

Focus-Related Derivations of *That*-Relatives

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1 Introduction

This paper aims to study the nature of head nominals in *that*-relatives. In the literature, certain head nominals such as *the only*, *the very*, *every*, *no* and superlatives select *that*-relatives rather than *wh*-relatives. Among them, however, *every* and *no* actually permit both *that*- and *wh*-relatives. Examine the following sentences:

- (1) a. Mary read every book that John bought.
- b. Mary read every book which John bought.
- c. Mary read no book that John bought.
- d. Mary read no book which John bought.

The sentences are grammatical. Although it will be claimed that focused head nominals require *that*-relatives in section two, and *every* and *no* are focused in section three, *wh*-relatives are also compatible with focused head nominals as b and d in (1) show, which I failed to recognize in Ikeda (2014). This paper will present a modified claim based on a set of data.

In this paper, two categories are used for convenience of explanation of head nominals: category 1 and 2.

Category 1 permits only *that*-relatives as shown below:

- (2) a. John read the very book {that/?? which} Mary wrote.
- b. John read the only book {that/?? which} Mary wrote.
- c. John read the most difficult book {that/?? which} Mary wrote.

In contrast, category 2 permits both *that*- and *wh*-relatives.

- (3) a. Mary read every book {that/which} John bought.
b. Mary read no book {that/which} John bought.

The reason for the difference between category 1 and 2 will be attributed to two different positions of focus features in section four.

This paper consists of six sections in total. Section one is an introduction. In section two, derivations of relative clauses, and my previous work are briefly summarized. Section three attempts to identify the focus status of head nominals in category 1 and 2 through the intervention effect. In section four, positions of focus features of head nominals in category 1 and 2 are analyzed. In section five, detailed derivations for category 1 and 2 are presented. Section six is a conclusion.

2 Analyses of Relative Clauses

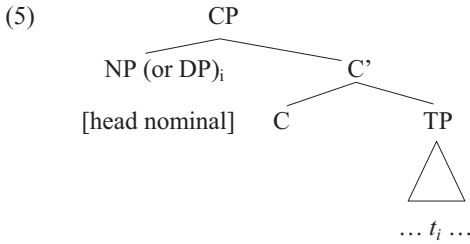
In this section, two analyses of relative clauses, a promotion analysis by Schachter (1973) and *wh*-operator movement analysis by Chomsky (1977) will be introduced. Aoun and Li (2003) employ the two analyses for *that*- and *wh*-relatives respectively. Finally, my previous work, Ikeda (2014) will be summarized.

2.1 A Promotion Analysis

Schachter (1973) proposes a promotion analysis for relative clauses. Examine the following sentences:

- (4) a. We made headway.
b. *(The) headway was satisfactory.
c. The headway that we made was satisfactory. Schachter (1973: 31)

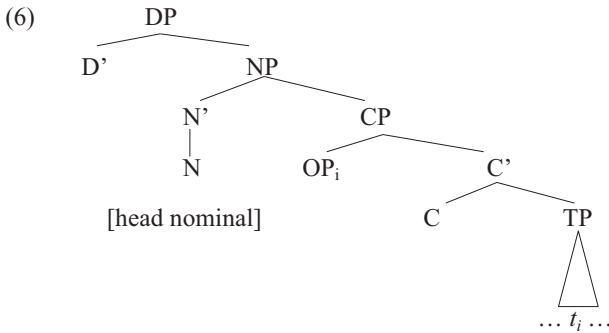
According to Schachter (1973), the occurrence of *headway* is restricted to the object of *make*, so (4)b is unacceptable. However, (4)c is grammatically correct. This fact is explained if the head nominal itself goes through movement. More specifically, *headway* is first base-generated in the object position of *made*, then it is moved to the surface position. This analysis, the promotion analysis, explains the grammaticality of (4)c. The derivation for the promotion analysis is shown below:



The head nominal base-generated inside the relative clause moves to the spec of CP.

2.2 A *Wh*-Operator Movement Analysis

In this analysis, head nominals are assumed to be base-generated in the main clause, and a *wh*-operator moves to the spec of CP. The tree for this analysis is shown below:



In contrast to the promotion analysis, the head nominal does not move. It is base-generated in the main clause. On the other hand, the *wh*-operator moves to the spec of CP. Examine the following sentences:

- (7) a. Mary read the book which I bought.
 b. Mary read [_{DP} the book] [_{CP} *which*_i I bought t_i]

The book is base-generated in the main clause, and *which* is moved to the spec of CP.

2.3 Aoun and Li (2003)

Aoun and Li (2003) claim that *that*-relatives are derived through raising of head nominals (the promotion analysis) while *wh*-relatives are derived by *wh*-operator movement (the *wh*-operator movement analysis). Examine the following sentences to clarify the contrast between *that*-relatives and *wh*-relatives:

- (8)
- a. The headway that she made was impressive.
 - b. The careful track that she's keeping of her expenses pleases me.
 - c. ??The headway which she made was impressive.
 - d. ??The careful track which she's keeping of her expenses pleases me.

Aoun and Li (2003: 110)

The sentences contain idioms: *make headway* and *keep track of*. The idiom is made of verb and object, and it holds a close relationship between the verb and the object.

That-relatives seem to maintain the relationship whereas *wh*-relatives do not.

Examine another contrast below:

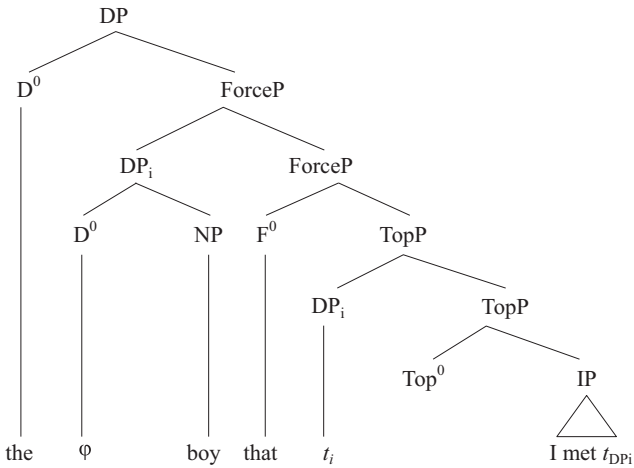
- (9)
- a. The picture of himself_i (that) John_i painted is impressive.
 - b. The picture of himself_i (that) John_i likes is impressive.
 - c. *The picture of himself_i which John_i painted is impressive.
 - d. *The picture of himself_i which John_i likes is impressive.

Aoun and Li (2003: 111)

The sentences involves anaphoric expression *himself*, so it has to be c-commanded by the antecedent *John* in the relative clause. In the case of the *wh*-relatives, however, *himself* is considered to be base-generated in the main clause where *John* cannot c-command it. Hence, the *wh*-relatives are ungrammatical.

Based on (8) and (9), Aoun and Li (2003) argue that head nominals of *that*-relatives go through movement while those of *wh*-relatives do not. The derivation of a *that*-relative is shown below:

(10) the boy that I met

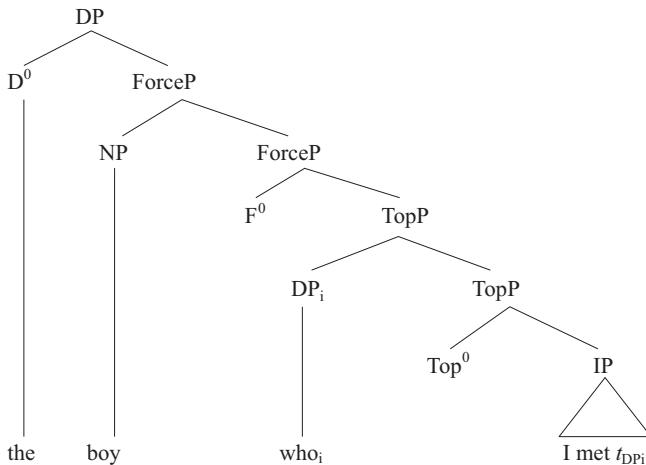


Aoun and Li (2003: 122)

In this derivation, split-CP (Rizzi: 1997) is used. First, the head nominal is raised to the spec of TopP. Then it moves to the spec of ForceP.

Next, examine the derivation of a *wh*-relative:

(11) the boy who I met



Aoun and Li (2003: 122)

Instead of the head nominal, the *wh*-operator in the relative clause is moved to the spec of TopP. In the derivation by Aoun and Li, the head nominal is base-generated in the spec of ForceP, not in the main clause. In either case, the head nominal cannot be reconstructed into the place where the *wh*-operator is originally generated.

In the next subsection, Ikeda (2014), who claims that specific head nominals (category 1) in *that*-relatives moves to the spec of FocP, will be introduced.

2.3 Ikeda (2014)

Ikeda (2014) presents an analysis for focused head nominals in *that*-relatives. Split-CP is used to examine a targeting position of head nominals. Split-CP is described as below:

(12) $[_{\text{ForceP}} [_{\text{topP}} [_{\text{FocP}} [_{\text{TopP}} [_{\text{FinP}} [_{\text{TP}}]]]]]]]$ Rizzi (1997)

As the name implies, CP is split into some projections. According to Radford (2004), ForceP determines whether a sentence is interrogative, imperative, or exclamative. TopP expresses the topic of a sentence, which is basically old information. FocP indicates a focused phrase. Fin decides finiteness of the verb.

According to Radford (2004), only one spec for FocP is available. Examine the following sentence:

(13) $*[_{\text{FocP}} \text{What } [_{\text{FocP}} \text{never again will you do}]]?$ Radford (2004: 329)

In (13), both the negative adverb expression and the *wh*-phrase move to the same spec of FocP where only one spec is available. As a result, the sentence becomes ungrammatical. With this in mind, examine the following sentences:

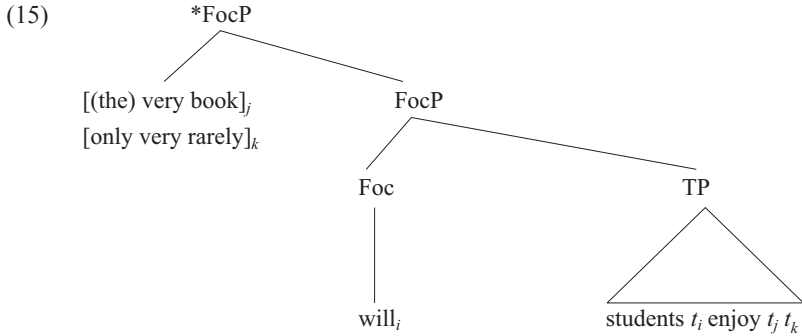
(14) a. This is the very book that students will enjoy only very rarely.
Ikeda (2014)

b. *This is the very book that only very rarely will students enjoy.
Ikeda (2014)

c. This is the book which only very rarely will students enjoy.

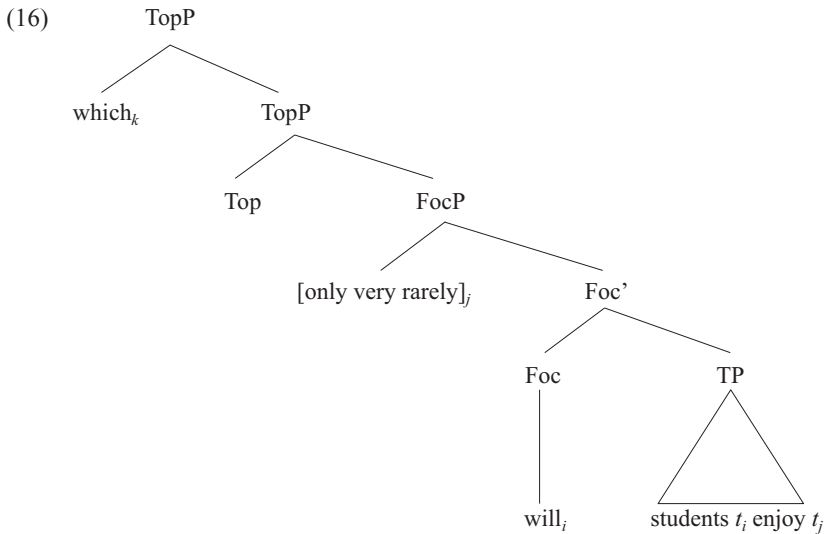
The ungrammatical sentence (14)b is an inversed sentence of (14)a. The ungrammaticality of (14)b is attributed to the fact that two constituent, *only very*

rarely and *the very book*, occupied the same spec of FocP. Examine the partial derivation of (14)b:



Both the negative adverb expression and the head nominal are raised to the spec of FocP. As mentioned above, only one constituent is allowed in the spec of FocP. (14) b violates the condition, so the sentence becomes ungrammatical.

Next, examine the partial derivation of (14)c.



In this derivation, only the *wh*-operator moves to the spec of TopP. The head nominal is base-generated in the main clause, which is not described in (16). Hence,

this derivation does not have a problem in the spec of FocP,

The sentences below are assumed to have the same problem in the spec of FocP as in (14)b.

- (17) a. *This is the only book that never again would I read.
b. *This is the most difficult book that only very rarely would I read.

Due to the complementary distribution in the spec of FocP, these sentences become ungrammatical.

Ikeda (2014) considers that certain head nominals move overtly to the spec of FocP to check an uninterpretable focus feature in the relative clause. On the other hand, in *wh*-relatives, the head nominal is base-generated in the main clause, which does not allow the relative clause to check its uninterpretable focus feature. Hence, sentences below show the contrast:

- (18) a. This is the very book that I read.
b. ??This is the very book which I read.

The uninterpretable focus feature is left unchecked in the *wh*-relative, so the sentence becomes ungrammatical.

In this section, two types of analyses, the promotion analysis and *wh*-operator movement analysis, and Ikeda's (2014) claim that only *that*-relatives can contain focused head nominals have been introduced. In section three, a focused state of specific head nominals will be shown. Moreover, *every* and *no* will also be examined to capture the focused state.

3 The Intervention Effect

In section two, Ikeda (2014) have claimed that specific head nominalis (category 1) such as *the only*, *the very*, and the superlative require *that*-relatives to delete an uninterpretable focus feature. These head nominals show another interesting aspect regarding superiority. Superiority effects are schematized as follows:

- (19) a. $[_{CP} wh_1 [_{CP} C [_{TP} t_1 \dots wh_2 \dots]]]$
 b. $*[_{CP} wh_2 [_{CP} C [_{TP} wh_1 \dots t_2 \dots]]]$

The highest *wh*-phrase has to be moved to the sentence initial position. Otherwise the sentence becomes ungrammatical. Examine the sentences below for the effect:

- (20) a. Who ____ bought what?
 b. *What did who give ____ to Mary? Boeckx and Hornstein (2008: 197)
- (21) a. Who did you persuade ____ to read what?
 b. *What did you persuade whom to read ____? Pesetsky (2000: 44)

If the second highest *wh*-phrase is moved to the spec of CP, the sentence becomes ungrammatical. In some cases, however, the superiority effect can be avoided with *which*. Examine the sentences below:

- (22) a. Which person ____ bought which book?
 b. Which book did which person buy ____? Pesetsky (2000: 16)
- (23) a. Which person did John talk to ____ about which topic?
 b. Which topic did John talk to which person about ____?
 Pesetsky (2000: 16)

Both (22) and (23) contain the two *wh*-phrases *which*. In (22)b and (23)b, the lower *wh*-phrase is moved to the spec of CP. It crosses over the highest *which*-phrase, but the sentences do not cause the superiority effect. With this in mind, examine the sentences below:

- (24) [The only]
 a. Which girl did only Mary introduce ____ to which boy?
 b. ??Which boy did only Mary introduce which girl to ____?
 Pesetsky (2000: 60)
- (25) [The very]
 a. Which book did the very teacher give ____ to which student?
 b. ??Which student did the very teacher give which book to ____?

(26) [Superlative]

- a. Which subject did the smartest teacher teach ____ to which kid?
 b. ??Which kid did the smartest teacher teach which subject to ____?

The sentences contain head nominals in category 1 which allow only *that*-relatives. They become ungrammatical when the second highest *wh*-phrase is moved over the highest *wh*-phrase. This ungrammaticality cannot be attributed to superiority. As shown in (22) and (23), *which* does not cause the superiority effect. Hence, it implies that another rule restricts the sentences: intervention effects.

3.1 The Focus Phrase in the Intervention Effect

According to Kim (2002a, b), the intervention effect can be formulated as follows:

(27) * $[_{CP} C_i [_{IP} \dots \text{FocP} \dots \text{wh}_i \dots]]$ Kim (2002a: 625)

She argues that the probe C_i matches a focus feature of the *wh*-phrase, but when an independent focus phrase which also contains the focus feature is put between the probe C_i and the *wh*-phrase, the independent focus phrase interferes the matching between C_i and the *wh*-phrase. As a result, the sentence becomes ungrammatical. She gives the following Korean example:

- (28) a. Suna-ka mûôs-ûi sa-ss-ni?
 Suna-Nom what-Acc buy-Past-Q
 b. mûôs-ûi_i suna-ka t_i sa-ss-ni?
 What-Acc suna-Nom buy-Past-Q
 ‘What did Suna buy?’ Kim (2002a: 619)

Korean is a *wh*-in-situ language and allows scrambling. In (28)b, the *wh*-phrase *mûôs* is move to the sentence initial position due to scrambling. Next, examine the following sentences:

- (29) a. ?*amuto muôs-ûl sa-chi anh-ass-ni?
 anyone what-Acc buy-CHI not do-Past-Q
 b. muôs-ûl_i amuto t_i sa-chi anh-ass-ni?
 What-Acc anyone buy-CHI not do-past-Q
 ‘What did no one buy?’ Kim (2002a: 619)

(28)a cannot be accepted once the negative polarity item *amuto* which is an intervener is inserted as in (29)a. In (29)a, *amuto* is put in a higher position than the *wh*-phrase *muôs*. However, (29)a could be grammatical, if the *wh*-phrase is scrambled before the intervener as in (29)b.

In the case of the intervention effect in English, according to Pesetsky (2000), the effect could be detected when there are two *wh*-phrases and the lower *wh*-phrase is moved to the sentence initial position over the highest *wh*-phrase and the intervener. In other words, the violation of the superiority is a condition for the intervention effect in English. Examine the following example:

(30) = (24)

[The only]

- a. Which girl did only Mary introduce ____ to which boy?
 b. ??Which boy did only Mary introduce which girl to ____?

Pesetsky (2000: 60)

The sentence becomes ungrammatical when the second highest *wh*-phrase is moved over the highest *wh*-phrase and the intervener *only*. Pesetsky (2000) does not associate the intervention effect with a focus state of the intervener as Kim (2002a, b) does. Instead of considering the intervener as a focus phrase, he treats it as a just scope-bearing element. In this paper, however, the intervener is regarded as a focus phrase, following Kim (2002a, b), who surveyed the intervention effect cross-linguistically. She argues that classifying the intervener as a focus phrase is a promising way for a unified theory of the intervention effect.

Concerning the focus status of the intervener, it is assumed that the intervener is focused in the sense of Rooth (1992), who proposes a concept of contrastive

focus. Examine the following sentence for the concept:

(31) Only Mary read the book.

Suppose *only* focalizes the subject *Mary*. A contextually relevant set of people is introduced as follows:

{	Mary	read the book	true
	Bill	read the book	false
	John	read the book	false
	read the book	false
	read the book	false

Only selects one suitable person *Mary* from the list, otherwise the sentence would be semantically incorrect. This explanation could be applied to other examples such as *the very NP* and the superlative.

Based on the assumption above, the following conditions need to be met to observe the intervention effect in English:

- (33) a. The superiority condition is violated. Pesetsky (2000)
 b. A focus phrase appears between C and an in-situ *wh*-phrase. Kim (2002a, b)

3.2 Focused Head Nominals in the Intervention Effect

In this subsection, it will be shown that specific head nominals in category 1 such as *the only*, *the very* and the superlative serve as the intervener in the intervention effect, which supports the idea by Ikeda (2014) that these specific head nominals are focused and *that*-relatives have the nature of dealing with the focus phrase. The conditions for the intervention effect in English are repeated below:

- (34) a. The superiority condition is violated. Pesetsky (2000)
 b. A focus phrase appears between C and an in-situ *wh*-phrase. Kim (2002a, b)

Sentences containing *the only*, *the very* and the superlative are repeated below:

(35) = (24) [The only]

- a. Which girl did only Mary introduce ____ to which boy?
- b. ??Which boy did only Mary introduce which girl to ____?

Pesetsky (2000: 60)

(36) = (25) [The very]

- a. Which book did the very teacher give ____ to which student?
- b. ??Which student did the very teacher give which book to ____?

(37) = (26) [Superlative]

- a. Which subject did the smartest teacher teach ____ to which kid?
- b. ??Which kid did the smartest teacher teach which subject to ____?

In the ungrammatical sentences, the second highest *wh*-phrase is moved over the highest one, which results in the violation of the superiority. As shown in (22) and (23), however, *which* does not cause the superiority effect. In (35), (36) and (37), *only Mary*, *the very teacher* and *the smartest teacher* are considered to be contrastively focused. If this assumption is correct, the ungrammatical sentences satisfy the second condition in (34) for the intervention effect. Consequently, the sentences become ungrammatical.

3.3 *Every* and *no* as the Intervener

In this subsection, it will be examined whether the intervention effect could be detected with *every* and *no* that are classified into category 2. If it could be, this means that *every* and *no* are also focused. The result tells that *every* and *no* serve as the intervener. This poses a problem for Ikeda (2014), who have claimed that only *that*-relatives can deal with focused head nominals. Examine the following sentences:

(38) = (1) [category 2]

- a. Mary read every book {that/which} John bought.
- b. Mary read no book {that/which} John bought.

Both *that*- and *wh*-relatives contain the same focused head nominals *every* and *no*.

This is a problem for Ikeda (2014).

First, examine the case of *every* below:

(39) Which newspaper did everyone write to ____ about which book?

Pesetsky (2000: 62)

The sentence does not violate the superiority effect, so it does not show the intervention effect either. As to the reading of the sentence, it is ambiguous. It has two readings: wide- and narrow-scope reading for *everyone*. In the wide-scope reading, an answering pattern is as follows:

(40) John wrote to the Newspaper K about the Book S.
Mike wrote to the Newspaper L about the Book T.
Mary wrote to the Newspaper M about the Book U.
Jack wrote to the Newspaper N about the Book V.
 ____ wrote to the _____ about the _____.

In (40), a responsible speaker has to fill in three underlined slots for each proposition. On the other hand, the narrow-scope reading is represented as follows:

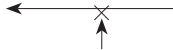
(41) Everyone wrote to the Newspaper K about the Book S.
 Everyone wrote to the Newspaper L about the Book T.
 Everyone wrote to the Newspaper M about the Book U.
 Everyone wrote to the Newspaper N about the Book V.
 Everyone wrote to the _____ about the _____.

In the narrow-scope reading, filling in two slots is enough. With these two interpretations in mind, examine the following sentence:

(42) Which book did everyone write to which newspaper about ____?

Pesetsky (2000: 63)

What is crucial about (42) is that the ambiguity disappears. It has only the wide-scope reading. In (42), the lower *wh*-phrase is moved over the other one, which is the violation of the superiority. According to Pesetsky (2000), the lower *wh*-phrase cannot move over *everyone* at LF. The representation at LF is as follows:

(43) a. \circ [wh₂>everyone>wh₁](44) b. [wh₂>everyone>wh₁]c. \times [wh₁>wh₂>everyone]

The lack of the narrow-scope reading for *everyone* suggests that *everyone* also serves as the intervener at LF. At the same time, it is assumed that *every* is focused, following Kim (2002a, b).

Next, examine the following sentences containing *no*:

(45) [No]

a. Which book did no one give which student ___ ?b. ??Which student did no one give which book to ___ ?

Pesetsky (2000: 60)

No is also assumed to serve as the intervener when the sentence violates the superiority. Hence, *no* is also considered to be focused, following Kim (2002a, b).

It is not clear how are *every* and *no* contrastively focused in the sense of Rooth (1992), but in consideration of (39), (45), and Kim (2002a, b), *every* and *no* are assumed to be focused here. This leads to the problem mentioned in the beginning of this section: Both *that*- and *wh*-relatives can deal with focused head nominals, contrary to Ikeda (2014).

3.4 Summary

The result of this section is summarized as follows:

(46)

	<i>That</i> -relative only	The Intervener
'The Only'	✓	✓ (35)
'The very'	✓	✓ (36)
Superlative	✓	✓ (37)
'Every'	✗	✓ (42)
'No'	✗	✓ (45)

Head nominalis in category 1 such as *the only*, *the very*, and the superlative that allow only *that*-relatives serve as the intervener, which supports the focus status of these head nominals. On the other hand, head nominals that allow both *that*- and *wh*-relatives also serve as the intervener. This fact requires some modification to Ikeda (2014), who claims that only *that*-relatives can deal with focused head nominals. In section four, the problem will be covered.

4 Positions of the Focus Feature

In section three, I have confirmed the focus status of head nominals in category 1 and 2. In this section, the position of the focus feature which causes the focus status is examined. The result tells that there are two possible positions for the focus feature, which requires the two categories. Category 1 represents the head nominals such as *the only*, *the very*, and the superlative. Category 2 does such as *every* and *no*. First, examine the following example:

- (47) a. *They made the fun of me.
 b. the fun that they made of me Fab (1990:71)

(47) involves the idiom *make fun of*. The definite article *the* is added to *fun* when *fun* is derived as the head nominal in the *that*-relative. This suggests that relative clauses have a unique mechanism for D: external D.

External D structure for relative clauses will be introduced, following Browning (1987), Kayne (1994), and Aoun and Li (2003), and it will be claimed that *every* and *no* are attributed to external D.

At the same time, it will be suggested that head nominals classified as category 1 bear the focus feature inside the relative clause.

4.1 The External Determiner Hypothesis

In this subsection, the unique mechanisms for D in the relative clause will be introduced. Examine the following sentences:

- (48) a. *There were *the* men in the garden.
 b. *The* men that there were *t* in the garden were all diplomats.

Browning (1987: 129)

There constructions cannot contain a definite article *the*, but it is allowed when the sentence is used with the relative clause as in (48)b. Another example is shown below:

- (49) a. ?*I found the two pictures of John's/his
 b. I found the (two) pictures of John's/his that you lent me.

Kayne (1994: 86)

The unacceptable sentence in (49) becomes grammatical if the relative clause is added to it.

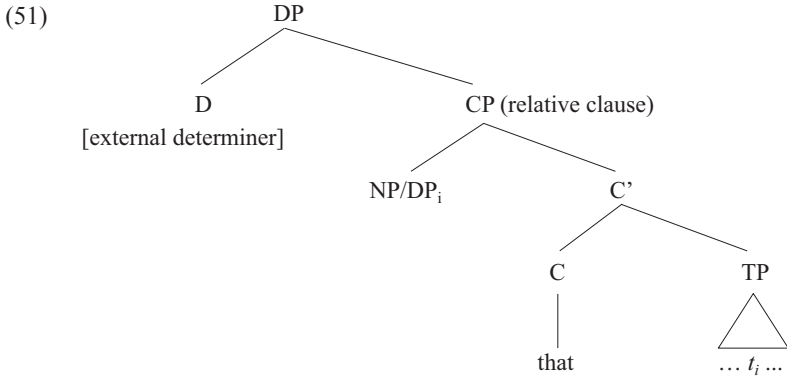
The example below indicates the interaction between the definite article and the relative clause.

- (50) a. Every doctor will examine two patients. (ambiguous)
 b. Every doctor will examine the two patients. (unambiguous)
 c. I phoned the two patients [that every doctor will examine tomorrow].
 (ambiguous)

Aoun and Li (2003: 103)

There are two readings in (50)a. One of the readings is that there are only two patients. The other is that there are twice as many patients as doctors. However, once *the* is added to *two patients*, the sentence becomes unambiguous, which has only the former reading. In the case of (50)c, the sentence is ambiguous, which implies that *the* is inserted after *two patients* was moved.

Based on the observation above, the external determiner hypothesis is proposed below:

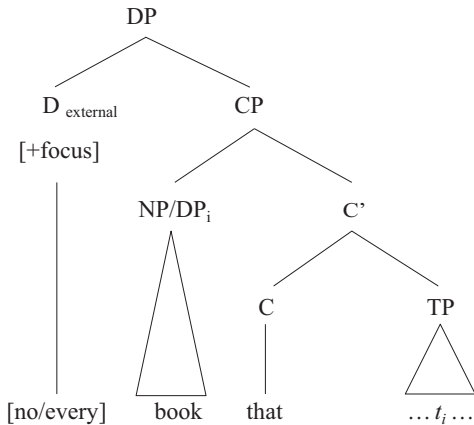


D is placed outside CP when a relative clause is employed.

4.2 External D and the Focus Feature

Following the external determiner hypothesis, head nominals in category 2 such as *every* and *no* are placed outside CP. Examine the following tree:

(52) [Category 2]



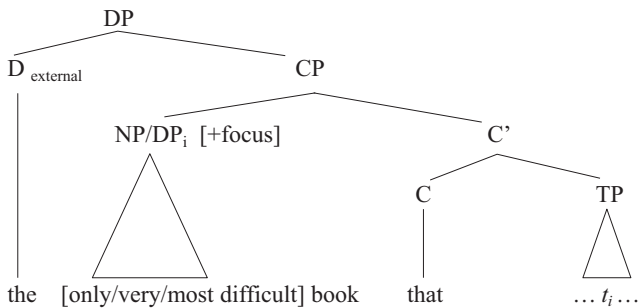
In this structure, *every* and *no* are classified as external D. Moreover, it is assumed that external D contains the focus feature outside CP. In section three, it has been claimed that *every* and *no* are focused. The focus position contrasts with head nominals such as *the only*, *the very*, and the superlative, which will be shown below.

This derivation is for *that*-relatives, so the promotion analysis is employed. Detailed derivations for *that*-relatives and *wh*-relatives will be described in section five.

4.3 The Focus Feature inside Relative Clauses

Next, head nominals classified into category 1 such as *the only*, *the very*, and the superlative are examined. The tree for these head nominals are described below:

(53) [Category 1]



In this structure, *the* is analyzed as external D. More importantly, it is assumed that NP/DP inside the relative clause (CP) bears the focus feature while external D does in (52). The focus feature must be generated inside the relative clause because an uninterpretable feature of FocP (CP) has to be checked. This analysis is almost the same as Ikeda (2014). A detailed derivation will be shown in section five.

4.4 Summary

To summarize, *every* and *no* are analyzed as external D with the focus feature outside the relative clause whereas *the only*, *the very*, and the superlative are considered to be focused inside the relative clause with the focus feature, and delete the uninterpretable focus feature. The two different positions of the focus feature require the two different categories: category 1 and 2.

5 Derivations of Relative Clauses

This section will present detailed derivations of relative clauses containing category 1 and 2, modifying Ikeda (2014).

5.1 A Derivation for Category 1

The sentences containing head nominals in category 1 are repeated below:

- (54) a. John read the very book {that/?? which} Mary wrote.
b. John read the only book {that/?? which} Mary wrote.
c. John read the most difficult book {that/?? which} Mary wrote.

These head nominals allow only *that*-relatives.

Three things are assumed to derive relative clauses involving category 1:

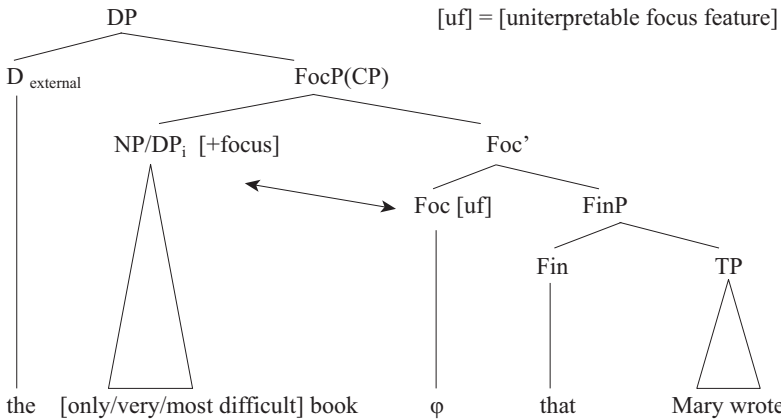
- (55) a. The promotion analysis in *that*-relatives
b. The external determiner hypothesis
c. D selects CP

Regarding the third assumption in (55), I assume the D complementation structure for relative clauses. Examine the evidence for the D complementation structure below:

- (56) a. *He is an [[actor who wants to do everything]] and [producer who wants to please everyone]]
b. He is [[an actor who wants to do everything]] and [a producer who wants to please everyone]] Aoun and Li (2003:118)

The coordination becomes possible when both relative clauses connected by *and* project DP. This implies the close relationship between D and CP. Aoun and Li (2003) apply the D complementation to both *that*- and *wh*-relatives.

Based on the assumption above, examine the tree for category 1 below:

(57) [Category 1] The promotion analysis in *that*-relatives

In this structure, the head nominals are moved to the spec of FocP in order to delete the uninterpretable focus feature. *That* is tentatively regarded as Fin. This analysis is almost the same as Ikeda (2014), but there is one difference: external D. This mechanism draws a line between category 1 and 2.

5.2 Derivations for Category 2

The sentences involving category 2 are repeated below:

- (58) a. Mary read every book {that/which} John bought.
 b. Mary read no book {that/which} John bought.

These head nominals permit both *that*- and *wh*-relatives. In section three, I have shown that *every* and *no* serve as the intervener, which implies the focus status of them. In the relative clause, *every* and *no* are analyzed as external D as discussed in section four. Regarding the derivation of category 2 in *that*-relatives, examine the following sentences:

- (59) a. ??I read every book that only very rarely will students enjoy.
 b. I read every book which only very rarely will students enjoy.

In *that*-relatives, the promotion analysis is adopted. The contrast in (59) indicates that in *that*-relatives *book* and *only very rarely* are moved to the same spec of FocP

where only one constituent is available. This suggests that *book* is focused as well as *every*. On the other hand, in the case of *wh*-relatives, *book* is considered to be base-generated in somewhere lower than external D, but higher than Foc in the split-CP system. Same explanation could be applied to *no*.

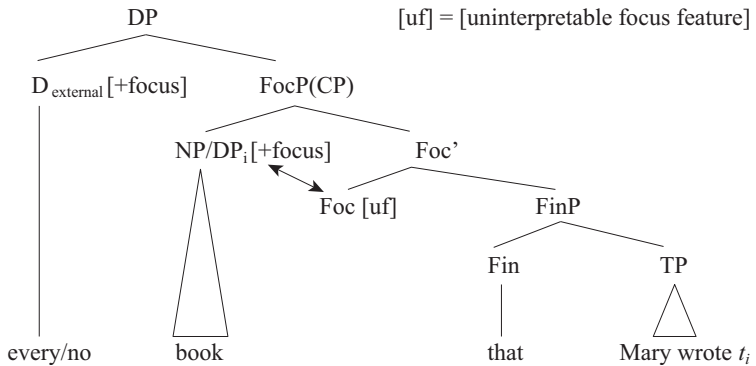
Four things are assumed to derive relative clauses involving category 2:

- (60) a. The promotion analysis in *that*-relatives
- b. The *wh*-operator movement analysis in *wh*-relatives
- c. The external determiner hypothesis
- d. D selects CP

Based on these assumptions, derivations for category 2 will be shown below.

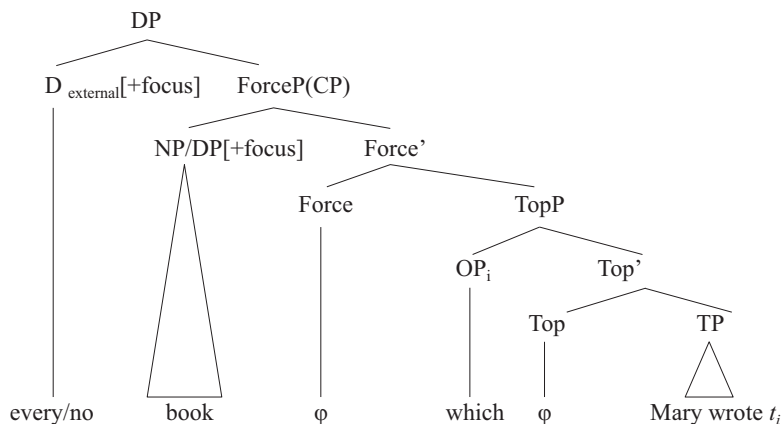
First, examine the following derivation in *that*-relatives:

- (61) [Category 2] The promotion analysis in *that*-relatives



In this derivation, *every*, *no* and *book* are focused, but only *book* go through movement to the spec of FocP to delete the uninterpretable feature. Movement of the head nominal plays an important role.

Next, examine the tree for *wh*-relatives:

(62) [Category 2] The *wh*-operator movement analysis

Book is base-generated in the spec of ForceP , and the *wh*-operator moves to the spec of TopP , following the assumption by Aoun and Li (2003). In this case, the *wh*-relative clause does not contain an uninterpretable focus feature, so the focused head nominal *book* does not function to delete the uninterpretable feature in the relative clause.

6 Conclusion

In this paper, two types of head nominals have been recognized in the relative clause construction in English: category 1 and 2. The former is for head nominals that allow only *that*-relatives. The latter is for the ones that allow both *that*- and *wh*-relatives. In section two, I have introduced derivations for *that*- and *wh*-relatives, and Ikeda (2014). According to Ikeda (2014) only *that*-relatives can deal with focused head nominals, which implies the close relationship between category 1 and the focus feature. In section three, the focus status of head nominals in category 1 and 2 have been examined through the intervention effect. The result showed that head nominals in category 2 are focused as well as the ones in category 1. Head nominals in category 2 allow both *that*- and *wh*-relatives, so this fact required some modification to Ikeda (2014). In section four, I have introduced the external

determiner hypothesis, which made it possible to distinguish the position of the focus feature of head nominals in category 1 from the ones in category 2. In section five, detailed derivations for category 1 and 2 have been described.

References

- Aoun, Joseph and Yen-hui A. Li (2003) *Essays on the representational and derivational nature of Grammar: The diversity of WH-Construction*, MIT Press, Cambridge, Massachusetts.
- Beck, Sigrid (1996) "Quantified structures as barriers for LF movement," *Natural Language Semantics* 4.
- Beck, Sigrid (2006) "Intervention Effects Follow from Focus Interpretation," *Natural Language Semantics* 14, 1–56.
- Bianchi, Valentina (1999) *Consequences of antisymmetry: Headed relative clauses*, Mouton de Gruyter, New York.
- Bianchi, Valentina (2000) "The Raising Analysis of Relative Clauses: A reply to Borsley," *Linguistic Inquiry* 31, 123–140.
- Boeckx, Cedric and Hornstein, Nobert (2008) "Superiority, Reconstruction, and Island," in R. Fredim, C. Otero and M. Zubizarreta (eds.) *Foundational Issues in Linguistic Theory*, MIT Press, Cambridge, Massachusetts, 198–225.
- Borsley, Robert D (1997) "Relative Clause and the Theory of Phrase Structure," *Linguistic Inquiry* 28, 629–647.
- Browning, Marugerie (1987) "Null operator Constructions" PhD Dissertation, MIT.
- Chomsky, Noam (1977) "On Wh-Movement," in P. Culicover, T. Wasow, and A. Akmajian (eds.) *Formal Syntax*, Academic Press, New York, 71–132.
- Donati, Caterina (2006) "On WH-Head Movement," *WH-MOVEMENT: Moving On*, in L. Cheng and N. Corver (eds.), MIT Press, Cambridge, Massachusetts, 21–46.
- Fabb, Nigel (1990) "The difference between English Restrictive and nonrestrictive relative clauses," *Journal of Linguistics* 26, 57–77.
- Haberland, Hartmut and van der Auwera, Johan (1990) "Topics and Clitics in Greek relatives," *Acta Linguistica Hafniensia* 22, 127–157.
- Hornstein, Nobert (2001) *Move! A Minimalist the Theory of Construal*, Blackwell Publishers, Malden, Massachusetts.
- Ikeda, Takashi (2014) "A Syntactic Analysis of *That*-Relative Clauses," BA, Aichi

- Prefectural University.
- Jackendoff, Ray (1972) *Semantic Interpretation in Generative Grammar*, MIT Press, Cambridge, Massachusetts.
- Kayne, Richard (1994) *The antisymmetry of syntax*, MIT Press, Cambridge, Massachusetts.
- Kim, Shin-Sook (2002a) “Intervention Effects are Focus Effects,” in N. Akatsuka, S. Strauss, and B. Comrie (eds.) *Japanese/Korean Linguistics 10*, CSLI Publications, California, 615–628.
- Kim, Shin-Sook (2002b) “Focus Matters: Two Types of Intervention Effect,” a handout distributed at WCCFL, XXI, UC Santa Cruz.
- Kiss, É. Katalin (1998) “Identificational Focus versus Information Focus,” *Language* 74, 245–273.
- Nagahara, Yukio (1990) *Shin Eibunpou Sensho Kankeisetsu [New English Grammar Relative Clauses]*, Taishukan, Tokyo.
- Nunes, Jairo (2004) *Linearization of Chains and Sideward Movement*, MIT Press, Cambridge, Massachusetts.
- Pesetsky, David (2000) *Phrasal Movement and Its Kin*, MIT Press, Cambridge, Massachusetts.
- Radford, Andrew (2004) *Minimalist Syntax: Exploring the Structure of English*, Cambridge University Press, Cambridge.
- Rizzi, Luigi (1997) “The Fine Structure of the Left periphery,” in L. Haegeman (ed.) *Elements of Grammar*, Kluwer Academic Publishers, Dordrecht, 281–337.
- Rooth, Mats (1992) “A theory of focus interpretation,” *Natural Language Semantics* 1, 75–116.
- Rudin, Catherine (1990–91) “Topic and Focus in Bulgarian,” *Acta Linguistica Hungarica* 40, 429–447.
- Sauerland, Uli (1998) “Unpronounced Heads in Relative Clauses,” *The Interfaces: Deriving and Interpreting Omitted Structures*, in K. Schwabe and S. Winkler (eds.), John Benjamins Publishing Companies, Amsterdam, 205–226.
- Schachter, Paul (1973) “Focus and Relativization,” *Language* 49, 19–46.
- Tomioka, Satoshi (2007) “Pragmatics of LF intervention effects: Japanese and Korean interrogatives,” *Journal of Pragmatics* 39, 1570–1590.

That 関係節における焦点関連派生

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英語の That 関係節に出現する先行詞の性質を統語的観点から研究した。これまでの研究では That 関係節のみが焦点化された先行詞を利用して派生を進めると予測していた。しかし、That 関係節だけではなく、WH 関係節も焦点化された先行詞と共起できることが判明し、今までの理論を拡張することで問題解決を試みた。本論文では、焦点化された先行詞を便宜上二つのカテゴリーに分けた。カテゴリー 1 では関係節内の先行詞のみに焦点化素性が配置されるとし、カテゴリー 2 では関係節を補部とする決定詞と関係節内の先行詞に焦点化素性が配置されるとした。上記の異なった場所への焦点化要素の配置が、That 関係節と WH 関係節の選択を決定すると論じる。