

# DERIVATIONAL THETA-MARKING AND A UNIFORM ANALYSIS OF THE PROGRESSIVE/PERFECTIVE *-TE IRU*\*

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## 1. Introduction

In this paper, we will propose a uniform analysis of the Japanese aspectual expression *-te iru*, and this analysis supports Saito and Hoshi's (1998) LF incorporation hypothesis. As shown in (1), *-te iru* is one aspectual expression which expresses a state of things or events.

(1) *Te iru* is the aspectual expression which expresses a state of things.

(Kindaichi 1976)

However, as shown in (2), it is well known that the sentence including *-te iru* has the progressive vs. the perfective interpretations. (2) is the examples.

(2) a. The Progressive

Akanbou -ga      nai -te -i      -ru  
baby      -NOM cry -TE -IRU -pres.

'The baby is crying'

(*nak<naku*)<sup>1</sup>

b. The Perfective

Kingyo -ga      sin-de<sup>2</sup>-i      -ru  
goldfish -NOM die-TE -IRU -pres.

'The goldfish is dead'

(*sin<sinu*)

(Teramura 1984)

(2a) has the progressive interpretation. On the other hand, (2b) has the perfective interpretation. Then, *-te iru* is just an aspectual expression which expresses a state of things

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<sup>1</sup> This shows the verb which precedes *-te iru*. cf. (*stem<bare form*)

<sup>2</sup> The morpheme *-te* is realized as *-de* after stems that end with a voiced consonant (ex. *sin*: *sin-de* 'die', *asob*: *ason-de* 'play', *yom*: *yon-de* 'read').

or events, why does the *-te iru* sentence have two different interpretations? Many researchers sought the answer and most of them consider that the two interpretations relate the internal aspect of verb that precedes *-te iru*. (Kindaichi 1950, Fujii 1966, Kudou 1995, among others). They suggest, when *-te iru* is preceded by a verb which expresses durative activity, *-te iru* sentence has progressive interpretation. In contrast, when *-te iru* is preceded by a verb which expresses temporal activity, the *-te iru* sentence has perfective interpretation. This means that the classification of verbs has to be parallel with the two interpretations (the progressive vs. the perfective). Yet, it does not seem that the case is so simple, relating with *-te iru*.

Mihara (1997) divided *-te iru* into two parts; one is the participle *-te* and the other is the predicate *iru*. He examines the scope of negation and the interpretation of idiom chunks, and he proposes raising structure for the progressive *-te iru* sentences and control structure for perfective sentences. In other words, there are two types of the predicate *iru*: one has the external argument and the other does not. Then, it seems that *iru* determines the interpretation of *-te iru* sentence. However, he indicates that there are some perfective *-te iru* sentences which have the raising structure. This means that the argument structure of *iru* cannot determine the interpretation of *-te iru* sentence.

Then, we propose that the morpheme *-te* sometimes has the past tense, and sometimes doesn't, and this factor determines the interpretation. That is, when *-te* has the non-past tense, the *-te iru* sentence has the progressive interpretation. On the other hand, when *-te* has the past tense, the *-te iru* sentence has the perfective interpretation. Our claim is that these two interpretations, the progressive and the perfective, arise due to the tense feature of the morpheme *-te* itself. The crucial evidence is found in my own dialect, or Ehime Dialect, the dialect spoken in the west part of Japan. In Ehime dialect, we use the special aspectual form instead of *-te iru*. Roughly speaking, *-toru* expresses both the perfective and progressive meanings, while *-yoru* expresses only the progressive meaning. We discuss that this is because of the tense feature which *toru* has.

Then, we will discuss the tense feature of *-te* in detail. Martin (2001) shows that the feature [+tense, -finite], which to-infinitive in English has, licenses PRO. We hypothesize that *-te* is an infinitive, and discuss that the feature [+tense, -finite] in *-te iru* sentences license PRO. Then, it seems that the interpretations of *-te iru* sentence due to the structure. Yet, we point out that, some perfective *-te iru* sentences cannot have control structure with the feature [+tense, -finite]. In order to solve the problems, we discussed that if we assumed derivational theta-marking proposed by Saito and Hoshi's (1998) analysis, the natural explanation can be given. Since control can operate directly on the thematic structures of predicates, the feature [+tense, -finite] need not to license PRO. In consequence, our analysis provides a piece of evidence for Saito and Hoshi's LF incorporation analysis.

## 2. The interpretations of *-te iru*

First, we will overview the previous studies on the aspectual properties of *te iru* interpretations. As mentioned above, many researchers have classified the verbs, relating the *-te iru* sentence to the interpretation. One of the most popular classification of verbs in Japanese is Kindaichi's classification. As shown in (3), Kindaichi (1950) classifies the Japanese verbs into four categories: stative verbs, durative verbs, instantaneous verbs, and the type four, or fourth verbal categories. This classification is based on the two interpretations of verb plus *-te iru*.

### (3) Kindaichi's (1950) classification of Japanese verbs

- a. Stative verbs: cannot co-occur with *-te iru*  
(ex. *aru* '(inanimate subject) exist', *iru* '(animate subject) exist', *dekiru* 'can do')
- b. Durative verbs: *-te iru* have progressive readings (ex. *yomu* 'read', *kaku* 'write')
- c. Instantaneous verbs: *-te iru* have perfective readings  
(ex. *sinu* 'die', (*denki-ga*)*tuku* '(the light) comes on')
- d. Fourth verbal category: must be used with *-te iru* and express perfective readings  
(ex. *sobieru* 'tower', *arifureru* 'be common')

As shown in (3a), stative verbs cannot occur with *-te iru*. Durative verbs in (3b) can precede *-te iru* and express the progressive readings. In (3c), instantaneous verbs also can precede *-te iru* and express the perfective readings. Forth verbal category in (3d) must be used with *-te iru* and express the perfective readings. Yet, it seems impossible to classify the interpretations of the *-te iru* sentence by the internal aspects of verbs. (4) indicates that the classification of verbs cannot be necessarily parallel with the two interpretations. For example, many verbs have one of the four properties shown in the classification given in (3). Some verbs, however, have more than one property.

- (4) a. Ima, kotira -ni ki -te i -ru  
now here -to come -TE IRU-pres.  
'Now, (he) is on (his) way here' (ki < kuru)
- b. Sudeni koko-ni ki -te i -ru  
already here-to come -TE IRU -pres.  
'(I) have already been here' (Kindaichi 1950)
- c. Ano hito-wa moo takusan -no syoosetu -o kai -te i -ru  
that man-TOP already many -GEN novel -ACC write -TE IRU -pres.  
'That man have written many novels' (kai < kaku)

- d. Kare-wa (ima) tegami -o kai -te i -ru  
 he -TOP (now) letter -ACC write -TE IRU -pres.  
 'He is writing a letter (now)' (Fujii 1966)
- e. Niwa -ni sakura -no hanabira-ga tit -te i -ru  
 garden -in cherry blossom -GEN petal -NOM drop -TE IRU -pres.  
 'Petals of cherry blossom have dropped off in the garden' (*tit*>*tiru*)
- f. Sakura -no hanabira-ga hirahirato tit -te i -ru  
 cherry blossom-GEN petal -NOM lightly(onomatopoeia)drop -TEIRU -pres.  
 'Petals of cherry blossom are dropping lightly' (Mihara 1997)

As in (4a) and (4b), the verb *kuru* (to come) has properties of the durative verbs and the instantaneous verbs. (4a) expresses the progressive reading, so, *kuru* 'to come' has the property of durative verbs. On the other hand, (4b) express the perfective meaning. So, *kuru* 'come' has the property of instantaneous verbs.

Moreover, Fujii (1966) shows that most verbs with *-te iru* can express experience. Adverbials that indicate complete events or past intervals frequently co-occur with these verbs. (4c) expresses experience meaning. In contrast, (4d) expresses progressive meaning, although the verb preceding *-te iru* in (4d) *kaku* 'to write' is the same as (4c).

In addition, Mihara (1997) points out that so-called instantaneous verbs with *-te iru* can have progressive readings in some situations. As shown in (4e) and (4f), the verb preceding *-te iru* is the same, *tiru* 'to drop'. The verb *tiru* 'to drop' is commonly considered as an instantaneous verb. So, the sentence in (4e) has perfective reading. However, (4f) also has progressive reading.

Thus, a *-te iru* sentence can have various interpretations according to the situation. Since the sentences of the experiential interpretation are regarded as the sentences of the perfective generally, a *-te iru* sentence can have both progressive and perfective interpretation despite the verbs preceding *-te iru*. Therefore, it is clear the difference between progressive and perfective readings cannot be due to the internal aspect of verb only.

Then how can we capture these two distinct interpretations in a principled way? Mihara (1997) attempts to solve this mystery by proposing that these two distinct interpretations are crucially related to the argument structure of the predicate *iru*. Next chapter, we will overview Mihara's argument.

### 3. The Syntactic Analysis of *-Te iru*

#### 3.1. Mihara's (1997) analysis

He points out that a progressive *-te iru* sentence has a raising structure and a perfective *-te iru* sentence has a control structure. The sentences in (5) and (6) shows difference in the scope of the subject and the negation.

(5) the progressive *-te iru* sentence (only>not, not>only)

- a. Taroo-dake -ga hasi(t) -te(wa)i -nai  
     -only -NOM run -TE(TOP)IRU -not

'Only Taro is not running' or 'Not only Taro is running' (hasi(t)<hasiru)

- b. Hanako -dake -ga nai -te(wa)i -nai  
     -only -NOM cry -TE(TOP)IRU -not

'Only Hanako is not crying' or 'Not only Hanako is crying' (nai<naku)

(6) the perfective *-te iru* sentence (only>not, \*not>only)

- a. Yasumono -no sara -dake-ga ware -te(wa)i -nai  
     cheap thing -GEN plate-only-NOM crush -TE(TOP)IRU -not

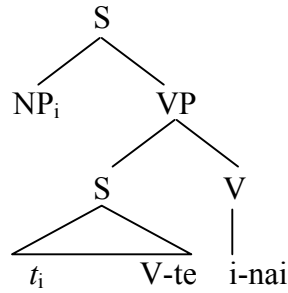
'Only cheap plates have not crashed' (ware<wareru)

- b. Higasigawa -no kabe-dake -ga koware -te(wa)i -nai  
     east side -GEN wall -only -NOM damage -TE(TOP)IRU -not

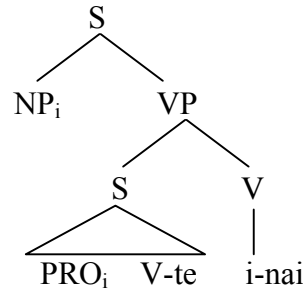
'Only the east side of wall has not damaged' (koware<kowareru)

In Japanese, *dake* means only, and *nai* is a negative morpheme. In (5), *nai* shows the ambiguity on its scope. The possible meanings of (5a) are 'Only Taro is not running' and 'Not only Taro is running'. The parenthesized *wa* which is inserted in *te iru* phrase is the word making the sentence more natural. Similarly, the possible meaning of (5b) is 'Only Hanako is not crying' and 'Not only Hanako is crying'. These *-te iru* sentences have the progressive meaning. In contrast, (6) is not ambiguous. The possible meaning of (6a) is 'Only cheap plates have not been crashed'. This sentence cannot be interpreted as 'not only cheap plates have been crashed'. Similarly, (6b) means 'Only the east side of wall has not been damaged'. We cannot interpret this sentence as 'Not only the east side of wall has been damaged'. The sentences in (6) have the perfective meaning. Based on this paradigm, Mihara (1997) conjectures the structures that are indicated in (7)

(7) a. the progressive *-te iru* sentence



b. the perfective *-te iru* sentence



That is, the examples in (5) show that the *dake* NP (the NP including 'only') is base-generated in a position lower than the negative 'not'. In contrast, the examples in (6) show that the *dake* NP is base-generated in a position higher than the negative 'not'. Consequently, as shown in (7), the progressive *-te iru* sentence has the raising structure like (7a). And the perfective *-te iru* sentence have the control structure like (7b).

Given the structures in (7), he implies that the difference of the argument structure of the stative verb, *-iru*, relates to two different interpretations of the *-te iru* sentence. So, he hypothesizes that the predicate *iru* which is included by the progressive *-te iru* sentence do not take an external argument. On the other hand, the predicate *iru* included by the perfective *-te iru* take an external argument.

Now, consider the examples in (8). (8a) and (8b) is generally called the perfective *-te iru* sentence. So, these examples must not be ambiguous, and these sentences must have a control structure. In other word, the predicate *iru* must take an external argument.

(8) Some perfective *-te iru* sentences (only>not, not>only)

- a. A gaisya -dake -ga (baburu -houkai -ki -ni)  
 A corporation -only -NOM (bubble economy -burst -moment -at)  
 tousan -si -te(wa)i -nai  
 bankrustcy-do -TE(TOP)I-not  
 '(When the bubble economy burst,) only A-corporation had not gone bankrupt' or  
 '(When the bubble economy burst,) not only A-corporation had gone bankrupt'
- b. Kare-dake -ga (1975 nen-ni) saharasabaku -o souha -si -te(wa)i -nai  
 he -only -NOM (1975 year-in) the Sahara -ACC ride -do-TE(TOP)I-not  
 '(In 1975) only he had not ridden the Sahara' or '(In 1975) not only he had ridden  
 the Sahara'

However, (8) is ambiguous. (8a) literally means '(When the bubble economy burst,) only A-corporation had not gone bankrupt' or '(When the bubble economy burst,) not only A-corporation had gone bankrupt' And also, (8b) literally means '(In 1975) only he had not ridden the Sahara' or '(In 1975) not only he had ridden the Sahara'. Then, we predict that (8) have the raising structure. This is not a desirable result, because (8) are exceptions to the hypothesis that the perfective *-te iru* sentence has the control structure. But then, we can no

longer relate the interpretations of *-te iru* sentences to the argument structure of *iru* in a straightforward way.

### 3.2. The Tense Feature of *-Te*

So far, we have seen that it is neither the internal aspect of the verbs nor the argument structure of the verb *iru* that is responsible for the two distinct interpretations, the progressive interpretation and the perfective interpretation. Then, going back to the question, why does the *-te iru* sentence have two different interpretations? Now, we will argue about the morpheme *-te*. Arikawa (1992) and Kuno (1973) note that the morpheme *-te* can have the past tense. In (9), the morpheme *-te* has the non-past tense. While, in (10), the morpheme *-te* has the past tense<sup>3</sup>.

(9) *Te* has the non-past tense

- a. Yasuku -te oisii 'cheap and delicious'  
 cheap -TE delicious
- b. samuku nat -te ki -ta 'It has become cold'  
 cold become -TE come -past (Arikawa 1992)

(10) *Te* has the past tense

- a. Gohan-o tabe -te, hon -o kat -ta  
 lunch -ACC eat -TE book -ACC buy-past  
 'Having eaten lunch, I bought a book'
- b. Gohan -o tabe, hon -o kat -ta  
 lunch -ACC eat book -ACC buy-past  
 'I did things like eating lunch and buying a book' (Arikawa 1992)

In (9a), for example, *-te* serves to connect two predicates. Thus, the *-te* in (9) doesn't express past tense. In (10), I show *-te* expressing a past meaning. (10a) means 'Having eaten lunch, I bought a book'. In contrast, (10b) means 'I did things like eating lunch and buying a book'. In (10a), unlike (10b), the order of eating lunch and buying a book is fixed. That is, you eat first and then you buy. The examples in (10) suggest that *-te* in (10a) has a past meaning. (9) and (10) indicate that *-te* sometimes expresses the past meaning and sometimes doesn't.

Then, does *-te* in *-te iru* phrase have a past meaning? In (11), the *-te iru* sentences expresses the progressive meaning, and *-te* has a non-past meaning.

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<sup>3</sup> There is another question as to whether *-te* expresses the past or the perfect.

(11) the progressive *-te iru* sentence

- a. Taroo-ga eiga -o mi -te i -ru  
 -NOM movie -ACC watch-TE IRU -pres.  
 'Taro is watching a movie' (mi<miru)
- b. Hanako -ga odot -te i -ru  
 -NOM dance -TE IRU -pres.  
 'Hanako is dancing' (odot<odoru)
- c. Hi -ga moe-te i -ru  
 fire -NOM burn-TE IRU -pres.  
 'Fire is burning' (moe<moeru)
- d. Satiko -ga tenin -ni kami-o some -rare -te i -ru  
 -NOM hairdresser-by hair -ACC dye -passive -TE IRU -pres.  
 'Sachiko is being dyed her hair by a stuff' (some<someru)

(11a) literally means 'Taro is watching a movie'. Thus, *-te* in (11a) has the non-past meaning. That is, the activity *eiga-o miru* 'to watch the movie' continues on, and *iru* expresses the state of the continuous activity. (11b, c, d) shows the same continuous activity as (11a). In contrast, *-te* in (12) and (13) has the past meaning.

(12) the perfective *-te iru* sentence

- a. Taroo-ga haha -no namae-o wasure -te i -ru  
 -NOM mother -GEN name -ACC forget -TE IRU -pres.  
 'Taro have forgot his mother's name' (wasure<wasureru)
- b. Jiroo -ga moo syougakkou -ni nyuugaku-si -te i -ru  
 -NOM already primary school -to entrance-do -TE IRU -pres.  
 'Jiroo already enters a primary school' (si<suru)
- c. 316 gousitu -no denki -ga kie-te i -ru  
 room -GEN light -NOM off-TE IRU -pres.  
 'The lights in room 316 is off' (kie<kieru)
- d. Hon -ga nusum -(r)are -te i -ru  
 book -NOM steal -passive -TE IRU -pres.  
 'Books have been stolen' (nusumare<nusumareru)



(13) the experience

- a. Jiroo -wa moo 10-ken-mo ie -o tate -te i -ru  
 -TOP already NUM-too house-ACC build -TE IRU -pres.

'Jiro already has the experience of having built 10 houses' (*tate<tateru*)

- b. Haruko-wa kyonen suupaa -de hatarai -te i -ru -node,  
 -TOP last year supermarket-at work -TE IRU -pres. -so  
 rejiuti -ga hayai  
 work of a cashier-NOM quick

'Since Haruko has the experience of having worked at a supermarket, she can use a register quickly' (*hatarai<hataraku*)

- c. Kono kisyu -wa itido koware-te iru -node sinpai-da  
 this model -TOP once break -TE IRU -so worry-COPULA-pres.

'Since this model has broken once, I worry about it' (*koware<kowareru*)

- d. Sono kutu -wa yoku hak -(r)are -te iru -node  
 that shoes -TOP well wear-PASSIVE-TE IRU -so  
 surihet -te i -ru  
 worn-out -TE IRU -pres.

'Since those shoes have been worn well, those have worn-out' (*surihet<surisheru*)

(12) express the perfective meaning. (12) show that *-te* has a past meaning. For example, (12a) means 'Taro have forgot his mother's name'. *-Te* in (12a) has the past meaning, that is, the activity 'to forget the name' occurred in the past, and *iru* expresses the resultative state caused by the activity. (12b,c,d) have the same perfective interpretation as (12a).

(13) have so-called the experiential interpretation which is one of the perfective interpretations. Crucially, these sentences in (13) include *-te* which expresses the past meaning. (13a) means 'Jiro already has the experience of having built 10 houses'. In (13a), *-te* in *-te iru* phrase expresses the past meaning. That is, the activity *ie-o tateru* 'to build a house' occurred in the past, and *iru* expresses the resultative state caused by the activity. (13b, c,d) have the same perfective interpretations as (13a). So, all *-tes* in (12) and (13) have a past meaning.

As shown in (11) through (13), though *-te* in the progressive *-te iru* phrase has the non-past meaning, *-te* in the perfective *-te iru* phrase has the past meaning. As mentioned in (1), basically *-te iru* is just an aspectual expression which expresses a state of something. The two interpretations of the *-te iru* sentence arise from the tense feature of the morpheme *-te*, but not the internal aspect of the verb. That is, the so-called progressive *-te iru* expresses

the durative state of a non-past phenomenon. In contrast, the so-called perfective *-te iru* expresses the resultative state of a past phenomenon.

### 3.3. Some Evidence for Tense Features of *Te*

Furthermore, there is a piece of empirical evidence for the claim that two interpretations could arise from the tense feature of the morpheme *-te* itself. The crucial evidence is found in my own dialect, or Ehime Dialect, the dialect spoken in the west part of Japan. In Standard Japanese, *-te iru* is used to express the progressive and perfective aspects. On the other hand, in Ehime dialect, two aspectual expressions are used instead of *-te iru*; one is *-toru*, and the other is *-yoru*. Roughly speaking, *-toru* expresses the perfective and sometimes progressive meanings, while *-yoru* only expresses the progressive meaning. The table in (14) shows the distributions of *-yoru*, *-toru* and *-te iru*.

(14)

	a. to express the progressive interpretation 'Taro is watching a movie'	b. to express the perfective interpretation 'Taro has already watching the movie'
<i>-yoru</i>	Taroo-ga eiga -o mi <b>-yoru</b> -NOM movie-ACC watch-TE IRU-pres.	
<i>-toru</i>	Taroo-ga eiga -o mi <b>-toru</b> -NOM movie-ACC watch-TE IRU-pres.	Taroo-ga eiga -o mi <b>-toru</b> -NOM movie-ACC watch-TE IRU-pres.
<i>-te iru</i>	Taroo-ga eiga -o mi <b>-te iru</b> -NOM movie-ACC watch -TE IRU-pres.	Taroo-ga eiga-o mi <b>-te iru</b> -NOM movie-ACC watch-TE IRU-pres.

In Standard Japanese, *-te iru* has the progressive interpretation and the perfective interpretation. *Taroo-ga eiga-o miteiru* means either 'Taro is watching a movie' or 'Taro has already watched a movie'. *-Toru* also can have the progressive interpretation and the perfective interpretation. So, *Taroo-ga eiga-o mitoru* means 'Taro is watching a movie' or 'Taro has already watched a movie', according to situations. On the other hand, the *-yoru* sentence, *Taroo-ga eiga-o miyoru* means 'Taro is watching a movie'. It has the progressive interpretation only.

This is because of the past tense feature which *-te iru* and *-toru* include. Since *-yoru* may not include the past tense feature, the *-yoru* sentence cannot have the perfective interpretation. Moreover, *-toru* shows the other same property as *-te iru*. Ends of verbs which precede both *-toru* and *-te iru* are identical. In (15), Inflection of verbs is listed up.

## (15) Inflection of verbs which precede aspectual expressions

	<i>-yoru</i>	<i>-toru</i>	<i>-te iru</i>	<i>-te</i>
<i>naku</i> 'cry'	<i>naki-</i>	<i>nai-</i>	<i>nai-</i>	<i>nai-</i>
<i>iku</i> 'go'	<i>iki-</i>	<i>it-</i>	<i>it-</i>	<i>it-</i>
<i>saku</i> 'blossom'	<i>saki-</i>	<i>sai-</i>	<i>sai-</i>	<i>sai-</i>
<i>kau</i> 'buy'	<i>kai-</i>	<i>kat-</i>	<i>kat-</i>	<i>kat-</i>
<i>odoru</i> 'dance'	<i>odori-</i>	<i>odot-</i>	<i>odot-</i>	<i>odot-</i>
<i>yomu</i> 'read'	<i>yomi-</i>	<i>yon-</i>	<i>yon-</i>	<i>yon-</i>
<i>tobu</i> 'fly'	<i>tobi-</i>	<i>ton-</i>	<i>ton-</i>	<i>ton-</i>

For example, the verb *naku* 'cry' change the end, and became *naki* preceding *-yoru*. In contrast, preceding *-toru* and *-te iru*, it became *nai*. This may be because of same property that *-toru* and *-te iru* have.

Then, some data from Ehime dialect provides a piece of evidence for our proposal that the tense feature of *-te* is responsible for the two interpretations of *-te iru* sentences, the progressive interpretation and the perfective interpretation. So far, we have discussed that *-te* is responsible for expressing the past tense versus non-past tense, and for distinguishing the progressive reading versus the perfective reading.

### 3.4. The tense feature of 'to'

Next, we will discuss the analysis that it is actually the tense feature that distinguishes the two interpretations, and the two interpretations are available in both control and raising structures. That is, we propose that when *-te* is associated with minus tense feature, then the progressive interpretation is available under the raising structure. On the other hand, when *-te* is associated with plus tense feature, then the perfective interpretation is available, and in this case, control takes place.

Our analysis stands on the insight by Stowell (1982) and Martin (2001) on their analyses of English to-infinitives. Now, we will overview these two proposals. Stowell (1982) shows that 'to'-infinitive has future or non-future tense. This distinction is realized in (16).

- (16) a. Jim tried [PRO to lock the door]  
 b. John appears [ to like poker]

(16a) means literally 'Jim tries so that he will lock the door'. Thus, the 'to'-infinitive in (16a) has the future tense. On the other hand, (16b) literally means 'It seems that John likes poker', but not 'It seems that John will like poker'. Thus, a 'to'-infinitive in (16b) has the non-future tense. Generally, when a 'to'-infinitive has the future tense, the infinitival sentence has the control structure, and when a 'to'-infinitive has the non-future tense, the infinitival sentence has the raising structure. As shown in (17), Stowell characterizes this interpretive difference

in terms of the feature [plus-minus tense]: control infinitivals are [+tense] whereas raising infinitivals are [-tense].

(17) The feature of [Head, TP]

- a. [+tense,+finite] (nominative case checking)
- b. [+tense,-finite] (null case checking)
- c. [-tense,-finite]

Martin (2001) points out that this provides a natural characterization for the case distinction between control and raising as well. [+tense] checks case. More precisely, [+tense,+finite] checks nominative case, [+tense, -finite] checks null case, and [-tense, -finite] does not check case at all.

Then, we hypothesize that *-te* is an infinitive because of past tense. If *-te* is an infinitive which is related to license of PRO, Mihara (1997)'s proposal can be supported without the problem. *-Te iru* sentence has the control structure, when *-te iru* sentence have perfective interpretation; *-te* has [+tense,-finite]. *-Te iru* sentence has the raising structure, when *-te iru* sentence have progressive interpretation; *-te* has [-tense,-finite]. Based on *-te*'s feature, the problematic sentences in (8) can be properly expected to have control structures, because of the feature [+tense,-finite]. However, as shown in his analysis, there are some examples which has the raising structure despite of its feature [+tense,-finite]. In the following section, we can observe an idiomatic sentence, in which *-te* has the feature [+tense,-finite].

#### 4. A Uniform Analysis of *-te iru*

In this section, we propose that the structure of the *-te iru* sentence is not determine the interpretation. The tense feature of *-te* is related to the interpretation, but not the structures. The feature [+tense, -finite] does not always license PRO, so that the structure of the *-te iru* sentence is determines arbitrarily.

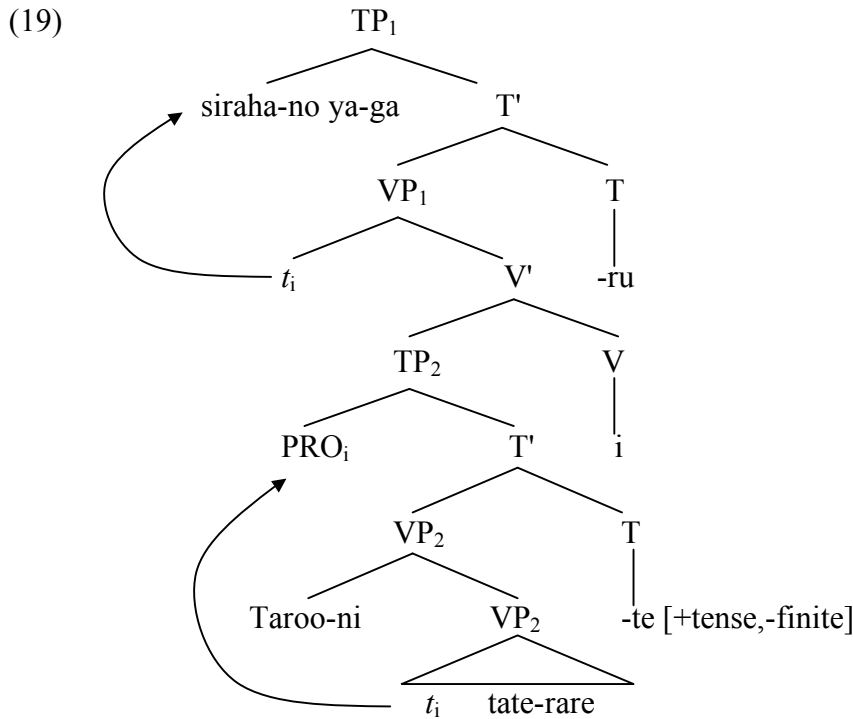
##### 4.1. Idiom and PRO

Then, we will consider the idiomatic sentence including *-te iru*. (18) is the example.

(18) 3 nen -mae siraha -no ya -ga Taroo-ni tate-rare -te iru  
 3 year -ago white feather -GEN arrow -NOM -to hit -PASS -TE IRU-pres.

'3 years ago, Taro had been singled out' ( *Te* has a [+tense,-finite] feature)

Then, (18), literally means '3 years ago, Taro had been singled out', is idiomatic sentence, and here *-te* has [+tense,-finite] feature as an adverb *3 nen-mae* '3 years ago' indicates. Then, we suppose that the structure of (18) is in (19).



According to Martin's (2001) analysis, the feature [+tense,-finite] licenses PRO. That is, (19) has the structure of control. However, as shown in (20), Nishigauchi (1993) states that idiomatic infinitival sentence can be interpreted idiomatically when the sentence has raising structure.

- (20) a. The cat is out of the bag. (Idiomatic interpretation: A secret leaks out)  
 b. The cat seems [to be out of the bag]  
 c. \* The cat tried [to be out of the bag] (Nishigauchi 1993)

(20a) literally means 'A secret leaks out'. Although (20b) can be interpreted idiomatically, (20c) cannot be interpreted. This is because of difference of the structure shown in (21).

- (21) a. The cat<sub>i</sub> seems [<sub>t<sub>i</sub></sub> to be out of the bag]  
 b. The cat tried [PRO to be out of the bag]

As shown in (21), (20b) has raising structure like (21a), and (20c) has control structure like (21b). In raising structure, 'the cat' is base-generated in the same constituent as 'be out of the bag'. On the other hand, in control structure, 'the cat' is base-generated out of the infinitive clause.

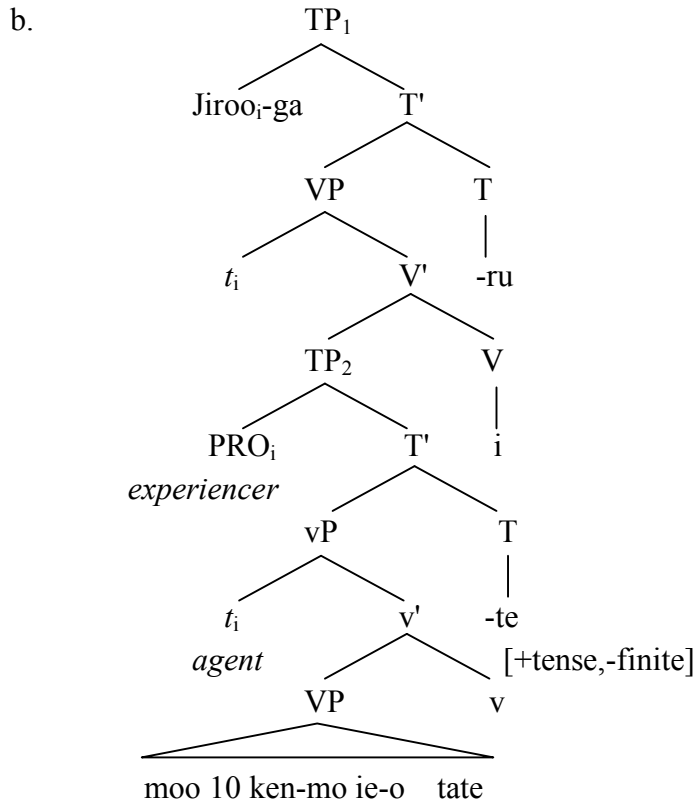
Then, in order for (19) to be interpreted as an idiom, *siraha-no-ya* 'arrow with white feather' has to be base-generated in the same constituent as *taterareru* 'be hit'. Then, it should have the structure without PRO. Hence, the idiom examples lead us to the

conclusion that *-te* associated with the feature [+tense, -finite] does not necessarily license PRO.

Now, if the feature [+tense, -finite] cannot license PRO, the fact that *iru* in the perfective *-te iru* sentences has the external argument should be explained in the other way. In (22a), the subject *Jiroo* is the external argument of *iru*, so the structure in (22b) is expected.

- (22) a. Jiroo -wa moo 10 ken -mo ie -o tate -te i -ru  
 -TOP already NUM. -too house -ACC build -TE IRU -pres.  
 (*tate < tateru*) (= (13a))

'Jiroo already has the experience of having built 10 houses'



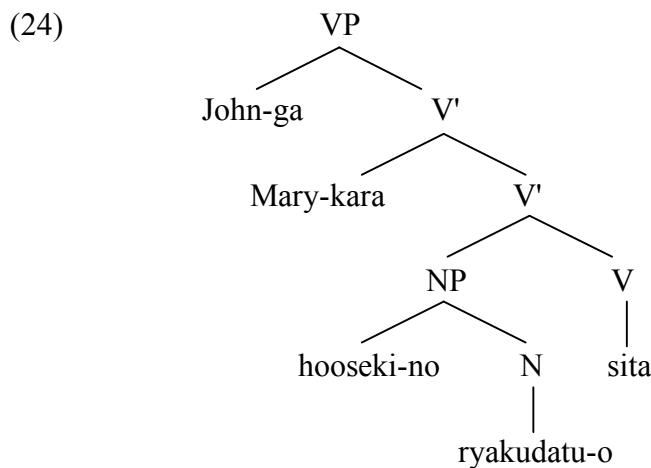
In (22), *Jiroo* is assigned the thematic role 'experiencer', and PRO is assigned the 'agent'. However, PRO is no longer licensed by the feature [+tense, -finite].

Then, Saito and Hoshi's (1998) LF incorporation Analysis explains the control relation without PRO. Following this analysis, all *-te iru* sentences do not need to include PRO. Now, we will overview LF incorporation analysis.

#### 4.2. Saito and Hoshi's (1998) LF Incorporation Analysis

An example of the light verb construction is shown in (23). The rough structure of (23) is (24).

- (23) John -ga      Mary -kara    [<sub>NP</sub> hooseki-no      ryakudatu]-o      si-ta  
          -NOM                -from                jewellery-GEN    plunderage-ACC    do-past  
          'John stole jewellery from Mary'

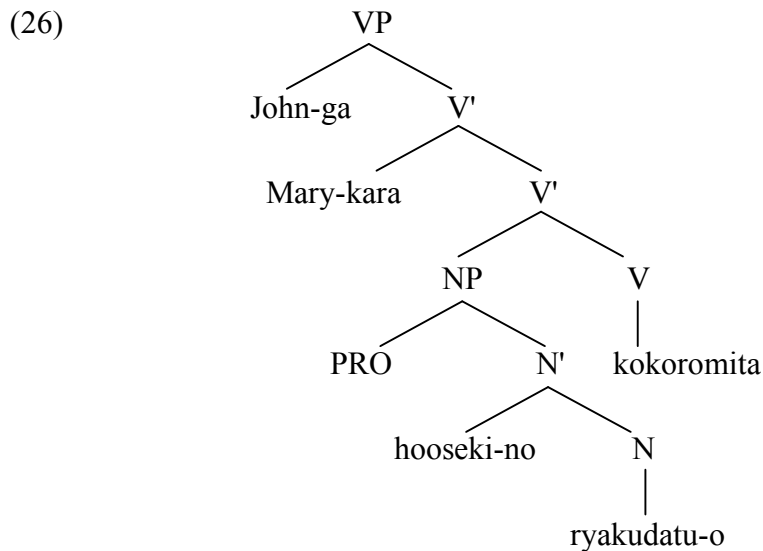


As discussed in detail in Grimshaw & Mester 1988, this construction is peculiar in a few respects. First, it exhibits a case of 'syntax-semantics mismatch'. In (23), the three arguments are arguments of the noun *ryakudatu* 'plunderage', and the verb *su* 'do' is more like an expletive, playing no role in the compositional semantics. Yet, two of the three arguments, *John-ga* and *Mary-kara*, appear not within the NP headed by *ryakudatu* 'plunderage' but in positions that are normally occupied by the arguments of the verb.

Saito and Hoshi (2000) propose a covert incorporation analysis for the light verb construction. According to this analysis, the head noun *ryakudatu* 'plunderage' in (23), discharges its theme role inside the NP, and then incorporates into the verb *su* in the covert component to assign its source and agent roles to *Mary-kara* and *John-ga* respectively. In this case, the head noun must discharge the theta role, according to the thematic hierarchy. If this analysis is correct, it provides direct evidence against D-structure as the pure representation of the thematic structures and also the Projection Principle, since in (23) the source role and the agent role are assigned only in the covert component.

Interestingly, as noted in Grimshaw & Mester (1988) and discussed extensively in Matsumoto (1996), example like (23) remain grammatical even when we substitute a control verb, such as *kokoromi* 'attempt', for the light verb *su*. Thus, (25) is perfectly fine.

- (25) John -ga      Mary -kara    [<sub>NP</sub> hooseki-no      ryakudatu]-o      kokoromi-ta  
          -NOM                -from                jewellery-GEN    plunderage-ACC    attempt -past  
          'John attempted to steal jewelry from Mary'



Since (25) is virtually identical to (23) in structure, it is only natural to suppose that it is subject to a similar analysis. Note that *Mary-kara* is the source argument of the noun *ryakudatu* 'plunderage' in (25) exactly as in (23)

However, the application of the covert incorporation analysis to (24) is not straightforward. The rough structure of (25) is in (26). Here, the noun *ryakudatu* 'plunderage' assigns the theme role to *hooseki-o* within the NP. Then, after it adjoins covertly to V, it discharges its source role to *Mary-kara*. But a problem arises with respect to the agent role of the noun. In the case of (23), the subject *John-ga* could receive the theta-role since the light verb *su* does not assign any role to *John-ga*. In (25), on the other hand, *John-ga* is the agent argument of the verb *kokoromi* 'attempt'. If *ryakudatu* 'plunderage' assigns the agent role to PRO within the NP, and then, discharges the source role to *Mary-kara*, this would not be consistent with the thematic hierarchy, and hence, we should expect the example to be out.

Then Saito and Hoshi (1998) propose that the agent role of the noun is merged with or absorbed by the agent role of the verb through the relation of control. It is not difficult to consider that control can relate thematic roles of distinct predicates without the mediation of PRO, as shown in (27).

- (27) a. John performed an operation on Harry  
 b. John performed Mary's operation

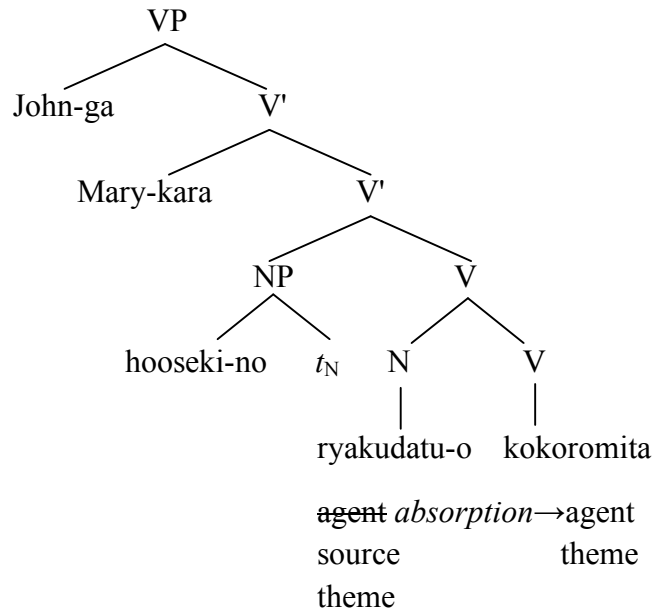
Williams (1987) discuss the examples in (27). In (27a), John is the agent of operation. Here, we could say that John controls a PRO in the Spec position of the NP headed by operation. However, this control relation is unaffected even when there is a genitive phrase in NP Spec, excluding PRO in this position, as in (27b). This example shows that control can identify the agent roles of the verb 'perform' and the noun 'operation' without the



mediation of PRO. Thus, it seems that control can operate directly on the thematic structures of predicates.

Then, examples like (25) show that incorporation into a control verb can result in 'merger' or 'absorption' of the controlled theta-role of the adjoined head. According to this hypothesis, the LF of (25), for example, is as in (28).

(28)



The head noun *ryakudatu* 'plunderage' in (28), discharges its theme role inside the NP, and then incorporates into the verb *kokoromi* 'attempt' in the covert component to assign its source role to *Mary-kara*. Then, the agent role of *ryakudatu* 'plunderage' is absorbed by the control verb *kokoromi* 'attempt'.

Given this LF incorporation analysis, we can capture the derivation of the *-te iru* sentence without the contradiction.

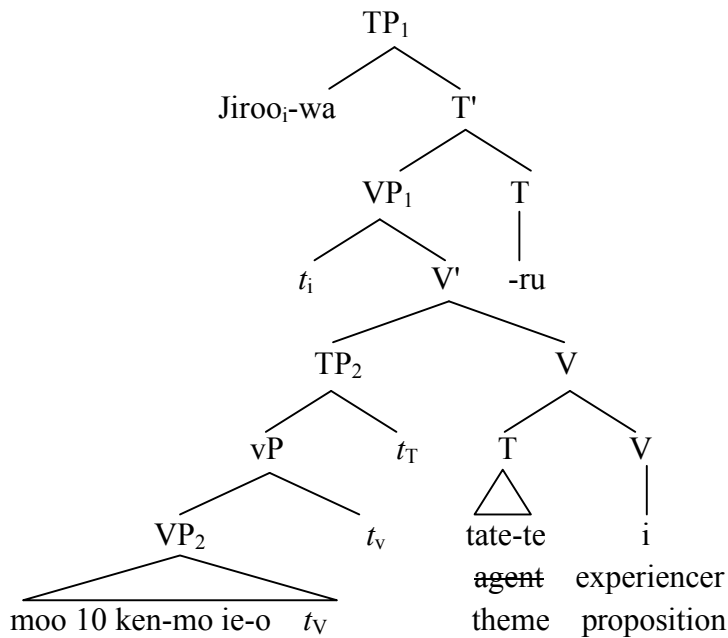
### 4.3. LF Incorporation and a control structure

Finally, I propose the derivation of the *-te iru* sentence adopting Saito and Hoshi's LF incorporation analysis. Consider (22) repeated in (29).

(29) a. Jiroo -wa moo 10 ken -mo ie -o tate -te iru  
 -TOP already NUM. -too house -ACC build -TE IRU-pres.

'Jiroo already has the experience of having built 10 houses' (*tate < tateru*)

b.

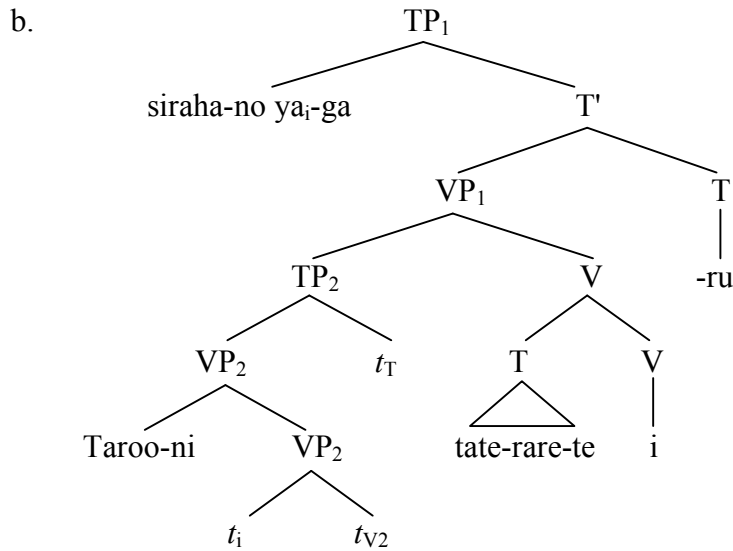


In (29), *iru* has an external argument and discharges the experience theta-role to *Jiroo*. First, the verb *tate* 'to build' in TP<sub>2</sub> discharges the theme role to *ie* 'houses', and then, incorporates into *iru* cyclically to assign the agent role. But, *iru* controls and absorbs (or merges) this agent role. At last, *iru* discharges the experience theta role. According to this derivation, without the mediation of PRO, *Jiroo* in (29a) can be an experiencer who has experience of having built 10 houses.

Then, how about the idiomatic sentence? The example is repeated in (30a) and the structure is in (30b).

- (30) a. (3 nen -mae) siraha -no ya -ga Taroo-ni  
 (3 year-ago) white feather -GEN arrow -NOM -to  
 tate-rare -te iru  
 hit -PASSIVE -TE IRU-pres.

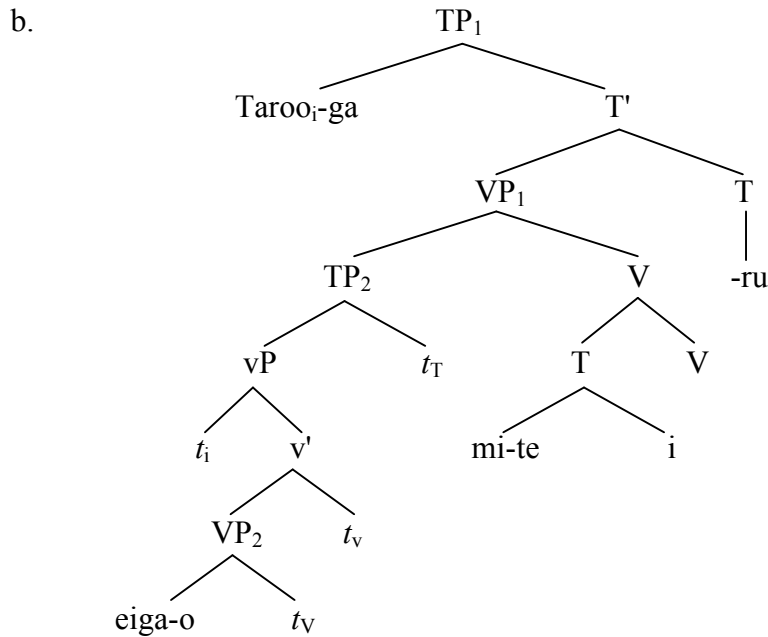
'(3 years ago), Taro had been singled out'



In (30), we do not need to license PRO despite of the feature [+tense,-finite] no longer. So, the NP *siraha-no-ya* 'arrow with white feather' is base-generated in VP2 and moves to spec position of TP1 for case checking. And *iru* in (30) does not have an external theta role, since the subject *siraha-no-ya* 'arrow with white feather' is inanimate. The reason why the verb *taterare* 'be hit' incorporates into *iru* is in morphology.

(31a) is the example of the progressive *-te iru* sentence. The structure is in (31b).

- (31) a. Taroo-ga eiga -o mi -te iru  
 -NOM movie -ACC watch -TE IRU-pres.  
 'Taro is watching a movie'



The progressive *-te iru* sentence is regarded as raising, so the mediation of PRO has not been assumed. However, as shown in (29) and (30), PRO cannot be licensed in any *-te iru*

sentences. Therefore, the only structural distinction between the *-te iru* sentences is whether *iru* has the external argument or not. This distinction is not related to the semantic interpretations, and *iru* have the external argument optionally.

Thus, we can capture the structures of the all *-te iru* sentences in a uniform way. The tense feature of *-te* just distinguishes the interpretation of the *-te iru* sentence.

## 5. Conclusion

In conclusion, *-te iru* is 'one' aspectual expression which expresses a state of something. Two basic interpretations (the progressive and the perfective) are originated from the tense feature of *-te*. And we propose the *-te iru* structure without contradictions shown in interpretations of *-te iru* sentences. Since the structure of the *-te iru* sentence is not depend on the interpretation, the structure is captured in a uniform way. And this proposal is based on the LF incorporation analysis. Then, this analysis provides an evidence for the LF incorporation hypothesis.

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