Thesis for the Degree of Master of Arts

A Study of Multidominance in English and Burmese

by

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A study of Multidominance in English and Burmese
(영어와 미얀마어의 다중지배구조에 대한 연구)

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by
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A Study of Multidominance in English and Burmese

A dissertation

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A Study of Multidominance in English and Burmese

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Abstract

This paper aims to explore the properties of Burmese syntactic constructions within the framework of the Multidominance Theory. To begin with, I first introduce the terms, External Merge and Internal Merge, in the Minimalist Program in Chomsky (1995). Then, I will discuss their alternative, which is the multidominant structure based on the parallel merge.

The introduction of the basic tools and theories will give an idea of the advantages and disadvantages of the two approaches to the possible explanation of the generation of multidominant structures in English and Burmese. Afterwards, I also discuss how multidominant structures can provide a solution of linearization in the cyclic Spell-Outs model of the grammar. Finally, I extend our attention to the PF-phenomenon of Ellipsis. In doing so, the analysis of Copy Theory in Sato (2016) and movement effects are examined and replaced by the Multidominance Theory.

For the movement effects, I point out the potential problems of the Multidominance Theory and provide a solution to the condition on linearization, by relying on Johnson (2016), where the violation of Extension Condition is cured by the head Q which merges with the given syntactic object, forming a new syntactic object to merge with its target when necessary. I then discuss the coordination structure in Munn (1992, 1993), Johannessen (1998), and Zoerner (1999) and deletion with ATB movement in Ross (1986), Sag (1976), Coppock (2001), Johnson (2004, 2009a), Lo'pez & Winkler (2003), and Agabayani & Zoerner (2004). I futher apply the Multidomimance Theory to other constructions of Gapping, P(preposition)-stranding and left node raising in Burmese.

I show how Burmese can play with the Multidominance Theory in a variety of syntactic constructions. Of all, my thesis is the first paper to see how Burmese syntactic constructions can be analyzed by the Multidomimance Theory.

1. Introduction

1.1 Purpose of Study

The biggest challenge of the current syntactic theories is to see if and how the multidominant structures are applied to languages. Burmese is a language that has not been seriously discussed within the recent framework of grammar, such that this thesis is the first research on the Burmese construction based on the multidominance analysis. Multidominance is a somewhat new approach to account for the movement effects without the actual movement rules. This thesis discusses the properties of Burmese constructions and explores the possibility that they are accounted for in terms of the multidominance analysis.

In the thesis, I will first give the theoretical background as described in Temmerman (2012). I will also describe the characteristics of multidominance according to Johnson (2009a, 2012) and Sato (2016). Finally, I will attempt to apply the multidominance analysis to a variety of constructions in English and Burmese. By doing so, this thesis will provide empirical evidence in Burmese in favor of the multidominance analysis. Among them are right node raising, gapping, and P(reposition)-stranding. Specifically, I will

discuss in detail how the multidominance analysis can work with linearization and ellipsis in languages.

Since there are few studies about the multidominance approach to Burmese, I basically rely on the analyses of Korean, English, and Japanese for the ideas of the multidominant constructions. Therefore, I hope that my thesis can give the various perspectives of South East Asian language communities. Accordingly, my thesis could help the future EFL learners from South East Asia.

1.2 Organization

This thesis consists of five chapter. The chapter one and two will give the theoretical framework with the references. The chapter two consists of four sections: Merge and Multidominance, Phase and Multiple Spell-out, Linearization Correspondence Axiom, Ellipsis. The chapter three also consists of four section: Parallel Merge, Wh-movement and Quantifier Rasing, Multidominance in Wh movement, the copy theory in Multidominance. The chapter four will be described by self investigation with the help of the study of the previous chapters. The chapter four consists of five sections; The Coordination Structure, The analysis of Deletion and ATB movement, Right Node Raising, Gapping and P-stranding. They are the empirical supports that approve the existing of multidominant construction in Burmese. I will

show it with the interesting investigations. The chapter five is the conclusion of my thesis that will summarize the thesis and show the interesting founding.

2. Theoretical Background

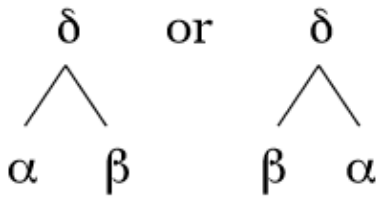
2.1 Merge and Multidominance

Merge is one of the basic operations of the Minimalist Program (Chomsky 1993, 1995 et seq.). We noted that Merge is recursive and grouping operation. Merge is a grouping operation which combines two elements to form a new set. On the other hand, It creates the binary branching. And Merge is rescursive where the output of Merge may subsequently be omitted to Merge with other elements yielding a further constituent.

Chomsky (1995) takes the (bottom-up) construction of phrase markers to arise from the primitive structure building operation Merge. Accordingly, Merge combines two syntactic objects α and β, and yields a new, more complex, syntactic object. This new complex object is a set containing the two elements α and β, i.e. {α, β}. The definition of Merge is given in the two representations (cf. Temmerman 2012).

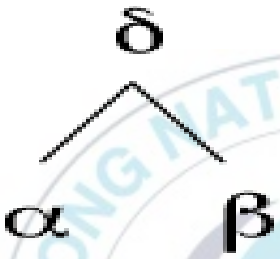
(1) a. Merge (α, β): {δ,{α, β}}3

b. Merge (α, β):

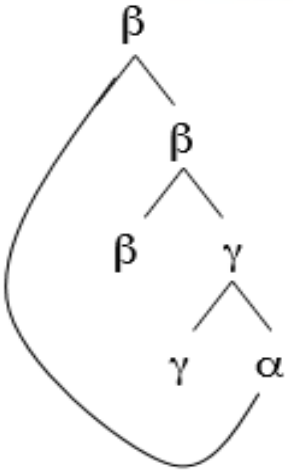


In 2001, Chomsky differentiated Merge into two kinds; Internal Merge and External Merge as shown in (2).

(2) a. External Merge



(2) b. Internal Merge



As shown in the picture, we can clearly see that original merge is external merge and merge with movement is called Internal Merge. Internal Merge applies to a syntactic object that has already been merged into one position in the structure and remerges it into a second position as shown in (2b).

2.2 Phase and Multiple Spell-out

In this section, I will discuss about phase and multiple spell-out which have been implicated in Multidominance. It will follow the analysis of phase according to Chomsky (from 1998 to 2001) and multiple spell-out according to Chomsky (2004), Uriagereka (1999).

In 1998, Uriagereka firstly proposed that a phase is a syntactic domain. That is, a simple sentence often has two syntactic domains, CP and VP called two phases. After he defined what the phase is, he introduced the notion of a phase as a self-contained subsection of a derivation. According to his proposal, spell-out occurs while the phase was being sent to interpretation of the PF and LF components after constructing of a phase marker CP or VP. He proposed again in 1999 that the language faculty has the limited amount and can hold only this limited amount in its active memory. To resolve this problem, he proposed a condition, a process of derivation called Phase Impenetrability Condition (PIC) in 2000. Correspondingly, he

proposed that the phasal domain is sent off to the interface and become incessible for further syntactic operation.

(3) The Phase-Impenetrability Condition (PIC)

> "In a phase α with a head H, the domain of H is not accessible to operations outside α, only H and its edge are accessible to such operations. [Chomsky 2000:108]"

It means that a phase needs movement instead of a copy theory. But, movement must proceed the phase edge by edge as the cyclic manner. On the other hand, it leaves a copy at the edge of every intervening transitive VP or CP.

After analysing of phase from 1998 to 2001, the final terminology of Chomsky came out. He proposed that a phase is a constituent XP, the construction of which is followed by the lexical access. Phase defines impenetrable domains to movement. Phases are transitive VP and unergative verbs. The verb phrase in passive and unaccucative verbs are not phases. However, his claim is argued till now according to the characteristics of literature.

Spell-out is one of the operations of the phase. The derivation of a sentence proceeds step-wise through the series of multiple merge, move and spell-out. These operations are organized into phase.

Spell-out applies in a cyclic manner. There are multiple cyclic applications of spell-out in the course of derivation, applying to the specific parts of the syntactic object.

In 1991, Uriagereka stated that all the left branching structures including specifier and adjunts must undergo early spell-out to PF component. After spell-out, the specifier or adjunct is flattened into an order according to Uriagereka. That idea of Uriagereka came from the analysis of Bresnan (1971). Bresnan proposed that every branching left branch to be targeted by spell-out. Moreover, I want to describe here other authors' proposing. In 2004, Chomsky stated that spell-out is the operation that takes a syntactics object and transfers to the PF-component. In 2005, Marusic distinguished non-simultaneous PF and LF phases and he said that spell-out applies only to PF. In 2006 and 2009, Sato proposed that spell-out mid derivational objects are mapped to prosodic domains at the PF interface. And the authors found out that Uriagereka's (1999) multiple spell-out originates from the minimalist program to keep the "Base step" and disperse with the introduction step of the linear Correspondence Axiom (LCA) by Kayne (1994). Correspondingly, I will study Kayne's (1994) LCA in the next section.

2.3 Linear Correspondence Axiom

This section will explore how multidominant structures are mapped onto the linear string according to Kayne's LCA. In 1994, Kayne firstly argued that the hierarchical phrase structure completely determines the linear order in which terminal elements are produced. Correspondingly, he introduced a theory based on the motion of asymmetric c-command given in (3).

(3) "α asymmetrically c-commands β iff
α c-commands β, and β does not c-command α"

According to Kayne, linear is sensitive to the asymmetric c-command relation. He proposed LCA with maps asymmetric c-command onto a linear ordering of terminals as shown in (4).

(4) Linear Correspondence Axiom (LCA)

d(A) is the linear ordering of T, where
(i) A is the set of all ordered pairs of non-terminals 〈X, Y〉 in a given phrase marker P, such that X asymmetrically c-commands Y, and

(ii) T is the set of terminals in P

(iii) d is the non-terminal-to-terminal dominance relation.

More specifically, Kayne relates asymmetric c-command to precedence.

(5) Let X, Y be non-terminals and x, y terminals

X dominates x

Y dominates y

X asymmetrically c-commands Y

X precedes Y [Kayne 1994: 33]

And, it also means that every terminal in X will precedes every terminal in Y (< stands for precedes). For example,

(5) X ------> x, x1

Y ------> y, y1

(x < y), (x < y1), (x1 < y), (x1 < y1)

Kayne's (1994) LCA is a formal constraint and the shape of phrase marker. Kayne proposed that a non-linearizable phrase marker

is ill-formed only at PF. In 1995, Chomsky stated that the LCA is recast as a PF_mapping strategy : it is a principle of the phonological component, operative only after spell-out, because of PF-demands. Kayne's (1994) LCA has three defining properties as shown in (6). It shows an ordering of tweminal elements in a phrase markers.

(6) For every distinct terminal x, y, and z in a phrase marker P,

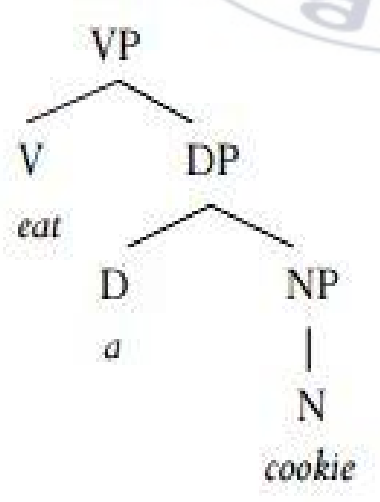
a. either x < y or y < x --------> TOTALITY

b. not (x < y and y < x) --------> ANTISYMMETRY

c. if x < y and y < z, then x < z--------> TRANSITIVITY

The following example (7) will show how the LCA system works,

(7) eat a cookie [cf; Temmerman]



The values for A and d(A) for the phrase marker in (7) are as follows:

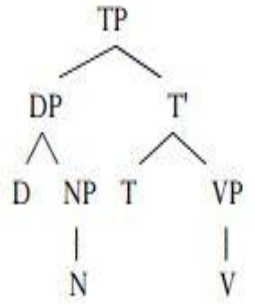
(8) a. A = { 〈V, D〉, 〈V, NP〉, 〈V, N〉, 〈D, N〉 }

b. d(A) = { 〈V, D〉, 〈V, N〉, 〈D, N〉

It shows the ordered pairs are taken to represent precedence. It produces a linear ordering V < D < N (eat < a < cookie). It conforms the antisymmetry and totility conditions on linearization.

Moreover, Kayne tried to solvre the problem of tranditional c-command. It described that α c-commands β iff every γ that dominates α also dominates β, and neither α nor β dominates the other. In 2007, Haumann pointed out this problem, "[w]hile head-complement relations are straightforwardly captured in terms of asymmetric c-command and the LCA, specifiers and adjuncts [...] appear to fall outside the system." It is shown with tha diagram (8).

(8)



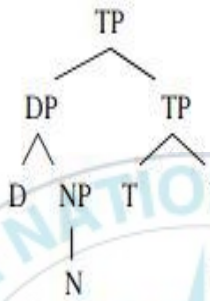
a. A = { 〈D, N〉, 〈DP, T〉, 〈DP, VP〉, 〈DP, V〉, 〈T', D〉, 〈T', NP〉,〈T', N〉, 〈T, V〉 }

b. d(A) = { 〈D, N〉, 〈D, T〉, 〈N, T〉, 〈D, V〉, 〈N, V〉, 〈T, D〉, 〈T, N〉,〈V, D〉, 〈V, N〉, 〈T, V〉 }

The result is that the subject DP in [Spec,TP] asymmetrically c-commands the material dominated by T' and T' asymmetrically c-commands the material dominated by the subject DP in [Spec,TP]. This results in a linear ordering that violates antisymmetry, as shown in the d(A) in(8)b. The d(A) in (8)b contains, for instance, both the statements 〈T, D〉 and 〈D,T〉, which violates antisymmetry. To solve this situation, Kayne proposed a modification of c-command, complicating the definition by distinguishing between categories and segments. Kayne restricts c-command to categories; a segment cannot enter into a c-command relation. Kaynean c-command

revealed that α c-commands β iff α and β are categories and α excludes β and every category that dominates α dominates β.The structure of Kayne c-command is given in (9).

(9)



a. A = { 〈D, N〉, 〈DP, T〉, 〈DP, VP〉, 〈DP, V〉, 〈T, V〉 }

b. d(A) = { 〈D, N〉, 〈D, T〉, 〈N, T〉, 〈D, V〉, 〈N, V〉,
〈T, V〉 }

This linearization in (9) is total, antisymmetric and transitive. This modification allows Kayne to ensure that the linearizations of subjects and adjoined phrases are LCA-complaint.

However, the problem is that Kayne's LCA do not allow multidominance. Since the purpose of my thesis is to approach multidominance, I have to investigate the solving way of that problem. There are four ways to resolve this issue of linearizing multidominant structures as the following sentences.

(10) a. Abandon multidominance since it violates the LCA.

b. Abandon the LCA sice it violates the LCA.

c. Modify multidominance structures to make them compatible with the LCA.

d. Modify the LCA to multidominance compatible with it.

Among them, Johnson (2007) modified the LCA to multidominance compatible with it. Johnson firstly discussed about the specific parts of Kayne's LCA. As Kayne's LCA, the LCA is the precedence relation and the specifier c-command out of their phrases. In 2007 and 2009, Johnson pointed out that there are many neutral ideas in Kayne's LCA. But, he did not tried to solve this facts and just tried to modify the LCA to multidominance compatible with it.

First of all, he proposed to maintain the relationship between asymmetric c-command and linear. And, he argued Kayne's proposing that the LCA is the precedence relation and he also did not accept Kayne's c-command. John's modification is that 〈α, β〉 is no longer taken to map onto α < β, but 〈α, β〉 = α < β or β < α. The comparition of these two modification is shown as the following table (11).

(11) Kayne's LCA vs John's modification [cf; Temmerman]

constituency	asymmetric c-command	precedence among terminals (Kayne 1994)	precedence among terminals (Johnson 2007)
$[^{X}\ c\ [^{Z}\ d\ e]]$	⟨c,d⟩, ⟨c,e⟩	d<e, c<d, c<e	d><e, c><d, c><e
$[^{Y}\ b\ [^{X}\ c\ [^{Z}\ d\ e]]]$	⟨c,d⟩, ⟨c,e⟩, ⟨b,c⟩, ⟨b,d⟩, ⟨b,e⟩, ⟨b,Z⟩	d<e, c<d, c<e, b<c, b<d, b<e	d><e, c><d, c><e, b><c, b><d, b><e
$[^{W}a\ [^{Y}\ b\ [^{X}\ c\ [^{Z}\ d\ e]]]]$	⟨c,d⟩, ⟨c,e⟩, ⟨b,c⟩, ⟨b,d⟩, ⟨b,e⟩, ⟨b,Z⟩, ⟨a,b⟩, ⟨a,c⟩, ⟨a,d⟩, ⟨a,e⟩, ⟨a, X⟩, ⟨a, Z⟩	d<e, c<d, c<e, b<c, b<d, b<e, a<b, a<c, a<d, a<e	d><e, c><d, c><e, b><c, b><d, b><e, a><b, a><c, a><d, a><e

In John's modification, we can see that it produces plenteous ordering statements in the scheme and so, probably can violate "well-formedness" condition. John proposed his modification allows the tolerance and it can produce a total and constituent linear order. And he stated that the order pairs need to be disambiguated. He also proposed about Kayne's well-formedness conditions that hold the order pairs. In actual, well-formedness conditions are specific requirements that are transformed according to each language. Language determines the position of head(verb) to be right or to be left. John advised Kayne's LCA that creating a total and constituent linearization by adjusting the coditions with specific requirements is

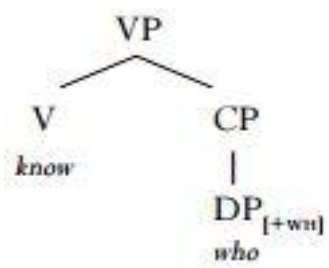
much better that negelecting the traditional linearization method which is based on well-formedness conditions. In conclusion, John's proposal that suggest to avoid being ambigous and to correspond with specific requirements is really compitable to other proposals in the literature.

2.4 Ellipsis

There is no doubt that there are many multidominant structures that are not elliptical. However, ellipsis is also a part of multidominant structure and so, I will approach to ellipsis in this section. This section here will mainly discuss about three approaches to ellipsis. They are non-structural approach, structural approach (null-form) and structural approach (PF-deletion). Non-structural approach is that unpronounced element is taken to be absent by syntactically. It assumes that syntax matches with phonology. Non-structural approach will be described with examples in the following.

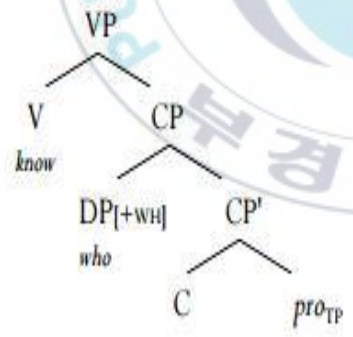
(12) I don't know who is missing.

Non-structural approach



The verb phrase “is missing” is unpronounced but it applies the desired meaning. That is, the ellipsis sites are interpreted at PF although they are phonetically empty. According to multidominance, the node of verb “know” dominates only the DP “who”. On the other hand, structural approaches (null form & PF deletion) take an ellipsis site to contain unpronounced syntactic structure. In the structural approach (null-form), the gap in an elliptical sentence is an empty structureless category. We can clearly see the null-form as shown in the diagram (13).

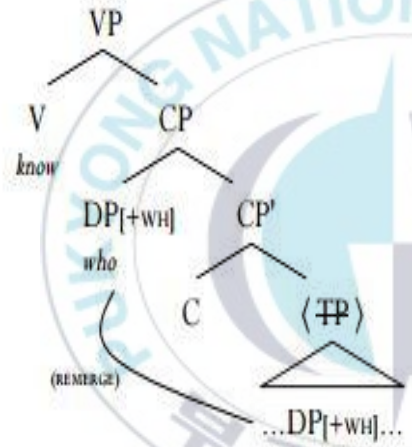
(13) Structural approach; null-form [cf; Temmerman]



The null proform TP is merged as a part of CP’ and the specifier of which is dominated by the base-generated Wh-phrases. A second structural approach (PF-deletion), takes the elided material to be completely at the syntactic level. That is, ellipsis targets a full syntactic

structure. The phonological componnent is instructed by deleting unpronounced part of it at PF interface. This process means that the verb "know" selects a fully-fledged complement CP and the top complement of CP is deleted at PF as shown in (14).

(14) Structural approach; Pf-deletion [cf; Temmerman]



After approching ellipsis to multidominance, I will put an end this section. This section is also a final one of this chapter. I hope that this chapter give the basic theories of multidominance. In the next chapter, I will study the another ideas of multidominance from the papers of Johnson (2010) and Sato (2016).

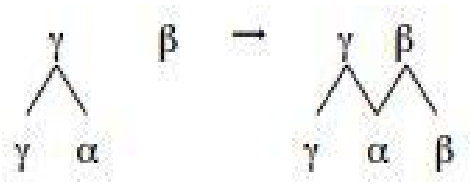
3. Theories of Multidominance

3.1 Parallel Merge

In the previous section, I described the basic theories that pushed to be multidominant construction. So, I will study how multidominant construction is generated in this section before studying of Johnson and Sato's papers.

By combing the properties of External Merge and Internal Merge, Citko (2005) proposes the third type which is called parallel merge. Citko (2015, 2011a) argue that the existence of External and Internal Merge predicts the existence of the Parallel Merge. De Vies (2002, 2007, 2009) notes that if "familiar" Internal Merge is allowed, but the more "unconventional" Parallel Merge is to be exclude, specific additional conditions would have to be formulated. Van Riemsdjik (2006) argues that if we allowed remerge, the application of Parallel Merge can only be excluded by stipulation. Therefore, we expect Parallel Merge to exist in natural languages. Parallel Merge is illustrated as in (15):

(15) Parallel Merge [Citko 2005:476]



α remerges with γ to form γ and at the same time, α remerges with β to form another one β. In other word, α is co-managed by γ and β. This structure is called Multidominance because a single node has two mothers.

3.2 Wh-movement and QR

As I stated before, I will study the paper of Johnson (2010) to get some ideas how mutidominance appears. In the paper of him, Johnson analyzed the deriving differences of Wh-movement and QR are pronounced. I will mainly focus on the ideas of multidominance from his paper. Through this study, we can interestingly study the differences between Wh-movement and QR.

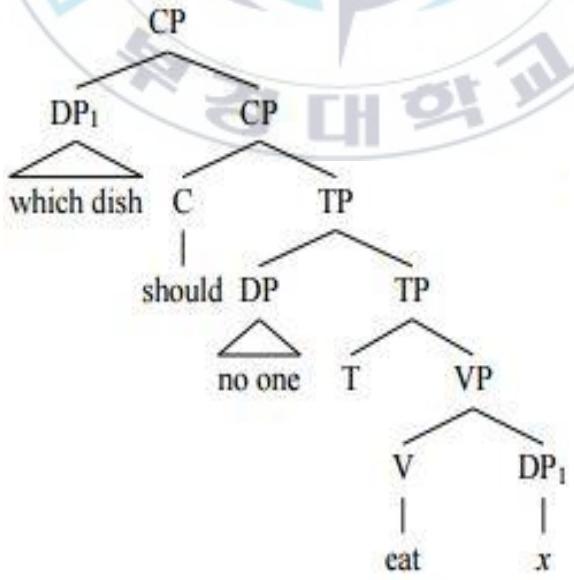
Johnson states that wh-movemet oftentimes has the effect of letting the phrase moved be spoken in a higher position than where it originates in English. This position seems to get mapped onto a portion of the resulting string that is to the left of the original position. For QR, Johnson stated that it tends to require the phrase that is moved to be spoken in the position it is moved from. And, he said when there is material that is spoken in the higher position, that material gets mapped onto a portion of the resulting string that is to the right of the lower position. He attempt to explain these differences. His explanation comes from taking the movement operation to be remerge (giving rise to multidominant phrase markers)

and letting determiners spread across distant syntactic positions but get mapped onto one word. Johnson explained and pointed out theses differences with each example in the following.

[Which dish] should no one eat [whish dish] ?

By this sentence, we can easily know which dish is the object of the sentence. As the formula of being object behind the verb, the object “whish dish” exists behind the verb “eat”. However, the phrase “which dish” is unpronounced in the object position. A relationship between “whish dish” and the object position is established by creating a silent variable in the object position and forcing “which dish” to bind it. The moved phrase is pronounced in the binder position and the variable is silent. Johnson cleary stated it with the illustration.

(16)

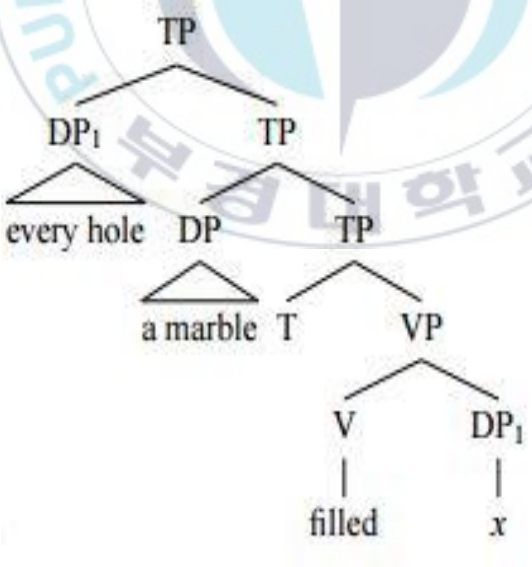


And Johnson explained the case of QR by the following example.

(17) A marble filled every hole.
Every hole has each marble.

By the case of QR, it does not mean only a marble like the sentence. It should be interpreted that every hole has filled with many marbles by the nature of quantifier rasing. Johnson explained it with the illustration, too.

(18)



By this illustration, the denotation assciated with every hole is applied at a position different than its spoken position. Where it is spoken is understood to be a variable bound by every hole. The moved phrase is spoken in the position of the variable and the binder position is unspoken. Accordingly, Johnson pointed out the deriving differences in how wh-movement and QR are pronounced.

They are;

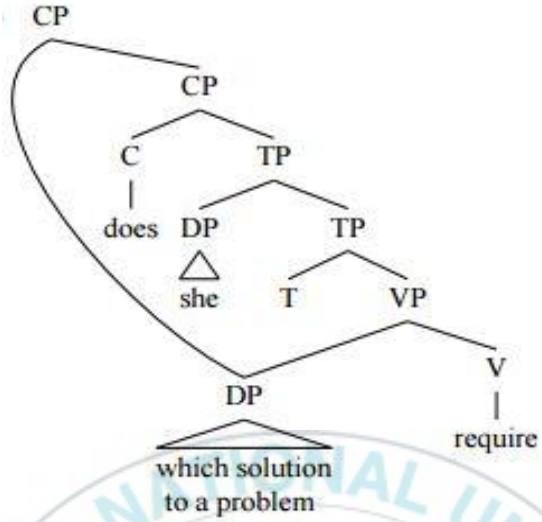
a. A Wh moved phrase is pronounced in its higher position, but a QR'd phrase is pronounced in its lower position.

b. Material in the higher position of Wh moved phrase is linearized to the left of the other position. Material in the higher position of a QR'd phrase is linearized to the right of the lower position (if it is linearized at all).

c. QR'd material must be semantically interpreted where it is spoken, but Wh moved material is able to be semantically interpreted in only its unspoken position.

Afterwards, Johnson described about multidominance. he show remerge and linearization in multidominance. I will study it with the diagram as shown in (19).

(19)



The linearization algorithm evaluates the moved phrase how to moved and originates in its positions. If the linearization algorithm does with the contents of objects and the verbs they are object of, “solution” will follow “require”. If the linearization algorithm does with the material in phrases that accupy the specifier of CP and everything else in that CP, “solution” will precede “require”. However, there is a condition that the process of linearization would produce a violation of antisymmetry. So, it needs to find out the ways to avoid this violation. There are may ways to avoid the violation of antisymmetry according to Nune’s method of deriving Terseness. The linearization algorithm evaluates the lexical items in a moved phrase so that they emerge in at least one of their positions. This is called “Terseness”. Adopting a remerge interpretation of movement explains Nune’s

Terseness stipulation that copies are indistinguishable and at the same to invoke a deletion process to produce well-formed linearizations. If the lionearization process is allowed, we can expect the linearization like (20) and (21).

(20) a. which to does she require solution a problem.
b. to she require which solution a problem.

(21) Contiguity
Let δ be all the lexical items in the phrase D. Contiguity holds for Diff for every α that is not in δ, α precedes everything in δ or α follows everything in δ.

3.3 The Copy Theory in Multidominance

In the previous section, I generally studied Johnson's paper and mainly focus the movement that is a main part of multidominance. And in this section, I will study Sato's (2016) paper and focus on the copy theory that is also an important part in multidominance. In this paper, Sato analyzed the advantages and disadvantages of the copy

theory. The copy theory is the operation that has the "reconstruction" effects. And, a movement also involves in the copy theory. Sato firstly discussed about advantages with examples and I will describe them in order.

I(22) a. Which picture of himself did John like?

b. Which picture of himself did John like which picture of himself?

In (22a), the anaphor contained in the moved wh-phrase satisfies the condition A of the Binding Theory. In (b), the copy of the moved wh-phrase is retained in its original site, in which the anaphor is correctly bound by its antecedent.

(23) a. Someone from his class seems to every professor to be a genius.

b. Someone from his class seems to every professor, to someone from his class be a genius.

In (23a), the pronoun contained in the raised subject is interpreted as a bound variable. In (b), th copy of the raised subject resides in

its original position, where the pronoun is bound by the quantifier phrase, and the expected bound-variable reading is accounted for.

After describing the advantages with above two examples, Sato discussed about disadvantages of the copy theory. Firstly, it suffers from a number of problems with PF-interpretation. It is explained in the following example (24).

(24) a. The man was killed the man.
b. The man was killed the man.

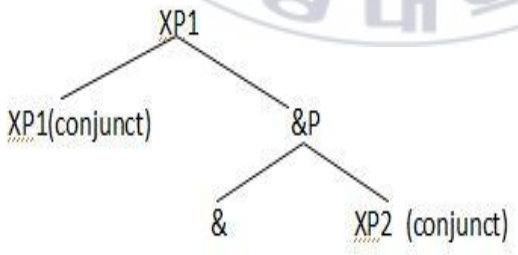
The sentence as shown in (a) is constructed with the spell-out structure. And, it is linearized at PF by the LCA. All the lexical items constituting a sentence must be ordered without contradiction. But the problem is that the structure of sentence (a) violates the LCA since either of the two identical copies "the man" precedes and follows "was". So, a way to avoid this contradiction and to correctly account for the ordering fact is to delete the lower copy as show in (b). Another disadvantage is that any feature determination of copy-realization is unstainable. In this way, Sato reveal the advatages and disadvantages of the copy theory. And in the next chapter, I will start my investigation about multidominance in Burmese.

4. Multidominance in Burmese

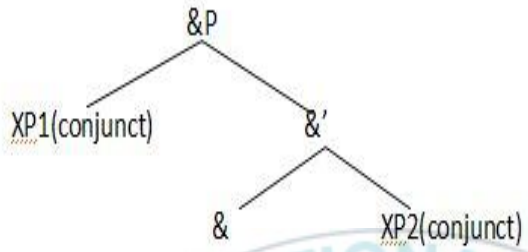
4.1 Coordination Structure

Before constructing multidominance of Burmese, I want to describe coordination structure that will support to built multidominant construction. In 1992 and 1993, Munn built a coordination structure with complement and specifier for the conjunction sentences. In 1998, Johannessen created a new coordination structure with complement and adjunct. They are shown in (25) and (26).

(25) Munn (1992, 1993)



(26) Johannessen (1998)



The difference between (25) and (26) lies in the first conjunction, XP1 and & P. Specifically, In the structure of Munn (1992, 1993), & merges with XP2 to form &P and then proposes a structure in which &P supplements to XP1. On the other hand, Johannessen (1998) and Zoerner (1999) propose that & merges with XP2 as a complement and & merges with XP1 as a specifier to form &P.

In point of involving coordination structure in gapping construction, we can use those constructions to built gapping. However, the coordination structure of Johannessen is more suitable in gapping system than Munn's structure. In the next section, I will also describe the deletion and ATB_movement analysis that helps to get an idea of constructing multidominance.

4.2 The analysis of deletion and ATB movement

For the deletion analysis, Ross (1986), Sag (1976), and Coppock (2001) suggest that the verb phrase omitted in the sentence is deleted under an environment that can be recoverable by other verb phrases as shown in (27);

(27) a. John [loves] Mary, and Paul [loves] Jane
b. John [loves] Mary, and Paul [loves] Jane

(28) a. John [loves] Mary, and we [love] Jane.
b. *John [speaks] in English, and Paul [speaks] in the class.

In (28a), ellipsis is allowed although the omitted element [love] is different from the element [loves] of the preceding statement according to the morphological identity. On the other hand, in (28b), ellipsis is not allowed though the element [speaks] is morphologically equivalent to the preceding element. To solve this problem of identity condition, Jayaseelan (1990) and Lasnik (1995, 1999) analyzed the VP-ellipsis in a way to delete VP by moving the rest of the elements out of VP except V as shown in (29);

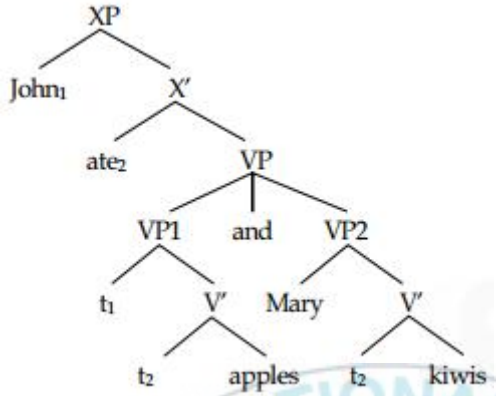
(29) a. John ate apples, and Mary [VP ate kiwis].

b. John ate apples, and Mary kiwis1 [VP ate t1]

In (29), the object 'kiwis' has moved out of the VP and the VP of the second statement has been deleted. This analysis includes some problems to be solved. It is difficult to specify the cause of movement of element 'kiwis' in the VP internal. In other words, it implies the theoretical burden of assuming that the object moves out of the VP even in all English sentences that are not coordinating construction.

While the above analysis of deletion is that V or VP is omitted under the condition of equality, Johnson (2004, 2009a), López & Winkler (2003) and Agbayani & Zoerner (2004) offered an analysis of movement by using the theory of ATB movement as shown in (30). ATB movement is possible if the verbs inside the two conjuncts assign identical cases to the moved element.

(30)



In (30), we can see the movement analysis where the verb 'ate,' respectively present in VP1 and VP2, moves to one location, X. This analysis suggests that the two complementary elements (i.e, two verbs) are reduced to a single lexical element through movement in the derivation process. In this way, we studied the useful assumptions and I will start my investigation of Burmese in the next section.

4.3 Gapping

When the two sentences are joined with one conjunction and the predications of these two sentences are same, we can omit the head (verb) of one sentence and this is called "gapping". It is shown in (31).

(31) a. John likes funny movies and Marry likes horror movies.

b. John likes funny movies and Marry horror movies.

As we see, the verb in the second sentence is omitted in the head-initial language like English. But, the verb in the first sentence has to be omitted in the head-final language like Burmese as shown in (32).

(32) a. John-ga {VP [NP hathaca-go] kyike te} pi tot Marry-ga
SUB-NOM OBJ -NOM VP CONJ SUB-NOM
{VP [NP thayega-go] kyike te}
OBJ _NOM VP

b. John funny movies and Marry horror movies likes.

And we have to notice that the remaining elements in the sentence in which omission occurs is called remnants and the remaining elements are not only noun phrases, but also adverbs, prepositions, etc as shown in (32) and (33);

(32) a. I saw him on Saturday and Bill saw him on Sunday.

b. I saw him on Saturday and Bill on Sunday.

(33) a. nga sanay-hmr {VP [NP thu-go] myin te} pi tot

SUB NP -PREP OBJ-NOM VP CONJ

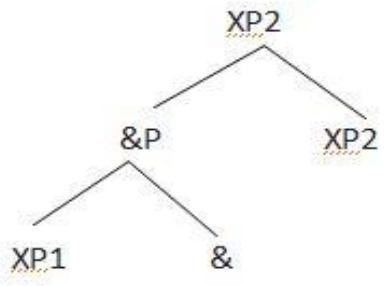
nga taniganway-hmr {VP [NP thu-go] myin te}

SUB NP -PREP OBJ-NOM VP

b. I saw him on Saturday and BilL on Sunday saw him.

I described the phenomenon of Burmese gapping by the way if comparing with English. Now, I will start to draw a multidominant tree diagram for Burmese gapping. As metioned earlier in the section (4.1), we have to use the coordination structure for constructing multidominance. But, the structure in that section only account in English. So, Johannessen (1998) and Zoerner (1999) propose the following structure to explain the structure of head-final languages such as Korean and Japanese. But I will follow it to explain Burmese, another the head-finial language. This coordination structure is shown in (34).

(34) Johannessen (1998) and Zoerner (1999)



And, there is a new additional equivalence structure applicable to Burmese, which is head-final languages. In 1998, Saito & Fukui proposed adjunction directionality parameter based on the head parameter as shown in (35).

(35) Directionality of adjunction

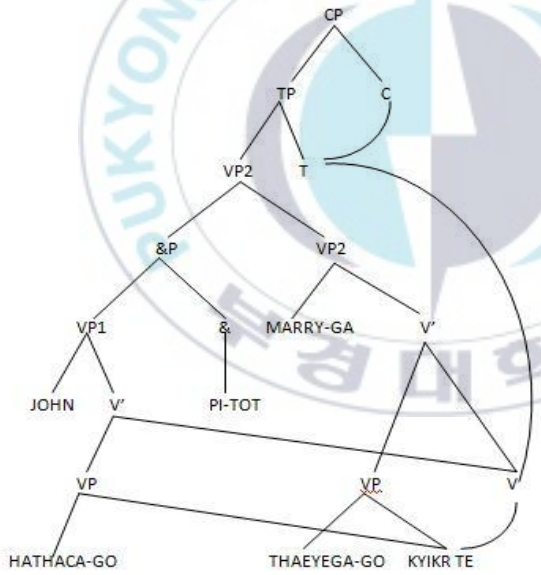
Adjunction always takes place to the side opposite from the head.

(Saito & Fukui 1998: 446).

By following to (35), we can know that the head-initial language is to the right and the head-final language to the left. If we apply this to the structure (34) proposed by Johannessen (1998) and Zoerner

(1999), the equivalent structure of Burmese can be expressed as (36).

(36) John-ga {VP [NP hathaca-go] kyike te} pi tot Marry-ga
SUB-NOM OBJ -NOM VP CONJ SUB-NOM
{VP [NP thayega-go] kyike te}
OBJ _NOM VP
John funny movies and Marry horror movies likes.



The structure of (36) proposed in this study has some theoretical advantages for Burmese gapping system. Firstly, in the ATB

movement analysis, it is supposed that each verb moves to the same position in the derivation process and decreases to one lexical element. Secondly, It has the advantage of maintaining a hierarchical subcategorizational relationship. For example, in (36), T takes vP as a complement rather than &P, which implies &P as a characteristic of the equality syntax, but maintains a universal subcategorizational relationship between the functional categories by forming an additional structure. From the same point of view, it is possible to solve the problem of subcategorization of the nominal DP. Finally, It can be seen that not only V 'like' but also v is shared by two connection statements. These assumptions also give the phenomenon of voice coincidence between the nodes.

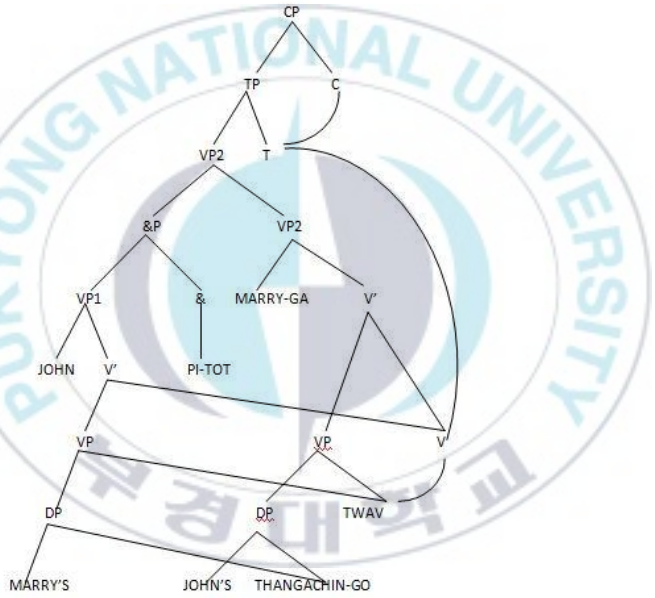
And there is also an interesting condition in Burmese gapping system. According to the left branch condition of Ross (1986), the left branch element of noun phrase NP can not be moved. But, it is not maintained in Burmese gapping construction. as shown in (37).

(37) John-ka Marry-yae thangachin-go twave te pi tot Marry-ka
SUB-NOM SBJ -GEN OBJ -NOM VP CONJ SUB-NOM
John-yae thangachin-go twave te.
SUB -GEN OBJ -NOM VP
John meets Marry's friend and Marry meets John's friend.

As shown in (37), the ellipsis appeared in the first conjunct of the sentence. It assumes that the left branch element needs to move or to

be omitted. But all these assumptions seem to be impossible. This is because the remaining noun phrase ‘Marry’ can not constituent in the structure [DP [NP friend] D−]]. Applying only multidominance analysis can solve this problem. It is shown in the following tree diagram (38).

(38)



In the structure, the left branch element 'Marry’s' seems to be separated from the noun phrase 'friend', but it can be seen that the syntactic effect such as movement or deletion did not actually occur. That is, the shared element 'friend' is only written in the second conjunct VP2 (Wilder (1999, 2008), Chung (2004). In a multidominant

structure, a shared element is a component that creates two or more bodies, so characterization must be realized only in one place. Specifically, I will investigate why the shared element 'friend' should be written only in the second conjunct VP2. If the shared element 'friend' is written in the first conjunct VP1, we can assume the same order as (39).

(39) a. Marry's 〈 friend
b. John's 〈 friend
c. friend 〈 John's

As shown in (39a and b), the shared element 'brother' traces the left branch element 'Mary's / John's' in word order. However, if the shared element is written in the first conjunct VP1, a word order of (39c) can be made. In other words, it means that the shared element 'friend' in VP1 is preceded by the left branch element 'John' of VP2, so that (39b and c) cause a contradiction in word order. On the other hand, when the shared element 'friend' is stringed in VP2, it is always possible to conclude the order of (39a and b). In the next section, I will discuss the P(reposition)-stranding. Actually, it also occurs in the gapping system.

4.4 P(reposition) Stranding

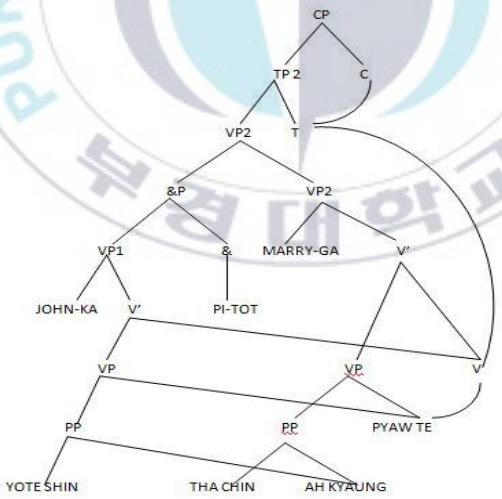
The preposition class in English is mostly the same as that in Burmese. In many languages like Burmese, Urdu, Turkish, Hindi and Japanese, the words with this grammatical function come after, not before, the complement. Such words are then commonly called postpositions. Interestlingly, Burmese can form gapping construction by omitting not only the verb but also the postposition and case marker in the first sentence. Among the preposition, I will give the examples with two prepositions,"about" and "to".

(40) John-ga yote shin-ah kyaung pyaw te pi tot Marry-ka
SUB-NOM OBJ -PREP VP CONJ OBJ -NOM
thachin-ah kyaung pyaw te.
OBJ-PREP VP
John talked about movie and Marry talked about song.

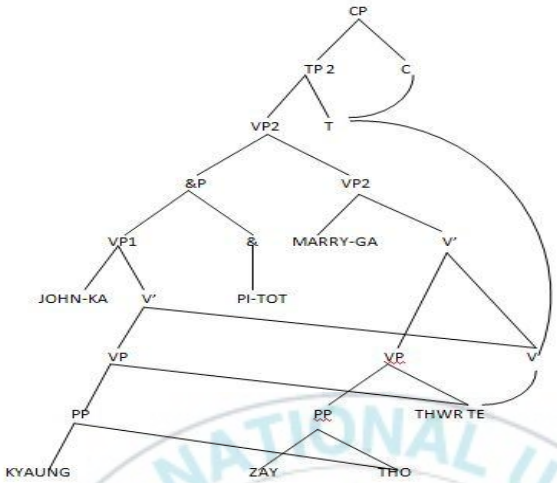
(42) John-ga kyaung-tho thwr te pi tot Marry-ka
SUB-NOM PLACE-PREP VP CONJ SUB-NOM
zay-tho thwr te
PLACE-PREP VP
John go to the school and Marry go to the Market.

As we see, we can omit not only verb phrase but also preposition of first sentence. The verb and preposition of the second sentence dominate the first sentence and apply the desire meaning. That is, the noun phrase remained and the verb phrase and the postposition is omitted. The condition that the noun phrase can be incorporated with the conjunction “and”. The interesting one is that the noun phrases omitted from the postposition must be adjacent to the conjunction 'and'. That multidominant structures of those above two examples are drawn in the following.

(40)



(41)



4.5 Left Node Raising

In fact, left node raising is a convert form of right node raising. So, I want to discussed about right node raising firstly. In linguistics, right node raising (RNR) denotes a sharing mechanism that sees the material to the immediate right of parallel structures being in some sense "shared" by those parallel structures. That is, if the target of the two sentences with conjunction is same although the action or quality of verb is different, we can omit the part of the left second sentence and is dominated by the right sentence. Actually, it is a phenomenon of ellipsis and also a coordination structure. It is shown with some examples in the following.

(42) John prepares the food and Marry eats the food.

John prepares and Marry eats the food.

(43) John likes apple and Marry dislikes apple.

John likes and Marry dislikes apple.

In the same way, we can omit one of the targets if the targets are same in the two sentence with conjunction in Burmese. But the problem is that the ellipsis condition occurs in the second (right) sentence and the node raising appears in the left branch. So, we should call it " left node raising" instead of right node raising. It just changes the position. But, the interesting one is that there is a condition in which the target "DP or NP" is moved to the initial of the two sentences. The examples of Burmese left node raising are shown in the following.

(44) John-ga asarasa-go pyin te pi tot Marry-ga

Sub-NOM OBJ-NOM VP CONJ SUB-NOM

asarasa-go sar te.

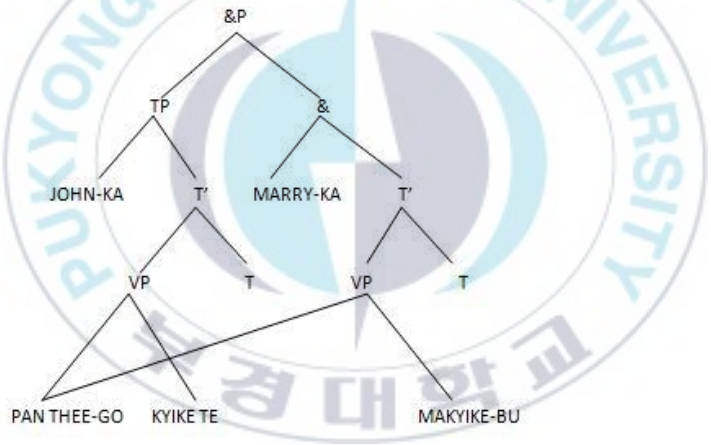
OBJ -NOM VP

John prepares the food and Marry eats.

(45) pan thee−go John−ga kyike te pi tot Marry−ga
OBJ−NOM SUB−NOM VP CONJ SUB−NOM
makyike bu
VP
Apple, John like and Marry dislikes.

After introducing of the phenomenon of Burmese left node raising, I will analyzed multidominance of LNR in Burmese as shown in (46).

(46)



In this structure, the NP is dominated by two verb phrase. And, we can see that the two sentences are asymmetrically connected via the conjunction “&”. TP1 c−commands TP2 and everything dominated by TP1 precedes everything dominated by TP2 according to LCA.

5. Conclusion

I will conclude my thesis here. While I am writing my thesis, I know a lot of knowledges about multidominance and it was an interesting study.

As I introduced earlier, I first described the terms, External Merge and Internal Merge, in the Minimalist Program in Chomsky (1995). Then, discussed their alternative, which is the multidominant structure based on the parallel merge. Afterwards, I also discussed how multidominant structures can provide a solution of linearization in the cyclic Spell-Outs model of the grammar. And, I extended our attention to the PF-phenomenon of Ellipsis.

In doing so, the analysis of Copy Theory in Sato (2016) and movement effects are examined and replaced by the Multidominance Theory. For the movement effects, I pointed out the potential problems of the Multidominance Theory and provide a solution to the condition on linearization, by relying on Johnson (2016). I then discussed the coordination structure in Munn (1992, 1993), Johannessen (1998), and Zoerner (1999) and deletion with ATB movement in Ross (1986), Sag (1976), Coppock (2001), Johnson (2004, 2009a), Lo'pez & Winkler (2003), and Agabayani & Zoerner (2004). I futher apply the Multidomimance Theory to other constructions of Gapping, P(preposition)-stranding and left node raising in Burmese. I researched on the Burmese construction based

on the Multidominance analysis. I drew the Burmese multidominance tree diagram by self inspiration by following the formulas of other authors.

Accordingly, I think I have shown the unique characteristic of Burmese linguistics. Before analyzing Burmese multidominant construction, I described the authors' papers as the theorectical background of my thesis. So, I think my thesis not only can give new investigation but also can learn the basic assumptions of Multidominance. I think it can give a lot of help for beginners of second language. On the other hand, I belived my thesis can give a new taste everyone who has a fond of studying linguistics.

References

Chomsky, N. 1957. Syntactic structures. The Hague: Mouton.

Chomsky, N. 1993. A minimalist program for linguistic theory. In: K. Hale & S. Keyser (eds.), The view from Building 20. Cambridge, MA: MIT Press. 1-52.

Chomsky, N. 1995. *The Minimalist Program*. Cambridge, MA: MIT Press.

Chomsky, N. 1999. Derivation by phase. *MIT Occasional Papers in Linguistics* 18.

Chomsky, N. 2000. Minimalist Inquiries: The Framework. In: R. Martin, D.

Michaels & J. Uriagereka (eds.), Step by Step: Essays on Minimalist Syntax in honor of Howard Lasnik. Cambridge, MA: MIT Press. 89-155.

Chomsky, N. 2004. Beyond explanatory adequacy. In: A. Belletti (ed.), Structures and beyond: The cartography of syntactic structures, Vol. 3. Oxford: Oxford University Press. 104-131.

Chomsky, N. 2005. Three factors in language design. *Linguistic Inquiry* 36. 1-22.

Citko, B. 2005. On the Nature of Merge: External Merge, Internal Merge, and Parallel Merge. *Linguistic Inquiry* 36. 475-496.

Citko, B. 2011a. Multidominance. In: C. Boeckx (ed.), *Oxford Handbook of Linguistic Minimalism*. Oxford: Oxford University Press. 96-118.

Citko, B. 2011b. Symmetry in Syntax: Merge, Move, and Labels. Cambridge: Cambridge University Press.

Chizuru Nakao. 2010. Japanese Left Node Raising as ATB-scrambling, University of Maryland, cnakao@umd.edu.

Johnson, K. 2010a. Multidominance and movement. *Lectures presented at the Seoul International Conference on Generative Grammar*, Konkuk University,

Johnson, K. 2011a. Towards deriving differences in how Wh movement and QR are pronounced.

Jun-Han Kim, 2013. The multidominance analysis of korean gapping constructions, Hankuk University.

Johannessen, Janne. 1998. Coordination, Oxford University Press.

Kayne, R. 1994. *The antisymmetry of syntax*. Cambridge, MA: MIT Press.

Kayne, R. 1998. Overt vs. covert movement. *Syntax* 1.128-191.

Kayne, R. 2009. Antisymmetry and the Lexicon. *Linguistic Variation Yearbook* 2008. 1-32.

Munn, Alan. 1992. A null operator analysis of ATB gaps. *Linguistic Review* 9: 1-26.

Munn, Alan. 1993. Topics in the Syntax and Semantics of Coordinate Structures.

Doctoral dissertation.Munn, Alan. 1992. A null operator analysis of ATB gaps. *Linguistic Review* 9: 1-26.

Munn, Alan. 1993. Topics in the Syntax and Semantics of Coordinate Structures. Doctoral dissertation.

Ross, John. 1986. Infinite Syntax. Ablex Publishing.

Sag, Ivan. 1976. Deletion and logical form. Doctoral dissertation, MIT.

Sato, Hideshi. 2016. Multiple Dominance and the Copy Theory, International Regional Studies (JISRD).

Temmerman, Tanja. 2012. Multidominance, ellipsis, and quantifier scope.