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Thesis for the Degree of Master of Arts

An Analysis of
Myanmar Compound Nouns
and
The Right-hand Head Rule



by

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August 25, 2017



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Myanmar Compound Nouns
and
The Right-hand Head Rule
(미얀마어 복합 명사 및 우측 헤드 규칙 분석)

Advisor: Prof. John Stonham

by

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A thesis submitted in partial fulfillment of the requirements
for the degree of

Master of Arts

in Department of English Language and Literature,
The Graduate School,
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Acknowledgement

I would like to thank the many people who have contributed to this dissertation. First, I would like to thank to my advisor Professor John Stonham who has guided me and provided a lot of books to read. I would also like to thank the head of the committee, Professor Soonhyuck Park and the member of the committee, Professor Eunil Kim who have given me feedback to edit the dissertation.

Next, I would like to thank Professor Jaeyoung Shim , Department of English Linguistics, Pukyong National University, who has taught me and discussed the adjective in Korean, and Professor Ko Lay, Department of Myanmar, Busan University of Foreign Study, who has taught me and discussed Myanmar.

Then, I would like to thank the president of Pukyong National University and the officials, who have given me the chance to study at PKNU; Seongwoo Lee, the assistant teacher in the office of the Department of English language and literature, who has helped me a lot, and my friends Jieun Gwak and Jinseon Lee who have helped me edit the abstract in Korean.

Finally, I would like to thank Venerable Ashin Pandicca, Head monk of Dhammayana Monastery, who has helped me to study in PKNU; Ngwe Kyi Myo Naing who has introduced me PKNU; Doctor Joong Keun Lee, Chairman of Woo Jung Education and Culture Foundation, who has given me financial support; my family and all the people who have encouraged me and made my life in Korea happy.

Table of contents

I.	Introduction	
	1.1 Purpose of Thesis	1
	1.2 Organization	2
II.	Theoretical Backgrounds	
	2.1 The Compound Noun in English	3
	2.2 The Right-hand Head Rule	8
	2.3 English Compound nouns and RHR	9
	2.4 The Noun in Myanmar	11
	2.5 Previous Studies	19
III.	Compound Nouns in Myanmar	22
	3.1. 'Noun and Noun' Compounding	23
	3.2. 'Noun and verb' compounding	29
	3.3. 'Noun and adjective' compounding	44
	3.4. 'Noun, verb and adjective' compounding	51
	3.5. 'Verb and noun' compounding	55
	3.6. 'Verb and verb' compounding	61
IV	Myanmar Compound Nouns and The Right-hand Head Rule	69
V.	Conclusion	74
	Reference	75

List of Tables

Table 1	Romanization of Myanmar Consonants	18
Table 2	Romanization of Myanmar Vowel Sounds	18
Table 3	The compound nouns which obey RHR	69
Table 4	The compound nouns which do not obey RHR	71
Table 5	The compound nouns which obey and which do not obey the RHR	71
Table 6	The exocentric compound nouns and RHR	72
Table 7	Myanmar Compound Nouns and RHR	72

List of Figures

Figure 1	Motor boat မော်တော်ဘုတ်	23
Figure 2	Mesa တောင်ကလပ်	24
Figure 3	Commodity price ဈေးနှုန်း	25
Figure 4	Home affair ပြည်ထဲရေး	26
Figure 5	Battle land စစ်မြေပြင်	26
Figure 5a	Battle land စစ်မြေပြင်	26
Figure 6	Gesture လက်ဟန်ခြေဟန်	28
Figure 7	Crop ကောက်ပဲသီးနှံ	28
Figure 8	Mixed number ကိန်းရော	30
Figure 9	Heated salt ဆားမီးဖုတ်	31
Figure 10	Hairdo with coiled hair round a comb ဘီးဆံပတ်	31
Figure 11	Aeroplane လေယာဉ်ပျံ	32
Figure 12	Fishing hook ငါးမျှားချိတ်	34
Figure 13	Pickpocket ခါးပိုက်နှိုက်	34
Figure 14	Beggar သူတောင်းစား	35
Figure 15	Essay စာစီစာကုံး	36
Figure 16	Television ရုပ်မြင်သံကြား	38
Figure 17	Own army ခါးပိုက်ဆောင်တပ်	38

Figure 18	Official language ရုံးသုံးဘာသာစကား	39
Figure 19	Printing house စာပုံနှိပ်တိုက်	40
Figure 20	Speaking contest စကားရည်လှပွဲ	41
Figure 21	Television device ရုပ်မြင်သံကြားစက်	42
Figure 22	Plenary meeting မျက်နှာစုံညီစည်းဝေးပွဲ	43
Figure 23	Jade ကျောက်စိမ်း	45
Figure 24	Dried gold shrimp ရွှေပုစွန်ခြောက်	48
Figure 25	Outstanding student လူရည်ချွန်	48
Figure 26	Hot spring ရေပူစမ်း	49
Figure 27	Rough black soap ဆင်ချေးတုံးဆပ်ပြာ	50
Figure 28	Hairdo ဆံရစ်ပိုင်း	51
Figure 29	Cold boiled water ရေကျက်အေး	52
Figure 30	Salad mix လက်သုတ်စုံ	53
Figure 31	Steamed rice cake မုန့်စိမ်းပေါင်း	54
Figure 32	Shredded ice snack ရေခဲခြစ်	54
Figure 33	Necklace ဆွဲကြိုး	56
Figure 34	Drinking water pot သောက်ရေအိုး	57
Figure 35	Election ရွေးကောက်ပွဲ	58
Figure 36	Track and field game ပြေးခုန်ပစ်ကစားပွဲ	58
Figure 37	Vest စွပ်ကျယ်အင်္ကျီ	61
Figure 38	Sore point ငယ်ကျိုးငယ်နာ	66

An Analysis of Myanmar Compound Nouns and The Right-hand Head Rule

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Abstract

Noun is the very basic category in the study of language and compounding is an important method to build more words in a language. Among compound words, the compound noun seems to be more productive than other compounds. After studying the compound nouns in English and their formations, I developed a desire to analyze the compound nouns in Myanmar, my native language.

This thesis analyzes the compound nouns in Myanmar in the order of their formation patterns, the hierarchical order among compounding members when compounding, and whether they obey the Right-hand Head Rule. While I was analyzing it, I noticed a lot of differences between English and Myanmar, exceptional cases and very interesting combination patterns of the Myanmar compound nouns.

There are six different ways to form the Myanmar compound nouns in general. There are from at least two compound members to five compound members in the Myanmar compound nouns. These compound members may be the same parts of speech or the different parts of speech of noun, adjective and verb. There are totally 24 different patterns as the number of compound members and the combination order are different. The interesting point is that the combination pattern of 'noun and adjective', and 'verb and verb' can become compound nouns in Myanmar.

The compound nouns which obey the Right-hand Head Rule is quite more than those which do not obey RHR in Myanmar.

I hope this thesis helps those who want to know about the Myanmar language and those who want to do more on the Myanmar compound nouns.

미얀마어 복합 명사 및 우측 헤드 규칙 분석

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초록

명사는 언어 학습의 가장 기본 단계이며 명사를 활용한 합성어는 언어 표현에서의 다양성을 높이는 중요한 방법 중 하나이다. 합성어 중 복합명사는 다른 합성어들보다 빈도수와 활용도가 높다고 생각된다. 영어의 복합명사와 그 유형을 연구한 후, 모국어인 미얀마어의 복합 명사를 분석하고자 한다.

본 논문은 미얀마어의 복합명사를 조합 유형별로 분석하고, 그들이 복합물의 계층적 순서와 우측 헤드 규칙을 따르는지 여부를 파악한다. 분석을 통하여 영어와 미얀마어 사이의 많은 차이점과 미얀마어만의 독특한 조합 유형을 발견할 수 있었다.

일반적으로 미얀마어의 복합명사를 구성하는 품사의 조합은 6 가지이며 구성 요소는 최소 2 개부터 최대 5 개이다. 이러한 복합명사들은 동일 품사로 이루어진 복합명사와 각각 다른 품사로 이루어진 복합명사로 다시 나뉠 수 있으며 구성 요소들의 순서를 달리 함으로써 총 24 가지의 패턴을 가진다. 흥미로운 점은 명사와 형용사, 동사와 동사의 조합 패턴이 미얀마 언어의 복합 명사가 될 수 있다는 것이다.

미얀마 언어에서 우측 헤드 규칙에 따르는 복합명사는 그 규칙을 따르지 않는 명사보다 훨씬 많다. 미얀마 복합명사의 유형별 분석을 통하여 본 논문이 미얀마 언어의 학습, 특히 미얀마어 복합명사의 학습에 도움이 되리라 기대한다.

I. Introduction

1.1. Purpose of Thesis

The purpose of this thesis is to analyze the compound noun in Myanmar and whether it obeys the Right-hand Head Rule.

Specifically, I analyze the compound nouns in Myanmar in the order of their formation patterns, the modifying pattern among compounding members in hierarchical order, and whether they obey the Right-hand Head Rule in this thesis.

I introduce the Myanmar language and its parts of speech in the theoretical background part as it is a bit different from English.

I will first present the denotation of compound nouns in Myanmar as it is quite different from English compound nouns. Next, I will present the formations of Myanmar compound nouns and their hierarchical relationship of compounding members. Then I analyze whether these patterns follow the Right-hand Head Rule. While I was analyzing it, I noticed a lot of differences between English and Myanmar compound nouns, exceptional cases, and very interesting combination patterns of Myanmar compound nouns. I also know the characteristics of the Myanmar compound noun by doing so.

The compound nouns which obey the Right-hand Head Rule are quite a bit more than those which do not obey RHR in Myanmar.

I hope this thesis helps those who want to know about the Myanmar language and those who want to do more on the Myanmar compound noun.

1.2 Organization

I will explain the purpose of this thesis and how I organize the frame of it in the first chapter.

The second chapter presents the theoretical background of this thesis. The sub-chapters 'The Compound Noun in English, The Right-hand Head Rule, English Compound Nouns and RHR, The Noun in Myanmar, and Previous Studies' are in this chapter.

In the third chapter, I will present how Myanmar compound nouns are formed, what is the relationship among compounding members, head nouns, and their hierarchical order of combination. I discuss the character of the Myanmar compound noun at the end of this chapter.

Whether Myanmar compound nouns obey the Right-hand Head Rule is discussed in the fourth chapter.

Finally, I will conclude my thesis by summarizing the characteristics of Myanmar compound nouns and why most of Myanmar compound nouns obey the Right-hand Head Rule.

II. Theoretical Background

2.1 The Compound Noun in English

A compound noun is a noun that is made up of two or more words. Most compound nouns in English are formed by nouns. For example—

(2.1)

Saucepan	Sunrise	Output	Breakfast	Passer-by
Software	Influx	Checkout	Washing machine	Brother-in-law

The compound noun in English can be categorized in appearance and in structure.

The compound noun in English can be categorized in appearance in three ways¹⁾. They are—

1. Solid or closed compound noun
2. Open compound noun and
3. Hyphenated compound noun.

1. Solid or closed compound noun

A compound noun whose elements are solid (closed) or there is no space between elements are called solid compound noun. Some examples are—

(2.2)

Policeman	Rainfall	Greenhouse	Onlooker	Output
Bedroom	Haircut	Software	Bystander	Upturn

1) These three ways are in fact about the written representation. The phonological representation is the same for all three types.

2. Open compound noun

A compound noun whose elements are separated by a space or spaces is called open compound noun. Some examples are—

(2.3)

Tomato juice	Abstract noun	Swimming pool
Tractor driver	Adjacent angle	Driving lane

3. Hyphenated compound noun

A compound noun whose elements are separated by a hyphen or hyphens is called hyphenated compound noun. Some examples are—

(2.4)

Fade-in	Editor-in-chief	Go-between
Water-bottle	Commander-in-chief	Dry-cleaning

The compound noun in English can be categorized in structure in nine ways²⁾. They are—

1. 'Noun+Noun' compound noun
2. 'Adjective+Noun' compound noun
3. 'Verb(-ing)+Noun' compound noun
4. 'Preposition+Noun' compound noun
5. 'Noun+Verb(-ing)' compound noun
6. 'Noun+Preposition' compound noun
7. 'Noun+Prepositional phrase' compound noun
8. 'Verb+Preposition' compound noun and
9. 'Preposition+Verb' compound noun.

1. 'Noun+Noun' compound noun

This formation is very productive in English. Two nouns are combined to form a compound noun. It can be seen as closed

2) Some of these structures might be ambiguous, however I just categorized them as I will present the Myanmar compound nouns in this way.

compound noun, open compound noun and hyphenated compound noun. Some examples are—

(2.5)

Policeman	Tomato juice	Bell-bottoms
Bedroom	Tractor driver	Actor-manager

2. 'Adjective+Noun' compound noun

A noun is combined with an adjective and it becomes a compound noun. It can be seen as closed compound noun, open compound noun and hyphenated compound noun. Some examples are—

(2.6)

Software	Small talk	Big-head
Greenhouse	Abstract noun	broad-mindedness

3. 'Verb(-ing)+Noun' compound noun

A noun is combined with a verb or a verb(-ing)³⁾ and it becomes a compound noun. It can be seen as closed compound noun, open compound noun and hyphenated compound noun. Some examples are—

(2.7)

Grindstone	Washing machine	Cross-trainer
Breakfast	Swimming pool	Fall-pipe

4. 'Preposition+Noun' compound noun

A noun is combined with a preposition and it becomes a compound noun. This structure is not productive in English. It can be seen as closed compound noun and hyphenated compound noun. Some examples are—

3) Verb(-ing) is a noun suffix in English, so it may be in the formation of 'Noun+Noun' though I categorized them in the 'Verb(-ing)+Noun' group.

(2.8)

Afterbirth	After-effect	In-joke
Underground	Upstairs	By-law

5. 'Noun+Verb(-ing)' compound noun

A noun is combined with a verb or a verb(-ing) and it becomes a compound noun. This structure is not productive in English. It can be seen as closed compound noun, open compound noun and hyphenated compound noun. Some examples are—

(2.9)

Sunrise	Train spotting	Eye-rolling
Rainfall	Life-threatening	Ego-surfing

6. 'Noun+Preposition' compound noun

A noun is combined with a preposition and it becomes a compound noun. There are only few compound nouns in this structure. It can be seen as open compound noun and hyphenated compound noun. Some examples are—

(2.10)

Day off	Passer-by
Face-off	Hang-out

7. 'Noun+Prepositional phrase' compound noun

A noun is combined with a prepositional phrase and it becomes a compound noun⁴⁾. There are only few compound nouns in this structure. It can only be seen as hyphenated compound noun. Some examples are—

4) It may be in the formation of 'Noun+post-modifier' too. I just organized them in the appearance as my aim is not to analyze English compound nouns.

(2.11)

Father-in-law	Editor-in-chief	All-in-one
Brother-in-law	Commander-in-chief	Back-to-back

8. 'Verb+Preposition' compound noun

A verb is combined with a preposition and it becomes a compound noun. There are only few compound nouns in this structure. It can be seen as closed compound noun and hyphenated compound noun. Some examples are—

(2.12)

Checkout	Take-off
Drawback	Hang-out

9. 'Preposition+Verb' compound noun

A verb is combined with a preposition and it becomes a compound noun. However the order is different from the above one. There are only few compound nouns in this structure. It can be seen as closed compound noun and hyphenated compound noun. Some examples are—

(2.13)

Input	Upturn	Output
Intake	Overthrow	To-do

These 'Verb+Preposition' compound noun and 'Preposition+Verb' compound noun may be the conversion of 'verb to noun' in English. As the aim of my thesis is to analyze the Myanmar compound noun, I will not discuss whether they involve conversion⁵⁾.

5) 'Words may be formed without modifying the form of the input word that serves as the base. Thus, head can be a noun or verb. This is called conversion.' (Katamba and Stonham, 2006:56)

2.2. The Right-hand Head Rule

Compounding is an important method of word-building in English. A word which contains more than one root is called a compound word and it can occur elsewhere as an independent word. Compound word contains at least two bases that are both words, or at any rate, root morphemes.

For example:

(2.14)

- | | | |
|----|---|-------------------------------|
| a. | [tea] _N [pot] _N | [teapot] _N |
| | [week] _N [end] _N | [week-end] _N |
| b. | [hair] _N [[dress] _V -er] _N | [hairdresser] _N |
| | [kind] _{Adj} [[heart] _N -ed] _{Adj} | [kind-hearted] _{Adj} |

We can see that there are two ways to form compounds. The first one is that bare roots are combined to form compounds as in (2.14a), and the second one is that input bases contain elements in different orders are combined to form compounds as in (2.14b).

Most compounds in English have a head and it normally appears as the right-hand most constituent of the word and they will determine the lexical (sub)category of the words they create.

Edwin Williams proposed the Right-hand Head Rule as follows.

'In morphology we define the head of a morphologically complex word to be the right-hand member of that word' (Williams, 1981a:248).

The rule is supposed to be applicable to both derived words and compounds.

As the right-hand head rule is not universal, there are some languages where the head of a compound is normally on the left. Italian and French are examples of the left-hand head language.

In Italian, plural affix is added to the left-hand noun in a compound word. For example:

(2.15)

pesce [Nsg.,masc.]	cane [Nsg.,masc.]	pesci [Npl.,masc.]	cane [Nsg.,masc.]
fish	dog	fish(pl)	dog
		↓	
		pesci cane [Npl.,masc.]	
shark		sharks	

capo [Nsg.,masc.]	famiglia [Nsg.fem.]	capi [Npl.,masc.]	famiglia [Nsg.,fem.]
head	family	heads	family
		↓	
		capi famiglia [Npl.,masc.]	
head-of-family		heads-of-family	

French has left-headed compound nouns too. For example:

(2.16)

un chef d'atelier	des chefs d'atelier
foreman	foremen
une chemise de nuit	des chemises de nuit
nightdress	nightdresses
un bureau de change	des bureaux de change
exchange office	exchange offices
un billet de banque	des billets de banque
bank-note	bank-notes
un timbre-poste	des timbres-poste
postage-stamp	postage-stamps

2.3. English Compound Nouns and RHR

The compound noun in English consists of two or more lexemes, that are joined together, called compound members. The first compound member generally serves to modify and narrow the denotation of the second compound member. Since semantically the

second member is in the sense more important, it is referred to as the head of the compound and the modifying element is called the dependent. Therefore most compounds in English have a head and it normally appears as the right-hand most constituent of the word.

For example:

(2.17)

[lip] _N [stick] _N	[lipstick] _N
[green] _{Adj} [house] _N	[greenhouse] _N
[draw] _V [bridge] _N	[drawbridge] _N

In example (2.17), we can clearly see that the syntactic category of a compound noun is determined by the syntactic category of right-hand most root or morpheme.

However, the semantic head of the English compound nouns does not always obey the Right-hand Head Rule. The compound nouns in English can be categorized into three groups based on the semantic head. They are - Endocentric compound noun, Exocentric compound noun and Copulative compound noun.

Endocentric compound noun

If the semantic head is in the compound members of a compound noun, it is called endocentric compound noun. For example:

(2.18)

lipstick	greenhouse	notebook
----------	------------	----------

The semantic head of these nouns are stick, house and book which are in the compound nouns.

Exocentric compound noun

Not all compound nouns are of the head-dependent or endocentric type, sometimes the semantic head is outside the compound noun. This kind of compound noun is called exocentric compound noun. For example—

(2.19)

butterfingers

blockhead

turncoat

None of these compound members are semantic head in these compound nouns. The denotation of *butterfingers* is neither butter nor fingers, but a person who fails to hold a catch in cricket; the denotation of *blockhead* is neither a block nor a head but an idiot; and the denotation of *turncoat* is not a kind of coat but a traitor.

Copulative compound noun

Some compound nouns have more than one head whose compound members are coupled or conjoined. These compound nouns are called copulative compound nouns. For example—

(2.20)

girlfriend

maidservant

player-manager

From the syntactic point of view, the copulative compound nouns in the above example are headed. The rightmost noun is the head and they obey the Right-hand Head Rule. However, the elements in these compound nouns are of equal status from the semantic point of view. Neither compound element is regarded as the head that dominates the entire compound noun. Therefore copulative compound nouns are not semantically clear.

2.4. The Noun in Myanmar

There are approximately a hundred languages spoken in Myanmar. Among them, Burmese⁶⁾ is the official language and spoken by two thirds of the population.

6) The former name of Myanmar is Burma and the language is called Burmese by English people.

Burmese is a tonal, pitch-register, and syllable-timed language, largely monosyllabic and analytic language, with a 'subject-object-verb' word order.

Burmese is believed to be a Sino-Tibetan language belonging to the Southern Burmish branch of the Tibeto-Burman languages. The Burmese alphabet is ultimately descended from a Brahmic script, either Kadamba or Pallava.

It is the second most widely spoken among Sino-Tibetan languages, after the Sinitic Languages and the fifth of the Sino-Tibetan languages to develop a writing system, after Chinese, Pyu, Tibetan and Tangut.

There are 33 consonant letters in Myanmar. The last letter is in fact a vowel and is put as a consonant to represent the vowel sound in writing system. These 32 consonant letters represent 21 consonant sounds.

There are 7 basic symbol vowels and 3 tones in Myanmar. There are 50 vowel sounds by combining them; and there is schwa in Myanmar. So if schwa is counted as a vowel sound, there are 51 vowel sounds in Myanmar.

The syllable structure is 'C V C' where 'C' means consonant, 'V' means verb. The only consonants that can stand in the coda are glottal stop and nasalization. So, though it has the structure of 'C V C', there is no final consonant sound in Myanmar. The final consonant is just an effect on the vowel.

There are 9 parts of speech in Myanmar. They are –

1. Noun
2. Pronoun
3. Verb
4. Adjective
5. Adverb
6. Case Marker, Postposition and Verb affix

7. Conjunction
8. Particle and
9. Interjection.

Although there is adjective in the parts of speech in Myanmar, there is only adjectival verb in the lexemes like in Korean, and there is no pure adjective in Myanmar. However, there is a difference between the verb and the adjectival verb. A verb can modify a noun before or after it, but adjectival verb can modify after a noun, to form a compound noun in Myanmar. Here are an example of using adjectives as verbs.

(2.21)

/hta min:	go	sa:	thi/
meal	object marker	eat	verb affix
N		V	
I eat the meal.			
/pan: thi:	thi	cho	thi/
apple	subject marker	sweet	verb affix
N		Adj:	
The apple is sweet.			

The verb /sa: thi/ and /cho thi/ are used as the verbs in the above examples and they are verbs in the lexemes of Myanmar too.

In Myanmar, the noun is defined as all the names of the things which have life or non-life, and is a concrete object or non-concrete object. For example:

(2.22)

/maun hla./	/kjaun: tha:/	/lu/
Name	Student	Human
/ta rei' hsan/	/sa ou'/	/kjaun:/
Animal	Book	School
/ka:/	/mji' ta/	/tha' ti./

Car	Affection	Courage
<u>/a chi' /</u>	<u>/a moun:/</u>	<u>/khun a:/</u>
Love	Hate	Strength

The noun in Myanmar can be defined in two ways. They are the noun defined by meaning and the noun defined by structure.

The noun in Myanmar can be defined by meaning as follows.

1. The Proper Noun
2. The Common Noun
3. The Abstract Noun and
4. The Collective Noun

1. The Proper Noun

A noun which particularly describes a person, a place or a thing is called the proper noun in Myanmar. For example:
(2.23)

<u>/shwei da goun/</u> Shwedagon (Pagoda)	<u>/jan goun/</u> Yangon (City)	<u>/ei ja wa di/</u> Irrawaddy (River)
<u>/nga pa li/</u> Ngapali (Beach)	<u>/ma ha ban du: la./</u> (General) Mahabandoola	<u>/Ko Ko/</u> Name of a man

2. The Common Noun

A noun which represents all people, animals, places and things is called the common noun in Myanmar. For example:
(2.24)

<u>/sa ja/</u> Teacher	<u>/kjaun/</u> Cat	<u>/mjou./</u> City	<u>/mji'/</u> River	<u>/sa ou'/</u> Book
---------------------------	-----------------------	------------------------	------------------------	-------------------------

3. The Abstract Noun

A noun which has no concrete object, cannot be touched, cannot be seen and can only be known by thinking is called the abstract noun in Myanmar. For example:

(2.25)

/mji' ta/ Affection	/sei da na/ Goodwill	/tha' ti./ Courage
/aun mjin gjin:/ Success	/pjo shwin gjin:/ Happiness	/a moun:/ Hate

4. The Collective Noun

A noun which describes a group or an organization is called the collective noun in Myanmar. For example:

(2.26)

/ta' ma do/ Army	/lu du./ The people	/pa ri. bo ga/ Furniture
/kaun si/ Council	/a thin:/ Association	/a phwe./ Organization

The Noun in Myanmar defined by structures are:

1. The Pure Noun
2. The Adjectival Noun
3. The Verbal Noun and
4. The Compound Noun.

1. The Pure Noun

A noun which cannot be separated by meaning, is not compounded and is in the lexemes of Myanmar is called the pure noun. For example:

(2.27)

/lu/	/tha:/	/nga:/	/nei/
Human	Son	Fish	Sun
/hta min:/	/pjin nja/	/ga ju. na/	/thin nja/
Rice	Wisdom	Sympathy	Perception
/za ba:/	/tha din:/	/kje' thun/	/dou' kha./
Paddy	News	Onion	Suffering

2. The Adjectival Noun

A noun which is derived by adding a prefix or a suffix to an adjectival verb⁷⁾ or an adjective⁸⁾ is called the adjectival noun in Myanmar. For example:

(2.28)

/a kaun:/	/kaun: hmu./	/kaun: gjin:/
goodness	good deed	being good
/a hla./	/hla. gjin:/	/a pjo/
beauty	being beautiful	happiness

The noun affixes '/a/, /hmu./, /chin:/, /sa ja/, /phwe/, /che/ etc' can be attached to an adjective to become the noun in Myanmar. It is like attaching 'ki' 기, e.g. 'choh ki' 좋기 and '(u)m'(으)ㅁ, e.g. 'chu um' चुㅁ in Korean. The adjectival verbs /kaun:/ 'be good', /hla./ 'be beautiful' and /pjo/ 'be happy' are attached by the affixes /a/, /hmu./

7) There is no pure adjective and there is only adjectival verb in Myanmar like in Korean. Some Myanmar linguists argue that there is no adjectival verb and there is only verb in Myanmar. However I think them as adjectival verbs as the meaning of these verbs are strongly in the sense of adjective.

8) Here 'adjective' means the stem of the adjectival verb in Myanmar. For example: The adjectival verb /kaun: thi/ 'be good' is in the lexemes of Myanmar where /kaun:/ is the stem and /thi/ is the verb ending affix like in Korean: /choh ta/ 좋다 where /choh/ 좋 is the stem and /ta/ 다 is the verb ending affix.

and /chin:/ to form adjectival nouns /a kaun:/ 'goodness', /kaung: hmu./ 'good deed/', /kaung: gjin:/ 'being good', /a hla./ 'beauty', /hla. gjin:/ 'being beautiful' and /a pjo/ 'happiness' in the above example.

3. The Verbal Noun

A noun that is derived by adding a prefix or a suffix to a verb is called the verbal noun. For example:

(2.29)

/a mjın/	/ke. je. phwe/	/pjan kja: gie'/
Opinion	censure	Reply
/ti htwin hmu./	/khwin. pju. gjin:/	/pei: za ja/
Invention	Permission	Thing to give

The noun affixes /a/, /hmu./, /chin:/, /sa ja/, /phwe/, /che'/ etc' can be attached to the verb to become the noun in Myanmar. It is like attaching 'ki' 기, e.g. 'sal ki' 살기 and '(u)m' (으)ㅁ, e.g. 'salm' 살ㅁ, in Korean. These affixes can be attached to both adjective and verb as there is no pure adjective in the lexemes of Myanmar. The verbs /mjın/ 'to see', /ke. je./ 'to censure', /pjan kja:/ 'to reply', /ti htwin/ 'to invent', /khwin. pju./ 'to permit', and /pay/ 'to give' are attached by the noun affixes and become the verbal nouns.

4. The Compound Noun

A proper combination of noun, verb, pronoun, adjective or adverb without postposition, affix and conjunction is called the compound noun in Myanmar. For example:

(2.30)

/je ou:/	/ein haun:/	/mi: gji'/
Water pot	Old house	Lighter

water

The main difference between the Myanmar Compound Noun and the English Compound Noun is that there is no preposition and affix in the Myanmar compound noun although they are in the English compound noun.

Table 1. Romanization of Myanmar consonant

Consonant sound in Myanmar language																								
Myanmar Consonants	က	ခ	ဂ	ဃ	င	စ	ဆ	ဇ	ည	တ	ထ	ဒ	န	ပ	ဖ	ဗ	မ	ယ	ရ	လ	ဝ	သ	ဌ	
	k	kh	g	ng	s	hs	z	nj	t	ht	d	n	p	ph	b	m	j	l	w	th	h			

Table 2. Romanization of Myanmar vowel sounds

[illegible]

2.5. Previous Studies

There are only a few studies on the Myanmar compound noun. The earliest one might be '*Compound noun in Burmese*' by Dr. Katherine Forbes in 1967 which focused on phonological representation of the compound noun in Burmese (Myanmar). The aim of that paper is to present the 'open juncture and close juncture' or phonological changes of compound nouns. The others are – '*Phonology of Noun Sub-compounding in Burmese*' and '*Focus on Burmese Noun Compounding*' by Lee Min Kyung from Daegu University in 2013, which also discuss about phonological changes of Myanmar compound noun, and '*The Structure of Compound Noun in Burmese*' by Park Jang Shik which discusses about the formation of Myanmar compound noun in 1993. However, the discussion includes derivational noun and does not include hierarchical order.

As my aim is to analyze whether the Myanmar compound nouns obey the Right-hand Head Rule, I have read and studied some books and papers which analyzed some languages in the view of the Right-hand Head Rule.

Here are the quotes of some languages which are related to the Right-hand Head Rule.

'Italian is not unique in having compound nouns with heads on the left. French, too, has left-headed compound nouns_ _ _'
(Francis Katamba and John Stonham, *Morphology* (2006:328))

'The category-neutral evaluative suffixes of Italian and other Romance languages also pose a problem for the universal applicability of the RHR.' (Scalise 1988) (Geert Gooij, *The Grammar of Words* (2005:55))

'There is a certain amount of dispute in the literature on how to recognize a head element. The main paper on this topic is Williams (1981), where it is argued that, at least for English, this can be decided in the unmarked cases by the Right-hand Head Rule. This states that (other thing being equal) the head in an English word is the righthand element in that word. There is plenty of evidence that such a rule is not suitable across languages_ _ _ _ ' (Laurie Bauer, *Introducing Linguistic Morphology* (1999:139))

'It should be pointed out that the Right-hand Head Rule is not universal. As Lieber (1980) has noted, left-headed types predominate in Vietnamese (cf. Thompson (1965)).' (Elisabeth O. Selkirk, *The Syntax of Words* (1982:21))

'The Germanic languages all follow a Right-hand Head Rule (cf. Williams 1981): Whenever the structure of a compound branches, the daughter-node on the right is the head. Williams proposed his version of this rule as a cross-linguistic universal, but its universality appears to be contradicted by languages like Khmer and Thai, which are the mirror image of English: They permit creative, endocentric, bare-stem compounding, but with the head on the left.' (William Snyder, *Compound Word Formation* (Chapter 6))

There are also some papers related to the Right-hand Head Rule. Here are some abstracts and quotes about the Right-hand Head Rule from these papers.

In the paper 'A Corpus Investigation of the Right-hand Head Rule Applied to Japanese Affixes (Glottometrics 10, 2005, 45-54)', Yayoi Miyaoka informed that the result supported the Right-hand Head

Rules by investigating the selected 24 affixes in Japanese, used in the Asahi Newspaper published between 1985 and 1988.

In the paper 'Compounding in English and Vietnamese: A Contrastive Analysis (HCMC University of Education, 2009)', Nguyen Ngoc Thao reported that there are two types of compound in Vietnamese: coordinate compounds and subordinate compounds. The coordinate compounds are formed by two morphemes in the same semantic category which modifies the other one such as: *mua bán* (purchase and sell), *phải trái* (right and wrong). The subordinate compounds are formed by two morphemes, one of which modifies the other one such as: *trắng muốt* (pure white); *nhà báo* (journalist), *nhà văn* (writer), *nhà thơ* (poet), *nhà doanh nghiệp* (businessman). Therefore, the coordinate compounds have no head and the head of the subordinate compounds is left-headed which is different from English, and they do not obey the Right-hand Head Rule.

By studying these books and papers, I would like to analyze whether my mother language 'Myanmar' obeys the Right-hand Head Rule, especially after reading the fact that Vietnamese, Khmer and Thai, which are near Myanmar, do not obey it. However, the result is a bit different as most of the Myanmar compound nouns obey the Right-hand Head Rule.

III. Compound Nouns in Myanmar

I would like to present how the Myanmar Compound Noun is formed, the relationship among the compound members, and to examine the head among the elements in this section.

There are many ways to form the compound nouns in Myanmar. Some compound nouns can be formed by compounding the same parts of speech and some are formed by compounding the different parts of speech. Therefore, 'noun and noun', 'verb and verb', 'noun and verb', 'noun and adjective', and 'noun, verb and adjective' are combined to become a compound noun in many different ways.

When compounding, there are from at least two to five compound members. Those compound members may be the different parts of speech or the same parts of speech. There are from two to four nouns or verbs in some compound nouns. They are combined in different orders. There are six different ways to form Myanmar compound nouns in general. They are –

1. 'Noun and Noun' compounding
2. 'Noun and Verb' compounding
3. 'Noun and Adjective' compounding
4. 'Noun, Verb and Adjective' compounding
5. 'Verb and Noun' compounding and
6. 'Verb and Verb' compounding.

I group them in the order of the same first element as I want to find out the semantic head of the Myanmar compound noun. Sometimes, the different order of compounding members gives the different meaning of compound noun like *chair-arm* and *arm-chair* in English. Therefore I categorize 'Noun and Verb' compounding and 'Verb and Noun' compounding in the different groups.

3.1. 'Noun and Noun' Compounding

Noun and noun are combined to form a compound noun. The number of nouns to be combined may be from 2 to 4. Here are examples of noun and noun compounding.

3.1.a. 'Noun + Noun' Compound Noun

(3.1)

Noun	+	Noun	=	Compound Noun
/se'/ machine	+	/hlei/ boat	=	/se' hlei/ Motor boat
/min/ ink	+	/ou:/ bottle	=	/min ou:/ Ink bottle
/khwei:/ dog	+	/ba lu:/ ogre	=	/khwei: ba lu:/ Bulldog
/taun/ mountain	+	/ka la'/ stem serving tray	=	/taun ka la'/ Mesa

The first noun modifies the second noun in the first two examples. The first noun /se'/ modifies the second noun /hlei/ in the first example and the first noun /min/ modifies the second noun /ou:/ in the second example. So the head in these examples are the right most elements /hlei/ and /ou:/. I will present only one representation as they are in the same pattern. The parallel line in 'Figure 1' shows the head and I will use the parallel line to show the head from now on.

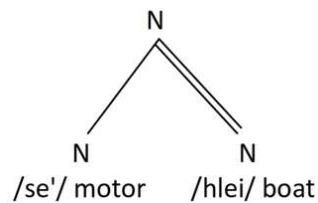


Figure 1 - Motor boat မော်တော်ဘုတ်

However, the third and the fourth examples are different from the first and the second examples, as the head in these examples are the left most elements. The second compound members modify the first compound members. So, the first compound members are the heads and the second compound members are the dependents. The second noun /ba lu:/ modifies the first noun /khwei:/ in the third example that denotes a dog which is ugly like an ogre, *a bull dog*, and the second noun /ka la'/ modifies the first noun /taun/ in the fourth example that denotes a mountain with a flat top which looks like a stem serving tray , *a mesa*. They are endocentric compound noun as there are heads in the compound members. These two types of compound nouns are productive in Myanmar. In English, there are few compound nouns whose left elements are heads such as *passer-by*, *notary public*, *giant-in-aid* and *mother-in-law*, and they are not productive. I will present only one representation as they are in the same pattern.

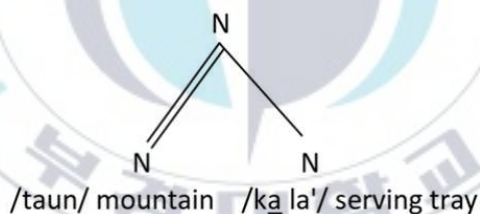


Figure 2 - Mesa မောင့်ကလပ်

3.1.b. 'Noun+Noun+Noun' compound noun

Three nouns are combined to form a compound noun. I would like to analyze this compound noun by examining the head element and hierarchical structures as there are more than two compound elements. Here are some examples of 'Noun+Noun+Noun' compound noun. This pattern is quite productive in Myanmar.

(3.2)

Noun	+	Noun	+	Noun	=	Compound Noun
/koun/	+	/zei:/	+	/hnoun:/	=	/koun zei: hnoun:/
goods		price		rate		Commodity price
/pji/	+	/hte:/	+	/jei:/	=	/pji hte: jei:/
country		inside		affair		Home affair
/si'/	+	/mjei/	+	/pjin/	=	/si' mjei bjın/
war		ground		plain		Battle-land

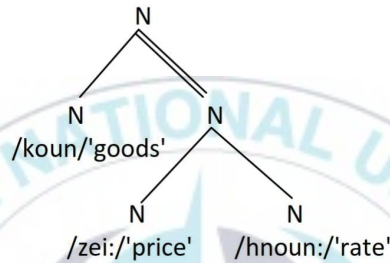


Figure 3 - Commodity price ဇေယျနီ

In the first example, the head noun is the two word compound noun /zei: hnoun:/ 'price'. This two word compound noun is formed first, and then it is modified by the noun /koun/ 'goods' to form the three word compound noun /koun zei: hnoun:/ 'commodity price'. The meaning of /zei:/ is price and /hnoun:/ is rate in Myanmar. Both words are used for the meaning of price, however /zei:/ is more productive than /hnoun:/. This two word compound noun is a copulative compound noun that has two compound members which are coupled or conjoined semantically. It combines with the noun /koun/ 'goods' and becomes 'Noun+Noun+Noun' compound noun. It is a endocentric compound noun as there is a head /zei: hnoun/ 'price' in it. So this compound noun is the combination of copulative and endocentric compound noun.

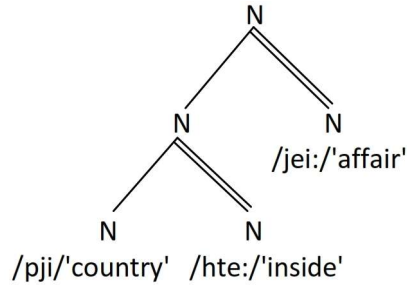


Figure 4 - Home affair ပြည်ထဲရေး

In the second example, the head noun is */jei:/ 'affair'* which is at the right end most. First, the first element */pji/ 'country'* modifies the second element */hte:/ 'inside'* and they become a two word compound noun */pji hte:/ 'inside the country'*. */hte:/* here is the head in this compound noun which is at the right end and */pji/* is the dependent. This is the endocentric compound noun as the head is inside the compound noun. Then this compound noun modifies the third element */jei:/ 'affair'* to form the three word compound noun */pji hte: jei:/ 'home affair'*. This compound noun is also an endocentric compound noun which head is at the right end most. However it is different from the first example as the order of compounding is different. The two word compound noun in the first example is on the right side and the two word compound noun in the second example is on the left side.

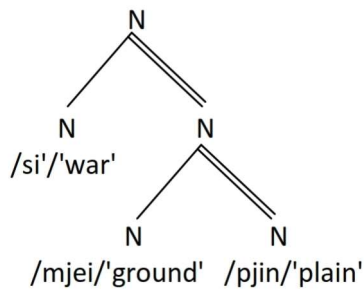


Figure 5 - Battle land စစ်မြေပြင်

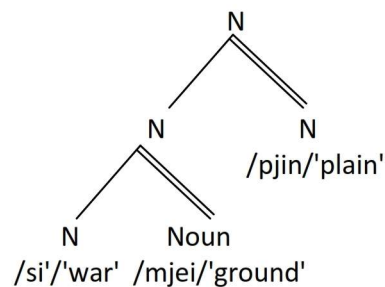


Figure 5a - Battle land စစ်မြေပြင်

There are two possible representations of the third example. The first representation is that the head is a two word compound noun /*mjei pjɪn*/ 'land'. First, the second element /*mjei*/ 'ground' modifies the third element /*pjɪn*/ 'plain' to form the two word compound noun. Then the first element /*si*/ 'war' modifies it and they become the three word compound noun /*si' mjei bjɪn*⁹⁾/ 'battle land'. This compound noun is an endocentric compound noun.

The second representation shows that the head is the third noun /*pjɪn*/ 'plain'. First, the first element /*si*/ 'war' modifies the second element /*mjei*/ 'ground' and they become the two word compound noun /*si' mjei*/ 'battle ground'. Then this two word compound noun modifies the third element /*pjɪn*/ 'plain' to become the three word compound noun /*si' mjei bjɪn*/ 'battle land'. This compound noun is also an endocentric compound noun.

Although the combination orders and representations are different, the meaning of the compound noun is the same.

3.1.c. 'Noun+Noun+Noun+Noun' compound noun

Four nouns are combined to form a compound noun. There are very few examples in this pattern. It is not productive in Myanmar. Here are some examples of this compound noun.

(3.3)

Noun	+	Noun	+	Noun	+	Noun	=	Compound Noun
/le'/	+	/han/	+	/chei/	+	/han/	=	/le' han chei han/
hand		gesture		foot		gesture		Gesture
/kau'/	+	/pe:/	+	/thi:/	+	/nan/	=	/kau' pe: thi: nan/
grain		pea		fruit		millet		Crop

9) There are many sound changes in the Myanmar compound noun. As my aim is to analyze the structure of Myanmar compound noun, I will just show the sound changes and will not discuss them. The third element /*pjɪn*/ is changed to /*bjɪn*/ in this example.

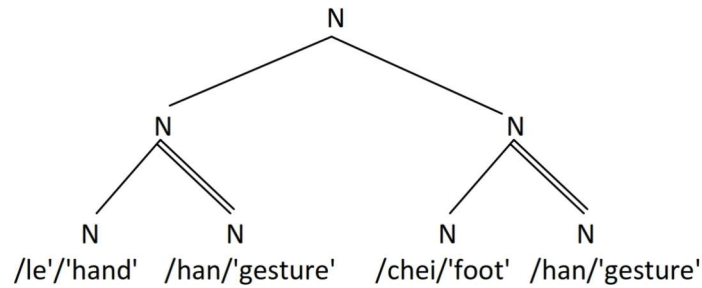


Figure 6 - Gesture လက်ဟန်ခြေဟန်

It seems there are more than a semantic head in this example as two compound nouns in equal status are combined to form the four word compound noun. However the two word compound nouns which form this four word compound noun are endocentric and the same head noun appears twice. The first element /le/ 'hand' modifies the second element /han/ 'gesture' and the third element /chei/ 'foot' modifies the fourth element /han/ 'gesture' at the same time. Then these two 'two word compound noun' /le' han/ 'hand gesture' and /chei han/ 'foot gesture' combine together to form the four word compound noun /le' han chei han/ 'Gesture'. As the meaning of the compound word 'gesture' is in each of the two word compound noun, I want to put it in the endocentric compound noun group.

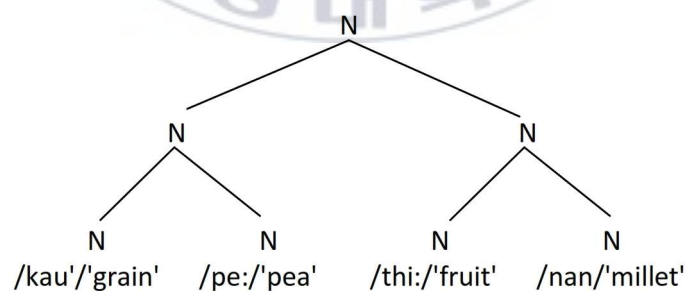


Figure 7 - Crop ကောက်ပဲသီးနှံ

There are more than a semantic head in the second example and it is a copulative compound noun. Both two word compound nouns

which form this four word compound noun have more than a semantic head too. So it is a pure copulative compound noun. The first element /kau/ 'grain' and the second element /pe:/ 'pea' are combined to form a two word compound noun, and the third element /thi:/ 'fruit' and the fourth element /nan/ 'millet' are combined to form a two word compound noun. These two word compound nouns are combined to form the four word compound noun /kau' pe: thi: nan/ 'crop'.

3.2. 'Noun and verb' compounding

Like in English¹⁰⁾, noun and verb can be combined to become a compound noun in Myanmar. The position and numbers of noun and verb are different according to the patterns. There are 10 different patterns of noun and verb compounding.

3.2.a. 'Noun+Verb' compound noun

A noun and a verb are combined to become a compound noun. The verb always modifies the head noun in this pattern. It is productive in Myanmar. Here are some examples.

(3.4)

Noun	+	Verb	=	Compound Noun
/kein:/ number	+	/jo:/ mix	=	/kein: jo:/ Mixed number
/kjun:/ island	+	/mjo:/ float	=	/kjun: mjo:/ Floating island
/wa:/ bamboo	+	/chan:/ divide	=	/wa chan:/ Divided bamboo

10) Some examples of noun and verb compounding in English are: *baby-sit*, *rainfall* and *sunrise*.

The verb /jo:/ 'mix' modifies the noun /kein:/ 'number' to form the compound noun /kein: jo:/ 'mixed number', the verb /mjo:/ 'float' modifies the noun /kjun:/ 'island' to form the compound noun /kjun: mjo:/ 'floating island' and the verb /chan:/ 'divide' modifies the noun /wa:/ 'bamboo' to form the compound noun /wa: chan:/ 'divided bamboo' in the above examples. Some Myanmar linguists believe that the verbs in these examples are derivational nouns which are attached by particles, and the particles are omitted when they combine with other nouns. So, they are not in the form of 'Noun+Verb' but in the form of 'Noun+Noun'. However not all the verbs in these examples can be derivational nouns. For example: the derivational noun of /jo:/ is /ajo:/ 'something that is mixed' and /chan:/ is /a:chan:/ 'something which is divided', however we do not use the derivational noun /amjo:/ which is derived from the verb /mjo:/ 'float'. That is why I categorized them as 'Noun+Verb' compound noun. I will present only a representation as they have the same pattern.

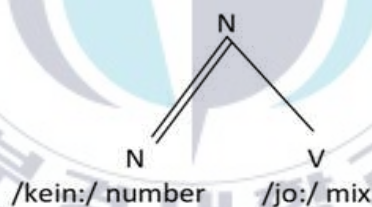


Figure 8 - Mixed number တိန်းရော

3.2.b. 'Noun+Noun+Verb' compound noun

Two nouns and a verb are combined to become a compound noun. This pattern is not productive in Myanmar. Here are some examples.

(3.5)

Noun	+	Noun	+	Verb	=	Compound Noun
/hsa:/	+	/mi:/	+	/phou'/	=	/hsa: mi: phou'/
salt		fire		bake		Heated salt

/bi:/ comb	+	/hsan/ hair	+	/pa'/ coil	=	/bi: za ba'/ Hairdo with coiled hair round a comb
/lei/ air	+	/jin/ vehicle	+	/pjan/ fly	=	/lei jin bjan/ Aeroplane

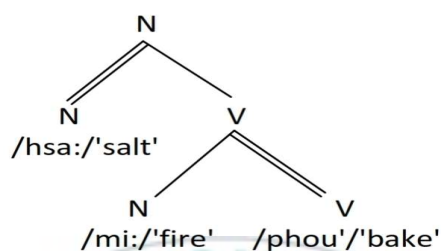


Figure 9 - Heated salt ဆားမီးဖုတ်

The head of this example is /hsa:/ 'salt' which is at the left end. First the second element /mi:/ 'fire' modifies the third element which is a verb /phou:/ 'bake' and they become the two word compound verb /mi: phou:/ 'bake with fire'. Then this compound verb modifies the head /hsa:/ 'salt' to form the three word compound noun /hsa: mi: phou:/ 'heated salt'. It is an endocentric compound noun.

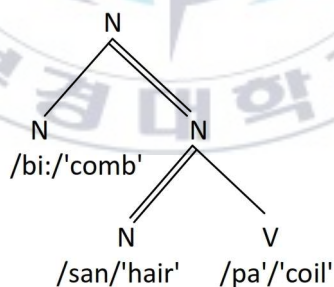


Figure 10 - Hairdo with coiled hair round a comb ဘီးဆံပတ်

The head of this example is the two word compound noun /za ba/. First the third element which is a verb modifies the second element /san:/ 'hair' to form the two word compound noun /za ba:/ 'coiled hair'. Then the first element /bi:/ 'comb' modifies the two word

compound noun to form the three word compound noun /bi: zə ba/ 'a *hairdo with coiled hair round a comb*'.

There are two interesting things in this example. The first one is the first element /bi:/ 'comb'. In English, the noun 'comb' and the verb 'to comb' is the same word 'comb', and the noun 'comb' and the verb 'comb' in Korean is also the same word /pis/ 핏. However the noun 'comb' is /bi:/ and the verb 'to comb' is /phi:/ in Myanmar. So, I do not need to analyze whether it is a verb or a noun. The second interesting thing is that the denotation of this example is 'hairdo' but not hair. So, this compound word may be an exocentric compound noun. However the middle element is /san/ 'hair', so I decide to say that it is an endocentric compound noun as hair and hairdo do not have a lot of difference. So, I will say that it is an endocentric compound noun.

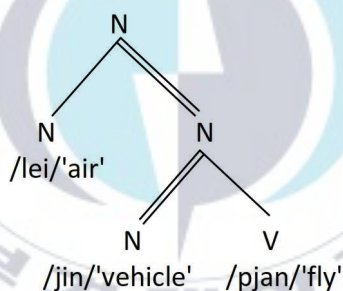


Figure 11 - Aeroplane လေယာဉ်

The head noun of this example is the second element /jin/ 'vehicle'. First, the third element which is a verb /pjan/ 'fly' modifies the head noun /jin/ 'vehicle' to form the two word compound noun /jin bjan/ 'flying vehicle'. Then the first element /lei/ 'air' modifies this two word compound noun and they become the three word compound noun /lei: jin bjan/ 'a flying vehicle in the air, an aeroplane'. Both the two word compound nouns and the three word compound nouns are endocentric compound nouns.

3.2.c. 'Noun+Verb+Noun' compound noun

This pattern is different from the previous compound noun as it is the combination of compound verb and noun pattern. The pattern is very consistent and productive as there are more than 45 entries in this pattern in the Myanmar dictionary. Here are some examples of this pattern.

(3.6)

Noun	+	Verb	+	Noun	=	Compound Noun
/nga:/ fish	+	/mja:/ catch	+	/gjei'/ hook	=	/nga mja: gjei'/ Fishing hook
/kau'/ rice grain	+	/sai'/ plant	+	/tha ma./ woman	=	/kau' sai' tha ma/ Rice grain planting woman
/sa/ sparrow	+	/chau'/ scare	+	/jou'/ figure	=	/sa chau' jou'/ Scarecrow

The head nouns of the above examples are the third elements /gjei'/ 'hook', /tha ma./ 'woman' and /jou'/ 'figure'. First, the first elements: /nga:/ 'fish', /kau'/ 'rice grain' and /sa/ 'sparrow' and the second elements which are verbs: /mja:/ 'catch', /sai'/ 'plant' and /chau'/ 'scare' combine to form the compound verb /nga: mja:/ 'to catch fish', /kau' sai'/ 'to plant grain' and /sa chau'/ 'to scare sparrow' respectively. Then these compound verbs modify the head nouns to become the three word compound noun /nga mja: gjei'/ 'fishing hook', /kau' sai' tha ma/ 'rice grain planting woman' and /sa chau' jou'/ 'scarecrow' respectively. They are endocentric compound nouns. I will present only a representation as they all are in the same pattern.

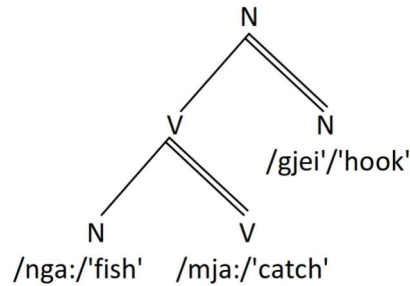


Figure 12 - Fishing hook ငါးမျှားချိတ်

3.2.d. 'Noun+Verb+Verb' compound noun

There are two combination patterns in this compound noun. One is 'compound noun and verb' combination and another one is 'noun and compound verb' combination. This pattern is not productive in Myanmar. Here are some examples of this pattern.

(3.7)

Noun	+	Verb	+	Verb	=	Compound Noun
/kha:/ waist	+	/pai'/ keep	+	/nai'/ pick	=	/ga bai' nai'/ Pick pocket
/thu/ person	+	/taun:/ beg	+	/sa:/ eat	=	/dha daun: za:/ Beggar
/pe:/ pea	+	/ka'/ stick	+	/kjo/ fry	=	/pe: ka' kjo/ Fried pea snack

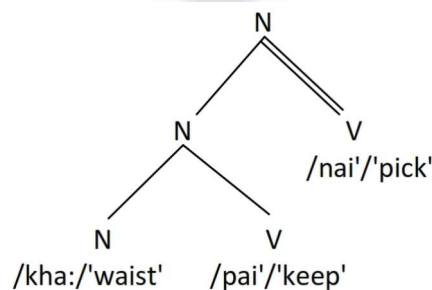


Figure 13 - Pickpocket ခါးပိုက်နှိုက်

The pattern of this example is the combination of compound noun and verb. There is no head noun in it and it is an exocentric compound noun. First the first element /kha:/ 'waist' combines with the second element /pai/ 'keep' which is a verb, and they become a compound verb /kha: pai/ 'to keep around the waist'. This compound verb modifies the semantic head noun outside the components 'a thing', and it becomes an exocentric compound noun 'a thing kept around the waist'. Then it combines with the third element /nai/ 'pick' which is a verb and they become the compound verb /ga bai nai/ 'to pick the thing kept around the waist'. This compound verb modifies the semantic head outside the components 'a person' and it becomes an exocentric compound noun 'a pickpocket, a person who picks the thing kept around the waist'.

The pattern of second and third examples are a combination of noun and compound verb. In the second example, the verb /taun:/ 'beg' and the verb /sa:/ 'eat' combine first to become the compound verb /taun: sa:/ 'beg and eat'. Then this compound verb modifies the head noun /thu/ 'person' and the three word compound noun /dha daun: za:/ 'beggar' is formed. In the third example, the verb /ka/ 'stick' and the verb /kjo/ 'fry' combine first to become the compound verb /ka' kjo/ 'stick and fry'. Then this compound verb modifies the head noun /pe:/ 'pea' and the three word compound noun /pe: ka' kjo/ 'fried pea snack' is formed. They are endocentric compound nouns. I will present only one example as these two compound nouns are in the same pattern.

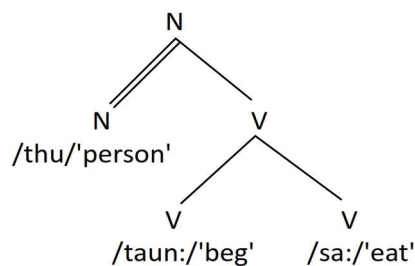


Figure 14 - Beggar သုတောင်းစား

re see sound hear Television

/ + /mjɪn/ + /than/ + /kjar:/ = /jou/

mi: ju

Compo

sundr

ine give suffering take

N

N N

N V N V

/sa/'word' /si/'line up' /sa/'word' /koun:/'compose'

$$(3.8)$$

Noun	+ Verb	+ Noun	+ Verb	= Compound Noun
/sa/	+ /si/	+ /sa/	+ /koun:/	= /sa zi sa goun:/
word	line up	word	compose	Essay
/jou'/	+ /mjɪn/	+ /than/	+ /kjar:/	= /jou' mjin than gjar:/
picture	see	sound	hear	Television
/hsei:/	+ /pei:/	+ /mi:/	+ /ju/	= /sei: pei: mi: ju/
medicine	give	suffering	take	Companion for sundry jobs

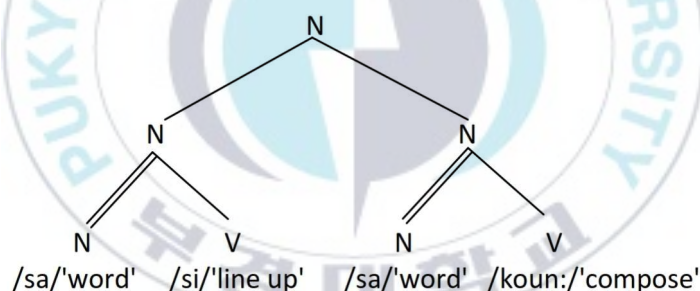


Figure 15 - Essay စာစီစာကုံး

- 36 -

essay'. Although the combination of two word compound nouns is copulative, both of the two word compound nouns are endocentric and the head appears twice in this compound noun. Therefore I will put it under the endocentric compound noun group.

The second example and the third example are in the same pattern and they are exocentric compound noun. In the second example, first, the first element /*jou*/ 'picture' modifies the second element /*mjin*/ 'see' and they become the compound verb /*you* *mjin*/ 'to see picture', and the third element /*than*/ 'sound' modifies the fourth element /*kja*/ 'hear' and they become the compound verb /*than* *kja*/ 'to hear sound'. Then these two compound verbs combine to become the four word compound verb /*jou* *mjin* *than* *gjar*/ 'to see picture and to hear sound'. This compound verb modifies the semantic head outside the components 'a device' and it becomes an exocentric compound noun /*jou* *mjin* *than* *gjar*/ 'a television'.

In the third example, first, the first element /*sei*/ 'medicine' modifies the second element /*pei*/ 'give' and they become the compound verb /*sei* *pei*/ 'to give medicine', and the third element /*mi*/ 'suffering¹¹⁾' modifies the fourth element /*ju*/ 'take' and they become the compound verb /*mi* *ju*/ 'to take suffering'. Then these two compound verbs combine to become four word compound verb /*sei* *pei* *mi* *ju*/ 'to give medicine and to take suffering'. This compound verb modifies the semantic head outside the components 'a person' and it becomes an exocentric compound noun 'a companion for sundry jobs'. I will present only one representation as these two examples have the same pattern.

11) The original meaning of /*mi*/ is 'fire' in Myanmar, however the meaning of /*mi*/ here is 'suffering' as an expanded meaning.

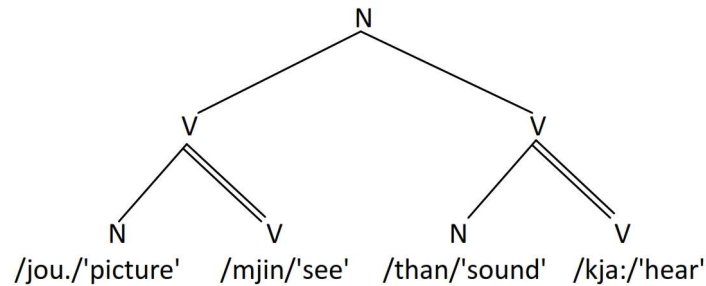


Figure 16 - Television ရုပ်မြင်သံကြား

3.2.f. 'Noun+Verb+Verb+Noun' compound noun

This pattern is not productive in Myanmar. Here is an example of this pattern and it is an endocentric compound noun.

(3.9)

Noun	+	Verb	+	Verb	+	Noun	=	Compound Noun
/kha:/ waist	+	/pai/ 'keep'	+	/hsaun/ 'carry'	+	/ta/ 'army'	=	/ga bai' hsaun ta/ 'Own army'

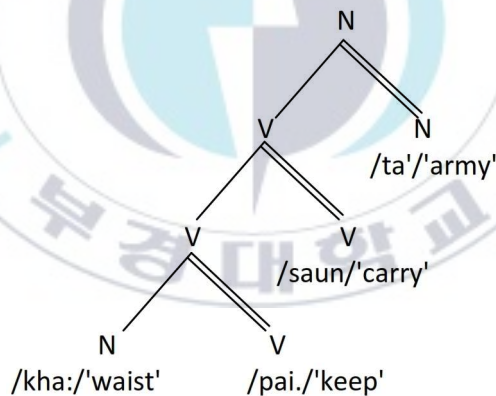


Figure 17 - Own army ခါးပိုက်ဆောင်တပ်

The head noun of this compound noun is /ta/ 'army' at the right end most. First, the first element /kha:/ 'waist' modifies the second element /pai/ 'keep' to form the two word compound verb /kha: pai/ 'keep around the waist'. Next, this compound verb modifies the third element which is a verb /hsaun/ 'carry' and they become the

compound verb /gā bai' hsaun/ 'carry by keeping around the waist'. Then this compound verb modifies the head noun /ta'/ 'army' to form the four word compound noun /gā bai' hsaun ta'/ 'an army that you can carry wherever you go, an own army'. The compound verb /gā bai' hsaun/ 'carry by keeping around the waist' is quite productive in Myanmar as there are some words like– /gā bai' hsaun na ji/ 'pocket watch' and /gā bai' hsaun ei'/ 'fanny pack'.

3.2.g. 'Noun+Verb+Noun+Noun' compound noun

This compound noun is the combination of compound verb and compound noun and is productive in Myanmar. Here is an example of this pattern.

(3.10)

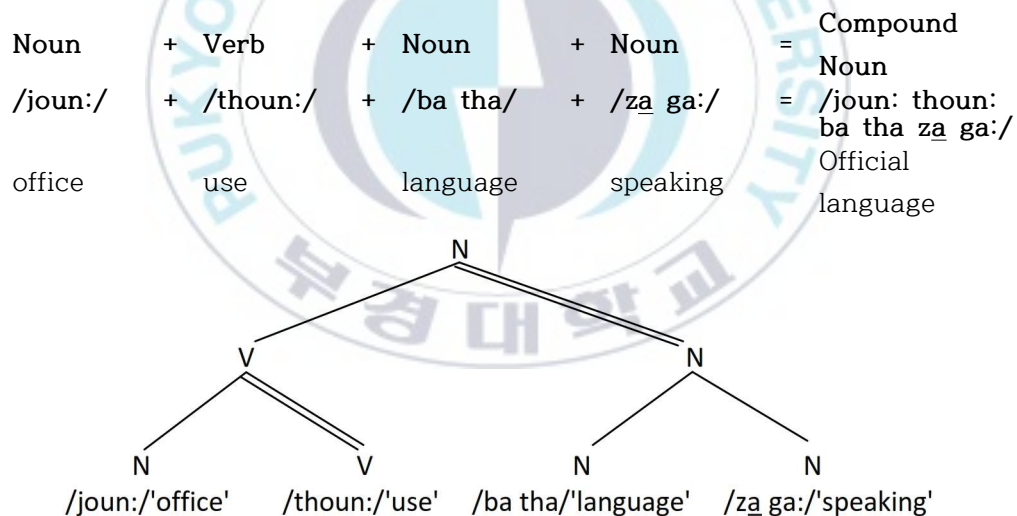


Figure 18 - Official language ရုံးသုံးဘာသာစကား

The head noun in this pattern is the compound noun /ba tha zā ga:/ 'language' in this example. First the third element /ba tha/ 'language' which is borrowed from Pali and the fourth element /zā ga:/ 'speaking' are combined to form the compound head noun /ba tha zā

ga:/ 'language' which is copulative, and the first element /joun:/ 'office' and /thoun:/ 'use' are combined to form the compound verb /joun: thoun:/ 'to use in the office'. Then this compound verb modifies the compound head /ba tha za ga:/ 'language' and the four word compound noun /joun: thoun: ba tha za ga:/ 'official language' is formed. The compound verb /joun: thoun:/ is used to modify other nouns to form many compound nouns and quite productive. For example– /joun: thoun: poun zan/ 'form used in the office', /joun: thoun: za bwe/ 'table used in the office' and so on.

3.2.h. 'Noun+Noun+Verb+Noun' compound noun

The head noun of this pattern is at the right end most. It is the combination of compound verb and noun. This pattern is not productive in Myanmar. Here are some examples of this pattern.

(3.11)

Noun	+ Noun	+ Verb	+ Noun	= Compound Noun
/sa/	+ /poun/	+ /nei'/	+ /tai'/	= /sa poun nei' tai'/
word	picture	print	building	Printing house
/za ga:/	+ /jei/	+ /lu./	+ /pwe:/	= /za ga jei lu. pwe:/
speaking	ability	compete	event	Speaking contest

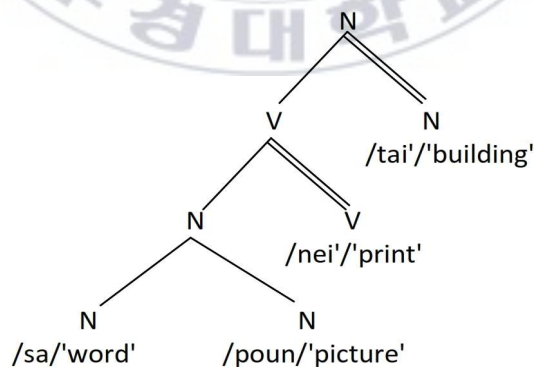


Figure 19 - Printing house စာပုံနှိပ်တိုက်

In this example, first, the first element /sa/ 'word' and the second element /poun/ 'picture' combines to form the two word compound noun /sa poun/ 'word and picture' which is copulative. Next this compound noun modifies the third element /nei/ 'print' which is a verb and they become three word compound verb /sa poun nei/ 'to print word and picture'. Then this compound verb modifies the head noun /tai/ 'building' and they become the four word compound noun /sa poun nei tai/ 'a building where word and picture are printed, a printing house'. It is an endocentric compound noun.

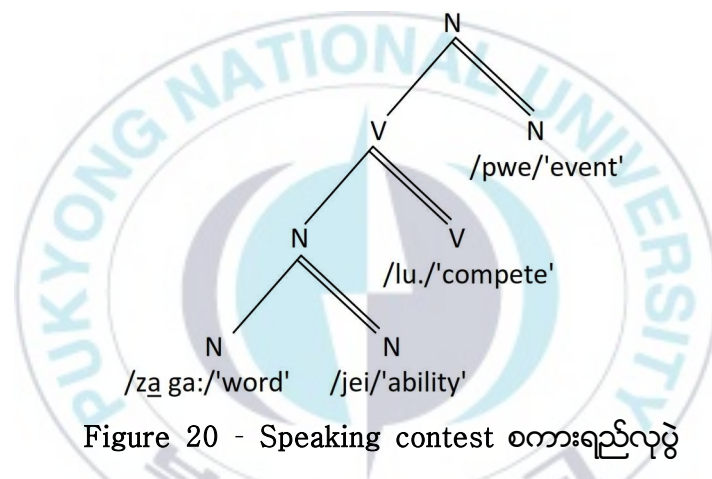


Figure 20 - Speaking contest စကားပြောပြိုင်ပွဲ

In this example, first, the first element /zə ga:/ 'speaking' modifies the second element /jei/ 'ability' to form the two word compound noun /zə gə jei/ 'speaking ability'. Next this compound noun modifies the third element /lu./ 'compete' which is a verb and they become three word compound verb /zə gə jei lu./ 'to compete speaking ability'. Then this compound verb modifies the head noun /pwe/ 'ceromony' and they become the four word compound noun /zə gə jei lu. pwe/ 'a ceremony for speaking ability competition, a speaking contest'. It is an endocentric compound noun.

3.2.i. 'Noun+Verb+Noun+Verb+Noun' compound noun

This pattern is not productive in Myanmar. Here is an example of this pattern.

(3.12)

Noun	+	Verb	+	Noun	+	Verb	+	Noun	=	Compound Noun
/jou'/	+	/mjín/	+	/than/	+	/kja:/'	+	/se'/	=	/jou' mjín than gja: ze'/
picture		see		sound		hear		device		Television device

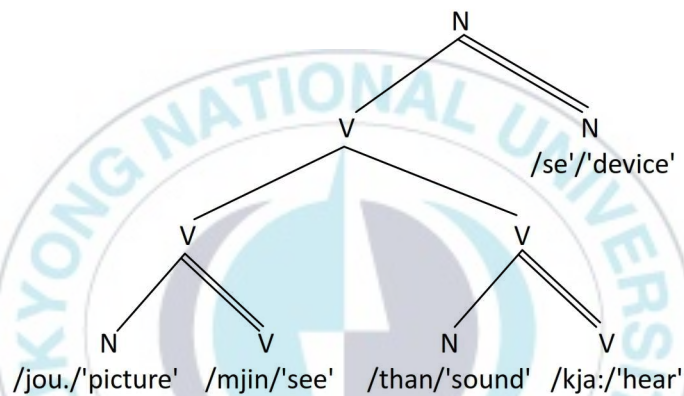


Figure 21 - Television device ရုပ်မြင်သံကြားစက်

This pattern is similar to the pattern 3.2.e 'Figure 16'. However that pattern is exocentric whose head is outside the compound noun and this pattern is endocentric, the head noun /se'/ 'device' is in the compound noun.

The head noun in this example is /se'/ 'device' at the right end most. First, the first element /jou'/ 'picture' modifies the second element /mjín/ 'see' and they become the compound verb /jou' mjín/ 'to see picture', and the third element /than/ 'sound' modifies the fourth element /kja:/' 'hear' and they become the compound verb /than kja:/' 'to hear sound'. Next, these two compound verbs combine to become four word compound verb /jou' mjín than gja:/' 'to see picture and to hear sound'. Then this compound verb modifies the head noun

example of this compound noun.

Verb	+	Verb	+	Verb	+	Noun	=
/soun/	+	/nji/	+	/si: wei:/	+	/pwe:/	=
include		be in		meeting		ceremony	
all		accord					

Diagram illustrating the structure of the compound noun 'face-to-face meeting ceremony':

```
graph TD
    N1[N] --- V1[V]
    N1 --- N2[N]
    V1 --- N3[N]
    V1 --- V2[V]
    N2 --- V3[V]
    N2 --- N4[N]
    N3 --- na[na/'face']
    V2 --- V4[V]
    V3 --- sw['/si: wei:/']
    V3 --- hw['hold a meeting']
    N4 --- pwe['/pwe:/'ceremony']
```

The diagram shows a hierarchical structure for the compound noun 'face-to-face meeting ceremony'. The root node is 'N'. It branches into 'V' and 'N'. The 'V' node branches into 'N' and 'V'. The 'N' node branches into 'V' and 'N'. The 'N' node branches into 'na/'face''. The 'V' node branches into 'V'. The 'V' node branches into '/si: wei:/' and 'hold a meeting'. The 'N' node branches into '/pwe:/' and 'ceremony'.

example of this compound noun.

Verb	+	Verb	+	Verb	+	Noun	=
/soun/	+	/nji/	+	/si: wei:/	+	/pwe:/	=
include all		be in accord		meeting		ceremony	

tree diagram:

```
graph TD
    N1[N] --- V1[V]
    N1 --- N2[N]
    V1 --- N3[N]
    V1 --- V2[V]
    N3 --- N4[na/'face']
    V2 --- V3[V]
    V3 --- V4[V]
    N2 --- V5[V]
    N2 --- N5[N]
    V5 --- V6[V]
    V6 --- N6[/si: wei:/'hold a meeting']
    N5 --- N7[N]
    N7 --- N8[/pwe:/'ceremony']
```

example of this compound noun.

Verb	+	Verb	+	Verb	+	Noun	=
/soun/	+	/nji/	+	/si: wei:/	+	/pwe:/	=
include all		be in accord		meeting		ceremony	

tree diagram:

```
graph TD
    N1[N] --- V1[V]
    N1 --- N2[N]
    V1 --- N3[N]
    V1 --- V2[V]
    N3 --- N4[na/'face']
    V2 --- V3[V]
    V3 --- V4[V]
    N2 --- V5[V]
    N2 --- N5[N]
    V5 --- V6[V]
    V6 --- N6[/si: wei:/'hold a meeting']
    N5 --- N7[N]
    N7 --- N8[/pwe:/'ceremony']
```

example of this compound noun.

Verb	+	Verb	+	Verb	+	Noun	=
/soun/	+	/nji/	+	/si: wei:/	+	/pwe:/	=
include		be in		meeting		ceremony	
all		accord					

Diagram illustrating the structure of the compound noun 'face-to-face meeting ceremony':

```
graph TD
    N1[N] --- V1[V]
    N1 --- N2[N]
    V1 --- N3[N]
    V1 --- V2[V]
    N2 --- V3[V]
    N2 --- N4[N]
    N3 --- na[na/'face']
    V2 --- V4[V]
    V3 --- swi[/'si: wei:/'hold a meeting']
    N4 --- pwe[/'pwe:/'ceremony']
```

example of this compound noun.

Verb	+	Verb	+	Verb	+	Noun	=
/soun/	+	/nji/	+	/si: wei:/	+	/pwe:/	=
include		be in		meeting		ceremony	
all		accord					

Diagram illustrating the structure of the compound noun 'face-to-face meeting ceremony':

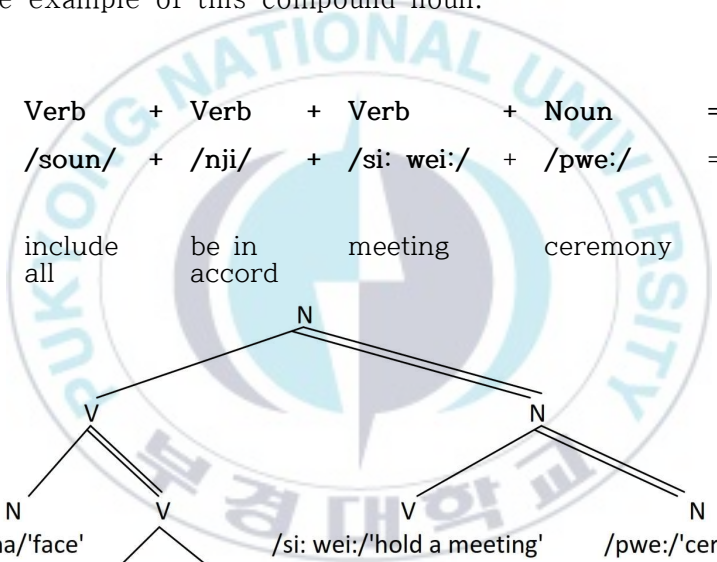
```
graph TD
    N1[N] --- V1[V]
    N1 --- N2[N]
    V1 --- N3[N]
    V1 --- V2[V]
    N2 --- V3[V]
    N2 --- N4[N]
    N3 --- na[na/'face']
    V2 --- V4[V]
    V3 --- swi[/'si: wei:/'hold a meeting']
    N4 --- pwe[/'pwe:/'ceremony']
```

example of this compound noun.

Verb	+	Verb	+	Verb	+	Noun	=
/soun/	+	/nji/	+	/si: wei:/	+	/pwe:/	=
include		be in		meeting		ceremony	
all		accord					

Diagram illustrating the structure of the compound noun 'face-to-face meeting ceremony':

```
graph TD
    N1[N] --- V1[V]
    N1 --- N2[N]
    V1 --- N3[N]
    V1 --- V2[V]
    N2 --- V3[V]
    N2 --- N4[N]
    N3 --- na[na/'face']
    V2 --- V4[V]
    V3 --- swi[/'si: wei:/'hold a meeting']
    N4 --- pwe[/'pwe:/'ceremony']
```



example of this compound noun.

Verb	+	Verb	+	Verb	+	Noun	=
/soun/	+	/nji/	+	/si: wei:/	+	/pwe:/	=
include		be in		meeting		ceremony	
all		accord					

Diagram illustrating the structure of the compound noun 'face-to-face meeting ceremony':

```
graph TD
    N1[N] --- V1[V]
    N1 --- N2[N]
    V1 --- N3[N]
    V1 --- V2[V]
    N2 --- V3[V]
    N2 --- N4[N]
    N3 --- na[na/'face']
    V2 --- V4[V]
    V3 --- swi[/'si: wei:/'hold a meeting']
    N4 --- pwe[/'pwe:/'ceremony']
```

example of this compound noun.

Verb	+	Verb	+	Verb	+	Noun	=
/soun/	+	/nji/	+	/si: wei:/	+	/pwe:/	=
include		be in		meeting		ceremony	
all		accord					

Diagram illustrating the structure of the compound noun 'face-to-face meeting ceremony':

```
graph TD
    N1[N] --- V1[V]
    N1 --- N2[N]
    V1 --- N3[N]
    V1 --- V2[V]
    N2 --- V3[V]
    N2 --- N4[N]
    N3 --- na[na/'face']
    V2 --- V4[V]
    V3 --- swi[/'si: wei:/'hold a meeting']
    N4 --- pwe[/'pwe:/'ceremony']
```

to form the compound verb */mje' na soun nji/* 'include all people in accord', and the fourth element */si: wei:/* 'hold meeting' which is a verb modifies the fifth noun */pwe:/* 'ceremony' and they become the compound noun */si: wei: pwe:/* 'meeting'. Finally, this compound verb modifies the compound head noun and five word compound noun */mje' na soun jni si: wei: pwe:/* 'plenary meeting' is formed. It is an endocentric compound noun.

3.3. 'Noun and adjective' compounding

There are four ways to combine noun and adjective to become a compound noun in Myanmar. The modifying order seems to be strange compare to the English compound noun because an adjective modifies a noun from the right side.

3.3.a. 'Noun+Adjective' compound noun

It seems to be the unique character of Myanmar compound noun as adjective exists after noun. Please see the following examples.

(3.14)

Noun	+	Adjective	=	Compound Noun
<i>/kjau'/</i> stone	+	<i>/sein:/</i> green	=	<i>/kjau' sein:/</i> Jade
<i>/sin/</i> stage	+	<i>/mjin./</i> high	=	<i>/sin mjin./</i> High stage
<i>/sa ya/</i> teacher	+	<i>/kaun:/</i> good	=	<i>/sa ya kaun:/</i> Good teacher

The adjective */sein:/* 'green' modifies the head noun */kjau'/* 'stone' to become the compound noun */kyau' sein:/* 'jade' ; the head noun */sin/* 'stage' is modified by the adjective */mjin./* 'high' and the

adjective /kaun:/ 'good' modifies the head noun /sə ya/ 'teacher' to form the compound nouns - *high stage* and *good teacher*. I will present only one representation as they are in the same pattern.

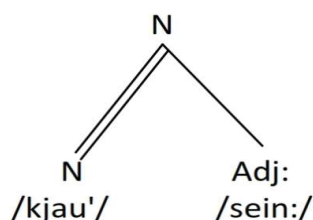


Figure 23 - Jade ကျောက်စိမ်း

The interesting point is that there is no compound noun in the form of 'Adjective and Noun' in Myanmar. If we change the order of 'noun and adjective' of the above words, we have to add suffix to these adjectives to form the modifying adjectives¹²⁾, and it will just become a noun phrase. Sometimes the meaning does not change, but it is changed sometimes. If we change the order of the above words, for example—

(3.15)

Adjective	Suffix	Noun	= Noun phrase
/sein:/ green	/te./	/kjaʊ/ stone	= /sein: te. kjaʊ/ a green stone
/mjɪn./ high	/thi./	/sin/ stage	= /mjɪn. thi. sin/ a high stage
/kaun:/ good	/tho:/	/sə ya/ teacher	= /kaun: tho: sə ya/ a good teacher

The stems of adjectival verb /sein:/, /mjɪn./ and /kaun:/ are attached by the adjective suffix '/te./, /thi./, and /tho:/' that have the same meaning, to form the adjective to modify the noun. It is like an adjectival verb is attached by '(u)n' (၁) to form an adjective, e.g.

12) As I have mentioned above, 'adjective' here is the stem of adjectival verb in Myanmar. If it is used as an modifying adjective, adjective suffixes such as - /thou/, /thi./ and /te./ are attached to it.

'choh ta 좋다= be good' to 'choh un 좋은= good' in Korean. We can see that the meaning of jade is changed into a green stone but the others are not changed. The different point is that compound noun can be modified by adjective, but noun phrase can only be modified by using adjective and conjunction. It means that a noun can be modified by an adjective but a noun phrase can only be modified by adding more adjectives using a conjunction. Here are some examples.

(3.16)

Adjective	Suffix	Compound Noun	= Noun phrase
/tan phoe: shi./ precious	/tho:/	/kjau' sein:/ jade	= /tan phoe: shi. tho: kjau' sein:/ a precious jade
/hla. pa./ beautiful	/tho:/	/sin mjin./ high stage	= /hla. pa. tho: sin mjin./ a beautiful high stage
/nge jwe/ young	/tho:/	/saya kaun:/ good teacher	= /nge jwe tho: sa ya kaun:/ a good young teacher

Compound nouns are modified by adjectives in the above examples.

(3.17)

Adjective	Conjunction	Adjective	Suffix	Noun	= Noun phrase
/kji:/ big	/pji:/ and	/sein:/ green	/tho:/	/kjau'/ stone	= /kji: pji: sein: tho: kjau'/ a big green stone
/kje/ large	/pji:/ and	/mjin./ high	/tho:/	/sin/ stage	= /kje pji: mjin. tho: sin/ a large high stage
/nge jwe/ young	/pji:/ and	/kaun:/ good	/tho:/	/sa ya/ teacher	= /nge jwe pji: kaun: tho: sa ya/ a good young teacher

Two stems of adjectival verb are connected with a conjunction and attached by the adjective suffix to modify a noun in the above examples. Here we can see that the adjectives in Myanmar can only be combined by using conjunctions, but the adjectives in English can be combined in order, with or without conjunctions.

(3.18)

For example— a big and green stone / a big green stone
 a large and high stage / a large high stage
 a good and young teacher / a good young teacher

3.3.b. 'Noun+Noun+Adjective' compound noun

There are two combination patterns in this compound noun. It is not productive in Myanmar. Here are some examples of this pattern.

(3.19)

Noun	+	Noun	+	Adjective	=	Compound Noun
/shwei/ gold	+	/ba zun/ shrimp	+	/chau'/ dried	=	/shwei ba zun gjau'/ Dried gold shrimp
/pin le/ sea	+	/jei/ water	+	/ngan/ salty	=	/pin le jei ngan/ Salty sea water
/lu/ human	+	/jei/ ability	+	/chun/ brilliant	=	/lu jei gjun/ Outstanding student

The head nouns of the first and second examples are /ba zun/ 'shrimp' and /jei/ 'water'. First, they are modified by the first elements /shwei/ 'gold' and /pin le/ 'sea', and they become two word compound nouns /shwei ba zun/ 'gold shrimp' and /pin le jei/ 'sea water'. Then, they are modified by the adjective /chau/ 'dried' and /ngan/ 'salty', and they become three word compound nouns /shwei ba zun chau/ 'dried gold shrimp' and /pin le jei ngan/ 'salty sea water'.

They are endocentric compound noun. I will present only one representation as they are in the same pattern.

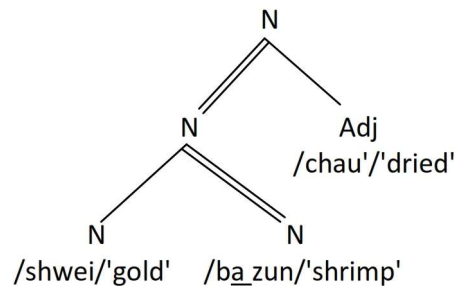


Figure 24 - Dried gold shrimp ရွှေပုစွန်ခြောက်

The head noun of the third example is the first noun /lu/ 'human'. First, the adjective /chun/ 'brilliant' modifies the second element /jei/ 'ability' to form the compound noun /jei chun/ 'brilliant ability'. Then this compound noun modifies the head noun /lu/ 'human' to form the compound noun /lu jei gjun/ 'the person with brilliant ability, an outstanding student'. This is an endocentric compound noun.

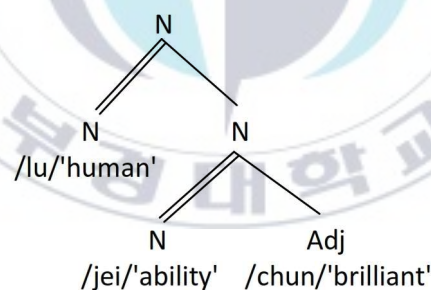


Figure 25 - Outstanding student လူရည်ချွန်

3.3.c. 'Noun+Adjective+Noun' compound noun

The combination pattern of this compound noun is consistent and there is only one pattern. This pattern is quite productive in Myanmar as there are over 15 entries in this pattern in the Myanmar dictionary. Here are some examples of this patterns.

(3.20)

Noun	+	Adjective	+	Noun	=	Compound Noun
/jei/	+	/pu/	+	/san:/	=	/jei bu san:/
water		hot		spring		Hot spring
/ywe'/	+	/hla./	+	/pan:/	=	/ywe' hla. ban:/
leaf		beautiful		flower		Garden croton plant
/lei/	+	/ei:/	+	/se'/	=	/lei ei: ze'/
air		cold		machine		Air conditioner

The head noun of this compound noun is always the last noun at the right end most. The second elements which are adjectives modify the first elements to form the two word compound nouns, and these compound nouns modify the head nouns. The adjectives /pu/ 'hot', /hla./ 'beautiful' and /ei:/ 'cold' modify the first elements /jei/ 'water', /ywe'/ 'leaf' and /lei/ 'air' respectively. Then these compound nouns modify the head nouns /san:/ 'spring', /pan:/ 'flower' and /se'/ 'machine' to form the three word compound nouns /jei bu san:/ 'Hot spring', /ywe' hla. ban:/ 'Garden croton plant' and /lei ei: ze'/ 'Air conditioner'. I will present only one representation since they have the same attribution pattern.

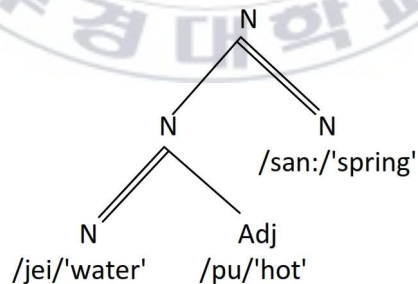


Figure 26 - Hot spring ဇရပူစမ်း

3.3.d. 'Noun+Noun+Adjective+Noun' compound noun

The head noun of this compound noun is the fourth element */sa' pja/* 'soap' at the right end most. This is an endocentric compound noun and is not productive in Myanmar.

(3.21)

Noun	+ Noun	+ Adjective	+ Noun	= Compound Noun
<i>/sin/</i>	+ <i>/chi:/</i>	+ <i>/toun:/</i>	+ <i>/sa' pja/</i>	= <i>/sin chi: doun: sa' pja/</i>
elephant	excrement	solid	soap	Rough black soap

First, the third element */toun:/* 'solid' modifies the second element */chi:/* 'excrement' to form */chi: doun:/* 'solid excrement'. Next, the first element */sin/* 'elephant' modifies this compound noun */chi: doun:/* 'solid excrement' to form */sin chi: doun:/* 'elephant's solid excrement'. Then this three word compound noun modifies the head noun */sa' pja/* 'soap' to form the four word compound noun */sin chi: doun: sa' pja/* 'soap which looks like elephant's excrement, a rough black soap'.

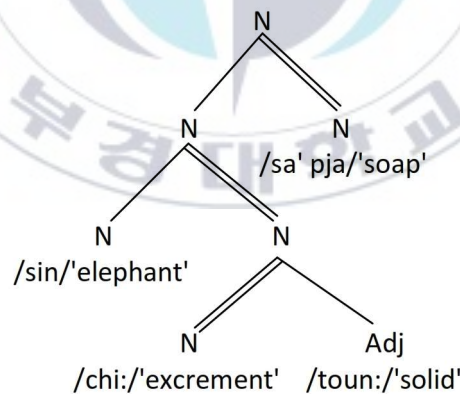


Figure 27 - Rough black soap ဆင်ချေးတုံးဆပ်ပြာ

3.4. 'Noun, verb and adjective' compounding

There are two ways to combine noun, verb and adjective to form a compound noun in Myanmar. They are – 'Noun+ Verb+ Adjective' compound noun and 'Noun+Adjective+Verb' compound noun.

3.4.a. 'Noun+Verb+Adjective' compound noun

There are three combination patterns in this compound noun. This pattern is not productive in Myanmar. Here are some examples.

(3.22)

Noun	+ Verb	+ Adjective	= Compound Noun
/hsan/ hair	+ /ji'/ coil	+ /wain:/' circular	= /hsa ji' wain:/' Hair do with a top knot and a circular fringe
/jei/ water	+ /kje'/' be boiled	+ /ei:/' cold	= /jei kje' ei:/' Cold boiled water
/le'/' hand	+ /thou'/' mix	+ /soun/' various	= /le' thou' soun/' Salad mix

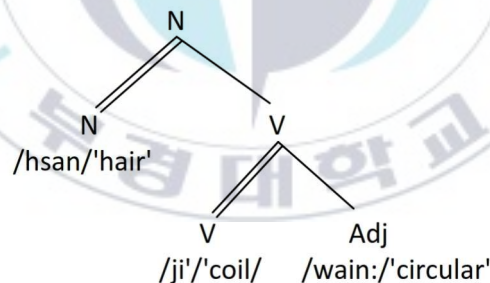


Figure 28 - Hairdo ဆံရံပုံစံ:

The head noun of this example is /hsan/ 'hair'. First, the third element /wain:/ 'circular' modifies the second verb /ji'/ 'make a light cut' and they become the compound verb /ji' wain:/ 'to make a light cut in circular shape'. Then, this compound verb modifies the head noun /hsan/ 'hair' and they become the three word compound noun

/hsa ji' wain:/ 'hair do with a top knot and circular fringe'. This compound noun is an endocentric compound noun.

There are two hairdos: /bi: za ba'/ 'a hairdo with coiled hair round a comb' and /hsa ji' wain:/ 'a hairdo with a top knot and circular fringe' in my thesis. The pictures of these hairdos are shown below.



/bi: za ba'/

/hsa ji' wain:/

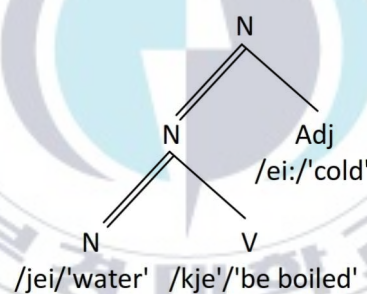


Figure 29 - Cold boiled water ရေကျက်အေး

The head noun in this example is /jei/ 'water'. First, the second element /kje/ 'be boiled' modifies the head noun /jei/ 'water' and they become the two word compound noun /jei kje/ 'boiled water'. Then this compound noun is modified by the third element /ei:/ 'cold' and three word compound noun /jei kje' ei:/ 'cold boiled water' is formed. This compound is an endocentric compound noun.

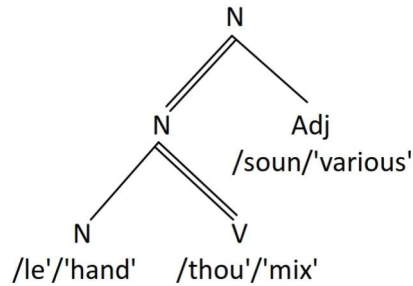


Figure 30 - Salad mix လက်သုတ်စုံ

There is no head noun in this example and it is an exocentric compound noun. First, the first element */le/* 'hand' modifies the second element */thou/* 'mix' to form the compound verb */le' thou/* 'to mix by hand'. This compound verb modifies the semantic head outside the components 'food' and it becomes an exocentric compound noun */le' thou/* 'salad which is mixed by hand'. Then the third element */soun/* 'various' modifies the compound noun */le' thou/* and they become the three word compound noun */le' thou' soun/* 'various salad mixed by hand, salad mix'.

3.4.b. 'Noun+Adjective+Verb' compound noun

The head noun of this pattern is the first element on the left and it is an endocentric compound noun. It is not productive in Myanmar. Here are some examples of this compound noun.

(3.23)

Noun	+	Adjective	+	Verb	=	Compound Noun
<i>/moun./</i> snack	+	<i>/sein:/</i> un-kneaded	+	<i>/paun:/</i> steam	=	<i>/moun. sein: baun:/</i> Steamed rice cake
<i>/jei/</i> water	+	<i>/ke/</i> frozen	+	<i>/chi'/</i> shred	=	<i>/jei ge gji'/</i> Shredded ice snack

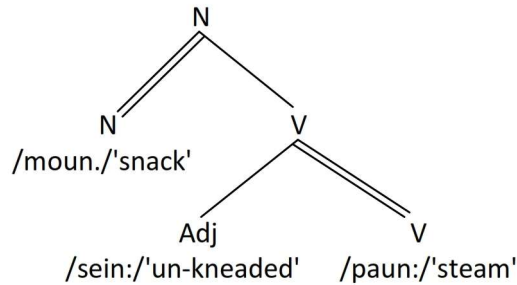


Figure 31 - Steamed rice cake မုန့်စိမ်းပေါင်း

The head noun is the first element */moun./ 'snack'*. First, the second element */sein:/ 'un-kneaded'* modifies the third element */paun:/ 'steam'* and the two word compound verb */sein: paun:/ 'steam the un-kneaded rice'* is formed. Then this compound verb modifies the head noun and they become the three word compound noun */moun. sein: paun:/ 'steamed rice snack'*.

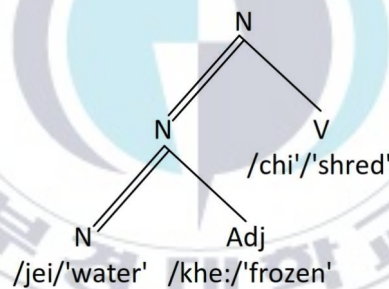


Figure 32 - Shredded ice snack ရေခဲခြစ်

There is no head noun in this example and it is an exocentric compound noun. First, the second element */khe:/ 'frozen'* modifies the first element */jei/ 'water'* and they become the compound noun */jei ge:/ 'ice'*. Then, this compound noun is modified by the third element */chi/ 'shred'* and they become the compound verb */jei ge: gji/ 'to shred ice'*. This compound verb modifies the semantic head outside the components *'snack'* and it becomes an exocentric compound noun */jei ge: gji/ 'shredded ice snack'*.

3.5. 'Verb and noun' compounding

In 2.a, we have seen that noun and verb are combined to form a compound noun. Verb and noun can also be combined to form a compound noun in Myanmar. There are four ways to combine verb and noun to form a compound noun and there is also an exceptional case in this compounding.

3.5.a. 'Verb+Noun' compound noun

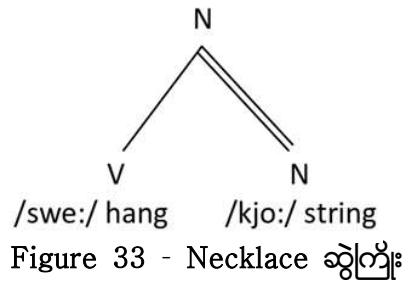
The head noun of this compound noun is always at the right end most. The first element which is verb always modifies the head noun. It is productive in Myanmar and is an endocentric compound noun.

(3.24)

Verb	+	Noun	=	Compound Noun
/hswe:/ hang	+	/kjou:/ string	=	/hswe: kjou:/ Necklace
/thau'/ drink	+	/hsei:/ medicine	=	/thau' hsei:/ Oral medicine
/mwei:/ bear	+	/nei./ day	=	/mwei: nei./ Birthday

The first elements /hswe:/ 'hang', /thau'/ 'drink' and /mwei:/ 'bear' modify the head nouns /kjou:/ 'string', /hsei:/ 'medicine' and /nei./ 'day' to form the compound noun /hswe: kjou:/ 'necklace', /thau' hsei:/ 'oral medicine' and /mwei: nei./ 'birthday' respectively.

It seems that using verb as a modifier is stronger than using adjective as a modifier to form compound noun in Myanmar. Though verb can modify before noun or after noun, adjective can only modify after noun to form compound noun. I will present only one representation as they are in the same pattern.



3.5.b. 'Verb+Noun+Noun' compound noun

The combination pattern of this compound noun is consistent and it is an endocentric compound noun. It is not productive in Myanmar. Here are some examples of this compound noun.

(3.25)

Verb	+	Noun	+	Noun/	=	Compound Noun
/ho:/ forecast	+	/sa/ words	+	/tan:/ record	=	/ho: za dan:/ Horoscope in writing
/thau./ drink	+	/jei/ water	+	/ou:/ pot	=	/thau. jei ou:/ Drinking water pot

The head nouns are the last nouns /tan:/ 'record' and /ou:/ 'pot' in these examples. The second element /sa/ 'words' and /jei/ 'water' modify the head nouns and two word compound nouns /sa tan:/ 'record in words' and /jei ou:/ 'water pot' are formed. The first elements /ho:/ 'forecast' and /thau/ 'drink' modify these compound nouns to become the three word compound nouns /ho: za dan:/ 'Horoscope in writing' and /thau' jei ou:/ 'drinking water pot'. I will present only one representation as they have the same pattern.

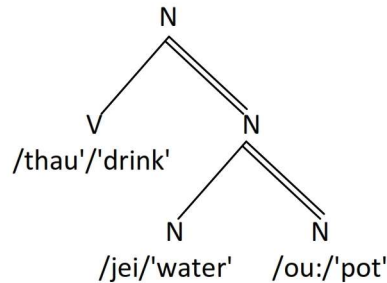


Figure 34 - Drinking water pot သောက်ရေအိုး

3.5.c. 'Verb+Verb+Noun' compound noun

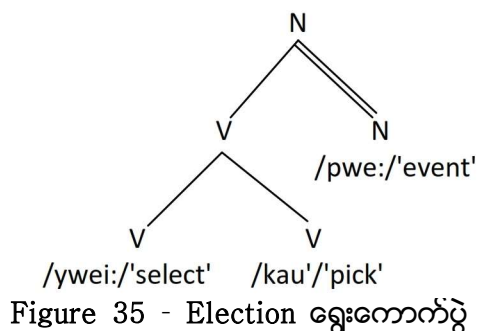
There is only one combination pattern in this compound noun. The head noun is always the third element at the right end most. The verbs in this compound noun are combined to form a compound verb and the compound verb modifies the head noun. It is an endocentric compound noun. Some examples of 'Verb+Verb+Noun' compound nouns are—

(3.26)

Verb	+	Verb	+	Noun	=	Compound Noun
/sa:/ eat	+	/thoun:/ use	+	/thu/ person	=	/sa: thoun: thu/ Consumer
/jwei:/ select	+	/kau'/ pick	+	/pwe:/ event	=	/jwei: kau' pwe:/ Election
/pjou'/ boil	+	/kjo/ fry	+	/hin:/ dish	=	/pjou' kjo hin:/ Boiled and fried dish

The verb /sa:/ 'eat' and /thoun:/ 'use', /jwei:/ 'select' and /kau'/ 'pick', and /pjou'/ 'boil' and /kjo/ 'fry' are combined to become the compound verbs /sa: thoun:/ 'consume', /jwei: kau'/ 'elect', and /pjou' kjo/ 'boil and fry'. Then they modify the head noun /thu/ 'person', /pwe:/ 'event' and /hin:/ 'dish' respectively, and three word compound nouns /sa: thoun: thu/ 'consumer', /jwei: kau' pwe:/ 'election' and /pjou' kjo hin:/ 'boiled and fried dish'.

kjo hin:/ 'boiled and fried dish' are formed. I will present only one representation as they have the same pattern.



3.5.d. 'Verb+Verb+Verb+Verb+Noun' compound noun

This is a very rare pattern in Myanmar and it is an endocentric compound noun. Here is the example of this compound noun.

(3.27)

Verb	+	Verb	+	Verb	+	Verb	+	Noun	=	Compound Noun
/pjei:/	+	/khoun/	+	/pji'/	+	ga za:/	+	/pwe:/	=	/pjei: khoun pji' ga za: pwe:/
run		jump		throw		play		event		Track and field game

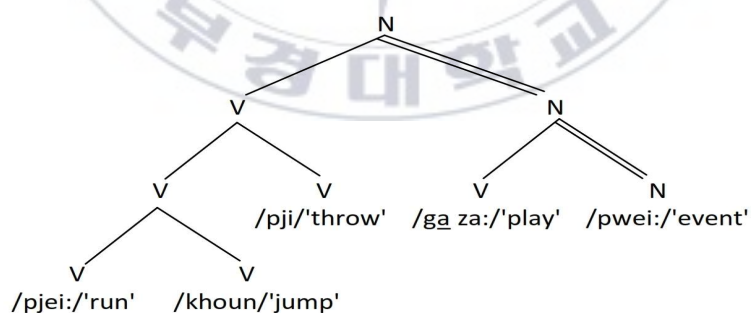


Figure 36 - Track and field game ပြေးခုန်ပစ်ကစားပွဲ

The head noun of this compound noun is the compound noun */ga za: pwe:/* 'game' in this example. First, the first element */pjei:/* 'run' and the second element */khon/* 'jump' combines to form the

compound verb /pjei: khon/ 'run and jump'. Next, this compound verb combines with the third element /pji'/ 'throw' and they form the compound verb /pjei: khon pji'/ 'run, jump and throw', and the fourth element /ga za:/ 'play' modifies the head noun /pwe/ 'event' to form the compound noun /ga za: pwe:/ 'game'. Then, the three word compound verb modifies the two word compound noun and they become the five word compound noun /pjei: khoun pji' ga za: pwe:/ 'track and field game'.

3.5.e. The exceptional case of 'Verb and Noun' compounding

I found a 'Verb and Noun' compound noun which seems to be in the form of 'Adjective and Noun' compound noun and a 'Verb+ Verb+Noun' compound noun which seem to be in the form of 'Verb+ Adjective+Noun' compound noun. I do not find the other compound noun in this pattern in the Myanmar dictionary, so I analyze them separately as exceptional cases of 'Verb and Noun' compound nouns. They are /chin ba'/ 'pickle' and /su' kje in: gji/ 'vest'.

(3.28)

Verb(Adj)	+	Noun	=	Compound Noun
/chin/	+	/hpa'/	=	/chin ba'/
sour		substance		Pickle

/chin ba'/ 'pickle' is fruit pickle or vegetable pickle which is made to be sour for the purpose of preserving. The word /chin/ seems to have the meaning of adjective in these compound nouns. However, I decide to put them in the group of 'Verb and Noun' compound noun since there is no 'Adjective and Noun' compound noun in Myanmar and the denotation of /chin/ is 'to make sour' rather than 'sour'. On the other hand, there is no pure adjective in the lexems of Myanmar. Here are some examples of using /chin/ as a verb.

(3.29)

/sjau' thi:	thi	chin	thi/
Citrus	sub: marker	sour	verb affix
Citrus is sour.			

Therefore, the word /chin/ is a verb in this word and it is in the pattern of 'Verb+Noun' compound noun though the meaning of /chin/ is adjective.

(3.30)

Verb	+	Verb (Adjective)	+	Noun	=	Compound Noun
/su'/	+	/kje/	+	/in: gji/	=	/su' kje in: gji/
put on		get larger		clothes		Vest

Another exceptional word is /su' kje in: gji/ 'vest' which seems to be in the form of 'Verb+Adjective+Noun'. The head noun is /in: gji/ 'clothes' in this compound noun. The first element is /su/ 'put on' which is a verb. The second element is /kje/ 'large' which seems to be an adjective. These two elements combine to become 'a verb or an adjective' to modify the head noun. It means that the head noun is modified by the compound verb or the compound adjective. When I analyzed this compound /su' kje/, the semantic head is /kje/ 'large' which is modified by the first element /su/ 'put on', because the meaning is that something is large when putting on. Therefore it seems that the head noun is modified by the compound adjective. However, according to my research, there is no 'Adjective+Noun' compound noun. So, I analyzed it again whether it can be a compound verb. I realized that the second element is not an adjective but a verb and the meaning, in fact, is something which is getting larger by putting on, but not something which is large by putting on. So, the second element which seems to be an adjective is, in fact, a verb /kje/ 'get larger'. Therefore it is in the pattern of 'Verb+Verb+Noun' and the head noun is modified by the compound verb.

Diagram illustrating the structure of a noun phrase (NP) and verb phrase (VP) in a sentence:

```
graph TD
    N1[N] --- V1[V]
    N1 --- N2[N]
    V1 --- V2[V]
    V1 --- V3[V]
    N2 --- VP[/in: gji/'clothes'/]
    V2 --- VP1[/su/'put on'/]
    V3 --- VP2[/kje/'get larger'/]
```

The diagram shows a hierarchical structure. At the top is a node 'N'. It branches into a node 'V' and a node 'N'. The 'V' node branches into two 'V' nodes. The rightmost 'N' node is labeled '/in: gji/'clothes'/'. The leftmost 'V' node branches into two 'V' nodes. The leftmost 'V' node is labeled '/su/'put on'/'. The rightmost 'V' node is labeled '/kje/'get larger'/'. A blue banner with the text 'Lecture 10' is visible in the background.

The head noun in this example is the third element /in: gji/ 'clothes'. First, the first element /su/ 'put on' modifies the second element /kje/ 'get larger' and they become the compound verb /su' kje/ 'get larger when putting on'. This compound verb modifies the head noun /in: gji/ 'clothes' and they become the three word compound noun /su' kje in: gji/ 'vest'. We also use the exocentric compound noun /su' kje/ for the meaning of 'vest' in Myanmar.

It is surprising that two verbs can be combined to form a compound noun in Myanmar. It seems impossible to form a compound noun from a verb in other languages¹⁴⁾. These verbs are combined in the equal status and both of them modify the semantic head outside

14) In English, there are some verbs which are in noun forms and some nouns which are in verb forms. This is the result of what is called 'conversion' or 'zero derivation' in English morphology.

the compound noun such as a thing, a tool, a doll, a kind of food and so on. I would like to present the idea of how it is thought to be a compound noun and what kind of verbs are chosen to be combined.

I will group three categories to present about 'Verb and Verb' compound noun in Myanmar. They are –

- a. Verbs in the similar meaning compounding
- b. Verbs in the related meaning compounding and
- c. The exceptional case.

3.6.a. Verbs in the similar meaning compounding

Most of the 'Verb and Verb' compound nouns in Myanmar are in this category. Two of the verbs in similar meaning are combined to be a compound noun which is a thing or a tool. The action in these compound verbs are almost the same. If we analyze the first example /phja' pain:/ below, the first element /phja'/ means cut and /pain:/ means cut to divide into pieces. So they have the common sense 'cut'. Here are some examples of verb in similar meaning compound noun.

(3.31)

Verb /phja'/ cut	+ Verb + /pain:/ divide	= Compound Noun = /phja' pain:/ Receipt
/pu/ bulge	+ /hpaun:/ bloat	= /bu baun:/ Balloon
/kjo/ shout loudly	+ /nja/ shout	= /kjo nja/ Advertisement
/ou'/ cover	+ /hsaun:/ cover one's head	= /ou' hsaun:/ Mesh cover(for food)
/pau'/ strike	+ /tu:/ dig	= /pau' tu:/ Hoe

The paper you cut, divide and give to someone is a receipt; a thing which is bulged and bloated is a balloon; an action you shout loudly to let others know is an advertisement; a thing you use to cover on food is a mesh cover; a tool you use to strike and dig the ground is a hoe. The verbs cut and divide, bulge and bloat, shout loudly and shout, cover and cover one's head, and strike and dig are the similar meaning pairs in these examples.

Among these 'Verb and Verb' compound nouns, /kjo nja/ 'advertisement' may be in the form of 'verb to noun' conversion because we seldom use these two verbs separately. So, this one may be the conversion from /kjo nja thi/ 'to advertise' to /kjo nja/ 'advertisement'. We seldom use other verb pairs but we use them as separate verbs. For example, we seldom use the verb pair /pja' pain: thi/ 'to cut and divide', but we use them as separate verbs /pja' thi/ 'to cut' and /pain: thi/ 'to divide'.

3.6.b. Verbs in the related meaning compounding

Some 'Verb and Verb' compound nouns in Myanmar are combination of related meaning verbs. The action of these verbs are not in common but they are related each other. If we analyze the first example below, the verbs /pjou/ 'boil' and /kjo/ 'fry' are related to the verb 'cook' and the verbs in the third example /htwei:/ 'spit out' and /khan/ 'receive' are related action like *'buy and sell'* in English and 'wass ta gass ta 왔다갔다' in Korean. Here are some examples.

(3.32)

Verb	+	Verb	=	Compound Noun
/pjou/	+	/kjo/	=	/pjou' kjo/
boil		fry		Boiled and fried food
/kjo/	+	/che'/	=	/kjo che'/
fry		cook		Fried and cooked food

/htwei:/	+	/khan/	=	/htwei: khan/
spit out		receive		Spittoon

The food you boil and fry is '*boiled and fried food*', the food you fry and cook is '*fried and cooked food*' and the thing you use to receive when you spit out is '*a spittoon*'. The verbs '*boil and fry*', '*fry and cook*', and '*spit out and receive*' are related in meaning in the above examples.

These verb pairs may not be conversion as we seldom use these verb pairs as verbs in Myanmar but we use them separately.

3.6.c. Exceptional case

When I do my research on Myanmar compound nouns, I noticed some exceptions in 'Verb and Verb' compound noun. They are /ou' hme./ '*the ripe fruit which is undergone artificial process*', /chou chin/ '*candy*', /nge kjo: nge na/ '*sore point of one's past*' and /pji' tain: htaun/ '*tumbling doll*' which are exocentric. I do not find other words like them in the Myanmar dictionary.

Among these exceptions, three compound nouns, except /pji' tain: htaun/ '*tumbling doll*', seem to be in the form of 'Verb and Adjective' or 'Adjective and Verb' compound noun. I decide to put them under the category of 'Verb and Verb' compound noun as there is no 'Verb and Adjective' compound noun in Myanmar. According to my research, the verb in Myanmar modifies 'the noun and the verb' to form 'the compound noun and the compound verb'. Therefore I decide to put these three compound nouns in the group of 'verb and verb' compound noun to have consistency. On the other hand, there is no pure adjective in Myanmar and there is only adjectival verb like in Korean. Suffixes are added to the stem of adjectival verb to become adjective both in Myanmar and Korean. These suffixes are attached to

the verb stems to form the adjectives in Myanmar like in Korean. For example–

(3.33)

Language	Verb	Adj: suffix	Noun	= Noun Phrase
Myanmar	/lou' /	/te. /	/a lou' /	= /lou' te. a lou' /
Korean	/ha /	/nun /	/il /	= /ha nun il /
	to do	adj: suffix	work	The work I do

Language	Verb(Adj)	Adj: suffix	Noun	= Noun Phrase
Myanmar	/kaun: /	/te. /	/lu /	= /kaun: te. lu /
Korean	/choh /	/un /	/sa ram /	= /choh un sa ram /
	be good	adj: suffix	man	a good man

Let us analyze the Verb and Verb compound noun /ou' hme./ 'the fruit which is ripe in artificial process'.

(3.34)

Verb	+ Verb (Adjective)	= Compound Noun
/ou' /	+ /hme. /	= /ou' hme. /
cover	be ripe	The fruit which is ripe in artificial process

The fruit which is ripe by covering something on it is called /ou' hme./ in Myanmar. I would like to put this compound noun in the group of verb in related meaning compounding as the verb /ou' / 'cover' and the adjectival verb /hme. / 'be ripe' are related in meaning. I think it as an exceptional 'Verb and Verb' compound noun because the second verb is not a pure verb but an adjectival verb.

Let us analyze the second exceptional case of 'Verb and Verb' compound noun /chou chin/ 'candy'.

(3.35)

Verb (Adjective)	+ Verb (Adjective)	= Compound Noun
/chou /	+ /chin /	= /chou chin /
be sweet	be sour	Candy

The compound members /*chou*/ 'sweet' and /*chin*/ 'sour' are adjectival verbs in the lexemes in Myanmar. They are used mainly as the verb and as the modifying adjective. This compound noun may be in the form of 'Verb and Verb', 'Adjective and Adjective' and 'Verb and Adjective' compounding. However, there is no 'Adjective and Adjective' and 'Verb and Adjective' compound noun in Myanmar, and the meaning of the elements in this compound noun are related to taste. Therefore I decide to put it in the 'Verb and Verb' compound noun group which has related meaning. In the example (3.28), the adjectival verb /*chin*/ 'be sour' in the compound noun /*chin ba*/ 'pickle' is also decided to be a verb too.

The third exceptional case is a four word compound noun /*nge kjo: nge na*/ 'sore point of one's past'.

(3.36)

Verb (Adj)	+	Verb	+	Verb (Adj)	+	verb	=	Compound Noun
/nge/	+	/kjou:/	+	/nge/	+	/na/	=	/nge gjou: nge na/
young		be broken		young		hurt		Sore point of one's past

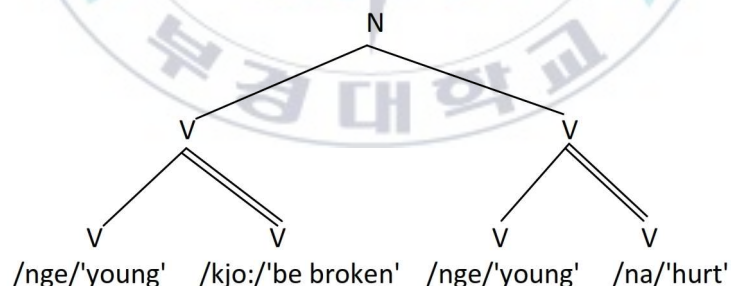


Figure 38 - Sore point ငယ်ကိုးငယ်နာ

This compound noun seems in the form of 'Adjective+ Verb+Adjective+Verb' compound noun. As I have mentioned that there is no 'Verb+Adjective' and 'Adjective+Verb' compound noun in Myanmar, I decide to put it in the form of 'Verb+Verb+Verb+Verb'

compound noun. The adjectival verb /nge/ 'be young' appears twice in this compound noun. The first element and the third element /nge/ 'be young' modify the second element /kjo:/ 'be broken' and the fourth element /na/ 'hurt' to form compound verbs. Then these two compound verbs are combined to become the compound verb and this compound verb modifies the head noun outside the compound members 'a point' to form the four word compound noun /nge kjo: nge na/ 'sore point of one's past' which is exocentric.

The fourth exceptional 'Verb and Verb' compound noun is /pji' tain: htaun/ 'tumbling doll'. It is surely a noun as the meaning is 'a tumbling doll'. However the formation of this word is special. Here is the formation –

(3.37)

Verb	+	Conjunction	+	Verb	=	Compound Noun
/pji'/	+	/tain:/	+	/htaun/	=	/pji' tain: htaun/
throw		whenever		stand		tumbling doll

This compound noun violates the definition of the compound noun in Myanmar since the meaning of compound noun is – 'A proper combination of noun, verb, pronoun, adjective or adverb without preposition, affix and conjunction is called the compound noun in Myanmar.' However, according to the meaning of this word, 'a tumbling doll or a toy which always stands whenever you throw' is a noun. So, it is clear that this compound noun is a 'Verb and Verb' compound noun with an extra conjunction. It is also under the category of verb in related meaning compound noun which is exocentric. Therefore I analyze it as an exceptional 'Verb and Verb' compound noun.

By analyzing the compound noun in Myanmar, I found out some characteristics of the Myanmar Compound Noun. They are:

1. The semantic head can be both on the right and the left of a

compound noun.

2. There is no 'Adjective+Noun' compound noun although the modifying adjective is always before noun in Myanmar.
3. Verb can modify a noun from both side.
4. The modifier role of the verb is stronger than the noun in Myanmar.
5. 'Verb+Verb' can be an exocentric compound noun in Myanmar.



IV. Myanmar Compound Nouns and the Right-hand Head Rule

In this section, I would like to analyze Myanmar compound noun whether it obeys the Right-hand Head Rule. The tables below show the relationship between Myanmar compound noun and the Right-hand Head Rule.

Table 3. The compound nouns which obey RHR

Sr.	Patterns	Obey RHR	Not obey RHR	No head
1	N+N+N	✓		
2	N+V+N	✓		
3	N+V+V+N	✓		
4	N+V+N+N	✓		
5	N+N+V+N	✓		
6	N+V+N+V+N	✓		
7	N+V+V+V+N	✓		
8	N+A+N	✓		
9	N+N+A+N	✓		
10	V+N	✓		
11	V+N+N	✓		
12	V+V+N	✓		
13	V+V+V+V+N	✓		

The patterns which obey RHR are 'N+N+N', 'N+V+N', 'N+V+V+N', 'N+V+N+N', 'N+N+V+N', 'N+V+N+V+N', 'N+V+V+V+N', 'N+A+N', 'N+N+A+N', 'V+A+N', 'V+N', 'V+N+N', 'V+V+N' and 'V+V+V+V+N'.

The combination of 'N+N+N' is in the pattern of 'compound noun and head noun' or 'noun and compound head noun' (See Figure 3, Figure 4 and Figure 5).

The combination of 'N+V+N' is in the pattern of 'compound verb (N+V) and head noun' (See Figure 12).

The combination of 'N+V+V+N' is in the pattern of 'compound verb (N+V+V) and head noun' (See Figure 17).

The combination of 'N+V+N+N' is in the pattern of 'compound verb (N+V) and compound head noun (N+N)' (See Figure 18).

The combination of 'N+N+V+N' is in the pattern of 'compound verb (N+N+V) and head noun' (See Figure 19 and Figure 20).

The combination of 'N+V+N+V+N' is in the pattern of 'compound verb (N+V+N+V) and head noun' (See Figure 21).

The combination of 'N+V+V+V+N' is in the pattern of 'compound verb (N+V+V) and compound head noun (V+N)' (See Figure 22).

The combination of 'N+A+N' is in the pattern of 'compound noun (N+A) and head noun' (See Figure 26).

The combination of 'N+N+A+N' is in the pattern of 'compound noun (N+N+A) and head noun' (See Figure 27).

These compound nouns obey the Right-hand Head Rule because there is always a noun at the right end most of the compound noun and it is the head.

From these combination, we can assume that compound verb can be formed by combining 'N+V', 'N+V+V', 'N+N+V' and 'N+V+N+V'. By seeing this fact, these compound verbs obey RHR too as there is always a verb at the right end most.

It is clear that verb can modify noun to form compound noun by seeing 'V+N', 'V+N+N (verb and compound head noun)', 'V+V+N (compound verb and head noun)' and 'V+V+V+V+N (compound verb and compound head noun)' (See Figure 33, Figure 34, Figure 35 and Figure 36). So the verb plays the big role to modify the noun to form the compound noun in Myanmar.

Table 4. The compound nouns which do not obey RHR

Sr.	Patterns	Obey RHR	Not obey RHR	No head
1	N+V		✓	
2	N+A		✓	
3	N+N+A		✓	
4	N+V+A		✓	
5	N+A+V		✓	
6	N+V+V		✓	✓
7	N+V+N+V		✓	✓

The patterns which do not obey RHR are 'N+V', 'N+A', 'N+N+A', 'N+V+A', 'N+A+V', 'N+V+V' and 'N+V+N+V'. Why these patterns do not obey RHR is clearly seen that the right end most element is not a noun though they are compound nouns, and the head noun or the compound head noun is on the left or some of them are exocentric compound nouns whose heads are outside the compound members. (See Figure 8, Figure 13, Figure 14, Figure 15, Figure 16, Figure 23, Figure 24, Figure 28, Figure 29, Figure 30, Figure 31 and Figure 32).

Table 5. The compound nouns which obey and which do not obey RHR

Sr.	Patterns	Obey RHR	Not obey RHR	No head
1	N+N	✓	✓	
2	N+N+V	✓	✓	
3	N+N+N+N	✓		✓

Some 'N+N' and 'N+N+V' compound nouns obey RHR (See Figure 1, Figure 10 and Figure 11) and some 'N+N' and 'N+N+V' compound nouns do not obey RHR (See Figure 2 and Figure 9). It seems the unique character that the head noun is on the left in

Myanmar 'Noun+Noun' compound noun. Therefore, some 'Noun+Noun' compound nouns obey and some do not obey RHR.

Some 'N+N+N+N' compound nouns obey RHR and some do not obey because they are exocentric compound noun. (See Figure 6 and Figure 7)

Table 6. The exocentric compound nouns and RHR

Sr.	Patterns	Obey RHR	Not obey RHR	No head
1	V+V			✓

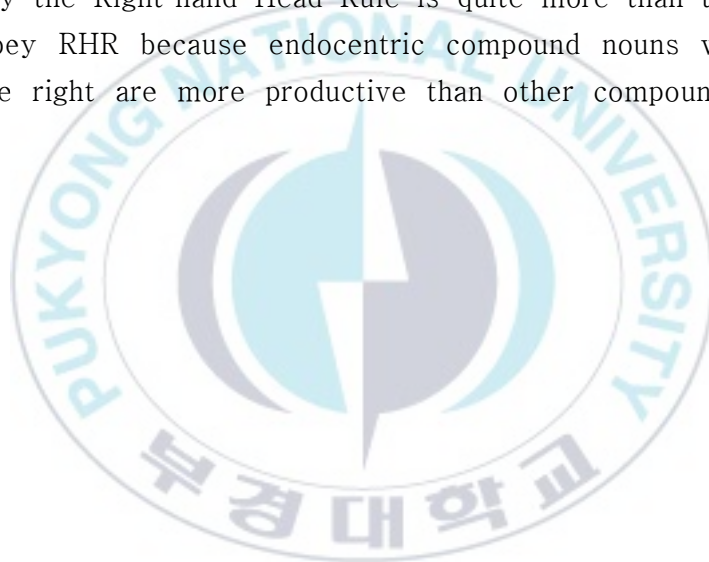
Some patterns do not obey RHR because there is no head in compound members and they are exocentric. 'V+V' compound nouns is in this pattern.

Table 7. Myanmar Compound Nouns and RHR

Sr.	Patterns	Obey RHR	Not obey RHR	No head
1	N+N	✓	✓	
2	N+N+N	✓		
3	N+N+N+N	✓		✓
4	N+V		✓	
5	N+N+V	✓	✓	
6	N+V+N	✓		
7	N+V+V		✓	✓
8	N+V+N+V		✓	✓
9	N+V+V+N	✓		
10	N+V+N+N	✓		
11	N+N+V+N	✓		
12	N+V+N+V+N	✓		
13	N+V+V+V+N	✓		
14	N+A		✓	
15	N+N+A		✓	
16	N+A+N	✓		

17	N+N+A+N	✓		
18	N+V+A		✓	
19	N+A+V		✓	
20	V+N	✓		
21	V+N+N	✓		
22	V+V+N	✓		
23	V+V+V+V+N	✓		
24	V+V			✓
		16	9	4

Therefore, I would like to assume that the compound nouns which obey the Right-hand Head Rule is quite more than those which do not obey RHR because endocentric compound nouns whose head are on the right are more productive than other compound nouns in Myanmar.



Conclusion

I have tried to analyze the Myanmar compound noun based on the morphological knowledge I have gained in my course.

I presented the English compound noun and the Right-hand Head Rule and introduced the Myanmar language, the Myanmar noun and the Myanmar compound noun in this thesis.

I have presented and analyzed the compound noun in Myanmar and whether they obey the Right-hand Head Rule.

By doing this research, I have gained more knowledge about both the English compound noun and the Myanmar compound noun. As a native speaker of Myanmar language, I have learned about Myanmar compound noun for a long time, but I have never analyzed it in this way. I realized that combination of noun has the hierarchical order and it obeys the binary system of projection. I could also learn what are some condition that a compound noun does not follow the Right-hand Head Rule.

According to my research, there are some characteristic of Myanmar compound nouns which seems to be the special characteristic of Myanmar. They are – the semantic head can be both on the right and the left of a compound noun, there is no 'Adjective+Noun' compound noun although the modifying adjective is always before noun in Myanmar, verb can modify a noun from both side, the modifier role of the verb is stronger than the noun in Myanmar and 'Verb+Verb' can be an exocentric compound noun in Myanmar. I could also found out that the compound nouns which obey the Right-hand Head Rule is quite more than those which do not obey in Myanmar.

I am pleased to introduce my native language 'Myanmar' and I hope it helps those who want to do comparative study on Myanmar and their native language.

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