

Conditional Constructions in Thai: A Lexicase Dependency Analysis

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Abstract

This study aims at investigating conditional constructions in Thai using Lexicase Dependency framework. The findings of the study reveal that semantically there are two main types of conditional constructions: affirmative and negative. Both constructions have different syntactic characteristics. The structures of the conditional affirmative constructions are of two subtypes. That is, the conditional affirmative constructions can appear with or without a subordinate conjunction *thāâ* “if”. The *thāâ* “if” conditional affirmative construction functions as the subordinate clause of a whole construction (in the same way as **if clause** in English). In addition, the conditional affirmative construction without *thāâ* “if” also functions as the subordinate clause of a whole construction. Semantically this kind of conditional construction implies the meaning indicating conditions. The structures of conditional negative constructions are of two subtypes. That is, the conditional negative construction appears with a subordinate conjunction *thāâ* “if” and a negative adverb *mây* “not”. This type of construction only functions as a subordinate clause of the whole construction.

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The other type of conditional negative construction has a double negative *mây--mây* "(if) not, (then) not". The second negative clause functions as the first commanding verb or in a simple term the main clause, whereas the first negative clause functions as a subordinate clause of the whole construction.

Keywords: conditional construction; lexicase dependency grammar;
subordinate clause; syntax

ประโยคเงื่อนไขในภาษาไทย: การวิเคราะห์ตามแนวทฤษฎี ศัพทการกแบบพึงพา

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บทคัดย่อ

งานวิจัยนี้เป็นการศึกษาประโยคเงื่อนไขในภาษาไทย โดยการใช้ทฤษฎีศัพทการกแบบพึงพา จากการศึกษาพบว่าประโยคเงื่อนไขในภาษาไทย สามารถแบ่งตามความหมายได้เป็นประเภทใหญ่ๆ 2 ประเภท คือ แบบบอกเล่าและแบบปฏิเสธ โครงสร้างของประโยคเงื่อนไขแบบบอกเล่าแบ่งได้เป็นประเภทย่อย 2 ประเภท คือ ประเภทที่ปรากฏร่วมกับคำเชื่อม ถ้า และประเภทที่ไม่ปรากฏร่วมกับคำเชื่อม ถ้า ทั้งสองประเภท ประโยคเงื่อนไขจะปรากฏเป็นอนุประโยค (ในทำนองเดียวกับประโยคเงื่อนไขของภาษาอังกฤษ) โดยทำหน้าที่ขยายประโยคหลัก ในทางความหมาย ประโยคเหล่านี้แสดงความหมายของการมีเงื่อนไขแฝงอยู่ ส่วนโครงสร้างของประโยคเงื่อนไขแบบปฏิเสธนั้น แบ่งออกได้เป็นประเภทย่อย 2 ประเภท คือ ประโยคเงื่อนไขที่มีคำเชื่อม ถ้า ปรากฏร่วมกับคำปฏิเสธ ไม่ โครงสร้างเหล่านี้ปรากฏเป็นอนุประโยคเท่านั้น โครงสร้างย่อยอีกประเภทหนึ่ง คือ ประโยคเงื่อนไขแบบปฏิเสธที่มีคำปฏิเสธคู่ ไม่...ไม่ ในโครงสร้างนี้ ประโยคที่มีคำปฏิเสธซ่อนทำหน้าที่เป็นประโยคกริยาหลัก ในขณะที่ประโยคที่มีคำปฏิเสธแรกทำหน้าที่เป็นอนุประโยค

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คำสำคัญ: ประโยคเงื่อนไข; ทฤษฎีศัพท์การกแบบพึงพา; อนุประโยค;
วากยสัมพันธ์

1. Introduction

Those who have worked on syntax applying Lexicase Dependency Grammar as a framework realize that Lexicase is a formal and explicit kind of framework that provides a simple tool to account for almost every construction in any language better than other contemporary syntactic theories. The constructions that are of interest in this paper are conditional constructions in Thai. It is the purpose of this paper to attempt to explain how a syntactic theory with considerable explanatory adequacy, namely Lexicase Dependency Grammar, can account for those constructions in Thai.

The often addressed question has arisen whether there is only a single type of conditional constructions in Thai or not. If not, how many types are there and what are the syntactic characteristics of those constructions? The result of this study will contribute to a better understanding of the diversity of languages and, at the same time, show that the universality of linguistic features can still be legitimately claimed.

2. Conditional constructions in Thai

Conditional constructions in Thai are considered to be a subtype of complex sentences in that they consist of a main clause and a subordinate clause headed by a conditional marker *thâa* “if” such as *thâa fǎn tǒk rǒt k cà tít* “If it rained, a traffic jam would occur.” What would happen if there were data without the conditional marker *thâa*? The question has arisen as to how to account for such data. For example, *kin mǎak cà uân* “(If you) eat too much,

(you will) get fat.” Another example is *mây lɔŋg mây rúu* “(If you) do not try (it), (you) will not know (what it is).” Both sentences are semantically interpreted as indicating a conditional, but syntactically there is no conditional marker *thâa* to overtly indicate this. Even though these two examples are not overtly syntactically conditional, they are however interpreted as conditional. Accordingly, it would be of interest to investigate how Lexicase Dependency Grammar could account for this type of conditional construction in Thai.

Preceding the discussion of conditional constructions in Thai, I would like to lay out some background on how Lexicase Dependency Grammar has viewed the syntactic structures of co-ordination and subordination, something which is crucial in the proposed analysis presented in this study. A co-ordination construction is a construction where lexical heads are coordinating conjunctions, such as *and, but, or*. Such a construction is considered to be exocentric, that is, a construction which has two or more obligatory members. It must have two or more phrases and at least one coordinating conjunction (Starosta, 1988, p. 246). A subordination construction is also exocentric; it appears as the dependent sister of a matrix verb of a main clause. The construction consists of two heads, that is, it has more than one obligatory immediate constituent and takes its features from both of the heads. One of them is headed by a subordinating conjunction such as *if, though, although, however, nonetheless*. The other head is an obligatory predicate constituent (Starosta, 1988, p. 247).

The concept of co-ordination and sub-ordination is applicable to conditional constructions in Thai and is discussed below.

Conditional constructions in Thai appear as a complex sentence having the semantic meaning of stating a condition which is equivalent to an

if-clause construction in English. That is, a conditional construction consists of a main clause and a subordinate clause. It can be noticed that the adverb *kôw* “then” can also appear within the main clause of a conditional clause. A subordinate clause is introduced by the conditional subordinate marker *thâa* “if” as in (1), or in some cases, there is no conditional subordinate marker as in (2).

- (1) *thâa ɲaan sèt chǎn kôw cà pay*
 if work finish I then will go
 ‘If I finished my work, then I would go.’
- (2) *fǒn tòk nàk náam kôw cà thuâm*
 rain fall heavy water then will flood
 ‘If it rained heavily, then it would get flooded.’

In (1) *chǎn kôw cà pay* *Then I would go* is a main clause and *thâa ɲaan sèt* ‘if I finished my work’ is a conditional clause introduced by the conditional marker *thâa* ‘if,’ whereas in (3) *náam kôw cà thuâm* *then it would get flooded* is a main clause and *fǒn tòk nàk* *if it rained heavily* is a conditional clause without a conditional subordinate marker.

The main criterion in establishing a conditional construction is one of the following criteria:

1. A conditional construction is headed by a conditional marker *thâa* “if” followed by a dependent sister predicate head to form a co-head construction. In some cases, the conditional marker *thâa* does not appear; nonetheless, the whole construction is interpreted as marking condition within the discourse context.

2. Within a main clause, the adverb *kôo* can appear with or without the auxiliary *cà*. Or in some case, only the auxiliary *cà* occurs but without the adverb *kôo*.

According to these criteria, conditional constructions in Thai are of two main types: conditional affirmative and conditional negative. A conditional affirmative construction semantically indicates affirmative meaning. Syntactically, the clause consists of a main clause and a subordinate clause. The conditional subordinate clause syntactically appears without the negative morpheme *mây* “not” as in (3-4).

- (3) *dèk chàlàat châat cà_{əəə}n*
 child clever nation prosperous
 ‘If the child is clever, the nation will become prosperous.’
- (4) *thâa cháY phǒngsákfǒk phâa kôo cà sà-àat**
 if use detergent clothes then will clean
 ‘If I / you use some detergent, the clothes will then get
 clean.’

(*Note: In this study, *sà-àat* is treated as a verb because it occurs with the auxiliary verb *cà*. Normally, an auxiliary verb often appears with a verb, thus the occurrence of an auxiliary verb indicates that a lexical item which follows is a verb. Another reason is that *sà-àat* can be negated with the negator adverb *mây* ‘not’, therefore *sà-àat* is treated as a verb (Prasithrathsint, 2013, p. 94).

Both (3) and (4) are conditional affirmative constructions in that they appear without the negative morpheme *mây* “not.” Sentence (3) is considered to be a conditional construction even though there is no conditional subordinate

marker *thâa* “if” because the meaning of the subordinate clause implies a condition. It should be noted that the interpretation as a condition is made within the context of discourse. In addition, the main clause can be expanded by the insertion of the adverb *kôw* “then,” which is an adverb that always appears in a main clause having a conditional clause functioning as its subordinate clause. The equivalent example to (3) is shown in (5):

- (5) *thâa dèk chàlàat châat kôw càəəən*
 if child clever nation also prosperous
 ‘If the child is clever, the nation will become prosperous.’

On the other hand, a conditional double negative construction semantically indicates negative meaning. Syntactically, the conditional construction consists of a main clause and a subordinate clause. Both clauses syntactically appear with the negative morpheme *mây* “not...not” as in (6-7).

- (6) *mây hǐw mây kin*
 not hungry not eat
 (If I / you) don’t feel hungry, (I / you) will not eat.
- (7) (*thîaw mwaŋthay*) *mây pay mây dâw lɛ̌əw*
 travel Thailand not go not possible already
 “(Travel in Thailand) if I / You don’t go, it is not possible (to do that).”
- (8) *thâa raw mây faŋ khonùnwn khonùnwn kôw mây faŋ*
 if we not listen others others then not listen
 raw mǎnkan
 we in the same way
 “If we don’t listen to others, then others will not listen to us either.”

Both (6-8) are conditional negative constructions in that the subordinate clauses *mây h́w* “(if) I/you don’t feel hungry”, *mây pay* “(if) I/ you don’t go”, and *thâa raw mây faṇ khonùuun* “if we don’t listen to others” appear with a negative marker *mây* “not”.

In addition, the subordinate clauses of both (6) and (7) can appear with the conditional subordinate marker *thâa* “if” and the main clause can be expanded by the insertion of the adverb *kôw* “then” as in (9-10). Thus, the entire sentences are conditional constructions and imply a conditional.

- (9) thâa mây h́w kv mây kin
 if not hungry then not eat
 “(If I / you) don’t feel hungry, then (I / you) will not eat.”

- (10) (thîaw muawṭhay) thâa mây pay kôw mây dâw
 travel Thailand if not go then not possible

ĺ́́́w

already

“(Travel in Thailand) if I / You don’t go, it is not possible (to do that).”

3. Internal structure of conditional affirmative constructions

The internal structure of a conditional affirmative construction is not complicated. Within a Lexicase Dependency Analysis, since the conditional clause functions as the subordinate clause of a main clause, it only appears

as a dependent sister of a matrix verb. The internal structure of (3) is illustrated below:

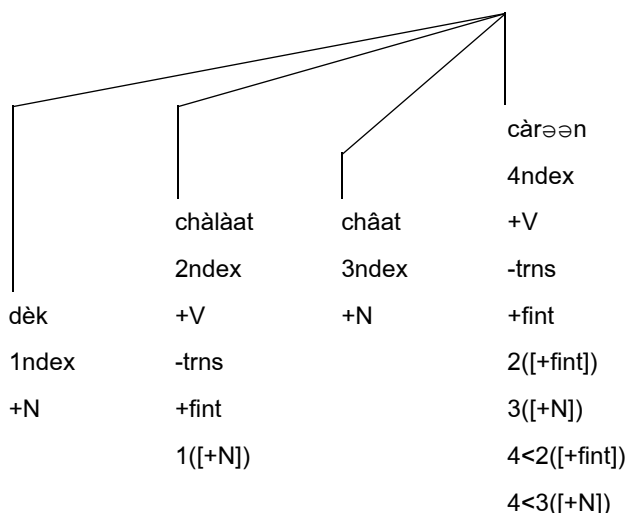


Figure 1. STEmma I

This lexica tree representation illustrates that *chàat càrəən* “the nation will become prosperous” is a main clause. Within the main clause *càrəən* “become prosperous” is the head with *chàat* “nation” and a conditional subordinate clause *dèk chàlàat* “the child is clever” appears as the left dependent sisters of a matrix verb. Within the conditional dependent sister clause *dèk chàlàat*, *chàlàat* “clever” is the head of the clause and in turn takes *dèk* “child” as its dependent sister.

If the conditional construction contains a subordinate marker *thâa* “if” as in (4), the whole construction is exocentric. That is, there are two obligatory immediate constituents. One is the subordinate marker *thâa* “if,” the other is the head verb of a subordinate clause. The internal structure of the conditional construction in (4) is illustrated below:

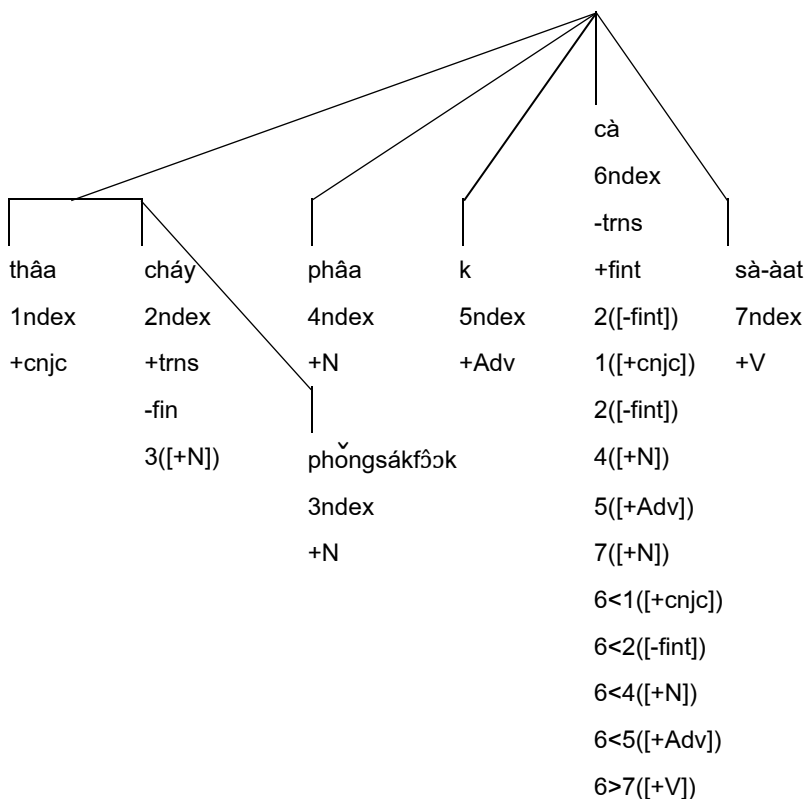


Figure 2. STEmma II

This lexica tree representation illustrates that *phôngsákfôk cà sà-àat* "the clothes will get clean" is a main clause. Within the main clause *cà* is the matrix verb taking *sà-àat* "clean" as its dependent sister. The matrix verb also takes a conditional subordinate clause *thâa cháy phôngsákfôk* "if I/ you use some detergent" as its dependent sister, having two obligatory immediate constituents headed by *thâa* "if" and *cháy* "use" as the immediate predicate constituent.

It is not surprising that, within a Lexicase dependency grammar, a matrix verb can take not only an overt subject noun phrase but also other types of constituents such as a non-finite verb phrase or a subject surrogate construction as its dependent sisters (Pagotto, 1985, p. 5).

4. Internal structure of conditional negative constructions

As mentioned above, a conditional negative construction consists of a main clause and a conditional negative subordinate clause. The conditional negative constructions are of two subtypes: single conditional negative and double conditional negative. The single conditional negative construction is formed by using the negative adverb *mây* “not” to negate a verb in a conditional subordinate clause. (It is not the purpose of this paper to discuss the syntactic evidence for treating *mây* “not” as an adverb. Those who are interested in this should see Indrambarya, 1994.) Moreover, a single conditional negative constructions can appear with the subordinate conjunction *thâa* “if” as in (11) and without *thâa* “if” as in (12):

- (11) *thâa mây khayǎn rian cà sòwptòk*
 if not diligent study will fail
 “If (you) do not study hard, (you) will fail.”

- (12) *fǒn mây tòk khâaw cà taay*
 rain not fall rice will die
 “(If) it does not rain, the rice crop will die.”

In (11), the conditional negative clause *thâa mây khayǎn rian* “if (you) do not study hard” is introduced by a subordinate conjunction *thâa* “if”

and it functions as the subordinate clause of a main clause *cà sòp tòk* “(you) will fail”. The internal structure of (11) is illustrated in Stemma III.

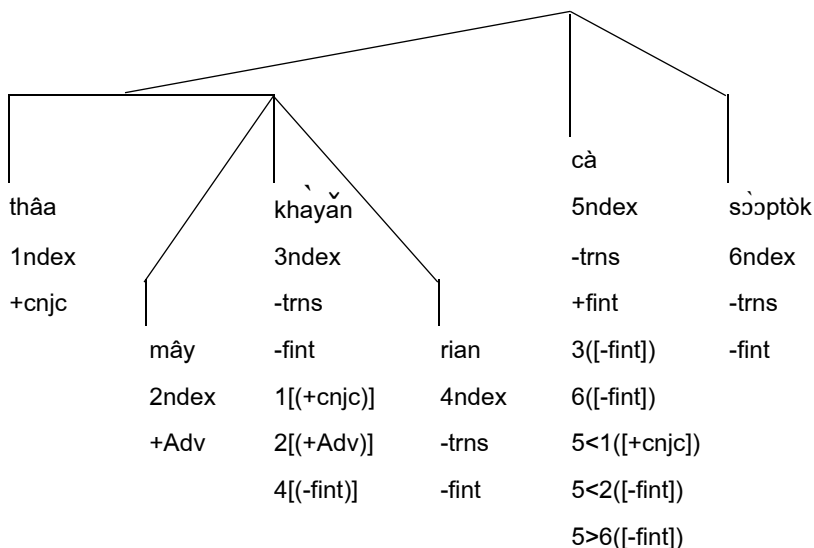


Figure 3. STEMMA III

This lexibase tree representation shows that *cà sòp tòk* “will fail” is a main clause. Within the main clause *cà* is a matrix verb taking *sòp tòk* as its dependent sister. The matrix verb also takes a conditional subordinate clause *thâa mây khayǎn rian* “if you do not study hard” as its left dependent sister. The conditional dependent sister clause *thâa mây khayǎn rian* is exocentric consisting of two obligatory immediate constituents *thâa* “if” and the immediate predicate constituent *khayǎn* “be diligent.”

In (12) the conditional negative clause *fôn mây tòk* “(if) it does not rain” appears without the subordinate conjunction *thâa* “if” and it functions as the subordinate clause of a main clause *khâaw cà taay* “the rice crop will die.” The internal structure of (12) is illustrated in Stemma IV.

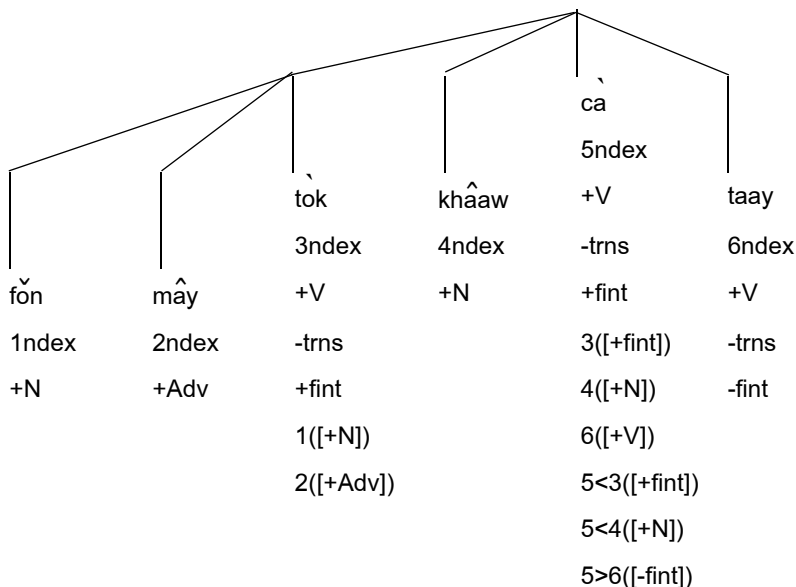


Figure 4. STEmma IV

This lexibase tree representation illustrates that *khâaw cà taay* “the rice will die” is a main clause. Within the main clause *cà* is a matrix verb taking *khâaw* and *taay* as its dependent sisters. The matrix verb also takes a conditional subordinate clause *fôn mây tók* “(if) it does not rain” as its left dependent sister.

Let us now turn to the discussion of the syntactic properties of a double conditional negative *mây--mây* “(if) not, (then) not” construction in Thai. Consider the examples in (13-14):

- (13) *mây* *hǐw* *mây* *kin*
 not hungry not eat

“(If I / you) don’t feel hungry, (I / you) will not eat.”

- (14) mây lɔɔŋ mây ruú
 not try not know
 “(If I / you) don’t try, (I / you will) not know.”

Sentences (13-14) are not imperative because the interpretation of a pronoun in both sentences can be either “I” or “you” and this depends on the speaker. If the speaker is speaking about himself or herself, the interpretation of the pronoun is “I.” If the speaker is referring to the person with whom he or she is speaking, the interpretation of the pronoun is “you.” Another reason why sentences (13-14) cannot be treated as imperative is that normally imperative sentences in Thai are negated by the negative word *yàa* ‘do not’ or *hâam* ‘(it is) prohibited’, as in (15) and (16), respectively.

- (15) yàa phûut sǎaŋ daŋ
 do not speak voice loud
 “Do not speak loudly.”
- (16) hâam kin khànm̐ nay hōŋrian
 prohibit eat desert in classroom
 “(It is) prohibited to eat some dessert in the classroom.”

Sentences (13) and (14) cannot be negated by either *yàa* “do not” or *hâam* ‘(it is) prohibited’, as (17-20) illustrate:

- (17) *yàa hǐw yàa kin
 do not hungry do not eat
- (18) *hâam hǐw hâam kin
 Prohibit hungry prohibit eat

- (19) *yàa ລວງ yàa rúu
do not try do not know
- (20) *hâam ລວງ hâam rúu
prohibit try prohibit know

The question arises as to how to determine the internal structure of sentences containing conditional negative constructions. Consider sentence (14), repeated here as (21):

- (21) mây ລວງ mây rúu
not try not know
“(If I / you) do not try, (I / you) will not know.”

There are three possible ways to assign an internal structure to sentence (21). The first hypothesis is that *mây ລວງ* and *mây rúu* are treated as a coordinated construction. Such a structure would look like the following:

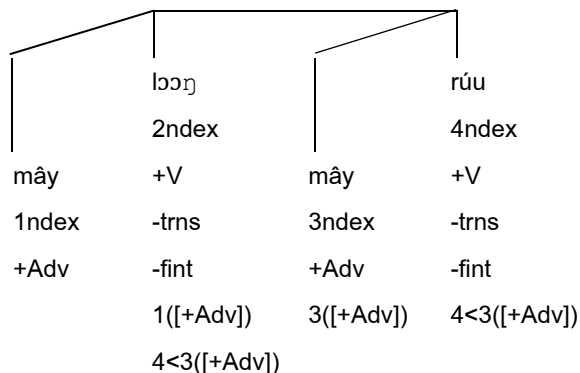


Figure 5. STEMMA V

However, this structure is not possible because if *mây ລວງ* and *mây rúu* were to be coordinated, this would mean that the criteria for justifying a coordinate clause would be applicable with the *mây ລວງ mây rúu* clause. We can consider these criteria step by step. The first criterion is that constituents

that are coordinated must have a coordinate conjunction, as in (22). However, there is no coordinate conjunction combining *mây lɔɔŋ* and *mây rúu*, as in (23):

- (22) mǎa kàp mɛɛw pen sàttruu kan
 dog and cat be enemy reciprocal
 "Dogs and cats are enemies."

- (23) *mây lɔɔŋ kàp mây rúu
 not try and not know

The second criterion is that constituents in a coordinate construction can be reversible, as in (24). However, *mây lɔɔŋ* and *mây rúu* are not reversible in (25):

- (24) nákrɪən lɛʔ ajaan khâw òprom mûawaanní
 student and teacher participate work-shop yesterday
 "Students and teachers participated in the workshop yesterday."

- (25) *mây rúu mây lɔɔŋ
 not know not try

The third criterion is that constituents in a coordinate construction can be multiple in number, as in (26). Again, the conditional negative *mây lɔɔŋ* and *mây rúu* cannot be multiple, as in (27):

- (26) mǎa kàp mɛɛw lɛʔ kày pen sǎtruu
 dog and cat and chicken be enemy
 kan
 reciprocal

"Dogs, cats, and chickens are enemies."

- (27) *mây lɔwɣ kàp mây rúu lɛʔ mây faŋ
 not try and not know and not listen

The conclusion is that the double negative construction *mây lɔwɣ mây rúu* cannot be coordinated because its syntactic manifestation goes against the criteria for justifying claiming that it is a coordinate construction.

The second hypothesis is that *mây lɔwɣ* “do not try” is treated as the first commanding verb of the construction, and the internal structure would look like the following:

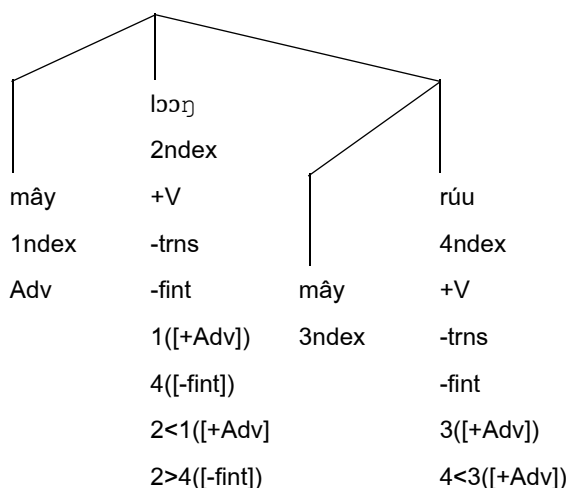


Figure 6. STEMMMA VI

The internal structure illustrated in stemma VI will be discussed along with the third hypothesis.

The third hypothesis is that *mây rúu* “do not know” is treated as the first commanding verb of the construction, and the internal structure would be as in the following:

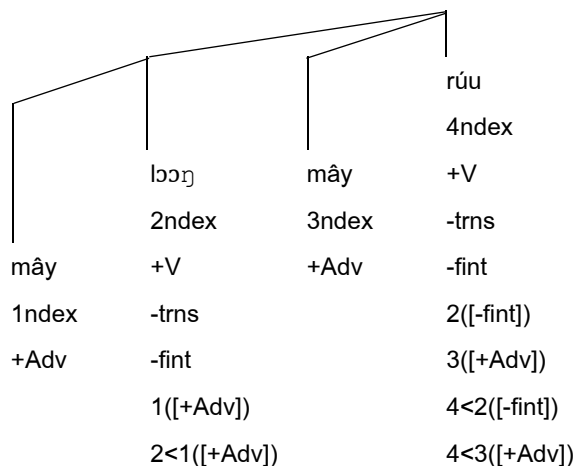


Figure 7. STEMMA VII

Ordinarily, in Thai, the criterion used to find the commanding verb in a clause is that the highest verb can be negated by the negative adverb *mây* “not,” e.g.

- (28) khǎw wīŋ pay khûn rótmeē
 he run go board bus
 “He ran to board the bus.”

- (29) khǎw mây wīŋ pay khûn rótmeē
 he not run go board bus
 “He did not run to board the bus.”

- (30) *khǎw wīŋ mây pay khûn rótmeē
 he run not go board bus

- (31) *khǎw wīŋ pay mây khûn rótmeē
 he run go not board bus

Sentence (31) is grammatical if it is treated as having two separate predicate clauses instead of one predicate clause. The two clauses would be *khăw wîŋ pay* “he ran” in which *wîŋ* is the first commanding verb and the clause *mây khûn rôtmeē* ‘(he does not) board a bus’ has *khûn* as the first commanding verb.)

The adverb *mây* “not” can negate only the verb *wîŋ* “run” in (29), but not the verbs *pay* “go” or *khûn* “board” in (30-31). This means that *wîŋ* is the commanding verb in the clause. Neither *pay* nor *khûn* can serve this function. Thus, the verb *wîŋ* is the verb that commands the other two verbs but not vice versa.

However, the negation test *mây* “not” cannot be used to determine the commanding verb for sentence (21) because in sentence (21) both clauses are negated by the conditional negative *mây-mây*. The verbs *lɔwŋ* “try” and *ruu* “know” in both clauses can be treated as commanding verbs, and they can appear as formulaic structures.

However, there is another way to justify the internal structure of sentence (21), that is by the insertion of *kɔ̌w* “then.” In Thai, there are two different lexical entries of *kɔ̌w* functioning as an adverb: *kɔ̌w*₁ meaning “also” and *kɔ̌w*₂ meaning “then.” These two meanings differ in their syntactic distribution. Accordingly, *kɔ̌w*₁ can appear without a preceding predicate dependent sister, whereas *kɔ̌w*₂ always appears with a preceding predicate dependent sister (Savetamalya, 1996). Based on the syntactic characteristics of *kɔ̌w*₂, the internal structure of sentence (21) would favor stemma VII over stemma VI. That is, if *kɔ̌w*₂ is inserted, it must be inserted after *mây / kɔ̌wŋ* which would bring about sentence (32):

- (32) *mây* *lɔɔŋ* *kôɔ₂* *mây* *ruu*
 not try then not know
 “(If you) don’t try, then (you) would not know.”

Sentence (32) indicates that *kôɔ₂* as an adverb requires a preceding predicate dependent sister which will appear on the left side of the stemma. The structure would look like the following:

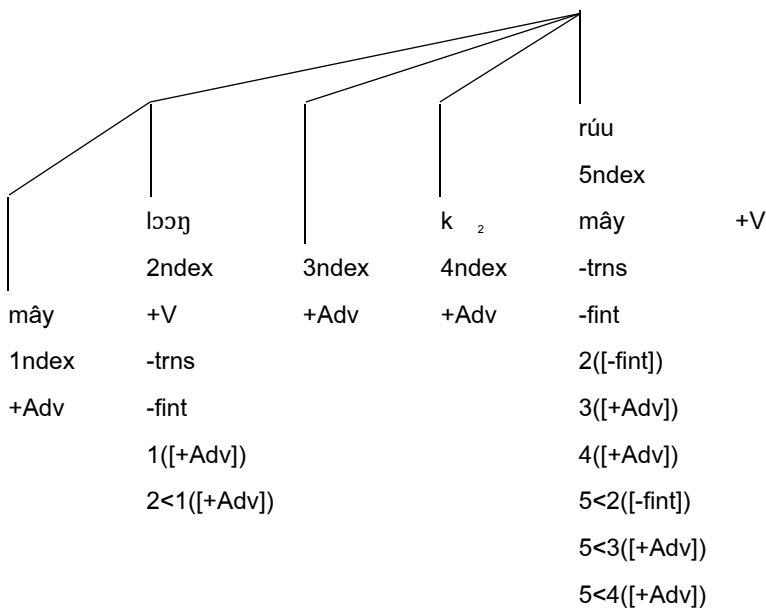


Figure 8. STEMMA VIII

The structure illustrated in stemma VIII helps to verify that the internal structure of the conditional negative construction *mây lɔɔŋ mây ruu* must be the same as that illustrated in stemma VII.

It also confirms that *mây lɔɔŋ mây ruu* is a negative conditional construction whose meaning is interpreted within the discourse context. *Mây ruu* is a matrix clause, whereas *mây lɔɔŋ* is a conditional clause.

The conclusion here is that by using Lexicase Dependency Grammar in analyzing the conditional negative *mây-mây* "(if) not, (then) not" construction in Thai, there is a strong syntactic argument which can justify selecting one structure over other structures and, importantly, would conform to native speakers' interpretation of this type of construction.

6. Conclusion

The result of the research indicates that the syntactic characteristics of conditional constructions in Thai are in some ways similar to so-called conditional clauses in English. In both languages, there is a main clause and a subordinate clause. A subordinate clause can be introduced by a subordinate conjunction *thâa* 'if' in Thai or *if* in English. In some cases, both languages allow that the conditional constructions can appear without a subordinate conjunction. Even though the structures of conditional constructions of both languages are similar in this respect, the conditional constructions in Thai do differ, however, from those in English. Conditional constructions in Thai are of two main types: conditional affirmative and conditional negative, whereas the conditional constructions in English do not make any distinction between the affirmative type and the negative one.

The difference between the conditional affirmative constructions in Thai and the conditional negative counterpart is in terms of semantics. Conditional affirmative constructions convey positive meanings, whereas conditional negative constructions indicate negative meaning. The conditional affirmative constructions can appear with or without the subordinate conjunction *thâa* "if." A conditional construction with *thâa* "if," functions as the dependent

sister of a matrix verb. The conditional construction with *thâa* “if” requires an obligatory immediate predicate constituent to co-occur with it. Conditional constructions without *thâa* “if” semantically imply meanings indicating conditions which must be interpreted within the discourse context.

Conditional negative constructions in Thai allow the appearance of the negative adverb *mây* “not,” or the double negative *mây-mây* “(if) not, (then) not.” The first type of conditional negative construction appears with the subordinate conjunction *thâa* “if” and the negative adverb *mây* “not,” only functions as a dependent sister of a matrix verb. The second type of conditional negative constructions contains a double negative, *mây-mây* “(if) not, (then) not.” The second *mây* functions as the first commanding verb, or in simpler terms, as the main clause, while the first *mây* functions as the dependent sister of the first commanding verb.

References

- Indrambarya, K. (1994). *Subcategorization of verbs in Thai: A lexibase dependency approach* (Doctoral dissertation). University of Hawaii, Hawaii.
- Pagotto, L. (1985). On impersonal verbs in English. *University of Hawaii Working Papers in Linguistics*, 17, 1-70.
- Prasithrathsint, Amara. (2013). *Parts of speech in Thai: A syntactic analysis*. Bangkok: A.S.P. Publishers.

Savetamalya, S. (1996). Verbal predicates as adnominal modifiers in Thai.

In *PAN-ASIATIC Linguistics: Proceedings of the Fourth International Symposium on Languages and Linguistics* (pp. 79-98). Institute of Language and Culture for Rural Development, Mahidol University at Salaya, Thailand.

Starosta, S. (1988). *A case for lexibase: An outline of lexibase grammatical theory*. London: Pinter Publishers.