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journal or publication title	トークス = Theoretical and applied linguistics at Kobe Shoin : 神戸松蔭女子学院大学研究紀要言語科学研究所篇
volume	22
page range	1-13
year	2019-03-05
URL	<a href="http://doi.org/10.14946/00002081">http://doi.org/10.14946/00002081</a>

# Japanese modal auxiliaries *-sooda* and *-yooda* and their *-ta* forms\*

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## Abstract

This paper takes up two Japanese modal auxiliaries, which are similar to each other on the surface: *-sooda* and *-yooda*, and observes the distribution of their *-ta* forms. If they are genuine modal auxiliaries, it's been noted in previous studies that they could not have *-ta* forms indicating 'past time.' There are, however, *-soodat-ta* in some environments, and *-yoodat-ta* in other environments. I will observe the behavior of the *-ta* forms in the various test sentences, i.e., modification of adverb, negation, subordinate clauses, *A-ka B-ka-da* sentences, and scope of negation, comparing them with their root *-soodal-yooda* forms. Judging from the results of the tests, I conclude that *-soodat-ta* and *-yoodat-ta* forms are actually tensed phrases, and that the former embeds vP as its complement, while the latter embeds another TP as its complement.

本稿は、日本語の認識のモダリティとされる中から表面上形態が似ている「そうだ」と「ようだ」を取り上げ、特にそれらの「タ形」の分布と機能を考察する。通常、典型的な法助動詞は「タ形」をとらないが、「そうだ」も「ようだ」も「そうだった」あるいは「ようだった」形をもつ。特に、どのような統語的環境のとき「タ形」が可能になるのか、時の副詞句修飾、否定、連体修飾節、「AかBかだ」文等を用いて観察する。結果として、これらの「タ形」は過去の意味をもった時制表示であることを指摘し、基底ではTPの中で生成され、後にLFで命題の外に移動する可能性を述べる。

**Key Words:** *-ta* form, past tense, presumptive expressions, conjecture, hearsay

## 1. Introduction

Japanese auxiliaries *-sooda*, *-yooda*, *-rasii*, *-mitaida* have been classified as epistemic modalities (cf. Nitta (2013)). This paper takes up *-sooda* and *-yooda*, both of which are similar to each other on the surface, for discussion, especially considering the distribution of their *-ta* forms, to make their syntactic functions clear. Let us look at the distribution. First, some *-sooda* can embed the continuative form of a verb (*ren-yoo-kei*) as seen in (1a), and have the past form by itself like *-soodat-ta* in (1b). This type of *-sooda* is sometimes called *suiryoo-no-sooda*, 'conjectural *-sooda*.'

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\*I thank Vincent Broderick for his proofreading and English stylistic improvement of this paper.

- (1) a. Hanako-ga ki-sooda.  
Hanako-NOM come-seem  
'Hanako seems to come.'
- b. Hanako-ga ki-soodat-**ta**.  
Hanako-NOM come-seem-PAST  
'Hanako seemed to come.'

Another *-sooda* embeds the conclusive form of a verb (*shuusi-kei*) as in (2a, c). This type of *-sooda*, however, does not have a past form like (2b, d). It is called *denbun-no -sooda*, 'hearsay *-sooda*.'

- (2) a. Hanako-ga ku-**ru**-sooda.  
Hanako-NOM come-NONPAST-I.hear  
'I hear that Hanako will come.'
- b.\*Hanako-ga ku-**ru**-soodat-**ta**.  
Hanako-NOM come-NONPAST-I.hear-PAST  
'I heard that Hanako would come.'
- c. Hanako-ga ki-**ta**-sooda.  
Hanako-NOM come-PAST-I.hear  
'I hear that Hanako came.'
- d.\*Hanako-ga ki-**ta**-soodat-**ta**.  
Hanako-NOM come-PAST-I.hear-PAST  
'I heard that Hanako came.'

Next, let us observe the distribution of *-ta* forms of *-yooda*. *-Yooda* does not have the continuative form of a verb as its complement, as seen in (3).

- (3)\*Hanako-ga ki-yooda.  
Hanako-NOM come-appear  
'Hanako appears to come.'

*-Yooda* only embeds the conclusive form of a verb, *-ru/-ta*, '-nonpast/-past' forms, and has its past forms, as seen in (4b, d), and (5). These *-yooda* are also characterized as conjectures.

- (4) a. Hanako-ga ku-**ru**-yooda.  
Hanako-NOM come-NONPAST-appear  
'Hanako appears to come.'
- b. Hanako-ga ku-**ru**-yoodat-**ta**.  
Hanako-NOM come-NONPAST-appear-PAST  
'Hanako appeared to come.'
- c. Hanako-ga ki-**ta**-yooda.  
Hanako-NOM come-PAST-be.likely  
'It appears that Hanako came.'

- d. Hanako-ga ki-**ta**-yoodat-**ta**.  
Hanako-NOM come-PAST-be.likely-PAST  
'It appeared that Hanako came.'

- (5) Kare-wa doomo gokaisi-tei-**ru**-yoodat-**ta**.  
he-TOPIC apparently misunderstand-ASPECT-NONPAST-appear-PAST  
'It appeared that apparently he misunderstood it.'  
(Nitta 2014: 632, English translation is the author's.)

This paper seeks to explore the reason for the seemingly irregular distributions of *-ta* forms in the sentences with *-sooda* and those with *-yooda*. We will observe the syntactic positions of *-sooda*, *-yooda*, and their *-ta* forms, utilizing various syntactic tests. To be specific, we will explore the following possibilities: (i) the continuative verb-*sooda* or *-soodat-ta* appears under TP and its complement is vP; (ii) the conclusive verb-*sooda* appears within the CP region. (iii) the conclusive verb-*yooda* or *-yoodat-ta* appears under TP<sub>1</sub> and its complement is TP<sub>2</sub>; (iv) the conclusive verb-*yooda* moves into the CP region at LF.

## 2. The behavior of *-sooda* and *-yooda*

Before we consider the syntactic properties of *-soodal-soodat-ta* and *-yoodal-yoodat-ta*, let us see some data which show the environments where they can appear.

The examples of (6a, b) and (7a, b) show where *-sooda* can appear, while *-yooda* cannot.

- (6) a. A, hako-ga oti-sooda-yo.  
Oh, box-NOM fall-seem-VOCATIVE  
'Oh, the box seems to fall.'
- b. \*hako-ga oti-ru-yooda-yo.  
box-NOM fall-NONPAST-appear-VOCATIVE  
'The box appears to fall.'  
(Teramura 1980: 79, From these Teramura's examples forward, all the English translations of the examples are the author's.)
- (7) a. Ano-ie-wa imanimo taore-sooda.  
that house-TOPIC soon fall-seem  
'That house seems to fall soon.'
- b. \*Ano-ie-wa imanimo taore-ru-yooda.  
that house-TOPIC soon fall-appear  
'That house appears to fall soon.'  
(Teramura 1980: 79)

On the other hand, in the context of pointing to one's own stomach, like (8a, b), we should use *-yooda* when we guess where the ache comes from.

- (8) a. \*(Zibun-no onaka-o sasite) Kono atari-ga itamu-sooda.  
(pointing to my own stomach) here.around-NOM ache-seem  
'(pointing to my own stomach) I seem to have an ache around here.'

- b. (Zibun-no onaka-o sasite) Kono atari-ga itamu-yooda.  
 (pointing to my own stomach) here.around-NOM ache-appear  
 ‘(pointing to my own stomach) It appears that I have an ache around here.’  
 (*Meikyoo Japanese Dictionary*)

We also have the situation where either *-sooda* or *-yooda* is allowed to appear. Teramura (1980: 80) notes the semantic differences among (9a, b c, d) as follows: i.e., in (9a), directly observing the current circumstances, the speaker is guessing that it is about to rain soon. In the *-yooda* examples of (9b, d), the speaker cannot see the rain clearly from the window, but he/she can see a mist there. Judging from the scene, he/she guesses that it may rain. Finally, in (9c), the speaker does not see any rain in the current situation, but he/she reports so, based on another person’s information.

- (9) a. Ame-ga huri-sooda.  
 rain-NOM fall-seem  
 ‘It seems to rain.’
- b. Ame-ga hu-ru-yooda.  
 rain-NOM fall-NONPAST-appear  
 ‘It appears to rain.’
- c. Ame-ga hut-tei-ru-sooda.  
 rain-NOM fall-ASPECT-NONPAST-seem  
 ‘It seems to be raining.’
- d. Ame-ga hut-tei-ru-yooda.  
 rain-NOM fall-ASPECT-NONPAST-be.likely  
 ‘It appears to be raining.’  
 (Teramura 1980: 79-80)

### 3. Semantic Properties of *-sooda* and *-yooda*

There are many previous studies which reveal semantic properties of Japanese epistemic modals, *-sooda*, *-yooda*, *-rasii*, *-mitaida*, as well as the proper use among them. (e.g., Teramura (1984), Hayatsu (1988), Morita (1990), Tanomura (1991, 1992), Ohba (1999, 2002), Kikuchi (2000), Kishita (2001), Nitta (2013)) Among them, as Teramura (1980) seems to present their semantic properties collectively, we will introduce his summary of semantic factors of presumptive modalities. Before that, let us introduce his terms first: i.e., he uses ‘indicative’ as in (10a), and ‘presumptive’ as in (10b).

- (10) a. Indicative expressions: the expressions based on direct experience (typically, based on direct observation). For example, (11a, b) are indicative.
- b. Presumptive expressions: there is information which allows the speaker to think or guess what the situation is like, though he/she does not know precisely whether it is a fact. The examples of (11c, d, e) are presumptive.
- (11) a. Ame-ga hut-ta.  
 rain-NOM fall-PAST  
 ‘It rained.’

- b. Ame-ga hut-tei-ru.  
rain-NOM fall-ASPECT-PAST  
'It is raining.'
- c. Ame-ga huri-sooda.  
rain-NOM fall-seem  
'It seems to rain.'
- d. Ame-ga hu-ru-yooda.  
rain-NOM fall-NONPAST-be.likely  
'It is likely to rain.'
- e. Ame-ga hu-ru-sooda.  
rain-NOM fall-NONPAST-seem  
'It seems to rain.'
- (Teramura 1980: 73)

The following table (12) is quoted from Teramura (1980: 88), where he enumerates ten semantic factors which tell the usage among nine presumptive expressions. We are showing three of those expressions, (*si*)-*sooda* (conjecture), *yooda*, and *sooda* (hearsay), just for ease of understanding.

(12)

	(si)-sooda	yooda	sooda
Report or not	+	+	+
[1] Report based on direct experience	—	—	—
[2] Report based on self-conjecture	+	+	—
[3] Report about an established fact	—	+	+
[4] About a present and/or future event	+	+	+
[5] Conjecture based on objective evidence	+	+	
[6] Prediction based on a visible fact	+	—	
[7] Conjecture through consideration	—	+	
[8] Conjecture of a general tendency based on limited facts	—	+	
[9] Proportion of evidence for presumptive: self-observation	3	2	0
[9] Proportion of evidence for presumptive: other's information	0	1	3
[10] Responsible for judgement of conjecture		+	
Negative form	+	—	—
Past form	+	+	—
Imperative form	+	+	—

(Teramura 1980: 88, partially omitted)

The factors to which we should pay attention are [3], [5], [6], [7], [8], and [9]. The point in common in those factors is that (*si*) *sooda* and *yooda* have the feature of the speaker's direct observation, more or less, while *sooda* does not have such a speaker's observation at all. Here, we assume that (*si*) *sooda* and *yooda* are rather objective modals and are taking on the character of aspect. *Sooda* is, on the other hand, subjective. It must behave as a pure modal auxiliary. Then, let us see what characteristics a genuine modal auxiliary has, in the next section.

#### 4. Syntactic properties of *-sooda* and *-yooda* and their *-ta* forms

To know whether the examples of *-sooda* and *-yooda* we have observed so far are genuine modals or not, let us see the syntactic factors differing from Teramura's semantic factors introduced in Section 3. First of all, a genuine modal is situated outside the proposition.

- (13) 

Proposition	Modality
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(Nitta 2013: 137)

##### 4.1 Some 'modal-ness' tests

There are several syntactic factors which tell how much it is likely to be a modal auxiliary verb. First, a typical modal like *-darou* does not have a past *-ta* form.

- (14)\*Kare-wa hongaku-no   gakusei darou-ta  
he-NOM this.school-GEN student possibly-PAST  
'Possibly, he is a student of this school.'  
(Nitta 2013: 141, The English translation is the author's.)

Secondly, the typical modal does not bear the meaning of past, even if it has *-ta* form. Such a *-ta* suffix is analyzed as a modal *-ta* in Teramura (1984).

- (15) Sooda,                    asuwa   kare-tono yakusoku-ga        at-ta.  
I.just.remembered, tomorrow he-with    appointment-NOM have-MOOD  
'I just remembered, I have an appointment with him tomorrow.'

Thirdly, it does not have a negative form.

- (16)\*Kare-wa hongaku-no   gakusei darou-nakat-ta  
he-NOM this.school-GEN student possibly-not-PAST  
'Possibly, he is not a student of this school.'  
(Nitta 2013: 141, The English translation is the author's.)

Lastly, when it appears in a subordinate clause, it is not a typical modal.

- (17)\*Kuru-darou   hito-ga        mada ki-tei-nai.  
come-possibly person-NOM yet    come-ASPECT-not  
'The person who is expected to come has not come yet.'

Let us examine *-sooda* and *-yooda*, applying the syntactic factors introduced above to see if they function as genuine modals or not, or how much they behave as modal auxiliaries. When we examine them, we also use *-daroo* in (18a) as an example of a genuine modal to make clear their 'modal-ness.' We are going to use the following sample sentences of (18) for some tests.

- (18) a. Ame-ga   hur-u-daroo.  
rain-NOM fall-NONPAST-be.possible  
'It is possible that it will rain.'
- b. Ame-ga   huri-sooda.  
rain-NOM fall-seem  
'It seems to rain.'

- c. Ame-ga huri-soodat-**ta**.  
rain-NOM fall-seem-PAST  
'It seemed to rain.'
- d. Ame-ga hur-**u**-sooda.  
rain-NOM fall-I.hear  
'I hear that it will rain.'
- e. Ame-ga hut-**ta**-sooda.  
rain-NOM fall-PAST-I.hear  
'I heard that it rained.'
- f. Ame-ga hur-**u**-yooda.  
rain-NOM fall-appear  
'It appears to rain.'
- g. Ame-ga hut-**ta**-yooda.  
rain-NOM fall-PAST-appear  
'It appears that it rained.'
- h. Ame-ga hur-**u**-yoodat-**ta**.  
rain-NOM fall-PAST-appear-PAST  
'It appeared that it would rain.'
- i. Ame-ga hut-**ta**-yoodat-**ta**.  
rain-NOM fall-PAST-appear-PAST  
'It appeared that it rained.'

As the first examination, we will see if each sentence in (18) can have its *-ta* form. If the *-ta* form is observed, we have to see if it has past time meaning or not. Specifically, we will see if the adverb, *Kinoo-wa*, 'yesterday,' can modify *soodat-ta* or *yoodat-ta* at the end of the sentences.

- (19) a.\*Kinoowa ame-ga hur-u-daroo-**ta**.  
yesterday rain-NOM fall-PAST-be.possible-PAST  
'It was possible yesterday that it rained.'
- b.\*Kinoo-wa ame-ga huri-sooda.  
yesterday rain-NOM fall-seem-NONPAST  
'\*It seems yesterday to rain.'
- c. Kinoo-wa gogo-kara ame-ga huri-soodat-**ta**.  
yesterday in the afternoon rain-NOM fall-seem-PAST  
'It seemed yesterday to rain in the afternoon.'
- d.\*Kinoowa ame-ga hur-**u**-sooda.  
yesterday rain-NOM fall-I.hear  
'\*I hear that it would rain yesterday.'



- e. Kinoowa ame-ga hut-**ta**-sooda.  
yesterday rain-NOM fall-PAST-I.hear  
'I hear that it rained yesterday.'
- f. Kinoowa gogokara ame-ga hur-**u**-yoodat-**ta**.  
yesterday in.the.afternoon rain-NOM fall-PAST-appear-PAST  
'It appeared yesterday that it would rain in the afternoon.'
- g. Kinoowa gozentyuuni ame-ga hut-**ta**-yoodat-**ta**.  
yesterday in.the.morning rain-NOM fall-PAST-be.likely-PAST  
'It appeared yesterday that it rained in the morning.'

What this test reveals is that the *-ta* forms of *-soodat-ta* in (19c) and *-yoodat-ta* in (20f, g) bear the past meaning, since the adverb does not modify the embedded event, *ame-ga hur-*, but does modify those *-ta* forms. To take the last sentence of (19g) for example, the embedded *-ta* in *hut-ta* is modified by *gozentyuuni*, 'in the morning,' while *-ta* of *yoodat-ta* in the main clause is specified by the adverb, *kinoowa*, 'yesterday.'

Next, let us try to form a negative *-sooda* or *-yooda* with the sentences of (17).<sup>1</sup>

- (20) a.\*Ame-ga hur-**u**-daroo-nai.  
rain-NOM fall-NONPAST-be.possible-not  
'Intended meaning: It is not possible that it will rain.'
- b. Ame-ga huri-soo{ni/mo/nimo}-nai.  
rain-NOM fall-seem-not  
'It does not seem to rain.'
- c. Ame-ga huri-soo{ni/mo/nimo}-nakat-**ta**.  
rain-NOM fall-seem-not-PAST  
'It didn't seem to rain.'
- d.\*Ame-ga hur-**u**-soo{-ni/-mo/-nimo}-nai.  
rain-NOM fall-I.hear-not  
Intended meaning: 'I don't hear that it will rain.'
- e.\*Ame-ga hut-**ta**-soo{-ni/-mo/-nimo}-nai.  
rain-NOM fall-PAST-I.hear-not  
Intended meaning: 'I heard that it rained.'
- f. Ame-ga hur-**u**-yoodde-nai.  
rain-NOM fall-appear-not  
'It does not appear to rain.'
- g. Ame-ga hut-**ta**-yoode-nai.  
rain-NOM fall-PAST-appear-not  
'It did not appear that it rained.'

<sup>1</sup>The table of (12) by Teramura (1980:99) says that *-yooda* does not have its negative form. We, however, use *-yoode-nai* as its negative form.

- h. Ame-ga hur-**u**-yoode-nakat-**ta**.  
rain-NOM fall-NONPAST-appear-not-PAST  
'It did not appear that would it rain.'
- i. Ame-ga hut-**ta**-yoode-nakat-**ta**.  
rain-NOM fall-PAST-appear-not-PAST  
'It did not appear that it rained.'

Judging from the results of (20d, e) and the fact that the hearsay *-sooda* does not have a *-ta* form, the hearsay *-sooda* must be situated higher above the negation and tense projections in the structure.

Thirdly, a genuine modal auxiliary never appears in a subordinate clause, as seen in (21a).

- (21) a.\*Kuru-daroo hito-ga mada ko-nai.  
come-possibly person-NOM yet come-not  
'The person who is likely to come has not yet come.'
- b. Ki-soona hito-ga mada ko-nai.  
come-seem person-NOM yet come-not  
'The person who seems to come has not yet come.'
- c. Ki-sooda-**ta** hito-ga yappari ko-nakat-ta.  
come-seem-PAST person-NOM after.all come-not-PAST  
'The person who seemed to come did not come after all.'
- d.\*Ku-**ru**-soona hito-ga mada ko-nai.  
come-NONPAST-I.hear person-NOM yet come-not.  
Intended meaning: 'The person who, I hear, will come has not yet come.'
- e.\*Ki-**ta**-soona hito-ga miatara-nai.  
come-PAST-I.hear person-NOM find-not.  
Intended meaning: 'I cannot find the person who, I hear, came.'
- f.\*Ku-**ru**-yoona hito-ga mada ko-nai.  
come-NONPAST-appear person-NOM yet come-not.  
Intended meaning: 'The person who appears to come has not yet come.'
- g.\*Ki-**ta**-yoona hito-ga miatara-nai.  
come-PAST-appear person-NOM find-not.  
Intended meaning: 'I cannot find the person who appears to have come.'
- h. Ku-**ru**-yoodat-**ta** hito-ga mada ko-nai.  
come-NONPAST-appear-PAST person-NOM yet come-not.  
Intended meaning: 'The person who appeared to come has not yet come.'
- i.\*Ki-**ta**-yoodat-**ta** hito-ga mituke-rare-nakat-ta.  
come-PAST-appear-PAST person-NOM find-can-not-PAST.  
Intended meaning: 'I could not find the person who appeared to come.'

As seen in the results of (21b, c, h, i), the conjunctual *-sooda*, both non-past and past forms, and the only past forms of *-yooda* can appear in the subordinate clauses. It shows the possibility that they are generated in a proposition: namely, under the tense phrase of a main clause.

Finally, let us see the behaviors of *-sooda* and *-yooda* in a sentence of *A-ka B-ka-da*, ‘It is A or B,’ where neither A nor B has any modal elements.<sup>2</sup>

- (22) a. \*Ame-ga hu-**ru**-daroo-ka yuki-ga hu-**ru**-daroo-ka-da.  
rain-NOM fall-NONPAST-possibly-or snow-NOM fall-NONPAST-possibly-or-COPULA  
Intended meaning: ‘It is possibly rain or it is possibly snow.’
- b. \*Ame-ga hu-ri-sooda-ka yuki-ga hu-ri-sooda-ka-da.  
rain-NOM fall-seem-or snow-NOM fall-seem-or-COPULA  
Intended meaning: ‘It seems to rain or it seems to snow.’
- c. Ame-ga hu-ri-soodat-**ta**-ka yuki-ga hu-ri-soodat-**ta**-ka-da.  
rain-NOM fall-seem-PAST-or snow-NOM fall-seem-PAST-or-COPULA  
‘It seemed to rain or it seemed to snow.’
- d. \*Ame-ga hu-**ru**-sooda-ka yuki-ga hu-**ru**-sooda-ka-da.  
rain-NOM fall-NONPAST-seem-or snow-NOM fall-NONPAST-seem-or-COPULA  
Intended meaning: ‘It seems that it rains or it seems that it snows.’
- e. \*Ame-ga hut-**ta**-sooda-ka yuki-ga hut-**ta**-sooda-ka-da.  
rain-NOM fall-PAST-seem-or snow-NOM fall-PAST-seem-or-COPULA  
Intended meaning: ‘It seems that it rained or it seems that it snowed.’
- f. \*Ame-ga hu-**ru**-yooda-ka yuki-ga hu-**ru**-yooda-ka-da.  
rain-NOM fall-NONPAST-appear-or snow-NOM fall-NONPAST-appear-or-COPULA  
Intended meaning: ‘It appears that it rains or it appears that it snows.’
- g. \*Ame-ga hut-**ta**-yooda-ka yuki-ga hut-**ta**-yooda-ka-da.  
rain-NOM fall-PAST-appear-or snow-NOM fall-PAST-appear-or-COPULA  
Intended meaning: ‘It appears that rained or it appears that it snowed.’
- h. Ame-ga hu-**ru**-yoodat-**ta**-ka yuki-ga hu-**ru**-yoodat-**ta**-ka-da.  
rain-NOM fall-NONPAST-appearPAST-or snow-NOM fall-NONPAST-appear-PAST-or-COPULA  
‘It appeared that it would rain or it appeared that it would snow.’
- i. Ame-ga hut-**ta**-yoodat-**ta**-ka yuki-ga hut-**ta**-yoodat-**ta**-ka-da.  
rain-NOM fall-PAST-appear-PAST-or snow-NOM fall-PAST-appear-PAST-or-COPULA  
‘It appeared that it rained or it appeared that it snowed.’

In the examples of (22c, h, i), we observed that once *-sooda* and *-yooda* attach *-ta* at their ends, they can appear in the *A-ka B-ka-da* structure, which shows that their *-ta* forms must be generated in the region of proposition.

<sup>2</sup>This test is based on p.c., Hideki Kishimoto on November 24, 2018.

## 4.2 Summary

The following table of (23) is the summary of the results of syntactic tests shown in the previous section.

(23)

	<i>-ta</i> form	Neg	In a subordinate clause	<i>A-ka B-ka-da</i>
ru/ta-daroo	*-daroo-ta	*	*	*
V-sooda	V-soodat-ta	√	√	√
V-ru-sooda	*V-ru-soodat-ta	*	*	*
V-ta-sooda	*V-ta-soodat-ta	*	*	*
V-ru-yooda	V-ru-yoodat-ta	√	*	*
V-ta-yooda	V-ta-yoodat-ta	√	*-ta-yooda/√-ta-yoodat-ta	*-ta-yooda/√-ta-yoodat-ta

## 4.3 LF Hierarchy of English Modals by Butler (2003)

According to the semantic and syntactic properties we have observed in the previous sections, we noted a possibility that the *-ta* forms of *-sooda* and *-yooda* are past tensed forms. Then there remains a question why *-soodat-ta* or *-yoodat-ta* behaves like a modal auxiliary. To seek the solution, we would like to refer to Butler's analysis of English *must*. The English modal auxiliary verb *must* receives two distinct readings, EPISTEMIC and ROOT.

- (24) a. Arthur must be in bed. = 'It is a necessary assumption that Arthur is in bed.' (EPISTEMIC reading)
- b. Susan must tidy away the toys. = 'Susan is required to tidy away the toys.' (ROOT reading)
- (Butler 2003: 967)

In (24a, b), the same modal *must* is used, and it occurs in the same surface position. However, the modals are interpreted in two ways. Butler provides two scope positions for *must*: one associated with the vP phase for the root reading, and the one with the CP phase for the epistemic reading, based on LF hierarchy proposed by Butler in (25).

- (25) epistemic necessity > (negation) > epistemic possibility > (strong) subject > root necessity > negation > root possibility > vP
- (Butler 2003: 986)

The hierarchy is exemplified with some of the relevant facts, and the modality and negation in (26) is one of them. Epistemically interpreted *must* takes scope over subject, as seen in (26a), while root interpreted *must* takes scope over negation, as seen in (26b).

- (26) a. The register mustn't/mightn't have got my letter  
Scope: epistemic modality > subject > negation
- b. The children mustn't do that in here  
Scope: subject > root necessity > negation
- (Butler 2003: 984, the example of *The children can't do that in here* is omitted.)

Finally, we will try to apply the negation scoping between two types of *must* to *-sooda*, *-yooda*, *-yoodat-ta*, to see if they can have the scope over subject and negation. Here, we omitted *denbun-no sooda*, 'hearsay *-sooda*,' since it does not have any negative form.

When we have the reading of partial negation, the scope position for the modal auxiliary must be above TP: i.e., modality > negation > subject, while when we have the reading of whole negation, the scope position for the modal must be above vP: i.e., subject > modality > negation

- (27) a. Minna-ga utiage-ni ki-soo-{ni/mo/nimo}-nai.  
 everyone-NOM party-to come-seem-not  
 ‘Everyone does not seem to come to the party.’
- b. Minna-ga utiage-ni ki-soo-{ni/mo/nimo}-nakat-ta.  
 everyone-NOM party-to come-seem-PAST-not  
 ‘Everyone did not seem to come to the party.’
- c. Minna-ga utiage-ni ku-ru-yoode-(wa)-nai.  
 everyone-NOM party-to come-NONPAST-appear-not  
 ‘Everyone does not appear to come to the party.’
- d. Minna-ga utiage-ni ki-ta-yoode-(wa)-nai.  
 everyone-NOM party-to come-PAST-appear-not  
 ‘Everyone does not appear to have come to the party.’
- e. Minna-ga utiage-ni ku-ru-yoode-(wa)-nakat-ta.  
 everyone-NOM party-to come-NONPAST-appear-not-PAST  
 ‘Everyone did not appear to come to the party.’
- f. Minna-ga utiage-ni ki-ta-yoode-(wa)-nakat-ta.  
 everyone-NOM party-to come-PAST-appear-not-PAST  
 ‘Everyone did not appear to have come to the party.’

In (27a, b), the scope relation is subject > modality > negation. Thus, the conjunctural *-sooda* must embed vP. On the other hand, the scope relation of (27c, d, e, f) is modality > negation > subject.

It leads to an assumption that *yooda* must be situated under TP position, embedding another TP as its complement, before SPELL-OUT, since it attaches the past tense *-ta* as *-yoodat-ta*, and it raises into CP region at LF.

## 5. Conclusion

This paper has proposed the following possibilities.

- the continuative *V-sooda* or *-soodat-ta* appears under TP and its complement is vP. They express objective conjunctures.
- the conclusive *V-ru/ta-sooda* (*\*-soodat-ta*) appears within the CP region. They express subjective hearsay.
- the conclusive *V-yooda* or *-yoodat-ta* appears under TP<sub>1</sub> and its complement is TP<sub>2</sub>. These conclusive *V-yooda* or *-yoodat-ta* move into the CP region at LF.

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(Received: January 10, 2019)