A Categorization of *thùuk* in Thai: Lexicase Analysis

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1. INTRODUCTION

This paper presents a syntactic analysis of the word *thùuk* in Thai using a lexicase framework, a type of lexicalist dependency grammar (Starosta & Hashimoto, 1984; Starosta, 1988). Within the lexicase analysis, grammatical relations are characterized by case relations, case forms, and macro role. Case relations include Agent, Patient, Correspondence, Locus, and Means. Case forms include Nominative and Accusative. Macro role is represented by Actor.

From this study, there are several different homophonous lexical entries for *thùuk*. These can be defined by both their semantics and syntactic distribution. *thùuk* can occur either as a verb or as a "particle" adverb which can be seen in the following discussion.

2. SYNTACTIC DISTRIBUTION OF *thùuk*

2.1. *thùuk* as a Transitive Verb

The first syntactic distribution of *thùuk* is that of a transitive verb. Here it obligatorily requires a following noun, bearing a Patient case relation as its dependent sister. There are two transitive forms of *thùuk*: $thùuk_1$ meaning 'hit', and $thùuk_2$ meaning 'touch'. Examples:

1.   lûukbɔn $thùuk_1$ dèk
       ball   hit   child
       AGT   [+trns]   PAT
       'The ball hit the child.'

In (1) $thùuk_1$ is a transitive verb. It requires an Agent, *lûukbɔn* and a Patient, *dèk*. The reason that *dèk* is treated as a Patient instead of carrying some other case relation is because, according to the Patient centrality hypothesis (Starosta 1982, p. 10), a transitive verb requires both an Agent and a Patient (as in 1). If sentence (1) had no Agent, the verb would be intransitive, and would result in the ungrammatical sentence (2):

2.   * lûukbɔn $thùuk_1$
       ball   *hit*
       PAT   [-trns]

Therefore, *dèk*, which is required by the verb *thùuk*₁, is treated as a complement noun. As a noun, it has to carry a case relation. Which case is it? Consider the following sentence in which *thùuk*₁ allows one further argument:

3. lûukbɔn   thùuk₁   dèk   thîi[1]   hŭa
   |AGT | |+trns | |PAT| LOC
   |+actr| |?[+AGT]| |-actr|
               |?[+PAT] |
   ball   hit   child   at   head
   'The ball hit the child on the head.'

hŭa carries a Locus case relation, marked by the relator noun *thîi*. It is a locative complement rather than a Locus adjunct based on the assumption that a complement cannot be preposed, whereas an adjunct can. This results in the ungrammaticality of (3a), in which *thîi hŭa* is a complement, and also the grammaticality of (3b) in which *thîi rooŋrian* is an adjunct:

3a. * thîi₁   hŭa   lûukbɔn   thùuk₁   dèk
      at   head   ball   hit   child
3b.   thîi₁   rooŋrian dèk   rian   năŋsŭɯ
      at   school   child   study   book
      'At school, the children studied.'

With regard to (3), it should be noted that it is possible for the compound *thùuk*+noun construction to have a verbal complement as its sister, as in (a):

a. nŭu   thùuk+yaaphít   taai
   mouse   to poison   die
   'A mouse was poisoned to death.'
The internal structure of this sentence is illustrated below:
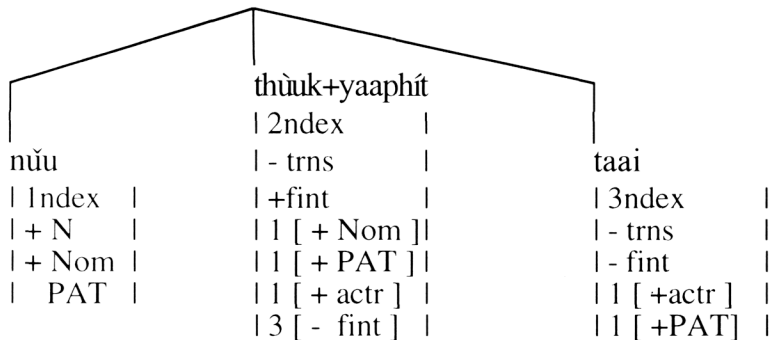
The implied patient of *taai* 'die' is chained with the patient of the matrix clause,

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[1] Following Savetamalya (1989, p. 57), one of the subclasses of *thîi* is analyzed as a relator noun, marking location. It obligatorily requires a dependent noun as its sister.
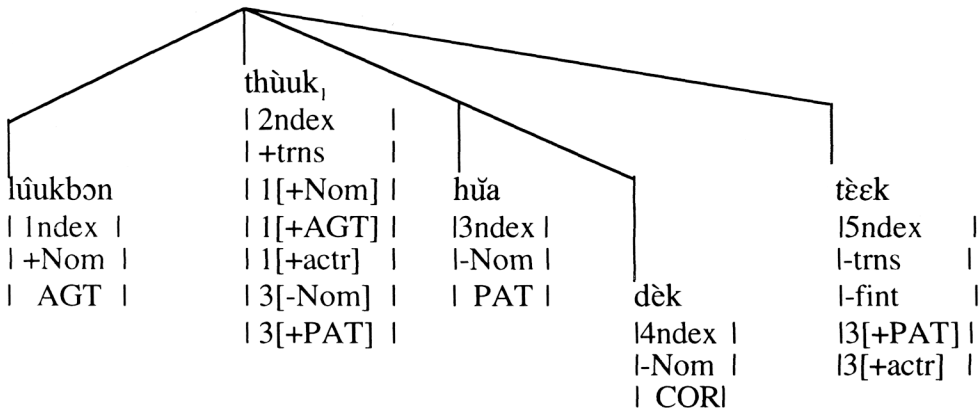
nǔu 'mouse,' by the Actor Control Rule.

According to the Patient centrality hypothesis, the complement takes the Patient in its scope and, in Thai, typically occurs adjacent to the Patient. Therefore, *dèk* carries a Patient case relation, rather than any other case relation.

Other supporting evidence for treating *thùuk*₁ as a transitive verb appears in the following data:

4. lûukbɔn   thùuk₁   hǔa   (khɔ̌ɔŋ)   dèk   tὲεk
   ball   hit   head   of   child break
   'The ball hit a child's head and the head was broken.'

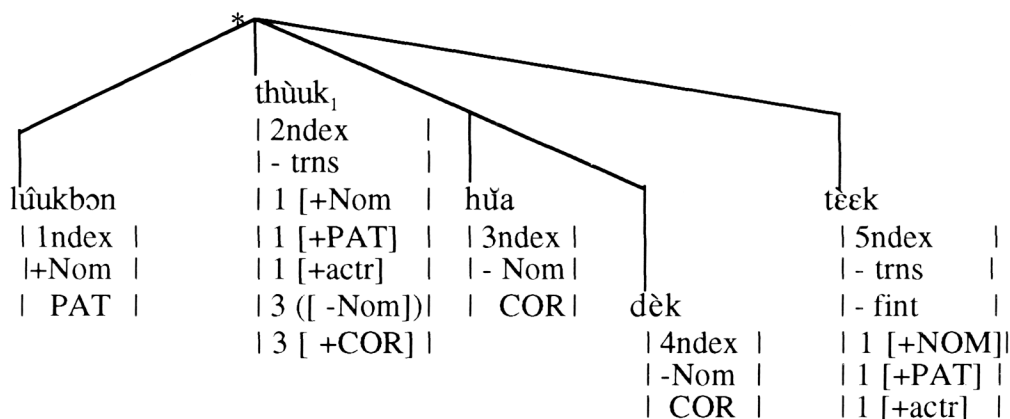If *thùuk*₁ is treated as a transitive verb, the structure in (4) will look like the following:

```
                          thùuk₁
                          | 2ndex     |
                          | +trns     |
 lûukbɔn                  | | [+Nom] |    hǔa                              tὲεk
 | |ndex |                | | [+AGT] |    |3ndex |                         |5ndex    |
 | +Nom |                 | | [+actr] |   |-Nom |                          |-trns    |
 |  AGT |                 | 3[-Nom] |     | PAT |        dèk               |-fint    |
                          | 3[+PAT] |                   |4ndex |          |3[+PAT] |
                                                        |-Nom |           |3[+actr] |
                                                        | COR|
```

Let us focus on the interpretation of the verb *tὲεk*. *tὲεk* as an intransitive verb implies a Patient subject. The Patient is interpreted as *hǔa* following the Actor Control rule, which simply states that the implied actor of an infinitival complement is coreferential with the Patient of the regent verb, formulated as follows (Starosta 1990):

1. Actor Control Rule:
   |?[+actr]| --> [m[+actr]] \ | m[+PAT] |
   | -fint | | n[-fint] |
   | nndex |

If *hǔa* were marked by some other case relation, rather than Patient, the matrix clause would be intransitive. In that case, the implied Patient of the verb *tὲεk* would be mistakenly equated to a presumed Patient subject *lûukbɔn*. This interpretation would not be correct. The tree structure for this hypothetical interpretation is shown below:

```
                           *
                          /|_____
                      /    thùuk₁                \
                  /       | 2ndex    |            \
              /           | - trns   |             \
  lûukbɔn            | 1 [+Nom  |   hŭa              tɛ̀ɛk
  | 1ndex |          | 1 [+PAT] |   | 3ndex |        | 5ndex   |
  |+Nom   |          | 1 [+actr] |  | - Nom |        | - trns   |
  | PAT   |          | 3 ([ -Nom])|  | COR|   dèk     | - fint   |
                     | 3 [ +COR] |            | 4ndex |  | 1 [+NOM]|
                                              | -Nom  |  | 1 [+PAT] |
                                              | COR   |  | 1 [+actr]  |
```

From these arguments, the conclusion is that *thùuk₁* is to be analyzed as a transitive verb and a dependent noun immediately following *thùuk₁* is to be analyzed as a Patient.

On the basis of the different syntactic distributions of *thùuk₁* mentioned above, there are three different homophonous entries for transitive *thùuk*. All of them require a Patient complement and have the same meaning as 'hit,' and since their syntactic distributions are different, each of them will be indexed differently. The first one, *thùuk₁*, does not allow another complement sister other than a Patient (as in 1). The second one, *thùuk₂*, allows one more complement sister bearing a Locus case relation (as in 2). The last one, *thùuk₃* allows an infinitival complement as its dependent sister (as in 4).

Another homophonous entry, *thùuk₄*, occurs as a transitive verb whose meaning is 'touch.' Again *thùuk₄* requires a Patient complement as in (6a). If there is no Patient, the sentence is ungrammatical, as in (6b):

```
6a.  tôi          thùuk₄          mɯɯ      chǎn
     Toy          touch           hand     I
     | AGT |      | +trns    |    | PAT |
     | +actr |    | ? [+AGT] |    | -actr |
                  | ? [+PAT] |
     'Toy (unintentionally) touched my hand.'
6b.  *tôi         thùuk₄
     Toy          touch
     | PAT |      | -trns    |
     | +actr |    | ? [ +PAT]|
```

Sentence (6b) is grammatical if the meaning of *thùuk* is `be correct,' in which case *thùuk* would be classified differently (see section 2.3.)

2.1.1. Incorporated thùuk+Noun Construction.

A construction having *thùuk* followed by a noun is not always a transitive form. In the

examples that follow, the noun that follows *thùuk* is incorporated with it, forming a compound that behaves as a single syntactic unit.

7. nǔu   thùuk   yaaphít
   mouse   affected   poison
   'A mouse was poisoned.'

8. khon   thùuk   khɔ̌ɔŋ
   person   affected   thing
   'A person was affected by demonic possession.'

thùuk and its incorporated noun is considered as a compound verb because the incorporated noun behaves differently than the Patient noun of the transitive verbs $thùuk_1$ to $thùuk_4$. The noun in the incorporated *thùuk*+N construction cannot be modified by a determiner, a classifier, or a stative modifier, as in (7a-7c); whereas the Patient noun of the transitive verb $thùuk_1$ can be modified, as in (8a-8c).

7a. *ŋuu   thùuk+yaaphít   níi
    snake   affected by poison this

7b. *ŋuu   thùuk+yaaphít   nɯ̀ŋ   thûai
    snake   affected by poison one   cup

7c. *ŋuu   thùuk+yaaphít   yen
    snake   affected by poison cold

8a. phaayǘ? $thùuk_1$ bâan   níi
    storm   hit   house   this
    'The storm hit this house.'

8b. phaayǘ? $thùuk_1$ bâan   sìp   lǎŋ
    storm   hit   house   ten   clsf
    'The storm hit ten houses.'

8c. phaayu? $thùuk_1$ bâan   kàu
    storm   hit   house   old
    'The storm hit old houses.'

thùuk+noun compound verbs are, in some cases, non-compositional. That is, the meaning of the compound is normally not completely predictable from the meaning of the two source words from which it is derived, as illustrated by the following examples:

9. thùuk   khɔɔ
    affected   neck
    'to enjoy chatting with'

10. thùuk   ʔòk   thùuk   tɕai
    affected   chest   affected   heart
    'very pleased'

11. thùuk   máai   thùuk   mɯɯ
    affected   wood   affected   hand
    'touch'
12. thùuk   khêɛŋ   thùuk   khǎa
    affected   lower legs   affected   legs
    'get along (in doing something)'

As a compound verb, *thùuk* will not be indexed as having a different sub-category from transitive verbs because *thùuk* +N is not an independent lexical item, but rather a compound instead.

Having finished the discussion of *thùuk* as a transitive verb, I shall now present another subcategory of *thùuk* functioning as an intransitive verb.

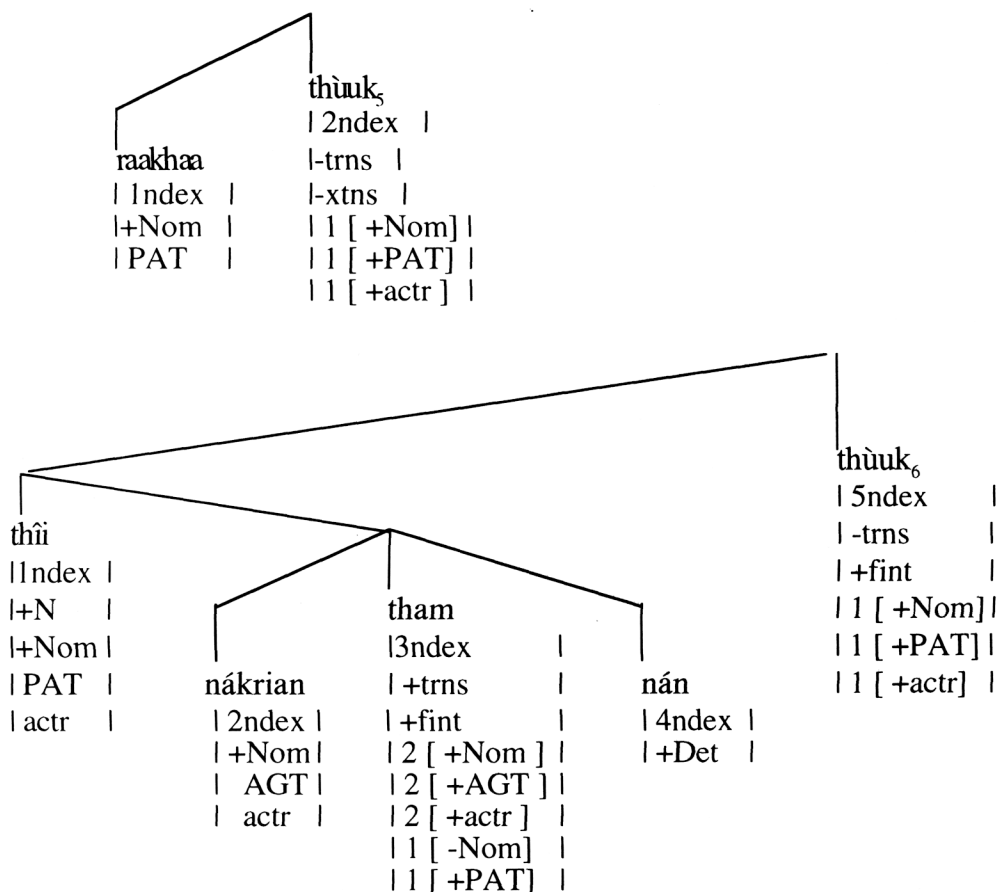## 2.2. *thùuk₅* as a Non-Extensional Intransitive Verb

The intransitive verb *thùuk₅* requires a subject marked with the Patient case relation, rather than an Agent. There are two homophonous forms with different meanings: *thùuk₅* 'be cheap,' and *thùuk₆* 'be correct.' Examples:

13. raakhaa   thùuk₅
    price   be cheap
    PAT | -trns |
                 | -xtns |
    'The price is cheap.'
14. suîa   tua   níi   thùuk₅
    blouse   clsf   this   be cheap
    'This blouse is cheap.'
15. kaanbâan   thùuk₆
    homework   be correct
    'The homework is correct.'
16. thîi₂[2]   nákrian   tham   nán   thùuk₆
    that   student   do   that   be correct
    'What the student did was correct.'

In (13–16), there is only one noun phrase for each sentence, *raakhaa*, *suîa*, *kaanbâan*, and *thîi₂ nákrian tham nán* respectively. According to the Patient centrality hypothesis, the NP that appears alone in a non-impersonal sentence is always a Patient. If the NPs in these sentences are Patients, then the verbs must be marked as intransitive. Thus, *thùuk₅* and *thùuk₆* are treated as intransitive verbs, whose Patient subjects are *raakhaa*, *suîa*, *kaanbâan*, and *thîi nákrian tham nán*, respectively.

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[2]In this sentence, *thîi₂* is treated as a relative noun, obligatorily followed by a verbal complement (Savetamalya, 1989, p. 23).

An intransitive verb is non-extensional since the meaning of a sentence is complete in itself without requiring any clausal complement. *thùuk₅* and *thùuk₆* are homophonous forms and are considered to be different lexical entries because, although they occur in the same syntactic environments, they are different in meaning. Thus the internal structures of sentences in which *thùuk₅* and *thùuk₆* appear are the same:

2.3. *thùuk₇* as an Extensional Intransitive Verb

The lexical entry of *thùuk₇* as an extensional intransitive verb is associated with the passive-like meaning of 'be affected by' by many Thai syntacticans (Warotamasikkhadit, 1963; Lekawatana, 1970; Kullavanijaya, 1972; Prasithrathsint, 1985). Examples of *thùuk₇* are the following:

17. nákrian   thùuk₇   khruu   tii
    student   affected   teacher   hit
    'The student was hit by a teacher.'

18. bâan   thùuk₇   fai   mâi
    house   affected   fire   burn
    'The house was burned by fire.'

19. nók   thùuk₇   dèk   yiŋ
    bird   affected child shoot
    'A bird was shot by a child.'

20. phleeŋ   níi   thùuk₇   nákprà?phan   tèŋ   mài
    song   this   be affected   author   compose   new
    'This song was newly composed by a composer.'

In these examples, there are two NPs appearing preceding and following *thùuk₇* and there is always a verbal complement following *thùuk₇*. The question arises of how these NP arguments of *thùuk₇* are treated in relation with the verbal complement, and as a consequence whether *thùuk₇* is transitive or intransitive.

Three possible alternative structures can be assigned to the *thùuk₇* construction. In the first one *thùuk₇* is treated as having two NP arguments occurring with its verbal complement:


```
                            thùuk₇
                          | 2ndex      |
        nákrian           | +V         |        khruu          tii
      | 1ndex  |          | +trns      |      | 3ndex  |     | 4ndex      |
      | +N     |          | 1 [ +Nom ]|      | +N     |     | +V         |
      | +Nom   |          | 1 [ +AGT ]|      | -Nom   |     | +trns      |
      | AGT    |          | 1 [ +actr ]|      | PAT    |     | -fint      |
      | actr   |          | 3 [ -Nom ] |                    | ? [ +AGT ] |
                          | 3 [ +PAT ] |                    | ? [ +actr ] |
                                                            | 3 [ -Nom ] |
                                                            | 3 [ +PAT ] |
```
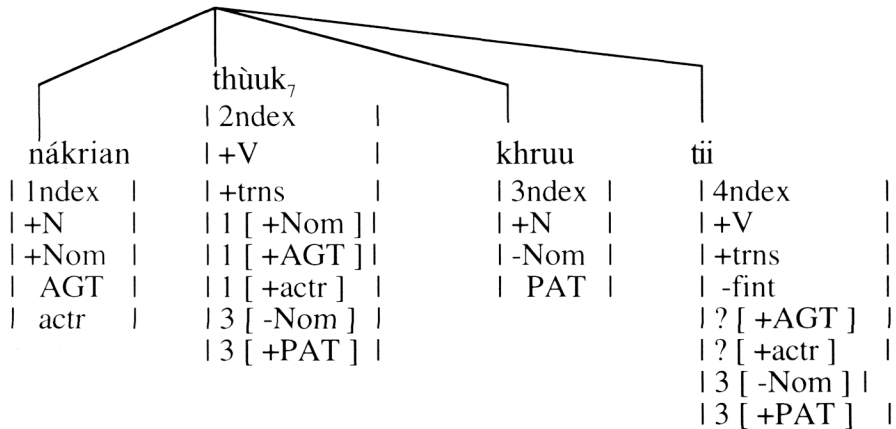
With this analysis, the above structure indicates that the NP arguments of *thùuk₇*, *näkrian* and *khruu*, bear an Agent and a Patient case relation. Thus, *thùuk₇* is considered a transitive verb. The justification for this analysis is given in the following discussion.

First let us consider the verbal complement *tii*. *tii* as a transitive verb must include both an Agent and a Patient. However, there are no overt Agent and Patient nouns. What should be the interpretation for these missing NPs? The interpretation of an implied argument in an infinitival complement clause is recovered by the Actor Control Rule (Starosta, 1990) or the Patient-to-Patient Control Rule (Indrambarya, 1992, p. 38). The two rules are formulated as follows:

1. Actor Control Rule:
   ```
   |?[+actr] |       -->     [ m [ +actr ]]   \   | m [ +PAT ] |
   | -fint   |                                    | n [ -fint ] |
   | nndex   |
   ```

This rule states that the implied actor of a non-finite verb is chained with a Patient of a matrix clause.

2. Patient-to-Patient Control Rule:

+V	--> [m[+PAT]] \	+V
+trns		+trns
-fint		m [+PAT]
? [+PAT]		n [+trns]
nndex		n [-fint]

This rule states that the implied Patient of a non-finite verb of an infinitival complement is chained with the Patient of a regent verb.
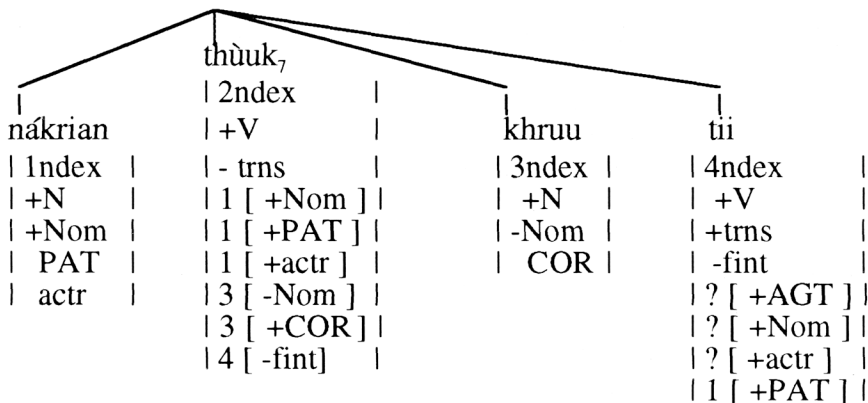
Following the Patient-to-Patient Control Rule, the interpretation of the Patient of *tii* would be *khruu*, the Patient of a higher clause. This interpretation does not match a native speaker's intuition.

Thus, the structure having *thùuk₇* appearing with two NP arguments in which *thùuk₇* is considered to be a transitive verb is not acceptable. Treating *thùuk₇* as a transitive verb results in a wrong judgment of the following sentence:

*nákrian   thùuk₇   tua?eeŋ   tii
  student   affected   oneself   hit

If *thùuk₇* is transitive, then the reflexive noun *tua?eeŋ* can appear as a Patient noun. The sentence would appear to be grammatical, when in fact it is ungrammatical.

Let us look at another alternative to treating *thùuk₇* as an intransitive verb. Intransitive *thùuk₇* can occur with either two NP arguments or one NP argument. The first assumption will be discussed first. *thùuk₇* as an intransitive verb occurring with two NP arguments has the following structure:

```
                    thùuk₇
                    | 2ndex        |        |            |
     |              | +V           |        khruu        tii
   nákrian          | - trns       |      | 3ndex |    | 4ndex       |
 | 1ndex   |        | 1 [ +Nom ] | |      | +N   |    | +V          |
 | +N      |        | 1 [ +PAT ] | |      |-Nom  |    | +trns       |
 | +Nom  |         | 1 [ +actr ]  |      | COR  |    | -fint       |
 | PAT    |        | 3 [ -Nom ] |               | ? [ +AGT ] |
 | actr   |        | 3 [ +COR ] |               | ? [ +Nom ] |
                    | 4 [ -fint]   |               | ? [ +actr ]   |
                                                      | 1 [ +PAT ] |
```

The structure above shows *thùuk₇* as having two NP arguments and an infinitival complement. The NP arguments, *nákrian* and *khruu* bear different case relations, Patient and Correspondent respectively. In this sense, *thùuk₇* is considered to be intransitive because there is no Agent in the sentence. What is the interpretation for the implied Patient of the infinitival complement *tii*?

Following the Patient-to-Patient Control Rule, the implied Patient of *tii* is interpreted as *nákrian*, the Patient of a matrix clause. This interpretation matches a native speaker's intuition.

As a result, the structure of *thùuk₇* as an intransitive verb, appearing with two NP arguments, bearing a Patient and a Correspondent case relation, followed by an infinitival complement is possible.

However, this structure is not preferable. In Thai, normally a Patient NP occurring after a transitive verb (as in 21b.) and a Correspondent NP occurring after an intransitive vérb (as in 22a.) can be topicalized.

21. dèk   kin   khàʔnŏm
    child   eat   dessert
    AGT   [+trns]   PAT
    'A child ate some dessert.'

21a. khàʔnŏm   nâʔ   dèk   kin   lέɛu
     PAT   AGT   [-trns]
     dessert   topic   child   eat   already
     'As for the dessert, a child has already eaten.'

22. dèk   wîŋ   săam   kiʔloo
    child   run   three   kilometers
    PAT   [-trns]   COR
    'A child ran three kilometers.'

22a. săam   kiʔloo   nâʔ   dèk   wîŋ
     three   kilometers   topic   child   run
           COR   PAT   [-trns]
     'Three kilometers, a child ran.'

If we compare the *thùuk₇* construction with *thùuk₇* (in the first analysis) as a transitive verb, the following Patient NP should be topicalized. In fact it cannot be.
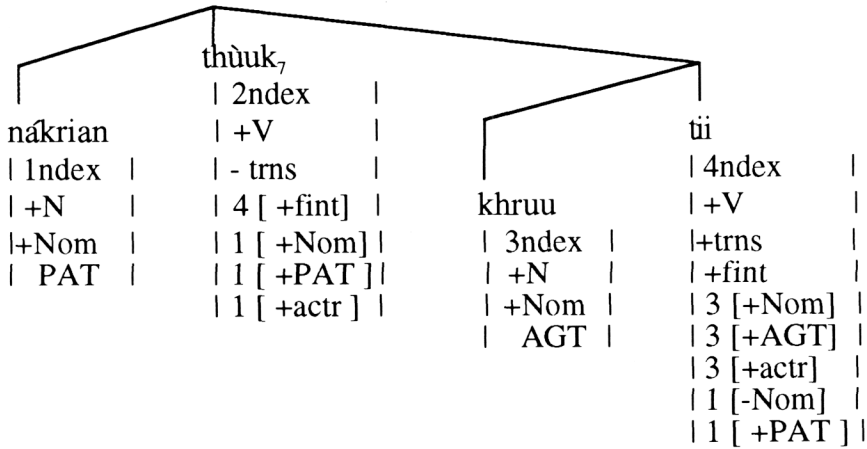
23. *khruu   nâʔ   nákrian   thùuk₇   tii
     PAT   AGT   [+trns]   [+trns]
     teacher   topic   student   affected   hit

If *thùuk₇* (in the second analysis) is an intransitive verb, the following Correspondent NP should also be topicalized. In fact it cannot be.

24. * khruu   nâʔ   nákrian   thùuk₇   tii
     COR   PAT   [-trns]   [+trns]
     teacher   topic   student   affected   hit

The conclusion is that *thùuk₇* cannot appear in both analyses and *khruu* cannot be a dependent sister of the root verb *thùuk₇*.

Let us consider the last alternative where *thùuk₇* is treated as an intransitive verb having only one NP argument followed by a verbal complement. The structure would be as follows:

```
                         ┌────────────┐
                         │ thùuk₇     │
                         │ | 2ndex    |
┌─────────────┐          | +V         |                    ┌─────────────┐
| nákrian     |          | - trns     |     ┌──────────┐    | tii         |
| | 1ndex |   |          | 4 [ +fint] |     |          |    | | 4ndex |   |
| +N     |    |          | 1 [ +Nom] | |    | khruu    |    | +V     |    |
| +Nom   |    |          | 1 [ +PAT ]| |    | | 3ndex | |    | +trns  |    |
|  PAT   |    |          | 1 [ +actr ] |    | +N     | |    | +fint  |    |
                                            | +Nom   | |    | 3 [+Nom] |   |
                                            |  AGT   | |    | 3 [+AGT] |   |
                                                           | 3 [+actr]    |
                                                           | 1 [-Nom]  |  |
                                                           | 1 [ +PAT ] | |
```

This structure shows that *thùuk₇* appears with one NP argument. Following the Patient Centrality Hypothesis, if a verb has one NP argument, that NP is always a Patient and the verb is always intransitive. Thus, the NP argument of the verb *thùuk₇*, *nákrian*, bears a Patient case relation.

The verbal complement headed by *tii* has *khruu* as its Agent. The implied Patient is interpreted by the General *thùuk* Control Rule.

3. General *thùuk* Control Rule:

```
|+V      |      -->   [ m [ +PAT ]] \   | thùuk       |
|+trns   |                              |-trns        |
|+fint   |                              | m [ +PAT]   |
|?[+PAT] |
| nndex  |
```

This rule states that the implied Patient of a finite verb of a verbal complement is chained with the Patient of *thùuk*.

Thus, the interpretation of an implied Patient of *tii* is *nákrian*. This interpretation conforms with a native speaker's intuition. The structure treating *thùuk₇* as an intransitive verb and having a following noun as a dependent sister of a verbal complement, not as its own dependent sister, is possible.

The hypothesis that a noun following *thùuk₇* forms a constituent with the following verbal complement can be supported by a coordinating construction. That is, a dependent verbal complement of *thùuk₇* can be coordinated as in the following sentences:

25. nákrian   thùuk₇   khruu   tii   lέʔ   mêε   dùʔ?
    student   affected   teacher   hit   and   mother   scold
    'The student was hit by the teacher and was scolded by his mother.'
26. nákrian   thùuk₇   khruu   tii   lέʔ   dùʔ?
    student   affected   teacher   hit   and   scold
'The student was hit and was scolded by the teacher.'

In (25), the verbal dependent *khruu tii* is coordinated with *mɛ̂ɛ dùʔ*. The sentence (26) illustrated that *khruu tii* coordinates with *dùʔ* whose Patient subject is coreferential with *khruu*. The structure looks like the following:
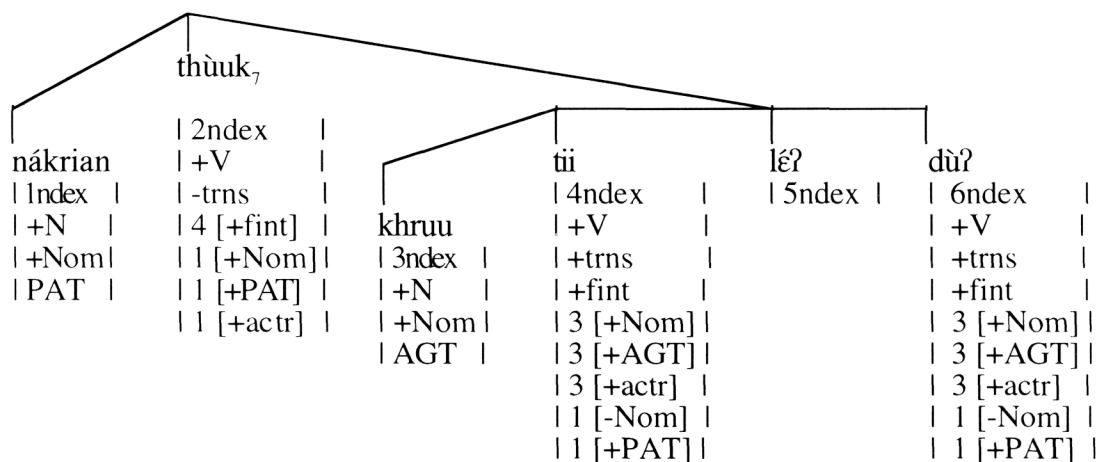
The structure shows that the subjects of the coordinated verbs *tii* and *dùʔ* are the same. *khruu* is the subject of both *tii* and *dùʔ*, they represent two constituents.

The conclusion is that *thùuk₇* in a passive-like construction is considered an intransitive verb having a subject Patient case and is followed by a verbal dependent sister.

There is a limitation on the types of verbal complement sisters that can occur following *thùuk₇*. That is, *thùuk₇* (like *chûai* 'help') cannot take a finite complement introduced by the complementizer *wâa* or *thîi₃* 'that' as its dependent sister (Savetamalya, 1987, p. 22), e.g.,

27. *khǎu chûai wâa nákrian khàʔyǎn
      he   help   that student   diligent

28. *bâan   thùuk₇   wâa   khon   rúɯɯ
     house   affected   that   people   demolish
     [-trns]   [+P]

29. *khǎu chûai thîi₃ nákrian sɔ̀ɔp   dâai
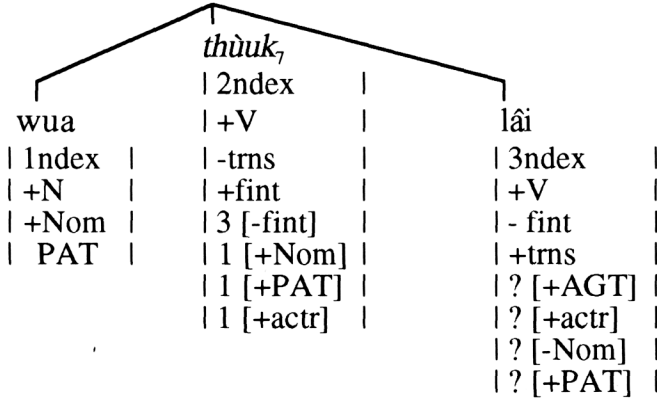   he   help   that   student   take exam   get

30. *khǎu thùuk₇   thîi₃ chǎn faŋ
      he   affected   that   I   listen
      [-trns]   [+P]

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[3] *thîi₃* is considered to be a complementizer noun, obligatorily followed by a verbal complement (Savetamalya, 1989, p. :25).

It is not necessary that the verbal complement of *thùuk₇* always be finite, it can be non-finite. Consider the following sentences:

31. wua   thùuk₇   lâi
    cow   affected   chase
    'Cows are chased.'

The structure of this sentence would look like the following:

```
                      ┌─┐
                ╱──────┤ │────────────╲
               ╱     thùuk₇             ╲
              ╱      | 2ndex      |      ╲
          ┌─┐        | +V         |      ┌─┐
         wua         | -trns      |      lâi
       | 1ndex |     | +fint      |    | 3ndex      |
       | +N    |     | 3 [-fint]  |    | +V         |
       | +Nom  |     | 1 [+Nom]   |    | - fint     |
       | PAT   |     | 1 [+PAT]   |    | +trns      |
                     | 1 [+actr]  |    | ? [+AGT]   |
                                       | ? [+actr]  |
                                       | ? [-Nom]   |
                                       | ? [+PAT]   |
```

There are two missing arguments in the non-finite complement clause. One of the missing arguments is an Agent. The Agent can be a zero anaphor, in which the performer of the action may be interpreted as anybody, depending on the context. A pronoun can also occur in the same position as the zero anaphor. Thus, the following sentence is grammatical

32.   wua   thùuk₇   khǎu   lâi
       |PAT | |-trns | |AGT | |+trns |
       |+actr | |?[+PAT]| |+actr | |?[+AGT] |
                                            |?[+PAT] |
       cow   affected   he   chase
    'The cow was chased by him.'

The other missing argument is a Patient. It is reinterpreted as *wua* by the General Thuuk Control Rule.

When *lâi* in sentence (31) behaves as an independent verbal clause it can occur alone, as in (33):

33.   khǎu   lâi   pai   lέεu
       he   chase   go   already
       'He already chased (something) away.'

This is the same as the verbal clause *khruu tii* in the sentence *dèk thùuk₇ khruu tii* 'The student was hit by a teacher,' in which *khruu tii* can occur as an independent

clause. Thus the sentence *wua thùuk₇ lâi* 'Cows are chased' is treated in the same way as the sentence *dèk thùuk₇ khruu tii.*

The construction of *thùuk₇* with its non-finite complement seems to match with another kind of verbal construction in Thai, which has a sentential complement as its sister (Wilawan, 1990), e.g.,

34.   nákrian   juɯɯn   kin   khà?nǒm
       student   stand   eat   dessert
       |1ndex| |2ndex | |3ndex | |4ndex |
       |PAT | |-trns | |+trns | |+PAT |
       |+actr | |+fint | |-fint | |-actr |
                  |1[+Nom] | |1[+AGT]|
                  |1[+PAT] | |1[+actr] |
                                 |4[-Nom] |
                                 |4[+PAT] |

'The student stood while having some dessert.'

kin khà?nǒm is a non-finite complement of a matrix verb *juɯɯn*, in the same way as *lâi* is a non-finite complement of *thùuk₇*.

In summary, the *thùuk₇* construction allows both finite and non-finite complements as its dependent sister. To fully account for these two types of complements, the General *thùuk* Control Rule needs to be modified as follows:

4. General *thùuk* Control Rule (Revised):
    |+V | --> [m[+PAT]] \ | thùuk |
    |+trns | | -trns |
    |?[+PAT] | | m[+PAT]|
    | nndex |

This rule states that the implied Patient of a verbal complement (either finite or non-finite) is chained with the Patient of *thùuk*.

2.4. *thùuk₈* as an Impersonal Verb

The impersonal verb *thùuk₈* has the meaning of 'be right' or `be correct.' The class of impersonal verbs [+V, +mprs] is syntactically different from personal verbs [+V, -mprs] in that impersonal verbs do not allow an overt referential grammatical subject, rather they cooccur with phrasal constituents in preverbal position.

Such preverbal phrases are referred to as **subject surrogates** (Pagotto, 1986, p. 3). In English, a subject surrogate consists of a complementizer preposition followed by a verbal clause, e.g.,

35. [To jog under the hot sun] is not healthy.

36. [That Mary got promoted] amazed me.

The subject surrogate in (35) includes the complementizer preposition *to* and the infinitival verb *jog*. In (36), the surrogate is introduced by the complementizer preposition *that* and contains a finite clause.

Unlike real subjects, subject surrogates cannot be marked [+Nom] 'Nominative,' since their lexical heads are not nouns but complementizer prepositions. They are substitutes for nouns. In Thai, the subject surrogates are headed by verbs, and they cooccur with the impersonal *thùuk$_8$*. The characteristics of the impersonal verb *thùuk$_8$* can be formulated by the following rule:

$$\begin{vmatrix} +V \\ +mprs \end{vmatrix} \rightarrow [? \begin{vmatrix} +Nom \\ -rfrn \end{vmatrix}]$$

Examples of *thùuk$_8$* occurring with subject surrogates in preverbal position are:

37. nákrian tham kaanbâan thùuk$_8$
$$\begin{vmatrix} +V \\ +mprs \end{vmatrix}$$
 student   do   homework   right
'The student did the homework right.'

38. dèk yiŋ puuun *thùuk*
$$\begin{vmatrix} +V \\ +mprs \end{vmatrix}$$
 child fire gun   be correct
'The child fired the gun (and hit it right).'

The syntactic evidence to support the claim that *thùuk$_8$* is an impersonal verb and is the highest verb in the clause is that *thùuk$_8$* can be negated (37a-38a), but not the other verbs, e.g., *tham* and *yiŋ* in (37b-38b).

37a. nákrian   tham   kaanbâan   mâi   thùuk$_8$
      student   do   homework   not   right
      'The student did not make the homework right' (or, 'made it wrong.')
38a. dèk   yiŋ   puuun   mâi   thùuk$_8$
      child fire gun   not   be correct
      'The child fired the gun (and did not hit it right).'

37b. *nákrian mâi   tham   kaanbâan   thùuk$_8$
       student not   do   homework   be correct
38b. *dèk   mâi   yiŋ   puuun   thùuk$_8$
       child not   fire gun   be right

Additional supporting evidence is that the answer for a yes–no question with impersonal *thùuk$_8$* always consists of either a positive *thùuk$_8$* (40) or a negative *mâi*

thùuk$_8$ (41), rather than the verbs (42). This further confirms that *thùuk*$_8$ is the highest verb in the clause.
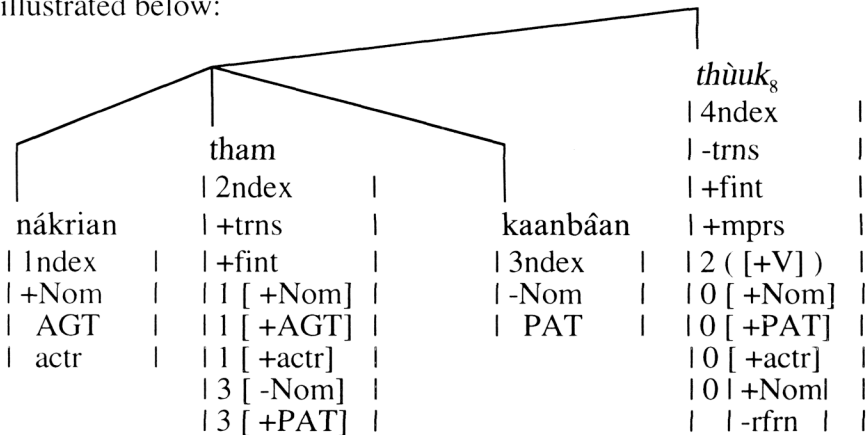
39. nákrian tham kaanbâan thùuk$_8$ rɯ́ɯ mâi thùuk$_8$
    student do homework be right or not be right
    'Did the student do the homework right?'
    Or, 'The student did the homework right or wrong?'

40. thùuk$_8$
    be correct
    'Yes, he did.'

41. mâi thùuk$_8$
    not be correct
    'No, he did not.'

42. *mâi tham
    not do

The internal structure of sentence (37) in which *thùuk*$_8$ is treated as an impersonal verb is illustrated below:

```
                                                          thùuk₈
                                                          | 4ndex      |
                            tham                          | -trns      |
                            | 2ndex     |                 | +fint      |
      nákrian               | +trns     |     kaanbâan    | +mprs      |
      | 1ndex   |           | +fint     |     | 3ndex   | | 2 ( [+V] ) |
      | +Nom    |           | 1 [ +Nom] |     | -Nom    | | 0 [ +Nom]  |
      | AGT     |           | 1 [ +AGT] |     | PAT     | | 0 [ +PAT]  |
      | actr    |           | 1 [ +actr]|                | 0 [ +actr] |
                            | 3 [ -Nom] |                | 0 | +Nom|   |
                            | 3 [ +PAT] |                |   | -rfrn | |
```

thùuk$_8$, as an impersonal intransitive verb, has a verbal complement *nákrian tham kaanbâan* as its surrogate dependent sister. According to the Patient Centrality Hypothesis, every verb requires a Patient (Starosta & Nomura, 1984, p. 10) and the Patient can only be marked on a lexical NP head. As a subject surrogate, it has no overt NP. However, the subject feature of an impersonal verb can have a zero index (0), which means that there is no overt coreferential element for the nominative Patient.

Besides taking a finite clause complement in initial position, the impersonal intransitive verb *thùuk*$_8$ also allows an immediate following noun as its dependent sister, e.g.,

43. puɯɯn yiŋ   thùuk₈ pâu
    gun   shoot hit   target
    'The gun shot, hitting the target.'
44. rót   tçhon   thùuk₈ tônmáai
    car   smash   hit   tree
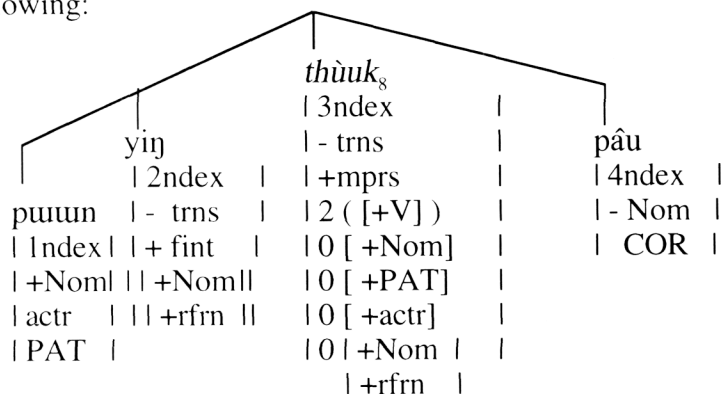   'The car smashed into the tree.'

The *thùuk₈* verbs in these sentences are impersonal because *thùuk₈* occurs as the *highest verb and can be negated as in (43b) and (44b) below.*

43b. puɯɯn yiŋ   mâi thùuk₈ pâu
     gun   shoot   not hit   target
     'The gun did not hit the target.'
44b. rót   tçhon mâi thùuk₈ tônmáai
     car   smash not   hit   tree
     'The car wasn't able to hit the tree.'

The dependent noun following *thùuk₈* is assigned a Correspondent case, rather than a Patient. According to the word-order typology of an accusative language like Thai, the Patient always occurs following a verb if and only if the verb is transitive. Since the finite complement or the subject surrogate of *thùuk₈* is marked with an implied zero Patient, it means that the Patient occurs preceding *thùuk₈* and the verb is intransitive. Since the verb is intransitive, there can only be one Patient per sentence. As a consequence, the noun following *thùuk₈* cannot be marked as a Patient, but rather as a Correspondent.

The structure of a sentence having *thùuk₈* as a transitive impersonal verb looks like the following:

```
                              thùuk₈
                              | 3ndex      |
                yiŋ           | - trns     |       pâu
                | 2ndex |     | +mprs      |       | 4ndex  |
     puɯɯn  | - trns  |     | 2 ( [+V] )  |       | - Nom  |
     | Index | | + fint  |     | 0 [ +Nom]  |       |  COR   |
     | +Noml | | | +Noml |     | 0 [ +PAT]  |
     | actr  | | | | +rfrn | |   | 0 [ +actr]  |
     | PAT  |                 | 0 | +Nom  |   |
                              | +rfrn    |
```

The impersonal verb *thùuk₈* has two dependent sisters. One is the subject surrogate *puɯɯn yiŋ*, the other is the Correspondent noun *pâu*.

The following dependent noun is not considered to be incorporated with *thùuk₈*, as in the case of *thùuk₁*, since the noun can be modified by a determiner (45), or a classifier (46), or a stative modifier (47):

45. pɯɯn   yiŋ   thùuk $_8$ pâu   níi
    gun   shoot   hit   target   this
    'The gun shot hitting this target.'

46. pɯɯn   yiŋ   thùuk$_8$ pâu   sǎam   pâu
    gun   shoot   hit   target   three   target
    'The gun shot hitting three targets.'

47. pɯɯn   yiŋ   thùuk$_8$ pâu   yàɪ
    gun   shoot   hit   target   big
    'The gun shot hitting the big target.'

2.5. Particle Adverb *thùuk$_9$*

A particle adverb is an adverb that cooccurs with a particle verb. A particle verb, unlike other verbs, impose strong selectional restrictions on a cooccurring adverb, such as English *look (up)*, *bring (in)*, *put (up) (with)*, etc. The verbs *look*, *bring*, and *put* impose selectional restrictions on following adverbs, *up*, *in*, and *up with*.

A particle adverb appears as a sister of the verb in order to satisfy the contextual feature imposed by the verb. Its function is to give additional meaning to, and to mark distinct homophonous lexical entries (which may be derived) for a verb (Starosta, 1988, p. 245). For example, the particle adverb *up* give an additional meaning to the verb *look*, and distinguishes the single verb *look* from the particle verb *look up*.

thùuk$_9$ is treated as a particle adverb because it gives an additional meaning to the particle verb with which it combines, and also distinguishes the derived particle verb from the underived verb. Examples of a particle adverb *thùuk$_9$* are *duu thùuk$_9$* 'insult' and *khít thùuk$_9$* 'make a right decision.'

Unlike impersonal *thùuk$_8$* in (50), the particle adverb *thùuk$_9$* cannot be negated by the negative verb *mâi* (48–49):

48. *nuan   tɕhɔ́ɔp   duu   mâi   thùuk$_9$ khon
    Nuan   like   look   not   right   people

49. *nít   khít   mâi   thùuk$_9$ thîi   pai   nɔ̂ɔk
    Nit   think   not   right   that   go   abroad

50. nít   phûut   mâi   thùuk$_9$
    Nit   speak   not   be correct
    'Nit did not speak right.'

A particle adverb *thùuk$_9$* cannot be preposed outside the domain of its commanding verb, e.g.,

51. *thùuk$_9$ khon   nuan   tɕhɔ́ɔp   duu
    right   people   Nuan   like   look

52. *thùuk₉ thîi pai nɔ̂ɔk nít khít
    right   that go abroad Nit think

3. CONCLUSION

According to the lexicase analysis, there are nine homophonous entries for *thùuk*. Each homophonous form has its own syntactic and semantic distribution. The major syntactic category of *thùuk* can be either a verb or a 'particle' adverb. There are four transitive *thùuk*. The first one, *thùuk₁* 'hit,' does not allow any dependent sister, other than Agent and Patient. The second one, *thùuk₂* 'hit,' allows a Locus complement as another dependent sister. The third one, *thùuk₃* 'hit,' allows a non-finite verbal complement as another dependent sister. And the last one, *thùuk₄* 'touch,' allows both an Agent and a Patient as its dependent sisters.

There are three intransitive homophonous entries for *thùuk*. *thùuk₅* means 'be cheap,' *thùuk₆* means 'be correct,' and *thùuk₇* is an extension intransitive verb meaning 'be affected by,' which can be followed by either a finite or a non-finite verbal complement. There is one impersonal intransitive *thùuk₈* 'be right.' The last one, *thùuk₉*, is treated as a 'particle' adverb.

There is also an incorporated *thùuk* construction: the *thùuk*+noun construction. *thùuk* occurring in these constructions will not be treated as a separate lexical entry since the meaning of this construction is composite and cannot be defined by the verb *thùuk* alone. The whole construction behaves as one single unit, thus *thùuk* cannot be treated separately, but is incorporated.

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