An Investigation of *hây* Complex Constructions in Thai

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1. Introduction

This paper investigates the syntactic and semantic characteristics of the lexical item *hây* in complex constructions in Thai. *hây* occurs as a matrix verb in a complex construction, meaning either 'have (someone do something)' or 'let (someone do something)' as in (1) below. Moreover, it occurs in a non-matrix subclausal unit, forming various types of constructions, as shown in (2) to (4).

(1) nuan hây jŭm ʔàːn nǎŋsŭ̌ː kɔ̀n nɔːn
Nuan give Jum read book before sleep
'Nuan had Jum read a book before going to bed.'
Or 'Nuan let Jum read a book before going to bed.'

(2) nuan bɔ̀ːk hây jŭm ʔàːn nǎŋsŭ̌ː
Nuan tell give Jum read book
'Nuan told Jum to read a book.'

(3) nuan yàːk hây jŭm nâŋ loŋ
Nuan want give Jum sit DIR
'Nuan wanted Jum to sit down.'

(4) nuan thúp kæ̂ːw hây tæ̀ːk
Nuan hit glass give be broken
'Nuan hit the glass in order for it to be broken.'

Beside the above occurrences, *hây* occurs as a verb of possession transfer, meaning 'give' and a beneficiary marker, translated as 'for' in English, as shown below respectively.

(5) nuan hây khàʔnŏm jŭm
Nuan give sweets Jum
'Nuan gave Jum the sweets.'

(6) nuan kamlaŋ tham ka:nbâ:n hây jŭm
Nuan ASP do homework give Jum
'Nuan is doing homework for Jum.'

Due to the semantic similarities between *hây* as a matrix verb, as in (1), and *hây* that is preceded by another verb in such constructions as in (2) to (4), these instances of complex constructions are grouped together and labeled as serial verb constructions. (Thepkanjana 1986). However, there is a problem in categorizing a lexical item that occurs in this type of construction, that is, whether it is a verb or a syntactic marker that functions as a linkage between two clausal units. This problem is crucial for classifying construction types as serial verb construction since serial verb constructions are defined as constructions in which series of verbs or verb phrases are juxtaposed without any overt marker for clausal relations, still representing a single event (Zwicky 1990; Hansell 1993). A similar phenomenon is found in Saramaccan as shown below.

(7) Kofi meki a / en go na wowoyo
Kofi make he / him go LOC market
'Kofi made him go to the market.'

(Seuren 1990: 26)

(8) alen fado meki den prani gro
rain fall make the plants grow
'Rain falls so that the crops grow.'

(Sebba 1987: 56)[1]

[1]Seuren, Pieter A.M. 1990. Serial verb constructions. In Brian D. Joseph and Arnold M. Zwicky, eds., *When verbs collide: Papers from the 1990 Ohio State Mini-Conference on serial verbs Working Papers in Linguistics*, No.39. 14-33. Quoting Mark Sebba. 1987. *The syntax of serial verbs: An investigation into serialisation in Sranan and other languages*. Amsterdam: Benjamins.

Sebba (1987) argues that *meki* is reanalyzed as a conjunction to some native speakers, against an analysis of Voorhoeve (1975)[2] who takes a construction like (8) as an instance of a serial verb construction.

We can see that in languages in which syntactic markers share the same form as content words one needs independent criteria to define the function of the lexical item in particular constructions. This paper proposes that the semantic similarities among various uses of *hây* can be explained in terms of a schematic representation of the semantic components of the lexical item. Consequently, whether *hây* in each construction type functions as a verb or a clausal linkage marker is independently decided from its syntactic and semantic relationship with other components in the construction. Moreover, a systematic analysis of the clausal structure of each construction type is needed. The analysis is based on the framework of Role and Reference Grammar (Van Valin 1993; Van Valin and LaPolla 1997).

The analysis begins with *hây* in a simple construction, including *hây* as a verb of possession transfer and as a beneficiary marker. The next section deals with *hây* as a matrix verb in a jussive construction. Then, I investigate the clausal linkage types of constructions with *hây*, namely, jussive, propositional attitude and purposive constructions. The findings would lead to the justification for syntactic category of *hây* in each construction type.

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[2]Seuren, Pieter A.M. 1990. Serial verb constructions. In Brian D. Joseph and Arnold M. Zwicky, eds., *When verbs collide: Papers from the 1990 Ohio State Mini-Conference on serial verbs Working Papers in Linguistics*, No.39. 14-33. quoting Jan Voorhoeve. 1975. Serial verbs in Creole. Paper presented at Hawaii Pidgin and Creole Conference.

2. Semantic properties of the lexical item *hây*

This section gives an introduction to the semantic properties of the lexical item *hây* in three kinds of environments: as a verb of possession transfer, as a beneficiary marker and as a jussive verb. Two semantic aspects to be investigated are animacy restrictions on subject NPs and semantic classes of verbs.

2.1 *hây* as a verb of possession transfer

As a verb of possession transfer, *hây* is followed by two arguments, a theme followed by a recipient. This order is fixed, and the other way around is ungrammatical. To illustrate,

(9) nuan hây khaʔnŏm jŭm
Nuan give sweets Jum
'Nuan gave Jum the sweets.'

(9) *nuan hây jum khaʔnŏm
Nuan give Jum sweets

As for animacy, *hây* requires its subject NP to be animate. Thus, a sentence with an inanimate subject is not acceptable.

(10) *fŏn hây nám raw
rain give water us
'Rain gives us water.'

We cannot use sentence (10) to express *fŏn* 'rain' as having a semantic role of possessor who has an intent to transfer the possession of *nám* 'water' to the receiver.

Thus, the semantic representation of *hây* can be formulated as follows:

(11) [**do** (x, ∅) CAUSE INGR **have** (y, z)]

The above logical structure is the semantic representation of the verb of possession transfer *hây* 'give', which is an achievement verb, represented by the modifier INGR. The x argument is a participant who transfers the possession to the other participant,

represented by the *y* argument, and the *z* argument is an object of transfer. As a causative achievement verb, *hây* involves an unspecified action causing another state of affairs, namely, an achievement.

2.2 *hây* as a beneficiary marker

As a beneficiary marker, *hây* expresses two kinds of beneficiaries, namely, deputative beneficiaries and recipient. According to Van Valin and LaPolla (1997), a deputative beneficiary is the participant who receives benefit from the action without doing the action. That is, the actor who has the intent that the beneficiary need not do the action performs the action; the recipient is a participant who receives concrete objects from the actor. There are two kinds of recipients marked by *hây*, namely, intermediate and ultimate recipients.

(12) nuan sák phâ: hây lû:k saʔmə̌:.
Nuan wash clothes give kid always.
lû:k lə:y sák ʔe:ŋ mây pen
kid thus wash self not able
'Nuan always washes clothes for her kid. Thus, her kid does not know how to wash clothes her/himself.' (= Nuan washes clothes in her kid's place so that her kid does not have to do it.)

(13) nuan yɪp nă̱ŋsŭ̱: khɔ̌:ŋ lɔ̀n hây jŭm
Nuan grab book POSS 3rdF give Jum
phrɔ́ʔ jŭm khɔ̌: du:
because Jum ask look
'Nuan grabbed her book and gave it to Jum because Jum asked to see it.'

(14) nuan sŭ̱: khé:k chîn nán hây lû:k
Nuan buy cake CL DEM give kid
phrɔ́ʔ lû:k yà:k kin
because kid want eat
'Nuan bought that cake for her kid because her kid wanted to eat it.'

Sentence (12) illustrates the usage of *hây* as a deputative beneficiary while sentences (13) and(14) *hây* marks recipients, intermediate and ultimate, respectively. Intermediate

recipient refers to a participant that has a semantic role as a goal; and ultimate recipient refers to a recipient to whom the possession is transferred.

Note that *hây* in Thai cannot be followed by an inanimate argument. Thus, the following sentences are not possible.

(15) *nuan tha:sĭ: hây bâ:n
Nuan paint give house
'Nuan painted for the house.'

(16) *nuan rór:ŋ phle:ŋ hây khwa:msanùksanăː:n
Nuan cry out song give fun
'Nuan sang a song for fun.'

As for animacy, a beneficiary marker *hây* occurs only in a clause with an animate subject, as shown by the unacceptable sentence below.

(17) *dæ̀:t sɔ̀:ŋ hây raw
sunlight shine give us
'The sunlight shines for us.'

Moreover, the beneficiary marker *hây* does not co-occur with state verbs or achievement verbs. To illustrate,

(18) *nuan di:tɕay hây jŭm
Nuan be glad give Jum
'Nuan was glad for Jum.'

(19) *nuan tɕəː kraʔpăw thĭ hăːy pay hay jŭm
Nuan find purse REL be lost OPR give Jum
'Nuan found the lost purse for Jum.'

The verb in (18) is a state verb and in (19) it is an achievement verb. Both are unacceptable sentences. Therefore, we conclude that a beneficiary marked by *hây* may co-occur only with an activity or accomplishment verb.

The semantic representation follows what Jolly (1993) has proposed for a purposive marker. She argues that *for* in English has two functions: causative and purposive; thus, it has two semantic components, as follows:

(20) Semantic content of purposive *for*:

(1) **want**ⓒ (x, LS_2)
(2) DO (x, [LS_1 CAUSE LS_2])

To illustrate, an English sentence (21) can be semantically represented in a logical structure as shown below. (Jolly 1993: 303)

(21) John baked a cake for Rita.

The above sentence has a benefactive *for*, which includes both semantic components in (20), as illustrated below:

[**want**ⓒ (John, LS_2)] ∧ [DO (John, [LS_1 CAUSE LS_2])]
LS_1 = [**do**ⓒ (John) CAUSE [BECOME **baked**ⓒ (cake)]]
LS_2 = [BECOME **have**ⓒ (Rita, cake)]

Therefore, a fully elaborated logical structure for (21) is as follows:

(21′) [**want**ⓒ (John, [BECOME **have**ⓒ (Rita, cake)])] ∧ (John, [[**do**ⓒ (John) CAUSE [BECOME **baked**ⓒ (cake)]] CAUSE [BECOME **have**ⓒ (Rita, cake)]])]

When the benefactive has a deputative reading, the interpretation for LS_2 is as follows:

LS_2 = NOT LS_1

Thus, when a sentence like (21) has a deputative interpretation, that is, 'John baked a cake in place of Rita', that is to say, 'Rita did not bake a cake', its logical structure is represented as follows:

(21″) [**want**ⓒ (John, [NOT **do**ⓒ (Rita) CAUSE [BECOME **baked**ⓒ (cake)]])]
∧ [DO (John, [[**do**ⓒ (John) CAUSE [BECOME **baked**ⓒ (cake)]]
CAUSE [NOT **do**ⓒ (Rita) CAUSE [BECOME **baked**ⓒ (cake)]]])]

In Thai, as shown above, it is found that *hâay* has two readings: deputative beneficiary and recipient. Following Jolly (1993), sentences of the three beneficiary readings--deputative, intermediate recipient and ultimate recipient--have the following logical structures:

(22) nuan sák phâ: hây lû:k (Deputative beneficiary)
Nuan wash clothes give kid
'Nuan washed clothes for her kid.'

(22¢) [**want**¢ (Nuan, LS_2)] ∧ [DO (Nuan, [LS_1 CAUSE LS_2])]
LS_1 = [**wash**¢ (Nuan, phâ:)]
LS_2 = [NOT **wash**¢ (lû:k, phâ:)]

(23) nuan yıp nǎŋsŭ: khŏ:ŋ lɔ̀n hây jŭm (Intermediate recipient)
Nuan grab book POSS 3rdF give Jum
'Nuan grabbed her book and gave it to Jum.'

(23¢) [**want**¢ (Nuan, LS_2)] ∧ [DO (Nuan, [LS_1 CAUSE LS_2])]
LS_1 = [**grab**¢ (Nuan, nǎŋsŭ:)]
LS_2 = [INGR **be-LOC**¢ (Jum, nǎŋsŭ:)]

(24) nuan sú: khé:k chín nán hây lû:k (Ultimate recipient)
Nuan buy cake CL DEM give kid
'Nuan bought that cake for her kid.'

(24¢) [**want**¢ (Nuan, LS_2)] ∧ [DO (Nuan, [LS_1 CAUSE LS_2])]
LS_1 = [**buy**¢ (Nuan, khé:k)]
LS_2 = [INGR **have**¢ (lû:k, khé:k)]

To sum up, *hây* can be used as a beneficiary marker indicating a deputative beneficiary, an intermediate recipient and an ultimate recipient. It co-occurs with animate subjects only. Finally, it is only compatible with activity or accomplishment verbs.

2.3 *hây* as a matrix verb in a complex construction

So far we have seen that the lexical item *hây* can be syntactically categorized as a verb of possession transfer and a beneficiary marker. In this section we move to *hây* that is used in a complex construction as a matrix verb. An example is the following:

(25) nuan hây jŭm nâŋ loŋ
Nuan give Jum sit OPR
'Nuan had Jum sit down.' Or, 'Nuan let Jum sit down.'

We first consider its semantic restriction on animacy. The verb *hây* as a matrix verb of the construction requires an animate subject NP.

(26) nuan hây jŭm pɪt nâːtàːŋ
Nuan give Jum close window
'Nuan had Jum close the window.'
or 'Nuan let Jum close the window.'

(27) mæ̂ː cháʔniː hây lûːk kin klûay kɔ̀ːn
mother gibbon give offspring eat banana before
'The mother gibbon had its offspring eat the banana first.'
or 'The mother gibbon let its offspring eat the banana first.'

(28) *phaːyúʔ hây jŭm pɪt nâːtàːŋ
storm give Jum close window
'The storm had Jum close the window.'
'The storm let Jum close the window.'

In sentences (26) and (27) the subject NPs are animate, that is, 'Nuan' and 'the mother gibbon'. However, sentence (28) is ungrammatical when the subject NP is inanimate, that is, *phaːyúʔ* 'storm'. Therefore, it is obligatory that the subject NP of the matrix verb *hây* be animate.

In terms of animacy, typically, the undergoer of the matrix verb *hây*, which is also the actor of the non-matrix verb, is also animate. However, it is also possible for the actor of the non-matrix verb to be inanimate, as shown below:

(29) nuan hây ʔaːkàːt nay hôŋ thàːytheː samɔ̀ːɔ.
Nuan give air in room circulate always.
hôŋ tɕɯŋ mây ʔàp
room thus not be stuffy
'Nuan let the air in the room circulate all the time. The room is, thus, not stuffy'

Sentence (29) shows that an inanimate NP, *ʔaːkàːt* 'air', can be the undergoer of *hây* and the actor of the non-matrix predicate. However, it is not the case that any inanimate NP can occur as undergoer of the matrix verb *hây*. Consider the following examples.

(30) *nuan hây kæ̂ːw tæ̀ːk
Nuan give glass be broken
'Nuan had the glass become broken.'
Or, 'Nuan let the glass become broken.'

(31) nuan hây kæ̂ːw klîŋ pay rɯ̂ayrɯ̂ay lǽːwtɕɯŋ tɕàp wáy
Nuan give glass roll DIR continually then hold OPR
'Nuan let the glass keep rolling, and then she held it.'

We can see that a sentence with *kæ̂ːw* 'glass' as an undergoer as in (30) is unacceptable, but the same NP as actor of an activity verb in (31) is acceptable. Therefore, there is no semantic restriction of animacy on the shared NP of the construction, but the semantic class of the non-matrix verb is restricted to activity and accomplishment verbs only. Compare the following data with the above.

(32) *nuan hây jŭm diːtɕay
Nuan give Jum be happy
'Nuan had Jum be happy.'

(33) *nuan hây jŭm tɕəː krà?păw thîː hă̌ːy pay
Nuan give Jum find purse REL be lost OPR
'Nuan had Jum find the lost purse.'

Sentences (32) and (33) are not possible because the semantic class of the non-matrix verb is state and achievement, respectively.

Another important semantic feature of *hây* involves the notion of causation. As suggested in the translation of the above data, the verb *hây* in this type of construction is ambiguous with respect to the semantic aspect of causation; that is, without enough context, it could mean both 'have' and 'let'. For example,

(34) nuan hây jŭm pay ŋaːnlîaŋ
Nuan give Jum go party
(a)'Nuan let Jum go to the party.'
(b)'Nuan had Jum go to the party.'

Sentence (34) is ambiguous in that it could be interpreted as either the participant *Jum* being forced by the other participant, *Nuan*, to perform the action of 'going to the party',

or *Jum* being given permission to perform such an action. However, a specific sense of the verb is chosen in a particular context. To illustrate,

(35) nuan hây jŭm pay ŋa:nlíaŋ
Nuan give Jum go party
tháŋthî: lɔ̀n rú: wâ: jŭm klìat ŋa:nlíaŋ
although 3rdF know CMPL Jum hate party
(a)*'Nuan let Jum go to the party although she knows that Jum hates parties.'
(b)'Nuan had Jum go to the party although she knows that Jum hates parties.'

(36) nuan hây jŭm pay ŋa:nlıáŋ
Nuan give Jum go party
tháŋthî: tæ:kɔ̀n lɔ̀n khəy hâ:m
although previously 3rdF used to forbid
(a)'Nuan let Jum go to the party although she used to forbid her before.'
(b)*'Nuan had Jum go to the party although she used to forbid her before.'

We can see that semantic ambiguity of *hây* can be eliminated in an adequate context: *hây* means 'have (someone do something)' in (35), but 'let' in (36).

Such an unspecified causation can be explained in terms of force dynamic patterns, proposed by Talmy (1988). In his terms, "force dynamics" is a generalization over the linguistic notion of "causation"; it involves how entities interact with respect to force. (Talmy 1988: 49-50). There are two patterns of force dynamics that *hây* constructions refer to. First, a stronger force element impinges against another force element that has a tendency to rest, thus causing it to perform an action. An example of this pattern is (35) in which *Jum*, as a weaker force element, does not want to perform the action, but is forced to do so by *Nuan*, as a stronger force element. Second, a stronger force element disengages from another force element that has a tendency to move. This is exemplified by (36) in which *Nuan*, still a stronger force element, releases a blockage that could prevent *Jum* from performing an action. The property that both patterns share is that an agent is a stronger force element and a non-agent is a weaker one. Another example is as follows:

(37) nuan hây ʔa:kà:t nay hôŋ thà:ythe: samə̌:
Nuan give air in room circulate always
(a)'Nuan often lets the air in the room circulate all the time.'
(b)*'Nuan often has the air in the room circulate all the time.'

In (37), *Nuan* as an agent is a stronger force element while 'the air' has tendency to move, but without the disengagement performed by the agent the circulation would not occur. That is, the agent, say, opens the door, windows, etc. to allow the air to circulate. In this situation, *hây* is not ambiguous since the air has an inherent property to move, and the agent has power to allow the action by releasing any blockages.

Therefore, the important semantic component that the *hây* construction involves is that the agent's intent determines the non-agent's performing an action; that is, the agent can force or allow the non-agent to do an action.

To sum up, there are two semantic restrictions on this type of construction: the subject NP must be animate and the semantic class of the non-matrix verb must be either an activity or accomplishment. Also, with respect to causation, the action in the non-matrix is performed in accordance with the intent of the agent.

Recall the semantic structure of *hây* as a beneficiary marker. We find that the schematic representation proposed by Jolly (1993) can also be applied here, since both constructions require an animate subject NP, must co-occur with activity or accomplishment verbs only, and have both an intent and causation as their semantic component.

Then, we could provide a semantic representation for the complex verb *hây* as follows:

(38) [**want**ⓒ (x, LS_2) ∧ DO (x, [LS_1 CAUSE LS_2])]
LS_1 = [**do**ⓒ (x, ∅)]
LS_2 = (1) **do**ⓒ (y, [**pred**ⓒ (y) or (y, z)])
or (2) BECOME **do**ⓒ (y, [**pred**ⓒ (y) or (y, z)])

From this schema, the x argument has the intent for another action to occur as seen in the first component, that is, **want**ⓒ (x, LS_2). It is also an actor who performs an unspecified action to cause the action represented in LS_2. The unspecified action is represented as

[**do**ꜝ (x, ∅)]. LS_2 represents a logical structure of the non-matrix verb and its arguments. LS_2 can be an activity or an accomplishment.

To illustrate, sentence (39) has the semantic structure represented in (39′) below.

(39) nuan hây jŭm pɪt nâːtàːŋ
Nuan give Jum close window
'Nuan had Jum close the window.'
or 'Nuan let Jum close the window.'

(39′) **want**ꜝ (nuan, [BECOME **do**ꜝ (Jum, [**close**ꜝ (Jum, nâːtàːŋ)])]) ∧ DO (nuan, [[**do**ꜝ (nuan, ∅)] CAUSE [BECOME **do**ꜝ (Jum, [**close**ꜝ (Jum, nâːtàːŋ)])]])

From the above, sentence (39) can be represented with two semantic components:

(1) **want**ꜝ (x, LS_2), where the *x* argument is *Nuan*, the *y* argument is *Jum*, and LS_2 is [BECOME **do**ꜝ (Jum, [**close**ꜝ (Jum, nâːtàːŋ)])]

(2) DO (x, [LS_1 CAUSE LS_2]), where LS_1 is the unspecified action done by the *x* argument, namely, [**do**ꜝ (nuan, ∅)]

To sum up, the construction with *hây* as a matrix verb requires an animate subject. Also, it allows only an activity or an accomplishment as a non-matrix verb. With respect to its causality, *hây* can be used in two types of situations: (1) a situation where a stronger force element expressed by the subject NP impinges against another force element, and (2) a situation where the stronger force element disengages barriers for the weaker force element to perform the action. Finally, the semantic structure of the matrix verb *hây* in this type of construction is consistent with that of the beneficiary marker *hây*, that is, they both involve two semantic components: the intent and the causation.

3. Clausal linkage of the construction with *hâay* as matrix verb

This section investigates the juncture and nexus type of complex constructions with *hâay* as a matrix verb. We first begin with a review of the properties of nexus and juncture types in Thai. Then, given those properties, we characterize the construction in question.

3.1 Review of juncture and nexus types

According to RRG, complex sentences are recognized as having a layered structure such that a complex construction is a unit that exhibits a particular relationship with another unit. Such a complex unit is referred to as a juncture, and a relationship among junctures is called nexus. There are three kinds of junctures, that is, nucleus, core and clause. Junctures can be related to one another in three nexus types: coordination, cosubordination and subordination.

As a layered structure, a nuclear juncture is a core composed of multiple nuclei, a core juncture a single clause made up of multiple cores, and a clausal juncture a whole sentence made up of two or more clauses. A major characteristic of a nuclear juncture is the argument pooling. That is, the two verbs in the juncture act as if they are a single predicate, so that they pool all their arguments together as a single set. As for core junctures, the two cores share at least one argument, and core operators may be allowed to have an independent scope over a particular core. In a clausal juncture, however, each clause is independent of the others, with respect to the argument realization, so that arguments of the clauses are not structurally shared, rather any missing arguments are subject to pragmatic conditions of anaphor.

Nexus relations are relationships between two subclausal units in a juncture, thus making up nine possible combinations of nexus and junctures. Their properties can be broadly summarized as follows:

1) Coordination is a kind of relationship among linked juncts that are structurally independent at the level of juncture; for example, a clause in a clausal coordination construction can occur independently on its own outside the clausal chain.

2) Subordination, either as an argument or a modifier, is a kind of part-whole relationship between a matrix unit and one or more structurally dependent juncts; for

example, a subordinate clause cannot occur independently on its own outside the clausal chain.

3) Cosubordination is a relationship among juncts that are interdependent due to being within the scope of one or more shared operators, for example, a construction in which one clause is dependent on another clause by virtue of shared tense is a cosubordination.

3.2 Characteristics of juncture types in Thai

In Thai there are two properties that differentiate juncture types, namely, the realization of arguments and the occurrence of adverbs.

The realization of arguments in a non-matrix subclausal unit is an important property for distinguishing types of juncture in Thai. As mentioned earlier, core arguments are pooled together in case of a nuclear juncture, and at least one argument is shared by multiple cores in a core juncture, while there is no argument sharing in a clausal juncture. That is to say, there are gaps or missing NPs in some types of predicates. Gaps or zeroes are allowed in many cases, but not all are of the same kind. There are two kinds of zeroes: a linking zero and an anaphoric zero. A linking zero is a zero that structurally occurs to yield cohesion among subclausal units, while an anaphoric zero is the one that occurs by virtue of pragmatic principles.

We first consider the following set of examples:

(40) nuan phlàk tó? tua nán lóm
Nuan push table CL DEM fall down
'Nuan pushed that table down.'

(41) nuan phlàk tó? tua nán tɕon lóm
Nuan push table CL DEM until fall down
(a)'Nuan pushed that table until it fell down.'
(b)'Nuan pushed that table until she fell down.'

There are two predicates in each of the above sentences, that is, *phlàk* 'push' and *lóm* 'fall down', and two NPs, that is, Nuan and *tó? tua nán* 'that table'. Sentence (40) shows a juxtaposition of the two predicates without any markers or conjunctions, while sentence (41) has a conjunction *tɕon* 'until' between the two predicates. Semantically, sentences

(40) and (41) are very similar in terms of the description of a state of affairs. Both involve an action of 'pushing a table' indicated in the first predicate and the action of bringing about an event of 'falling down'. What is at stake here is the fact that when the two predicates are linked by a conjunction, a context-free sentence like (41) could be ambiguous. That is, the participant who undergoes the event of 'falling down' could be either of the participants in the first predicate, that is, 'Nuan' or 'that table', whereas in (40) the only possible interpretation is that it is the 'table' that undergoes the event of 'falling down'. To sum up, the ambiguity in (41) arises from the fact that the undergoer of the predicative verb 'fall down' is a discourse zero, subject to contextual construal. In (40) there is no ambiguity since the NP 'table' itself is interpreted as an undergoer of both the first predicate and the second predicate by virtue of the construction itself.

The above semantic interpretation of the state of affairs and its participants shows the possibility for the position before a verb in the second predicate to have an argument, even in the form of zero. Based on sentence (40), we can apply a test for the acceptability of argument realization in the construction, as follows:

(42)	*nuan	phlàk	tó?	tua	nán	tó?	tua	nán	lóm
	Nuan	push	table	CL	DEM	table	CL	DEM	fall down

(43)	*nuan	phlàk	tó?	tua	nán	man	lóm
	Nuan	push	table	CL	DEM	3rd	fall down

The unacceptable sentences in (42) and (43) show that the realization of an NP as an argument for the second predicate is not possible. A well-formed sentence for this type of construction requires the second predicate to share its argument with the preceding predicate.

Now we apply the same test with sentence (41), in which there is a conjunction before the second predicate.

(44)	nuan	phlàk	tó?	tua	nán	tɕon	man	lóm
	Nuan	push	table	CL	DEM	until	3rd	fall down
	'Nuan pushed that table until it fell down.'							

(45) nuan phlàk tóʔ tua nán tɕon tuaʔeːŋ lóm
Nuan push table CL DEM until self fall down
'Nuan pushed that table until she, herself, fell down.'

Sentences (44) and (45) are alternations of the sentence (41). In these two sentences, an undergoer of the rightmost predicate is overtly realized as *man* 'it' and *tuaʔeːŋ* 'self' respectively, and the sentences are still grammatical. We can conclude, then, that a zero as an undergoer of the result predicate in a construction with a conjunction is not structural, rather it is anaphoric in that its referent can be obtained via pragmatic principles.

Given this test as a distinction for types of zeroes in Thai complex constructions, we find that in a sentence with a conjunction linking two predicates, there is a position for a core argument before the linked predicate such that an omitted argument, if any, is subject to anaphoric principles. Therefore, we can say that in clausal junctures core arguments in non-matrix predicates are optionally realized, and that any constructions that exhibit a zero as an obligatory property are nuclear or core junctures.

Another test for juncture type in Thai is the intervention of adverbs between two juncts. It is found that postverbal adverbs that modify the matrix verb occur at the end of the matrix clause in a clausal juncture. In a core juncture, adverbs that modify only the verb in the matrix core must occur after the non-matrix core, not the matrix core. But in a nuclear juncture, no adverbs that modify only the verb in the matrix nucleus are allowed. To illustrate,

(46) nuan thúp kɛ̂ːw bay nán ræːŋræːŋ
Nuan hit glass CL DEM quite hard
tɕon man tæ̀ːk
until 3rd be broken
'Nuan hit that glass quite hard until it was broken.'

(46′) *nuan thúp kɛ̂ːw bay nán
Nuan hit glass CL DEM
tɕon man tæ̀ːk ræːŋræːŋ
until 3rd be broken very hard

Sentence (46) contains two clauses linked with a conjunction *tɕon* 'until', with an adverb *rœːŋrœːŋ*, 'quite hard,' which modifies the activity verb *thúp* 'hit'. The adverb can occur at the end of the clause where the modified verb occurs only, so sentence (46′) where the adverb is placed at the end of the other clause is unacceptable. Thus, sentence (46) is a clausal juncture.

Next we consider the occurrence of adverbs in a core juncture.

(47)	phon	chuan	nuan	kin	khâːw	duây	sĭaŋ	râːrəːŋ
	Phon	persuade	Nuan	eat	rice	with	voice	cheerful

'Phon persuaded Nuan, with cheerful voice, to eat.'

(47′)	*phon	chuan	nuan	duây	sĭaŋ	râːrəŋ	kin	khâːw
	Phon	persuade	Nuan	with	voice	cheerful	eat	rice

(47″)	*phon	chuan	duây	sĭaŋ	râːrəŋ	nuan	kin	khâːw
	Phon	persuade	with	voice	cheerful	Nuan	eat	rice

In sentence (47) a postverbal adverb phrase *dûay sĭaŋ râːrəːŋ* 'with cheerful voice' modifies the matrix verb chuan 'persuade'. It occurs at the end of the clause containing two cores. Sentences (47′) and (47″) are unacceptable when the adverb phrase occurs between the two cores, neither before nor after the shared argument. We conclude that in a core juncture, adverbs that modify only the matrix core are allowed but they must occur at the end of the core juncture, not between the two cores.

As for nuclear junctures, the matrix junct is not allowed to have an adverb specifically modify only the verb in the matrix. To illustrate,

(48)	*nuan	thúp	kêːw	bay	nán	ræːŋræːŋ	tæ̀ːk
	Nuan	hit	glass	CL	DEM	quite hard	be broken

(48′)	*nuan	thúp	kêːw	bay	nán	tæ̀ːk	ræːŋræːŋ
	Nuan	hit	glass	CL	DEM	be broken	quite hard

In both (48) and (48′) the adverb *rœːŋrœːŋ* 'quite hard' which modifies only the activity verb is not allowed to occur either at the end of the matrix nucleus, or at the end of the juncture.

To sum up, in Thai there are two major features that distinguish complex constructions into different juncture types, namely, the realization of arguments and the occurrence of adverbs between two juncts. Nuclear junctures have pooled arguments and do not allow a matrix verb to be independently modified by a postverbal adverb. Core junctures have obligatorily shared arguments and allow a matrix verb to be independently modified by a postverbal adverb but require that the adverb occur at the end of the juncture. Clausal junctures do not have either pooled or shared arguments and require that a postverbal adverb, if any, occur at the end of the clause that contains the verb it modifies.

3.3 Characteristics of nexus types in Thai

According to RRG, there are three kinds of nexus relations, which are relationships between two subclausal units, namely, coordination, cosubordination, and subordination. This paper proposes two tests to be used in distinguishing nexus types of constructions in question, namely, the *What*-question test for subordination and the operator dependency for coordination and cosubordination.

Firstly, a *What*-question test is to be used to find out whether the relationship between the two subclausal units at issue is subordination. In Thai, interrogative expressions occur in situ, so a NP in ordinary argument position can be replaced by a question word to form a question. To illustrate,

(49) nuan hây khàʔnŏm jŭm
Nuan give sweets Jum
'Nuan gave Jum the sweets.'

(49′) nuan hây ʔaray jŭm
Nuan give what Jum
'What did Nuan give Jum.'

(49″) nuan hây khàʔnŏm khray
Nuan give sweets who
'To whom did Nuan give the sweets?'

The above data illustrate question expressions in Thai. Sentence (49) is a non-question with the verb *hây* followed by two arguments, an undergoer and a recipient. To form a

question asking about each argument, we replace each argument with a question word. In (49′) *ʔaray* 'what' is a question word for non-human arguments; in (49′′) *khray* 'who' is for human arguments. These question words occur in the same position as arguments in non-question forms.

Likewise, in a complex construction a subclausal unit that functions as an argument can be replaced by the question word *ʔaray* in the same position. To illustrate,

(50) A: nuan diːtɕay ʔaray
Nuan be glad what
'What is Nuan happy about?'
B: nuan diːtɕay thîː wanníː pen wanyùt
Nuan be glad CMPL today be holiday
'Nuan is happy that today is a holiday.'

The issue is to find out the relationship between a clause marked by *thîː* and its preceding matrix unit in (50B). We ask the *What*-question in (50A), and find that (50B) is a possible answer for the question. We, thus, conclude that the *thîː* clause is an argument subordination.

More examples are as follows:

(51) A: *nuan thúp ʔaray
Nuan hit what
'What did Nuan hit?'
B: nuan thúp kæ̂ːw bay nán tæ̀ːk
Nuan hit glass CL DEM be broken
'Nuan broke that glass.'

The part at stake is *kæ̂ːw bay nán tæ̀ːk*, meaning 'the glass is broken'. To find out if the construction is an argument subordination, we replace the string with the *What*-question word, as shown in (51A). The result is that the question is not compatible with the intended answer. We conclude that the nexus is not an argument subordination.

In order to differentiate cosubordination and coordination from each other, we apply a test of operator dependency. If one junct can be modified by operators independently from the other junct, they are related as coordination; if the two juncts are operator-dependent, they are related as cosubordination. However, operators correspond

to the layered structure of the sentence; thus, what operators can be used to test for nexus type rely upon the juncture type. For example, core junctures can have independent nuclear operators in each core, but it would not count as a defining feature for core coordination. Therefore, the illustration of the test for nexus type is provided in the section of each type of construction after we investigate its juncture type.

This section summarizes a framework for dealing with complex constructions. According to RRG, complex constructions can be classified in terms of units and relationship among the units, as junctures and nexus. In order to identify the juncture and nexus type of each construction in Thai, some test frames are proposed. In the following sections we apply these tests to find out the juncture and nexus type of the constructions in question.

4. Juncture and nexus type of the construction with *hây* as a matrix verb

Based on the test proposed in section 3, this section investigates the nexus and juncture type of complex constructions with *hây* as a matrix verb.

4.1 Juncture type

As shown earlier, an important criterion for identifying juncture types in Thai is the realization of syntactic and semantic arguments. In nuclear and core junctures, semantic arguments are either obligatorily pooled or shared, respectively, while in clausal junctures they are optionally realized, depending on pragmatic principles. Given this criterion, the complex construction with *hây* as a matrix verb is a core juncture. To illustrate,

(52) phon hây jŭm pay ŋa:nlíaŋ
Phon give Jum go party
(a)'Phon let Jum go to the party.'
(b)'Phon had Jum go to the party.'

(53) *phon hây jŭm lɔ̀n pay ŋa:nlíaŋ
*Phon give Jum 3rdF go party

In sentence (52) there are two verbs, *hây* 'give' and *pay* 'go,' and two core arguments that are syntactically realized, *Phon* and *Jum*. The core argument *Jum* is an undergoer of a matrix verb *hây*, and also an actor of the non-matrix verb pay 'go'. (53) shows that the non-matrix verb 'go' cannot have its semantic argument syntactically realized. Thus, for this type of construction it is obligatory to have a shared core argument. Therefore, this type of construction is a non-clausal juncture since it has obligatorily shared core arguments.

Notice that the argument realization in this type of construction is not a kind of argument pooling since only the core argument that is an undergoer of the matrix junct is shared by the NP in a subject position of the non-matrix junct. To illustrate,

(54) nuan hây jŭm tɕàp sŏmsĭ: wáy
Nuan give Jum catch Somsri OPR
'Nuan had Jum catch Somsri tightly.'

Sentence (54) shows that *Jum* is the only shared core argument, that is, it is an undergoer of the verb *hây*, and also an actor of the two-place predicate verb *tɕàp* 'catch' in the non-matrix junct. But the NP *Somsri*, as an undergoer of the verb *tɕàp* 'catch', is not structurally shared by the matrix verb. We conclude, then, that the construction with *hây* as a matrix verb is not a nuclear juncture since semantic arguments are not pooled together; rather, it is a core juncture.

The above finding is confirmed when we apply the test of the adverbial intervention. For this type of construction adverbs can modify only the matrix core but it has to occur at the end of the juncture, as shown below.

(55) khăw hây tɕhăn pay ŋa:nlía ŋ kàp khăw yà:ŋsĭamâydây
3rdM give 1st go party with 3rdM unwillingly
'He unwillingly let me go to the party with him.'

(55′) *khăw hây yà:ŋsĭamâydây tɕhăn pay ŋa:nl̥ía ŋ kàp khăw
3rdM give unwillingly 1st go party with 3rdM

(55″) *khăw hây tɕhăn yà:ŋsĭamâydây pay ŋa:nlía ŋ kàp khăw
3rdM give 1st unwillingly go party with 3rdM

Ungrammatical sentences (55′) and (55′′) show that a postverbal adverb, *yàːŋsǐamâydây* 'unwillingly' in this case, is not allowed to occur between the two juncts, neither before nor after the shared argument. However, when it occurs at the end of the juncture, as in (55) the sentence is possible. We conclude that this type of construction is a core juncture since only an adverb that modifies the matrix core is allowed and it has to occur at the end of the core juncture, not between the two cores.

4.2 Nexus type of *hây* construction

Applying a *What*-question test to *hây* core juncture, we find that a non-matrix junct cannot be replaced by an equivalent question word as an argument can. Examples are shown below.

(56) A: *nuan hây jŭm ʔaray
*Nuan give Jum what
*'What did Nuan have Jum do?'
B: nuan hây jŭm tɕàp sŏmsĭː wáy
Nuan give Jum catch Somsri OPR
Nuan had Jum catch Somsri tightly.'

(56′) A: nuan hây jŭm tham ʔaray
Nuan give Jum do what
'What did Nuan have Jum do?'

The data above show that we cannot substitute a question word as an argument for the whole core. Rather, we have to use the verb of unspecified action *tham* 'do' before a question word as its argument as in (56′). Therefore, a non-matrix core in a *hây*-construction is not an argument of the verb *hây*, so it is not subordination.

Now we test for the dependency of operators between two cores. An important feature of core cosubordination is the operator dependence. It is found that each core in a *hây* core juncture can have independent core operators. Therefore, the *hây* construction is core coordination. To illustrate,

(57) mæ̂ː tôŋ hây jŭm pay ŋaːnl̥ɨaŋ kàp phon
mother must give Jum go party with Phon.
kô: phrɔ́ʔ jŭm rópráw
then because Jum insist
'Mother must let Jum go to the party with Phon. That's because Jum insisted.'

(58) *mæ̂ː hây jŭm tôŋ pay ŋaːnlía ŋ kàp phon
mother give Jum must go party with Phon
kô: phrɔ́ʔ jŭm rópráw
then because Jum insist
*'Mother had Jum be obliged to go to the party with Phon. That's because Jum insisted.'

In (57) the modal of obligation *tôŋ* 'must' is before the matrix verb *hây*, where the referent *mæ̂ː* 'mother' is under obligation to 'allow' the situation in the non-matrix to occur, but the obligation is not extended over the situation in the non-matrix junct. The context following this sentence helps clarify that 'Jum' as the referent of the action 'going to the party' is not under obligation. On the contrary, in (58) the modal is before the non-matrix verb, and so the obligation is on *Jum* who has to 'go to the party with *Phon*, such that (58) is not acceptable because it contradicts the next sentence. This means that each core is independent with respect to core operators. Therefore, the *hây* construction is not core cosubordination; rather, it is core coordination.

The following example shows the semantic interpretation a sentence receives when the core operator occurs in the non-matrix core.

(59) mæ̂ː hây jŭm tôŋ ʔàːn nǎŋsŭ̌ː thúkwan
mother give Jum must read book every day
(a)'Mother has Jum be obliged to read everyday.'
(b)*'Mother let Jum be obliged to read everyday.'
(c)*'Mother was obliged to have Jum read everyday.'

A core operator may occur in the non-matrix predicate in a preverbal position, and has a scope only over its core. In (59) a core operator *tôŋ* 'must' occurs before the verb *ʔàːn* 'read', and it has scope at the core level, that is, it indicates the obligation that the referent *Jum* has to perform the action 'read'. Notice that when the situation in the non-matrix core is under obligation, only one meaning of the verb *hây* is invoked. (59b) shows an

excluded reading. Also, since the core operator occurs within the non-matrix core, it does not have scope over the other core as shown in the impossible reading in (59c).

In this section, following RRG, the juncture and nexus type of a complex construction with *hây* as a matrix verb was investigated. Since the construction exhibits the argument sharing property, it is considered a core juncture. The result is confirmed by the fact that adverbs are not allowed to intervene between the two cores. A *What*-question frame is used to test for Thai argument subordination. To distinguish coordination from subordination, operator dependency is examined. It is found that the construction cannot be asked by a *What*-question, and that each core can be independently modified by core operators, so it is a core coordination.

5. *hây* in other complex constructions

This section investigates complex constructions that have the lexical item *hây* following verbs of various groups, forming three kinds of constructions: jussive, propositional attitude, and purposive constructions. The discussion for each type of construction begins with the semantic properties of each component in the construction, following section 2. Then, the construction is categorized for its juncture and nexus types.

5.1 Jussive constructions

Jussive constructions involve a command, request or demand made by one participant toward another participant in order for the latter would perform an action. (Van Valin & LaPolla, 1997: 427) This type of construction in Thai is formed by communication verbs, as matrix verbs, which are followed by the *hây* juncture. Such verbs are chuan 'persuade', *khɔ̌ɔ* 'ask for a favor', *bɔ̀ɔk* 'tell', and *sàŋ* 'order'. An example is as follows:

(60) nuan bɔ̀ɔk hây jŭm nâŋ loŋ
Nuan tell give Jum sit DIR
'Nuan told Jum to sit down.'

5.1.1 Semantic accounts

It seems obvious that when we talk about communication, it is only human communication to which we have access. Verbs in this group, therefore, require human actors. The other semantic question that we investigate is restrictions on the semantic class of verbs in the ultimate resultant state of affairs, expressed in the non-matrix junct of the *hây* juncture. It is found that the classes of verbs that cannot occur in the non-matrix junct of the *hây* juncture are achievement and state verbs, as shown below.

(61) mâ̂ː bɔ̀ːk hây jŭm kin khâːw
mother tell give Jum eat rice
'Mother told Jum to eat.'

(62) mâ̂ː bɔ̀ːk hây jŭm pay ŋaːnlía ŋ nán kàp phon
mother tell give Jum go party DEM with Phon
'Mother told Jum to go to that party with Phon.'

(63) *mâ̂ː bɔ̀ːk hây jŭm tɕəː krà ʔpăw thîː hằːy pay
Mother tell give Jum find purse REL be lost DIR
'Mother told Jum to find the lost purse.'

(64) *mâ̂ː bɔ̀ːk hây jŭm hĭw
mother tell give Jum be hungry
'Mother told Jum to be hungry.'

The above examples illustrate the co-occurrence of verbs in the non-matrix junct and communication verbs in the matrix. They are categorized as verbs of different semantic classes: kin 'eat' as activity, pay *ŋaːnlia ŋ nán* 'go to that party' as active accomplishment, *tɕəː* 'find' as achievement, and *hĭw* 'be hungry' as state. The first two verbs are compatible with the jussive construction while the last one, which is a state verb, is not. Therefore, we can conclude that the jussive construction does not allow an ultimate state of affairs to be an achievement or state.

So far, we have seen that the semantic characteristics of the jussive construction with communication verbs as matrix verbs are similar to the construction with *hây* as a matrix verb in many respects. First, both require the subject NP to be agent and the ultimate state of affairs to be some verb class other than state or achievement. Still, they

differ in that participants in the communicative event must be animate and that the force dynamic pattern is determined by the construction type to be one of impingement.

Recall the example from a previous section in which a shared argument of a *hây* core juncture is allowed to be an inanimate NP, having a semantic role of force. On the contrary, this is not allowed in a jussive construction, with communication verbs as matrix verbs. To illustrate,

(65) nuan hây kæ̂:w klîŋ pay rtûayrtûay
Nuan give glass roll DIR continually
'Nuan let the glass keep rolling.'

(66) *nuan bɔ̀:k hây kæ̂:w klîŋ pay rtûayrtûay
Nuan tell give glass roll DIR continually
'Nuan told the glass to keep rolling.'

The above data show that in a jussive construction the shared argument within the *hây* core juncture is required by the matrix verb, the communication verb, to be animate.

With respect to the force dynamic pattern, the interpretation of the situation in the ultimate core is limited to only one type of causation, that is, impingement. In other words, the agent forces the non-agent to perform an action. What kind of obligation it is depends upon the matrix verb itself, say, if the matrix verb is *sàŋ* 'order', the actor of the ultimate core is 'forced' under strong obligation while if it is *khɔ̌:* 'ask for a favor', then, the actor is forced under weak obligation. By all means, they are obligations on the actor to perform the action without any ambiguity.

To sum up, this type of construction requires that an agent as subject and the state of affairs in the ultimate core is highly restricted. First, both participants involved in the action must be animate. Second, the action must be either an activity or an accomplishment. Finally, the force dynamic relation involved is one of impingement.

5.1.2 Clausal linkage

The juncture and nexus type of the jussive construction with *hây* is core coordination.

As for its juncture type, shared arguments are obligatory in this construction, so it is a core juncture. To illustrate,

(67) nuan bɔ̀ːk hây jŭm nâŋ loŋ
Nuan tell give Jum sit DIR
'Nuan told Jum to sit down.'

(68) *nuan bɔ̀ːk lɔ̀n hây jŭm nâŋ loŋ
Nuan tell 3rdF give Jum sit DIR
'Nuan told Jum to sit down.'

The above data show that there is a shared core argument, that is, the actor of the communication verb *bɔ̀ːk* 'tell' and the actor of the verb *hây*; only one NP is syntactically realized.

Furthermore, to express the semantic relation of jussive, it is required that the undergoer of the matrix verb is the addressee that occurs as an actor in the ultimate core. Thus, the obligatorily shared argument is a semantic argument of three predicates, namely, the communication verb, *hây* and a verb in the ultimate core. This can be seen in the following examples.

(69) phon bɔ̀ːk nuan hây jŭm nâŋ loŋ
Phon tell Nuan give Jum sit DIR
'Phon told Nuan, "Make Jum sit down".'

The sentence (69) is possible in Thai if one wants to express what is shown in the translation, but it is not a jussive construction. The request from the participant *Phon* is not a direct obligation upon the ultimate participant *Jum*, and it tends to be interpreted as just a quotation.

I, therefore, conclude that in a jussive construction the matrix verb of communication is related to the *hây* juncture at the core level because shared arguments are obligatory to yield the jussive construction.

Also, the test of adverbial intervention confirms that in a jussive construction the communication verb is related to the verb *hây* at the core level. To illustrate,

(70) phon bɔ̀ːk hây jŭm nâŋ loŋ dûay sĭaŋ sùʔphâːp
Phon tell give Jum sit DIR with voice polite
'Phon told Jum to sit down with polite voice.'

(70′) *phon bɔ̀ːk dûay sĭaŋ sùʔphâːp hây jŭm nâŋ loŋ
Phon tell with voice polite give Jum sit DIR
'Phon told Jum to sit down with polite voice.'
?'Phon told with polite voice, "Let Jum sit down." '

In (70) the adverb phrase *dûay sĭaŋ sùʔphâːp* 'with polite voice', which modifies the matrix verb *bɔ̀ːk* 'tell', occurs at the end of the juncture. But when we put the adverb phrase between the communication verb and the *hây* juncture, the sentence is unacceptable, as seen in (70′). We come to a conclusion that in a jussive construction the communication verb is related to the *hây* juncture at the core level.

To test for argument subordination, we apply the *What*-question as proposed before. It turns out that the jussive construction fails the *What*-question test.

(71) A: *phon bɔ̀ːk ʔàray
Phon tell what
'What did Phon tell?'
B: phon bɔ̀ːk hây jŭm nâŋ loŋ
Phon tell give Jum sit DIR
'Phon told Jum to sit down.'

(71′) A: phon bɔ̀ːk hây jŭm tham ʔaray
Phon tell give Jum do what
'What did Phon tell Jum to do?'

The above data show that we cannot replace the *hây* core juncture with a question word to compose a question: (71A) is not an associative question for an answer in jussive form, as shown in (71B) . A compatible question for (71B) would be (71′), where a verb of unspecified action *tham* 'do' replaces a verb in the ultimate core and then is followed the

question word *ʔaray* 'what'. Therefore, the relationship between the communication verb and the *hây* core juncture is not one of subordination.

To distinguish between coordination and cosubordination, we consider the semantic dependency of operators: operators can modify the matrix core independently. Therefore, the nexus is coordination.

(72) mæ̂ː tɔ̂ŋ khɔ̌ː hây jŭm kin khâːw
mother must ask give Jum eat rice
'Mother had to ask Jum to eat.'

In sentence (72) the modal of obligation *tɔ̂ŋ* 'must' occurs before the matrix verb *khɔ̌ː* 'ask', in which only the referent *mæ̂ː* 'mother' is under obligation of 'asking for a favor'. Also, as discussed before, the degree of obligation on the participant of the ultimate core depends on the matrix verb. Since the matrix verb is *khɔ̌ː* 'ask for a favor', the obligation is weak. However, *tɔ̂ŋ* 'must' is a modal of strong obligation, and yet the *hây* juncture is compatible with the matrix verb modified by *tɔ̂ŋ*. This means that the matrix core can have independent core operators, and that the obligation on the participant in the ultimate core is not affected by such a modification. Therefore, this type of construction is core coordination.

Finally, the semantic representation of the jussive construction can be formulated as follows:

(39′) **want**ℂ (nuan, [BECOME **do**ℂ (Jum, [**close**ℂ (Jum, nâːtàːŋ)])])
∧ DO (Nuan, [[**do**ℂ (nuan, ∅)] CAUSE [BECOME **do**ℂ (Jum, [**close**ℂ (Jum, nâːtàːŋ)])]])

(73) [**want**ℂ (x, LS_2) ∧ DO (x, [LS_1 CAUSE LS_2])]
LS_1 = [DO (x, [**express**.(α).**to**.(β).**in.language**.(γ) ℂ (x, y)])]
LS_2 = [doℂ (y, [**pred**ℂ (y) or (y, z)])] or [BECOME **pred**ℂ (y) or (y, z)]
where α, γ = ∅
β = y

The schema proposed by Jolly (1993) is adopted. The participant represented by the x argument has intent for a state of affairs represented by LS_2. The participant x also

performs a communicative action, represented by LS_1, with intent for an impingement on the other participant, represented by the y argument, to perform an action. The y argument is both the addressee of the communicative situation and the actor intended to perform an action in the ultimate core. Thus, the *y* argument, is obligatorily shared by the matrix core of the communication verb and the *hây* core juncture. Note that the ***a*** and ***b*** arguments of **express**ⓒ are represented as zeroes because the utterance is unspecified and the language is irrelevant. As a matter of fact, it is not merely an utterance; rather, it is an order of some kind. The semantic representation of *hây* is combined with that of a communication verb. The ultimate core, LS_2, requires animate subjects and verbs of activity or accomplishment.

The following illustrates the semantic representation of a jussive construction.

(74) mæ̂ː bɔ̀ːk hây jŭm kin khâːw
mother tell give Jum eat rice
'Mother told Jum to eat.'

(74′) [**want**ⓒ (mæ̂ː, [**do**ⓒ (Jum, [**eat**ⓒ (Jum, khâːw)])]) ∧ DO (mæ̂ː, [[DO (mæ̂ː, [**express**ⓒ.(α).to.(β).**in.language**.(γ)ⓒ (mæ̂ː, Jum)])] CAUSE [**do**ⓒ (Jum, [**eat**ⓒ (Jum, khâːw)])]])]

5.2 Propositional attitude constructions

Propositional attitude constructions involve the expression of a participant's attitude, judgment or opinion regarding a state of affairs. (Van Valin & LaPolla, forthcoming: 427) In Thai they are formed by verbs of psych-action followed by *hây* and a subclausal unit. Verbs of psych-action are such as *yàːk* 'want (informal)' *tɔ̂ŋkaːn* 'want (formal)', and *pràːtthanăː* 'wish'.

An example of this type of construction is shown in (75):

(75) jŭm yàːk hây nuan pay ŋaːnlɨaŋ
Jum want give Nuan go party
'Jum wants Nuan to go to the party.'

Sentence (75) indicates a desire of the participant *Jum*, expressed as the subject NP, for an action of *Nuan*, another participant.

5.2.1 Semantic accounts

With respect to semantic restrictions, these verbs, by themselves, always require their subject NPs to be animate, as shown below.

(76) jŭm yàːk pay ŋaːnliáŋ kàp phon
Jum want go party with Phon
'Jum wanted to go to the party with Phon.'

(77) *phaːyúʔ yàːk phát pay thaːŋ nán
storm want blow DIR way that
'The storm wants to blow towards that direction.'

The data in (76) and (77) show that only an animate subject is allowed for the psych-action verb *yàːk* 'want'.

Besides animacy, another important semantic aspect is the semantic class of the verb in the non-matrix junct. There is no semantic restriction on the class of the verb that indicates an ultimate state of affairs intended by the participant expressed in the subject position. To illustrate,

(78) nuan yàːk hây jŭm kin khâːw
Nuan want give Jum eat rice
'Nuan wants for Jum to eat.'

(79) nuan yàːk hây ʔaːkàːt nay hôŋ thàːytheː
Nuan want give air in room circulate
'Nuan wants the air in the room to circulate.'

(80) nuan yàːk hây jŭm tɕɔː kràʔpăw thîː hăːy pay
Nuan want give Jum find purse REL be lost DIR
'Nuan wants Jum to find her lost purse.'

(81) phon yàːk hây rót sĭa
Phon want give car be broken
phrɔ́ʔ khăw mây yàːk pay roːŋrian
because 3rdM not want go school
'Phon wishes the car would break down because he does not want to go to school.'

Sentences (78) to (81) show instances of the construction with verbs from various classes, activity, accomplishment, achievement and state, respectively. They show that verbs in

the non-matrix junct are not restricted to only activity or accomplishment as in the case where *hây* is the only matrix verb in the juncture.

To sum up, a propositional attitude construction with a psych-action verb in the matrix core, followed by another junct beginning with *hây*, requires the subject to be animate but the semantic class of the embedded verb is not restricted.

5.2.2 Clausal linkage

Regarding its juncture and nexus type, the propositional attitude construction with a psych-action verb as a matrix verb preceding another junct beginning with *hây* is core subordination. It is related to the *hây* juncture at the core level because a postverbal adverb is allowed to modify the matrix verb but restricted to occur at the end of the juncture; it is subordination because it is compatible with the *What*-question test.

For this type of construction, there is no semantic argument that is shared by the two cores. To illustrate,

(82) phon yàːk hây nuan pay ŋaːnl̩aŋ
Phon want give Nuan go party
'Phon wanted Nuan to go to the party.'

(83) phon yàːk pay ŋaːnlíaŋ
Phon want go party
'Phon wanted to go to the party.'

(84) *phon yàːk nuan
*Phon want Nuan
*'Phon wanted Nuan.'

In both sentences (82) and (83) the matrix verb is followed by a subclausal unit whereas in (84) a lexical argument *Nuan*. The data show that the psych-action verb *yàːk* 'want' can have only a subclausal unit, not a lexical argument. This means that the semantic structure of the verb *yàːk* does not have a semantic argument to be shared with a logical structure in another subclausal unit.

Although this type of construction does not exhibit the property of shared semantic arguments, it is classified as a core juncture when we apply the test of adverb intervention. To illustrate,

(85) khăw yà:k hây tɕhăn pay ŋa:nlíaŋ kàp khăw lŭakə:n
3rdM want give 1st go party with 3rdM excessively
'He wants badly for me to go to the party with him.'

(85′) *khăw yà:k lŭakə:n hây tɕhăn pay ŋa:nlíaŋ kàp khăw
3rdM want excessively give 1st go party with 3rdM

Sentence (85) is acceptable when the postverbal adverb *lŭakə:n* 'excessively', which modifies the matrix verb *yà:k* 'want', occurs at the end of the juncture. But when we put the adverb after the psych-action verb and before *hây*, the sentence is unacceptable, as seen in (85′). We can conclude that a propositional attitude construction is a core juncture.

As for the nexus type, the *hây* core juncture can substitute for the argument position of the psych-action verb, as tested in a *What*-question, so it is classified as subordination. To illustrate,

(86) A: phon tôŋka:n ʔaray ʔı:k lâʔ khra:wní:
Phon want what again PPRT this time
'What does he want this time?'
B: khăw tôŋka:n hây tɕhăn pay ŋa:nlíaŋ kàp khăw phrûŋní:
3rdM want give 1st go party with 3rdM tomorrow
'He wanted for me to go to the party with him tomorrow.'

The question and answer in (86) shows that the relationship between the two cores is one of argument subordination.

The semantic representation of a construction of this kind would be as follows:

(87) [**want**ɕ (x, LS)]

From the above logical structure, the psych-action verb has two arguments: the x argument, and a subclausal unit, represented by LS, which expresses any kind of state of

affairs. The following illustrates the semantic representation of the propositional attitude construction.

(88) nuan yàːk hây jŭm kin khâːw
Nuan want give Jum eat rice
'Nuan wants for Jum to eat.'

(88′) [**want**ₜ (Nuan, [DO (**eat**ₜ (Jum, khâːw))])]

Sentence (88) is represented as a semantic structure in (88′), which has two arguments, a lexical argument and a core.

5.3 Purposive constructions

Purposive constructions involve an action performed with the intent of realizing anotherstate of affairs. (Van Valin & LaPolla, forthcoming, 427) In Thai, matrix verbs in this type of construction include a wide range of semantic fields, for example, *baŋkháp* 'force', *plɔ̀y* 'release', *phlàk* 'push', *duŋ* 'pull', and *thúp* 'hit'. An example is as follows:

(89) nuan phlàk jŭm hây tòk nám
Nuan push Jum give fall water
'Nuan pushed Jum in order for her to fall into the water.'

Sentence (89) is made up of an activity verb *phlàk* 'push' as a matrix verb, followed by another junct, beginning with *hây,* expressing a state *tòk* 'fall' as an ultimate result.

5.3.1 Semantic accounts

With respect to the animacy restriction, verbs in this group allow an inanimate subject NP, but when they combine with a *hây* juncture, they require an animate subject NP.

(90) phaːyúʔ kamlaŋ phát pay thaːŋ tàʔlàːt
storm PROG blow DIR towards market
'The storm is blowing towards the market.'

(91) pha:yúʔ phát bâ:n khǎw phaŋ
storm blow house 3rdM be damaged
'The storm blew his house down.'

(92) *pha:yúʔ phát hây bâ:n khǎw phaŋ
storm blow give house 3rdM be damaged
*'The storm blew in order for his house to be broken down.'

The above examples show the usage of the verb *phát* 'blow'. In a simple construction, as in (90), it can have an inanimate subject *pha:yúʔ* 'storm'. Likewise, in a causative construction in (91), the same verb allows an inanimate subject. However, when the matrix junct is followed by a junct with *hây* as in (92), the sentence is not possible. Therefore, we conclude that the purposive construction requires an animate subject.

As far as interclausal semantic relations are concerned, the fact that inanimate subjects are not compatible with this kind of construction confirms that this type of construction is not a causative construction, which requires an intentional agent in its semantic component. Rather, this construction is a purposive construction.

The next question concerns the semantic characteristics of the ultimate state of affairs in the non-matrix junct following *hây*.

(93) nuan phlàk kæ̂:w hây klîŋ pay rɯ̂ayrɯ̂ay
Nuan push glass give roll DIR continually
'Nuan pushed the glass in order for it to keep rolling.'

(94) nuan thúp kæ̂:w hây tæ̀:k
Nuan hit glass give be broken
'Nuan hit the glass in order for it to be broken.'

(95) nuan khon námta:n hây lála:y
Nuan stir sugar give melt
'Nuan stirred sugar in order for it to melt.'

(96) nuan lâ:k tɕhɯ̂ak tháŋ sɔ́:ŋ sên hây bantɕop kan
Nuan pull rope both two CL give meet each other
'Nuan pulled both ropes in order for them to meet.'

Sentences (93) - (96) exemplify purposive constructions with an ultimate state of affairs from various semantic classes, namely, activity, state, accomplishment, and achievement,

respectively. Thus, we see that for this type of construction there is no restriction on the semantic class of the ultimate state of affairs.

At this point, we can summarize that the only semantic restriction affected by the occurrence of *hây* that remains in this type of construction is the animacy on the subject NP.

5.3.2 Clausal linkage

In terms of clausal structure, the purposive construction can be classified as clausal coordination. Matrix verbs are considered to relate to the non-matrix junct at the clausal level because the construction does not require an obligatory shared argument and adverbs can intervene between the matrix verb and the *hây* juncture.

First, compare the following sentences:

(97) nuan dɯɯŋ dâ:y hây khà:t
Nuan pull thread give be torn
'Nuan pulled the thread$_i$ in order for it$_i$ to become apart.'

(98) nuan dɯɯŋ dâ:y hây dâ:y khà:t
Nuan pull thread give thread be torn
'Nuan pulled the thread$_i$ to have it$_i$ become torn apart.'

Both (97) and (98) are instances of purposive constructions. In (97) there is a missing argument, that is, the undergoer of the verb *khà:t* 'be torn', but the reference of the zero can be recovered as the undergoer of the matrix, that is, *dâ:y* 'thread'. Sentence (98) has the same interpretation as (97), but the undergoer of the ultimate state of affairs is realized as a full noun phrase. This shows that the missing argument, or zero, in a purposive construction is not obligatory.

Also, we can have a sentence in which only the undergoer of the ultimate core is realized, leaving a gap in the position of undergoer of the matrix verb, as shown below.

(99) nuan dɯɯŋ hây dâ:y khà:t
Nuan pull give thread be torn
'Nuan pulled it/them$_i$/$_j$ in order for the thread$_j$ to be apart.'

There is a zero as an undergoer of the matrix verb *duŋ* 'pull' in (99). However, its reference is not bound to the realized noun phrase in the ultimate core. It is possible that the zero refers to other noun phrase than *dâ:y* 'thread'. The following sentence is to illustrate such a possibility.

(100) raw tôŋ tɕàp tà?khèp tháŋ sɔ̌:ŋ khâ:ŋ
we must hold seam both two side.
lǽ:w duɯŋ hây dâ:y khà:t
then pull give thread be torn
'We must hold both seams$_i$. Then, we pull them$_i$ in order for the thread to be apart.'

The sentences in (100) show that a zero argument of the matrix verb is not necessarily a null form of the undergoer of the ultimate junct. The undergoer of the verb *duŋ* is a zero pronoun referring to *tà?khèp* 'seam', not 'thread'.

The above shows that in a purposive construction the matrix junct is related to the non-matrix junct at the clausal level. This is confirmed by the fact that the two juncts can be intervened by adverbs. To illustrate,

(101) nuan khàyàw tó? ræ:ŋræ:ŋ hây kæ̂:w klîŋ payma:
Nuan shake table quite hard give glass roll DIR
'Nuan shook the table quite hard in order for the glass to keep rolling.'

(102) ?nuan khàyàw tó? hây kæ̂:w klîŋ payma: ræ:ŋræ:ŋ
Nuan shake table give glass roll DIR quite hard
*'Nuan shook the table quite hard in order for the glass to keep rolling.'

In (101) the matrix verb is modified by an adverb *ræ:ŋræ:ŋ* 'quite hard' and it has to occur right at the end of the matrix junct; when it occurs at the end of the non-matrix unit, the sentence is unacceptable, as in (102). In other words, matrix adverbs occur between the two juncts in this type of construction, so the construction is a clausal juncture.

As for its nexus type, the non-matrix junct with *hây* cannot be substituted for the argument position of the matrix verb, as shown by the *What*-question test, so it is not argument subordination. To illustrate,

(103) A: *phon dɯŋ ʔaray
*Phon pull what
*'What did Phon pull?'
B: nuan dɯŋ hây dâ:y khà:t
Phon pull give thread be torn
'Phon pulled it/them$_i$/$_j$ in order for the thread$_j$ to be apart .'

The above data show that we cannot replace the *hây* non-matrix junct with a question word to compose a question. Thus, (103A) is not a compatible question for an answer in (103B). A compatible question for (103B) would be the question in (104) as follows:

(104) A: phon dɯŋ thammay
Phon pull why
'Why did Phon pull?'

The question in (104), with the question word *thammay* 'why', is acceptable for an answer that is a purposive construction with *hây* as in (103B). Therefore, the relationship between the matrix verb and the *hây* core juncture is not the argument subordination.

The following is to find out whether the purposive construction is coordination or cosubordination. Since the purposive construction is a clausal juncture, operators to be used would be clausal operators. Crucially, the last junct is not allowed to be independently modified by temporal operators.

Consider the following examples.

(105) nuan tɕàʔ khàyàw tóʔ hây kæ̂:w klîŋ payma:
Nuan FUT shake table give glass roll DIR
'Nuan shook the table in order for the glass to roll back and forth.'

(106) *nuan khàyàw tóʔ hây kæ̂:w tɕàʔ klîŋ payma:
Nuan shake table give glass FUT roll DIR

From the above we see that sentence (105) has a future marker modifying the matrix verb *khàyàw* 'shake'. However, when we modify the ultimate junct with the same marker, as in (106), the sentence is not acceptable. Note that the ultimate state of affairs is a result intended by the participant, expressed by the subject NP, to occur subsequently. Therefore, the ungrammaticality of (106) cannot be ascribed to semantic factors.

It should be noted that in a purposive construction with a conjunction *phûa* 'for (conj.)' has an irrealis marker, which is a clausal operator, as shown below.

(107) nuan khàyàw tó? phûa kæ̂:w tɕà?dây klîŋ payma:
Nuan shake table for (conj) glass IRR roll DIR
'Nuan shook the table in order that the glass would roll back and forth.'

Sentence (105) shows that an irrealis modifier *tɕà?dây* occurs in the non-matrix clause.

However, comparing the two kinds of purposive constructions in terms of temporal modification, we find that the one with a conjunction must be overtly marked for irrealis, while the one with *hây* cannot have an overt marker, but the irrealis reading is implied by virtue of the construction type. To illustrate,

(108) *nuan khàyàw tó? phûa kæ̂:w klîŋ payma:
*Nuan shake table for (conj) glass roll DIR
*'Nuan shook the table in order that the glass would roll back and forth.'

(109) nuan khàyàw tó? hây kæ̂:w klîŋ payma:
Nuan shake table give glass roll DIR
'Nuan shook the table in order for the glass to roll back and forth.'

Therefore, the operator modification in the ultimate clause in a purposive construction with *hây* is not independent, rather it relies on the overall construction. We conclude that the nexus type of the purposive construction with *hây* is cosubordination.

Thus, we can formulate the semantic representation of this type of construction as follows:

(110) [**want**ɕ (x, LS_2)] ∧ [DO (x, [LS_1 cause LS_2])]

The schema proposed by Jolly (1993) is adopted. The participant represented by the *x* argument has intent for a state of affairs represented by LS_2 that is caused to occur by an action represented by LS_1.

The following illustrates the semantic representation of the purposive construction.

(111) nuan khàyàw tó? hây kæ̂:w klîŋ payma:
Nuan shake table give glass roll DIR
'Nuan shook the table in order for the glass to roll back and forth.'

(111′) [**want**ⓒ (nuan, [**do**ⓒ (kæ̂:w, [**roll**ⓒ (kæ̂:w)])])] ∧ [DO (nuan, [**shake**ⓒ (nuan, tó?)
CAUSE <$_{DIR}$ [**do**ⓒ (kæ̂:w, [**roll**ⓒ (kæ̂:w)])]>])]

Sentence (111) is represented as a semantic structure in (111′), which has two arguments, a lexical argument and a core.

5.4 The syntactic category of *hây*: A verb or a marker

We have seen that *hây* occurs after three kinds of verbs, forming three types of construction: jussive, propositional attitude and purposive. The last question for this analysis is whether *hây* itself is a verb or a clausal linkage marker.

According to Van Valin & LaPolla (1997), linkage markers (LM) are category of markers that function as linking subclausal units, including such elements as adpositions, determiners and case markers. Clausal linkage markers tend to occur in core and clausal junctures, not in nuclear junctures.

Since these three constructions are either core or clausal junctures, *hây* in these cases could be analyzed as LM. However, *hây* in purposive and propositional attitude constructions, on the one hand, and *hây* in jussive constructions, on the other, are different with respect to its occurrence in question. To illustrate,

(112) phon bɔ̀:k hây jŭm tham ?aray
Phon tell give Jum do what
'What did Phon tell Jum to do?'

(113) phon tôŋka:n ?aray
Phon want what
'What does Phon want?'

(114) phon dɯŋ thammay
Phon pull why
'Why did Phon pull?'

From the above, to ask about a desire, which is presumably to be answered in a propositional attitude form, we do not include *hây* in a question. Likewise, to ask about a purpose, with an intended answer in a purposive form, *hây* is not expressed in a question. However, it is not the case for jussive, in which we do not have any other ways to express a question in such a form that it would not include *hây*. It is concluded that *hây* in a jussive construction functions as a verb proper while in a propositional attitude construction and a purposive construction it is a LM.

Another evidence is from the fact that the restriction on the semantic class of verbs in the ultimate core in a jussive construction is the same as that of the construction with *hây* as a matrix verb. That is, both a jussive construction and a construction with *hây* as a matrix verb do not allow state verbs or achievement verbs to occur in the ultimate core. In other words, the *hây* core juncture is simply conjoined to the matrix verb of communication; *hây* retains its semantic properties as a verb in this type of construction. However, in a propositional attitude construction and a purposive construction, a semantic class of a verb in an ultimate core or clause, respectively, is not restricted, rather it can be any class, an activity, accomplishment, state, or achievement. This confirms that only *hây* in a jussive construction is a verb, while in a propositional attitude construction or a purposive construction *hây* is a clause linkage marker.

To sum up, a *hây* subclausal unit occurs after verbs of various kinds, making up three different types of constructions. A jussive construction, composed of matrix verbs of communication followed by the *hây* core juncture, is core coordination. A propositional attitude construction is core subordination. It is formed by conjoining a matrix core of psych-action verb with another core by the LM *hây*; and, the non-matrix core is an argument. A purposive construction, which is a clausal cosubordination, has two clauses conjoined by the LM *hây*.

6. Conclusion

This paper investigates *hây* complex constructions, aiming to find out the nature of the clausal linkage between the *hây* construction and other verbs in the construction. It proposes that in order to achieve such a goal, semantic properties of the lexical item in various types of constructions should be investigated in a unified manner. *hây*, as a verb in simple constructions, is a verb of possession transfer, and has a component of causation in its semantic structure. Besides, it is a beneficiary marker, indicating deputative and recipient beneficiaries, which has two semantic components, namely, intent and causation. As a focus of interest, *hây* is also a matrix verb in a complex construction, involving the intent of one participant for an action performed by another participant to occur. Considering these three usages, we find shared semantic properties among them: *hây* requires an animate subject with an intent towards an action of another participant. When the semantics of *hây* is as a verb of possession transfer or a beneficiary marker is compositionally represented in the semantic structure while it is overtly realized when *hây*, together with other verbs, forms a complex construction. This corresponds to the schema proposed by Jolly (1993) for a purposive marker for in English, as shown in (115).

(115) [**want**' (x, LS_2)] $\wedge$ DO (x, [LS_1 $\wedge$ CAUSE LS_2])]

When we investigate complex constructions with respect to these semantic components, we find that each construction has different restrictions on each component. A jussive construction, which is a core coordination, has the most restrictions on the semantic classes of LS_2, and an obligation on the other participant is required. A core coordination, with *hây* as a matrix verb, requires LS_2 to be only an activity or accomplishment as well, but does not impose a necessary obligation on the other participant. The psych-action construction has no semantic restriction on LS_2. But as an argument of the matrix verb, LS_2 is not structurally independent. In a purposive construction, the non-matrix clause marked by *hây* is structurally independent but it is operator-dependent in the sense that its temporal setting can be implicational only, by

virtue of the construction type. The juncture and nexus type of each construction can be summarized in the table below.

	Properties	Causative	Jussive	Propositional Attitude	Purposive
Verb class	1. Activity & Accomplishment	Yes	Yes	Yes	Yes
	2. State & Achievement	No	No	Yes	Yes
	Syntactic category	***Verb***	***Verb***	***LM***	***LM***
Juncture	1. Obligatorily shared argument	Yes	Yes	No	No
	2. Intervention of adverbs between cores	No	No	No	Yes
	Juncture type	***Core***	***Core***	***Core***	***Clausal***
Nexus	1. What-test	No	No	Yes	No
	2. Independently modified by operators	Yes	Yes	Yes	No
	Nexus type	***Coordination***	***Coordination***	***Subordination***	***Cosubordination***

This paper suggests that studying complex constructions in Thai requires an analysis of various kinds of semantic properties. The lexical item *hây* can be classified as a verb and a marker. Considering only its syntactic behaviors is not adequate to account for its wide range of usages. RRG provides a consistent framework for both its semantics and syntax to yield a unified account for this phenomenon.

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