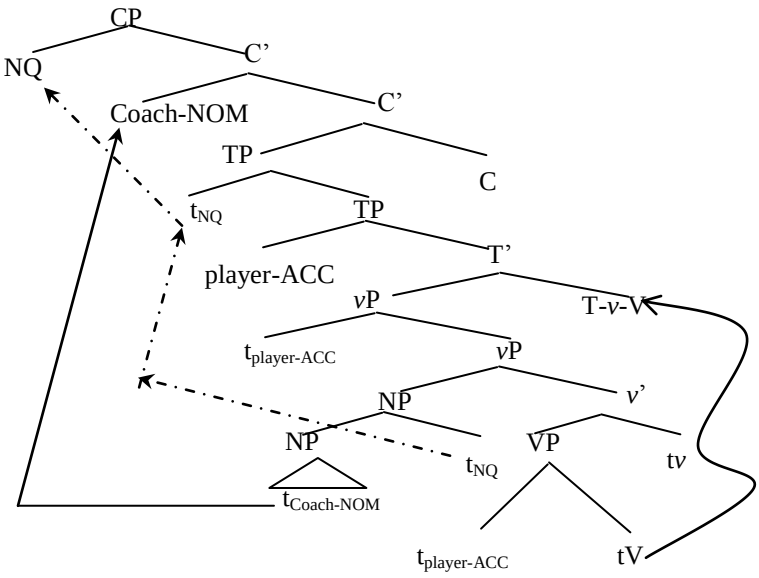


Another positive reasoning for my assumption can be drawn from Ko's analysis. Following Ko's view point, if the subject oriented numerals can be intervened by the object NP, the derivation can be legitimate. In this case, the subject and the numerals do not form mutual c-command relations at base. Indeed, my prediction seems correct in this regard. Now that the foundation of my analysis has been established, I would like to claim that the linear ordering S<O<NQ created by the scrambling operation is a proper one. Whatever makes this order unfavorable should be attributed to the phonology.

Let us compendiously look at the derivation for my examples. I would like to present the (non-)/negative versions. Partially adopting Nishigauchi (1990), I assume that the QR-like movements occur at LF for the NQs when they are attached with the particles. Also, following M&A, I assume that the object NP moves to the Spec of TP after the initial shift to the outer Spec of *v*P. The dotted lines represent the LF-movement for PANQs. The points to which the PANQs will ultimately be shifted can be determined according to the three types of particles I have defined above.

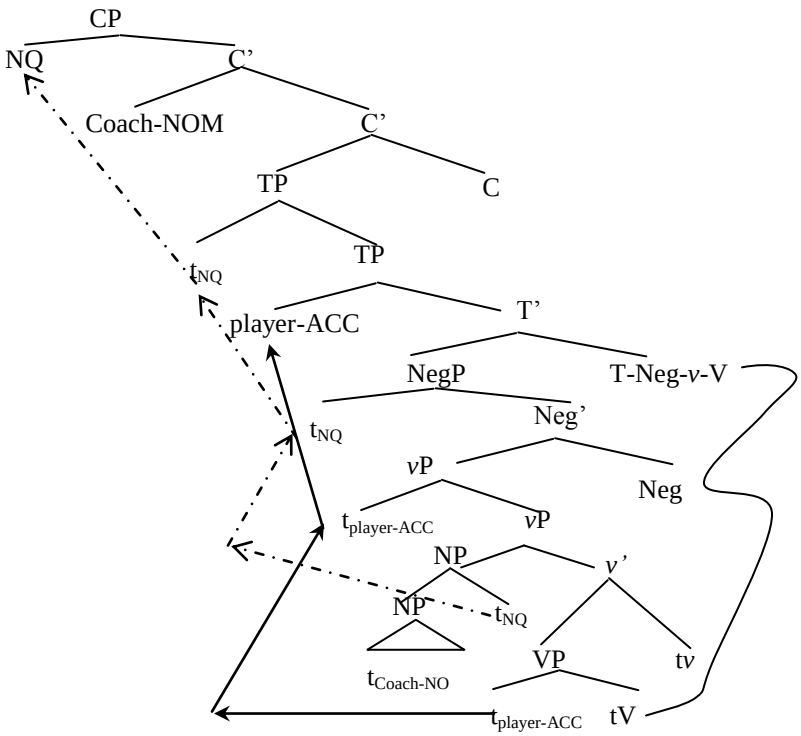
First, type (i) does not include the movement. Second, the movement of type (ii) is closely affected by the presence of negation. When they are in the negative environment, they only move up to the Spec of NegP, resulting in the NQobject reading. When they are in the affirmative context, they undergo QR-movement up to the Spec of TP. However, this position does not contribute to the subject interpretation of the PANQs.[14] Third, type (iii) PANQs predisposed to move up to the CP, regardless whether they are placed in the negative environment, because they bear strong focus-hood. After shifted to the TP for the QR, they still have the requirement to check their focus feature at the Spec of CP; thus, the subject reading of the PANQs in this type tends to be dominant among the informants. Here, one might wonder what will become of the intervention effect with respect to Neg. I would assume that the intervention effect can be alleviated or even overridden by the more cardinal requirements if they are involved. Actually, there are cases in which the LF-intervention effect is almost nullified, which will be briefly taken up as supporting evidence for my analysis. More importantly, the focus feature that I claim here might be categorized as a contrastive focus, which is often said to be quite strong type of focus. With this reasoning in mind, I would like to argue that type (iii) PANQs can move up to the ultimate Spec CP position by way of (NegP and) TP.

(66) Non-negation cases



[14] It is said in Ishihara (2008) that the NPI and the Neg form the Focus Intonation Phrase. This may be another support to the argument that type (ii) PANQs have the tendency to stay at the Spec of NegP.

(67) Negative environment



Hitherto, I have presented some supporting evidence that there are some LF-movements regarding PANQs. I attributed the drive of these movements to the focus feature and QR-requirement. It is often said that the normal numerals do not undergo QR at LF, whereas the so-called strong Qs are required to undergo LF-movement for the sake of taking scope. I would like to emulate this strong Qs nature in my analysis of the PANQs. With the attachment of a particle, which I assume that to be the source of the focus-hood, normal NQs somehow acquire the attribute of the strong Qs. Through this newly attained nature, PANQs move up to Spec of TP, where the requirement of the Qs is satisfied. However, the need of the focus requirement is not fulfilled at TP. Thus, if the checking must be done in a very local fashion, as in Hornstein (2009), that is, Spec-head, PANQs should go up to the CP-Spec, where the focus feature is presupposed to be checked. Indeed, the effectiveness of the addition of "only" for the ameliorated reading is reported in Ko (2007). She categorized that type as an exceptional one. It seems plausible to assume that the particles instigate the ameliorated reading. Actually, I was able to support this view to assume the particles, which I utilized in this research, to be a type of focus from an independent ground.

4.5 Consequences

In order to explicate my idea fully, I first apply the notion of Anti Topic Items (ATIs) from Tomioka (2007a). In Tomioka (2007a), ATIs are the items that are incompatible with the attachment of the topic marker *-wa* in Japanese. ATIs are deemed as the natural class of the interveners at LF. The reason that they are incapable of being attached with *–wa* is attributed to their nature of being the focus. By introducing the terms from information structures, Tomioka describes that the topic marked items are supposed to be seen as a link, which roughly falls into given/background information. The focus, such as indefinite wh-phrases, NPIs, and the nominative marked (*ga*-marked) subjects are equipped with new information, and certainly they are not given/old information to be updated. Interestingly, it is said that the intervention effect is alleviated either almost completely or relatively by the application of a scrambling operation or embedding of the interveners.[15] Tomioka came to the following conclusion with regard to the nominative subject.

(68) Nominative subjects tend to be (a part of) focus unless they are included in the prosodically reduced portion. (Tomioka 2007: 1580)

Granted that the *ga*-marked subjects raise the intervention effect because of their being some species of focus, it may be quite legitimate to pose the question of what the outcome would be if we consider the PANQs. If they are equipped with focus-hood, they would repel the topic marker. It actually bodes well with my prediction.

[15] With a few digressions, I would like advert to Heycock (1994). In the root environment, the nominative subjects are interpreted with exhaustive reading and the normal reading when they are presented with the individual-level predicate. Also, they raise the intervention effects. According to Heycock (1994), the asymmetry which the nominative subjects are equipped with somehow disappears in the embedded environment. To put it differently, the intervention effect is said to be mitigated in such circumstance. Here are the examples which show the alleviated intervener by Tomioka.

The initial awkwardness regarding nominative marked subject dissipated with the application of embedding (ii) and scrambling (iii).

(i) John-wa/??-ga nani-o yon-da-no
J-top / -NOM what-ACC read-Past-Q
'What did John read?

(ii) Nani-oi John-ga ti yon-da-no
What-ACC John-NOM read-Past-Q
'What did John read?'

(iii) Kimi-wa [CP John-ga nani-o yon-da-to] omotte-iru-no
you-TOP John-NOM what-ACC read-Past-Comp think-Q
'What do you think that everyone read?' (Tomioka 2007a: 1574, 1581)

Another semantic alternative given by Nakanishi (2004), who utilizes event arguments and monotonicity to capture the difference between non-FQs and FQs is insightful as well. This line of possibility should be looked into in the future.

(69) kooti-ga senshu-o
coach-NOM player-ACC
roku-nin(*-*de*/**dake*,**tomo*/**sika*,**mo*)-wa eranda.
6-CL Part -TOP chose

As it is evident from above, the PANQs are inconsistent with the attachment of the topic marker. This incapability of accepting the topic marker can be readily translated into the focus-hood of PANQs. Therefore, it seems that the claim that PANQs are equipped with focus is further supported.

More convincing evidence may well be revealed from the pseudo-cleft test. The purpose of this test is to create an environment suitable for the focus element and to ascertain the degree of the compatibility among the PANQs, which are placed in the environment. By this, it is possible to gauge their predisposition to become focus. If certain PANQs' acceptability in such a position is higher, the more they are susceptible to behave as focus. The acceptability with each PANQ is presented as follows:

(70) a. kooti-ga senshu-o eranda-no-wa roku-nin-*de*da.
coach-NOM player-ACC chose-Nomi-TOP 6-CL-*Part*-Cop
b. kooti-ga senshu-o eranda-no-wa roku-nin-*dake*da
coach-NOM player-ACC chose-Nomi-TOP 6-CL-*Part*-Cop
c. kooti-ga senshu-o eranda-no-wa roku-nin-*tomo*da.
coach-NOM player-ACC chose-Nomi-TOP 6-CL-*Part*-Cop
d ?kooti-ga senshu-o eranda-no-wa roku-nin-*mo*da.
coach-NOM player-ACC chose-Nomi-TOP 6-CL-*Part*-Cop
e. *kooti-ga senshu-o eranda-no-wa roku-nin-*sika*da.
coach-NOM player-ACC chose-Nomi-TOP 6-CL-*Part*-Cop

The consequence is promising because this degree of focus hood is perfectly compatible with the data that I have collected and comports well with the three categorizations for each particle that are used. It seems that the categorization of the particles and their focus hood are bolstered. It can be argued that the higher the particles' focus hood, the more they tend to move up to CP-Spec to check their feature.

In summary, I have demonstrated that the mechanism of the amelioration reading in the dislocated NQs from the syntax and the phonological and possibly with the pragmatic perspectives. The crucial point is that these particles that are added to the NQs are vital to accomplish the amelioration effect. The PANQs are divided into three types based on their behaviors: one acts as an attendant participle, another is categorized as an NPI, and the third is the presuppositional type, which is the representative type as to put forth this focus effect. In due course, this focus effect can even override the LF-intervention effect in the negative environment. The focus hood, which the third type bears is supposed be come from the contrastive nature of focus, thereby the strong amelioration effect is ensured.

By entertaining the focus effect and the rule of syntax, we will be able to capture

the amelioration of the dislocated FQs and their behavior in a more efficient and more precise way. To study on the effect of focus and to explore the way the focus effect is embodied across languages would be quite promising as my future research topic.

5 CONCLUSION

Throughout this thesis, I have attempted to entertain that the ameliorated reading of the dislocated $NQ_{subject}$ should be captured on the integrated grounds, mainly syntax and phonology and possibly from pragmatics such as information structure.

As is seen in the precedent researchers' accounts, analyses that involve a single disciplinary approach cannot capture intricate phenomena such as dislocated NQs. In order to fully explicate such complexities, it is quite beneficial to introduce interdisciplinary notions, although to what extent and how is always of concern.

Yet, as I have shown in Section Four, the focus, which is clearly related to the pragmatics and phonology, plays a significant role in inverting the impossible reading to the preferably acceptable one: with the assistance of the PANQs and phonological phrasing, the subject reading of the NQ in S<O<NQ is maintained.

If the phenomena I have discovered in this thesis are correctly, they offer a novel insight and a catalyst to endorse the possibility of interdisciplinary areas of research on amelioration mechanisms. Such a line of study may be fruitful in uncovering and elucidating the deeper levels of the nature of the human cognitive system. By conducting these types of studies, we should be able to apply and employ the boons from the findings to more practical areas, and this could help bridge the gap between theoretical and practical fields. Undoubtedly, further research consulting with the native speaker insights and a study on the discrete fields are essential. Nevertheless, testing this seems worthwhile.

APPENDIX

Partial Stimuli for the subjects

1. Before scrambling

a.	kooti-ga |	roku-nin|	senshu-o	eranda.
	coach-NOM	6-CL	player-ACC	chose
b.	kooti-ga|	roku-nin	senshu-o	eranda.
	coach-NOM	6-CL	player-ACC	chose
c.	kooti-ga	roku-nin|	senshu-o	eranda.
	coach-NOM	6-CL	player-ACC	chose

2. After scrambling

a.	kooti-ga|	senshu-o|	roku-nin	eranda.
	coach-NOM	player-ACC	6-CL	chose
b.	kooti-ga|	senshu-o	roku-nin	eranda.
	coach-NOM	player-ACC	6-CL	chose
c.	kooti-ga	senshu-o|	roku-nin	eranda.
	coach-NOM	player-ACC	6-CL	chose

3. particle *de*- addition

a.	kooti-ga |	senshu-o |	roku-nin-*de*	eranda.
	coach-NOM	player-ACC	6-CL-prt	chose
b.	kooti-ga|	senshu-o	roku-nin-*de*	eranda.
	coach-NOM	player-ACC	6-CL-prt c	hose
c.	kooti-ga	senshu-o |	roku-nin-de	eranda.
	coach-NOM	player-ACC	6-CL-prt	chose

4. particle *de*- addition
Negation

a.	kooti-ga |	senshu-o|	roku-nin-de	erandeinai.
	coach-NOM	player-ACC	6-CL-prt	chose-NEG-Pres
b.	kooti-ga |	senshu-o	roku-nin-de	erande inai.
	coach-NOM	player-ACC	6-CL-prt	chose-NEG-Pres
c.	kooti-ga	senshu-o|	roku-nin-de	eranda inai.
	coach-NOM	player-ACC	6-CL-prt	chose-NEG-Pres

5. particle *tomo*-addition

a.	kooti-ga|	senshu-o|	roku-nin-*tomo*	eranda.
	coach-NOM	player-ACC	6-CL-prt	chose
b.	kooti-ga |	senshu-o	roku-nin-*tomo*	eranda.
	coach-NOM	player-ACC	6-CL-prt	chose
c.	kooti-ga	senshu-o |	roku-nin-*tomo*	eranda.
	coach-NOM	player-ACC	6-CL-prt	chose

6. particle *tomo*- addition
Negation

a.	kooti-ga |	senshu-o|	roku-nin-*tomo*	erande inai.
	coach-NOM	player-ACC	6-CL-prt	chose-NEG-Pres
b.	kooti-ga |	senshu-o	roku-nin-*tomo*	erande inai.
	coach-NOM	player-ACC	6-CL-prt	chose-NEG-Pres
c.	kooti-ga	senshu-o |	roku-nin-*tomo*	eranda inai.
	coach-NOM	player-ACC	6-CL-prt	chose-NEG-Pres

7. particle *mo*-addition

a.	kooti-ga |	senshu-o|	roku-nin-*mo*	eranda.
	coach-NOM	player-ACC	6-CL-prt	chose
b.	kooti-ga |	senshu-o	roku-nin-*mo*	eranda.
	coach-NOM	player-ACC	6-CL-prt	chose
c.	kooti-ga	senshu-o|	roku-nin-*mo*	eranda.
	coach-NOM	player-ACC	6-CL-prt	chose

8. particle *mo*- addition
Negation

a.	kooti-ga	senshu-o	roku-nin-*mo*	erande inai.
	coach-NOM	player-ACC	6-CL-prt	chose-NEG-Pres
b.	kooti-ga	senshu-o	roku-nin-*mo*	erande inai.
	coach-NOM	player-ACC	6-CL-prt	chose-NEG-Pres
c.	kooti-ga	senshu-o	roku-nin-*mo*	eranda inai.
	coach-NOM	player-ACC	6-CL-prt	chose-NEG-Pres

9. particle *mo*- addition
Negation past

a.	kooti-ga	senshu-o	roku-nin-*mo*	erabanakatta.
	coach-NOM	player-ACC	6-CL-prt	chose-NEG-Past
b.	kooti-ga	senshu-o	roku-nin-*mo*	erabanakatta.
	coach-NOM	player-ACC	6-CL-prt	chose-NEG-Past
c.	kooti-ga	senshu-o	roku-nin-*mo*	erabanakatta..
	coach-NOM	player-ACC	6-CL-prt	chose-NEG-Past

10. particle *sika*-addition
Negative, Present

a.	kooti-ga	senshu-o	roku-nin-*sika*	erandeinai.
	coach-NOM	player-ACC	6-CL-prt	chose-NEG-Pres
b.	kooti-ga	senshu-o	roku-nin-*sika*	erandeinai.
	coach-NOM	player-ACC	6-CL-prt	chose-NEG-Pres
c.	kooti-ga	enshu-o	roku-nin-*sika*	erandeinai.
	coach-NOM	player-ACC	6-CL-prt	chose-NEG-Pres

11. particle *sika*-addition
Negative, Past

a.	kooti-ga	senshu-o	roku-nin-*sika*	erabanakatta.
	coach-NOM	player-ACC	6-CL-prt	chose-NEG-Past
b.	kooti-ga	senshu-o	roku-nin-*sika*	erabanakatta.
	coach-NOM	player-ACC	6-CL-prt	chose-NEG-Past
c.	kooti-ga	senshu-o	roku-nin-*sika*	erabanakatta.
	coach-NOM	player-ACC	6-CL-prt	chose-NEG-Past

12. particle *dake*-addition: Past

a.	kooti-ga	senshu-o	roku-nin-*dake*	eranda.
	coach-NOM	player-ACC	6-CL-prt	chose
b.	kooti-ga	senshu-oroku-nin-*dake*		eranda.
	coach-NOM	player-ACC	6-CL-prt	chose
c.	kooti-ga	senshu-o	roku-nin-*dake*	eranda.
	coach-NOM	player-ACC	6-CL-prt	chose

13. particle *dake*-addition: Present

a.	kooti-ga	senshu-o	roku-nin-*dake*	erandeiru.
	coach-NOM	player-ACC	6-CL-prt	chose-Pres
b.	kooti-ga	senshu-o	roku-nin-*dake*	erandeiru.
	coach-NOM	player-ACC	6-CL-prt	chose-Pres

c. kooti-ga senshu-o| roku-nin-*dake* randeiru.
coach-NOM player-ACC 6-CL-prt chose-Pres

14. particle *dake*-addition: Negative, Present
a. kooti-ga | senshu-o| roku-nin-*dake* erandeinai.
coach-NOM player-ACC 6-CL-prt chose-NEG-Pres
b. kooti-ga | senshu-o roku-nin-*dake* erandeinai.
coach-NOM player-ACC 6-CL-prt chose-NEG-Pres
c. kooti-ga senshu-o| roku-nin-*dake* erandeinai.
coach-NOM player-ACC 6-CL-prt chose-NEG-Pres

15. particle *dake*-addition: Negative, Past
a. kooti-ga | senshu-o| roku-nin-*dake* erabanakatta.
coach-NOM player-ACC 6-CL-prt chose-NEG-Past
b. kooti-ga | senshu-o roku-nin-*dake* erabanakatta.
coach-NOM player-ACC 6-CL-prt chose-NEG-Past
c. kooti-ga senshu-o| roku-nin-*dake* erabanakatta.
coach-NOM player-ACC 6-CL-prt chose-NEG-Past

16. Negative, Past
a. kooti-ga | senshu-o | roku-nin erabanakatta.
coach-NOM player-ACC 6-CL chose-NEG-Past
b. kooti-ga | senshu-o roku-nin erabanakatta.
coach-NOM player-ACC 6-CL chose-NEG-Past
c. kooti-ga senshu-o| roku-nin erabanakatta.
coach-NOM player-ACC 6-CL chose-NEG-Past

17. Negative, Present
a. kooti-ga | senshu-o| roku-nin erandeinai.
coach-NOM player-ACC 6-CL chose-NEG-Pres
b. kooti-ga | senshu-o roku-nin erandeinai.
coach-NOM player-ACC 6-CL chose-NEG-Past
c. kooti-ga senshu-o | roku-nin erandeinai.
coach-NOM player-ACC 6-CL chose-NEG-Past

			SUBJ	OBJ	S&O
PRE SC	1	a	12.5	37.5	50
		b	0	100	0
		c	75	12.5	12.5
POSTSC	2	a	0	100	0
		b	0	100	0
		c	0	100	0
de	3	a	100	0	0
		b	100	0	0
		c	100	0	0
de NEG	4	a	100	0	0
		b	75	12.5	12.5
		c	100	0	0
tomo	5	a	12.5	50	37.5
		b	0	87.5	12.5
		c	25	37.5	37.5
tomo NEG	6	a	25	37.5	37.5
		b	0	100	0
		c	25	50	25
mo	7	a	0	87.5	12.5
		b	0	100	0
		c	0	100	0
mo NEG pres	8	a	12.5	75	12.5
		b	0	100	0
		c	12.5	75	12.5
mo NEG past	9	a	25	62.5	12.5
		b	0	100	0
		c	12.5	75	12.5
sika NEGpres	10	a	0	75	25
		b	0	100	0
		c	0	75	25
sika NEG past	11	a	0	75	25
		b	0	100	0
		c	0	87.5	12.5

			SUBJ	OBJ	S&O
dake past	12	a	0	75	25
		b	0	100	0
		c	0	75	25
dake pres	13	a	12.5	37.5	50
		b	0	87.5	12.5
		c	25	50	25
dake NEG pres	14	a	50	37.5	12.5
		b	12.5	75	12.5
		c	25	37.5	37.5
dake NEG past	15	a	25	50	25
		b	0	75	25
		c	12.5	50	37.5
NEGpast	16	a	0	75	25
		b	0	100	0
		c	12.5	50	37.5
NEG pres	17	a	0	62.5	37.5
		b	0	100	0
		c	0	50	50

All (%)

[Table 1]
Table of the amelioration reading in each example

[Abbreviations]
The following are the abbreviations used in Table 1.

- NEG: Negation
- All data are presented in percentages (%).
- The numbers are compatible with the stimuli.
- SUB: Subject reading of the NQ is acceptable.
- OBJ: Object reading of the NQ is acceptable.
- S&O: Both the subject and object reading of NQ are acceptable.

Here are the readings with respect to the types of pauses (a–c indicate the pause type in each example).

- a: S/O reading of the NQ is realized.
- b: O reading of the NQ is realized.
- c: S reading of the NQ is realized.

Although I have tested with adverbials and the definite "the" *sono* insertion and elongated NPs, and the Adverbial insertion, they are not quite relevant to my proposal at the moment and are thus left to future research.

Apparently, the data do not feed any noticeable figures. Yet, actually they do. The careful reader notices the palpable differences in the Subject and Both readings (Subject/Object reading).

The reader should be aware of a caveat when examining the data in the table. Undoubtedly, the object reading of the NQs should occupy the major parts in the whole post-scrambling environments, and this should be regarded as given.

The aim of this test is whether or not we can get the S/O reading or S prominent reading of the NQs. By looking at it this way, we are able to notice the significance in this apparently meaningless data. A low percentage (12.5% or below) is considered to be an error and meaningless. The meaningful data should be 25% or above. I have colored the meaningful data in a darker color so that the readers can concentrate their attention only on the necessary data.

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