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## Experiencing in Japanese: The Experiencer Restriction across Clausal Types

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**EXPERIENCING IN JAPANESE:  
THE EXPERIENCER RESTRICTION ACROSS CLAUSAL TYPES**

A Dissertation Presented

by

MASASHI HASHIMOTO

Submitted to the Graduate School of the  
University of Massachusetts Amherst in partial fulfillment  
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 2015

Linguistics

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THE EXPERIENCER RESTRICTION ACROSS CLAUSAL TYPES**

A Dissertation Presented  
by  
MASASHI HASHIMOTO

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## DEDICATION

To my parents, Hikaru and Keiko,  
and my sisters, Shizuka and Kaori

## ACKNOWLEDGMENTS

I cannot thank enough my advisor, Seth Cable, for his guidance and encouragement throughout the years of my working on the dissertation. He kindly spent a vast amount of time for our discussions and reading my manuscripts, and gave me helpful advice and needed support. It is no exaggeration to say that without his assistance I could never write this dissertation.

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Finally, I thank my parents and sisters for their support for years. This work is dedicated to them.

ABSTRACT

EXPERIENCING IN JAPANESE:  
THE EXPERIENCER RESTRICTION ACROSS CLAUSAL TYPES

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Adjectives of sensation and emotion (Experiencer adjectives) in Japanese can take only the speaker as their experiencer subject in declarative root sentences and the addressee in interrogative root sentences in conversation. This constraint, which I call the Experiencer restriction, is lifted in other various clauses, however. This dissertation examines the Experiencer restriction across clausal types under scrutiny, and presents two analyses of the phenomenon, following the claim by Krifka (2001, 2004), Speas and Tenny (2003) and others that speech acts are syntactically realized.

First, I introduce the phenomenon and give a brief review of its analyses which were made before the proposal of the speech act projection (Chapter 1). Then I explain the Japanese complementizer system and provide basic data on the Experiencer restriction across clausal types (Chapter 2). A conceptual-structural analysis of Experiencers by Jackendoff (1990) and syntactic analyses of Experiencers by Landau (2010) and others suggest that Experiencers are mental locations. Based on that, I propose a situation semantic analysis of Experiencers as mental

locations in Chapter 3. In Chapter 4, I apply the situation-based analysis to the Experiencer restriction in non-restrictive relative clauses after arguing that Schlenker's (2010, 2013a,b) uni-dimensional analysis explains properties of Japanese non-restrictive relative clauses. In Chapter 5, I turn to another possible analysis, according to which Experiencer NPs agree with an epistemic modal head via a sentient feature [sen] and an index feature [n]. It can be seen as a revision of Tenny's (2006) feature checking analysis, which claims that a [+sentient] feature and a [+discourse participant] feature are checked. I argue that the principle of parsimony favors the situation-based analysis over the feature-checking one. In Chapter 6, I compare recent formal analyses of the Experiencer restriction with my analyses.

This dissertation improves our understanding of situation semantics in connection to mind-body dualism. Also, it shows that study of Experiencers in Japanese gives us an insight into the syntax/semantics/pragmatics interface. It tells us not only properties of Experiencers but also properties of speech acts and the speech act projection.



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## LIST OF ABBREVIATIONS

A or Adj	adjective
ACC	adversative conjunctive clause
Acc	accusative case
Adv	adverb
AP	adjective phrase
Asp	aspect
Ben	benefactive
C or Comp	complementizer
CP	complementizer phrase
Conn	connective
Cop	copula
Dat	dative case
ECM	Exceptional Case Marking
Evid	evidential(ity)
EvidP	evidential projection
Evid/SenP	evidential/sentence phrase
Fin	finite
FinP	finite phrase
Mod	modal
ModP	modal phrase
N	noun
Neg	negation
Nom	nominative case

NP	noun phrase
NRRC	non-restrictive relative clause
P	preposition/postposition
Past	past tense
Perf	perfect
Polite	politeness
PP	prepositional/postpositional phrase
Pred	predicative (predication)
PredP	predicative (predication) phrase
Pres	present (non-past) tense
Q	question
Rep	report
RepP	report phrase
RRC	restrictive relative clause
sa, SA	speech act
saP, SAP	speech act phrase
sen, Sen	sentience
SenP	sentience phrase
SFP	sentence-final discourse particle
T	tense
Top	topic
TopicP	topic phrase
TP	tense phrase
V	verb
VP	verb phrase



# CHAPTER 1

## INTRODUCTION

### 1.1 The Experiencer restriction

In Japanese, attribution of a property represented by adjectives of general attribute description<sup>1</sup> such as *omo-* ‘heavy’ and *ao-* ‘blue’ is usually expressed in form (1), as in (2).<sup>2,3</sup>

- (1) a. NP-{wa/ga} Adj-i.  
NP-{Top/Nom} Adj-Pred.be.Pres  
‘NP is Adj’
- b. NP-{wa/ga} Adj-k-at-ta.  
NP-{Top/Nom} Adj-Pred-be-Past  
‘NP was Adj’
- (2) a. sono taburetto-wa omo-i.  
that tablet-Top heavy-Pred.be.Pres  
‘The tablet is heavy.’
- b. tikyuu-wa ao-k-at-ta.  
earth-Top blue-Pred-be-Past  
‘The earth was blue.’

---

<sup>1</sup> This term is due to Sode’s (2002) classification of Japanese adjectives, according to which adjectives in Japanese are divided into *adjectives of general attribute description* and *adjectives of feeling*. I call the latter *Experiencer adjectives* in this dissertation.

<sup>2</sup> I use *Kunrei* romanization as the system of romanization for Japanese in this dissertation, except in examples quoted from the previous literature.

<sup>3</sup> In this dissertation, I follow Nishiyama’s (1999) analysis of the syntactic structure of Japanese adjectives, which adopts Bowers’ (1993) proposal of the Predication projection.

With almost all adjectives which represent emotions and sensations (which I call *Experiencer adjectives*), like *uresi-* ‘glad’ and *samu-* ‘cold’, however, form (1) can be used only if a property is attributed to the speaker.<sup>4</sup>

- (3) a. *watasi-wa uresi-i.*  
 I-Top glad-Pred.be.Pres  
 ‘I am happy.’
- b. *\*kare-wa uresi-i.*<sup>5</sup>  
 he-Top glad-Pred.be.Pres  
 (Intended:) ‘He is happy.’

(from Kunihiro 1965: 82<sup>6</sup>)

Let us call this restriction *the Experiencer restriction*.<sup>7</sup> Many researchers have mentioned the restriction, and some (Kunihiro 1965, Teramura 1971, Kamio 1995, Azuma 1997b, Tenny 2006,

---

<sup>4</sup> There are two exceptions (Nishio 1972:30, 199ff): *suki-* (‘like<sub>Adj</sub>’) and *kirai-* (‘dislike<sub>Adj</sub>’) can take a third-person subject, as in (i). In the following, these two adjectives are not considered.

(i) *kare-wa sore-ga {suki/kirai}-da.*  
 he-Top it-Nom {like/dislike}-be.Pres  
 ‘He {likes/dislikes} it.’

<sup>5</sup> This judgment is correct in most situations. However, as Kuroda (1965) and others note, the sentence becomes acceptable in some special cases. This point will be discussed in detail below.

<sup>6</sup> The original is in Japanese. I added English glosses.

<sup>7</sup> In this dissertation, I consider the restriction of the Experiencer argument of adjectives only. It should be noted that the restriction of the Experiencer argument is usually observed with other predicates also, as Teramura (1971:281) suggests. (i) is an example of a verb *omo-* ‘think’ (Nakau 1979 seems to be the first that analyzed the restriction in this case), and (ii.a,b) are examples of idiomatic phrases.

(i) {*watasi/\*kare*}-*wa* [*sono riron-ga tadasi-i-to*] *omo-u.*  
 {I/\*he}-Top [that theory-Nom correct-Pred.be.Pres-C] think-Pres  
 ‘{I think/\*He thinks} that the theory is correct.’

(ii) a. {*watasi/\*kare*}-*wa hara-ga tat-ta yo.*  
 {I/\*he}-Top stomach-Nom put.up-Past SFP  
 ‘{I/\*He} got angry.’

b. {*watasi/\*kare*}-*wa ki-ga meit-ta yo.*  
 {I/\*he}-Top energy-Nom lose-Past SFP ‘{I/\*He} felt depressed.’

Fujii 2006, 2007 and others) have analyzed it. In this dissertation, I analyze this phenomenon in more detail. Importantly, as discussed below, the restriction does not always hold, so a good analysis should account for appearance and disappearance of the restriction in various environments. Two guiding elements of my analysis are compositional possible-worlds semantics and recent researches on the fine-structure of the left periphery which are pursued by Rizzi (1997), Speas and Tenny (2003) and others and extended to Japanese by Tenny (2006) and Saito and Haraguchi (2012) among others.

In the following, I give a brief review of previous research to give the reader the feeling of the problem (section 1.2), and then explain the outline of this dissertation (section 1.3).

## **1.2 Previous research on the Experiencer restriction**

To grasp the problem a bit better, let us look at analyses which were made before the rise of the research of the fine-structure of the left (right) periphery of Japanese. (I discuss more recent analyses by Tenny 2006 and Fujii 2006, 2007 and a formal analysis by Kamio (1995, 1997a,b) in Chapter 6.)

The Experiencer restriction was first noted by Kunihiro (1965) and Kuroda (1965) independently, and then discussed by Koyama (1966), Minami (1967), Teramura (1971, 1973), Nishio (1972), Kuroda (1973), Kuno (1973), Akatsuka McCawley (1978), Akmajian and Kitagawa (1981), Aoki (1986), Martin (1988), Kamio (1995, 1997, 2002), Nitta (1991), Azuma (1993, 1997a,b), Masuoka (1997), Tenny (2006), Fujii (2006, 2007) and others. Here, I take up Kunihiro (1965), Teramura (1971, 1973), Nitta (1991), and Azuma (1997b) because they discuss the Experiencer restriction in more detail than others (except those whose analyses are treated in Chapter 6).

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However, there seems to be more complexities with non-adjectives. Different from adjectives, non-adjectives do not show the Experiencer restriction uniformly (for a relevant data, see Kinsui 1989).

### 1.2.1 A sememic feature compensation analysis by Kunihiro (1965)

The first analysis of the Experiencer restriction is due to Kunihiro (1965). He claims that Japanese Experiencer adjectives have a sememic feature of [first-person state], which makes a non-first-person Experiencer argument unacceptable unless there is another expression which compensates meaning mismatch of the sememic feature [first-person state] of an Experiencer adjective and a non-first-person Experiencer argument.

For example, an Experiencer adjective, *uresi-* ‘glad’, allows a first-person Experiencer but not a third-person Experiencer, as shown in (3). According to Kunihiro, *uresi-*’s sememic feature [first-person state] requires the Experiencer be a first-person, so (3b) is unacceptable. However, if an expression *no-da* (“it is that”) is added to such a sentence, a non-first-person Experiencer become acceptable, as in (4).

(4) a. \**kare-wa sabisi-i.*

he-Top lonely-is

(Intended:) ‘He is lonely.’

b. *kare-wa sabisi-i no-da.*

(Kunihiro 1965: 84 n.16<sup>8</sup>)

he-Top lonely-is it.is.that

‘It is that he is lonely.’

In the case of (4), *no-da*, which represents “affirmation by the first-person”, compensates the violation of the first-person requirement. Definitely it is important to clarify which elements compensate the violation and which not, but Kunihiro does not say anything specific.

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<sup>8</sup> I added English glosses.

What is problematic about this analysis is that there are cases where the Experiencer restriction is lifted without an element which seems to compensate violation of the first-person requirement. One example is relative clauses. As discussed in detail later, the Experiencer restriction is active in non-restrictive restrictive relative clauses (Masuoka 1997), while it is lifted in restrictive relative clauses (Koyama 1966).

(5) a. **Restrictive relative clause (RRC)**

[<sub>RRC</sub> atu-k-at-ta ] hito-wa umi-ni hait-ta yo.

[<sub>RRC</sub> hot-Pred-be-Past ] people-Top sea-to enter-Past SFP

‘People who were hot entered the sea.’

b. **Non-restrictive relative clause (NRRC)**

[<sub>NRRC</sub> atu-k-at-ta ] {boku/Tarô}-wa umi-ni hait-ta yo.

[<sub>NRRC</sub> hot-Pred-be-Past ] {I/Taro}-Top sea-to enter-Past SFP

‘{I/\*Taro}, who was hot, entered the sea.’

On the one hand, if the Experiencer is an argument of an Experiencer adjective in a restrictive relative clause, it can be third-person, as in (5a). On the other hand, if the Experiencer is an argument of an Experiencer adjective in a non-restrictive relative clause, then it cannot be third-person, as in (5b). This fact is not accounted for by Kunihiro’s analysis. First, there is no ground to claim that relativization involves a sememic feature related to first-person, so it is not clear how compensation of the violation of first-person requirement is achieved with a restrictive relative clause. Second, if restrictive relative clauses can compensate the violation of first-person requirement, it is not clear why non-restrictive relative clauses cannot.

### 1.2.2 A performative analysis by Teramura (1971, 1973)

Teramura (1971, 1973) analyzes the Experiencer restriction, employing Austin's (1962) speech act theory and Ross's (1970) performative analysis. In his analysis, Teramura supposes that simple clauses such as (3), reproduced below, are under an unpronounced higher structure for the mood of expression of feeling, and claims that the mood of expression of feeling restricts the Experiencer to the speaker.

- (3) a. watasi-wa uresi-i.  
I-Top glad-Pred.be.Pres  
'I am happy.'
- b. \*kare-wa uresi-i.  
he-Top glad-Pred.be.Pres  
(Intended:) 'He is happy.'

Furthermore, he notes that sentences like (6) are good and claims that it is so because this type of sentence is in the past tense and not in the mood of expression of feeling.<sup>9</sup> Specifically, he claims that when a sentence is in the past tense, it cannot be in the mood of expression of feeling, and proposes that such a sentence is in the mood of assertion and the mood of assertion does not restrict the Experiencer.

---

<sup>9</sup> As explained in detail later in Chapter 2, Teramura's claim is not exactly correct. The acceptability of sentences with a non-first-person Experiencer is dependent on the situation where the sentence is presented. For example, if (6) is in third-person narrative, it is acceptable as Teramura notes. However, if it is in conversation, it is not acceptable. The reason of why the past tense is apparently relevant to the acceptability is that third-person narrative usually uses the past tense. The relevance of the distinction between conversation and third-person narrative to the Experiencer restriction was first noted in Kuroda (1965).

- (6) kare-wa uresi-k-at-ta.  
he-Top glad-Pred-be-Past  
'He was glad.'

A big problem of this analysis is that there is no reason to expect that sentences like (3b) are always under the mood of expression of feeling. It would be more natural to suppose that when one tells another person's feeling, one's saying is accompanied with the mood of assertion. In other words, it is not clear why only the past tense is related to the mood of assertion.<sup>10</sup> (See Azuma (1997b) for other problems of Teramura's analysis.)

### 1.2.3 An epistemological analysis (Kuno 1973, Nitta 1991)

Nitta's (1991) account of the Experiencer restriction consists of the following two statements. A similar account is given by Kuno (1973) also.

- (7) (i) Experiencer adjectives are "predicates which directly express internal states" (Nitta 1991:86<sup>11</sup>).
- (ii) "Since it is only the speaker that can directly know [his own] internal states, it is only the speaker that can report them." (Nitta 1991:86)

A problem of this analysis is about statement (ii). (ii) presupposes that, at least in Japanese, one cannot report information which is not directly known to him. But it is incorrect: One can report

---

<sup>10</sup> Contrastively to Teramura, Kuroda (1973) and Tenny (2006) analyze sentences like (6), which do not impose the Experiencer restriction, as sentences without an assertive speech act. This point is treated in the following chapters.

<sup>11</sup> Quotations from Nitta (1991) are translations from Japanese by myself.

(without help of evidential markers) information which he knows indirectly even in Japanese (this point is highlighted especially in Kamio's (1990, 2002) work). Example (233) illustrates it.

(8) (Scenario: The speaker saw that there were puddles here and there in the ground.)

ame-ga hut-ta yo.

rain-Nom fall-Past SFP

'It rained.'

Therefore, this type of epistemological analysis does not work.

#### 1.2.4 A 'loose Spec-head agreement' analysis by Azuma (1997b)

To account for the observation that the Experiencer restriction is inactive or weak in some cases, Azuma (1997b) proposes that assertive sentences<sup>12</sup> show the Experiencer restriction as a result of 'loose Spec-head agreement' at a projection called MP, which is a projection headed by modal elements like *darô* ('probably, seem').<sup>13,14</sup> According Azuma (1997b:45), the Spec-head agreement is of a different type from the strict one for gender, number, and person agreement in French and other languages, in that requirement of agreement is loose. She suggests that it is easy

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<sup>12</sup> Here, the phrase 'assertive sentences' is my translation of the Japanese term, *nobetate bun* (*bun* means sentence(s)), used in Azuma's study (the term is used also in Nitta 1991). The notion of *nobetate* seems to overlap the notion of assertion in the speech act theory largely, as suggested by Azuma's statements such that the *nobetate bun* describes states [eventualities] (Azuma 1997: 21) and that the *nobetate bun* transfers information from the speaker to the hearer (Azuma 1997: 23). It should be noted, however, that she also claims that sentences in third-person narrative is in the mood of *nobetate* (Azuma 1997: 97). It is in line with Teramura's (1971, 1973) proposal, but it is in contrast to Kuroda's (1973) and Tenny's (2006) proposal that sentences in the nonreportive style are not accompanied with speech acts (this point is treated in detail in the following chapters).

<sup>13</sup> The projection for *darô* is called ModP in my analysis in the following chapters, following Koizumi (1993) and others.

<sup>14</sup> Azuma proposes that not assertive sentences but sentences with the mood of expression of feelings follow an ordinary strict Spec-head agreement.



for first-person topics to agree with the MP head for assertion of feeling, while it is difficult for third-person topics to agree with the same MP head (Azuma 1997b:45).

A big problem of this analysis is its lack of a detailed, formal explanation of the proposed agreement mechanism. Because of the lack, we cannot check its validity in detail. However, even without going into the details, it seems that the analysis is problematic: If the agreement which causes the Experiencer restriction is loose in the sense that the requirement of agreement is loose as Azuma states, then it cannot account for the basic fact that in some cases the Experiencer restriction is obligatory, as in the following example which contains a sentence-final particle *yo*.<sup>15</sup>

- (9) {watasi/\*kanozoyo}-wa uresi-k-at-ta yo.  
 {I /\*she}-Top glad-Pred-be-Past SFP  
 ‘{I/\*She} was very glad.’

### 1.3 Organization of this dissertation

This dissertation is organized as follows. In Chapter 2, I first explain background assumptions on the fine-structure of Japanese right periphery, and then present basic data on the Experiencer restriction in various environments. In Chapter 3, I give an analysis of the Experiencer restriction based on possibilistic situation semantics. Using the analysis, I account for

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<sup>15</sup> My judgment is sometimes ‘stricter’ than Azuma’s: some sentences which Azuma judges as ‘??’ are unacceptable for me. The difference in judgment, however, does not affect the core of the argument given above. It is that there are unacceptable sentences even for speakers like Azuma, as shown in the following judgment by her (she uses # instead of \* to indicate that they are pragmatically unnatural (Azuma 1997b:50n.18). I added English glosses).

- (i) {watasi/#anata}-ga haha-ga koi-i. (Azuma 1997b: 44(60b))  
 {I/#you}-Nom mother-Nom miss<sub>Adj</sub>-Pred.be.Pres  
 ‘I miss (my) mother/#You miss (your) mother.’
- (ii) {boku/#kimi/#Ken}-{ga/wa} te-ga ita-i. (Azuma 1997b: 45(65))  
 {I/#you/#Ken}-{Nom/Top} hand-Nom hurt<sub>Adj</sub>-Pred.be.Pres  
 ‘{My/#Your/#Ken’s} hand hurts.’

The point is that it is not clear how the loose Spec-head agreement leads to the strict unacceptability in these examples.

appearance and disappearance of the Experiencer restriction in non-restrictive relative clauses in Chapter 4. In Chapter 5, I give another analysis of the Experiencer restriction, which employs the feature-checking mechanism. Then, in Chapter 6, I consider recent formal analyses of the Experiencer restriction by Kamio (1995, 1997a,b), Tenny (2006), and Fujii (2006, 2007). Chapter 7 concludes this dissertation.

## CHAPTER 2

### EXPERIENCER RESTRICTION: BASICS

In this chapter, I present some basic facts on the Experiencer restrictions in Japanese after presenting background information which is necessary to describe them. First, because the Experiencer restriction in embedded clauses is sensitive to the choice of complementizers, I give an overview of the Japanese complementizer system in the framework of the cartographic approach to the left (right)-periphery (Rizzi 1997, 1999 and others). Next, because the Experiencer restriction in non-embedded clauses is sensitive to the choice of narrative styles (Kuroda 1973), I give an overview of the so-called reportive and nonreportive narrative styles. Based on these backgrounds, I present some basic observations on the Experiencer restrictions in Japanese.

#### 2.1 Complementizers in Japanese

Japanese has three complementizers, *to*, *no*, and *koto*. *To* is sometimes called a quotative<sup>16</sup> and *no* and *koto* are often called nominalizers. *No* and *koto* have rather similar properties (see Suzuki 2005 and Hiraiwa 2010 for example), and the syntactic status of *no* is clearer than that of *koto*<sup>17</sup>, so I mainly consider *to* and *no* here.

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<sup>16</sup> I use the term quotative in a broad sense, to mean an element which introduces a direct discourse or an indirect discourse.

<sup>17</sup> Inoue (1976), Uchibori (1996, 2000), Watanabe (1996) and others suppose that *koto* is a complementizer. Syntactically, *koto* ( $\approx$  'fact', 'thing') is a formal noun which lacks a substantial meaning (Kuno 1973), and *koto*-clauses overtly have the form of complex NPs. For a semantic analysis of *koto*, see Hara, Kim, Sakai and Tamura (2013).

### 2.1.1 Quotative *to*

Quotative *to* originated from a demonstrative for ‘that’ (Yamanaka 1976, Nihon Daijiten Kankōkai 1976), as the English complementizer *that* did. Different from its English counterpart, however, quotative *to* can introduce direct discourse as well as indirect discourse. As shown in (10), *to*-clauses embedded under verbs of saying are ambiguous: in (10a) *boku-no uti* ‘my home’ refers to the home of Taro, the local speaker, while in (10b) the same expression refers to the home of the speaker of the whole sentence.

- (10) a. Tarô-ga “Hanako-wa boku-no uti-ni i-ru”-to it-ta.  
Taro-Nom Hanako-Top I-Gen home-at be-Pres-TO say-Past  
‘Taro said, “Hanako was in my home.”’
- b. Tarô-ga [Hanako-wa boku-no uti-ni i-ru-to] it-ta.  
Taro-Nom Hanako-Top I-Gen home-at be-Pres-TO say-Past  
‘Taro said that Hanako was in my home.’

(Based on Saito 2010:85(1a,b))

Also, it is notable that *to* can introduce interjections and sentence fragments (Oshima 2006):<sup>18,19</sup>

- (11) Tarô-wa “tut”-to it-ta.  
Taro-Top tut-TO say-Past  
‘Taro said, “tut.”’

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<sup>18</sup> This is not special to Japanese *to*. As Rajesh Bhatt (p.c.) pointed out to me, Malayalam quotative complementizer *ennə* combines with interjections and with indirect discourse (Jayaseelan 2008, 2014).

<sup>19</sup> Oshima states that sentence fragments are hallmarks of direct discourse as well as interjections, and use them to support the claim that *to* can introduce direct discourse. However, sentence fragments do not always indicate presence of direct discourse, as exemplified in the following example (Seth Cable, p.c.):

(i) We asked Dave who he loves, and he said *his mother*.

Because interjections are hallmarks of direct discourse, the grammaticality of (11) indicates that *to* can be a quoter of direct discourse.

In line with Saito and Haraguchi (2012), I assume that the ambiguity is due to the ambiguity of *to*. There are two *to*'s: one introduces direct discourse ( $to_{DD}$ ) and the other indirect discourse ( $to_{ID}$ ).<sup>20,21</sup> When we consider the Experiencer restrictions in embedded clauses,  $to_{DD}$  is irrelevant, so it is important to use examples in which it is clear that  $to_{DD}$  is not used. One device which distinguishes  $to_{ID}$  and  $to_{DD}$  is (interpretations of) pronominal elements, as exemplified in (10). Another device is long-distance phenomena across the clausal boundary of *to*-clauses. For example, *wh*-expressions are often used for this purpose (e.g., Kuno 1988). The Japanese *wh*-expressions (indeterminates) like *dare* 'who' need to be bound by an operator like the interrogative marker *ka*, as shown in (12). If such a *wh*-expression and *ka* are separated by the clausal boundary of a *to*-clause as in (13), the *to* must be  $to_{ID}$ .

- (12) a. Hanako-wa [dare-ga ki-ta-ka-to] it-ta.  
 Hanako-Top [who-Nom come-Past-Q-TO] say-Past  
 'Hanako said who came.'  
 'Hanako said, "Who came?"'
- b. \*Hanako-wa [dare-ga ki-ta-to] it-ta. (with lowering intonation<sup>22</sup>)  
 Hanako-Top [who-Nom come-Past-TO] say-Past  
 (Intended:) 'Hanako said who came.'

<sup>20</sup> For different views, see Maier (2009) and Sudo (2012).

<sup>21</sup> Saito and Haraguchi do not use the subscripts 'DD' and 'ID'. In the most part of this dissertation, I drop the subscript because it is clear from the context.

<sup>22</sup> With raising intonation, a null interrogative marker is available in the matrix clause and so the sentence becomes grammatical with the interpretation, 'Who did Hanako say came?'



complementizer *che* ('that') and the Italian interrogative complementizer *se* ('if') and revises the above structure slightly:

(15) **Rizzi (1999)**

[ Force [ (Top\*) [ Int(errogative) [ (Top\*) [ Foc [ (Top\*) [ Fin [ IP ]]]]]]]]]

Here, Int(errogative) is the position which *se* occupies. It should be noted that it does not mean that interrogative and declarative forces are expressed by different heads, Int and Force, respectively. Rizzi supposes that when *se* occupies Int, there is a phonetically null Force head, which represents the force, based on selectional reasons and distribution of Spanish complementizers, *que* ('that') and *si* ('if'). The Spanish complementizer *que* can embed a clause headed by the interrogative complementizer *si* (Plann 1982, Lahiri 1991), and Rizzi claims that *que* occupies Force, while *si* occupies Int.

What is important in the analysis of Japanese *to* is that it also can embed a clause headed by the interrogative marker *ka*, as in (16).

(16) Hanako-wa [ [ boku-no heya-ga 4-kai-ni ar-u-ka]-to] kii-ta.  
 Hanako-Top [ [ I(male)-Gen room-Nom 4-floor-on be-Pres-KA]-TO] ask-Past  
 'Hanako asked if my room was on the fourth floor.'

It should be noted here that the first-person pronoun *boku* is used only by male speakers, but Hanako is a female name. Hence, the fact that this sentence is acceptable indicates that the first-person pronoun refers not to Hanako (the local speaker) but to a male speaker, who must be the speaker of the whole sentence. It confirms that *to* in this example introduces indirect discourse, not direct discourse.

Example (16) shows that *to* which introduces indirect discourse occupies a position higher than *ka*, the complementizer for questions. Saito (2010, 2011) and Saito and Haraguchi (2012) propose that *to* which introduces indirect discourse is a complementizer for paraphrases of direct discourse, following Plann’s (1982) analysis of the Spanish complementizer *que*. They base their analysis on Rizzi’s (1997), and assume that the Japanese interrogative complementizer *ka* occupies Force. As a consequence of the assumption, they propose that there is a head higher than Force in the CP-layer<sup>24</sup>, and call it Report. Schematically, they propose the following structure.

(17) **Saito (2011), Saito and Haraguchi (2012)**

[[[[[ TP ] Fin ] ... ] Force ] Report ]  
(*ka*)    (*to*)

On the other hand, if we base on Rizzi’s (1999) analysis, the Japanese complementizer system would be as follows.

(18) **Structure in line with Rizzi (1999)**

[[[[[ TP ] Fin ] ... ] Int ] Force ]  
(*ka*)    (*to*)

Which analysis is better suited for the Japanese right-periphery, (17) or (18)? It should be noted that the above-mentioned authors do not make their grounds very firm. In Rizzi (1999), the reason that Int is supposed under Force is that the Italian complementizer *che* (‘that’) is assumed to be Force. But the assumption that *che* occupies Force is introduced without supportive

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<sup>24</sup> It is, however, not obvious that the projection for *to* is in the CP-layer. Maybe the projection for *to* is outside of CP (see Jayaseelan 2014 for such a claim for Malayalam complementizer *ennə*).



arguments. In Saito and Haraguchi (2012), the reason that Report is placed above Force is that *to* appears to the right of the Japanese interrogative complementizer *ka*, which is assumed to be Force. The assumption that *ka* occupies Force is based on the following consideration: “*Ka* is the complementizer for questions, and hence, is plausibly a Force head” (Saito and Haraguchi 2012:109). In this dissertation, I follow Saito and Haraguchi and suppose that *to* and *ka* occupy Report and Force, respectively. A reason for choosing their analysis over Rizzi’s (1999) is that the semantic function of Int is not clear in Rizzi’s analysis, where Int does not represent the interrogative force. Another reason is that the matrix clause is expected to have Force but *to* cannot appear in the matrix clause. If *to* is not Force but Report, then the fact that *to* cannot appear in the matrix clause does not conflict with the supposition that the matrix clause contains a ForceP.

Now, let us add Speech Act Projection (SAP) to structure (17). SAP is the projection for specification of illocutionary forces. It is based on the claim by Krifka (2001, 2004), Speas and Tenny (2003) and others that illocutionary forces can be syntactically represented and so embeddable (Krifka does not assume a specific syntactic projection for speech acts, while Speas and Tenny argue for such a projection).<sup>25</sup> Note that, although Speas and Tenny suppose that Rizzi’s Force specifies illocutionary forces, Rizzi himself does not mention illocutionary forces in his (1997, 1999) papers on ForceP. In Rizzi’s papers, ForceP is a projection for specification of *clausal types* such as declarative, interrogative, and relative clauses, as quoted in (19):

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<sup>25</sup> The idea that the illocutionary force is syntactically realized can be traced back to Ross’s (1970) so-called ‘performative analysis’. The main difference between the performative analysis and the recent proposals is that the former supposes that illocutionary forces are realized as an ordinary (though unpronounced) higher clause such as ‘I say to you that’, and so they should wrongly contribute to the truth-conditional meaning, while the latter suppose that illocutionary forces are realized as a functional projection, so they do not need to contribute to the truth-conditional meaning (see Krifka 2001).

- (19) “Complementizers express the fact that a sentence is a question, a declarative, an exclamative, a relative, a comparative, an adverbial of a certain kind, etc., and can be selected as such by a higher selector. This information is sometimes called the clausal Type (Cheng 1991), or the specification of Force (Chomsky 1995). Here we will adopt the latter terminology.” (Rizzi 1997:283)

Based on this characterization of ForceP, I suppose that ForceP represents a sentence radical, and it is not the projection for specification of illocutionary forces.<sup>26</sup> The projection which is related to illocutionary forces is SAP.<sup>27</sup> It is the place where speech act operators such as ASSERT appear. Since ForceP does not contain an illocutionary operator, SA must be located above Force.

The previous studies slightly differ on the precise position of SAP. Speas and Tenny (2003) propose that SAP selects Evaluative Phrase (Sentence Phrase). Tenny (2006) follows the proposal, and furthermore claims that SAP can be headed by a sentence-final particle *yo*. Saito and Haraguchi (2012) suppose that sentence-final particles head SAP and claim that SAP which

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<sup>26</sup> This position is maintained by Jayaseelan (2008:46f): “However it is perhaps a mistake to identify Rizzi’s notion of Force with the illocutionary force of speech act theory. In Jayaseelan (2001b) I argued that the “question meaning” of a direct question—namely a request for information—is actually a matter of pragmatics. The syntax itself only presents a disjunction, a partition of a domain of discourse [...] Disjunction (then) is the force of a question clause; which was indeed our rationale for deciding to generate the disjunction operator as the head of ForceP. This ForceP must be present in an embedded clause no less than in a matrix clause.”

<sup>27</sup> The speech act projection appears also in Cinque (1999), Speas (2004), Speas and Tenny (2003), Tenny (2006) and others. On the one hand, Cinque claims that his speech act mood projection is not the Force projection, and that his speech act projection is lower than Force. If so, his speech act projection is not Force nor SAP in this dissertation. On the other hand, Speas and Tenny (2003:317) (Tenny 2006 follows this analysis) write as follows: “We follow Rizzi (1997), Ambar (1999, 2002) and Cinque (1999) in claiming that syntactic structures include a projection whose head encodes illocutionary force. This head is overt in languages that have sentence particles, clitics or morphemes indicating whether the sentence is a statement, question, etc. We’ll adopt Cinque’s terminology, calling this projection *Speech Act Phrase*, projected from a *Speech Act Mood* head.” It seems to indicate that their SAP is a fusion of ForceP and SAP in this dissertation.

is headed by a sentence-final particle *wa*<sup>28</sup> selects TP while SAP which is headed by *yo/ne/na* has no selectional requirement.

Abstracting away subtle differences among the proposals, I assume the following structure in this dissertation.

- (20)      [ [ [ [ [ TP ] Fin ] ... ] Force ]      (SA)                      ] (Report) ]
- (ka)    (*wa, yo, ne, sa, ...*)      (*to*)
- (ASSERT)
- (INTERROG)

Following Tenny (2006), I assume that sentence-final particle *yo* occupies the SA head. For concreteness, I suppose that other sentence-final particles such as *wa* and *ne* are also SA heads, as Saito and Haraguchi (2012) do. Because these particles can appear simultaneously and they all modify speech acts, SAP would be split into several projections in a finer analysis. Elements in parentheses in (20) can be missing. As for Report, matrix clauses do not have it, and embedded clauses do not need to have it, as exemplified by the following examples:

- (21)      **Matrix clause**
- Tarô-no   imôto-ga   ki-ta-(\*to)
- Taro-Gen sister-Nom come-Past-(\*Rep)
- ‘Taro’s sister came.’

- (22)      **Embedded clauses**

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<sup>28</sup> It is different from the topic-marker *wa*.

a. Tarô<sub>i</sub>-wa [ReportP [kare<sub>i</sub>-no imôto-ga ki-ta]-to] it-ta.  
 Tarô<sub>i</sub>-Top [ReportP [he<sub>i</sub>-Gen sister-Nom come-Past]-Rep] say-Past  
 ‘Taro<sub>i</sub> said that his<sub>i</sub> sister came.’

b. Tarô<sub>i</sub>-wa [kare<sub>i</sub>-no imôto-ga ki-ta-ka] it-ta.  
 Tarô<sub>i</sub>-Top [he<sub>i</sub>-Gen sister-Nom come-Past-Q] say-Past  
 ‘Taro<sub>i</sub> said if his<sub>i</sub> sister came.’

(23) Tarô<sub>i</sub>-wa [ReportP [kare<sub>i</sub>-no imôto-ga ki-ta-ka]-(to)] kii-ta.  
 Tarô<sub>i</sub>-Top [ReportP [he<sub>i</sub>-Gen sister-Nom come-Past-Q]-(Rep)] ask-Past  
 ‘Taro<sub>i</sub> asked whether his<sub>i</sub> sister came.’

(21) shows that *to* cannot be added to a matrix clause, and (22a,b) and (23) show that a verb *iw-* ‘say’ and a verb *kik-* ‘ask’ can combine not only with a *to*-complement clause but also with a *ka*-complement clause, which is smaller than ReportP.

With regard to SA, it is present in some clauses but missing in other clauses, as discussed in section 2.2.<sup>29</sup>

### 2.1.1.2 Verbs which take *to*-complement clauses

*To*-complement clauses typically appear with verbs of communication, but some other propositional attitude verbs also can combine with them. Saito (2010) gives a partial list of verbs that select for *to*-complement clauses. The following is a slightly augmented version of the list.

(24) **Verbs which take *to*-complement clauses**

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<sup>29</sup> It is in accordance with Krifka’s claim that *some* embedded clauses have illocutionary forces.

*Omo-u* ‘think’, *kangae-ru* ‘consider’, *sinzi-ru* ‘believe’, *sir-u* ‘know’, *i-u*<sup>30</sup> ‘say’,  
*sakeb-u* ‘scream’, *syutyoo-su-ru* ‘claim, insist’, *tazune-ru* ‘inquire, ask’, *kik-u* ‘ask’,  
*kitaisu-ru* ‘expect’, *kanzi-ru* ‘feel’

(based on Saito 2010: 92 (21a), augmented by myself)

### 2.1.2 Nominalizers *no* and *koto*

Different from complementizer *to*, complementizer *no* and *koto* form phrases which are case-marked, similarly to nominals. For example, as a pronoun *sore* ‘it’ in object position is accompanied with the accusative case marker *-o* in (25a), a *no/koto*-clause in (25b) is marked with *-o*. Therefore, these two elements are often called nominalizers.

(25) a. Tarô-wa sore-o sit-tei-ta.

Taro-Top that-Acc know-Perf-Past

‘Taro knew it.’

b. Tarô-wa [[<sub>TP</sub> Hanako-ga boku-no uti-ni i-ru]-{no/koto}]-o

Taro-Top [[<sub>TP</sub> Hanako-Top I-Gen home-at be-Pres]-{NO/KOTO}]-Acc

sit-tei-ta.

know-Perf-Past

‘Taro knew that Hanako was in my home.’

Concerning *koto*, there are two popular analyses: (i) it is C (Inoue 1976, Uchibori 1996, 2000, and Watanabe 1996, among others) and (ii) it is a noun which has bleached meaning (called

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<sup>30</sup> This verb is the most basic and commonest among verbs of speech. Its stem is *iw-*, but exceptionally it is pronounced as *yu-* before *u*. For that reason, the verb is also written as *yu-u*.

a ‘formal noun’) (Hara, Kim, Sakai and Tamura 2013, and others). In the former analysis, *koto*-phrases are CP, while in the latter analysis, *koto*-phrases are complex NP.

### 2.1.2.1 The syntactic category of *no*

Nominalizers can embed a TP, as exemplified in (25b). Now, let us see that clauses headed by a nominalizer *no* are Finite Projections (FinPs) (Hiraiwa and Ishihara (2002), Endo (2010), Sato (2012), Saito and Haraguchi (2012) and others).

First, the nominalizer *no* can precede the interrogative complementizer *ka*, but it cannot follow *ka*, as shown in (26a,b):

- (26) a. Hanako-wa [<sub>ForceP</sub> boku-no heya-ga 4-kai-ni ar-u-**no-ka**] kii-ta.  
 Hanako-Top [<sub>ForceP</sub> I-Gen room-Nom 4-floor-on be-Pres-**NO-Q**] ask-Past  
 ‘Hanako asked if my room was on the fourth floor.’
- b. \*Hanako-wa [<sub>ForceP</sub> boku-no heya-ga 4-kai-ni ar-u-**ka**]-**no-o** kii-ta.  
 Hanako-Top [<sub>ForceP</sub> I-Gen room-Nom 4-floor-on be-Pres-**Q**]-**NO-Acc** ask-Past  
 (Intended:) ‘Hanako asked if my room was on the fourth floor.’

Second, the nominalizer *no* can precede *darô* ‘seem, probably’ (e.g., Kishimoto 2011<sup>31</sup>), which is supposed to project an epistemic modal projection (ModP)<sup>32</sup>, as in (27), but it cannot follow *darô*, as in (28).

<sup>31</sup> The acceptability of *darô* under nominalizer *koto* is not as clear as under nominalizer *no*.

<sup>32</sup> The label for the projection for *darô* varies among researchers: ModalP (Koizumi 1991, 1993), ModP<sub>2</sub> (Inoue 2007), E-ModalP (Ueda 2007), E-ModP (Kizu 2009), and ModP (Kishimoto 2011, Sato 2011).

- (27) Hanako-wa boku-no uti-ni i-ru-(**no**)-**darô**.  
 Hanako-Top I-Gen home-at be-Pres-(**NO**)-**Mod**  
 ‘It is probable that Hanako is in my house.’
- (28) a. Tarô-wa [Hanako-ga boku-no uti-ni i-ru-(**\*darô**)-**no**]-o sit-tei-ru.  
 Taro-Top [Hanako-Nom I-Gen home-at be-Pres-(**\*Mod**)-**NO**]-Acc know-Perf-Pres  
 ‘Taro knows that (\*it is probable that) Hanako is in my house.’
- b. Tarô-wa [<sub>ForceP</sub> [Hanako-ga boku-no uti-ni i-ru-(**\*darô**)-**no**]-ka] kii-ta.  
 Taro-Top [<sub>ForceP</sub> [Hanako-Nom I-Gen home-at be-Pres-(**\*Mod**)-**NO**]-Q] ask-Past  
 ‘Taro asked if (\*it was probable that) Hanako was in my house.’

Based on the fact that *no* appears to the right of T and to the left of the interrogative complementizer *ka*, and the epistemic modal *darô*, I suppose that *no* is a Finite head (Fin), following Hiraiwa and Ishihara (2002) and others. The syntactic structure of the Japanese right periphery is as follows.

- (29) [[[[ TP ] Fin ] Mod ] Force ] SA ] Report ]  
 (*no*) (*darô*) (*ka*) (SFP) (*to*)

### 2.1.2.2 *No*-clauses and predicates which take them

The following is a partial list of predicates which take *no*-clauses (some of them can take *to*-clauses also).

- (30) i. Verbs which take *no*-clause complements

*wasure-ru* ‘forget’, *kookai-su-ru* ‘regret’, *mi-ru* ‘see’, *mat-u* ‘wait’, *tamera-u* ‘hesitate’,  
*kyohi-su-ru* ‘refuse’, *ukeire-ru* ‘accept’, *kitai-su-ru* ‘expect’, *kanzi-ru* ‘feel’

**ii. Adjectives which take *no*-clause subjects<sup>33</sup>**

*akiraka-da* ‘is clear’, *kanô-da* ‘is possible’, *kantan-da* ‘is easy’, *muzukasi-i* ‘is difficult’,  
*taihen-da* ‘is a big deal’

(from Saito 2010: 92 (21b))

## 2.2 Reportive/nonreportive styles and the Experiencer restriction

### 2.2.1 Reportive and nonreportive styles

Japanese uses different grammatical styles for conversation and third-person narrative (Kuroda 1973, Tenny 2006). One style, which is called the *reportive style*, is used in conversation, first-person stories, and narrative in non-first-person stories with a narrator who is not omniscient. The latter style, which is called the *nonreportive style*, is used in narrative in non-first-person stories with an ‘omniscient narrator’ who does not participate in the stories nor is referred to, i.e., stories without a narrator.<sup>34,35</sup>

A difference between the reportive and nonreportive styles is that the reportive style allows sentence-final discourse particles (such as *wa*, *yo*, *sa*, *ne*), while the nonreportive style does not. In other words, sentence-final discourse particles cannot be used in non-first-person stories without a narrator.

Another difference concerns the interpretation of the Japanese long-distance reflexive *zibun* in the reportive and nonreportive styles. Kuroda (1973) claims that when placed in the

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<sup>33</sup> In contrast to *no*-clauses, *to*-clauses cannot be a subject. See footnote 23 for related discussion.

<sup>34</sup> I argue in section 2.2.3 that conversation sometimes allows nonreportive style.

<sup>35</sup> The claim that non-first-person stories with an ‘omniscient narrator’ actually do not have a narrator is argued for by Benveniste (1959), Kuroda (1973), and Banfield (1982), among others. Cf. Ryan (1981).



object position in some adverbial clauses, *zibun* cannot be coreferential with the matrix subject in the reportive style.<sup>36</sup>

- (31) a. John<sub>i</sub>-wa [Bill<sub>j</sub>-ga zibun<sub>{\*i/j}</sub>-o home-ta toki] Mary-no soba-ni i-ta yo.  
 John<sub>i</sub>-Top [Bill<sub>j</sub>-Nom self<sub>{\*i/j}</sub>-Acc praise-Past when] Mary-Gen side-Loc be-Past SFP  
 ‘John<sub>i</sub> was by Mary when Bill<sub>j</sub> praised {\*him<sub>i</sub>/himself<sub>j}</sub>.’
- b. John<sub>i</sub>-wa [Bill<sub>j</sub>-ga zibun<sub>{i/j}</sub>-o home-ta toki] Mary-no soba-ni i-ta.  
 John<sub>i</sub>-Top [Bill<sub>j</sub>-Nom self<sub>{i/j}</sub>-Acc praise-Past when] Mary-Gen side-Loc be-Past  
 ‘John<sub>i</sub> was by Mary when Bill<sub>j</sub> praised {him<sub>i</sub>/himself<sub>j}</sub>.’

(adapted from Kuroda 1973:385(33),(34))

(31a) has a sentence-final discourse particle, so it is clearly in the reportive style. In this case, *zibun* cannot be coreferential with *John*, the matrix subject. (31b) has no sentence-final discourse particle, so it can be either in the reportive style or in the nonreportive style. In this case, *zibun* can be coreferential with the matrix subject.

The observation that different grammatical styles are used for conversation and non-first-person narrative is not limited to Japanese. According to Benveniste (1959), French distinguishes conversation and non-first-person narrative by person and tense.<sup>37</sup> As for person, it is obvious: *je* and *tu* are used for conversation, but not for non-first-person narrative. As for tense, conversation allows all the tenses except the aorist tense (i.e., the simple past). The aorist tense is usable only in the non-first-person narrative.

<sup>36</sup> *Zibun* has three uses: reflexive (anaphoric), empathic (perspectival), and logophoric (Oshima 2004). It is important to note that Kuroda’s claim is about the reflexive use of *zibun*. Logophoric *zibun* can be coreferential with the matrix subject in the reportive style, as in (i).

(i) boku<sub>i</sub>-wa [Bill<sub>j</sub>-ga zibun<sub>{i/j}</sub>-o home-ta toki] Mary-no soba-ni i-ta yo.  
 I<sub>i</sub>-Top [Bill<sub>j</sub>-Nom self<sub>{i/j}</sub>-Acc praise-Past when] Mary-Gen side-Loc be-Past SFP  
 ‘I<sub>i</sub> was by Mary when Bill<sub>j</sub> praised {me<sub>i</sub>/himself<sub>j}</sub>.’

<sup>37</sup> Benveniste (1959) calls the two different styles in French two *plans d’énonciation* (‘planes of utterance’), *discours* and *histoire*.

### 2.2.2 The two grammatical styles and the Experiencer restriction

Kuroda (1973) notices that in a simple clause the Experiencer restriction is active in the reportive style, but not in the nonreportive style, as exemplified in (32).

(32) a. (Scenario: In conversation)

{boku/\*kimi/\*kare}-wa sono koto-ga uresi-k-at-ta (yo).  
{I/\*you/\*he}-Top that thing-Nom glad-Pred-be-Past (SFP)  
'{I am/\*You are /\*He is} glad about that.'

b. (Scenario: In third-person narrative)

kare-wa sono koto-ga uresi-k-at-ta (\*yo).  
he-Top that thing-Nom glad-Pred-be-Past (\*SFP)  
'He was glad about that.'

(32a) is uttered in conversation, so it is in the reportive style,<sup>38</sup> and it shows the Experiencer restriction. Note that it can contain a sentence-final discourse particle. (32b) is uttered in third-person narrative, so it is in the nonreportive style, and it does not show the Experiencer restriction. Note that it cannot contain a sentence-final discourse particle.

### 2.2.3 The nonreportive style in conversation

Experiencer verbs such as *omo-u* 'think' also show the Experiencer restriction (Teramura 1971, Nakau 1979), and the restriction is lifted in narrative of third-person stories (Kudo 1995), as the Experiencer restriction of Experiencer adjectives is lifted in third-person narrative.

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<sup>38</sup> It is, however, not always so, as I show in the next subsection.

Interestingly, Kudo observes that the restriction is lifted also in some special type of conversation, where the speaker gives an explanation of something, and that sentence-final discourse particles cannot be used there.<sup>39</sup> In the following example of conversation, *omo-u* appears with a second-person Experiencer subject and no ‘hedging’ element which lifts the Experiencer restriction such as a modal element, an evidential marker, or the perfective aspect marker *-tei*. A sentence-final discourse particle cannot be attached to the sentence.

- (33) “Anata-no kekkon-ni tuite-mo, boku-nari-no kaisetu-ga ar-u.”  
 you-Gen marriage-Dat regarding-also I-own.way-Gen explanation-Nom be-Pres  
 ‘About your marriage also, I have my own explanation.’  
 “Osie-te kudasai.”  
 teach-Conn please  
 ‘Please tell me.’  
 “Anata-wa nido-tomo onazi koto-o si-te sippaisi-ta dake  
 you-Top twice-both same thing-Acc do-Conn fail-Past only  
 na-n-da. Anata-wa zibun-o mamot-te kure-ru hito-ga  
 Pres-Evid-Pred.be.Pres you-Top self-Acc protect-Conn Ben-Pres person-Nom  
 hosi-k-at-ta-n-da. Sore-wa anata-ga, kozi’in-no kurasi-o  
 want<sub>A</sub>-Pred-be-Past-Evid-Pred.be.Pres that-Top you-Nom orphanage-Gen life-Acc  
 si-ta koto-ni-mo kankeiaru-ka-mo sirena-i. **17-no anata-wa,**  
 do-Past KOTO-Dat-also related-Q-also may-Pred.be.Pres **17-Gen you-Top**  
**aite-ga omawarisan-nara zibun-o hogosi-te kure-ru**  
**partner-Nom policeman-if self-Acc protect-Conn Ben-Pres**

<sup>39</sup> She calls this type of text ‘*kaisetsu*’-no *tekusuto* (‘text of explanation’).

tekiyaku-da-to                      omot-ta.    Keredo   omawarisan-toiedomo  
**right.person-Pred.be.Pres-Rep think-Past**    but    policeman-even  
syakaitekini-mo   nikutaitekini-mo   hotondo   muryoku-ni        tika-i-to  
socially-also    physically-also    almost    powerlessness-to   close-Pred.be.Pres-Rep  
yû        koto-o        sit-ta        toki,   kimi-wa   wakare-ta.    ...”  
say.Pres   KOTO-Acc   know-Past   when   you-Top   separate-Past  
‘You only failed by doing the same thing in both cases. You wanted a person who  
protected you. It may be related to the fact that you was brought up in an orphanage.  
**Seventeen-year-old you thought that if your partner was a policeman, he was just  
the right person to protect you.** However, when you knew that even a policeman was  
socially and physically almost powerless, you separated. ...’

(Kudo 1995: 96.<sup>40</sup> I added boldface and underline.)

In the same environment, Experiencer adjectives behave similarly. For example, in  
conversation (33), we can replace the third utterance with (34).

- (34)    “Anata-wa   nido-tomo   onazi   koto-o        si-te        sippaisi-ta   dake  
          you-Top    twice-both   same    thing-Acc   do-Conn   fail-Past    only  
na-n-da.                      **Anata-wa   zibun-o   mamot-te        kure-ru        hito-ga**  
Pres-Evid-Pred.be.Pres   **you-Top    self-Acc    protect-Conn   Ben-Pres    person-Nom**  
**hosi-k-at-ta.**                17-no   anata-wa,  
**want<sub>A</sub>-Pred-be-Past**    17-Gen   you-Top

<sup>40</sup> This conversation is a quotation from a novel, Ayako Sono (1966) *Satogashi-ga Kowareru Toki* [*When a Sweetmeat Breaks*]. Tokyo: Kodansha.

aite-ga omawarisan-nara zibun-o hogosi-te kure-ru  
 partner-Nom policeman-if self-Acc protect-Conn Ben-Pres  
 tekiyaku-da-to omot-ta. Keredo omawarisan-toiedomo  
 right.person-Pred.be.Pres-Rep think-Past but policeman-even  
 syakaitekini-mo nikutaitekini-mo hotondo muryoku-ni tika-i-to  
 socially-also physically-also almost powerlessness-to close-Pred.be.Pres-Rep  
 yû koto-o sit-ta toki, kimi-wa wakare-ta. ...”  
 say.Pres KOTO-Acc know-Past when you-Top separate-Past.

‘You only failed by doing the same thing in both cases. **You wanted a person who protected you.** Seventeen-year-old you thought that if your partner was a policeman, he was just the right person to protect you. However, when you knew that even a policeman was socially and physically almost powerless, you separated. ...’

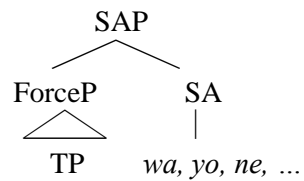
In (34), an Experiencer adjective *hosi-* ‘want’ appears with a second-person Experiencer subject and no hedging element which lifts the Experiencer restriction. (Note that in (33) the Experiencer adjective appears with an evidential marker *-n*, which lifts the Experiencer restriction.) A sentence-final discourse particle cannot be attached in this case also.

Because absence of the Experiencer restriction and unavailability of sentence-final discourse particles are hallmarks of the nonreportive style, I take it that Kudo’s observation shows that the special type of conversation is the nonreportive style in conversation. With this qualification, I continue saying sloppily that sentences in conversation are in the reportive style in the rest of this dissertation.

## 2.2.4 The syntactic analysis of the reportive and nonreportive styles

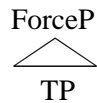
Following Tenny (2006), I suppose that the difference between the reportive and nonreportive styles is due to the presence and absence of a SAP. Sentences in the reportive style have a SAP, as in (35).

(35) **In the reportive style**



Sentences in the nonreportive style lack a SAP, as in (36).

(36) **In the nonreportive style**



Sentence-final discourse particles are SA heads, so they can appear only in the reportive style. In the following chapters, I propose some mechanisms of how the presence and absence of a SAP affect the Experiencer.

## 2.3 Basic data of the Experiencer restriction

In this section, I give some basic data of the Experiencer restriction.

### 2.3.1 Simple root clauses, epistemic modals, and evidentials

In simple declarative root clauses, the Experiencer of Experiencer adjectives cannot be the addressee(s) or those who are not discourse participants (Kunihiro 1965, Kuroda 1965 and others), as exemplified in (37). As mentioned earlier, this restriction is active only in the reportive style. The sentences in (37) end with a sentence-final discourse particle *yo*, so it is clear that they are in the reportive style.

- (37) a. {boku/\*kimi/\*kare}-wa samu-i yo.  
          {I/you/he}-Top cold-Pred.be.Pres SFP  
          ‘{I am/\*You are/\*He is} cold.’
- b. {boku/\*kimi/\*kare}-wa sono koto-ga uresi-i yo.  
          {I/you/he}-Top that thing-Nom glad-Pred.be.Pres SFP  
          ‘{I am/\*You are /\*He is} glad about that.’
- c. sono sūpu-wa {boku/\*kimi/\*kare}-ni-wa oisi-i yo  
          that soup-Top {I /\*you /\*him}-for-Top delicious-Pred.be.Pres SFP  
          ‘The soup tastes good to {me/you/him}.’

A speaker cannot make an assertion about others’ feeling in a simple root sentence such as (38), no matter how convinced about the truth of the proposition the speaker is. Even if the speaker has strong evidence of his belief about someone’s feeling (for example, suppose that the experiencer told her feeling to the speaker), the speaker cannot make an assertion about the experiencer’s feeling as in (38).

- (38) (The speaker is not Hanako)

\*Hanako-wa uresi-k-at-ta yo.

Hanako-Top glad-Pred-be-Past SFP

(Intended:) ‘Hanako was glad.’

To express a direct experience of others in a root clause, the speaker has several choices: (i) to use a verbal suffix *-gar* which means “behave like” as in (39a), (ii) to use an indirect evidential as in (39b), and (iii) to use an epistemic modal as in (39c).

(39) a. Hanako-wa uresi-**gat**-ta yo.

Hanako-Top glad-behave.like-Past SFP

‘Hanako behaved like being glad (= Hanako’s behavior suggested that she was glad).’

b. Hanako-wa sono hito-ga kowa-k-at-ta **soo-da** yo.

Hanako-Top that person-Nom afraid-Pred-be-Past Hearsay-be.Pres SFP

‘Hanako was afraid of the person -HEARSAY.’

c. Hanako-wa sono hito-ga kowa-k-at-ta **nitigaina-i** yo.

Hanako-Top that person-Nom afraid-Pred-be-Past must-be.Pres SFP

‘Hanako must have been afraid of the person.’

From here on, I say that clauses without these devices are ‘unmarked’ or ‘in the unmarked form’.

### 2.3.2 Embedded clauses under attitude verbs

In the case of embedded clauses under attitude verbs, some of them show the Experiencer restriction, but others not. In most cases, what is relevant is presence of an assertive speech act.

The only exception is vivid memory report, which does not involve a speech act.



### 2.3.2.1 Embedded clauses under verbs of saying

This section considers verbs of saying such as *yu-u*<sup>41</sup> ‘say’, *syutyôsu-ru* ‘assert, claim’ and *hôkokusu-ru* ‘report’, and shows that *to*-clauses under these verbs restrict the Experiencer argument of Experiencer adjectives to the local speaker, namely the referent of the subject of these verbs, while *no*-clauses under these verbs not.

First, let us consider *to*-complement clauses. As shown in (40), the Experiencer in *to*-complement clauses under verbs of saying is restricted to the local speaker (e.g., Fujii 2006:160-161).

- (40) a. Hanako<sub>i</sub>-wa [{kanozyo<sub>i</sub>/\*Tarô/\*watasi}-wa kanozyo<sub>i</sub>-no otôto-no koto-ga  
 Hanako<sub>i</sub>-Top [{she<sub>i</sub>/\*Taro/\*I}-Top she<sub>i</sub>-Gen brother-Gen event-Nom  
 uresi-k-at-ta-to] {it/syutyôsi}-ta.  
 glad-Pred-be-Past-Rep] {say/assert}-Past  
 ‘Hanako<sub>i</sub> {said/asserted} that {she<sub>i</sub>/\*Taro/\*I} was glad about her<sub>i</sub> brother.’
- b. Taro<sub>i</sub>-wa Atsuko<sub>j</sub>-ni [ $\Delta_{i/*j}$  watasi-no tomodati-ga nikurasi-i-to] itta.  
 Taro-Top Atsuko-Dat [ my friend-Nom hate-Prs-C said  
 ‘Taro<sub>i</sub> said to Atsuko<sub>j</sub> that {he<sub>i</sub>, \*she<sub>j</sub>} hated my friend.’ (Fujii 2006: 160(5a))

Second, let us consider *no*-complement clauses. Most verbs of saying do not allow a *no*-complement clause,<sup>42</sup> but some do. For example, *yu-u* ‘say’ can take a *no*-complement clause in a

<sup>41</sup>It is the same verb that is transcribed as *i-u* in (24). See footnote 30.

<sup>42</sup>For example, *sakeb-u* ‘shout’, *syutyôsu-ru* ‘claim’, *dangensu-ru* ‘claim’ do not allow a *no*-complement clause:

(i) \*Hanako-wa [Tarô-ga bôru-o nage-ta no]-o {saken-da/syutyôsi-ta/dangensi-ta}.  
 Hanako-Top [Taro-Nom ball-Acc throw-Past Fin]-Acc {shout-Past/claim-Past/claim-Past}  
 (Intended:) ‘Hanako {shouted/claimed/claimed} that Taro threw a ball.’

These verbs of saying cannot take a *no*-complement in a negative sentence also.

(ii) \*Hanako-wa [Tarô-ga bôru-o nage-ta no]-o {sakeba/syutyôsi/dangensi}-na-k-at-ta.

negative sentence.<sup>43</sup> Let us consider (41). (41a) contains an Experiencer adjective and an Experiencer NP which does not refer to the local speaker. (41b) uses a *gar*-verb which corresponds to the Experiencer adjective used in (41b). (41c) contains an Experiencer NP which refers to the local speaker. I feel that (41a) is degraded, compared with (41b) and (41c). However, the judgment is subtle and fragile.

- (41) a. ?Hanako<sub>i</sub>-wa [(sore-o kii-te) kanozyo<sub>i</sub>-no itoko-ga  
 Hanako<sub>i</sub>-Top [(that-Acc hear-ing) she<sub>i</sub>-Gen cousin-Nom  
 uresi-k-at-ta-no]-o iw-ana-k-at-ta.  
 glad-Pred-be-Past-Fin]-Acc say-Neg-Pred-be-Past  
 ‘Hanako<sub>i</sub> did not say that her<sub>i</sub> cousin was glad (to hear that).’
- b. Hanako<sub>i</sub>-wa [(sore-o kii-te) kanozyo<sub>i</sub>-no itoko-ga  
 Hanako<sub>i</sub>-Top [(that-Acc hear-ing) she<sub>i</sub>-Gen cousin-Nom  
 uresi-**gat**-ta-no]-o iw-ana-k-at-ta.  
 glad-GAR-Past-Fin]-Acc say-Neg-Pred-be-Past  
 ‘Hanako<sub>i</sub> did not say that her<sub>i</sub> cousin behaved as being glad (to hear that).’
- c. Hanako<sub>i</sub>-wa [(sore-o kii-te) kanozyo<sub>i</sub>-ga  
 Hanako<sub>i</sub>-Top [(that-Acc hear-ing) she<sub>i</sub>-Gen  
 uresi-k-at-ta-no]-o iw-ana-k-at-ta.  
 glad-Pred-be-Past-Fin]-Acc say-Neg-Pred-be-Past  
 ‘Hanako<sub>i</sub> did not say that she<sub>i</sub> was glad (to hear that).’

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Hanako-Top [Taro-Nom ball-Acc throw-Past Fin]-Acc{shout/claim/claim}-Neg-Pred-be-Past  
 (Intended:) ‘Hanako didn’t {shout/claim/claim} that Taro threw a ball.’

<sup>43</sup> In a positive sentence, it is impossible to use a *no*-complement clause with *yu-u*:

- (i) \*Hanako-wa [Tarô-ga bôru-o nage-ta no]-o it-ta.  
 Hanako-Top [Taro-Nom ball-Acc throw-Past Fin]-Acc say-Past  
 (Intended:) ‘Hanako said that Taro threw a ball.’

One way to make the judgment of (41a) better and solid is to add adverbial *hontôwa* ‘actually’, as in (42).

- (42) Hanako<sub>i</sub>-wa [(sore-o kii-te) kanozyo-no itoko-ga hontôwa  
 Hanako<sub>i</sub>-Top [(that-Acc hear-ing) she<sub>i</sub>-Gen cousin-Nom actually  
 uresi-k-at-ta-no]-o iw-ana-k-at-ta.  
 glad-Pred-be-Past-Fin]-Acc say-Neg-Pred-be-Past  
 ‘Hanako<sub>i</sub> did not say that her<sub>i</sub> cousin was actually glad (to hear that).’

If one adds *hontôwa* to a root clause or a *to*-complement clause of a verb of saying, the Experiencer restriction remains, as in (43), (44), and (45), so I suppose that *hontôwa* does not lift the Experiencer restriction and that the degradedness of (41a) is not an effect of the Experiencer restriction under investigation.

- (43) {watasi/#Tarô}-wa hontôwa uresi-k-at-ta yo  
 {I/Taro}-Top actually glad-Pred-be-Past SFP  
 ‘{I/#Taro} was actually glad.’

- (44) {kimi/#Tarô}-wa hontôwa uresi-k-at-ta (ka)  
 {you/Taro}-Top actually glad-Pred-be-Past Q  
 ‘{Are you/#Is Taro} actually glad?’

- (45) #Hanako<sub>i</sub>-wa [(sore-o kiite) kanozyo<sub>i</sub>-no itoko-wa hontôwa  
 Hanako<sub>i</sub>-Top [(that-Acc hearing) she<sub>i</sub>-Gen cousin-Top actually

uresi-k-at-ta-to] {it-ta/saken-da/...}.

glad-Pred-be-Past-Rep] {say-Past/shout-Past/...}

(Intended:) ‘Hanako<sub>i</sub> {said/shouted/...} that her<sub>i</sub> cousin had been actually glad.’

Another verb of saying which can take a *no*-complement clause is *hōkokusu-ru* ‘report’.

*Hōkokusu-ru* allows a *no*-complement clause irrespective of the polarity, as shown in (46).

- (46) Hanako<sub>i</sub>-wa [kanozyo<sub>i</sub>-no itoko-ga uresi-**gat**-ta-**no**]-o  
Hanako<sub>i</sub>-Top [she<sub>i</sub>-Gen cousin-Nom glad-GAR-Past-Fin]-Acc  
hōkokusi-{∅/na-k-at}-ta.  
report-{∅/Neg-Pred-be}-Past  
‘Hanako<sub>i</sub> {reported/did not report} that her<sub>i</sub> cousin behaved as being glad.’

*Hōkokusu-ru* shows a pattern similar to *yu-u* ‘say’ with respect to the Experiencer restriction. To see that, let us consider (47a), which contains an Experiencer adjective and an Experiencer NP which does not refer to the local speaker. Although the judgment is subtle, (47a) sounds awkward in an out-of-the-blue context, compared to (46), which contains a *gar*-verb, and (47b), which contains an Experiencer NP which refers to the local speaker.

- (47) a. ?-??Hanako<sub>i</sub>-wa [kanozyo<sub>i</sub>-no itoko-ga uresi-k-at-ta-no]-o  
Hanako<sub>i</sub>-Top [she<sub>i</sub>-Gen cousin-Nom glad-Pred-be-Past-Fin]-Acc  
hōkokusi-{∅/na-k-at}-ta.  
report-{∅/Neg-Pred-be}-Past  
?-??‘Hanako<sub>i</sub> {reported/did not report} that her<sub>i</sub> cousin was glad.’

- b. Hanako<sub>i</sub>-wa [kanozyo-ga uresi-k-at-ta-no]-o  
 Hanako<sub>i</sub>-Top [she<sub>i</sub>-Nom glad-Pred-be-Past-Fin]-Acc  
 hôkokusi-{\emptyset/na-k-at}-ta.  
 report-{\emptyset/Neg-Pred-be}-Past  
 ‘Hanako<sub>i</sub> {reported/did not report} that she<sub>i</sub> was glad.’

However, (47a) becomes better if the adverbial *hontôwa* is added:

- (48) Hanako<sub>i</sub>-wa [kanozyo<sub>i</sub>-no itoko-ga hontôwa uresi-k-at-ta-no]-o  
 Hanako<sub>i</sub>-Top [she<sub>i</sub>-Gen cousin-Nom actually glad-Pred-be-Past-Fin]-Acc  
 hôkokusi-{\emptyset/na-k-at}-ta.  
 report-{\emptyset/Neg-Pred-be}-Past  
 ‘Hanako<sub>i</sub> {reported/did not report} that her<sub>i</sub> cousin was actually glad.’

These data indicate two things. First, in a *to*-complement clause under a verb of saying, the Experiencer is restricted. Second, in a *no*-complement clause under a verb of saying, an Experiencer is not restricted, though an interpretation in which the Experiencer is different from the local speaker is not preferred.

### 2.3.2.2 Embedded clauses under attitude verbs such as *think*, *believe*, and *know*

*To*-complement clauses under an attitude verb such as thinking, believing, and knowing allow an Experiencer who is not the referent of the subject of the verb, as shown in (49).<sup>44</sup>

<sup>44</sup> Different from me, Fujii (2006, 2007) claims that *to*-complement clauses of *omo-u* ‘think’ restrict the Experiencer. He first states as follows (Fujii 2006: 161): “when SubjExp predicates occur in the

- (49) a. Hanako<sub>i</sub>-wa [{zibun<sub>i</sub>/kanozyo<sub>i</sub>-no itoko}-wa uresi-k-at-ta-to]  
 Hanako<sub>i</sub>-Top [{self<sub>i</sub>/she<sub>i</sub>-Gen cousin}-Top glad-Pred-be-Past-Rep]  
 {omot/sinzi}-tei-ta.  
 {think/believe}-Perf-Past  
 ‘Hanako<sub>i</sub> {thought/believed} that {she<sub>i</sub>/her<sub>i</sub> cousin} had been glad.’
- b. Hanako<sub>i</sub>-wa [kanozyo<sub>i</sub>-no itoko-wa uresi-k-at-ta-to]  
 Hanako<sub>i</sub>-Top [she<sub>i</sub>-Gen cousin-Top glad-Pred-be-Past-Rep]  
 sit-tei-ta.  
 know-Perf-Past  
 ‘Hanako<sub>i</sub> knew that her<sub>i</sub> cousin had been glad.’<sup>45</sup>

In this respect, they differ from *to*-complement clauses under verbs of saying, which do not allow such an Experiencer.

Similarly, *no*-complement clauses under a verb of knowing do not restrict the Experiencer of Experiencer adjectives, as shown in (50).<sup>46</sup>

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complement clause of verbs like *say*, *think* or *ask*, the restriction on the interpretation of their subject arises in such a way that the understood subject must be bound by the matrix subject or object.” (Note that Experiencer adjectives are SubjExp (subject Experiencer) predicates.) Then he gives the following example:

- (i) Mari<sub>i</sub>-wa [Hiroshi<sub>j</sub>-ni [zibun<sub>i/j</sub>-ga Nagoya-ga natukasi -i -to] omotte] hosikatta  
 Mari-Top Hiroshi-Dat self -Nom Nagoya-Nom nostalgic -Prs-C to.think wanted  
 ‘Mari<sub>i</sub> wanted Hiroshi<sub>j</sub> to think that {she<sub>i</sub>, he<sub>j</sub>} missed Nagoya.’ (Fujii 2007: 15(36))

Example (i) suggests that his claim is that the Experiencer in *to*-complement clauses of *omo-u* must be bound by one of the subjects or objects of superordinate clauses.

<sup>45</sup> In *to*-complement clauses of the verb of knowing, *sir-u* ‘know’, the Experiencer cannot be the referent of the subject of the verb. This phenomenon was first observed by Akatsuka McCawley (1978: 274). Its mechanism has to be worked out in future research.

<sup>46</sup> Verbs of thinking and believing do not select for a *no*-complement clauses.

- (50) Hanako<sub>i</sub>-wa [{zibun<sub>i</sub>/kanozyo<sub>i</sub>-no itoko}-ga uresi-k-at-ta no]-o  
 Hanako<sub>i</sub>-Top [{self<sub>i</sub> /she<sub>i</sub>-Gen cousin}-Nom glad-Pred-be-Pres Fin]-Acc  
 sit-tei-ru.  
 know-Perf-Pres  
 ‘Hanako<sub>i</sub> knows that {she<sub>i</sub>/her<sub>i</sub> cousin} was glad.’

### 2.3.2.3 Complement clauses of verbs of vivid remembrance

In the environments discussed above, clauses which restrict the Experiencer are those which are immediately below an assertive speech act. But there is a case in which there is no assertive speech act involved. Let us look at (51a,b). They contain verbs of memory report, *oboe-ru*<sup>47</sup> (‘memorize’) and *omoidas-u* (‘recall’). (51a) shows that a non-*de se* individual cannot be an Experiencer, and (51b) shows that a non-*de se* individual can be used as a non-Experiencer subject in the same environment.

- (51) a. Hanako<sub>i</sub>-wa [{zibun<sub>i</sub>/\*Tarô}-ga uresi-k-at-ta {no/koto}]-o (ariarito)  
 Hanako<sub>i</sub>-Top [{self<sub>i</sub>/Taro}-Nom glad-Pred-be-Past {Fin/NMLZ}]-Acc (vividly)  
 {oboe-tei/omoidasi}-ta.  
 {memorize-Perf/recall}-Past  
 ‘Hanako<sub>i</sub> (vividly) {remembered/recalled<sup>48</sup>} that {she<sub>i</sub>/\*Taro} felt glad.’
- b. Hanako-wa [Tarô-ga uresi-{gat/\*k-at}-ta {no/koto}]-o (ariarito)  
 Hanako-Top [Taro-Nom glad-{GAR/Pred-be}-Past {Fin/NMLZ}]-Acc (vividly)

<sup>47</sup> The verb *oboe-ru* itself means ‘memorize’. With a perfective aspect morpheme *-tei-*, the verb (*oboe-tei-ru*) means ‘have remembrance’.

<sup>48</sup> Here, ‘remember’ is used to mean a state of having remembrance, while ‘recall’ is used to mean an act of recalling. Though the English verb *remember* have both the meanings of the action of remembering and the state of having remembrance, there is no Japanese verb which has the two meanings.

{oboe-tei/omoidasi}-ta.

{memorize-Perf/recall}-Past

‘Hanako (vividly) {remembered/recalled} that Taro {behaved as feeling/\*felt} glad.’

### 2.3.3 Relative clauses

In this section, I illustrate that restrictive relative clauses do not show the Experiencer restriction, while non-restrictive relative clauses do, following previous studies.<sup>49</sup> Different from others, Tenny (2006) claims that relative clauses show the Experiencer restriction, but I argue that her claim is dubious.

Koyama (1966), Minami (1967), and Nishio (1972) observe that the Experiencer restriction disappears in ‘modifiers of nominals’, as exemplified in (52), (53), and (54).<sup>50,51</sup>

(52) [ik-ita-i]                                hito-wa    te-o        age-te        kudasai

[go-want<sub>Adj</sub>-Pred.be.Pres] person-Top hand-Acc raise-Con please

(lit. ‘As for people who want to go, please raise your hand.’)

‘Please raise your hand if you want to go.’                                (Koyama 1966: 73(16))

(53) [kare-ga kanasi-i]                                riyû

[he-Nom sad-Pred.be.Pres] reason

‘The reason why he is sad’    (Minami 1967: 41)

<sup>49</sup> In Chapter 4, non-restrictive relative clauses will be examined in detail, and the claim that non-restrictive relative clauses do not show the Experiencer restriction will be revised.

<sup>50</sup> Koyama’s original claim (p.73) is as follows (I translated the original Japanese text).

(i) **Fact 12.** . . . adjectives of feelings can be used to represent others’ feelings if they are used as modifiers of nominals (eg16[=(52)]). Otherwise, they can be used only to represent the speaker’s feelings.

<sup>51</sup> I added English glosses to these examples.



- (54) [inu-no kowa-i] ko-mo oo-i.  
 [dog-Gen afraid-Pred.be.Pres] child-also many-Pred.be.Pres  
 ‘There are also many children who are afraid of dogs.’ (Nishio 1972: 30)

Kuroda (1973) and Akmajian and Kitagawa (1981) also note that relativization lifts the Experiencer restriction, as in (55) and (56).

- (55) atui hito  
 ‘hot man’ (Kuroda 1973: 379(7))

- (56) atama-ga ita-i kodomo wa kono ko desu.  
 head-nom hurt-present child topic this child is  
 ‘The child who has a headache is this child.’  
 (Akmajian & Kitagawa 1981:110(150b))

In these examples the present tense morpheme *-i* appears with the Experiencer adjectives, but the past tense morpheme *-ta* also can appear as in (57), so the present tense is not relevant to the absence of the Experiencer restriction in these examples.

- (57) a. [kare-ga kanasi-k-at-ta] riyû  
 [he-Nom sad-Pred-be-Past] reason  
 ‘The reason why he was sad’  
 b. atu-k-at-ta hito  
 hot-Pred-be-Past man  
 ‘a man who was hot’

- c. atama-ga ita-k-at-**ta** kodomo wa kono ko desu.  
 head-nom hurt-Pred-be-**Past** child topic this child is  
 ‘The child who had a headache is this child.’

Note that relative clauses in these examples are restrictive ones, which restrict a set of individuals represented by the host noun such as *hito* ‘man, person’ and *ko(domo)* ‘child’. Masuoka (1997) observes that there is a difference between restrictive and non-restrictive relative clauses with respect to the Experiencer restriction: restrictive relative clauses lift the Experiencer restriction, whereas non-restrictive relative clauses don’t. For example, let us compare a minimal pair, (58a,b). The relative clause in (58a) restricts the set of people (*hito*), so it is a restrictive relative clause. Here, the Experiencer restriction is not active. On the other hand, the relative clause in (58b) combines with an NP which denotes a single individual,<sup>52</sup> so it is a non-restrictive one. In this case, the Experiencer restriction is active: only the speaker can be the Experiencer.

- (58) a. [sono nyûsu-o kii-te uresi-k-at-ta] hito-wa  
 [that news-Acc hear-ing glad-Pred-be-Past] man-Top  
 kinô sono gi’in-no zimusyo-ni it-ta (yo)  
 yesterday that assemblyman-Gen office-to go-Past (SFP)  
 ‘The man who was glad to hear the news went to the assemblyman’s office yesterday.’
- b. (**Context:** There is only a single person who has the name, *Tarô*, in the discourse.)  
 [sono nyûsu-o kii-te uresi-k-at-ta] {#Tarô/watasi}-wa  
 [that news-Acc hear-ing glad-Pred-be-Past] {#Taro/I}-Top

<sup>52</sup> Precisely speaking, it is possible to analyze that what combines with the relative clause is not a single individual but a set of stages of the individual, as Del Gobbo (2003) claims for Chinese ‘non-restrictive’ relative clauses. Non-restrictive relative clauses are treated in more detail in Chapter 4.

kinô sono gi'in-no zimusyo-ni it-ta (yo)  
 yesterday that assemblyman-Gen office-to go-Past (SFP)  
 ‘{#Taro/I}, who was glad to hear the news, went to the assemblyman’s office  
 yesterday.’

Different from these authors, Tenny (2006) claims that the Experiencer restriction is active in relative clauses. Her claim is based on an observation on (59a,b).<sup>53</sup>

- (59) a. Samui hito wa dare desu ka?  
 cold person Top who Cop Question  
 ‘Who is/are the cold person(s)?’ (Tenny 2006:272(62a))
- b. Samugatteiru hito wa dare desu ka?  
 cold-GARU person Top who Cop Question  
 ‘Who is/are the cold person(s)?’ (Tenny 2006:272(62b))

Tenny states as follows: “In (62a) [= (59a)] the teacher is asking the whole class who among them is cold. In (62b) [= (59b)] the teacher is asking one student who is or are the cold person or people in the class? In (a) the implicit second person evaluator of affirmative truth (the individual(s) who identify themselves as cold) must be direct experiencers or self-ascribers.” I agree with the first statement, namely that (59a) is appropriate when the teacher is asking the whole class who among them is cold, but do not with the third statement. The third statement is too strong: in fact, the question by the teacher can be answered not only as in (60a) but also as in (60b) in a special condition. (Note that if the third statement is correct, answers like (60b) should be always unavailable.)

<sup>53</sup> Tenny attributes the observation to Ayumi Matsuo.

(60) a. Taro: watasi desu.

I Cop

‘I am.’

b. Taro: Hanako desu.

Hanako Cop

‘Hanako is.’

Answer (60b) is not assertable by Taro if his judgment that Hanako is cold is based on his direct observation of her behavior, but it is assertable if his judgment is based on Hanako’s saying that she is cold. It should be noted that under the same condition, Taro cannot make an assertion as in (61), as expected by the Experiencer restriction.

(61) Taro: #Hanako-ga samui desu.

Hanako-Nom cold Cop

(Intended:) ‘Hanako is cold.’

The difference in assertability under the same condition confirms that in (restrictive) relative clauses the Experiencer restriction is lifted, while in root clauses it is active.

To recapitulate, the Experiencer restriction is not active in restrictive relative clauses (Koyama 1966, Minami 1967, Nishio 1972, Kuroda 1973, Akmajian and Kitagawa 1981 and others), while it is active in non-restrictive relative clauses (Masuoka 1997). Different from these scholars, Tenny (2006) claims that relative clauses do not lift the Experiencer restriction, but a closer inspection shows that Tenny’s data suggests existence of a restriction of a different kind and does not indicate that the Experiencer restriction is active in relative clauses.

### 2.3.4 Summary

We have seen the following facts about the restriction on the Experiencer argument of Experiencer adjectives in Japanese.

- (62)
- a. In a root clause in reportive style, the Experiencer of an Experiencer adjective must be the speaker.
  - b. In a *to*-clause under a verb of saying, the Experiencer must be the local speaker. In a *no*-clause under a verb of saying, the Experiencer restriction is lifted.
  - c. In a clause under an epistemic modal, an evidential, or a non-communicational attitude predicate (except vivid memory report), the Experiencer restriction is lifted.
  - d. In a clause under a vivid memory report verb, an Experiencer must be the subject of the memory verb, namely the *de se* individual in the clause.
  - e. In a restrictive relative clause, the Experiencer restriction is lifted.
  - f. In a non-restrictive relative clause, the Experiencer is restricted to the speaker.

## CHAPTER 3

### SITUATION-BASED ANALYSIS OF THE EXPERIENCER RESTRICTION

In this chapter, I propose (63) to account for the Experiencer restriction.

- (63) a. An Experiencer has a semantics similar to that of locatives.  
b. In Japanese, assertion requires the location of the topic situation, if mental, to be the mental location of the speaker, namely the speaker's mind.

It is based on a claim that Experiencers are mental locations, which originated from studies of lexical conceptual structures and syntax (Jackendoff 1990, Bouchard 1995, Arad 1998, Landau 2010, Varchetta 2010, 2012). In the following, I first claim that sentences which violate the Experiencer restriction do not have a truth-value (section 3.1). Then I propose that Experiencers are mental locations, and develop a situation semantic analysis of mental locations (sections 3.2, 3.3, and 3.4). After proposing (63b) in section 3.5, I show that the semantics yields the Experiencer restriction in various environments correctly (sections 3.6 and 3.7). In section 3.8, I treat the Experiencer restriction in an embedded clause under a verb of vivid memory report, which is special in that the Experiencer restriction does not involve speech acts. Section 3.9 shows that the proposed semantics naturally explains the absence of the Experiencer restriction in restrictive relative clauses. In section 3.10, I treat the Experiencer restriction in interrogatives, and in section 3.11 I discuss the denotation of the verbal suffix *-gar*, which lifts the Experiencer restriction.

### 3.1 The Experiencer restriction and the truth-value gap

Let us consider sentence (64) as an example of an Experiencer sentence, i.e., a sentence with an Experiencer adjective.

- (64) Hanako-wa uresi-i yo.  
Hanako-Top glad-Pred.be.Pres SFP  
'Hanako is glad.'

If the Experiencer, Hanako, is not the speaker, this sentence is not felicitously assertable, as reviewed in the previous chapter. But by what mechanism does such a sentence become unacceptable? In the following, I claim that if the Experiencer is not the speaker, unmarked<sup>54</sup> Experiencer sentences in the reportive style have no truth-value, and give a compositional semantics to treat Experiencer sentences.

My proposal is that the unacceptability of the Experiencer sentence is of a kind similar to that of sentences with first person pronouns which are used to refer to non-speakers. First person pronouns cannot be used to refer to non-speakers, as shown by the following assertions by John.

- (65) (Scenario: John is speaking.)
- a. \*I (**pointing to Taro**) painted the picture.
  - b. I (**pointing to John himself**) painted the picture.

Assertion (65a) is absurd. According to the traditional presuppositional analysis of features on referential pronouns (Cooper 1983, Dowty and Jacobson 1989, Heim and Kratzer 1998, Buring

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<sup>54</sup> The term 'unmarked' is defined in section 2.3.1.

2005, Heim 2008, Kratzer 2009 and others), in which features denote a partial identity function as in (66), the absurdness of John’s assertion (65) is a result of the truth-value gap.

- (66) a.  $[[ [\text{female} ] ] ]^{\text{g.c}} = \lambda x: x \text{ is female} . x$   
 b.  $[[ [1\text{st} ] ] ]^{\text{g.c}} = \lambda x: x \text{ includes the speaker in } c. x$  (Kratzer 2009: 219(68))

Because Taro is not the speaker, the meaning of “I” in (65) is undefined. Consequently, the meaning of the whole sentence is undefined. This is the source of the absurdness of (65a).

In the following, I present an analysis which treats absurdness of unmarked Experiencer sentences with non-speaker Experiencers (namely the Experiencer restriction) in a similar way. That is, the analysis treats the absurdness of such sentences as a result of a truth-value gap.<sup>55</sup>

Then, naïvely it is supposed that the Experiencer (or the Experiencer role introducer) has a presupposition similar to the first person pronoun as in (67). Here, I give an interpretation of the Experiencer role introducer in the neo-Davidsonian framework, assuming that the Experiencer role introducer is a two-place predicate. In the following sections, the meaning of the Experiencer role is included in the meaning of Experiencer predicates for ease of presentation. Let us call it the ‘first-person presuppositional analysis’.

- (67)  $[[ \text{Exp} ] ]^{\text{g.c}} = \lambda e. \lambda x: x \text{ is the speaker in } c. \text{Exp}(x,e)$

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<sup>55</sup> Admittedly, it is not true that every absurd sentence is truth-value-less. Let us consider (i), for example. Gajewski (2002, 2009), Fox and Hackl (2006), Singh (2008), Magri (2009), Abrusán (2011) and others propose that such tautological or contradictory sentences are ungrammatical in virtue of their logical structure.

- (i) a. \*There is every curious student. (Gajewski 2009:1(1c))  
 b. \*Some student but Sue passed the exam. (Gajewski 2009:2(4a))

Most Experiencer sentences, however, cannot be taken to be tautological or contradictory. For example, (ii) is true if Hanako is the speaker and she was glad at the time under discussion, and is false if Hanako is the speaker and she was not glad at the time under discussion. So, it is not tautological or contradictory.

- (ii) Hanako-wa uresi-k-at-ta yo.  
 Hanako-Top glad-Pred-be-Past SFP  
 ‘Hanako was glad.’



Then unmarked Experiencer sentences have no truth value and so are absurd if the Experiencer is not the speaker.

There are, however, two problems which we need to overcome in order to construct such an analysis of the Experiencer restriction.

The first problem is that the first-person presuppositional analysis given in (67) cannot cover all Experiencers. (67) takes it for granted that there is a speaker in the context when an Experiencer is introduced. However, in third-person narrative, for example, there is no speaker in the narrated context (Benveniste 1959, Kuroda 1973, Banfield 1982 among others). It is true that the narrator is the speaker of the narrative in the actual context, but he is not the speaker in the narrated context. He is not present in the third-person narrative. To deal with such a ‘speaker-less’ context, it is necessary to modify the first-person presupposition in (65) in some way.

The second problem is that the first-person presuppositional analysis does not explain the absence of the Experiencer restriction in some embedded clauses. Note that in the case of first-person pronouns, the first-person restriction is active in any clause. In other words, the referent of a first-person pronoun “I” in any clause is restricted to the speaker in the actual context. For example, (68) shows that the referent of first-person pronouns in a clause under a verb of speech and a verb of thought is restricted to the speaker in the actual context.

(68) (Scenario: John is speaking.)

- a. \*Mary {said/thought} that I (**pointing to Taro**) painted the picture.
- b. Mary {said/thought} that I (**pointing to John himself**) painted the picture.

On the other hand, the Experiencer restriction is active in a clause under a verb of speech, while it is not active in a clause under a verb of thought, as exemplified in (69).

- (69) Mary-wa [John-ga uresi-k-at-ta-to] { \*it /omot }-tei-ru.  
 Mary-Top [John-Nom glad-Pred-be-Past-Rep] { \*say/think }-Perf-Pres  
 ‘Mary { \*says/thinks } that John was glad.’

In this chapter, I propose an analysis in which a presupposition on the Experiencer and a presupposition on the assertive Force lead to the desired truth-value gap as a net effect, using the possibilistic situation semantics. In this analysis, the presupposition on the Experiencer is not dependent on a speaker, so the first problem mentioned above is overcome. The dependency on the speaker is introduced by the presupposition on the assertive Force, which appears only in a clause which has a speaker. I will show that disappearance of the Experiencer restriction in many clauses is a result of the absence of the assertive Force.

In the following three sections (3.2, 3.3, and 3.4), I propose that Experiencers are mental locations, and consider their situation semantic treatment as well as their presupposition. Then, in section 3.5, I propose a presupposition of the assertive Force.

### 3.2 Experiencers as mental locations

It is often the case that psychological predicates have periphrastic counterparts which contain locative prepositions.

- (70) a. Nina is in love (with Paul).  
 b. There is in me a great admiration for painters.

(Arad 1998, 228(83))

This observation is not limited to English, as shown in (71) - (74).

(71) **Irish**

a. Tá fuath do *Y* ag *X*.

is hatred to at

‘*X* hates *Y*.’

(McCloskey & Sells 1988:181(76a))

b. Tá eagla roimh *Y* ar *X*.

is fear before on

‘*X* is afraid of *Y*.’

(McCloskey & Sells 1988:181(77a))

(72) **French**

a. Paul a mis Marie en colère.

‘Paul has put Mary in rage.’

(Varchetta 2010:131 n.20)

b. Cela a éveillé en Pierre une rage terrible.

‘That awoke in Pierre a terrible rage.’

(Bouchard 1995:275(35a))

(73) **Italian**

a. Il professore di matematica mette sempre paura ai suoi alunni, a prescindere.

the professor of Maths put always fear to his pupils irrespectively

(Varchetta 2010:131(34b))

b. La preoccupazione (per l’esame di domani) è in Marco.

the preoccupation (for the exam of tomorrow) is inside Marco

(Varchetta 2010:138(54b))

(74) **Hebrew**

a. yeš be-Gil eyva gdola klapey soxney bituax.

there-is in-Gil rancor great toward agents-of insurance

‘Gil has a great rancor toward insurance agents.’

(Landau 2010: 11(16a))

- b. yeš be-tox Rina tšuka amitit le-omanut.  
 there-is inside Rina passion real to-art  
 ‘Inside Rina there is a real passion for art.’

Japanese also conforms to the observation, as in (75).

- (75) a. sono sūgaku-no kyōzyu-wa gakusei-ni {osore/zōo/zisin}-o  
 that math-Gen professor-Top student-into {fear/hatred/confidence}-Acc  
 hukikom-u.  
 breathe-Pres  
 ‘The professor of Math puts {fear/hatred/confidence} into his students.’
- b. Taro-wa Hanako-o {kyōhu/huan}-ni otosiire-ta.  
 Taro-Top Hanako-Acc {fear/uneasiness}-into put-Past  
 ‘Taro {terrified/worried} Hanako.’

The observation backs a claim that psychological predicates express locative relations between the Experiencer and mental states (Jackendoff 1990, Bouchard 1995, Arad 1998, Landau 2010, and Varchetta 2010, 2012). Jackendoff (1990) suggests that Experiencers are represented as locations in conceptual structure (“location of the fear, pleasure, and so forth”). For example, he supposes that the meaning of *x frighten y* is represented as in (76a), which is translated as in (76b).

- (76) a. [CS<sup>+</sup> ([X]<sup>α</sup>, [INCH [BE ({FEAR ([α]), [AT [Y]])])]]]  
 b. X causes fear of X to come to be in Y

(Jackendoff 1990: 300 n.4)

Arad (1998) claims that “the experiencer is either conceived as the *stuff* contained in the mental state [...] or the container in which the mental states resides”, and Varchetta (2010, 2012) also makes a similar proposal. Landau (2010) proposes that Experiencers are mental locations, by arguing that all object Experiencers are oblique (or dative) and that Experiencers undergo “locative inversion”. In the case of Experiencer subjects, Irish (McCloskey and Sells 1988), Scottish Gaelic (Landau 2010, referring to G. Ramchand), Marathi (Pandharipande 1990), and Malayalam (Mohan and Mohan 1990) typically mark Experiencer subjects with dative case or a locative adposition.<sup>56</sup> Similarly, Japanese Experiencer arguments of Experiencer predicates show nominative-dative alternation (Kuno 1973 and many others), as in (77).<sup>57</sup> Note that the ‘dative marker’ *-ni* is a locative postposition, as shown in (78).

(77) a. *watasi-ga samu-k-at-ta.*

I-Nom cold-Pred-be-Past

‘I was cold.’

b. *watasi-ni-wa samu-k-at-ta.*

I-Dat-Top cold-Pred-be-Past

‘It was cold for me.’

(78) a. *gakkô-ni-wa ôkina tosyokan-ga at-ta.*

school-Loc-Top large library-Nom be-Past

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<sup>56</sup> English Experiencer subjects are always marked with nominative case, but they introduce a path, as a source or a goal, different from non-Experiencer subjects (Speas 1990). It suggests that English also treats Experiencer subjects as locations.

(i) a. I got angry but it went away.

b. ??I laughed but it went away.

(Landau 2010:13(22a,b))

(ii) a. I tried to remember his name, but it wouldn’t come to me.

b. ??I tried to write his name, but it wouldn’t come to me.

(Speas 1990:(7))

<sup>57</sup> The nominative Exp construction is used when there is no theme argument, while the Exp-*ni-wa* construction is used when there is an implied or explicit theme argument. See Azuma (1997b) for details.

‘In the school, there was a large library.’

b. *watasi-wa gakkô-ni it-ta.*

I-Top school-to go-Past

‘I went to school.’

Based on these observations and claims, I suppose that Experiencers, including Japanese ones, are mental locations.

### **3.3 Situation semantics of ordinary locations**

In this section, I give a situation semantic analysis of ordinary (i.e., non-mental) locations, as a preliminary to a semantic analysis of mental locations.

#### **3.3.1 Semantics of locations**

Semantic similarities between time and space are repeatedly noted in the literature (Castañeda (1967, 1987, 1989), Kaplan (1989), Perry (1979), von Stechow (1982), Newen (1997) and others). On the other hand, there is an apparent asymmetry between time and space in syntax: tense is syntactically realized as inflection but space is not. Actually, however, there are languages which have space inflection. For example, Nez Perce has space inflection markers, cislocative (proximal) *-m* and translocative (distal) *-ki*, which appear between aspect and tense inflection markers, and Deal (2008) argues that space inflection and tense inflection work independently to locate the topic time (Klein 1994) and the topic location in the language. More concretely, in her analysis, tense is treated as a modifier of situations which restricts the topic situation with respect to the temporal axis, and space is treated as a modifier of situations which restricts the topic situation with respect to the spatial axis. Thus, tense and space are treated on a

par in her analysis. Following her approach in the spirit, let us consider semantics of some non-Experiencer sentences in this section.

### 3.3.2 Root clauses

Following Kratzer (2004, 2007) and Schwarz (2009, 2012), I suppose that a topic situation is introduced by a syntactic head. In the framework of possibilistic situation semantics (Kratzer 2014), Schwarz (2009) proposes the following lexical entry for such a head (he attributes it to Kratzer 2008).<sup>58</sup>

$$(79) \quad [[ \text{Topic} ]]^{\text{g,c}} = \lambda p. \lambda s'. \lambda s. [s \approx s' \ \& \ p(s)] \quad (\text{Schwarz 2009: 93(104)})$$

Here,  $\approx$  represents the counterpart relation (Lewis 1986).<sup>59</sup> This head takes a proposition and a topic situation, and yields a set of all the counterparts of the topic situation where the proposition holds.

Following Deal (2008), I treat tense as a temporal modifier of situations. Using the temporal precedence relation  $<$  and the inclusion relation  $\subseteq$ , past tense and present tense can be represented as follows.

$$(80) \quad \begin{array}{l} \text{a. } [[ \text{past} ]]^{\text{g}} = \lambda s. s < s^* \\ \text{b. } [[ \text{present} ]]^{\text{g}} = \lambda s. s^* \subseteq s \end{array}$$

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<sup>58</sup> In Kratzer 2004, the topic situation is introduced by a head called ‘Assert’. In Kratzer 2007 and Schwarz 2009, 2012, it is introduced by a head called ‘Topic’.

<sup>59</sup> A speaker who is talking about a situation (namely a topic situation) cannot know whether the topic situation is actual or not because humans are not omniscient. Therefore, it is plausible to suppose that what the speaker is saying about is not a property of a topic situation (which may be non-actual) but a property of the set of counterparts of a topic situation (which includes the topic situation in the actual world).

Here,  $s^*$  means the utterance situation.

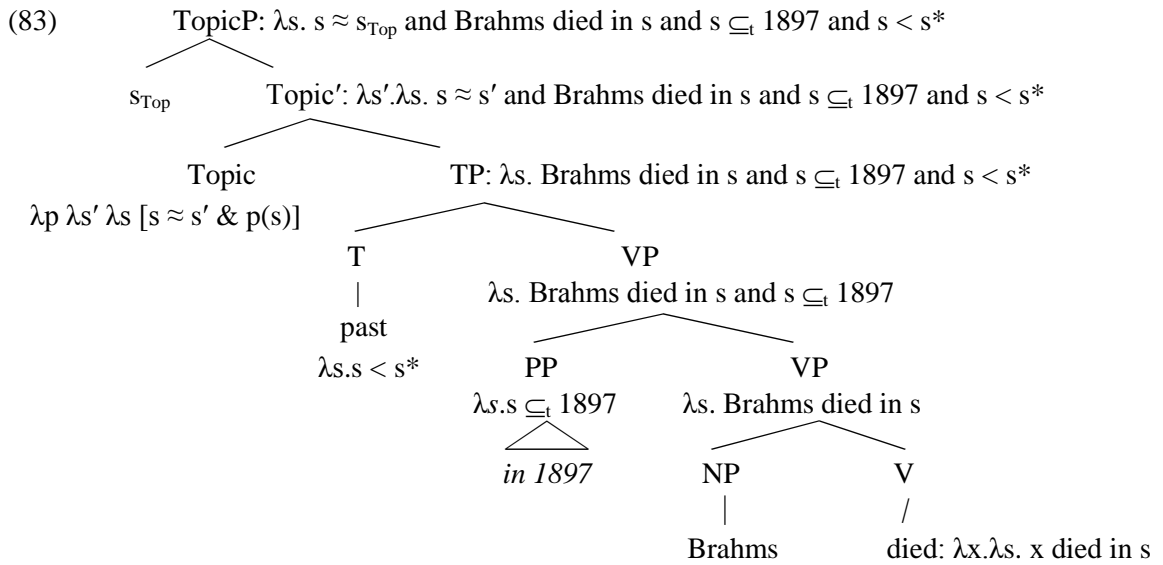
For example, let us consider the following sentence.

(81) Brahms died in 1897.

We can represent the lexical entry for a verb *die* as in (82).

(82)  $[[ \text{die} ]]^g = \lambda x. \lambda s. x \text{ dies in } s$

The LF of (81) is calculated as in (83).<sup>60</sup> Here,  $\subseteq_t$  means a temporal inclusion relation.



It represents the truth condition that the sentence is true if Brahms died in 1897 and it happened earlier than the utterance time, as desired.

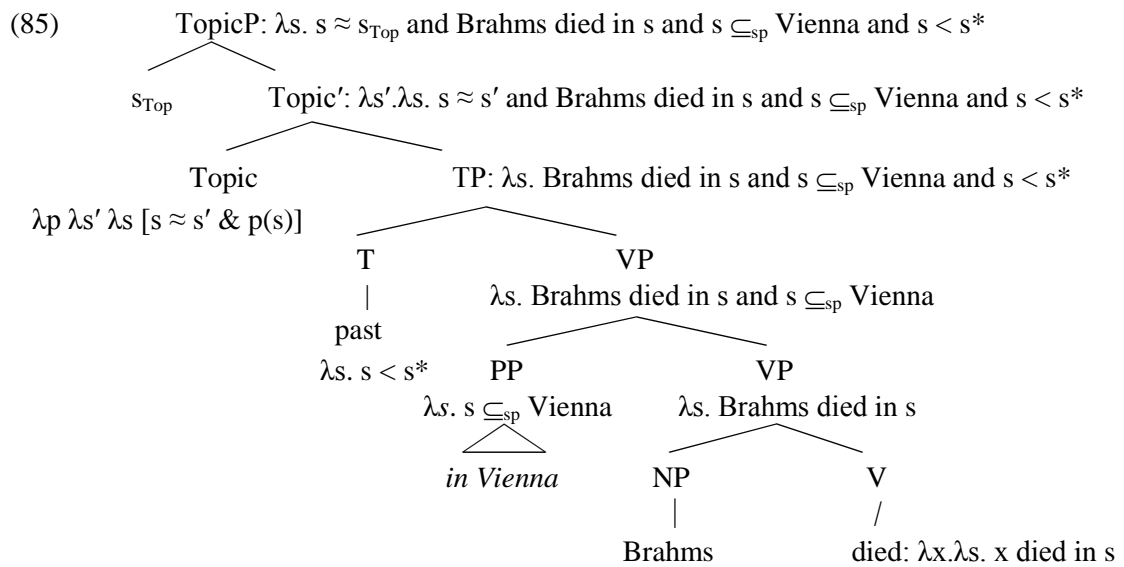
<sup>60</sup> In this section, contribution of viewpoint aspects is set aside. This point will be treated in section 3.6.1.



Locative modification is calculated similarly as temporal modification. Let us consider the following example.

(84) Brahms died in Vienna.

Its LF is calculated as follows. Here,  $\subseteq_{sp}$  means a spatial inclusion relation.



It represents that Brahms died in Vienna and it happened earlier than the utterance time, as desired.

### 3.3.3 Non-root clauses: clauses under attitude verbs, clauses under epistemic modals, and relative clauses

#### 3.3.3.1 Attitude ascriptions

*De re* attitude ascriptions are about a topic situation<sup>61</sup> (Kratzer 1998, 2004, 2007, 2014).

For example, to believe a proposition  $p$  (in *de re* reading) is to believe that  $p$  about a topic situation  $s$ . The topic situation is also called a *res* argument. In other words, the lexical entry of *believe* can be written as in (86), where  $s'$  is a *res* argument.

$$(86) \quad [[ \textit{believe} ]] = \lambda p \lambda s' \lambda x \lambda s [x \text{ believes } p \text{ of } s' \text{ in } s] \quad (\text{Kratzer 2004})$$

Let us consider (87) and calculate its meaning for illustration.

$$(87) \quad \text{John thinks that Brahms is alive.}$$

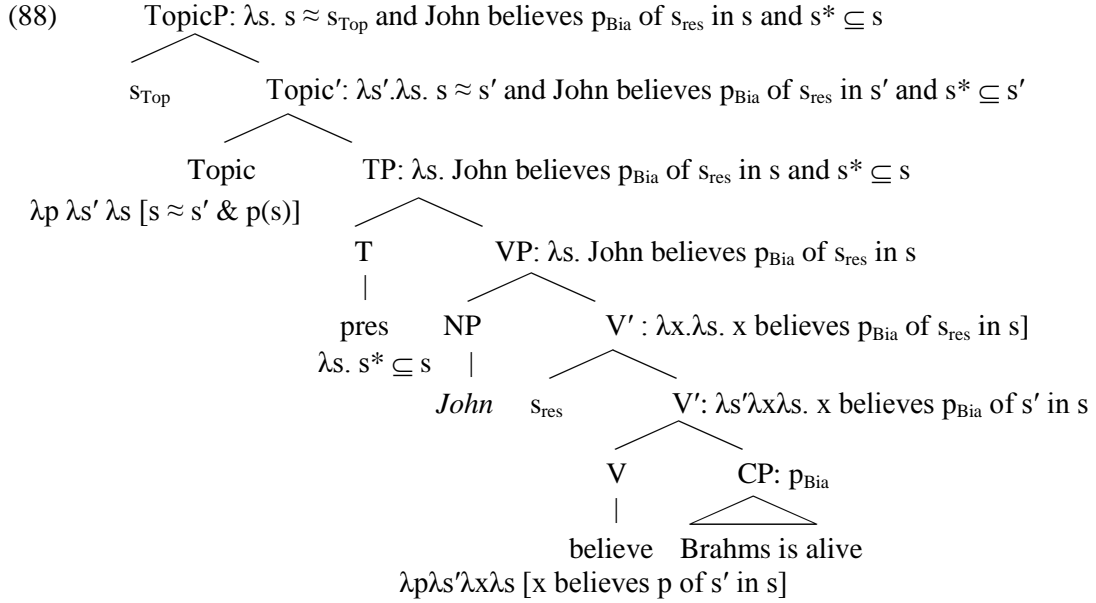
Its LF is calculated as follows. Here,  $p_{\text{Bia}}$  is a shorthand for the proposition,  $\lambda s. [\text{Brahms is alive in } s \ \& \ s^* \subseteq s]$ .

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<sup>61</sup> The following story about the butler and the judge (Kratzer 1998:185) illustrates that attitude ascriptions are about some topic situation:

Suppose the judge fell into a ditch, drunk, head first. A passer-by pulled him out, took him to the hospital, and disappeared. The judge was unconscious, and had no recollection of the incident. The hospital staff gave only a vague description of the man who saved the judge's life. Miles away, not knowing about the mishap, the judge's butler reads a false report on the financial situation of his master. Close to bankruptcy, he had allegedly approached a wealthy man (whose name was not disclosed) to help him out, threatening that he would commit suicide if the financial collapse couldn't be avoided. The report closed by mentioning that some public figure saved the judge from financial ruin, and thereby saved his life. The butler suspected that it was Milford. Returning to his village, the butler meets a group of men discussing the judge's accident. Not paying much attention, the butler thinks the men are talking about the judge's financial traumas. He eventually mentions his suspicion that Milford saved the judge's life. The next day, when everybody was speculating about who had taken the judge to the hospital, and thereby saved the judge's life, it was reported that the butler suspected that it was MILFORD who saved the judge's life.

The fact that the last sentence has an interpretation in which it is false indicates that the attitude ascription is about some particular situation, which specifies the situation in which the judge's life is saved.



### 3.3.3.2 Epistemic modals

Epistemic modals are quantifiers over situations. For example, the lexical entries for *might* and *must* are given as follows.

- (89) a.  $[[ \textit{might} ]]^c = \lambda p \lambda s \exists s' [ \text{Acc}_c(s)(s') \ \& \ p(s') ]$  (Kratzer 2014: (18a))
- b.  $[[ \textit{must} ]]^c = \lambda p \lambda s \forall s' [ \text{Acc}_c(s)(s') \ \& \ p(s') ]$

Here, Acc means an accessibility relation:  $\text{Acc}_c(s)(s')$  means that  $s'$  is an alternative of  $s$  in view of the information available in a context  $c$ . The information available in  $c$  yields different flavors of modals.

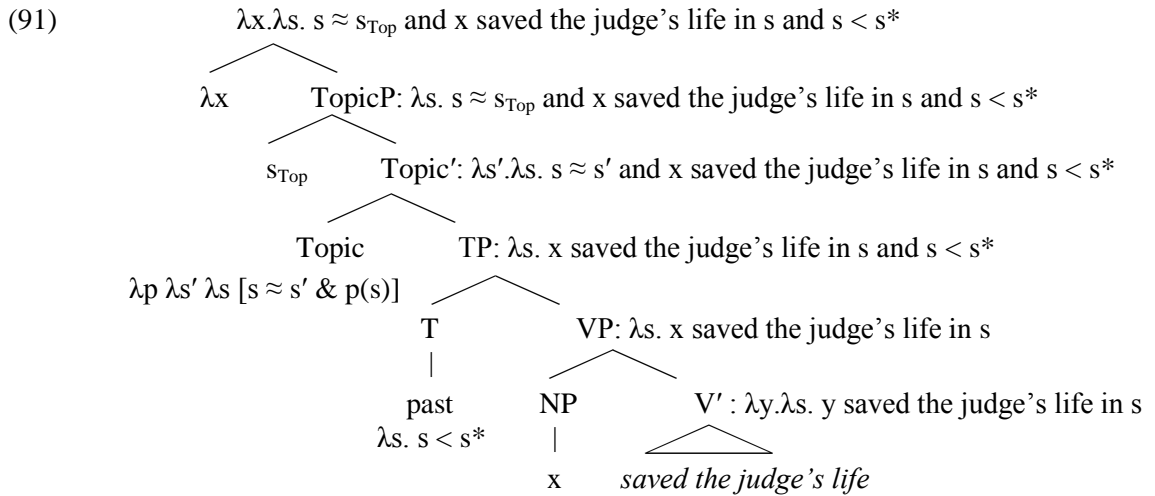
### 3.3.3.3 Relative clauses

It is plausible that relative clauses also introduce a topic situation (Schwarz 2012). To show that, let us consider (90), for example.

(90) John met the man who saved the judge's life.

An available reading of (90) is that there is an individual who saved the judge's life at a particular situation and John met the person at a different situation (which is the topic situation of the root clause). So, I suppose that relative clauses have a TopicP, which introduces a topic situation.

For example, an LF for the relative clause in (90) is calculated as follows.



It means that  $x$ 's saving the judge happened in a counterpart of  $s_{\text{Top}}$ .  $s_{\text{Top}}$  can be different from the matrix topic situation, which is provided by a TopicP in the matrix clause, so the reading mentioned above is obtained: the situation where the man saved the judge's life and the situation where John met the man are different.

### 3.4 Situation semantics of mental locations: proposal

In this section, I propose a situation semantics of mental locations.

As I stated in section 3.2, I suppose that Experiencers are mental locations, based on the works of Jackendoff (1990), Landau (2010) and others. Concretely, I propose the following.

- (92) Similarly to external events and states which happen in situations which have an extension in the spatial axis, experiences such as fear and pleasure happen in situations which have an extension in the mental axis. Mental locations are minds of sentient individuals.

The set of mental locations can be regarded as the so-called “phenomenal space” in the philosophy of consciousness<sup>62</sup>. Especially, the idea that there is a different axis for consciousness from the axes for space-time is advanced by Smythies (2003).

The notion of ‘mental location’ is formalized as follows. I define the set of *mental locations*  $D_m$  as the difference of the set of locations,  $D_l$ , and the set of physical locations  $D_{ph}$ :

- (93) **Definition of the set of mental locations  $D_m$**

$$D_m := D_l - D_{ph}$$

The elements of  $D_m$  are called mental locations. I assume that  $D_m$  forms a join-semilattice<sup>63</sup>  $\langle D_m, \oplus \rangle$  which is isomorphic to the join-semilattice of sentient individuals in discourse,  $\langle D_{sen}, \oplus \rangle$ .

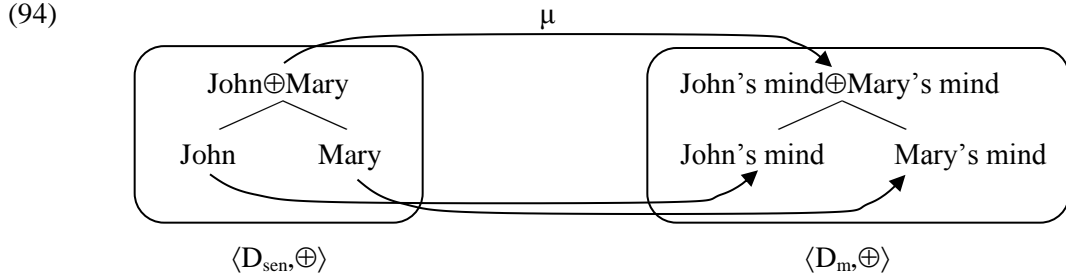
Letting  $\mu$  be the lattice isomorphism from  $\langle D_{sen}, \oplus \rangle$  to  $\langle D_m, \oplus \rangle$  and  $a$  be an element in  $D_{sen}$ , I call the element  $\mu(a)$  a’s *mind*. For example, suppose that John and Mary are sentient individuals in

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<sup>62</sup> For example, see Huemer (2011) for a review of the sense data theory.

<sup>63</sup> For lattices, see, e.g., Partee, ter Meulen, and Wall (1993).

discourse. Then,  $D_{\text{sen}}$  consists of three elements, John, Mary, and  $\text{John} \oplus \text{Mary}$ , and the lattice isomorphism  $\mu$  maps these elements to John's mind, Mary's mind, and John's mind  $\oplus$  Mary's mind in  $D_m$ , respectively:



In this case, the set of locations,  $D_l$ , consists of John's mind, Mary's mind, John's mind  $\oplus$  Mary's mind, and the physical locations.

Note that (95) holds because  $\mu$  is the lattice isomorphism between  $\langle D_{\text{sen}}, \oplus \rangle$  and  $\langle D_m, \oplus \rangle$ .

- (95) i. For  $a, b \in D_{\text{sen}}$ ,  $a \neq b \Rightarrow \mu(a) \neq \mu(b)$ ,  
 ii. For  $\mu(a), \mu(b) \in D_m$ ,  $\mu(a) \neq \mu(b) \Rightarrow a \neq b$ .

As the function  $t$  which maps an eventuality (event or state)  $s$  to its temporal interval,  $t(s)$ , it is possible to suppose a function  $l$  which maps a situation to its location. Letting  $D_s$  be the set of situations,  $l$  is given as in (96).

(96)  $l: D_s \rightarrow D_l$

I assume that the location function  $l$  is total. Furthermore, I assume that it preserves the inclusion relation between situations:

$$(97) \quad s_1 \subseteq s_2 \Rightarrow I(s_1) \subseteq I(s_2)$$

I suppose that Experiencer expressions specify the location of the described situation, based on the assumption that the Experiencer argument is a locative. But there is one twist. The specification of mental situations by Experiencers is a presupposition, not part of the at-issue content. Otherwise, it does not yield a truth-value gap which explains the absurdness of sentences which does not satisfy the condition on the Experiencer. In this respect, Experiencers are similar to tenses in some theories, in which tenses are supposed to be presuppositional. Kratzer (1998a) advances analogies between tenses and pronouns, which were first observed by Partee (1973), and proposes the following lexical entries for English present and past tenses (she considers a zero tense also, which is omitted here).

- (98) a.  $[[ \textit{present} ]]$ <sup>g,c</sup> is only defined if c provides an interval t that includes  $t_0$  (the utterance time). If defined, then  $[[ \textit{present} ]]$ <sup>g,c</sup> = t.
- b.  $[[ \textit{past} ]]$ <sup>g,c</sup> is only defined if c provides an interval t that precedes  $t_0$ . If defined, then  $[[ \textit{past} ]]$ <sup>g,c</sup> = t. (from Kratzer (1998a: 101))

For example, let us consider a sentence, *Tarô-wa uresi-i* ('Taro is glad'). What I propose is that the Experiencer argument is tied to a definedness condition on the expressed proposition, as in (99).

$$(99) \quad [[ \textit{uresi-} ]]$$
 =  $\lambda x.\lambda s: I(s) = \mu(x)$ . gladness is at  $s$

In this formulation, 'Taro is glad' means 'gladness is at  $s$ ' if the location of  $s$  is Taro's mind, and has no truth-value otherwise.

Note that a sentient individual  $a$  cannot have direct evidence of a situation  $s$ , namely that  $a$  cannot claim to have perceived  $s$  (Willett 1988), if the location of  $s$  is not in  $D_{\text{ph}} \cup \{\mu(a)\}$ . It is because one cannot perceive feelings and thoughts of others. (The same point is discussed in Sun 1993 and Garrett 2001 in terms of ‘observability’.) Thus, the following relations hold.

- (100) For  $a \in D_{\text{sen}}$  and a situation  $s$ ,
- $$a \text{ can directly witness } s \Leftrightarrow s \text{ is observable to } a \Leftrightarrow l(s) \in D_{\text{ph}} \cup \{\mu(a)\}$$

### 3.5 Assertion and mental locations

I suppose that assertion imposes a condition on topic situations in Japanese. In prose, my concrete proposal is (101).

- (101) In Japanese, assertion requires the location of the topic situation, if it is mental, to be the speaker’s mind.

English assertion does not impose such a condition on topic situations, so the Experiencer restriction does not emerge in English.

Formally, my proposal is represented as follows. As stated in section 3.3.2, a topic situation is introduced by a Topic as in (79), which is reproduced as (102) below:

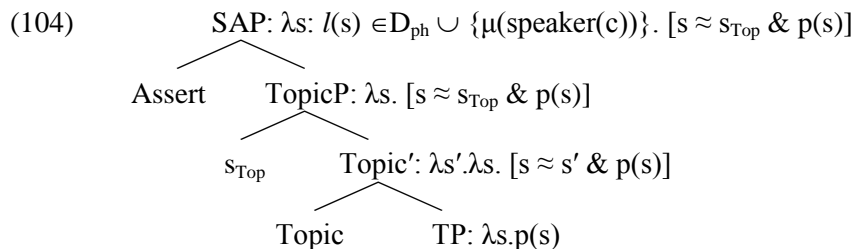
- (102)  $[[ \text{Topic} ]]^{\text{g.c}} = \lambda p. \lambda s'. \lambda s. [s \approx s' \ \& \ p(s)]$  (Schwarz 2009: 93(104))

The lexical entry for Assert, which is a SA head of assertive sentences, is given as in (103).

- (103)  $[[ \text{Assert} ]]^{\text{g.c}} = \lambda p. \lambda s: l(s) \in D_{\text{ph}} \cup \{\mu(\text{speaker}(c))\}. p(s)$



Schematically, combination of a TopicP and a SAP yields the following meaning, using (102) and (103).



The definedness condition restricts the situations which are counterparts of the topic situation to situations whose location is physical or is the speaker's mind.

From the next section, let us see how the restriction imposed by Assert and the presupposition of Experiencer adjectives yield the observed Experiencer restriction.

### 3.6 The Experiencer restrictions in root clauses

#### 3.6.1 The Experiencer restrictions in root clauses in the reportive style

First, let us consider a simple root clause, (105). It is not felicitously assertable because it has a non-speaker Experiencer.

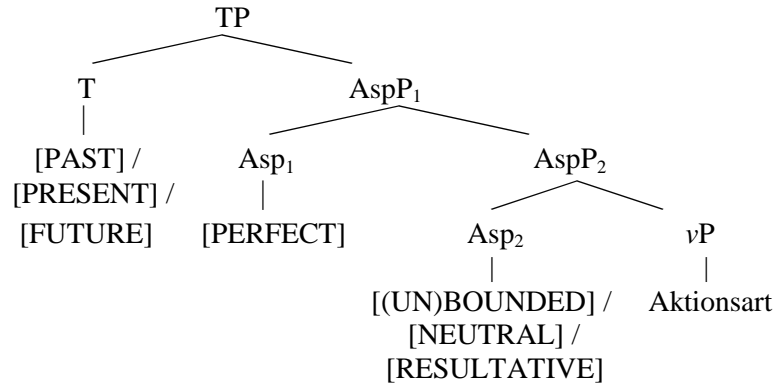
- (105) (When the speaker is not Taro)
- \*Tarô-wa uresi-i yo.
- Taro-Top glad-Pred.be.Pres SFP
- (Intended:) 'Taro is glad.'

To analyze this example, let us look at a detailed analysis of the Japanese tense-aspect system by Kiyota (2008).

According to a comparative study of Japanese and Salish aspects (viewpoint aspects and Aktionsarten) by Kiyota (2008), Japanese does not have standard viewpoint aspects such as perfective and imperfective, different from Salish, English, and other languages. It does not mean that Japanese just lacks pronounced standard viewpoint aspect markers. Instead, he claims that compositional semantics of the temporal interpretation of Japanese sentences does not involve the standard viewpoint aspects, and speculates that Japanese does not have the functional projection for them.

Kiyota's analysis is based on Pancheva's (2003) proposal of the ramified aspect system. It is often the case that Perfect is treated on a par with standard viewpoint aspects (Giorgi and Pianesi 1998, von Stechow 2002, among others), but Pancheva argues that Perfect's various interpretations (universal, experiential, and resultative) are consequences of compositional semantics of Perfect and viewpoint aspects, supposing that Perfect is not a viewpoint aspect but selects for a viewpoint aspect phrase. In her analysis, the aspect phrase consists of two AspPs, the lower one for viewpoint aspects, and the higher one for Perfect, as in (106).

(106)



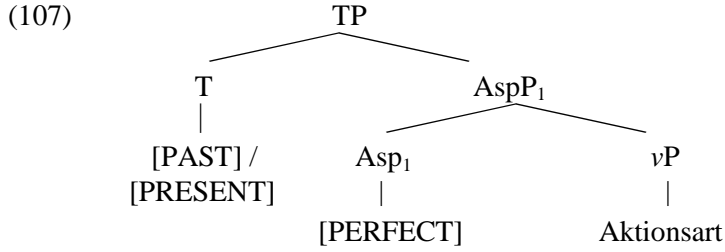
(based on Pancheva 2003: 284(9a)<sup>64</sup>)

The [BOUNDED] and [UNBOUNDED] features correspond to the perfective and imperfective viewpoint aspects, respectively. [NEUTRAL] corresponds to the neutral viewpoint aspect, which is adopted from Smith (1997), and [RESULTATIVE] corresponds to the resultative viewpoint aspect, which is a new viewpoint aspect introduced by Pancheva to account for the resultative interpretation of Perfect.

A Japanese aspect marker *-tei-* has a progressive, a resultative, and an experiential perfect interpretation. Kiyota (2008) argues that *-tei-* is a Perfect marker and the various interpretations of *-tei-* are consequences of the combination of various Aktionsarten and the semantics and pragmatics of the Perfect marker *-tei-*. Importantly, the calculation of the interpretations does not involve viewpoint aspects. In this respect, the Japanese aspect is different from that of Salish, English and other languages (Kiyota notes that Icelandic may have a similar aspect system as Japanese). In his analysis, Japanese TP has the following structure (here, I use the head-initial order for ease of comparison).

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<sup>64</sup> The tree in Pancheva (2003:284(9a)) does not include the RESULTATIVE viewpoint aspect, which is introduced later in the same paper .



Semantically, the Japanese Perfect relates events to a topic time. (The function of relating events to a topic time is assigned to viewpoint aspects in English, Salish and other languages.) Kiyota proposes the following meaning for predicates and Perfect *-tei-*.

- (108) a. Homogeneous states:  $\lambda e.P(e)$   
 b. Inchoative states:  $\lambda e. \exists e_1 \exists e_2 [e =^S(e_1 \cup e_2) \wedge (\text{BECOME}(P))(e_1) \wedge P(e_2)]$   
 c. Activities:  $\lambda e. \exists e_1 \exists e_2 [e =^S(e_1 \cup e_2) \wedge (\text{BECOME}(P))(e_1) \wedge \text{DO}(P))(e_2)]$   
 d. Achievements:  $\lambda e. (\text{BECOME}(P))(e)$   
 e. (Non-culminating)<sup>65</sup> accomplishments:  $\lambda e. \exists e_1 \exists e_2 [e =^S(e_1 \cup e_2) \wedge (\text{BECOME}(P))(e_1) \wedge \text{DO}(P))(e_2) \ \& \ [\forall w' [w' \text{ is an inertia world w.r.t. } w \text{ at the beginning of } e \rightarrow [\exists e' [e' \text{ is a culmination of } e \text{ in } w' \ \& \ e \text{ causes } e' \text{ in } w' ]]]]$

(Kiyota 2008: 217(6))

- (109)  $[[ -tei- ]] = \lambda P.\lambda e.\lambda t.\exists e'. [e' \subseteq e \ \& \ \tau(e') < t \ \& \ P(e)]$  (Kiyota 2008: 225(16))

Here,  $e =^S(e_1 \cup e_2)$  means that  $e$  is a complex event which is the sum of two sub-events,  $e_1$  and  $e_2$ .

Note that the Japanese Perfect relates an event to the topic time.

<sup>65</sup> The culmination of accomplishments is not entailed but implicated in Japanese. See Kiyota (2008) for details.

Now, let us calculate the meaning of a simple Experience sentence, based on this analysis of the Japanese tense-aspect system. Unfortunately, Kiyota presents calculations of only sentences with the Perfect marker *-tei-*. What happens when the Perfect marker is absent? In the case of English and Salish, we can suppose that  $Asp_1$  does not have semantic/pragmatic contribution when a Perfect marker is absent. However, in the case of Japanese, we need an element which relates events (situations) to a topic time, when a Perfect marker is absent. It is because standard viewpoint aspects relates an event to a reference time and Perfect relates a reference time to a topic time in English and Salish while Japanese has no viewpoint aspect and Perfect relates an event to a topic time. From the parsimony, I suppose that sentences without the Japanese Perfect marker *-tei-* contain a covert  $Asp_1$  element  $\emptyset_{Asp}$  which relates an event (situation) to a topic time as follows.

$$(110) \quad [[ \emptyset_{Asp} ]] = \lambda P. \lambda e. \lambda t. [\tau(e) = t \ \& \ P(e)]$$

This aspectual element yields correct interpretations. For example, let us consider the following sentence, which contains an achievement verb *tuk-u* ‘arrive/reach’. It represents a completed event, as the badness of the continuation in (111) shows.

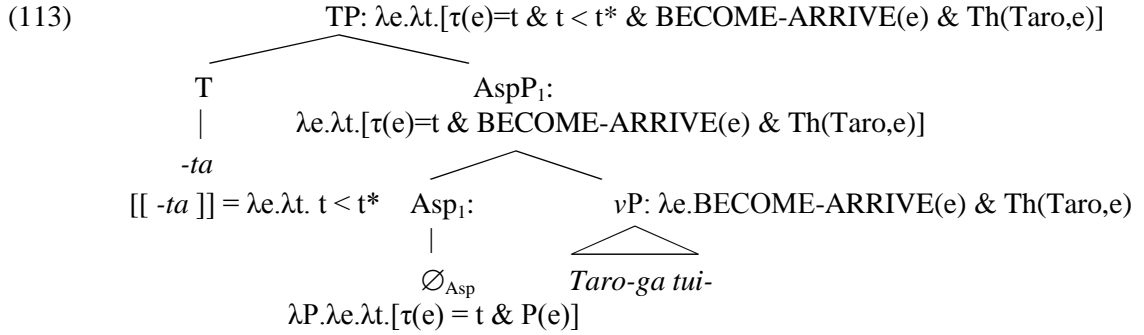
- (111) Tarô-wa tui-ta. (#Sikasi, mada tui-tei-na-i.)  
 Taro-Top arrive-Past (#But yet arrive-Perf-Neg-Pred.be.Pres)  
 ‘Taro arrived. (#But he has not yet arrived.)’

The past tense morpheme represents a precedence relation between the topic time and the utterance time. I assume the following lexical entry. Here, < represents the temporal precedence relation.

(112)  $[[ -ta ]] = \lambda e.\lambda t. t < t^*$

where  $t^*$  means the utterance time.

Then the logical form of TP, *Tarô-wa tui-ta* ‘Taro arrived’, is calculated as follows.



Finally, by applying declarative operator (114) to (113), we obtain the interpretation of the sentence, (115).

(114) The declarative operator:  $\lambda P \exists e[P(e)]$  (Krifka 1989: 90)

(115)  $\lambda t.\exists e. [\tau(e)=t \ \& \ t < t^* \ \& \ \text{BECOME-ARRIVE}(e) \ \& \ \text{Th}(\text{Taro},e)]$

It means that there is an event of Taro’s arriving and it occurred before the utterance time.

As another example, let us consider the following sentence, which contains a stative predicate. It does not have implication about completion of the event.

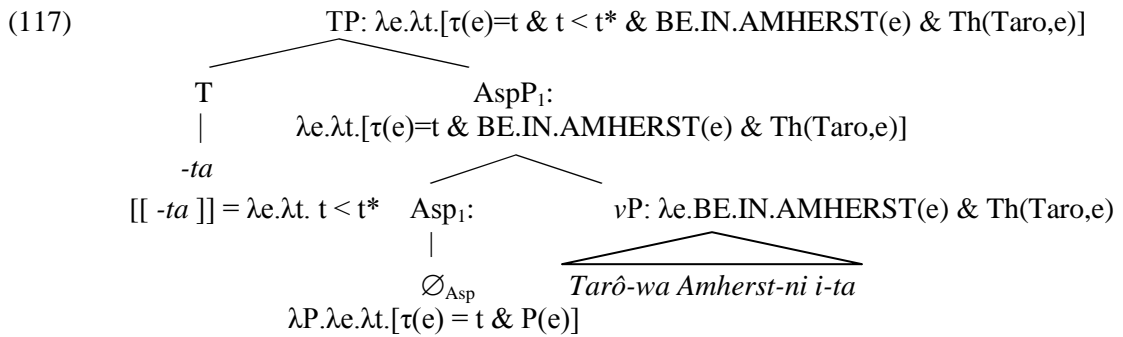
(116) *Tarô-wa Amherst-ni i-ta.*      (*{Ima-mo i-ru / Ima-wa*  
*Taro-Top Amherst-in exist-Past* (*{now-also exist-Pres/ now-Top*

i-na-i}.)

exist-Neg-Pred.be.Pres})

‘Taro was in Amherst. ({He is still there / He is not there now}.)’

The logical form of TP, *Tarô-wa Amherst-ni i-ta* ‘Taro was in Amherst’, is calculated in the same way as above.



Adding the declarative operator, we obtain the interpretation of the sentence.



It means that there is an event (state) of Taro’s being in Amherst and it occurred before the utterance time. Note that the endpoints of the state of being in Amherst are not included in the state represented by the stative, *Amherst-ni i-* ‘be in Amherst’, and also that the meaning of the null aspect  $\emptyset_{\text{Asp}}$  does not require the endpoints of the state of being in Amherst to be included in the topic time.<sup>66</sup> Therefore, it does not have any implication on completion of the state, in accordance with the data.

<sup>66</sup> The reader may recall Smith’s (1997) analysis of English (perfective) statives and French perfective statives. Smith claims that in English, statives are accompanied with the perfective viewpoint aspect and

Now, based on the viewpoint-aspect-less system, let us consider a sentence with an Experiencer adjective and derive the Experiencer restriction. As Strawson (1950) claims, one cannot assert a sentence with no truth value felicitously. The goal here is to show that the logical form of a sentence with a non-speaker Experiencer does not have a truth value.

Before considering a specific example, let us translate the above semantics using situation semantic terms. Note that the sole function of  $\emptyset_{\text{Asp}}$  was to convert events to their times and dissolve the type mismatch. Because in situation semantics the notion of the topic time is extended to the topic situation, aspects relate an event/situation to a situation. So the meaning of  $\emptyset_{\text{Asp}}$  becomes trivial (at least) for statives (now the meaning of the declarative operator, existential quantification over events, is included in that of  $\emptyset_{\text{Asp}}$ ):

$$(119) \text{ a. } [[ \emptyset_{\text{Asp}} ]] = \lambda p. \lambda s. p(s) \quad \text{if the predicate is stative}^{67}$$

The meaning of tense morphemes can be given as in (120).

$$(120) \text{ a. Past tense: } [[ -ta ]] = \lambda s. \tau(s) < t^*$$

$$\text{ b. Present tense: } [[ -ru, \emptyset ]] = \lambda s. t^* \subseteq \tau(s)$$

Using these lexical entries, let us consider (105), which is reproduced below.

(105) (When the speaker is not Taro)

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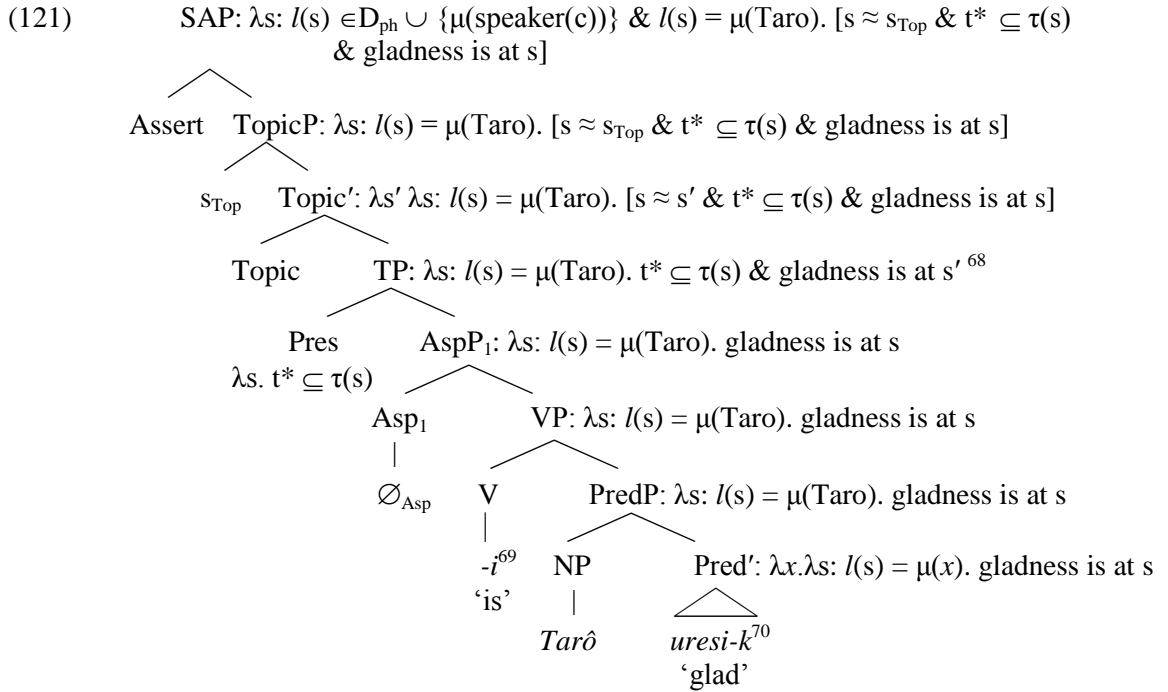
that the perfective viewpoint aspect of English statives does not require the endpoints of the state to be included in the topic time. Contrastively, she claims, the perfective viewpoint aspect of French statives require the endpoints of the state to be included in the topic time. My analysis, therefore, is somewhat similar to Smith's analysis of English statives.

<sup>67</sup> Events can be seen as situations which exemplify the expressed proposition (Kratzer 2014). When the predicate is a stative, any situation on which the proposition holds exemplifies the proposition, so we can simply replace events with situations.



\*Tarô-wa uresi-i yo.  
 Taro-Top glad-Pred.be.Pres SFP  
 (Intended:) ‘Taro is glad.’

Its logical form is calculated as follows.



Let us confirm that the logical form does not have a truth value for any situation as long as the speaker is not Taro. From the definedness conditions of Assert and Experiencer predicates, the logical form can have a truth value only for a situation  $s$  whose location is physical or the

<sup>68</sup> Here, the logical form for AspP<sub>1</sub> and that for Pres are both of type  $\langle s, t \rangle$ , and are combined by Predicate Modification rule. Though the logical form for Pres is defined for any  $s$ , the logical form for AspP<sub>1</sub> is defined only for  $s$  such that  $l(s) = \mu(\text{Taro})$ . So the logical form for the combination of AspP<sub>1</sub> and Pres is also defined only for  $s$  such that  $l(s) = \mu(\text{Taro})$ .

<sup>69</sup> The *be*-verb *-i* ‘is’ is a raising verb (Kawai 2006b, 2008), as its English counterpart. I suppose that it raises to T.

<sup>70</sup> The combination of the Predication head *-k* and the *be*-verb in the present tense is realized as *-i*, so *-k* does not appear in the surface form. For details on this point, see Nishiyama (1999), who analyzes the inflectional endings of Japanese adjectives using Distributed Morphology.

speaker's mind ( $l(s) \in D_{ph} \cup \{\mu(\text{speaker}(c))\}$ ), and is also Taro's mind ( $l(s) = \mu(\text{Taro})$ ). These two conditions can be satisfied only if the speaker is Taro. It is the desired result: the infelicity of assertion of the sentence when the speaker is not Taro is a reflection of the truth-value gap of the sentence.<sup>71,72</sup>

<sup>71</sup> If the relation between  $s$  and  $s_{\text{Top}}$  is not a counterpart relation as given in (102) but an inclusion relation as in (i), the logical form has a truth value for some situations even if the speaker is not Taro, against the expectation, but it can be fixed by supposing that the inclusion relation is part of the presupposition, not part of the at-issue content.

$$(i) \llbracket \text{Topic} \rrbracket^c = \lambda p. \lambda s'. \lambda s. s' \subseteq s \ \& \ p(s')$$

First, let us see that this meaning of Topic does not yield a truth gap which corresponds to the Experiencer restriction. For example, the logical form of the example sentence, (105), is as follows.

$$(ii) \llbracket \text{SAP} \rrbracket^c = \lambda s: l(s) \in D_{ph} \cup \{\mu(\text{speaker}(c))\}. [s_{\text{Top}} \subseteq s \ \& \ t^* \subseteq \tau(s_{\text{Top}}) \ \& \ \text{gladness is at } s_{\text{Top}}], \\ \text{if } l(s_{\text{Top}}) = \mu(\text{Taro}). \# \text{ otherwise.}$$

For any mental situation whose location is the speaker's mind, if the location of the topic situation is Taro's mind, the logical form has a truth value. Importantly, the two definedness conditions,  $l(s) \in D_{ph} \cup \{\mu(\text{speaker}(c))\}$  and  $l(s_{\text{Top}}) = \mu(\text{Taro})$ , are imposed on different situations. So, even if the speaker and Taro are not the same individual, the logical form can have a truth value. Thus, it does not explain the Experiencer restriction.

Next, let us see that if the inclusion relation is part of the presupposition as in (iii), the logical form of sentences have a truth gap which corresponds to the Experiencer restriction.

$$(iii) \llbracket \text{Topic} \rrbracket^c = \lambda p. \lambda s'. \lambda s: s' \subseteq s. p(s')$$

With (iii), the logical form of the example sentence, (105), becomes as follows.

$$(iv) \llbracket \text{SAP} \rrbracket^c = \lambda s: l(s) \in D_{ph} \cup \{\mu(\text{speaker}(c))\} \ \& \ s_{\text{Top}} \subseteq s. [t^* \subseteq \tau(s_{\text{Top}}) \ \& \ \text{gladness is at } s_{\text{Top}}], \\ \text{if } l(s_{\text{Top}}) = \mu(\text{Taro}). \# \text{ otherwise.}$$

This logical form has a truth value only for a situation which satisfies (iii) and (iv).

$$(v) l(s) \in D_{ph} \cup \{\mu(\text{speaker}(c))\} \ \& \ s_{\text{Top}} \subseteq s$$

$$(vi) l(s_{\text{Top}}) = \mu(\text{Taro})$$

These two conditions can be satisfied only by a situation  $s$  whose location is the speaker's mind and which includes  $s_{\text{Top}}$  whose location is Taro's mind. Such a situation can exist only when the speaker is Taro, because the location function  $l$  preserves the inclusion relation between situations. This means that (105) has a truth value only when the speaker is Taro, and it explains the Experiencer restriction.

<sup>72</sup> If the contribution of the Experiencer,  $l(s) = \mu(x)$ , is not a presupposition but a part of the at-issue content as in (i), the right truth-value gap is not produced.

$$(i) \llbracket \text{uresi-} \rrbracket = \lambda x. \lambda s: l(s) = \mu(x) \ \& \ \text{gladness is at } s$$

To see that, let us consider the logical form for the example sentence, (105), which is as follows.

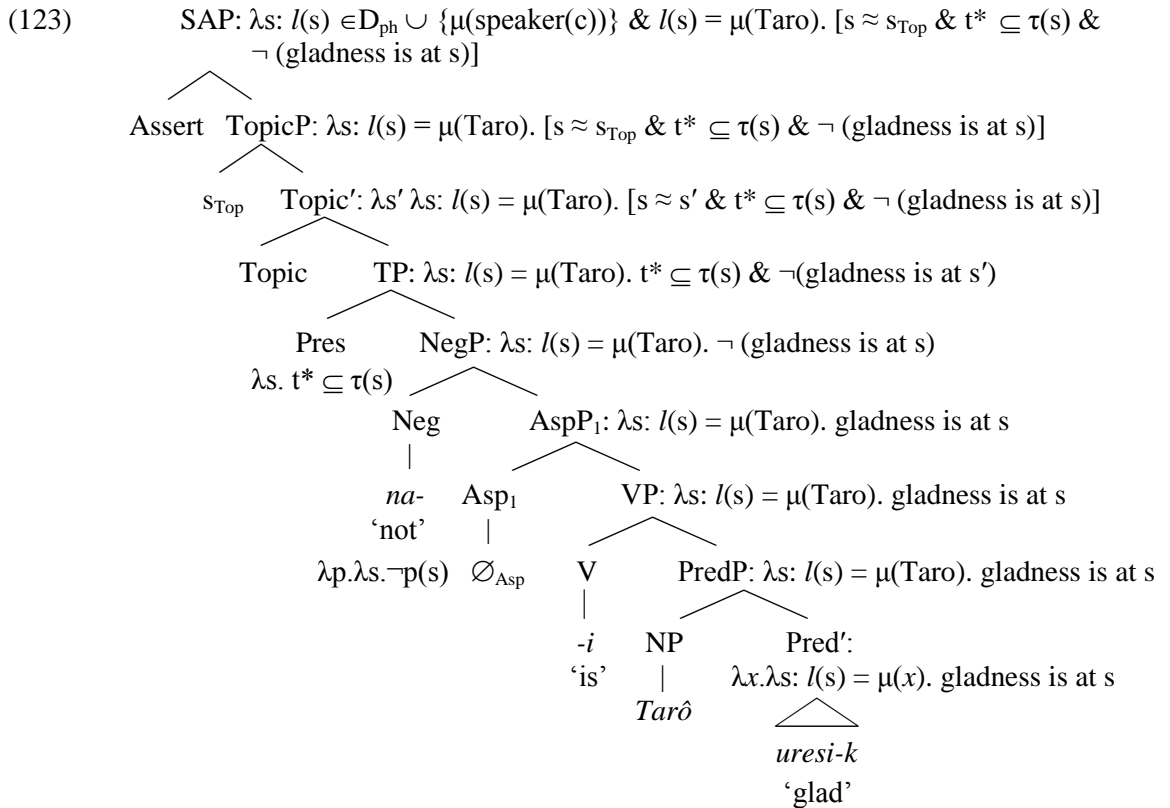
(ii)  $\llbracket \text{SAP} \rrbracket^c = \lambda s: l(s) \in D_{ph} \cup \{\mu(\text{speaker}(c))\}. [l(s) = \mu(\text{Taro}) \ \& \ s \approx s_{\text{Top}} \ \& \ t^* \subseteq \tau(s) \ \& \ \text{gladness is at } s]$   
The definedness condition of this logical form is satisfied if  $s$  is a situation whose location is physical or is the speaker's mind. Thus, if the location of  $s$  is  $\mu(\text{speaker}(c))$  and the speaker is not Taro, then the logical form has a truth-value (the truth-value is false because the situation falsifies the relation  $l(s) = \mu(\text{Taro})$ ). It does not fit with the judgment of the sentence.

### 3.6.2 The Experiencer restriction in negated root clauses in reportive style

Next, let us consider a negated root clause, (122). The negated sentence is not felicitously assertable if Taro is not the speaker, similarly to the affirmative counterpart.

- (122) (When the speaker is not Taro)  
 \*Tarô-wa uresi-ku na-i yo.  
 Taro-Top glad-Pred Neg-Pred.be.Pres SFP  
 (Intended:) ‘Taro is not glad.’

The calculation goes as follows.



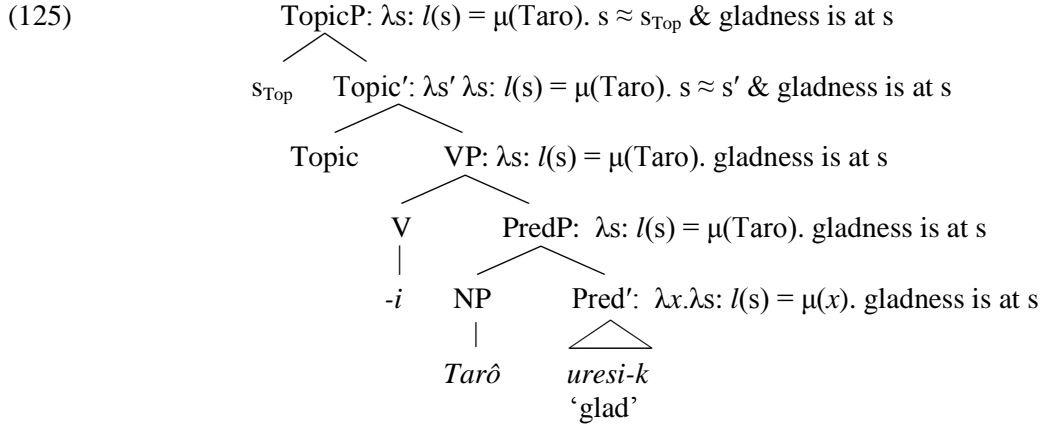
This calculation yields the correct interpretation of (122). The logical form has a truth value only if Taro is the speaker, and has the value 1 if Taro is not glad at the utterance time.

### 3.6.3 Absence of the Experiencer restriction in root clauses in the nonreportive style

Next, let us consider a root clause in the nonreportive style. As stated above, a root clause in the nonreportive style does not restrict an Experiencer inside of it. Let us take (124) for illustration.

- (124) (In third-person narrative)  
Tarô-wa uresi-k-at-ta.  
Taro-Top glad-Pred-be-Past  
'Taro was glad.'

Its logical form is calculated as follows. (From here, I omit tense and aspect because they do not have any impact on the derivation of the Experiencer restriction, as shown in the calculations in the previous sections.) Recall that crucially, when a sentence is in nonreportive style, it lacks a SAP. Consequently, nothing will require that the topic situation, if not physical, be the speaker's mind.



Now, the definedness condition of the logical form is just that the location of the situation  $s$  is Taro's mind. It can be satisfied whoever utters sentence (124), so the Experiencer (Taro) is surely not restricted.

The point is that root clauses in the nonreportive style do not have a SAP, so the definedness condition which a SA has is not imposed on their logical form.

### 3.7 The Experiencer restriction in embedded clauses

#### 3.7.1 Embedded clauses under verbs of saying

As explained in section 2.3.2.1, an Experiencer in a *to*-complement clause under a verb of saying is restricted to the local speaker, as in (126), while an Experiencer in a *no*-complement clause under a verb of saying is not.

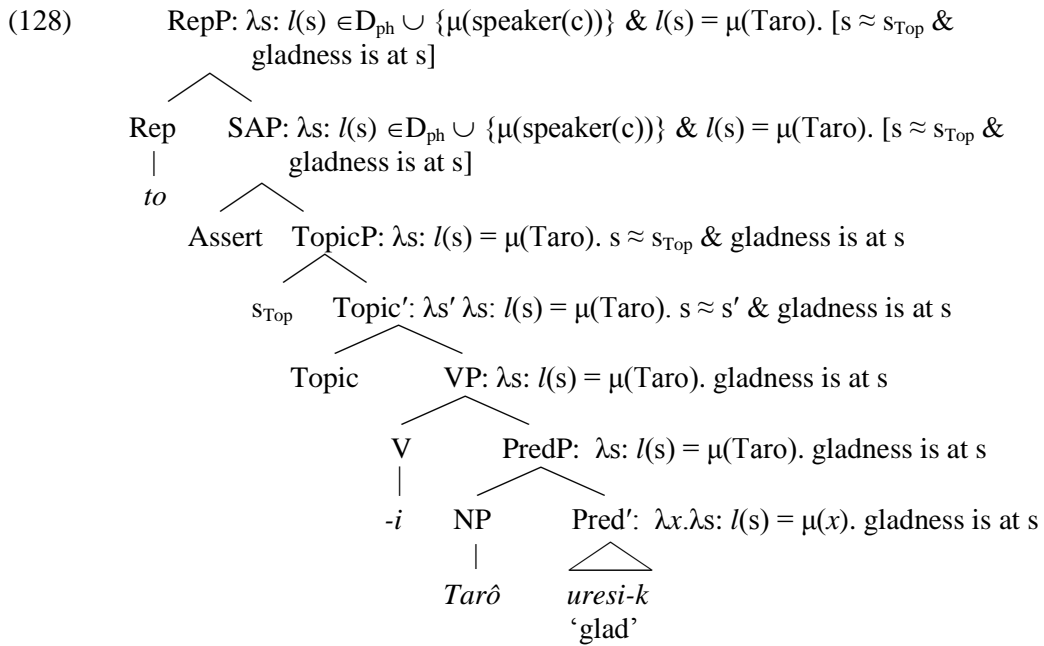
- (126) Hanako<sub>*i*</sub>-wa [{kanozyo<sub>*i*</sub>/\*Tarô}-wa uresi-i-to]                    it-ta.
- Hanako<sub>*i*</sub>-Top [{she<sub>*i*</sub>/Taro}-Top                    glad-Pred.be.Pres-Rep] say-Past
- 'Hanako<sub>*i*</sub> said that {she<sub>*i*</sub> was/\*Taro was} glad.'

The point is that there is an Assert head in a SAP in the embedded *to*-complement clause under a verb of saying, and it yields the Experiencer restriction. In the case of a *no*-complement clause embedded under a verb of saying, it does not contain a SAP (note that a *no*-complement clause is smaller than SAP (see (29)), so the Experiencer restriction does not emerge, as in the case of a root clause in nonreportive style.

As an example, let us consider the following sentence.

- (127) \*Hanako-wa [Tarô-wa uresi-i-to]                      yu-u.  
           Hanako-Top [Taro-Top glad-Pred.be.Pres-Rep] say-Pres  
           (Intended:) ‘Hanako says that Taro is glad.’

The LF of the *to*-clause of (127), *Tarô-wa uresi-i-to*, is calculated as follows. It is assumed that the Rep head does not have a relevant semantic contribution.



The LF of the matrix VP is given in (130). Here, I omit a condition on the counterparts of the topic situation of the matrix clause imposed by matrix assertion, because it is relevant to the event described by the matrix clause (namely the event of saying) but is irrelevant to the Experiencer restriction in the *to*-clause. For concreteness, I suppose lexical entry (129) for the verb of saying *yu-u* ‘say’ (the temporal coordinate which is represented in it is omitted below). Here,  $\Phi$  means a *to*-complement clause, which is of type  $\langle s,t \rangle$ .

$$(129) \quad [[\text{say } \Phi]]^c = \lambda\Phi.\lambda s'.\lambda x.\lambda s. \text{ for any context } c' \text{ compatible with what } x \text{ says at } t(c) \text{ in } s, \\ [[\Phi]]^{c'}(s').^{73}$$

The LF of (127) is given as in (130).

---

<sup>73</sup> In a *to*<sub>ID</sub>-clause under a verb of saying, first- (and second-)person pronouns always refer to the matrix speaker and addressee, respectively, as explained in section 2.1.1. Therefore, for this analysis to be viable, it is necessary to suppose that the Japanese first- and second-person pronouns are evaluated with respect to the matrix context (while the Japanese Assert is evaluated with respect to the local context), in line with Schlenker’s (2003) treatment of shiftable and non-shiftable indexicals. A conceptual problem of this approach is that it does not explain the observation that indexicals shift together in a clause in languages like Slave and Zazaki (Anand and Nevins 2004, Anand 2006). Currently, however, it does not seem that there is Japanese-internal evidence against the Schlenkerian approach. Sudo (2012) proposes an analysis in the line of Anand (2006) which covers Japanese, claiming that ‘direct’ discourse introduced by *to*<sub>DD</sub> is actually a shifted context and that it shows shift together. But his Japanese data is questionable. For example, he states that *wh*-phrases in a *to*<sub>DD</sub>-clause can take a wide scope (i.e., a scope wider than the *to*-clause) and that Kuno (1988) agrees with the judgment. However, Kuno himself states that *wh*-phrases in such an environment cannot take a wide scope (and I agree with Kuno). Also, Kuno claims that extraction from *to*<sub>DD</sub>-clauses is banned. Kuno’s (and my) judgment suggests that *to*<sub>DD</sub> really introduces direct discourse, which is unintegrated to the matrix clause, contrary to Sudo’s claim.

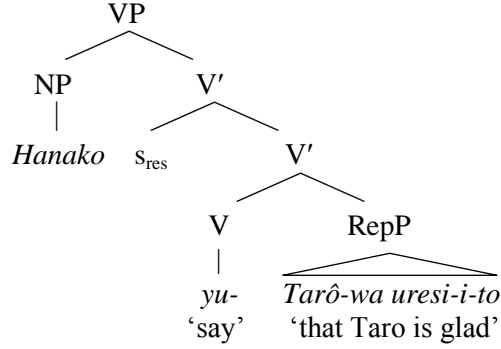
Another possible analysis, which does not assume (129), is that Assert does not involve speaker(*c*) as in (i) but involves a semantic parameter for the Experiencer, *h*, as in (ii), and *h* is set to the matrix speaker at a SAP in a matrix clause and to the subject of a verb of saying at a SAP in a *to*<sub>ID</sub>-clause under the verb of saying.

- (i)  $\lambda s: I(s) \in D_{\text{ph}} \cup \{\mu(\text{speaker}(c))\}. [s \approx s_{\text{Top}} \ \& \ p(s)]$
- (ii)  $\lambda s: I(s) \in D_{\text{ph}} \cup \{\mu(h)\}. [s \approx s_{\text{Top}} \ \& \ p(s)]$

(The semantic parameter for the Experiencer is explained in more detail in chapter 5. Although the chapter explains a feature-checking analysis of the Experiencer restriction in addition to the semantic parameter, involvement of the parameter in an analysis of the Experiencer restriction is a separate matter from involvement of feature checking.) This analysis avoids the above-mentioned potential problem related to context shift.

I leave the problem to decide which analysis is superior for future work.

(130)



It is calculated as follows.

$$\begin{aligned}
 (131) \quad & [[ \text{Hanako } s_{\text{res}} \text{ says that Taro is glad} ]]^c \\
 & = [[ s_{\text{res}} \text{ says that Taro is glad} ]]^c ([[ \text{Hanako} ]]^c) \\
 & = ([[ \text{says that Taro is glad} ]]^c (s_{\text{res}}))(\text{Hanako}) \\
 & = \lambda s. \forall c' \text{ compatible with what Hanako says in } s, [[\text{that Taro is glad}]]^{c'}(s_{\text{res}}) \\
 & = \lambda s. \forall c' \text{ compatible with what Hanako says in } s, (\lambda s: l(s) \in D_{\text{ph}} \cup \{\mu(\text{speaker}(c'))\} \ \& \\
 & \quad l(s) = \mu(\text{Taro}).[s \approx s_{\text{Top}} \ \& \ \text{gladness is at } s]) (s_{\text{res}}) \\
 & = \lambda s. \forall c' \text{ compatible with what Hanako says in } s, s_{\text{res}} \approx s_{\text{Top}} \ \& \ \text{gladness is at } s_{\text{res}}, \\
 & \quad \text{if } l(s_{\text{res}}) \in D_{\text{ph}} \cup \{\mu(\text{speaker}(c'))\} \ \& \ l(s_{\text{res}}) = \mu(\text{Taro}). \# \text{ otherwise.}
 \end{aligned}$$

The definedness condition is satisfied only if Taro is the speaker in the reported context,  $c'$ . This explains the Experiencer restriction. Taro is not the speaker in the reported context  $c'$  for sentence (127), so the sentence does not have a truth-value.

### 3.7.2 Embedded clauses under attitude verbs of thinking, believing and knowing

Attitude verbs such as *believe* and *know* do not impose the Experiencer restriction in complement clauses. It is because these verbs do not involve speech acts. In other words, what is thought, believed or known is not asserted. Thus, complement clauses of these non-



communicational verbs do not contain an SAP, different from *to*-clauses under verbs of saying. Therefore, the Experiencer restriction does not emerge in an embedded clause under non-communicational attitude verbs.

### 3.7.3 Embedded clauses under epistemic modals and evidentials

#### 3.7.3.1 Embedded clauses under epistemic modals

Let us consider a sentence with an epistemic modal, as in (132). It shows no Experiencer restriction.

- (132) Tarô-wa uresi-i nitigaina-i.  
 Taro-Top glad-Pred.be.Pres must-Pred.be.Pres  
 ‘Taro must be glad.’

The lack of the Experiencer restriction is expected because epistemic modals are quantifiers over situations, as reproduced below.

- (89) a.  $[[ \textit{might} ]]^c = \lambda p \lambda s \exists s' [ \text{Acc}_c(s)(s') \ \& \ p(s') ]$  (Kratzer 2014: (18a))  
 b.  $[[ \textit{must} ]]^c = \lambda p \lambda s \forall s' [ \text{Acc}_c(s)(s') \ \& \ p(s') ]$

Note that the evaluation situation  $s'$  for the embedded proposition, Taro was glad, is not a topic situation introduced by Topic[assert]. Instead,  $s'$  is a situation accessible to the topic situation. There is no special reason to suppose that the accessibility relation keeps the constraint that the mental location of the situation is the plurality of the minds of people with whom the speaker identifies. Therefore, it is plausible that Topic[assert] at the top of the sentence does not force the Experiencer restriction on an Experiencer in an embedded clause under an epistemic modal.

### 3.7.3.2 Embedded clauses under evidentials

Let us consider a sentence with an evidential, as in (133). It also shows no Experiencer restriction.

- (133) Tarô-wa uresi-i yôda.  
Taro-Top glad-Pred.be.Pres Evid  
'It seems that Taro is glad.'

Two types of evidentials are found in literature: epistemic modals and modifiers of speech act. In the case of Japanese, McCready and Ogata (2006) analyze all evidential markers as epistemic modals. If their analysis is on the right track, the same argument as above can be applied. The evaluation situation for the embedded proposition is not a topic situation introduced by Topic[assert], so the Experiencer restriction does not emerge. If (some) Japanese evidential markers are modifiers of speech act, the fact of absence of the Experiencer restrictions in embedded clauses under evidentials suggests that assertion modified by these modifiers do not impose the speaker-empathy restriction on a topic situation.

### 3.8 The Experiencer restriction in vivid memory report

Vivid memory reports restrict an Experiencer. However, it cannot be the case that the reported content (what is remembered) contains an assertive speech act. In this section, I give an explanation of this fact, using situation semantic treatment by Barwise (1981), Stephenson (2010) and others.

### 3.8.1 Direct perception report and situations

Barwise (1981) compares direct and indirect perception reports such as (134a,b).

- (134) a. Austin saw a man get shaved in Oxford.  
b. Austin saw that a man got shaved in Oxford. (Barwise 1981: 371 (1),(2))

The complement of direct perception report is transparent, while that of indirect perception report is opaque: for example, suppose that the man who got shaved in Oxford who Austin saw was Barwise. Then (135a) is a valid inference, but (135b) isn't.

- (135) a. Austin saw Barwise get shaved in Oxford.  
b. Austin saw that Barwise got shaved in Oxford.

To account for the characteristics of direct perception reports, Barwise proposes that in direct perception reports, what is reported to be perceived is a situation. For example, direct perception report, *Beryl saw Meryl feed the animals*, can be analyzed as in (136).

- (136) There is an actual past situation *s* that Beryl saw, and *s* supports the truth of *Meryl feed the animals*. (Kratzer 2014: (5))

### 3.8.2 Vivid memory report

Stephenson (2010) finds that attitude reports such as *remember* and *imagine* have a vivid reading which is similar to that of a direct perception report. For example, let us consider the following sentence pair.

(137) a. Mary remembered John feeding the cat.

b. Mary remembered that John fed the cat.

(Stephenson 2010: 147(1),(2))

(137a) can be true only if Mary witnessed the situation where John fed the cat, while (137b) can be true even if Mary was only told about John's feeding the cat. Stephenson (2010) calls the use exemplified by (137a) the *vivid* use, which requires direct witnessing of the situation, and the other use the *non-vivid* use, which does not require direct witnessing.

As (137a) shows, gerundive small clause complements have only a vivid use. The vivid use is also forced by modifiers such as *vididly* or *in perfect detail*, as shown in (138). Without *vididly*, (138) has a non-vivid interpretation also.

(138) Mary vividly remembered that John was busy feeding the cat.

(Stephenson 2010: 149 (12))

Similarly to the analysis of direct perception reports by Barwise and others, Stephenson proposes a situation semantic analysis of the vivid use of memory/imagination reports. She, however, makes an addition: she claims that an analysis of *de se* vivid reports requires centered situations, not just situations, extending Lewis's (1979) and Chierchia's (1989) analyses of *de se* attitude reports using centered worlds. I follow Stephenson's analysis of vivid memory reports here, but my analysis does not depend on how one treats *de se* vivid reports. What is relevant to my analysis is the requirement of direct witnessing of a situation, as we will see.

### 3.8.3 Analysis of vivid memory report

In the formulation by Stephenson (2010), the verb *remember* in its vivid reading takes three arguments, a propositional content, a centered situation, and an agent. Concretely, *remember* in the vivid use has the following lexical entry (Stephenson uses an intensional system).

- (139)  $[[ \textit{remember} ] ]^{w,t} = [\lambda p. [\lambda \langle s,y \rangle: p(\langle s,y \rangle) = 1. [\lambda x. x \text{ has the cognitive relation of remembering vividly towards } \langle s,y \rangle \text{ in } w \text{ at } t] ] ]$

(Stephenson 2010: 153 (29))

She explains this as follows: “This says that a sentence of the form *x remembers p*, making reference to a particular centered situation  $\langle s,y \rangle$ , is true at world *w* and time *t* iff *x* holds the appropriate vivid cognitive relation towards  $\langle s,y \rangle$ , provided that *p* is true in  $\langle s,y \rangle$ .” The cognitive relation of remembering vividly towards  $\langle s,y \rangle$  is characterized as in (140).

- (140) For *x* to **vividly remember**  $\langle s,y \rangle$  (in *w* at *t*), it must be the case that:
- i. *x* formed a memory of *s* by directly witnessing it
  - ii. *x*'s experience of *s* is from the perspective of *y*
  - iii. the time of *s* is prior to *t*
  - iv.  $s \leq w$  (for true memories)

(Stephenson 2010: 513 (30))

Let us see how a vivid interpretation of memory reports is derived from this lexical entry for *remember*. For example, a gerundive small clause complement, *John feeding the cat*, is translated as in (141) (a finite clause complement, *that John feeds the cat*, is also translated into the same LF).

(141)  $[[ \textit{John feeding the cat} ] ]^{w,t} = [\lambda \langle s,y \rangle. \textit{John feeds the cat in s}]$

(Stephenson 2010: 514 (33))

In this case, the LF is independent of the center,  $y$ . However, in the case of controlled complement clauses, their LF is dependent on the center:

(142)  $[[ \textit{feeding the cat} ] ]^{w,t} = [\lambda \langle s,y \rangle. y \textit{ feeds the cat in s}]$

(Stephenson 2010: 514 (34))

For example, a sentence, *John remembered feeding the cat*, is calculated as follows (here, tense is ignored).

(143)  $[[ \textit{John remembered feeding the cat} ] ]^{w,t} = [[ \textit{remember} ] ]^{w,t} ([[ \textit{feeding the cat} ] ]^{w,t})(\langle s_1,z \rangle)([[ \textit{John} ] ]^{w,t})$   
 $= [\lambda p. [\lambda \langle s,y \rangle: p(\langle s,y \rangle) = 1. [\lambda x_e. x \textit{ has the cognitive relation of remembering vividly towards } \langle s,y \rangle \textit{ in } w \textit{ at } t] ] ]([\lambda \langle s,y \rangle. y \textit{ feeds the cat in s}]) (\langle s_1,z \rangle)(\textit{John})$   
 $= 1 \textit{ iff John has the cognitive relation of remembering vividly towards } \langle s_1,z \rangle \textit{ in } w \textit{ at } t, \textit{ provided that } z \textit{ feeds the cat in } s_1.$

(Stephenson 2010: 515 (36))

In this case, for John to remember vividly  $\langle s_1,z \rangle$ , it must be the case that his experience of  $s_1$  is from the perspective of  $z$  (from condition (ii) of (140)). It leads to the conclusion that John's experience is from the perspective of the feeder of the cat, namely that John fed the cat and his memory is from inside.

### 3.8.4 The Experiencer restriction in vivid memory report

As explained in the previous chapter, vivid memory report restricts Experiencers, as in (144). In this section, I present an analysis of this fact, based on Stephenson’s observation that vivid memory reports require direct witnessing.

- (144) a. \*Hanako-wa [Tarō-ga uresi-k-at-ta no]-o oboe-tei-ru  
 Hanako-Top [Taro-Nom glad-Pred-be-Past Fin]-Acc remember-Perf-Pres  
 (Intended:) ‘Hanako remembers that Taro was glad.’
- b. Hanako<sub>i</sub>-wa [kanozyo<sub>i</sub>-ga uresi-k-at-ta no]-o oboe-tei-ru  
 Hanako<sub>i</sub>-Top [she<sub>i</sub>-Nom glad-Pred-be-Past Fin]-Acc remember-Perf-Pres  
 ‘Hanako<sub>i</sub> remembers that she<sub>i</sub> was glad.’

Let us recall (140.i). A vivid memory report shows that the agent formed a memory of a particular situation  $s$  which supports a reported propositional content by directly witnessing the situation. Note that a sentient individual  $a$  cannot directly witness a situation if its location is not in  $D_{ph} \cup \{\mu(a)\}$ , as stated in (100):

- (100) For  $a \in D_{sen}$  and situation  $s$ ,  
 $a$  can directly witness  $s \Leftrightarrow s$  is observable to  $a \Leftrightarrow l(s) \in D_{sp} \cup \{\mu(a)\}$

Therefore, (140.i) requires (145) as a necessary condition.

- (145) For  $x$  to vividly remember  $\langle s, y \rangle$  (in  $w$  at  $t$ ), it must be the case that  
 $l(s) \in D_{ph} \cup \{\mu(x)\}$

Now, using the lexical entry for *uresi-i* ‘be glad’ (99),

$$(99) \quad [[ \textit{uresi-i} ]] = \lambda x. \lambda s. l(s) = \mu(x) \ \& \ \text{gladness is in } s]$$

let us calculate (144a) (in the following, I use English translations for easy of presentation).

$$\begin{aligned} (146) \quad & [[ \textit{Hanako remembers that Taro was glad} ]]^{w,t} = [[ \textit{remember} ]]^{w,t} ([[ \textit{that Taro was} \\ & \textit{glad} ]]^{w,t})(\langle s_1, z \rangle)([[ \textit{Hanako} ]]^{w,t}) \\ & = [\lambda p. [\lambda \langle s, y \rangle: p(\langle s, y \rangle) = 1. [\lambda x_e. x \text{ has the cognitive relation of remembering vividly} \\ & \text{towards } \langle s, y \rangle \text{ in } w \text{ at } t] ] ]([\lambda \langle s, y \rangle. [\exists s'. s \subseteq s' \ \& \ l(s') = \mu(\textit{Taro}) \ \& \ \text{gladness is in} \\ & s'])(\langle s_1, z \rangle)(\textit{Hanako}) \\ & = 1 \text{ iff Hanako has the cognitive relation of remembering vividly towards } \langle s_1, z \rangle \text{ in } w \text{ at} \\ & t, \text{ provided that } [\exists s'. s_1 \subseteq s' \ \& \ l(s') = \mu(\textit{Taro}) \ \& \ \text{gladness is in } s']. \end{aligned}$$

Because of the conditions  $\exists s'. s_1 \subseteq s' \ \& \ l(s') = \mu(\textit{Taro})$  in (146), we see that condition (147) needs to be met for the sentence *Hanako-wa Tarô-ga uresi-k-at-ta no-o oboe-tei-ru* (‘Hanako remembers that Taro was glad’) to have a truth value.

$$(147) \quad l(s_1) = \mu(\textit{Taro})$$

Suppose that (147) is satisfied. Then the sentence cannot be true. Hanako has the cognitive relation of remembering vividly towards  $\langle s_1, z \rangle$ , so (148) must hold (see (145)). However, (147) and (148) are incompatible (because Taro is not Hanako and  $\mu$  is the lattice isomorphism between  $\langle D_{\text{sen}}, \oplus \rangle$  and  $\langle D_m, \oplus \rangle$ ).



(148)  $l(s_1) \in D_{ph} \cup \{\mu(\text{Hanako})\}$

Therefore, the sentence is not felicitously assertable for cooperative discourse participants.

### 3.9 Absence of the Experiencer restriction in restrictive relative clauses

In restrictive relative clauses, an Experiencer is not restricted (Koyama 1966, Masuoka 1997), as exemplified in (149). The Experiencer of the feeling of being glad in (149) is not the speaker, but (149) is acceptable.

(149) [sono nyûsu-o kii-te uresi-k-at-ta] hito-wa  
[that news-Acc hear-ing glad-Pred-be-Past] person-Top  
kinô sono gi'in-no zimusyo-ni it-ta (yo)  
yesterday that assemblyman-Gen office-to go-Past (SFP)  
'The person who was glad to hear the news went to the assemblyman's office  
yesterday.'

This is a natural consequence of the semantics of situations. To see that, let us consider the following sentence, for example.

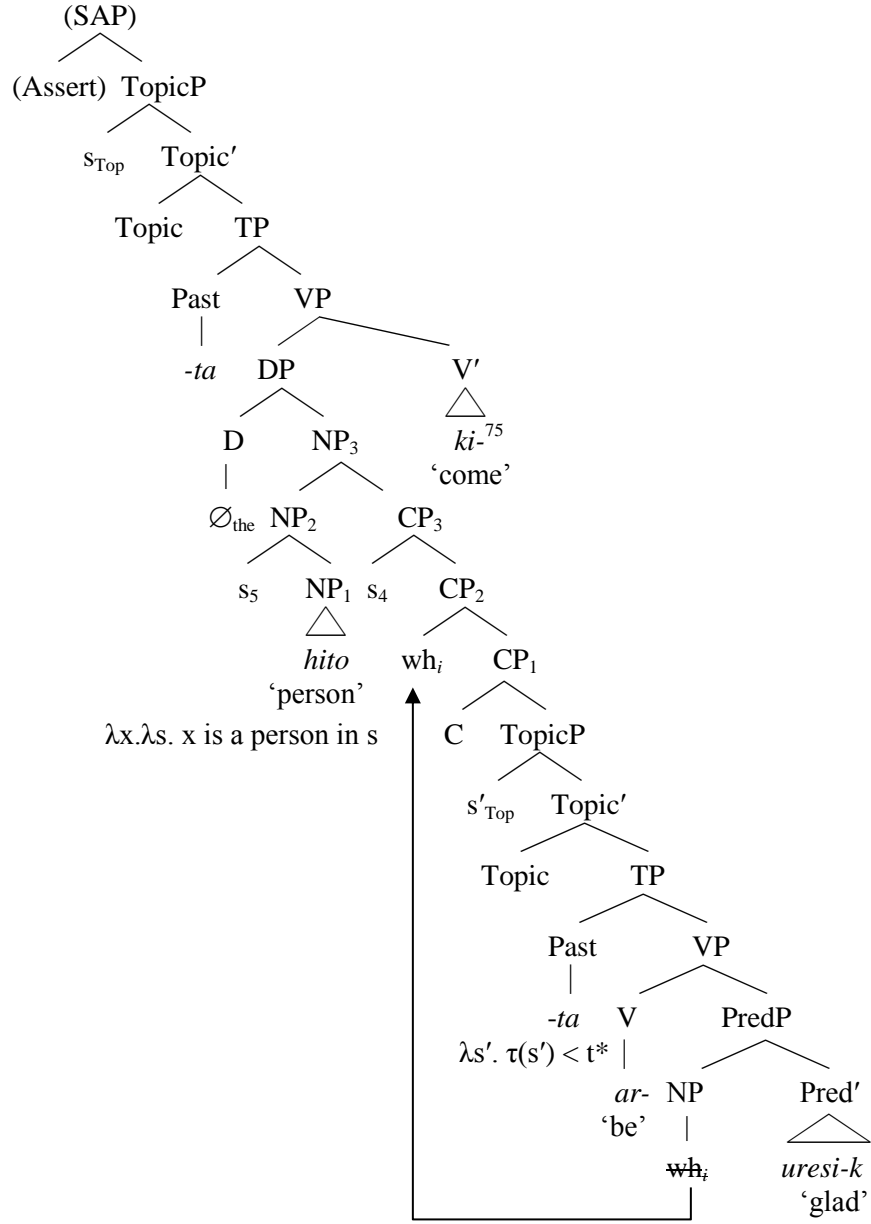
(150) [(sono toki) uresi-k-at-ta] hito-wa (tugi-no hi-mo) ki-ta (yo).  
[(that time) glad-Pred-be-Past] person-Top (next-Gen day-also) come-Past (SFP)  
'The person who was glad (at that time) came (next day also).'

The syntactic structure of (150) is given as follows. In this dissertation, I assume a movement analysis of relativization in Japanese, following Ishizuka (2009), for concreteness.<sup>74</sup> “wh” represents a phonetically null relative pronoun. Recall that relative clauses have their own topic situation which can be different from the topic situation of the matrix clause, as argued in section 3.3.3. SAP is present in reportive style, but not in nonreportive style.

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<sup>74</sup> See Ishizuka (2008, 2009) for a comparison of the movement analysis and the base-generation analysis proposed by Kuno (1973) and others. My arguments do not depend on the choice.

(151)



The denotation of CP<sub>2</sub> is given as follows.

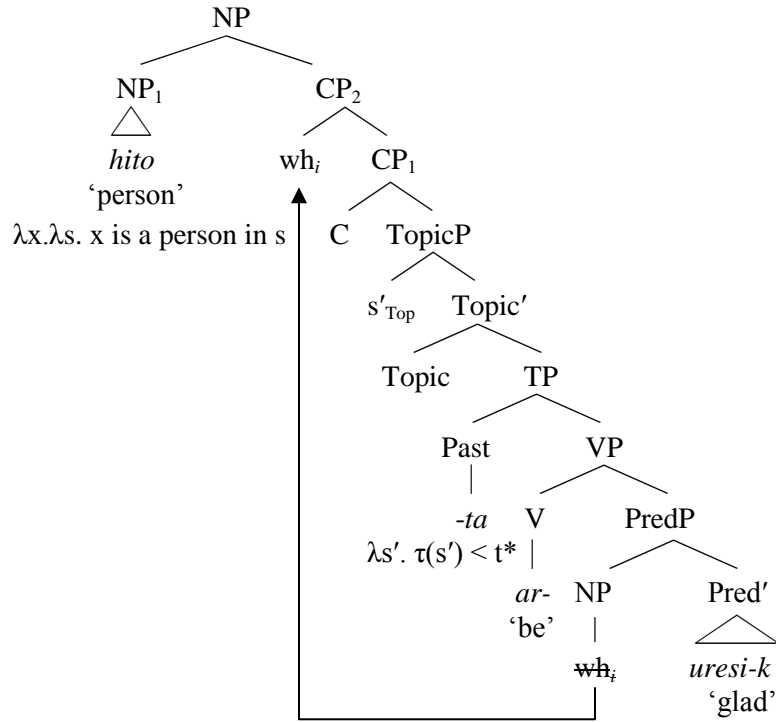
$$(152) \quad [[ \text{wh}_i \text{TopicP} ]]^c \\
 = \lambda x. [[ \text{TopicP} ]]^c.g[i \rightarrow x]$$

<sup>75</sup> The citation form of this verb is *ku-ru* ('come-Pres').

=  $\lambda x. \lambda s'. I(s') = \mu(x). [s' \approx s'_{\text{Top}} \ \& \ \tau(s') < t^* \ \& \ \text{gladness is at } s']$

Note that it is not plausible that CP<sub>2</sub> and NP<sub>1</sub> combine directly, as in (153).

(153)



If (153) were the correct structure, the main predicate of the relative clause and the host NP were always evaluated with respect to the same situation, especially to the same time. However, there are examples in which the main predicate of a relative clause and its host NP are evaluated with respect to different times. For example, a person who heard a story about the childhood of George Washington (say, the cherry tree story) can assert (154).

(154) watasi-wa [daitôryô-ni nat-ta]<sub>RC</sub> kodomo-no hanasi-o kii-ta.

I-Top [President-Pred become-Past] child-Gen story-Acc hear-Past

‘I heard a story about a child who became President.’

Here, the time of becoming President is later than that of being a child. They are different and do not overlap. Because this kind of sentence is fine, I suppose that relative clauses and their host nouns combine with different situation pronouns, as in (151).<sup>76</sup> The denotation of the relative clause CP<sub>3</sub> and that of NP<sub>2</sub> in (151) are as follows.

- (155) a.  $[[ \text{CP}_3 ]]^c = \lambda x: I(s_4) = \mu(x). s_4 \approx s'_{\text{Top}} \ \& \ \tau(s_4) < t^* \ \& \ \text{gladness is at } s_4$   
 b.  $[[ \text{NP}_2 ]]^c = \lambda x. x \text{ is a person in } s_5$

They are combined by Predicate Modification.

- (156)  $[[ \text{NP}_3 ]]^c$   
 $= [[ [ \text{NP}_2 \ \text{CP}_3 ] ]]^c$   
 $= \lambda x: I(s_4)=\mu(x). x \text{ is a person in } s_5 \ \& \ s_4 \approx s'_{\text{Top}} \ \& \ \tau(s_4) < t^* \ \& \ \text{gladness is at } s_4$

Assuming that Japanese has a phonetically null counterpart of the English definite article *the*,<sup>77</sup> it has the following lexical entry.

- (157)  $[[ \emptyset_{\text{the}} ]]^c = \lambda f_{(e,t)}: \exists !x. f(x)=1. \text{ the } y \text{ such that } f(y) = 1$

(based on von Stechow & Heim 2007:81(152c))

<sup>76</sup> Another possibility is that relative clauses existentially quantify over situations (cf. the referential analysis of tense (Partee 1973 and others) and the quantificational analysis of tense (Ogihara 1989, Kusumoto 1999 and others)). The choice of the analyses does not change the argumentation. In both the analyses, the definedness condition of Assert, which restricts the topic situation of the root clause, does not have an effect on the situation with respect to which the content of the relative clause is evaluated.

<sup>77</sup> This is a simplification just for the sake of argument.

NP<sub>3</sub> combines with  $\mathcal{O}_{\text{the}}$ .

- (158)  $[[ \text{DP} ]]^c$   
 $= [[ [ \mathcal{O}_{\text{the}} \text{NP}_3 ] ]]^c$   
 $=$  the  $y$  such that  $y$  is a person in  $s_5$  &  $l(s_4)=\mu(y)$  &  $s_4 \approx s'_{\text{Top}}$  &  $\tau(s_4) < t^*$  & gladness is at  $s_4$ , if  $\exists!x$ . [ $x$  is a person in  $s_5$  &  $l(s_4)=\mu(x)$  &  $s_4 \approx s'_{\text{Top}}$  &  $\tau(s_4) < t^*$  & gladness is at  $s_4$ ].  
 $\#$  otherwise.

It means that the denotation of DP is defined if there is exactly one individual who is a person in  $s_5$  and was glad in  $s_4$ , which is in the past and is a counterpart of the topic situation of the relative clause,  $s'_{\text{Top}}$ . When defined, it denotes the unique person in  $s_5$  who was glad in  $s_4$ , which is in the past and is a counterpart of the topic situation of the relative clause,  $s'_{\text{Top}}$ . SAP of (151) has the following denotation.

- (159)  $[[ \text{SAP} ]]^c$   
 $= \lambda s: l(s) \in D_{\text{ph}} \cup \{\mu(\text{speaker}(c))\}$ . [ $s \approx s_{\text{Top}}$  &  $\tau(s) < t^*$  &  $\text{ty}[y$  is a person in  $s_5$  &  $l(s_4)=\mu(y)$  &  $s_4 \approx s'_{\text{Top}}$  &  $\tau(s_4) < t^*$  & gladness is at  $s_4]$  comes in  $s]$ ,  
if  $\exists!x$ . [ $x$  is a person in  $s_5$  &  $l(s_4)=\mu(x)$  &  $s_4 \approx s'_{\text{Top}}$  &  $\tau(s_4) < t^*$  & gladness is at  $s_4$ ].  
 $\#$  otherwise.

It means that the unique person denoted by DP came in a situation  $s$  which is in the past and is a counterpart of the topic situation of the root clause,  $s_{\text{Top}}$ , if the location of the situation  $s$  is physical or the speaker's mind. Note that the definedness condition of Assert at the root, namely the condition that the location of the situation  $s$  is physical or the speaker's mind, restricts the situation variable with respect to which the main predicate of the root clause, but there is no

principle which connects the situation variable  $s$  with the situation pronoun  $s_4$  at the top of the relative clause. Therefore, the Experiencer restriction does not emerge.

### 3.10 The Experiencer restriction in interrogatives

In interrogative sentences, the Experiencer is restricted to the addressee, as in (160).

- (160) (When Taro is not the addressee:)
- {\*boku/kimi/\*Tarô}-wa uresi-i (ka)?
- {\*I /you/\*Tarô}-Top glad-Pred.be.Pres Q
- ‘{\*Am I/Are you/\*Is Taro} glad?’

In this section, let us consider how this restriction emerges.

In section 3.4, I proposed that an assertive SA head (Assert) in Japanese requires that the location of the topic situation be physical or be the speaker’s mind, (103).

- (103)  $[[ \text{Assert} ]]^{\text{g,c}} = \lambda p. \lambda s: l(s) \in D_{\text{ph}} \cup \{\mu(\text{speaker}(c))\}. p(s)$

Here, I propose that an interrogative Force head in Japanese requires that the location of the topic situation be physical or be the *addressee*’s mind.

- (161)  $[[ \text{Quest} ]]^{\text{g,c}} = \lambda p. \lambda s: l(s) \in D_{\text{ph}} \cup \{\mu(\text{addr}(c))\}. p(s)$

To make the calculation concrete, let us use a proposition set approach for interrogatives (Hamblin 1973, Karttunen 1977). According to Hamblin’s treatment of interrogatives, the

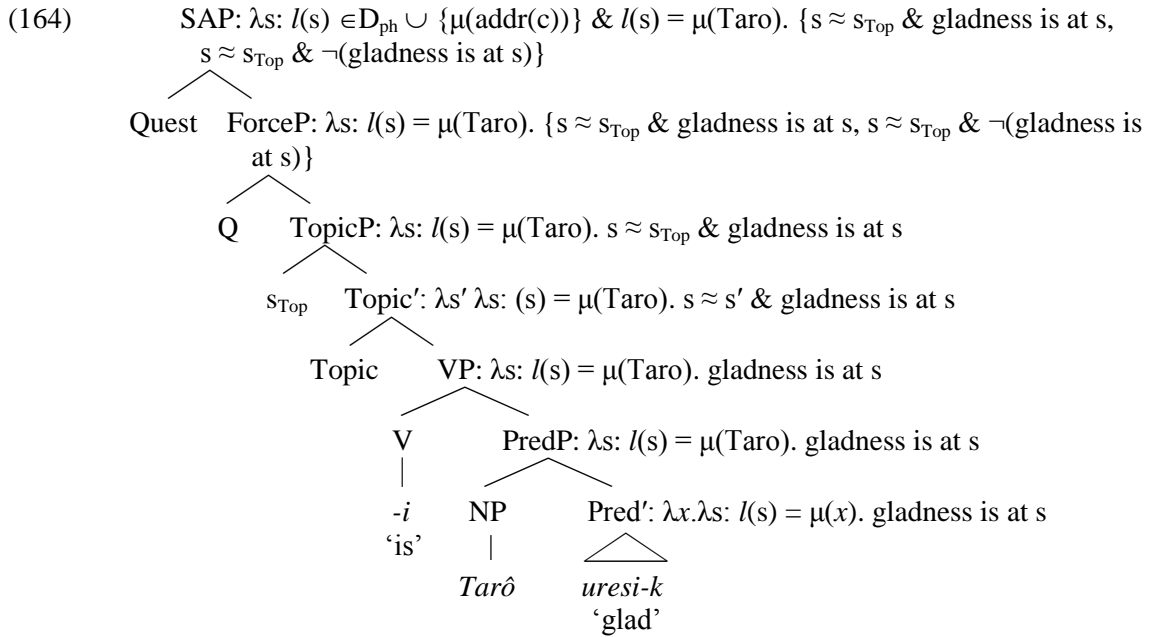
meaning of interrogatives is a set of possible answers. Thus, the interrogative Force head Q which produces a polar question has meaning (162).

$$(162) \quad [[Q]]^{\text{sc}} = \lambda p. \lambda s. \{p(s), \neg p(s)\}$$

To see that (162) leads to the Experiencer restriction in interrogatives, let us consider the meaning of (163), which is an unacceptable sentence unless Taro is the addressee.

- (163) Tarô-wa uresi-i  $\emptyset_Q?$   
 Taro-Top glad-Pred.be.Pres Q  
 ‘Is Taro glad?’ (\* unless Taro is the addressee)

Using it, the meaning of (163) is given as in (164).



The logical form is defined only if Taro is the addressee. This is the Experiencer restriction.



### 3.11 The denotation of the verbal suffix *-gar*

Finally, let us consider the denotation of the verbal suffix *-gar* ‘behave as being ...’, which lifts the Experiencer restriction, in more detail.

How does *-gar* lift the restriction? *Gar*-suffixation is systematically applicable, so I assume that it is an operation in the syntactic component (vid. Marantz 1997), and that compositional semantic calculation is viable. I propose the following meaning for *-gar*.

$$(165) \quad [[ -gar ]]^c = \lambda f_{\langle e, \langle s, t \rangle \rangle} . \lambda x . \lambda s . x \text{ behaves in } s \text{ in a way which suggests that } \exists s' [\tau(s') = \tau(s) \ \& \ f(x)(s') = 1].$$

For example, if *uresi-* ‘glad’ and *-gar* are combined as follows.

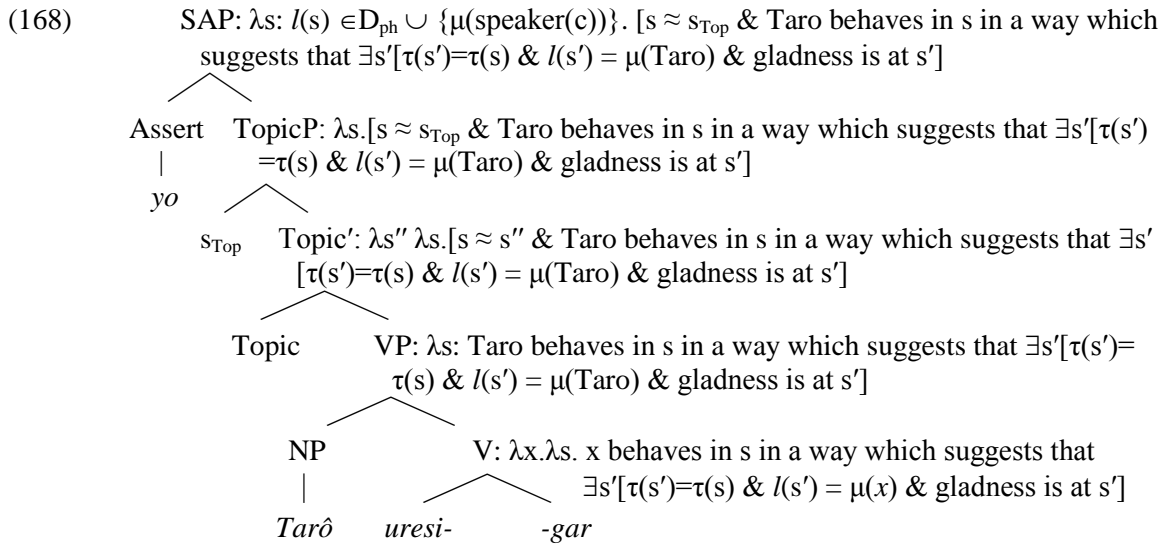
$$(166) \quad \begin{aligned} & [[ uresi-gar ]]^c \\ &= [[ -gar ]]^c ([[ uresi- ]]^c) \\ &= (\lambda f_{\langle e, \langle s, t \rangle \rangle} . \lambda x . \lambda s . x \text{ behaves in } s \text{ in a way which suggests that } \exists s' [\tau(s') = \tau(s) \ \& \ f(x)(s') = 1]) (\lambda x . \lambda s : l(s) = \mu(x) . \text{ gladness is at } s) \\ &= \lambda x . \lambda s . x \text{ behaves in } s \text{ in a way which suggests that } \exists s' [\tau(s') = \tau(s) \ \& \ l(s') = \mu(x) \ \& \ \text{gladness is at } s'] \end{aligned}$$

It means that an individual *x* (which corresponds to the referent of the subject) behaves in a situation *s* in a way which suggests that *x* is glad at the same time. (Concretely, the location of *s'* is *x*'s mind, while the location of *s* is physical.) Note that it is not a partial but a total function. Hence, the Experience restriction does not emerge (recall that the Experiencer restriction emerges from the definedness condition on the meaning of the Experiencer predicate and that on Assert).

For illustration, let us consider the following sentence.

- (167) Tarô-wa uresi-gat-ta yo.  
 Taro-Top glad-GAR-Past SFP  
 ‘Taro behaved as being glad.’

Its logical form is calculated as follows (tense and aspect are omitted).



The logical form for SAP gives the truth condition that the sentence is true for a situation  $s$  if  $s$  is a counterpart of the topic situation  $s_{\text{Top}}$  and Taro behaves in  $s$  in a way which suggests that Taro is glad at the same time,  $\tau(s)$ . It is a right paraphrase of ‘Taro behaved as being glad’. Importantly, this logical form has a truth value, whoever the subject of the sentence is. In other words, *gar*-verbs do not show the Experiencer restriction.<sup>78</sup>

<sup>78</sup> A fact which should be mentioned is that *gar*-verbs do not prefer the speaker as an Experiencer (Nitta 1991, Sawada 1993, Kamada 2000 and others):

- (i) watasi-wa uresi-{k-at-/?gat}-ta yo.  
 I-Top glad-{Pred-be-/?GAR}-Past SFP

## CHAPTER 4

### NON-RESTRICTIVE RELATIVE CLAUSES AND THE EXPERIENCER

#### RESTRICTION

#### 4.1 Introduction

In this section, I consider Experiencer restrictions in non-restrictive relative clauses.

In the previous literature, it is observed that restrictive clauses do not impose the Experiencer restriction, while non-restrictive relative clauses do (Masuoka 1997). However, the observation is applicable to non-restrictive relative clauses only in extensional contexts. In the following, I add new data: (i) an Experiencer in a non-restrictive relative clause is restricted to the local speaker if the relative clause is in the scope of a verb of saying, whereas (ii) it is not restricted if the relative clause is in the scope of a non-communicational attitude verb.

This is a familiar pattern now—under assertion or a verb of saying, an Experiencer is restricted to the local speaker, but under a non-communicative attitude verb, it is not restricted. The only difference is that now the Experiencer is further embedded in a non-restrictive relative clause. To analyze it, it is necessary to have an analysis of Japanese non-restrictive relative clauses in general. In the following, I first show that Japanese non-restrictive relative clauses resist being in the scope of operators in higher clauses, but they can be embedded under *to-*

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‘I {was glad/behaved as being glad}.’

According to the proposed lexical entry for *-gar*, it is suggested by use of *gar*-verbs that the referent of the subject NP is in a certain mental state. It is plausible that *-gar* signals the speaker’s lack of direct evidence that the referent of the subject NP is in the mental state (cf. von Stechow and Gillies’ 2010 analysis of *must*). Then, it is reasonable that the speaker cannot be the Experiencer argument of *gar*-verbs, because the speaker usually has direct evidence of his/her own feelings. An apparent problem of this analysis is that addition of *-mi-se-ru* ‘let (someone/them) see’ makes the speaker Experiencer fine:

- (ii) *watasi-wa uresi-gat-te mi-se-ta*  
I-Top glad-GAR-Conn see-let-Past  
‘I let him see me behave as being glad.’

To solve this problem, it is necessary to analyze the meaning of the construction *V-te mi-se-ru* in detail. I leave it for future work.

complements of attitude verbs. To account for this observation, I employ an analysis proposed by Schlenker (2010, 2013a,b) for English and French appositive relative clauses, and propose that Japanese non-restrictive relative clauses are attached to ForceP, whether matrix or embedded. Then I argue that the Experiencer restriction in non-restrictive relative clauses is accounted for in a way similar to the Experiencer restriction in the other environments analyzed in the previous chapter. That is, the source of the Experiencer restriction in non-restrictive relative clauses is assertion's speaker-empathy requirement.

#### 4.2 Restrictive and non-restrictive relative clauses in Japanese

Different from English, it is not easy to distinguish non-restrictive relative clauses and restrictive relative clauses in Japanese. In particular, Japanese non-restrictive relative clauses do not use comma intonation. To single out non-restrictive relative clauses in Japanese, I use relative clauses with host nouns which refer to a singleton in the discourse, as in (169).

- (169) [N<sub>RR</sub>C watasi-ga kinô at-ta ] {Tarô/Hanako-no hahaoya}  
 [N<sub>RR</sub>C I-Nom yesterday meet-Past ] {Taro/Hanako-Gen mother}  
 (*lit.*) ‘{Taro/Hanako’s mother}, who I met yesterday’

It should be noted that, depending on the discourse, the host nouns in example (169) can be interpreted as non-singletons. That is, in a discourse in which there is more than one person whose name is Taro or Hanako, the host nouns in (169) do not refer to a singleton, and so the relative clause can be restrictive. In the following, when a proper noun appears in an example, it is always assumed that there is only a single individual to whom the name refers in the discourse.

Restrictive relative clauses do not restrict an Experiencer in them (Masuoka 1997), as exemplified in (149), reproduced below. The absence of an Experiencer restriction in restrictive relative clauses was accounted for in the previous chapter.

- (170) [sono nyûsu-o kii-te uresi-k-at-ta] hito-wa  
 [that news-Acc hear-ing glad-Pred-be-Past] man-Top  
 kinô sono gi'in-no zimusyo-ni it-ta yo  
 yesterday that assemblyman-Gen office-to go-Past SFP  
 'The man who was glad to hear the news went to the assemblyman's office yesterday.'

On the other hand, non-restrictive relative clauses restrict an Experiencer to the speaker (Masuoka 1997). In (171), Taro, a third-person individual, cannot be the Experiencer if (171) is uttered in a truth-directed context. (If it is uttered in a non-truth-directed context, the restriction disappears. For example, if this sentence is part of a story which the speaker is narrating, then there is no problem in using Taro as an Experiencer.)

- (171) [sono nyûsu-o kii-te uresi-k-at-ta] {watasi/\*Taro}-wa  
 [that news-Acc hear-ing glad-Pred-be-Past] {I/Taro}-Top  
 kinô sono gi'in-no zimusyo-ni it-ta yo  
 yesterday that assemblyman-Gen office-to go-Past SFP  
 '{I/\*Taro}, who was glad to hear the news, went to the assemblyman's office  
 yesterday.'

To find an analysis of restrictions on an Experiencer in non-restrictive relative clauses is the goal of this chapter. As a first step, let us look at analyses of non-restrictive relative clauses in the next section.

### 4.3 Analyses of non-restrictive relative clauses

Currently, it is a cross-linguistically disputed topic whether non-restrictive relative clauses are non-embeddable ('scopeless'). Prima facie, non-restrictive relative clauses are non-embeddable. For example, let us consider the following pair, taken from Schlenker (2010:75).

(172) a. I doubt that John, who is smart, is competent.

⇒ John is smart.

b. I doubt that John is smart and competent.

≠ John is smart.

(172b) shows that 'John is smart' is in the scope of the attitude predicate. The contrast between (172b) and (172a) suggests that the content of the non-restrictive relative clause is not in the scope of the attitude predicate.

Potts (2005) claims that non-restrictive relative clauses<sup>79</sup> cannot be semantically embedded. To account for the observation, he proposes an analysis using a multidimensional semantics. In his analysis, the content of non-restrictive relative clauses is not in the at-issue meaning. Instead, it is in a different dimension of meaning, which Potts calls CI (conventional implicature) meaning. CI meanings are never embedded in his system, so the meaning of non-restrictive relative clauses is supposed to be a good example of conventional implicature in his analysis.

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<sup>79</sup> Potts himself avoids the term, non-restrictive relative clause, and prefers the term, *supplementary relative*. See section 4.2.3 of Potts (2005).

However, since Potts' analysis, it has been pointed out that there are data which suggest that non-restrictive relative clauses are embeddable (Amaral, Roberts, and Smith 2007, Potts 2007, Harris and Potts 2009a,b, Schlenker 2010, 2013a,b, Sæbø 2011, and others). On the one hand, some researchers claim that those data can be explained by assuming a pragmatic perspective shift and they do not show that non-restrictive relative clauses are embeddable (Harris and Potts 2009a,b). On the other hand, some researchers propose that those data indicate that non-restrictive relative clauses are really embeddable, and claim that multidimensional semantics is unnecessary to account for the behavior of non-restrictive relative clauses (Sæbø 2011, Schlenker 2010, 2013a,b).

The dispute is not limited in English. For example, Del Gobbo (2003, 2005) claims that Chinese non-restrictive relative clauses are embeddable, while Constant (2011) claims that they are not embeddable. In the next section, let us consider the case of Japanese.

#### **4.4 Japanese non-restrictive relative clauses**

To my knowledge, the problem of embeddability of Japanese non-restrictive relative clauses has not been discussed in detail in the literature except Miyake (1995).<sup>80</sup> In this section, I present the following observations.

- (173) a. Negative polarity items (NPIs) in non-restrictive relative clauses are not licensed by a matrix negation operator (Miyake 1995)
- b. Tense of non-restrictive relative clauses is not in the scope of the matrix tense (Miyake 1995)

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<sup>80</sup> Sato (2012) also contains some related examples.

- c. Indeterminate phrases in non-restrictive relative clauses are not licensed by the matrix Q (Miyake 1995)
- d. Even inside of a topic DP, a non-restrictive relative clause can represent information which is not taken for granted
- e. Narrow reading under *to*-complements of attitude verbs is available

These data are consistent with the claim that Japanese non-restrictive relative clauses are attached to matrix or embedded ForceP (at least at LF).<sup>81</sup>

#### 4.4.1 NPIs in non-restrictive relative clauses are not licensed by a matrix negation operator

In Japanese, although NPIs in restrictive relative clauses can be licensed by matrix negation (Kinsui 1986), NPIs in non-restrictive relative clauses are not licensed by matrix negation (Miyake 1995). It is consistent with the hypothesis that non-restrictive relative clauses are not in the scope of matrix negation, different from restrictive relative clauses.

Let us consider expressions, *rokuna* ('satisfactory, worth mentioning') and *kore-to it-ta* ('any remarkable') as examples of NPIs (Kinsui 1986). As the following examples show, they need to be licensed by negation.<sup>82</sup>

<sup>81</sup> Here, I am not claiming that all these data are consequences of the attachment of Japanese non-restrictive relative clauses to ForceP. What I am saying (consistency) is weaker than that. Maybe some of them are accounted for by other mechanisms than the position of the non-restrictive relative clause.

<sup>82</sup> It is often the case that NPIs are licensed in downward-entailing environment in general. Downward-entailing environments include not only negated clauses but also conditionals. In the case of the above Japanese NPIs, *rokuna* is not licensed in conditionals, but *kore-to it-ta* is:

- (i) \***rokuna**   sensyu-ga   tor-e-**reba**,   tîmu-wa rainen   yusyô  
           satisfactory player-Nom take-Ability-if team-Top next.year win.the.championship  
           deki-ru   kamosirenai.  
           can-Pres might  
           (Intended:) 'If we can take satisfactory players, our team might be able to win the  
           championship next year.'
- (ii) **kore-to it-ta**   kiroku-ga   de-**reba**, kanozyo-wa suisens-are-ru   darô.  
           any remarkable record-Nom set-if she-Top   nominate-Pass-Pres Epis



- (174) a. **rokuna** sensyu-ga tor-e-**na**-k-at-ta.  
 satisfactory player-Nom take-Ability-Neg-Pred-be-Past  
 ‘We couldn’t take any satisfactory players.’ (Kinsui 1986:620(56))<sup>83</sup>
- b. \***rokuna** sensyu-ga tor-e-ta.  
 satisfactory player-Nom take-Ability-Past  
 (Intended:) ‘We could take satisfactory players.’ (Miyake 1995:56(21a))
- (175) a. **kore-to it-ta** kiroku-ga de-**na**-k-at-ta.  
 any remarkable record-Nom set-Neg-Pred-be-Past  
 ‘Any remarkable records weren’t created.’
- b. \***kore-to it-ta** kiroku-ga de-ta.  
 any remarkable record-Nom set-Past  
 (Intended:) ‘Some remarkable records were created.’

Let us embed these NPIs in relative clauses. In the case of an NPI in a restrictive relative clause, it is licensed not only by negation in the same relative clause but also by negation in a superordinate clause (Kinsui 1986):

- (176) a. saikin-wa [**rokuna** siai-o si-**na**-i] bokusâ-ga i-ru.  
 recently-Top [satisfactory fight-Acc do-Neg-Pred.be.Pres] boxer-Nom exist-Pres  
 ‘Recently there are boxers who do not fight any satisfactory fight.’
- b. \*saikin-wa [**rokuna** siai-o su-ru] bokusâ-ga i-ru.

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<sup>83</sup> ‘If she sets any remarkable records, she will be nominated.’  
<sup>83</sup> For this and following examples, I added emphasis and glosses.

recently-Top [satisfactory fight-Acc do-Pres] boxer-Nom exist-Neg-Pred.be.Pres

(Intended:) ‘Recently there are boxers who fight any satisfactory fight.’

c. saikin-wa [**rokuna** siai-o su-ru] bokusâ-ga i-na-i.

recently-Top [satisfactory fight-Acc do-Pres] boxer-Nom exist-Neg-Pred.be.Pres

‘Recently there are not boxers who fight any satisfactory fight.’

(Miyake 1995:57(22a))

d. nihon-ni-wa [[**rokuna** ronbun-o kak-u] gakusya-ga i-ru]

Japan-Loc-Top [[satisfactory paper-Acc write-Pres] scholar-Nom exist-Pres]

daigaku-ga **na-i**.

university-Nom Neg-Pred.be.Pres

‘There are not universities which have scholars who write any satisfactory papers in

Japan.’

(Kinsui 1986:620(59))

(177) a. [**kore-to it-ta** kiroku-o das-**ana-k-at-ta**] sensyu-o

[any remarkable record-Acc set-Neg-Pred-be-Past] player-Acc

sit-tei-ru.

know-Perf-Pres

‘I know players who didn’t set any remarkable records.’

b. \***[kore-to it-ta** kiroku-o dasi-ta] sensyu-o sir-tei-ru.

[any remarkable record-Acc set-Past] player-Acc know-Perf-Pres

(Intended:) ‘I know players who set some remarkable records.’

c. [**kore-to it-ta** kiroku-o dasi-ta] sensyu-o sir-**ana-i**.

[any remarkable record-Acc set-Past] player-Acc know-Neg-Pred.be.Pres

‘I don’t know players who set any remarkable records.’

(Miyake 1995: 57(22b))

Contrastively, an NPI in a non-restrictive relative clause is licensed by negation in the same clause but not by the matrix negation (Miyake 1995), as illustrated in (178) and (179).

- (178) a. [**rokuna**   siai-o   si-**na**-i]                   Tyson-ga   ki-ta.  
           [satisfactory fight-Acc do-Neg-Pred.be.Pres] Tyson-Nom come-Past  
           ≈ ‘Tyson, who did not fight a satisfactory fight, came.’
- b. \*[**rokuna**   siai-o   su-ru]   Tyson-ga   ki-ta.  
           [satisfactory fight-Acc do-Pres] Tyson-Nom come-Past  
           (Intended:) ≈ ‘Tyson, who fought a satisfactory fight, came.’
- c. \*[**rokuna**   siai-o   su-ru]                   Tyson-ga   ko-**na**-k-at-ta.  
           [satisfactory fight-Acc do-Neg-Pred.be.Pres] Tyson-Nom come-Neg-Pred-be-Past  
           (Intended:) ≈ ‘Tyson, who fought a satisfactory fight, didn’t come.’
- (179) a. [**kore-to it-ta**   kiroku-o   das-**ana**-k-at-ta]           sono sensyu-o  
           [any remarkable record-Acc set-Neg-Pred-be-Past] that player-Acc  
           sit-tei-ru.  
           know-Perf-Pres  
           ≈ ‘I know the player, who didn’t set any remarkable records.’
- b. \*[**kore-to it-ta**   kiroku-o   dasi-ta]   sono sensyu-o  
           [any remarkable record-Acc set-Past] that player-Acc  
           sit-tei-ru.  
           know-Perf-Pres  
           (Intended:) ≈ ‘I know the player, who set some remarkable records.’
- c. \*[**kore-to it-ta**   kiroku-o   dasi-ta]   sono sensyu-o  
           [any remarkable record-Acc set-Past] that player-Acc

sir-**ana**-i.

know-Neg-Pred.be.Pres

(Intended:) ≈ ‘I don’t know the player, who set some remarkable records.’

(Miyake 1995: 57(23b))

These data are consistent with the hypothesis that restrictive relative clauses are in the scope of matrix negation, while non-restrictive relative clauses are not.<sup>84,85</sup>

#### 4.4.2 Tense in non-restrictive relative clauses are not in the scope of matrix tense

Another fact is that while tense in a restrictive relative clause (can) depend on the matrix tense, tense in a non-restrictive relative clause does not depend on the matrix tense (Miyake 1995).

Let us look at (180), where the matrix tense is past and the tense embedded in a restrictive relative clause is present. It has the simultaneous interpretation in which the time of the boy’s crying and the time of Mariko’s talking to him coincide.<sup>86</sup>

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<sup>84</sup> Another analysis (Miyake 1995) assumes percolation of the NPI feature. According to the analysis, NPIs in a non-restrictive relative clause cannot make the whole DP which contains the non-restrictive relative clause an NPI.

<sup>85</sup> NPIs in a complement clause under an attitude verb are not licensed by Neg above the attitude verb, irrespective of the complementizer type.

- (i) \*Tarô-wa [**rokuna** sensyu-ga ki-ta-{no-o/to}] sinzi-tei-**na**-i.  
Taro-Top [satisfactory player-Nom come-Past-{Fin-Acc/Rep}] believe-Perf-Neg-Pred.be.Pres  
(Intended) ‘Taro doesn’t believe that satisfactory players came.’

It predicts that if non-restrictive relative clauses are under the scope of an attitude verb, NPIs in them are not licensed by Neg above the attitude verb. The prediction is borne out. When the NPI in (i) is further embedded in a non-restrictive relative clause as in (ii), the result is ungrammatical.

- (ii) \*Tarô-wa [[**rokuna** siai-o su-ru] Tyson-ga ki-ta-{no-o/to}]  
Taro-Top [[satisfactory fight-Acc do-Pres] Tyson-Nom come-Past-{Fin-Acc/Rep}]  
sinzi-tei-**na**-i.  
believe-Perf-Neg-Pred.be.Pres

‘Taro doesn’t believe that Tyson, who fights satisfactory games, came.’

(When the non-restrictive relative clause in (ii) is attached to the matrix ForceP, the NPI in it is surely not licensed by Neg, because Neg is below Force.) I thank Rajesh Bhatt (p.c.) for a relevant question.

<sup>86</sup> It is not always the case that restrictive relative clauses allow a simultaneous interpretation. For example, let us consider (i). If a simultaneous interpretation is always available for present tense embedded in a restrictive relative clause, the embedded tense in (i) could be present tense. The unacceptability of

- (180) Mariko-wa naiteiru otokonoko-ni hanasikaketa  
 M-top cry-teiru-pres boy-to talk-past  
 ‘Mariko talked to a boy who is (now) crying’ (the speech time interpretation)  
 ‘Mariko talked to a boy who was crying (at the time of her talking to him)’  
 (the simultaneous interpretation)  
 (Kusumoto 1999: 89(128))

Now, let us consider (181a) and (181b). (181a) contains a restrictive relative clause, while (181b) contains a non-restrictive relative clause. Interestingly, (181b) lacks a simultaneous interpretation: To assert (181b), the speaker must have a belief that Mr. Iwasaki is studying chipmunks at the speech time. In contrast, to assert (181a), the speaker does not need to have a belief that the person is studying chipmunks at the speech time.

- (181) a. [simarisu-o kenkyûsi-tei-ru] hito-ga happyôsi-ta.  
 [chipmunk-Acc study-Perf-Pres] person-Nom present-Past  
 ‘A person who is studying chipmunks made a presentation.’  
 ‘A person who was studying chipmunks made a presentation.’
- b. [simarisu-o kenkyûsi-tei-ru] Iwasaki san-ga happyôsi-ta.  
 [chipmunk-Acc study-Perf-Pres] Mr. Iwasaki-Nom present-Past

---

embedded present tense in (i) shows that a simultaneous interpretation is not always available for present tense in a restrictive relative clause.

- (i) [handôtai-o sirabe-tei- {ta/\*ru}] kenkyûsya-ga  
 [semiconductor-Acc investigate-Perf- {Past/Pres}] researcher-Nom  
 toranzisutâ-o hatumeisi-ta.  
 transistor-Acc invent-Past  
 ‘Researchers who were testing semiconductors invented the transistor.’

What is observed (and relevant) in this subsection is that there is a context in which present tense in a non-restrictive relative clause lacks a simultaneous interpretation which present tense in a restrictive relative clause has.

‘Mr. Iwasaki, who is studying chipmunks, made a presentation.’

??‘Mr. Iwasaki, who was studying chipmunks, made a presentation.’

To check the intuition, let us consider the following continuations. (182a) can follow (181a), whereas (182b) cannot follow (181a). Note that (182b) is odd if the speaker believes that Mr. Iwasaki is studying chipmunks at the speech time. The goodness of continuation (182a) shows that the speaker does not need to have a belief that the person is studying chipmunks at the speech time of (181a).

- (182) a. ... ano hito-wa ima-demo simarisu-o kenkyûsi-tei-ru no-ka nâ  
that person-Top now-even chipmunk-Acc study-Perf-Pres Fin-Q SFP  
‘... Is the person studying chipmunks even now?’
- b. ... #Iwasaki san-wa ima-demo simarisu-o kenkyûsi-tei-ru no-ka nâ  
Mr. Iwasaki-Top now-even chipmunk-Acc study-Perf-Pres Fin-Q SFP  
‘... Is Mr. Iwasaki studying chipmunks even now?’

The lack of the simultaneous interpretation suggests that a non-restrictive relative clause is not in the scope of the matrix tense.

#### 4.4.3 Indeterminate phrases in non-restrictive relative clauses are not licensed by the matrix

##### Q

In Japanese, indeterminate phrases such as *dare* ‘who’ and *nani* ‘what’ in a restrictive relative clause can be licensed by a matrix interrogative element *ka* (or  $\emptyset_Q$ ):

- (183) anata-wa [dare-ga kai-ta] hon-o yomi-masi-ta ka? (Miyake 1995)  
 you-Top [who-Nom write-Past] book-Acc read-Polite-Past Q  
 (*lit.*: ‘Did you read a book [who wrote]?’)  
 ‘Whose book did you read?’

However, if indeterminate phrases are in a non-restrictive relative clause, they are not licensed by a matrix interrogative element:

- (184) \*anata-wa [dare-ga kai-ta] sono hon-o yomi-masi-ta ka? (Miyake 1995)  
 you-Top [who-Nom write-Past] that book-Acc read-Polite-Past Q  
 (*lit.*: ‘Did you read the book, [who wrote]?’)

The following pair of restrictive and non-restrictive relative clauses shows the same pattern.

- (185) a. anata-wa [nani-o kai-ta] sakka-o sit-tei-ru-no  $\emptyset_Q$ ? (Miyake 1995)  
 you-Top [what-Acc write-Past] writer-Acc know-Perf-Pres-Fin Q  
 (*lit.*: ‘Do you know authors [that wrote what]?’)  
 ‘What authors do you know? What did they write?’
- b. \*anata-wa [nani-o kai-ta] Murakami Haruki-o sit-tei-ru-no  $\emptyset_Q$ ?  
 you-Top [what-Acc write-Past] M. H. -Acc know-Perf-Pres-Fin Q  
 (*lit.*: ‘Do you know Haruki Murakami, [that wrote what]?’) (Miyake 1995)

These data suggest that non-restrictive relative clauses are not in the c-commanding domain of the matrix Q.<sup>87</sup>

#### 4.4.4 Presupposition and non-restrictive relative clauses

The content of a topic DP is taken for granted. The restrictive relative clause inside of a topic DP is no exception: if a topic DP contains a restrictive relative clause, the content of the relative clause must be taken for granted. In contrast, non-restrictive relative clauses which are *prima facie* inside of a topic DP, namely non-restrictive relative clauses with their host nouns marked with a topic-marker *wa*, do not follow this pattern: they can represent information which is not taken for granted. In this section I show it.

First, let us consider a discourse which begins with the following utterance, which is a variant of an English sentence in Chierchia and McConnell-Ginet (2000)<sup>88</sup>.

- (186) watasi-ga sensyû Ithaca-kara New York-e-no hikôki-no naka-de at-ta  
I-Nom last.week Ithaca-from New York-to-Gen airplane-Gen inside-Loc meet-Past  
zyosei-no koto-nituite ohanasisi-ta-i koto-ga ari-mas-u  
woman-Gen thing-about tell-want-Pred.be.Pres thing-Nom exist-Polite-Pres  
'Let me tell you something about a woman I met while flying from Ithaca to New York  
last week.'  
(Chierchia and McConnell-Ginet (2000): 351(37))

---

<sup>87</sup> Another analysis (Miyake 1995), which assumes that what is relevant to the licensing of indeterminate phrases is a [+WH] feature which indeterminate phrases have and that the [+WH] feature can percolate to dominating nodes, is that an indeterminate phrase in a non-restrictive relative clause cannot make the whole nominal phrase which contains the non-restrictive relative clause have a [+WH] feature.

<sup>88</sup> Chierchia and McConnell-Ginet's original English sentence appears in (190).



It makes clear that nothing special about the woman is taken for granted. Now, let us suppose that (186) is followed by (187). It sounds quite awkward.

- (187) \**[Ithaca-kara New York-e-no hikôki-no kinai-de nimotu-o  
[Ithaca-from New York-to-Gen airplane-Gen inside-Loc luggage-Acc  
nakusi-tesimat-ta] zyosei-wa totemo hara-o tate-tei-masi-ta  
lose-do-Past woman-Top very.much get.upset -Perf-Polite-Past  
'The woman who lost her luggage on the flight from Ithaca to New York was pretty  
upset.'*

(The English sentence is a modified version of Del Gobbo 2003:93(113a))

The badness of (187) is expected: A topic-marked element needs to be in the common ground, but the information represented by the topic-marked subject is new information which is difficult to accommodate. Hence (187) is bad. Sentences in which the DP is not a topic, such as (188), are fine as a continuation of (186).

- (188) *[Ithaca-kara New York-e-no hikôki-no kinai-de nimotu-o  
[Ithaca-from New York-to-Gen airplane-Gen inside-Loc luggage-Acc  
nakusi-tesimat-ta] zyosei-ga totemo hara-o tate-tei-masi-ta  
lose-do-Past woman-Nom very.much get.upset -Perf-Polite-Past  
'A woman who lost her luggage on the flight from Ithaca to New York was pretty  
upset.'*

In (187), the new information is provided by a restrictive relative clause. Now let us consider a non-restrictive relative clause, as in (189), which is an analogue of (187). Importantly, (189) can follow (190).<sup>89</sup>

(189) [Ithaca-kara New York-e-no hikôki-no kinai-de nimotu-o  
 [Ithaca-from New York-to-Gen airplane-Gen inside-Loc luggage-Acc  
 nakusi-tesimat-ta] {sono zyosei/kanozyo}-wa totemo hara-o tate-tei-masi-ta  
 lose-do-Past {that woman/she}-Top very.much get.upset -Perf-Polite-Past  
 ‘{The woman/She}, who lost her luggage on the flight from Ithaca to New York, was  
 pretty upset.’

(The English sentence is a modified version of Del Gobbo 2003:93(113a))

(190) watasi-ga sensyû Ithaca-kara New York-e-no hikôki-no naka-de at-ta  
 I-Nom last.week Ithaca-from New York-to-Gen airplane-Gen inside-Loc meet-Past  
 zyosei, Jill Jensen-no koto-nituite ohanasisi-ta-i koto-ga  
 woman, Jill Jensen-Gen thing-about tell-want-Pred.be.Pres thing-Nom  
 ari-mas-u  
 exist-Polite-Pres

‘Let me tell you something about Jill Jensen, a woman I met while flying from Ithaca  
 to New York last week.’

(The English sentence is from Chierchia and McConnell-Ginet 2000: 351(37))

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<sup>89</sup> In this respect, Japanese and Chinese non-restrictive relative clauses differ. In Chinese, a similar discourse is awkward (Del Gobbo 2003: 96).

By (190), it is clear that the information that Jill Jensen lost her luggage on the flight, which is the content of the non-restrictive relative clause in (189), is not in the common ground. Although the non-restrictive relative clause, which represents new information, is *prima facie* in a topic-marked DP (that is, the non-restrictive relative clause modifies a host noun marked with a topic marker *wa*), the whole sentence is felicitously assertable. A plausible account of it is that the non-restrictive relative clause is not (or is not interpreted) in the topic-marked DP.

#### 4.4.5 Japanese non-restrictive relative clauses are embeddable under an attitude verb

Up to here, we have seen data which are in accordance with a hypothesis that Japanese non-restrictive relative clauses are outside of the scope of (i) matrix negation, (ii) matrix tense, (iii) matrix Q, and (iv) topic. In this subsection, let us consider the region ‘above CP’. I argue that non-restrictive relative clauses can be in the scope of an attitude verb.

First, let us consider the following sentence, in which a non-restrictive relative clause appears in a complement clause of a verb of saying.

- (191) Hanako<sub>i</sub>-wa [kinô kanozyo<sub>i</sub>-wa [<sub>NRRC</sub> kanozyo<sub>i</sub>-no otôto-to  
 Hanako<sub>i</sub>-Top [yesterday she<sub>i</sub>-Top [ she<sub>i</sub>-Gen brother-with  
 ason-dei-ta] Tarô-o mi-ta-to] it-tei-ta.  
 play-Perf-Past] ] Taro-Acc see-Past-Rep] say-Perf-Past  
 Demo boku-wa [Tarô-ga kinô itinitizyû hitori-de ie-ni i-ta  
 but I-Top Taro-Nom yesterday all.day alone home-at be-Past  
 no]-o sit-tei-ru.  
 Fin]-Acc know-Perf-Pres

(*lit.*) ‘Hanako<sub>i</sub> said that she<sub>i</sub> saw Taro, who was playing with her<sub>i</sub> brother, yesterday.

But I know that Taro was alone at home all day yesterday.’

≈ ‘Hanako<sub>i</sub> said that she<sub>i</sub> saw Taro yesterday and that he was playing with her<sub>i</sub> brother.  
 But I know that Taro was alone at home all day yesterday.’

If the content of the non-restrictive relative clause, ‘who was playing with her brother,’ is not embedded and takes a scope out of the attitude verb, the speaker must believe that Taro was in the park. Then, the continuation, ‘But I know that Taro was alone at home [...]’ should lead to infelicity. However, the sentence is utterly fine. It indicates that the content of a non-restrictive relative clause can be embedded under the verb of saying.

One might wonder that the local speaker-orientation of the content of the non-restrictive relative clause is maybe due to partial quotation and does not reflect the scopal relation between the verb of saying and the non-restrictive relative clause. That is, if the complement clause of the verb of saying or the non-restrictive relative clause is a (partial) quotation of Hanako’s saying, then one can keep a hypothesis that the content of non-restrictive relative clauses is always (global) speaker-oriented (cf. Anand 2007, Sæbø 2011). For (191), however, such an analysis is impossible. Note that (191) uses third-person pronoun *kanoz<sub>yo</sub>* (‘she’) for reference to Hanako. If the whole complement clause of the verb of saying or the non-restrictive relative clause is a quotation of Hanako’s saying, the reference to Hanako should be done using a first-person pronoun (or a phonetically null pronoun). The use of a third-person pronoun indicates that the clauses cannot be quotations.

Can the content of a non-restrictive relative clause be embedded under attitude predicates other than a verb of saying? Let us consider the following example, in which a non-restrictive relative clause appears in a *to*-complement clause of a verb of believing.

(192) Tarô<sub>i</sub>-wa [ [NRRRC kare<sub>i</sub>-no titioya-o mituke-ta] Tanaka-san-ga  
 Taro<sub>i</sub>-Top [ [ he<sub>i</sub>-Gen father-Acc find-Past] Tanaka-Ms.-Nom

asita kuru-to] sinzi-tei-ru.

tomorrow come-Rep] believe-Perf-Pres

Sikasi watasi-wa [Tanaka-san-ga zitu-wa Tarô-no titioya-o

but I-Top Tanaka-Ms.-Nom factually Taro-Gen father-Acc

mituke-tei-na-i no]-o sit-tei-ru

find-Perf-NEG-Pred.be.Pres Fin]-Acc know-Perf-Pres

(*lit.*) ‘Taro<sub>i</sub> believes that Ms. Tanaka, who found his<sub>i</sub> father, will come tomorrow. But I know that factually Ms. Tanaka has not found Taro’s father.’

≈ ‘Taro<sub>i</sub> believes that Ms. Tanaka will come tomorrow and that she found his<sub>i</sub> father.

But I know that factually she has not found his father.’

Note that if the content of the non-restrictive relative clause is not embedded, the continuation should lead to infelicity. The goodness of this example shows that the content of a non-restrictive clause is embeddable in this case also.

Let us consider another example. Constant (2011) uses the following Chinese example to argue that Chinese non-restrictive relative clauses are scopeless. In this example, the content of the non-restrictive clause, ‘(Lisi) had actually been at home all along’, is not in the teacher’s thought.

(193) Lǎoshī yǐwéi shì yīzhí zài jiā-ji de Lǐsì zuò-le èzùojù.

teacher think.wrongly be all.along at home-Loc DE Lisi do-Pfv prank

‘The teacher thought that it was Lisi, who had actually been at home all along, who had done the prank.’

(Constant 2011: (31))

A Japanese counterpart of (193) is (194).<sup>90</sup>

(194) sensei-wa [ [NRRRC ie-ni zutto i-ta] Risi-ga sono itazura-o  
teacher-Top [ [ home-at all.along be-Past] Lisi-Nom that prank-Acc  
si-ta-to] gokaisi-tei-ru.

do-Past-Rep] think.wrongly-Perf-Pres

(*lit.*) ‘The teacher thought wrongly that it was Lisi, who had been at home all along,  
who had done the prank.’

a. ≈ ‘The teacher thought that Lisi had been at home all along and that he had done the  
prank.’

b. ≈ ‘The teacher thought that Lisi had done the prank. Lisi was at home all along.’

Different from the Chinese non-restrictive relative clause, this Japanese counterpart allows embedding, as shown in interpretation (194a). The two interpretations, (194a) and (194b), are due to *de dicto/de re* ambiguity.

In the above examples, a *to*-clause is used for the complement clause of the attitude verb. If *no*-clause is used, however, the content of the non-restrictive relative clause resists being embedded. For example, (195), which uses a *no*-complement, sounds awkward, compared to (192) (see footnote 90 also).

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<sup>90</sup> Note that this example uses a *to*-complement clause. If a *no*-complement clause is used, the meaning of the sentence differs from the English sentence very much:

(i) sensei-wa [ [NRRRC ie-ni zutto i-ta] Risi-ga sono itazura-o  
teacher-Top [ [ home-at all.along be-Past] Lisi-Nom that prank-Acc  
si-ta-no]-o gokaisi-tei-ru.  
do-Past-Fin]-Acc think.wrongly-Perf-Pres  
≈ ‘The teacher thought wrongly about the fact that Lisi had been at home all along and that he had done the prank.’

- (195) ??Tarô<sub>i</sub>-wa [ [<sub>NRRC</sub> kare<sub>i</sub>-no titioya-o mituke-ta] Tanaka-san-ga  
 Taro<sub>i</sub>-Top [ [<sub>NRRC</sub> he<sub>i</sub>-Gen father-Acc find-Past] Tanaka-Ms.-Nom  
 asita kuru-no]-o sinzi-tei-ru.  
 tomorrow come-Fin]-Acc believe-Perf-Pres  
 Sikasi watasi-wa [Tanaka-san-ga zitu-wa Tarô-no titioya-o  
 but I-Top Tanaka-Ms.-Nom factually Taro-Gen father-Acc  
 mituke-tei-na-i no]-o sit-tei-ru  
 find-Perf-NEG-Pred.be.Pres Fin]-Acc know-Perf-Pres  
 (*lit.*) ‘Taro<sub>i</sub> believes that Ms. Tanaka, who found his<sub>i</sub> father, will come tomorrow. But I  
 know that factually Ms. Tanaka has not found Taro’s father.’  
 ≈ ‘Taro<sub>i</sub> believes that Ms. Tanaka will come tomorrow and that she found his<sub>i</sub> father.  
 But I know that factually she has not found his father.’

These data indicate that the content of Japanese non-restrictive relative clauses is embeddable under *to*-complements of attitude verbs.

#### 4.4.6 Pragmatics of Japanese non-restrictive relative clauses

In the previous section, we saw that Japanese non-restrictive relative clauses are embeddable under a *to*-complement of an attitude verb. It suggests that Japanese non-restrictive relative clauses do not have conventional implicature semantics which Potts (2005) proposes for English non-restrictive relative clauses. (Conventional implicature semantics predicts that the content of non-restrictive relative clauses is not embeddable.) Against Potts’s (2005) analysis of English non-restrictive relative clauses as conventional implicatures using a multidimensional semantics, Schlenker (2010, 2013a,b) proposes a unidimensional analysis for English and French non-restrictive relative clauses. According to Schlenker, the content of non-restrictive relative

clauses is ‘translucent’<sup>91</sup>. Pragmatic properties of non-restrictive relative clauses which Schlenker’s analysis tries to explain include (i) non-at-issueness, (ii) non-triviality, and (iii) non-controversiality. Let us see whether Japanese non-restrictive relative clauses have these properties one by one.

Japanese non-restrictive relative clauses have the property, non-at-issueness. To see it, let us use the P family test, which is a test for non-at-issueness (backgroundedness), as Chierchia and McConnell-Ginet (2000) and Kadmon (2001) argue. The following examples show that the content of Japanese non-restrictive relative clauses are not-at-issue.

(196) a. **Negation**

Tarô-wa [<sub>NRR</sub> Epikutêtosu-no senmonka-de a-ru] Sikano-ni

Taro-Top [<sub>NRR</sub> Epictetus-Gen expert-Pred be-Pres] Sikano-Dat

aw-ana-k-at-ta.

meet-Neg-Pred-be-Past

‘Taro didn’t meet Sikano, who was an expert in Epictetus.’

⇒ Sikano was an expert in Epictetus.

b. **Conditional**

[<sub>NRR</sub> Epikutêtosu-no senmonka-de a-ru] Sikano-ga nagaikisi-tei-ta

[<sub>NRR</sub> Epictetus-Gen expert-Pred be-Pres] Sikano-Nom live.long-Perf-Past

ra, kare-wa sutoatetugaku-no hon-o kai-ta darou.

if he-Top Stoicism-Gen book-Acc write-Past Mod

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<sup>91</sup> Translucency is defined as follows.

(i) **Translucency (Schlenker 2013a: (24))**

If an NRR is uttered in a global context set C, it should be possible to add to C unsurprising assumptions to obtain a context C<sup>+</sup> in which the NRR is ‘locally trivial’, i.e. entailed by its local context given C<sup>+</sup>.



‘If Sikano, who was an expert in Epictetus, lived long, he would have written a book on Stoicism.’

⇒ Sikano was an expert in Epictetus.

Japanese non-restrictive relative clauses, however, do not seem to have the non-triviality.

To see that, let us consider the following example from Schlenker (2013a), after Potts (2005).

(197) Armstrong survived cancer. #Lance, who survived cancer, won the Tour de France.

Different from the English example, its Japanese counterpart is acceptable:

(198) Âmusutorongu-wa gan-o ikinobi-ta. [NRRC gan-o ikinobi-ta]  
Armstrong-Top cancer-Acc survive-Past [NRRC cancer-Acc survive-Past]  
Ransu-wa Tûru do Furansu-de kat-ta.  
Lance-Top Tour de France-at win-Past  
(*lit.*) ‘Armstrong survived cancer. Lance, who survived cancer, won the Tour de France.’

This suggests that the content of Japanese non-restrictive relative clause can be trivial. However, the conclusion might be too hasty. If the predicate in the non-restrictive relative clause expresses a time-independent state, the sentence becomes bad. For example, the following example sounds strange. Note that its first sentence excludes the possibility that strength of legs of the person under discussion did not change very much during the time under discussion. The badness of this example indicates that Japanese non-restrictive relative clauses also have the property of non-triviality.

- (199) Âmusutorongu-wa kyakuryoku-ga tuyo-k-at-ta.  
 Armstrong-Top strength.of.leg-Nom strong-Pred-be-Past  
 #<sub>[NRRC]</sub> kyakuryoku-ga tuyo-k-at-ta] Ransu-wa  
 [<sub>NRRC</sub> strength.of.leg-Nom strong-Pred-be-Past] Lance-Top  
 Tûru do Furansu-de kat-ta.  
 Tour de France-at win-Past  
 (*lit.*) ‘Armstrong had strong legs. Lance, who had strong legs, won the Tour de France.’

I think that an account for the acceptability of (198) is to posit that *Ransu* modified by the relative clause is type-shifted from an individual to the set of all the stages of the individual (in line with Paul 1994 and Del Gobbo 2003), and the relative clause is restricting the set of stages. In this analysis, the second sentence in (198) is interpreted as ‘a stage of Lance that has survived cancer won the Tour de France’. It is in accordance with the intuition that (198) can be used only if Lance won the Tour de France after he survived cancer.

Finally, Japanese non-restrictive relative clauses have the property, non-controversiality also. Let us consider (200), which is a Japanese counterpart of Schlenker’s (2013b: 24(59)) example. It shows that Japanese behaves similarly to English: if the information of the non-restrictive relative clause is surprising, the sentence becomes odd.

- (200) (Context: The news isn’t out yet that Obama has committed a crime.)  
 One expects the Commander-in-chief to have an exemplary behavior. However  
 a. [saikôsirêkan-de a-ru] Obama-ga tatta ima tuma-o korosi-ta.  
 [Commander-in-chief-Pred be-Pres] Obama-Nom just now wife-Acc murder-Past  
 ‘Obama, who is the Commander-in-chief, has just murdered his wife.’

- b. (#)[tatta ima tuma-o korosi-ta] Obama-ga saikôsirêkan-da.  
 [just now wife-Acc murder-Past] Obama-Nom Commander-in-chief-Pred.be.Pres  
 ‘Obama, who has just murdered his wife, is the Commander-in-chief.’

The above data suggest that pragmatically Japanese non-restrictive relative clauses are considerably similar to English ones. They show (i) non-at-issueness, (ii) non-triviality, and (iii) non-controversiality.

#### 4.5 Analysis of Japanese non-restrictive relative clauses

Let us now make a formal analysis of Japanese non-restrictive relative clauses.

We have seen that semantically Japanese non-restrictive relative clauses are out of the scope of (i) matrix negation, (ii) matrix tense, (iii) matrix Q, and (iv) matrix topic, and (v) can be in the scope of (a *to*-complement of) an attitude predicate. Following these observations, I propose that a Japanese non-restrictive relative clause is attached to ForceP.<sup>92</sup>

For the Japanese non-restrictive relative clause, I present the following semantics of non-restrictive relative clauses, in line with Schlenker (2013b): the meaning of a non-restrictive relative clause is treated as parataxis, which is (as a first approximation) conjunction. (In (201), for simplicity I use the label ‘NRR’ and ‘CP’ for the non-restrictive relative clause and ForceP, respectively. The subscript CP<sub>i</sub> on NRR expresses the CP to which the NRR attaches.)

(201) a. Let node CP<sub>i</sub> dominate the LF position of DP.

$[[ [_{CP_i} \dots DP \text{ NRR}_{CP_i} \dots ] ]]^g = \#$  unless for some DP  $d$  and some index  $k$ ,  $DP = d_k$ .

If  $\neq \#$ ,  $[[ [_{CP_i} \dots DP_k \text{ NRR}_{CP_i} \dots ] ]]^g = [[ [_{CP_i} \dots DP_k \dots ] ]]^g \bullet [[ \text{NRR}_{CP_i} ] ]^g(g(k))$

<sup>92</sup> Note that *to* complementizer selects for a ForceP.

(where # represents presupposition failure)

- b. • is the operation of parataxis. As a first approximation,

$$[[ [_{C_{Pi}} \dots DP_k \dots ] ]]^g \bullet [[ NRR_{C_{Pi}} ]]^g(g(k)) = 1 \text{ iff } [[ [_{C_{Pi}} \dots DP_k \dots ] ]]^g = 1 \text{ and } [[ NRR_{C_{Pi}} ]]^g(g(k)) = 1.$$

(based on Schlenker 2013b: 20(45))

For example, let us consider (202).

- (202) [Amherst-ni sum-u]      Sikano san-ga      byôki-da.  
[Amherst-Loc live-Pres] Mr. Sikano-Nom sick-Pred.be.Pres  
'Mr. Sikano, who lives in Amherst, is sick.'

Its meaning is calculated as follows (for ease of presentation, I use its English counterpart).

- (203) a. Mr. Sikano<sub>k</sub>, [ $\lambda x_i x_i$  lives in Amherst], is sick.  
b. [[ (a) ]]<sup>g</sup> ≠ # since *Mr. Sikano* carries an index, *k*. And  
[[ (a) ]]<sup>g</sup> = [[ *Mr. Sikano<sub>k</sub> is sick* ]]<sup>g</sup> • [[  $\lambda x_i x_i$  lives in Amherst ]]<sup>g</sup>(g(k))

For indices on a proper noun, I posit the meaning of proper nouns given in (204), as in Schlenker (2013).

- (204) If *p* is a proper name carrying an index *i*,  
[[ *p<sub>i</sub>* ]]<sup>g</sup> = # unless g(i) = [[ *p* ]]<sup>g</sup>. If ≠ #, [[ *p<sub>i</sub>* ]]<sup>g</sup> = [[ *p* ]]<sup>g</sup> = g(i)

(based on Schlenker 2013b:21(47))

From this,  $[[ \text{Mr. Sikano}_k ]]^g = [[ \text{Mr. Sikano} ]]^g = g(k)$ . Letting  $[[ \text{Mr. Sikano} ]]^g$  be Mr. Sikano, the calculation (203b) continues as follows.

$$\begin{aligned}
 (205) \quad & [[ \text{Mr. Sikano}_k \text{ is sick} ]]^g \bullet [[ \lambda x_i x_i \text{ lives in Amherst} ]]^g(g(k)) \\
 & = \text{is-sick}(\text{Mr. Sikano}) \bullet (\lambda x. \text{lives-in-Amherst}(x))(\text{Mr. Sikano}) \\
 & = \text{is-sick}(\text{Mr. Sikano}) \bullet \text{lives-in-Amherst}(\text{Mr. Sikano})
 \end{aligned}$$

#### 4.6 The Experiencer restriction in embedded non-restrictive relative clauses

Now let us turn to the Experiencer restriction in non-restrictive relative clauses. As seen in (171), an Experiencer in a non-restrictive relative clause is restricted to the speaker if the host noun which the relative clause modifies is in a matrix clause. In this section, I show that an Experiencer in non-restrictive relative clauses is restricted to the local speaker if the relative clause is in the scope of a verb of saying, but not restricted if the relative clause is in the scope of a non-communicational attitude verb.

First, let us consider the following examples, where an Experiencer adjective is in a non-restrictive relative clause which is in the scope of a verb of saying.<sup>93</sup> These examples differ in the choice of the host noun of the non-restrictive relative clause. The host nouns in (206a), (206b), and (206c) refer to Hanako, Taro, and the speaker, respectively. These examples indicate that the Experiencer restriction is active in this environment and that the Experiencer must be the local speaker.

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<sup>93</sup> In principle, non-restrictive relative clauses can attach to either embedded ForceP (i.e., in the scope of attitude verbs) or matrix ForceP (i.e., outside of the scope of attitude verbs). The second sentence in the examples guarantees that the non-restrictive relative clause under discussion is embedded in the scope of attitude verbs.

- (206) a. Tarô<sub>i</sub>-wa [[<sub>NRRC</sub> kare<sub>i</sub>-no hahaoya-no nyûsu-o kii-te  
 Taro<sub>i</sub>-Top [[<sub>NRRC</sub> he<sub>i</sub>-Gen mother-Gen news-Acc hear-ing  
 {??uresi-k-at/uresi-gat}-ta] Hanako-ga sore-o si-ta-to]  
 {??glad-Pred-be/glad-GAR}-Past] Hanako-Nom it-Acc do-Past-Rep]  
 it-tei-ru.  
 say-Perf-Pres  
 Sikasi, Hanako-wa Tarô-no hahaoya-no nyûsu-o kii-tei-na-i.  
 But Hanako-Top Taro-Gen mother-Gen news-Acc hear-Perf-Neg-Pred.be.Pres  
 (*lit.*) ‘Taro<sub>i</sub> says that Hanako, who {??was glad/behaved as feeling glad} at hearing his<sub>i</sub>  
 mother’s news, did it. But Hanako has not heard Taro’s mother’s news.’  
 ≈ ‘Taro<sub>i</sub> says that Hanako {??was glad/behaved as feeling glad} at hearing his<sub>i</sub>  
 mother’s news and did it. But Hanako has not heard Taro’s mother’s news.’

- b. Tarô<sub>i</sub>-wa [[<sub>NRRC</sub> kare<sub>i</sub>-no hahaoya-no nyûsu-o kii-te  
 Taro<sub>i</sub>-Top [[<sub>NRRC</sub> he<sub>i</sub>-Gen mother-Gen news-Acc hear-ing  
 {uresi-k-at/??uresi-gat}-ta] kare<sub>i</sub>-ga sore-o si-ta-to]  
 {glad-Pred-be/??glad-GAR}-Past] he<sub>i</sub>-Nom it-Acc do-Past-Rep]  
 it-tei-ru.  
 say-Perf-Pres  
 Sikasi, hontô-wa Tarô<sub>i</sub>-wa kare<sub>i</sub>-no hahaoya-no nyûsu-o  
 But fact-Top Taro<sub>i</sub>-Top he<sub>i</sub>-Gen mother-Gen news-Acc  
 kii-tei-na-i.  
 hear-Perf-Neg-Pred.be.Pres  
 (*lit.*) ‘Taro<sub>i</sub> says that he<sub>i</sub>, who {was glad/??behaved as feeling glad} at hearing his<sub>i</sub>  
 mother’s news, did it. But actually Taro<sub>i</sub> didn’t hear his<sub>i</sub> mother’s news.’

≈ ‘Taro<sub>i</sub> says that he<sub>i</sub> {was glad/??behaved as feeling glad} at hearing his<sub>i</sub> mother’s news and did it. But actually Taro didn’t hear his mother’s news.’

- c. Tarô<sub>i</sub>-wa [[<sub>NRRC</sub> kare<sub>i</sub>-no hahaoya-no nyûsu-o kii-te  
 Taro<sub>i</sub>-Top [[<sub>NRRC</sub> he<sub>i</sub>-Gen mother-Gen news-Acc hear-ing  
 {?uresi-k-at/(?)uresi-gat}-ta] watasi-ga sore-o si-ta-to]  
 {glad-Pred-be/??glad-GAR}-Past] I-Nom it-Acc do-Past-Rep]  
 it-tei-ru.  
 say-Perf-Pres

Sikasi, watasi-wa Tarô-no hahaoya-no nyûsu-o kii-tei-na-i.

But I-Top Taro-Gen mother-Gen news-Acc hear-Perf-Neg-Pred.be.Pres  
 (*lit.*) ‘Taro<sub>i</sub> says that I, who {?was glad/(?)behaved as feeling glad} at hearing his<sub>i</sub> mother’s news, did it. But actually I didn’t hear Taro’s mother’s news.’

≈ ‘Taro<sub>i</sub> says that I {?was glad/(?)behaved as feeling glad} at hearing his<sub>i</sub> mother’s news and did it. But I didn’t hear his mother’s news.’

Second, let us consider the following examples, where an Experiencer adjective is in a non-restrictive relative clause which is in the scope of a non-communicational attitude verb. The host nouns in the non-restrictive relative clauses in (207a) and (207b) refer to Hanako and the speaker, respectively. The goodness of these examples indicates that the Experiencer restriction is not active in non-restrictive relative clauses if the relative clauses are in a complement clause of non-communicational attitude verb.

- (207) a. Tarô<sub>i</sub>-wa [[<sub>NRRC</sub> kare<sub>i</sub>-no hahaoya-no nyûsu-o kii-te uresi-k-at-ta]  
 Taro<sub>i</sub>-Top [[<sub>NRRC</sub> he<sub>i</sub>-Gen mother-Gen news-Acc hear-ing glad-Pred-be-Past]  
 Hanako-ga sore-o si-ta-to] {omot/sinzi}-tei-ru.  
 Hanako-Nom it-Acc do-Past-Rep] {think/believe}-Perf-Pres

Sikasi, Hanako-wa Tarô-no hahaoya-no nyûsu-o kii-tei-na-i.

But Hanako-Top Taro-Gen mother-Gen news-Acc hear-Perf-Neg-Pred.be.Pres

(*lit.*) ‘Taro<sub>i</sub> {thinks/believes} that Hanako, who was glad at hearing his<sub>i</sub> mother’s news, did it. But Hanako has not heard Taro’s mother’s news.’

≈ ‘Taro<sub>i</sub> {thinks/believes} that Hanako was glad at hearing his<sub>i</sub> mother’s news and did it. But Hanako has not heard Taro’s mother’s news.’

b. Tarô<sub>i</sub>-wa [[<sub>NRRC</sub> kare<sub>i</sub>-no hahaoya-no nyûsu-o kii-te uresi-k-at-ta]

Taro<sub>i</sub>-Top [[<sub>NRRC</sub> he<sub>i</sub>-Gen mother-Gen news-Acc hear-ing glad-Pred-be-Past]

watasi-ga sore-o si-ta-to] {omot/sinzi}-tei-ru.

Hanako-Nom it-Acc do-Past-Rep] {think/believe}-Perf-Pres

Sikasi, Hanako-wa Tarô-no hahaoya-no nyûsu-o kii-tei-na-i.

But Hanako-Top Taro-Gen mother-Gen news-Acc hear-Perf-Neg-Pred.be.Pres

(*lit.*) ‘Taro<sub>i</sub> {thinks/believes} that I, who was glad at hearing his<sub>i</sub> mother’s news, did it.

But I have not heard Taro’s mother’s news.’

≈ ‘Taro<sub>i</sub> {thinks/believes} that I was glad at hearing his<sub>i</sub> mother’s news and did it. But I have not heard Taro’s mother’s news.’

To summarize, an Experiencer in non-restrictive relative clauses is (i) restricted to a speaker if the non-restrictive relative clause is not in the scope of an attitude predicate, (ii) restricted to a local speaker if the non-restrictive relative clause is in the scope of a verb of saying, and (iii) not restricted if the non-restrictive relative clause is in the scope of a non-communicational verb.



#### 4.7 Analysis of the Experiencer restrictions in non-restrictive relative clauses

In section 4.4, we looked at data which support the claim that non-restrictive relative clauses are interpreted to be attached to ForceP. Now, note that the distribution of the Experiencer restriction on Experiencer adjectives in non-restrictive relative clauses found in the previous section indicates a correlation between the Experience restriction and presence of assertion. In this section, I illustrate that with the semantics of non-restrictive relative clause given in section 4.5, the Experiencer restriction is derived in a natural way, by assuming that the speech act operator is distributive with respect to the parataxis operator •.

To see how it works, let us consider the following sentence. On the surface, the non-restrictive relative clause in (208) is embedded in a DP which is in a matrix clause. In this case, the Experiencer is restricted to the speaker.

- (208) #<sub>[NRRC]</sub> uresi-k-at-ta Tarô-ga sore-o si-ta.  
           <sub>[NRRC]</sub> glad-Pred-be-Past] Taro-Nom it-Acc do-Past  
 (Intended:) ‘Taro, who was glad, did it.’

I maintain that the Experiencer restriction is caused by the restriction on the situation pronoun in the non-restrictive relative clause by an illocutionary operator. Precisely, the meaning of (208) is calculated as follows. First, the matrix predicate is translated as in (209).

- (209) Taro<sub>k</sub>, [ $\lambda x_i x_i$  was glad], did it.  
 b.  $[[ (a) ]]^g \neq \#$  since *Taro* carries an index, *k*. And  
 $[[ (a) ]]^g = [[ Taro_k did it ]]^g \bullet [[ \lambda x_i x_i was glad ]]^g(g(k))$   
 $= [[ Taro_k did it ]]^g \bullet [[ \lambda x_i x_i was glad ]]^g(Taro)$

What matters here is the second conjunct. I posit that the non-restrictive relative clause contains a Topic and a topic situation,  $s_{\text{Top}'}$ , as a restrictive relative clause does. So, more precisely, the second conjunct is represented as in (210). Here, tense is ignored and part of calculation (121) is used.

$$\begin{aligned}
 (210) \quad & [[ \lambda x_i s' [ \text{Topic} [ x_i \text{ was glad } ] ] ] ]^g(\text{Taro}) \\
 & = \lambda x. \lambda s: l(s) = \mu(x). [s \approx s' \ \& \ t^* \subseteq \tau(s) \ \& \ \text{gladness is at } s](\text{Taro}) \\
 & = \lambda s: l(s) = \mu(\text{Taro}). [s \approx s' \ \& \ t^* \subseteq \tau(s) \ \& \ \text{gladness is at } s]
 \end{aligned}$$

Assertive illocutionary operator is added to (209):<sup>94</sup>

$$(211) \quad \text{Assert}([ [ \text{Taro}_k \text{ did it } ] ]^g \bullet [ [ \lambda x_i x_i \text{ was glad } ] ]^g(\text{Taro}) )$$

I assume that Assert is, as a first approximation, distributive with respect to the conjunction:

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<sup>94</sup> Maybe illocutionary operators are not distinguished by their illocutionary forces, and there is only a single operator, say, SA (Speech Act). Note that at ForceP, declarative sentences and interrogative sentences have different meanings. So, it is not necessary to assume different illocutionary operators which produce different objects from a single object. Suppose that SA works as Assert when it takes a declarative sentence radical, as Quest when it takes an interrogative sentence radical, and so on. What is good about having such a single speech act operator is that it enables us to account for the fact that non-restrictive relative clauses in questions have assertive illocutionary force, as in (i).

- (i) [uresi-{\*k-at/gat}-ta]            kimi-ga   ko-na-i            no ka?  
       [glad-{\*Pred-be/GAR}-Past] you-Nom come-Neg-Pred.be.Pres Fin Q  
       ‘Will you, who {\*was/behaved as feeling} glad, not come?’

Let us suppose that the speech act operator is distributive with respect to the conjunction:

- (ii)  $\text{SA}(\alpha \bullet \beta) = \text{SA}(\alpha) \bullet \text{SA}(\beta)$

In the case of (i), the sentential type of the matrix clause is an interrogative, but that of the non-restrictive relative clause (with its argument filled by the referent of the host noun, following Schlenker’s rule) is a declarative. Therefore, schematically we obtain the following:

- (iii)  $\text{SA}(\text{will you not come?} \bullet \text{you behaved as feeling glad})$   
        $= \text{SA}(\text{will you not come?}) \bullet \text{SA}(\text{you behaved as feeling glad})$   
        $= \text{Quest}(\text{will you not come?}) \bullet \text{Assert}(\text{you behaved as feeling glad})$

If, instead of SA, we assume that Quest, an interrogative illocutionary operator, is at the top of (i), then it would combine with an interrogative matrix clause and with the non-restrictive relative clause, which represents a declarative sentence radical. Then the latter combination, namely Quest and a declarative sentence radical, should be undefined.

$$(212) \quad \text{Assert}(\alpha \bullet \beta) = \text{Assert}(\alpha) \bullet \text{Assert}(\beta)$$

Then, (211) becomes (213):

$$(213) \quad \begin{aligned} & \text{Assert}([\text{Taro}_k \text{ did it}]^g \bullet [\lambda x_i x_i \text{ was glad}]^g(\text{Taro})) \\ &= \text{Assert}([\text{Taro}_k \text{ did it}]^g) \bullet \text{Assert}([\lambda x_i x_i \text{ was glad}]^g(\text{Taro})) \\ &= \text{Assert}([\text{Taro}_k \text{ did it}]^g) \bullet \text{Assert}(\lambda s: l(s)=\mu(\text{Taro}).[s \approx s' \ \& \ t^* \subseteq \tau(s) \ \& \ \text{gladness is at} \\ & \quad s]) \end{aligned}$$

The second conjunct is already calculated in (121). According to it, the final result of the calculation of the second conjunct is given as follows.

$$(214) \quad \begin{aligned} & \text{Assert}(\lambda s: l(s)=\mu(\text{Taro}).[s \approx s' \ \& \ t^* \subseteq \tau(s) \ \& \ \text{gladness is at } s]) \\ &= \lambda s: l(s) \in D_{\text{ph}} \cup \{\mu(\text{speaker}(c))\} \ \& \ l(s) = \mu(\text{Taro}). [s \approx s_{\text{Top}} \ \& \ t^* \subseteq \tau(s) \ \& \ \text{gladness is} \\ & \quad \text{at } s] \end{aligned}$$

As argued in section 3.6.1, it means that Taro is the speaker when the LF has a truth-value. This is the desired Experiencer restriction.

Now, let us consider the Experiencer restriction in a non-restrictive relative clause embedded under a verb of assertion.

$$(215) \quad \begin{aligned} & \#[ [\text{NRRC uresi-k-at-ta}] \quad \text{Tarô-ga} \quad \text{sore-o si-ta-to}] \text{ Hanako-ga} \quad \text{it-ta.} \\ & \quad [ [\text{NRRC glad-Pred-be-Past}] \text{ Taro-Nom} \quad \text{it-Acc do-Past}] \text{ Hanako-Nom} \quad \text{say-Past} \\ & \quad (\text{Intended:}) \text{ 'Hanako said that Taro, who was glad, did it.'} \end{aligned}$$

In this case, the calculation goes similarly to the above case. The difference is that instead of Assert, a verb of assertion takes (209). Let us look at the relevant part:

$$\begin{aligned}
 (216) \quad & [[ \text{say} [ \text{that Taro, who was glad, did it} ] ] ]^g \\
 & = [[ \text{say} ] ]^g ( [[ \text{Taro, who was glad, did it} ] ]^g ) \\
 & = [[ \text{say} ] ]^g ( [[ \text{Taro}_k \text{ did it} ] ]^g \bullet [[ \lambda x_i x_i \text{ was glad} ] ]^g (\text{Taro}) )
 \end{aligned}$$

Similarly to Assert, let us posit that attitude verbs are distributive with respect to  $\bullet$ . Then we obtain (217).

$$(217) \quad [[ (216) ] ]^g = [[ \text{say} ] ]^g ( [[ \text{Taro}_k \text{ did it} ] ]^g \bullet [[ \text{say} ] ]^g ( [[ \lambda x_i x_i \text{ was glad} ] ]^g (\text{Taro}) ) )$$

The second conjunct is the same as the LF which was considered in section 3.7.1. According to the calculation given there, Taro must be the local speaker in order for the LF to have a truth-value. This is the desired Experiencer restriction.

Finally, let us consider the Experiencer restriction in a non-restrictive relative clause embedded under a verb of non-assertion, as in (218).

$$\begin{aligned}
 (218) \quad & [ [_{\text{NRRRC}} \text{uresi-k-at-ta} ] \quad \text{Tarô-ga} \quad \text{sore-o si-ta-to} ] \text{ Hanako-wa} \quad \text{sinzi-tei-ta.} \\
 & [ [_{\text{NRRRC}} \text{glad-Pred-be-Past} ] \text{ Taro-Nom} \quad \text{it-Acc do-Past} ] \text{ Hanako-Top} \quad \text{believe-Perf-Past} \\
 & \text{‘Hanako believe that Taro, who was glad, did it.’}
 \end{aligned}$$

The calculation goes similarly to the above cases. In this case, the operator which embeds the conjunct  $[[ \lambda x_i x_i \text{ was glad} ] ]^g (\text{Taro})$  is *sinzi-ru* ‘believe’, and its lexical entry is given in (86). The

point is that a verb of non-communication does not impose a restriction on the res situation, so the Experiencer restriction does not emerge.

## CHAPTER 5

### FEATURE-CHECKING ANALYSIS

#### 5.1 Introduction

In this chapter, I give an analysis of the Experiencer restriction which involves checking of a morphosyntactic feature. It can be seen as a refinement of Tenny's (2006) double feature-checking analysis. She proposes that the Experiencer restriction involves checking of two morphosyntactic features, [+sentient] ([+sen]) and [+discourse participant]. In the double-feature checking analysis, Experiencer DPs are assigned the two features by Experiencer adjectives and raise for feature-checking. (Experiencer raising is proposed by Stowell (1986), Campbell and Martin (1989), Sato and Kishida (2009), Landau (2010), among others, based on Experiencers' special properties such as backward anaphora.) The feature [+sen] is checked at a phrase in the right-periphery called the Sentience/Evidentiality Phrase,<sup>95</sup> and the feature [+discourse participant] is checked at a SAP above it. [Spec, SAP], to which Experiencer DPs raise, is the place for the speaker, so the Experiencer restriction emerges.<sup>96</sup> Because only sentient individuals can experience their feelings, epistemologically it is natural that Experiencer adjectives assign a sentience feature to Experiencer DPs. But it is not obvious that Experiencer adjectives assign [+discourse participant] feature to Experiencer DPs, and it turns out to be problematic, as shown in the next chapter. In this chapter I present a single-feature checking analysis of the Experiencer restriction, in which only a [+sen] feature is checked. I argue that the checking occurs at the phrase called the epistemic modal phrase (ModP), where epistemic modals occur.<sup>97</sup> In the spirit of Lasersohn (2005) and Stephenson (2006, 2007a,b), I assume that there is a semantic coordinate *h*

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<sup>95</sup> The Sentience/Evidentiality Phrase is introduced by Speas and Tenny (2003).

<sup>96</sup> The two-feature checking analysis is reviewed and examined in the next chapter.

<sup>97</sup> I do not follow her in adopting the Sentience/Evidentiality Phrase because no test for presence of a Sentience/Evidentiality Phrase is given.

for the perspective holder from whose point of view events are described and that epistemic modals are dependent on it. Corresponding to the norm of assertion proposed by Stephenson (2007b:66), the assertive SAP sets the value of the coordinate  $h$  to the speaker. I propose that the Experiencer restriction emerges because the Japanese phonetically null epistemic modal  $\emptyset_{\text{epis}}$ , which works as a semantic binder of agreeing Experiencer DPs,<sup>98</sup> has a presupposition that the domain of the  $\lambda$ -operator is restricted to the perspective holder.

The structure of this chapter is as follows. First, I show that clauses in which Experiencers are restricted allow insertion of an epistemic modal in section 5.2.<sup>99</sup> Based on it, I argue in section 5.3 and 5.4 that such sentences contain an epistemic modal head (Mod), which is placed lower than a speech act head (SA), and an assertive SA sets the semantic parameter  $h$  to the speaker. In section 5.5, I present a feature checking analysis of the Experiencer restriction in which the modal head has a [+sen] feature which agrees with the corresponding feature on Experiencer DPs. At the end of this chapter (section 5.6), I compare this analysis and the situation-based analysis presented in the previous chapters and suggest that the latter is favored by the principle of parsimony.

## 5.2 The epistemic modal and the Experiencer restriction

In this section, I argue that clauses which restrict Experiencers always have an epistemic modal projection, by showing that such clauses always allow insertion of an epistemic modal, *darô*. Note that it is not mysterious that the epistemic modal projection is related to the Experiencer role. Both are related to sentience. Furthermore, Stephenson's (2006, 2007a,b) work

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<sup>98</sup> It is because epistemic modals and Experiencer DPs have [+sen] feature and agreement occurs. A probe works as a semantic binder of the agreeing goal (Kratzer 2009).

<sup>99</sup> There is an exception: complements of verbs of vivid memory report do not allow insertion of an epistemic modal. It is set aside here and will be mentioned in section 5.6.

shows that the unpronounced Experiencer of predicates of personal taste is related to the individual whose knowledge is relevant to the interpretation of epistemic modals.

### 5.2.1 Epistemic modal expressions in Japanese

The following three words are the most frequently used epistemic modal expressions in Japanese.<sup>100,101</sup>

- (219) a. *darô* ('probably', 'seem'<sup>102</sup>)  
 b. *kamosirena-i* ('it is epistemically possible that')  
 c. *nitigaina-i* ('it is epistemically necessary that')

*Darô* is a functional element, while *kamosirena-i* and *nitigaina-i* are lexical predicates (Inoue 2007). This difference is reflected in the fact that *darô* does not show inflection, while *kamosirena-i* and *nitigaina-i* does.<sup>103</sup> Let us look at (220a,b), for example. They show that addition of *darô* to a simple sentence does not increase the number of occurrences of tense in the sentence.

- (220) a. *Tarô-wa soko-ni it-ta.*  
 Taro-Top there-to go-Past

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<sup>100</sup> Etymologically, these expressions are derived as follows.

(i) *darô* = *de* (Pred) - *ar* ('be') - *ô* (conjunctural)

(ii) *kamosirena-i* = *ka* (Q) - *mo* ('also') - *sir* ('know') - *e* (ability) - *na* (Neg) - *i* (Pred.be.Pres)

(iii) *nitigaina-i* = *ni* (Pred) - *tigaw* ('different') - *na* (Neg) - *i* (Pred.be.Pres)

<sup>101</sup> Their polite forms, *desyô*, *kamosiremasen*, and *nitigaiarimasen* are also frequently used.

<sup>102</sup> For a detailed analysis of the meaning of *darô*, see, e.g., Hara and Davis (2013).

<sup>103</sup> In general, Japanese modals can be divided into 'genuine' and 'quasi'-modals (see, e.g., Inoue 2007; Kizu 2009). Addition of a genuine modal does not change the number of tense in a sentence, while addition of a quasi modal does. In this terminology, *darô* is a genuine modal, while *kamosirena-i* and *nitigaina-i* are quasi-modals.



‘Taro went there.’

- b. Tarô-wa soko-ni it-ta **darô**.

Taro-Top there-to go-Past seem

‘It seems that Taro went there.’

Contrastively, addition of *kamosirena-i* and *nigitaina-i* introduces tense which indicates the time of epistemic judgment, as shown in (221a-d).

- (221) a. Tarô-wa soko-ni it-ta {**kamosirena/nitigaina**}

Taro-Top there-to go-Past {be epistemically possible/be epistemically necessary}

-i.

-Pred.be.Pres

‘It is {epistemically possible/epistemically necessary} that Taro went there.’

- b. Tarô-wa soko-ni it-ta {**kamosirena/nitigaina**}

Taro-Top there-to go-Past {be epistemically possible/be epistemically necessary}

-k-at-ta.

-Pred-be-Past

‘It was {epistemically possible/epistemically necessary} that Taro went there.’

- c. Tarô-wa soko-ni i-ru {**kamosirena/nitigaina**}

Taro-Top there-to go-Pres {be epistemically possible/be epistemically necessary}

-i.

-Pred.be.Pres

‘It is {epistemically possible/epistemically necessary} that Taro is there.’

- d. Tarô-wa soko-ni i-ru {**kamosirena/nitigaina**}

Taro-Top there-to go-Pres {be epistemically possible/be epistemically necessary}

-k-at-ta.

-Pred-be-Past

‘It was {epistemically possible/epistemically necessary} that Taro was there.’

In the following, I use the term an ‘epistemic modal’ only for *darô*, which belongs to a functional category, excluding *kamosirena-i* and *nitigaina-i*, which belong to a lexical category. Following Koizumi (1991, 1993), Kishimoto (2011), and Sato (2011), I call the functional category of *darô* ‘Mod(al)’.

### 5.2.2 Root clauses

First, let us consider a declarative root clause, as in (222). As we saw in the previous chapters, it shows the Experiencer restriction in reportive style.

- (222) {watasi/#Tarô}-wa uresi-k-at-ta yo  
{I/Taro}-Top glad-Pred-be-Past SFP  
‘{I/#Taro} was glad.’

As shown in (223), it allows insertion of *darô*.

- (223) {watasi/Tarô}-wa uresi-k-at-ta **darô**.  
{I/Taro}-Top glad-Pred-be-Past Mod  
a. ‘It seems that {#I/Taro} was glad.’  
b. ‘{I/Taro} would have been glad.’

The English translations show that if (223) is interpreted in a counterfactual context, both the speaker and Taro can be the Experiencer, but if it is interpreted in a factual context, only Taro is allowed as the Experiencer. That the speaker cannot be the Experiencer in that case is related to the general fact that it is strange to use *darô* for an event which the speaker experienced/witnessed (and retains its memory). What is relevant here is that insertion of *darô* produces an acceptable sentence.

An interrogative root clause shows the same pattern. Let us consider (224), for example. It shows the Experiencer restriction.

- (224) {kimi/#Taro}-wa uresi-k-at-ta (ka)  
 {you/#Taro}-Top glad-Pred-be-Past Q  
 ‘{Are you/#Is Taro} glad?’

The interrogative root clause allows insertion of *darô*, as in (225).

- (225) {kimi/Tarô}-wa uresi-k-at-ta **darô** (ka)  
 {you/Taro}-Top glad-Pred-be-Past Mod Q  
 a. ‘Does it seem that {#you were/Taro was} glad?’  
 b. ‘Would {you/Taro} have been glad?’

As in the case of the declarative root clause, the point here is that the resulting sentence, (225), is acceptable. It is not relevant here that insertion of *darô* lifts the Experiencer restriction.

In nonreportive style, root clauses do not show the Experiencer restriction:

- (226) (Context: In third-person narrative)

Tarô-wa uresi-k-at-ta.  
 Taro-Top glad-Pred-be-Past  
 ‘Taro was glad.’

As shown in (227), insertion of *darô* is possible in nonreportive style also.

(227) (Context: In third-person narrative)  
 Tarô-wa uresi-k-at-ta darô.  
 Taro-Top glad-Pred-be-Past Mod  
 ‘Taro was probably glad.’

### 5.2.3 *To*-complement clauses under verbs of saying

We have seen that the Experiencer restriction is active in *to*-complement clauses under a verb of saying like *yu-u* ‘say’ (section 2.3.2.1). This section shows that they allow insertion of *darô*.

For example, let us take sentence (228). Its embedded clause contains a third person pronoun which refers to the local speaker, Hanako, so it represents indirect discourse.

(228) #Hanako<sub>i</sub>-wa [(sore-o kiite) kanozyo<sub>i</sub>-no itoko-wa uresi-k-at-ta  
 Hanako<sub>i</sub>-Top [(that-Acc hearing) she<sub>i</sub>-Gen cousin-Top glad-Pred-be-Past  
 -to] {it-ta/saken-da/...}.  
 -Rep] {say-Past/shout-Past/...}  
 (Intended:) ‘Hanako<sub>i</sub> {said/shouted/...} that her<sub>i</sub> cousin had been glad (to hear that).’

This sentence is not felicitous because the Experiencer in the embedded clause does not refer to the local speaker. This embedded clause allows insertion of *darô*, as shown in (229). As a result of insertion of an epistemic modal, the Experiencer restriction is lifted and the sentence can be felicitously asserted.

- (229) Hanako<sub>i</sub>-wa [(sore-o kiite) kanozyo<sub>i</sub>-no itoko-wa uresi-k-at-ta  
 Hanako<sub>i</sub>-Top [(that-Acc hearing) she<sub>i</sub>-Gen cousin-Top glad-Pred-be-Past  
**darô**-to] {it-ta/saken-da/...}.  
**Mod-Rep**] {say-Past/shout-Past/...}  
 (Intended:) ‘Hanako<sub>i</sub> {said/shouted/...} that her<sub>i</sub> cousin had been glad (to hear that).’

Another way to distinguish indirect discourse from direct discourse is to embed a WH-element in the complement clause. By the scope of the WH-element, we can tell whether the complement clause is direct or indirect discourse. For example, let us consider (230). Here, a WH-element *nani* (‘what’) is embedded under a verb of saying, but it can take a matrix scope (note that a question marker *ka* is at the sentence-final position). In this interpretation of the WH-element, the embedded clause must represent indirect discourse.

- (230) #Hanako-wa [Tarô-wa nani-ga uresi-k-at-ta  
 Hanako-Top [Taro-Top what-Nom glad-Pred-be-Past  
 -to] {it-ta/saken-da/...} (ka)  
 -Rep] {say-Past/shout-Past/...} Q  
 (*lit.* Hanako {said/shouted/...} that Taro was glad about what’)  
 (Intended:) ‘What did Hanako {say/shout/...} that Taro was glad about?’

Insertion of *darô* into the complement clause makes the sentence felicitously assertable as before:

- (231) Hanako<sub>i</sub>-wa [Tarô-wa nani-ga uresi-k-at-ta  
 Hanako<sub>i</sub>-Top [Taro-Top what-Nom glad-Pred-be-Past  
**darô-to**] {it-ta/saken-da/...} (ka)  
**Mod-Rep**] {say-Past/shout-Past/...} Q  
 (*lit.* Hanako<sub>i</sub> {said/shouted/...} that Taro was glad about what')  
 'What did Hanako {say/shout/...} that Taro was glad about?'

It confirms that a *to*-complement clause under a verb of saying allows insertion of *darô*.

#### 5.2.4 *To*-complement clauses under verbs of thinking/believing/knowing

*To*-complement clauses under a verb of thinking or believing allow insertion of Mod *darô*, as in (232), similarly to *to*-complement clauses under verbs of saying.

- (232) Hanako<sub>i</sub>-wa [kanozyo<sub>i</sub>-no itoko-wa uresi-k-at-ta **darô-to**]  
 Hanako<sub>i</sub>-Top [she<sub>i</sub>-Gen cousin-Top glad-Pred-be-Past Mod-Rep]  
 {omot/?sinzi}-tei-ta.  
 {think/believe}-Perf-Past  
 'Hanako<sub>i</sub> {thought/?believed} that her<sub>i</sub> cousin had been probably glad.'

Note that *to*-complement clauses under verbs of thinking/believing without *darô* do not show the Experiencer restriction (as in (49a)), while *to*-complement clauses under verbs of saying without *darô* show the Experiencer restriction (as in (228)).

*To*-complement clauses under a verb of knowing lift the Experiencer restriction as in (49b), and resist insertion of Mod *darô*, as shown by the awkwardness of (233).

- (233) ??Hanako<sub>i</sub>-wa [kanozyo<sub>i</sub>-no itoko-wa uresi-k-at-ta **darô**-to]  
 Hanako<sub>i</sub>-Top [she<sub>i</sub>-Gen cousin-Top glad-Pred-be-Past Mod-Rep]  
 sit-tei-ta.  
 know-Perf-Past  
 (Intended:) ‘Hanako<sub>i</sub> knew that her<sub>i</sub> cousin had been probably glad.’

### 5.2.5 *No-complement clauses under verbs of saying*

Next, let us consider *no*-complement clauses. They lift the Experiencer restriction, as shown in (42), (48), and (50), and they do not allow insertion of *darô*, as shown in (234) and (235).

- (234) Hanako<sub>i</sub>-wa [(sore-o kii-te) kanozyo<sub>i</sub>-no itoko-ga  
 Hanako<sub>i</sub>-Top [(that-Acc hear-ing) she<sub>i</sub>-Gen cousin-Nom  
 uresi-gat-ta-(\***darô**)-no]-o iw-ana-k-at-ta.  
 glad-GAR-Past-(\***Mod**)-Fin]-Acc say-Neg-Pred-be-Past  
 ‘Hanako<sub>i</sub> did not say that (\*it was probable that) her<sub>i</sub> cousin behaved as being glad (to hear that).’

- (235) Hanako<sub>i</sub>-wa [kanozyo<sub>i</sub>-no itoko-ga uresi-k-at-ta (\***darô**)-no]-o  
 Hanako<sub>i</sub>-Top [she<sub>i</sub>-Gen cousin-Nom glad-Pred-be-Past (\***Mod**)-Fin]-Acc  
 sit-tei-ru.  
 know-Perf-Pres  
 ‘Hanako<sub>i</sub> knows that (\*it is probable that) her<sub>i</sub> cousin was glad.’

This observation is not a surprise, for *no*-clauses are Finite phrases (FinP), which are smaller than ModP (section 2.1.2).

### 5.2.6 Restrictive and non-restrictive relative clauses

Restrictive relative clauses do not restrict the Experiencer, while non-restrictive relative clauses restrict the Experiencer in some environments (see the previous chapter for the details):

- (236) [RRC SONO nyûsu-o kii-te uresi-k-at-ta] hito-wa  
[RRC that news-Acc hear-ing glad-Pred-be-Past] people-Top  
kinô sono gi'in-no zimusyo-ni it-ta yo  
yesterday that assemblyman-Gen office-to go-Past SFP  
'The people who were glad to hear the news went to the assemblyman's office  
yesterday.'

- (237) #[NRRRC SONO nyûsu-o kii-te uresi-k-at-ta] Tarô-wa  
[NRRRC that news-Acc hear-ing glad-Pred-be-Past] Taro-Top  
kinô sono gi'in-no zimusyo-ni it-ta yo  
yesterday that assemblyman-Gen office-to go-Past SFP  
(Intended:) 'Taro, who was glad to hear the news, went to the assemblyman's office  
yesterday.'

Interestingly, as Masuoka (1997), Kishimoto (2011), and Sato (2012) point out, restrictive relative clauses do not allow insertion of *darô*, as in (238), whereas non-restrictive relative clauses do, as in (239). It does not depend on the environment where the relative clause appears.



- (238) \*<sub>[RRC]</sub> sono nyûsu-o kii-te uresi-k-at-ta **darô**] hito-wa  
 [<sub>RRC</sub> that news-Acc hear-ing glad-Pred-be-Past **Mod**] people-Top  
 kinô sono gi'in-no zimusyo-ni it-ta yo  
 yesterday that assemblyman-Gen office-to go-Past SFP  
 (Intended:) 'The people who seem to have been glad to hear the news went to the  
 assemblyman's office yesterday.'
- (239) a. [<sub>NRRC</sub> sono nyûsu-o kii-te uresi-k-at-ta **darô**] Tarô-wa  
 [<sub>NRRC</sub> that news-Acc hear-ing glad-Pred-be-Past **Mod**] Taro-Top  
 kinô sono gi'in-no zimusyo-ni it-ta yo  
 yesterday that assemblyman-Gen office-to go-Past SFP  
 'Taro, who seems to have been glad to hear the news, went to the assemblyman's office  
 yesterday.'
- b. Tarô<sub>i</sub>-wa [<sub>NRRC</sub> kare<sub>i</sub>-no hahaoya-no nyûsu-o kii-te uresi-k-at-ta **darô**]  
 Taro<sub>i</sub>-Top [<sub>NRRC</sub> he<sub>i</sub>-Gen mother-Gen news-Acc hear-ing glad-Pred-be-Past Mod]  
 Hanako-ga sore-o si-ta-to] {omot/sinzi}-tei-ru.  
 Hanako-Nom it-Acc do-Past-Rep] {think/believe}-Perf-Pres  
 Sikasi, Hanako-wa Tarô-no hahaoya-no nyûsu-o kii-tei-na-i.  
 But Hanako-Top Taro-Gen mother-Gen news-Acc hear-Perf-Neg-Pred.be.Pres  
 (*lit.*) 'Taro<sub>i</sub> {thinks/believes} that Hanako, who was probably glad at hearing his<sub>i</sub>  
 mother's news, did it. But Hanako has not heard Taro's mother's news.'  
 ≈ 'Taro<sub>i</sub> {thinks/believes} that Hanako was probably glad at hearing his<sub>i</sub> mother's news  
 and that she did it. But Hanako has not heard Taro's mother's news.'

### 5.2.7 Adversative conjunctive clauses

Finally, let us consider adversative conjunctive clauses which are headed by *ga* and *ke(re)do* (both mean ‘though’).<sup>104</sup> They behave similarly to non-restrictive relative clauses, so we can analyze them straightforwardly with adapting the analysis of the non-restrictive relative clause presented in the previous chapter, as shown in section 5.5.3 below. When a matrix clause is in reportive style, an Experiencer in an adversative conjunctive clause is restricted to the speaker, as shown in (240) and (241).<sup>105,106,107</sup>

<sup>104</sup> Not all adversative conjunctive clauses behave similarly. Different from adversative conjunctive clauses headed by *ga* and *ke(re)do*, adversative conjunctive clauses headed by *noni* ‘though’ lift the Experiencer restriction (Minami 1967, Akmajian and Kitagawa 1981, Tenny 2006) and do not allow insertion of *darô* (Minami 1967, 1974, Akmajian and Kitagawa 1981).

<sup>105</sup> To my knowledge, Minami (1967) is the first that observed that the Experiencer restriction is active in *ga* and *keredo* adversative conjunctive clauses. He does not make reportive/nonreportive distinction in the paper, but all his examples are in reportive style.

<sup>106</sup> Akmajian and Kitagawa (1981:109-110) also claim that *keredo* (and *ga*) clauses impose the Experiencer restriction. However, their claim is derived based on inappropriate data. Concretely, they give the following example for *keredo*, and based on its badness, they argue that *keredo* clauses show the Experiencer restriction (they judge the sentence “?” as shown in (i), though my judgment is “\*”).

- (i) ?\*Sono kodomo wa netu-de kurusi-i keredo nak-anakat-ta.  
 that child topic fever-with suffer-present KEREDO cry-not-past  
 (Intended: ‘The child, although he is suffering with fever, did not cry.’)

(Akmajian & Kitagawa 1981:110(151a))

(The intended meaning is not given in the original text, so I added it.) A factor which makes the sentence bad is the choice of the tense in the *keredo* clause. In fact, the badness of (i) does not disappear even if we replace the Experiencer NP *sono kodomo* ‘the child’ with a first person pronoun as in (ii) or the Experiencer predicate *kurusi-i* with a *gar*-counterpart, *kurusi-gar-u* as in (iii), which is not expected if the badness of (i) is due to the Experiencer restriction:

- (ii) \*watasi wa netu-de kurusi-i keredo nak-anakat-ta.  
 I topic fever-with suffer-present KEREDO cry-not-past  
 (Intended: ‘I, although I am suffering with fever, did not cry.’)
- (iii) \*Sono kodomo wa netu-de kurusi-gat-tei-ru keredo nak-anakat-ta.  
 that child topic fever-with suffer-GAR-Perf-present KEREDO cry-not-past  
 (Intended: ‘The child, although he is behaving as suffering with fever, did not cry.’)

The badness of (ii) and (iii) undermines the claim that (i) shows that the Experiencer restriction is active in *keredo* clauses.

To show that the Experiencer restriction is active in *keredo* clauses, we need to change the embedded present tense in (i) to past tense, as in (iv).

- (iv) \*REP/√NR Sono kodomo wa netu-de kurusi-k-at-ta keredo nak-anakat-ta.  
 that child topic fever-with suffer-Pred-be-past KEREDO cry-not-past  
 ‘The child, although he was suffering with fever, did not cry.’

Sentence (iv) is unacceptable in conversation, namely in reportive style, while it is acceptable in third-person narrative, namely in non-reportive style. For (iv), if we replace the Experiencer NP with a first person pronoun or the Experiencer adjective with its *gar*-counterpart, we obtain an acceptable sentence:

- (v) watasi wa netu-de kurusi-k-at-ta keredo nak-anakat-ta.

(240) a. [ACC {#Tarô/watasi}-wa (sore-o kii-te) uresi-kat-ta-ga,] Hanako-wa  
 [ACC {#Taro/I}-Top (that-Acc hear-ing) glad-Pred-be-Past-though] Hanako-Top  
 kanasi-gat-ta zo.  
 worried-GAR-Past SFP

‘Though {#Taro/I} was glad (to hear that), Hanako behaved as being sad.’

b. [ACC Tarô-wa (sore-o kii-te) uresi-gat-ta-ga,] Hanako-wa  
 [ACC Taro-Top (that-Acc hear-ing) glad-GAR-Past-though] Hanako-Top  
 kanasi-gat-ta zo.  
 sad-GAR-Past SFP

‘Though Taro behaved as being glad (to hear that), Hanako behaved as being sad.’

(241) a. ??[ACC kono ko-wa hito-ri-de sabisi-i keredo]  
 ??[ACC this child-Top one-CL-by lonely-Pred.be.Pres though]  
 dare-mo ason-de yar-imas-en wa.  
 WH-∀ play-Con YAR-Polite-Neg SFP

(Intended:) ‘Though this child is alone and feels lonely, no one plays with her.’

(based on Minami 1967:41)

b. [ACC kono ko-wa hito-ri-de sabisi-gat-tei-ru keredo]  
 [ACC this child-Top one-CL-by lonely-GAR-Perf-Pres though]

---

I topic fever-with suffer-Pred-be-past KEREDO cry-not-past  
 ‘I, although I was suffering with fever, did not cry.’

(vi) Sono kodomo wa netu-de kurusi-gat-tei-ta keredo nak-anakat-ta.  
 that child topic fever-with suffer-GAR-Perf-past KEREDO cry-not-past  
 ‘The child, although he was behaving as suffering with fever, did not cry.’

(iv), (v), and (vi) indicate that the Experiencer restriction is active in *keredo* clauses in reportive style. This shows that *keredo* clauses behave in the same manner as *ga* (‘though’) clauses (with respect to the Experiencer restriction).

<sup>107</sup> Sentence-final discourse particles *zo* and *wa* in these examples are similar to *yo*. These sentence-final discourse particles can appear only in reportive style.

dare-mo ason-de yar-imas-en wa.

WH-∀ play-Con YAR-Polite-Neg SFP

‘Though this child is alone and behaving as feeling lonely, no one plays with her.’

In these examples, (a)-sentences contain Experiencer adjectives, while (b)-sentences contain *gar*-verbs, which do not show the Experiencer restriction. (240a) and (241a) suggest that the Experiencer argument of Experiencer adjectives is restricted to the speaker in adversative conjunctive clauses. The goodness of (240b) and (241b) suggests that the badness of (240a) and (241a) is in fact due to the Experiencer restriction and not to some other reasons.

When a matrix clause is in nonreportive style, the Experiencer restriction in adversative conjunctive clauses is lifted:

(242) (Context: In third-person narrative)

[<sub>ACC</sub> Tarô-wa (sore-o kii-te) uresi-kat-ta-*{ga/keredo}*] Hanako-wa  
[<sub>ACC</sub> Taro-Top (that-Acc hear-ing) glad-Pred-be-Past-*{though/though}*] Hanako-Top  
kanasi-gat-ta.  
sad-GAR-Past

‘Though Taro was glad (to hear that), Hanako behaved as being sad.’

Adversative conjunctive clauses behave similarly to non-restrictive relative clauses in embedded clauses also. For example, (243) shows that an adversative conjunctive clause activates the Experiencer restriction in a *to*-complement clause under a verb of saying while it does not in a *to*-complement clause under a verb of thinking or in a *no*-complement clause.

(243) a. Tarô<sub>i</sub>-wa [Hanako<sub>j</sub>-ga [<sub>ACC</sub> *e<sub>j</sub>* kare<sub>i</sub>-no hahaoya-no nyûsu-o kii-te  
Taro<sub>i</sub>-Top [Hanako-Nom [<sub>ACC</sub> *e<sub>j</sub>* he<sub>i</sub>-Gen mother-Gen news-Acc hear-ing

uresi-k-at-ta kedo] sore-o si-ta-**to**] {\*it/omot}-tei-ru.

glad-Pred-be- Past though] it-Acc do-Past-**Rep**] {\*say/think}-Perf-Pres

‘Taro<sub>i</sub> {\*says/thinks} that Hanako<sub>j</sub> did it though she<sub>j</sub> was glad at hearing his<sub>i</sub> mother’s news.’

b. Tarô<sub>i</sub>-wa [Hanako<sub>j</sub>-ga [ACC *e<sub>j</sub>* kare<sub>i</sub>-no hahaoya-no nyûsu-o kii-te

Taro<sub>i</sub>-Top [Hanako-Nom [ACC *e<sub>j</sub>* he<sub>i</sub>-Gen mother-Gen news-Acc hear-ing

uresi-k-at-ta kedo] sore-o si-ta-**no**]-o

glad-Pred-be- Past though] it-Acc do-Past-**Fin**]-Acc

{iw-ana/sinzi-na}-k-at-ta.

{say-Neg/believe-Neg}-Pred-be-Past.

‘Taro<sub>i</sub> did not {say/believe} that Hanako<sub>j</sub> did it though she<sub>j</sub> was glad at hearing his<sub>i</sub> mother’s news.’

Irrespective of the environment, *darô* can be inserted into adversative conjunctive clauses (Minami 1974, Akmajian and Kitagawa 1981: 108-109). For example, (244) shows that *darô* can be inserted in an adversative conjunctive clause which is in a root clause in reportive or nonreportive style, and (245) shows that *darô* can be inserted in an adversative conjunctive clause in a *to*-complement clause under a verb of thinking.

(244) (In reportive and nonreportive styles)

[ACC Tarô-wa (sore-o kii-te) uresi-kat-ta **darô**-{ga/keredo}]

[ACC Taro-Top (that-Acc hear-ing) glad-Pred-be-Past **Mod**-{though/though}]

Hanako-wa kanasi-gat-ta.

Hanako-Top sad-GAR-Past

‘Though Taro was probably glad (to hear that), Hanako behaved as being sad.’

- (245) Tarô<sub>i</sub>-wa [[<sub>ACC</sub> Hanako<sub>j</sub>-wa kare<sub>i</sub>-no hahaoya-no nyûsu-o kii-te  
 Taro<sub>i</sub>-Top [[<sub>ACC</sub> Hanako-Top he<sub>i</sub>-Gen mother-Gen news-Acc hear-ing  
 uresi-k-at-ta **darô**-kedo] Yoshio-wa kanasi-gat-ta-to] omot-tei-ru.  
 glad-Pred-be- Past **Mod**-though] Yoshio-Top sad-GAR-Past-Rep] think-Perf-Pres  
 ‘Taro<sub>i</sub> thinks that Yoshio behaved as feeling sad though it is probable that Hanako was  
 glad at hearing his<sub>j</sub> mother’s news.’

### 5.2.8 Interim summary

A summary of the above data is given in table 1 below. Importantly, the Experiencer restriction is active only in clauses where insertion of *darô* is possible. In other words, all the environments that show the Experiencer restriction are those which allow insertion of *darô*. It should be noted that the converse does not hold: some environments which allow insertion of *darô*, e.g., *to*-complement clauses under a verb of thinking/believing, do not show the Experiencer restriction.

**Table 1.** Availability of *darô* and the Experiencer restriction across clausal types

	Insertion of <i>darô</i> is possible	The Experiencer restriction is active
root clauses in reportive style	yes	yes
root clauses in nonreportive style	yes	no
adversative conjunctive clauses in nonreportive style	yes	no
<i>to</i> -complement clauses under a verb of saying	yes	yes
<i>to</i> -complement clauses under a verb of thinking/believing	yes	no
<i>to</i> -complement clauses under a verb of knowing	no	no
<i>no</i> -complement clauses under a verb of saying/knowing	no	no

(Table continues)

(Table continued)

	Insertion of <i>darô</i> is possible	The Experiencer restriction is active
restrictive relative clauses	no	no
non-restrictive relative clauses whose superordinate clause is a root clause in reportive style	yes	yes
non-restrictive relative clauses whose superordinate clause is a root clause in nonreportive style	yes	no
non-restrictive relative clauses whose superordinate clause is under an attitude verb	yes	yes if they are in a <i>to</i> -clause under a verb of saying
adversative conjunctive clauses whose superordinate clause is a root clause in reportive style	yes	yes
adversative conjunctive clauses whose superordinate clause is a root clause in nonreportive style	yes	no
adversative conjunctive clauses whose superordinate clause is under an attitude verb	yes	yes if they are in a <i>to</i> -clause under a verb of saying

### 5.3 The Experiencer restriction and SAP

Syntactically, the allowance of insertion of *darô* indicates that there is a projection of Mod (Koizumi 1991, 1993). Can we find other factors which lead to the Experiencer restriction, in addition to the presence of a ModP? The most plausible candidate is presence of a SAP. Note that the Experiencer is always restricted to the speaker or addressee of the context, if present, which are notions related to speech act. As explained in CHAPTER 2, root clauses in reportive style have a SAP while those in nonreportive style don't. In reportive style, root clauses allow sentence-final discourse particles in them:

(246) (Context: In conversation)

{watasi/#Tarô}-wa uresi-k-at-ta ({wa/sa/na/yo/ne}).

{I/#Taro}-Top glad-Pred-be-Past ({SFP/SFP/SFP/SFP/SFP})

{I/#Taro} was glad.’

Sentence-final discourse particles are related to a SAP (Tenny 2006, Saito and Haraguchi 2012), so it is not a surprise that they can appear in root clauses in reportive style. On the other hand, nonreportive style does not allow insertion of sentence-final discourse particles, as shown in (247). It is understandable if root clauses in nonreportive style lack a SAP (Tenny 2006).

(247) (Context: In third-person narrative)

Tarô-wa uresi-k-at-ta (\*{wa/sa/na/yo/ne}).

Taro-Top glad-Pred-be-Past (\*{SFP/SFP/SFP/SFP})

‘Taro was glad.’

In this section, I argue that clauses which contain a phonetically null epistemic Mod restrict the Experiencer to the speaker of the speech act which is realized as the closest SA.

It is not necessary that a SA and an Experiencer are in the same clause for the Experiencer restriction. For example, an adversative conjunctive clause does not allow insertion of a sentence-final particle, though its matrix clause does:

(248) [Tarô-wa (sore-o kii-te) uresi-gat-ta (\*{wa/sa/na/yo/ne})-ga,]

[Taro-Top (that-Acc hear-ing) glad-GAR-Past (\*{SFP/SFP/SFP/SFP/SFP})-though]

Hanako-wa kanasi-gat-ta ({yo/ne}).

Hanako-Top sad-GAR-Past ({SFP/SFP})

‘Though Taro behaved as being glad (to hear that), Hanako behaved as being sad’

Similarly, a non-restrictive relative clause does not allow insertion of a sentence-final particle, though its matrix clause does:



- (249) [(sore-o kii-te) uresi-gat-ta (\*{wa/sa/na/yo/ne})] Tarô-wa  
 [(that-Acc hear-ing) glad-GAR-Past (\*{SFP/SFP/SFP/SFP/SFP})] Taro-Top  
 tobidasi-te it-ta ({wa/sa/na/yo/ne})  
 run.away-ing go-Past ({SFP/SFP/SFP/SFP/SFP})  
 ‘Taro, who behaved as being glad (to hear that), ran away.’

In these clauses, an Experiencer is restricted to the matrix speaker, as seen in the previous sections. Note that in the case of adversative conjunctive clauses, if the whole sentences are put in nonreportive style, the Experiencer restriction disappears (see (242)). It is expected if a SA at the root is relevant with the Experiencer restriction in adversative conjunctive clauses. Then, it is also expected that non-restrictive relative clauses do not show the Experiencer restriction in nonreportive style. This expectation is fulfilled: let us consider the following sentence which contains a non-restrictive relative clause again.

- (250) #[sono nyûsu-o kii-te uresi-k-at-ta] Taro-wa  
 [that news-Acc hear-ing glad-Pred-be-Past] Taro-Top  
 kinô sono gi'in-no zimusyo-ni it-ta yo  
 yesterday that assemblyman-Gen office-to go-Past SFP  
 ‘Taro, who was glad to hear the news, went to the assemblyman’s office yesterday.’

This sentence, which shows the Experiencer restriction, is in reportive style, as indicated by availability of a sentence-final particle *yo*. If non-restrictive clauses are used in nonreportive style, the Experiencer restriction is lifted:

- (251) (Context: In narrative)

[sono nyûsu-o kii-te uresi-k-at-ta] Taro-wa  
 [that news-Acc hear-ing glad-Pred-be-Past] Taro-Top  
 Hanako-ni hanasikake-ta (\*{wa/sa/na/yo/ne}).  
 Hanako-Dat talk.to-Past (\*{SFP/SFP/SFP/SFP/SFP})  
 ‘Taro, who was glad to hear the news, talked to Hanako.’

This suggests that a SA at the root is relevant to the Experiencer restriction in non-restrictive relative clauses.

*To*-complement clauses under a verb of saying also do not allow a sentence-final particle (Saito and Haraguchi 2012), as in (252).<sup>108</sup>

(252) Hanako<sub>i</sub>-wa [(sore-o kiite) kanozyo<sub>i</sub>-no itoko-wa uresi-gat-ta  
 Hanako<sub>i</sub>-Top [(that-Acc hearing) she<sub>i</sub>-Gen cousin-Top glad-GAR-Past  
 (\*{wa/sa/na/yo/ne})-to] {it-ta/saken-da/...}.  
 (\*{SFP/SFP/SFP/SFP/SFP})-Rep] {say-Past/shout-Past/...}  
 ‘Hanako<sub>i</sub> {said/shouted/...} that her<sub>i</sub> cousin had behaved as being glad (to hear that).’

In the case of *to*-complement clauses under a verb of saying, however, the Experiencer is restricted to the local speaker. Let us suppose that *to*-complement clauses contain a SAP (between a ForceP and a ReportP). The badness of sentence-final particles inside of *to*-complement clauses is probably due to meaning conflict: sentence-final particles are linked to the matrix context (as

<sup>108</sup> When *to*-complement clauses represent direct discourse, sentence-final particles are available, as in (i).

(i) Hanako-wa “Yosiko-wa uresi-gat-ta ({wa/yo/ne})”-to {it-ta/saken-da/...}  
 Hanako-Top “Yosiko-Top glad-GAR-Past ({SFP/SFP/SFP})”-Quot {say-Past/shout-Past/...}  
 ‘Hanako {said/shouted/...}, “Yosiko behaved as being glad.”’

But in this case, *to* does not embed the projections for sentence-final particles. Rather, it takes a phonetic sequence, *Yosiko-ga uresi-gat-ta ({wa/yo/ne})*.

first and second person pronouns), and so their modification of embedded speech act causes mismatch. (The reason why this case is treated differently from adversative conjunctive clauses and non-restrictive relative clauses is that *to*-clauses under a verb of saying allow insertion of an interrogative marker *ka* (as in (23)), while the other clauses not.)

The only one problematic case is *to*-complement clauses under a verb of thinking/believing. They do not restrict the Experiencer, though they are c-commanded by a SA at the root and a SA in the embedded clause. Because a SA and the Experiencer need not be in the same clause for the Experiencer restriction (see (248) and (249)), it appears that dropping of the supposition that *to*-complement clauses contain a SAP does not help. We will see a solution in the next section.

The above arguments can be summarized as follows: all and only clauses which allow insertion of *darô* restrict the Experiencer to the speaker related to the closest SA, except *to*-complement clauses under verbs of thinking/believing/knowing. Supposing that there is a phonetically null Mod  $\emptyset_{\text{Mod}}$  if Mod is not overtly occupied, this summary can be restated as follows.

(253) All and only clauses which contain  $\emptyset_{\text{Mod}}$  restrict Experiencers in them to the speaker related to the closest SA, except *to*-complement clauses under verbs of non-communicational attitudes, where the Experiencer restriction is inactive.

#### 5.4 Assertive speech acts and a semantic parameter

In this section, let us consider speech acts further and see that assertion requires the speaker to empathize with a covert Experiencer, if there is one, in English. Based on it, I propose that assertion in Japanese requires the speaker to empathize with an Experiencer, whether it is covert or overt.

For example, let us consider the following conversation, which involves a predicate of personal taste, ‘taste good’.

(254)A: This soup tastes good.

B: No, it doesn’t taste good.

Here, A and B disagree without making false assertion. Importantly, B’s assertion cannot be interpreted as an assertion about A’s taste. It represents B’s taste or the taste of people who are like B. This fact suggests that the speaker needs to empathize with a covert Experiencer, if any, in assertion.<sup>109</sup> This point is stated by researchers of predicates of personal taste in different ways, but the core is similar:

“The other important piece of my pragmatic proposal is the norm of assertion. I suggest that it is what Lasersohn would call autocentric. Specifically, I propose that in order for a speaker A to assert a sentence S, it must be the case that for all of A’s doxastic alternatives  $\langle w',t',x \rangle$ , S is true at the index  $\langle w',t',x \rangle$ . [...] this means that A must believe that S is true as judged by A.” (Stephenson 2007b: 66)

“Sentences with predicates of personal taste in truth-directed contexts [e.g., assertions] (and without an overt subject being specified) always express first-person-based

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<sup>109</sup> A different approach to this observation is to impose a restriction on the condition of confirmation/denial by the hearer. See von Stechow and Gillies (2011) for such an analysis of an epistemic modal, *might*. I do not take this approach here, because it does not help to account for the restriction on the overt Experiencer argument of Experiencer adjectives, which do not involve a hearer’s judgment. For example, let us consider assertions (i) and (ii) made by Taro:

- (i) *watasi-wa uresi-i.* ‘I am glad.’
- (ii) *#Hanako-wa uresi-i.* (Intended:) ‘Hanako is glad.’

Assertion (ii) is always unacceptable, irrespective of the hearer’s judgment. In other words, the badness of (ii) is independent of confirmation/denial by the hearer of the information conveyed by the sentence.

genericity, generalizing from a first-personal subjective experience to anyone meeting the contextually given restriction.” (Moltmann 2010: 214)

“(43) states how we propose to treat PPTs [= predicates of personal taste].

(43) *Proposal*

PPTs such as *tasty* are used to make statements about whether something is tasty to people in general, based on first person experience.

The idea is this: when I say *This cake is tasty*, I commit myself to finding the cake tasty. That’s why I cannot coherently follow up with, . . . *but I don’t like it*. But this is not all I do. I also generalize beyond my own experience to the likely experience of anyone with whom I empathize who might eat the cake and claim that they would find it tasty too.

This is why PPTs are interpreted generically, at least when there is no overt PP.”

(Pearson 2013a: 121)<sup>110</sup>

Now, to account for the Experiencer restriction, I propose that assertion’s requirement of the speaker’s empathy to an Experiencer is stronger in Japanese than in English: in Japanese, assertion requires the speaker to empathize with an Experiencer, whether it is covert or overt. Formally, this is analyzed as a result of agreement between Experiencer NPs and Mod in Japanese, which does not occur in English. (In both languages, assertion sets the value of *h* to the speaker.) A formal analysis is presented in the next section.

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<sup>110</sup> Actually, the assertion *This cake is tasty* can be followed by *but I don’t like it* with respect to some other property than tastiness (Rajesh Bhatt, p.c.). In that case, however, the continuation, *but I don’t like it*, does not indicate the speaker’s non-commitment to finding the cake tasty. Therefore, the purport of Pearson’s argument is not affected by such a case.

## 5.5 Single-feature checking analysis

In this section, I present an analysis which supposes that Mod agrees with an Experiencer, and mediates the value of Experiencer determined by SA (namely, the speaker) to the Experiencer. The idea of agreement between the epistemic modal and the Experiencer follows Tenny's (2006) proposal of agreement between the Sentience/Evidential head and the Experiencer DP. In Tenny's analysis, Experiencer adjectives assign their Experiencer arguments features [+sentient] and [+discourse participant], and the features are checked by a Sentience/Evidentiality head and an SA head, respectively. In the analysis which I present below, only one feature, [sen] (which is the same as [+sentient] feature), is assigned to an Experiencer DP and it is checked with [sen] on a Mod head. I call this analysis a single-feature checking analysis.<sup>111</sup>

Partly following Tenny's double-feature checking analysis, I propose as follows.

- (255) a. Experiencer adjectives assign their Experiencer DP a feature [sen], which indicates that the referent of the DP can have epistemic states.<sup>112</sup>
- b. Mod has a feature [sen].
- c. If there is an Experiencer DP in the local domain of Mod, the Experiencer DP raises to [Spec,ModP] and their feature [sen] agree.<sup>113</sup>

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<sup>111</sup> In Tenny's analysis, the Experiencer, which raises to [Spec,Sen/EvidP] for checking [+sentient] feature, further raises to [Spec,SAP] to check [+discourse participant], if there is no intervening Sen/EvidP. One of the reasons why I do not take the double-feature checking analysis is that it predicts island sensitivity which is not observed: if an Experiencer is in a syntactic island and the closest SAP is outside of the island, then the two-feature analysis predicts that the Experiencer is not restricted. However, there are syntactic islands which do not contain SAP which show the Experiencer restrictions, namely adversative conjunctive adjuncts and nonrestrictive relative clauses. Another reason is related to the use of [+discourse participant], which is treated in the next chapter.

<sup>112</sup> It follows Tenny (2006:264): "The feature [+sentient] indicates that the entity referred to can have epistemic states."

<sup>113</sup> If there is no Experiencer in the local domain of Mod, agreement of [sen] does not occur. In such a case, feature [sen] on Mod remains unchecked. I suppose that failure of agreement of [sen] feature on Mod is unproblematic, based on Preminger's (2009, 2011) claim that failure to Agree does not lead to crash.

In the spirit of Lasnik (2005), Stephenson (2006, 2007a,b) and others, I suppose that the truth-value of a sentence depends not only on the assignment function  $g$ , possible world  $w$ , and context  $c$ , but also on a parameter for an Experiencer of the sentence,  $h$ . I suppose that an SA head sets  $h$  to the denotation of a phonetically null pronoun in [Spec,SAP] as in (256). The null pronoun is proposed in Speas (2004).

$$(256) \quad [[ [_{SAP} pro [SA \phi ] ] ] ]^{g,w,c,h} = \lambda x. [[ \phi ] ]^{g,w,c,h \rightarrow x} ([[ pro ] ]^{g,w,c,h})$$

Speas claims that the pronoun refers to the speaker. In the spirit of Speas (2004), I suppose that a speaker can assert a sentence  $S$  only if the phonetically null pronoun in [Spec,SAP] at the root of  $S$  is bound to the speaker, as in (257) (which will be revised below).

(257) One can assert an SAP only if [Spec,SAP] is occupied by a phonetically null pronoun that is bound to the speaker. (To be revised)

I suppose that the trace of a moved DP is a variable, as is usually supposed (e.g., as in Heim and Kratzer 1998). Mod, which agrees with an Experiencer DP, binds the trace of the moved Experiencer DP, based on the claim that syntactic feature checking accompanies semantic binding. In Heim and Kratzer (1998), movement of a DP introduces a  $\lambda$ -binder which binds the trace of the DP, but here I do not posit a  $\lambda$ -binder distinct from the one which corresponds to Mod. It might be considered to be rather ad hoc, but the same kind of analysis of movement of a DP to the left-periphery is required in other analyses also (e.g., McKenzie 2011 and Constant 2014), and

so it seems that such a semantic treatment is legitimate.<sup>114</sup> With these suppositions, I propose that a phonetically null Mod  $\emptyset_{\text{Mod}}$  is a semantic binder of the trace of its agreeing Experiencer DP with a presupposition that its domain is  $\{h\}$ , as in (258). Here,  $[n]$  represents an index feature, and  $\alpha$  and  $\beta$  are arbitrary elements.

$$(258) \quad [[ \emptyset_{\text{Mod}} [n] [\text{sen}] \quad [ \alpha \quad [n] [\text{sen}] \quad \beta ] ] ]^{g,w,c,h} = \lambda x: x=h. [[ \alpha \quad [n] [\text{sen}] \quad \beta ] ]^{g[n \rightarrow x],w,c,h}$$

agreement

In the following, let us see how this analysis works. Condition (257) will be revised in the course of analysis.

### 5.5.1 Analysis of a root clause

First, let us consider an assertive root clause in conversation (259).

- (259) (Context: In conversation)
- Hanako-wa uresi-k-at-ta yo
- Hanako-Top glad-Pred-be-Past SFP
- ‘Hanako was glad.’

This sentence is felicitously assertable only if Hanako is the speaker. If Hanako is not the speaker, it is unacceptable. Let us see how it is derived in the single-feature checking analysis.

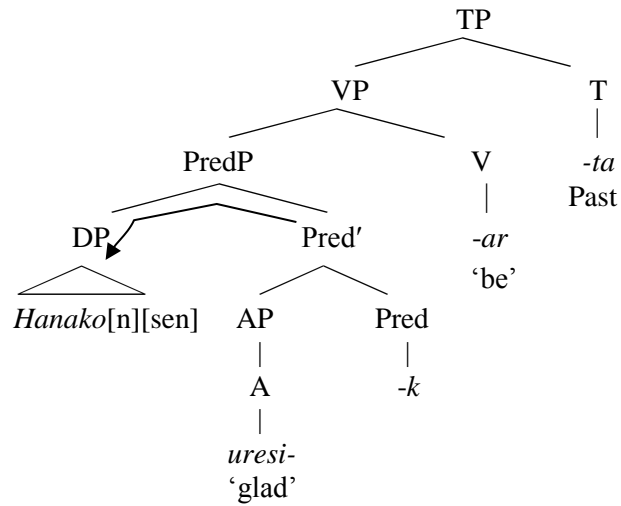
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<sup>114</sup> I thank Seth Cable (p.c.) for this point.



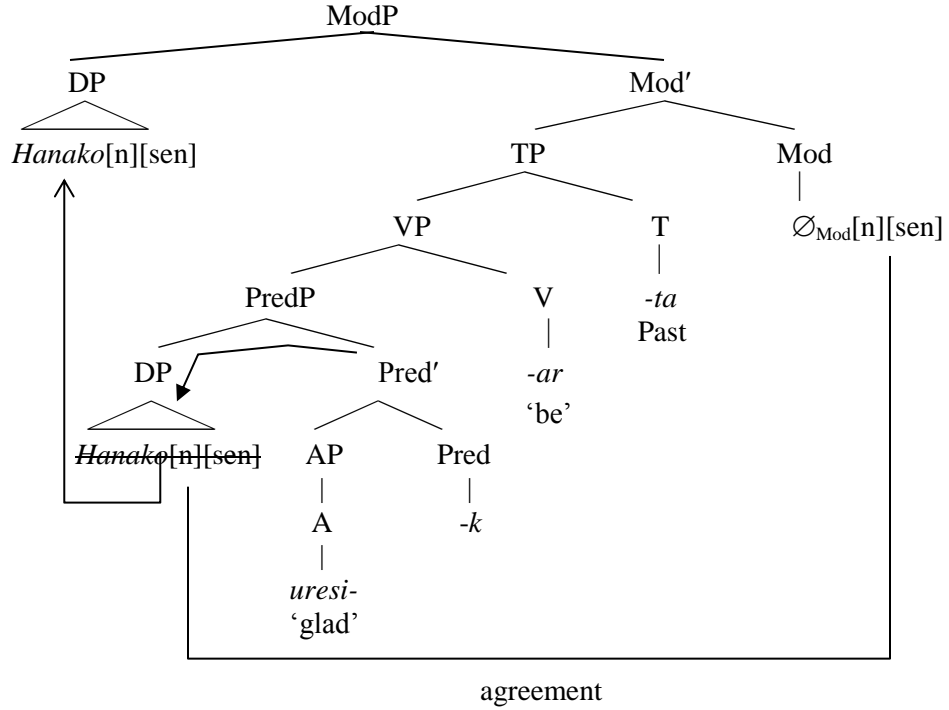
The TP of (259) has the following structure (in the following, I omit irrelevant projections). The Experiencer predicate *uresi-k* ‘glad-Pred’ assigns a feature [sen] to the Experiencer DP *Hanako* (which has an index feature [n]).

(260)



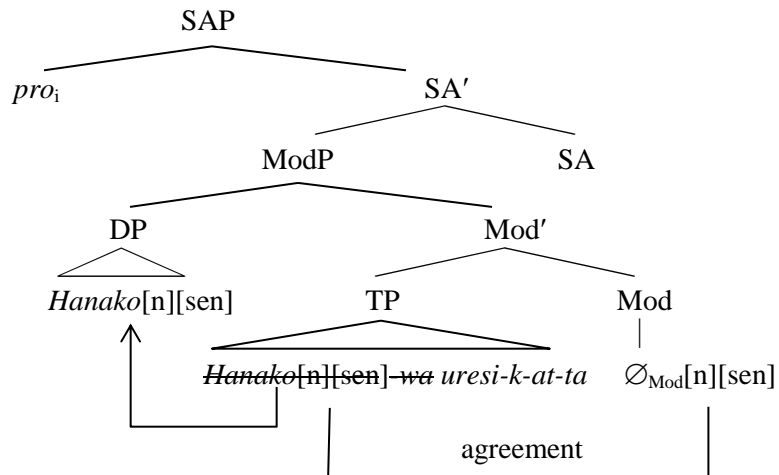
The TP is c-commanded by a Mod. It is supposed that a Mod has a feature [sen] and an index feature [n], and they agree with the corresponding features on the Experiencer DP, which raises to [Spec,ModP].

(261)



The ModP is c-commanded by an SA.

(262)



[Spec,SAP] is occupied by a phonetically null pronoun  $pro_i$  which is bound to the speaker, following (257).

Now, let us calculate the logical form of (262). In the following, I use English translations in place of Japanese words and ignore the past tense.

$$(263) \quad [ [pro_i SA [Hanako[n][sen] \emptyset_{Mod}[n][sen] [Hanako[n][sen] was glad ] ] ] ]$$

Here, the elements in this logical form have the following meaning:

- (264) a.  $[ [Hanako[n][sen] ] ]^{g,w,c,h} = g(n)$  if  $g(n) = Hanako$ . Undefined otherwise.  
 b.  $[ [was glad ] ]^{g,w,c,h} = \lambda x.x$  was glad in  $w$   
 c.  $[ [ \emptyset_{Mod}[n][sen] \psi ] ]^{g,w,c,h} = \lambda x:x=h. [ [\psi] ]^{g[n \rightarrow x],w,c,h}$   
 d.  $[ [ [ForceP pro [SA \phi] ] ] ]^{g,w,c,h} = \lambda x. [ [\phi] ]^{g,w,c,h \rightarrow x} ([ [pro] ])$   
 e.  $[ [pro_i] ]^{g,w,c,h} = g(i)$  if  $g(i) = sp(c)$ . Undefined otherwise (from (257))

The calculation of (263) goes as follows.

$$\begin{aligned}
 (265) \quad & [ [ (263) ] ]^{g,w,c,h} \\
 & = (\lambda x. [ [Hanako[n][sen] \emptyset_{Mod}[n][sen] [Hanako[n][sen] was glad ] ] ]^{g,w,c,h \rightarrow x} \\
 & \quad ([ [pro_i] ])) \\
 & = (\lambda x. [ [Hanako[n][sen] \emptyset_{Mod}[n][sen] [Hanako[n][sen] was glad ] ] ]^{g,w,c,h \rightarrow x})(g(i)) \\
 & \quad \text{if } g(i) = sp(c). \text{ Undefined otherwise.} \\
 & = [ [Hanako[n][sen] \emptyset_{Mod}[n][sen] [Hanako[n][sen] was glad ] ] ]^{g,w,c,g(i)} \\
 & \quad \text{if } g(i) = sp(c). \text{ Undefined otherwise.} \\
 & = \lambda x: x=g(i). (x was glad in w)([ [Hanako[n][sen] ] ]^{g,w,c,g(i)}) \\
 & \quad \text{if } g(i) = sp(c). \text{ Undefined otherwise.} \\
 & = \lambda x: x=g(i). (x was glad in w)(g(n)) \\
 & \quad \text{if } g(i) = sp(c) \text{ and } g(n) = Hanako. \text{ Undefined otherwise.} \\
 & = g(n) \text{ was glad in } w
 \end{aligned}$$

if  $g(i) = \text{sp}(c)$ ,  $g(n) = \text{Hanako}$ , and  $g(n)=g(i)$ . Undefined otherwise.

Thus, the SAP means that Hanako was glad in  $w$ , if Hanako is the speaker. Otherwise the logical form is undefined. This is the desired result. If Hanako is not the speaker, the sentence has no truth-value, so it is not felicitously assertable.

### 5.5.2 Clauses without ModP

Clauses such as *no*-complement clauses and restrictive relative clauses do not contain ModP, as indicated by the fact that they cannot contain Mod *darô*. When they contain an Experiencer, agreement between the Experiencer and  $\emptyset_{\text{Mod}}$  does not happen, so the Experiencer is not restricted. In other words, an Experiencer DP with features [n] and [sen] in such a clause is interpreted as  $g(n)$  and [sen] indicates that  $g(n)$  can have epistemic states (from (255a)), but nothing forces the value  $g(n)$  to be the speaker in the sentence.

### 5.5.3 Non-restrictive relative clauses and adversative conjunctive clauses

Let us consider non-restrictive relative clauses. As we saw above, they can contain Mod *darô*, so they have ModP. To see how the Experiencer restriction of the non-restrictive relative clause emerges, let us consider (266).

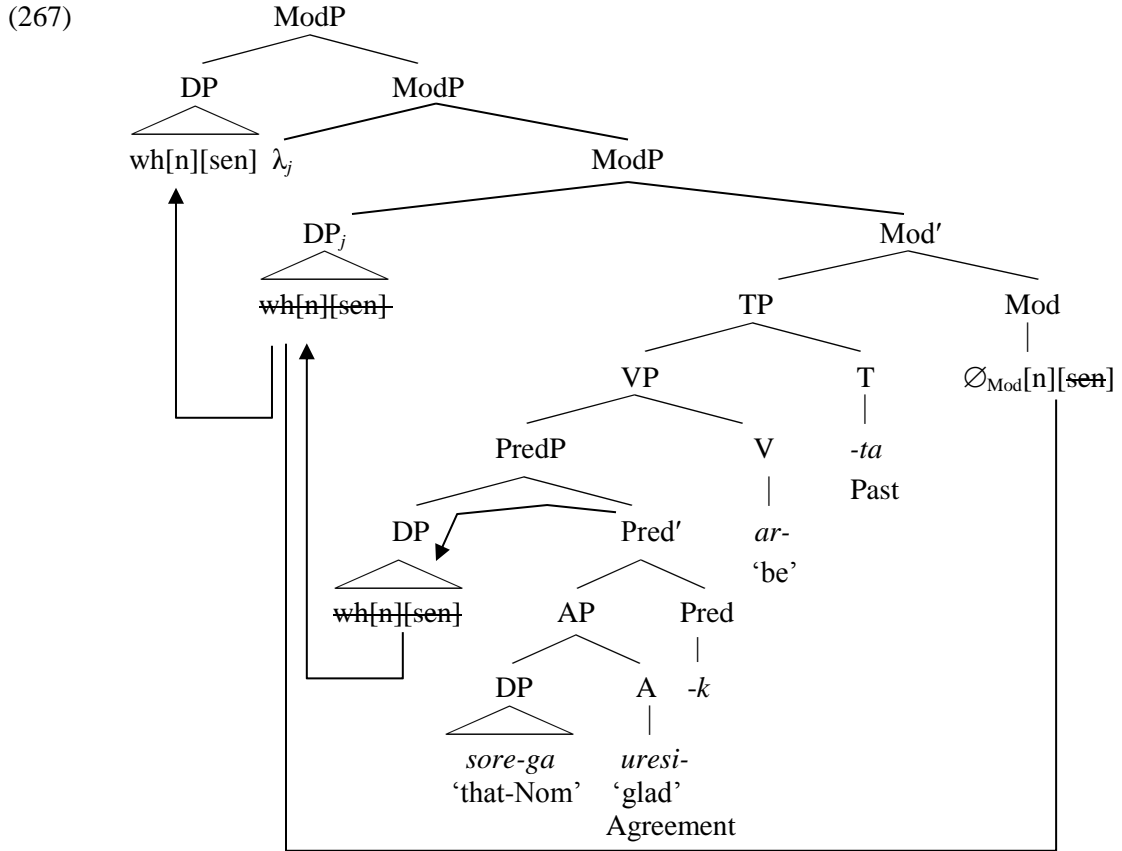
(266) (Context: The speaker is not Taro.)

#[sore-ga uresi-k-at-ta] Tarô-wa tobidasi-ta.

[that-Nom glad-Pred-be-Past] Taro-Top run.away-Past

(Intended:) ‘Taro, who was glad about that, ran away.’

I posit the following structure for the non-restrictive relative clause in (266). The Experiencer adjective *sore-ga uresi-k-* ‘be glad about that’ assigns feature [sen] to a covert relative pronoun *wh*. The relative pronoun raises to [Spec,ModP] to check the features [sen] and [n], and then raises to yield a predicate of type  $\langle e,t \rangle$ , with insertion of a  $\lambda$ -abstractor below it.



The LF of (267) is calculated as follows (I use English translations). I suppose that the relative pronoun lacks meaning, but its traces are interpreted as variables, following Heim and Kratzer (1998).

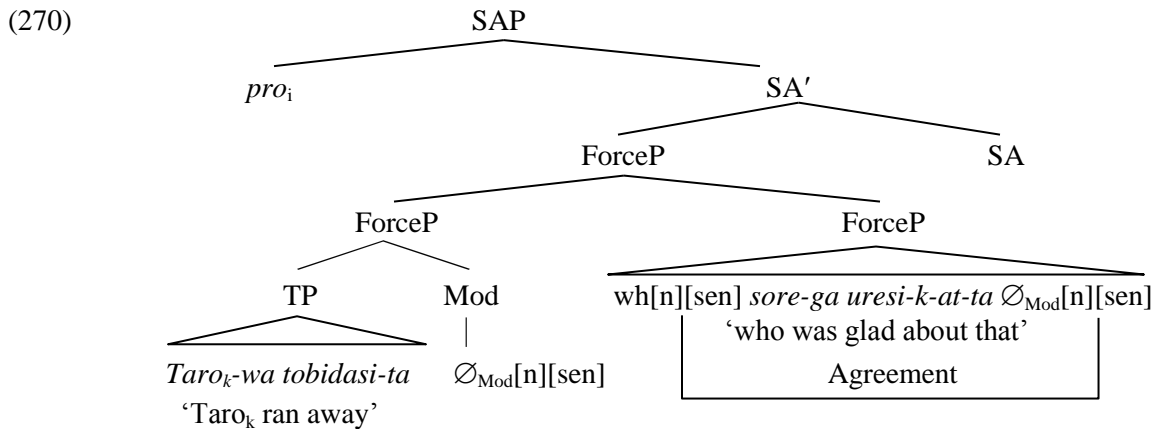
$$\begin{aligned}
 (268) \quad & [[ \text{wh}[n][\text{sen}] \lambda_j \text{wh}[n][\text{sen}]_j [ \emptyset_{\text{Mod}}[n][\text{sen}] [ \text{wh}[n][\text{sen}] \text{ was glad about that } ] ] ]^{\text{g,w,c,h}} \\
 & = \lambda x. [ [ j [ \emptyset_{\text{Mod}}[n][\text{sen}] [ \text{wh}[n][\text{sen}] \text{ was glad about that } ] ] ]^{\text{g}[j \rightarrow x], \text{w,c,h}} \\
 & = \lambda x. [ ( [ [ \emptyset_{\text{Mod}}[n][\text{sen}] [ \text{wh}[n][\text{sen}] \text{ was glad about that } ] ]^{\text{g}[j \rightarrow x], \text{w,c,h}} ) ( [ j ] ]^{\text{g}[j \rightarrow x], \text{w,c,h}} ) \\
 & = \lambda x. [ ( [ [ \emptyset_{\text{Mod}}[n][\text{sen}] [ \text{wh}[n][\text{sen}] \text{ was glad about that } ] ]^{\text{g}[j \rightarrow x], \text{w,c,h}} ) (x) ]
 \end{aligned}$$

$= \lambda x. [ \lambda y. y=h. (y \text{ was glad about that in } w)(x) ]$   
 $= \lambda x. [ x \text{ was glad about that in } w ] \text{ if } x=h, \text{ undefined otherwise.}$

From the fifth line to the sixth line in (268), I used the following lexical entry for the predicate, *was glad about that*.

(269)  $[[ \text{ was glad about that } ]]^{\text{g},w,c,h} = \lambda x. x \text{ was glad about that in } w$

I posit that the non-restrictive relative clause is attached to a ForceP (see the analysis in the previous chapter), as in (270) (ignoring word order).



The calculation of the non-restrictive relative clause is executed, following rule (201), which is reproduced below.

(201) a. Let node  $CP_i$  dominate the LF position of  $DP$ .

$[[ [_{CP_i} \dots DP \text{ NRR}_{CP_i} \dots ] ]]^{\text{g}} = \#$  unless for some  $DP \ d$  and some index  $k$ ,  $DP = d_k$ .

If  $\neq \#$ ,  $[[ [_{CP_i} \dots DP_k \text{ NRR}_{CP_i} \dots ] ]]^{\text{g}} = [[ [_{CP_i} \dots DP_k \dots ] ]]^{\text{g}} \bullet [[ \text{NRR}_{CP_i} ] ]^{\text{g}}(\text{g}(k))$

(where  $\#$  represents presupposition failure)

b. • is the operation of parataxis. As a first approximation,

$$[[ [_{\text{CPi}} \dots \text{DP}_k \dots ] ]]^g \bullet [[ \text{NRR}_{\text{CPi}} ]]^g(g(k)) = 1 \text{ iff } [[ [_{\text{CPi}} \dots \text{DP}_k \dots ] ]]^g = 1 \text{ and } [[ \text{NRR}_{\text{CPi}} ]]^g(g(k)) = 1.$$

(based on Schlenker 2013: 20(45))

Using it, the topmost ForceP is calculated as follows.

$$(271) \quad [[ [_{\text{ForceP}} \text{Taro}_k [_{\text{ForceP}} \text{who was glad about that } ] \text{ ran away } ] ]]^g, w, c, h \\ = [[ \text{Taro}_k \text{ ran away } ]]^g, w, c, h \bullet [[ \text{who was glad about that } ]]^g, w, c, h(g(k))$$

The first conjunct yields (273), with lexical entry (272) for *ran away*.

$$(272) \quad [[ \text{ran away } ]]^g, w, c, h = \lambda x. x \text{ ran away in } w$$

$$(273) \quad [[ \text{Taro}_k \text{ ran away } ]]^g, w, c, h \\ = (\lambda x. x \text{ ran away in } w)([[ \text{Taro}_k ]]^g, w, c, h) \quad (\text{using (272)}) \\ = (\lambda x. x \text{ ran away in } w)(g(k)) \text{ if } g(k) = \text{Taro. Undefined otherwise.} \quad (\text{using (264a)}) \\ = g(k) \text{ ran away in } w \text{ if } g(k) = \text{Taro. Undefined otherwise.}$$

The second conjunct yields (274).

$$(274) \quad [[ \text{who was glad about that } ]]^g, w, c, h(g(k)) \\ = (\lambda x. x \text{ was glad about that in } w)(g(k)) \text{ if } x=h, \text{ undefined otherwise. (using (268))} \\ = g(k) \text{ was glad about that in } w \quad \text{if } g(k)=h, \text{ undefined otherwise.}$$

Combining (273) and (274), we obtain the translation of the whole ModP, (271)

$$\begin{aligned}
 (275) \quad & [[ [\text{ForceP Taro}_k [\text{ForceP who was glad about that } ] ] \text{ ran away } ] ]^{\text{g,w,c,h}} \\
 & = [[ \text{Taro}_k \text{ ran away } ] ]^{\text{g,w,c,h}} \bullet [[ \text{who was glad about that } ] ]^{\text{g,w,c,h}}(\text{g}(k)) \\
 & = \text{g}(k) \text{ ran away in w, if } \text{g}(k) = \text{Taro. Undefined otherwise} \\
 & \quad \bullet \text{g}(k) \text{ was glad about that in w, if } \text{g}(k)=\text{h, undefined otherwise.}
 \end{aligned}$$

From (201), the truth condition of the whole ForceP is that it is true if and only if  $\text{g}(k)$  ran away in  $w$ ,  $\text{g}(k)$  was glad about that in  $w$ ,  $\text{g}(k) = \text{Taro}$ , and  $\text{g}(k) = h$ . In short, it means that Taro was glad about that and he ran away in  $w$  and  $\text{Taro} = h$ .

Finally, the value of  $h$  at ModP (in ForceP) is set by SAP. It is the speaker, as is calculated in (276).

$$\begin{aligned}
 (276) \quad & [[ \text{pro}_i [ \text{SA } [\text{ForceP ForceP } [\text{ForceP NRR} ] ] ] ] ]^{\text{g,w,c,h}} \\
 & = (\lambda x. [[ [\text{ForceP ForceP } [\text{ForceP NRR} ] ] ] ]^{\text{g,w,c,h} \rightarrow x})([[ \text{pro}_i ]]) \quad (\text{using (256a)}) \\
 & = [[ [\text{ForceP ForceP } [\text{ForceP NRR} ] ] ] ]^{\text{g,w,c,g}(i)} \text{ if } \text{g}(i) = \text{sp}(c). \text{ Undefined otherwise. (using} \\
 & \quad (264e))
 \end{aligned}$$

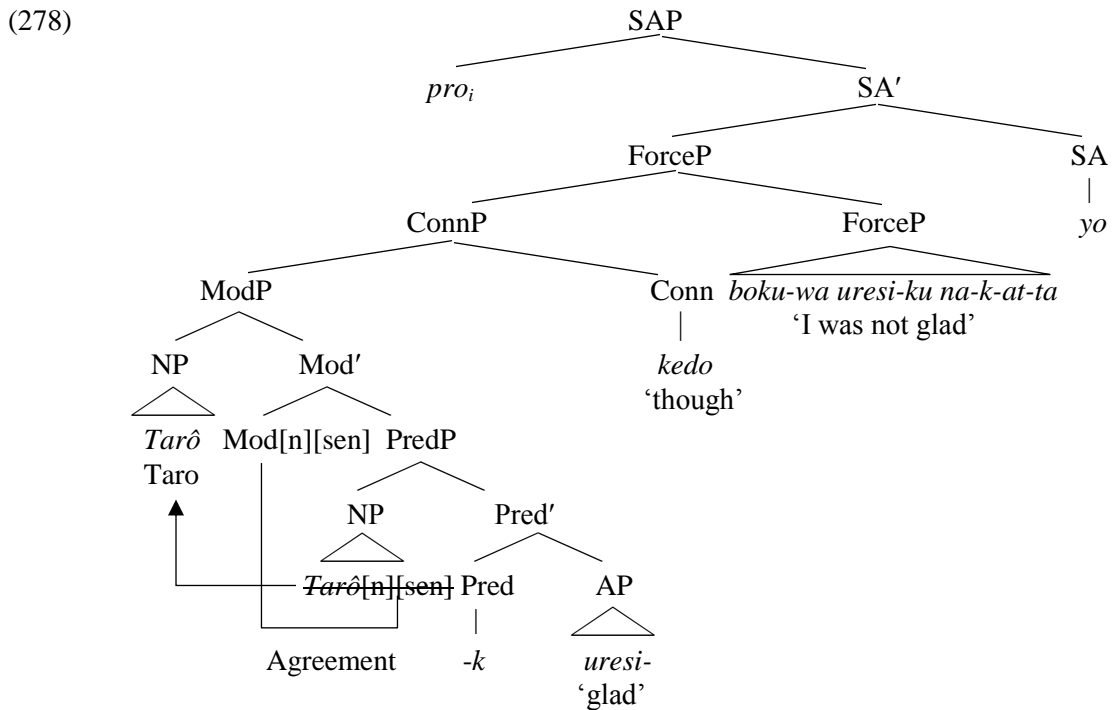
Consequently, combination of (275) and (276) yields the final result: the whole sentence, (266), is true if and only if Taro was glad about that and he ran away and Taro is the speaker. The condition that Taro is the speaker is not satisfied in the given context, so the sentence is not acceptable.



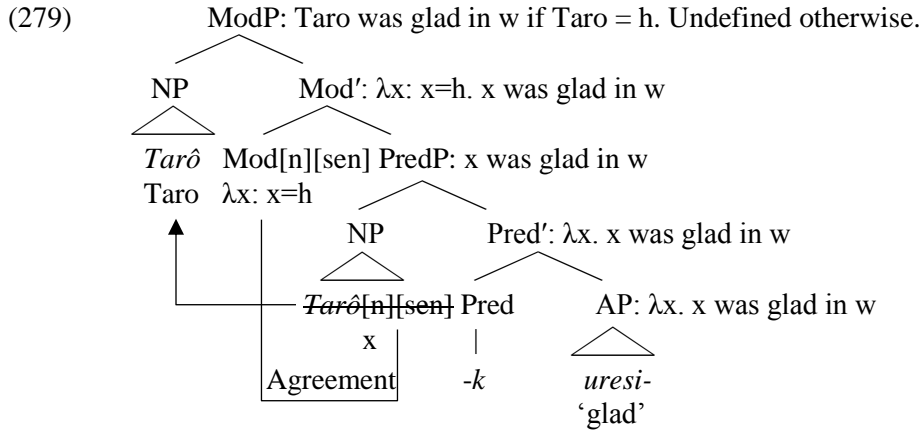
The Experiencer restriction in adversative conjunctive clauses is explained similarly to the Experiencer restriction in non-restrictive relative clauses. For illustration, let us consider the following sentence.

- (277) #Tarô-wa uresi-k-at-ta-kedo, boku-wa uresi-ku na-k-at-ta yo  
 Taro-Top glad-Pred-be-Past-though I-Top glad-Pred Neg-Pred-be-Past SFP  
 (Intended:) ‘Though Taro was glad, I was not glad.’

(277) has the following structure (here, projections which are irrelevant to the present discussion are omitted, and word order is not observed).



[[ [<sub>ModP</sub> *Tarô-wa uresi-k-at-ta* ] ]]<sup>g,w,c,h</sup> is calculated as in (279).



I suppose that adversative conjunctors such as *kedo* ‘though’ have the following meaning ( $t_1$  and  $t_2$  are of type  $t$ ).

$$(280) \quad [[ \textit{kedo} ]]^{\text{g,w,c,h}} = \lambda t_1. \lambda t_2. t_1 \bullet t_2$$

The operation  $\bullet$ , which represents a conjunction as a first approximation, actually represents a discourse relation (Schlenker 2013a: 41). In the case of a non-restrictive relative clause, it is supposed that all discourse relations that are available for parataxis in discourse are possible, if there is no element which specifies a discourse relation in the non-restrictive relative clause. Schlenker (2013a) does not discuss adversative conjunction and uses  $\bullet$  only for non-restrictive relative clauses. But in the literature, the relation between two sentences which are conjoined by an adversative conjunctor such as *but* is often captured as a discourse relation of *Contrast*<sup>115</sup> (Asher and Lascarides 2003, among many others), which is a discourse relation between

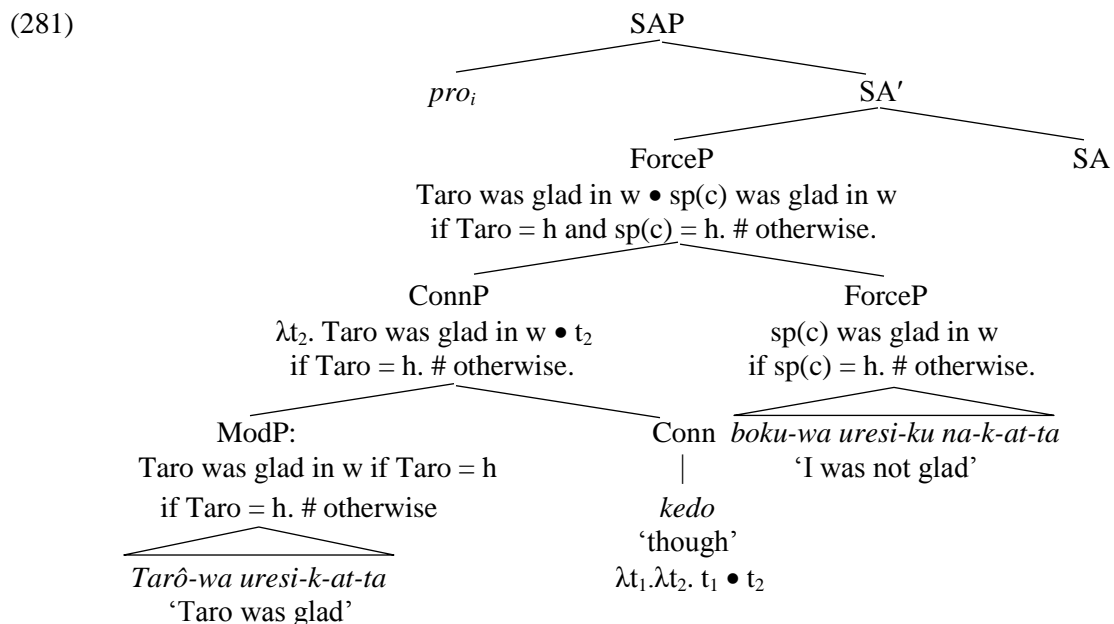
<sup>115</sup> Adversative conjunction may involve other discourse relations also. For example, in the case of (i), not only *Contrast* but also *Background* holds between the two sentences (Asher and Lascarides 2003:465).

(i) John loves sport. But he hates football. (Asher and Lascarides 2003:168(41b))

The discourse relation of *Background* is defined as follows.

(ii) *Background*( $\alpha, \beta$ ): “This relation holds whenever one constituent provides information about the surrounding state of affairs in which the eventuality mentioned in the other constituent occurred.” (Asher and Lascarides 2003: 460)

structurally similar but semantically dissimilar sentences (Asher and Lascarides 2003).<sup>116</sup> It is not fundamentally different from (some of<sup>117</sup>) the other discourse relations available for parataxis, so it seems to be reasonable to suppose that the relation between an adversative conjunctive clause and a matrix clause also can be represented by •, similarly to that between a non-restrictive relative clause and a matrix clause. Using (279) and (280),  $[[ \text{ForceP} ]]$ <sup>g,w,c,h</sup> is calculated as in (281).



The calculated  $[[ \text{ForceP} ]]$ <sup>g,w,c,h</sup> shows that it is undefined unless Taro = h and sp(c) = h. The condition that Taro = h and sp(c) = h cannot be satisfied unless Taro is the speaker. This explains the infelicity of (277).

<sup>116</sup> Formally, Asher and Lascarides (2003) define *Contrast* as follows, using Segmented Discourse Representation Theory (SDRT).

(i) “*Contrast*(a, b) can hold only if  $K_a$  and  $K_b$  are structurally similar and semantically dissimilar.” (Asher and Lascarides 2003: 152)

Here,  $K_a$  and  $K_b$  mean the Segmented Discourse Representation Structures (SDRSs) of sentences  $a$  and  $b$ , respectively. For other definitions of the discourse relation of *Contrast* in other frameworks, see Mann and Thompson (1988), Umbach (2004), and Spenader and Maier (2009), among others.

<sup>117</sup> For example, the discourse relation of *parallelism* is a relation between structurally similar and also semantically similar sentences.

#### 5.5.4 *To*-complement clauses under verbs of saying

Let us consider a *to*-clause under verb of saying *yu-u* ‘say’.

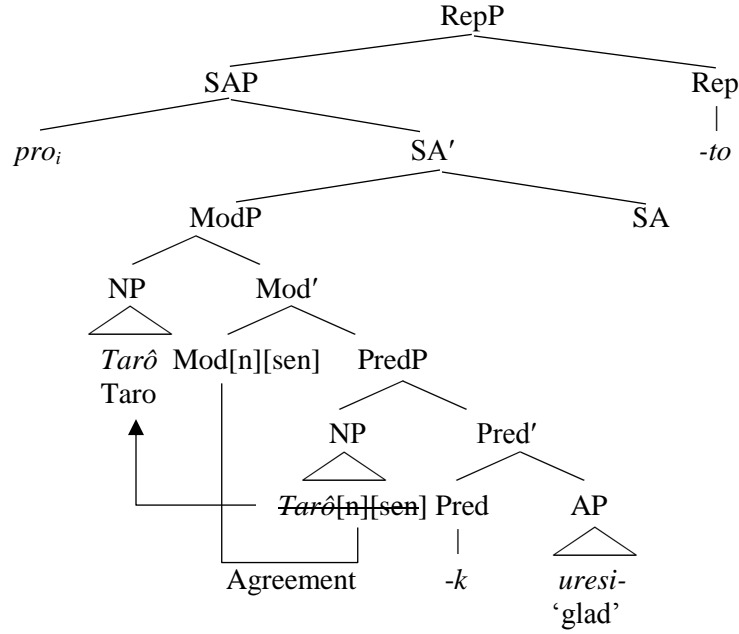
- (282) #Hanako-wa [Taro-wa uresi-k-at-ta-to] it-ta.  
Hanako-Top [Taro-Top glad-Pred-be-Past-Rep] say-Past  
(Intended:) ‘Hanako said that Taro had been glad.’

The *to*-clause has two interpretations, namely indirect discourse interpretation and direct discourse (=direct quotation) interpretation. The analysis of the Experiencer restriction in the case of the direct quotation interpretation reduces to the analysis of the Experiencer restriction of a root clause, #*Taro-wa uresi-k-at-ta* (‘Taro was glad’), which was analyzed in section 5.5.1. So I focus on the Experiencer restriction in the case of the indirect discourse interpretation in this section.

Let us consider the *to*-clause, (283), in (282). Its syntactic structure is given in (284), where most of the projections which are irrelevant to the following argument are omitted.

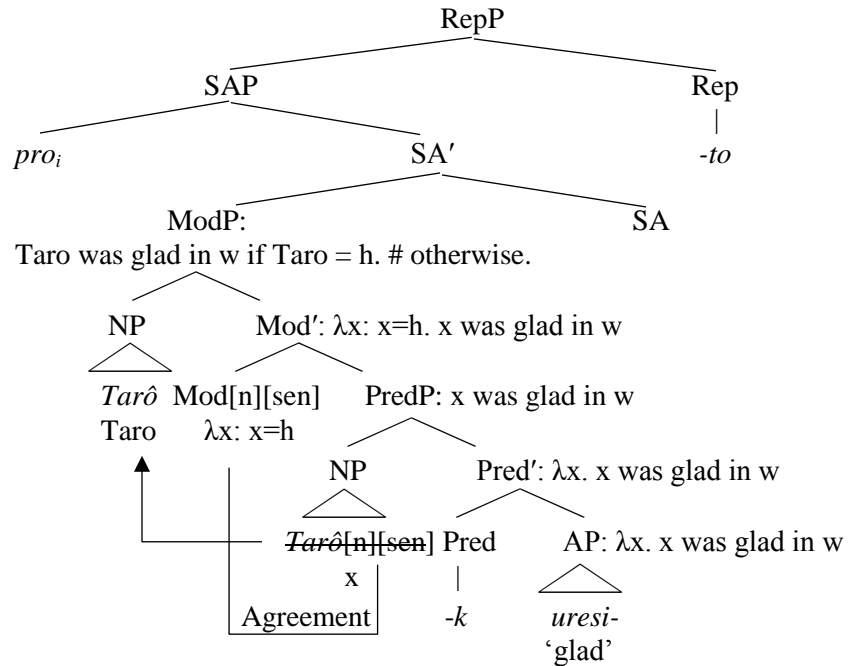
- (283) Taro-wa uresi-k-at-ta-to  
Taro-Top glad-Pred-be-Past-Rep  
‘that Taro was glad’

(284)



The calculation goes in the same way as the case of the root clause, which is given in section 5.5.1. First,  $[[ \text{ModP} ]]$ <sup>g,w,c,h</sup> is calculated as follows.

(285)



Second,  $[[ \text{SAP} ]]$ <sup>g,w,c,h</sup> is calculated as in (286), using the result of the calculation of  $[[ \text{ModP} ]]$ <sup>g,w,c,h</sup>.

$$\begin{aligned}
 (286) \quad & [[ \text{SAP} ]]$$
<sup>g,w,c,h</sup> \\
 &= [[ [\_{\text{SAP}} \text{pro}\_i [ \text{SA ModP} ] ] ]]<sup>g,w,c,h</sup> \\
 &= \lambda x. ([[ \text{ModP} ]]<sup>g,w,c,h \rightarrow x</sup>) ([[ \text{pro}\_i ]]<sup>g,w,c,h</sup>) \\
 &= \lambda x. (\text{Taro was glad in } w \text{ if Taro} = x. \# \text{ otherwise})([[ \text{pro}\_i ]]<sup>g,w,c,h</sup>)
 \end{aligned}

What is the referent of *pro*<sub>i</sub> in the case of a *to*-clause under a verb of saying? Let us recall (257), which is reproduced below.

(257) One can assert an SAP only if [Spec,SAP] is occupied by a phonetically null pronoun that is bound to the speaker. (To be revised)

In other words, the referent of *pro*<sub>i</sub> in the case of a *to*-clause under a verb of saying is the speaker who asserted the content of the *to*-clause, namely the local speaker. Therefore, the calculation of  $[[ \text{SAP} ]]$ <sup>g,w,c,h</sup> continues as follows.

$$\begin{aligned}
 (287) \quad & [[ \text{SAP } ]]$$
<sup>g,w,c,h</sup> \\
 &= \lambda x. (\text{Taro was glad in } w \text{ if Taro} = x. \# \text{ otherwise})([[ \text{pro}\_i ]]<sup>g,w,c,h</sup>) \quad (\text{from (286)}) \\
 &= \lambda x. (\text{Taro was glad in } w \text{ if Taro} = x. \# \text{ otherwise})(\text{Hanako}) \\
 &= \text{Taro was glad in } w \text{ if Taro} = \text{Hanako.} \# \text{ otherwise.}
 \end{aligned}

Taro is not Hanako, so it shows that the LF of the SAP is not defined. It is in accordance with the non-assertability of (282).

### 5.5.5 *To*-complement clauses under verbs of thinking/believing/knowing

Next, let us consider the exceptional case mentioned in section 5.2.7, namely *to*-complement clauses under verbs of thinking/believing/knowing. They do not restrict an Experiencer, although they contain ModP and SAP. For example, (288) is felicitously assertable.

- (288) Hanako-wa [Taro-ga uresi-k-at-ta-to] {omot/sinzi/sit}-tei-ta.  
Hanako-Top [Taro-Nom glad-Pred-be-Past-Rep] {think/believe/know}-Perf-Past  
'Hanako {thought/believed} that Taro was glad.'

Note that the condition on the selection of *pro* in [Spec, SAP], (257), does not cover these *to*-complement clauses, since the content of thinking/believing/knowing is not asserted (in other words, thinking, believing, and knowing are not assertive speech acts). Here, extending (257), let us suppose (289) for the referent of the phonetically null pronoun in [Spec,SAP]:<sup>118</sup>

- (289) a. If an individual A asserts a SAP, the referent of the phonetically null pronoun in [Spec,SAP] must be A.  
b. Otherwise, the referent of the phonetically null pronoun in [Spec,SAP] can be any individual.

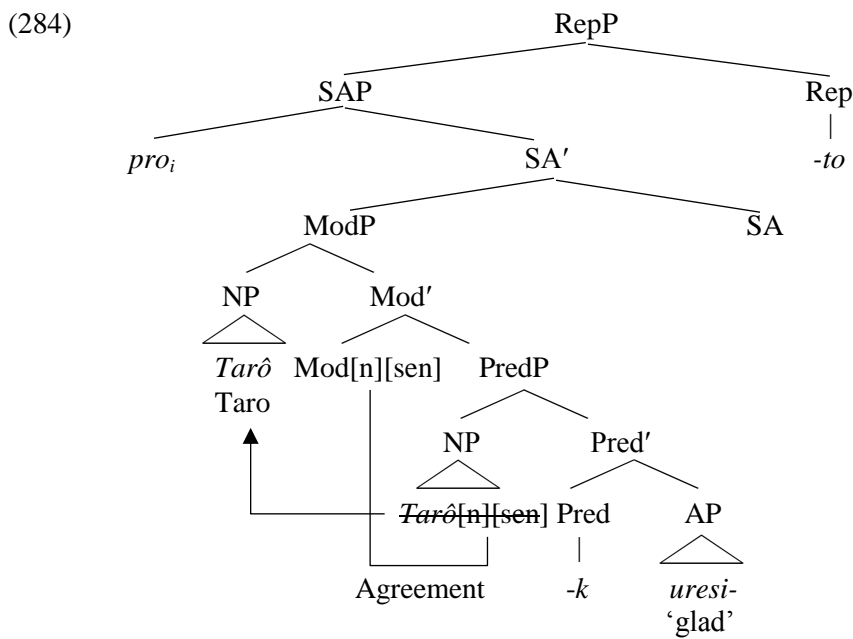
With (289), the Experiencer restriction does not emerge in *to*-clauses under verbs of thinking/believing/knowing.

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<sup>118</sup> This analysis is due to Rajesh Bhatt (p.c.).

For illustration, let us consider (288). The *to*-clause, (283), has the syntactic structure given in (284), reproduced below.

- (283) Taro-wa uresi-k-at-ta-to  
 Taro-Top glad-Pred-be-Past-Rep  
 ‘that Taro was glad’



$[[ \text{SAP} ]]^{g,c,w,h}$  is calculated as in (286):

- (286)  $[[ \text{SAP} ]]^{g,w,c,h}$   
 $= [[ [_{\text{SAP}} \text{pro}_i [ \text{SA} \text{ModP} ] ] ]]^{g,w,c,h}$   
 $= \lambda x. ([[ \text{ModP} ]]^{g,w,c,h \rightarrow x}) ([[ \text{pro}_i ]]^{g,w,c,h})$   
 $= \lambda x. (\text{Taro was glad in } w \text{ if Taro} = x. \# \text{ otherwise}) ([[ \text{pro}_i ]]^{g,w,c,h})$



From (289b),  $[[pro_i]]^{g,w,c,h}$  can be any individual, so it can be Taro. When  $[[pro_i]]^{g,w,c,h}$  is Taro,  $[[SAP]]^{g,w,c,h}$  has a truth value.

$$\begin{aligned}
 (290) \quad & [[SAP]]^{g,w,c,h} \\
 & = \lambda x. (\text{Taro was glad in } w \text{ if Taro} = x. \# \text{ otherwise})([[pro_i]]^{g,w,c,h}) \quad (\text{from (286)}) \\
 & = \lambda x. (\text{Taro was glad in } w \text{ if Taro} = x. \# \text{ otherwise})(\text{Taro}) \\
 & = \text{Taro was glad in } w
 \end{aligned}$$

From this calculation, it is also clear that  $[[SAP]]^{g,w,c,h}$  is not defined when the referent of  $pro_i$  is not Taro. It is, however, not relevant to the assertability of (288). The availability of  $pro_i$  whose referent is Taro guarantees that  $[[SAP]]^{g,w,c,h}$  has a truth value for some  $pro_i$ , and it guarantees the assertability of (288).

### 5.5.6 Interrogatives

Finally, let us consider an interrogative, as in (291a,b). In the previous section, we considered declarative sentences. Note that in the case of interrogatives, the Experiencer must be the addressee:

- (291) a. {kimi-wa/∅} uresi-i (ka)?  
           {you-Top/∅} glad-Pred.be.Pres (Q)  
           ‘Are you glad?’
- b. #Tarô-wa uresi-i (ka)?  
           Taro-Top glad-Pred.be.Pres (Q)  
           (Intended:) ‘Is Taro glad?’

They can be treated by extending (289) to cover interrogatives as in (292).

- (292) a. If an individual A asserts a SAP, the referent of the phonetically null pronoun in [Spec,SAP] must be A.
- b. If individual A asks individual B a SAP, the referent of the phonetically null pronoun in [Spec,SAP] must be B.
- c. Otherwise, the referent of the phonetically null pronoun in [Spec,SAP] can be any individual.

### 5.6 Comparison between the feature-checking analysis and the situation-based analysis

Up to this point, the feature-checking analysis presented above is good at explaining the Experiencer restriction in various environments. However, there is a case which cannot be explained by the feature-checking analysis. It is the complement clause of vivid memory report. The situation-based analysis presented in CHAPTER 3 can account for the Experiencer restriction in this environment also (see section 3.8), so the principle of parsimony favors the situation-based analysis.

The key data is that an Experiencer is restricted in a *no*-complement clause of verbs of vivid memory report, while it is not restricted in a *no*-complement clause of verbs of knowing. Let us compare (294) and (293).

(293) **Under a verb of vivid memory report**

Hanako-wa [Tarô-ga uresi- $\{gat/\#k-at\}$ -ta no]-o (ariarito)

Hanako-Top [Taro-Nom glad- $\{GAR/\#Pred-be\}$ -Past Fin]-Acc (vividly)

$\{oboe-tei/omoidasi\}$ -ta.

$\{memorize-Perf/recall\}$ -Past

‘Hanako (vividly) {remembered/recalled} that Taro {behaved as being/#was} glad.’

(294) **Under a verb of knowing**

Hanako-wa [ Tarô-ga uresi- $\{gat/k-at\}$ -ta no]-o

Hanako-Top [ Taro-Nom glad- $\{GAR/Pred-be\}$ -Past Fin]-Acc

sit-tei-ta.

know-Perf-Past

‘Hanako knew that Taro {behaved as being/was} glad.’

*No*-complement clauses do not allow insertion of Mod, as shown in (295) and (296). Therefore, they do not contain ModP.

(295) **Under a verb of vivid memory report**

\*Hanako-wa [Tarô-ga uresi- $\{gat/k-at\}$ -ta **darô**-no]-o (ariarito)

Hanako-Top [Taro-Nom glad- $\{GAR/Pred-be\}$ -Past Mod-Fin]-Acc (vividly)

{oboe-tei/omoidasi}-ta.

{memorize-Perf/recall}-Past

(Intended:) ‘Hanako (vividly) {remembered/recalled} that Taro {probably behaved as being/was probably} glad.’

(296) **Under a verb of knowing**

\*Hanako-wa [ Tarô-ga uresi- $\{gat/k-at\}$ -ta **darô**-no]-o

Hanako-Top [ Taro-Nom glad- $\{GAR/Pred-be\}$ -Past Mod-Fin]-Acc

sit-tei-ta.

know-Perf-Past

(Intended:) ‘Hanako knew that Taro {probably behaved as being/was probably} glad.’

Hence agreement between the Experiencer DP in these *no*-complement clauses and  $\emptyset_{\text{Mod}}$  does not occur. It means that the Experiencer DP has an index feature and [sen] feature. Without agreement, the index feature on the Experiencer DP is not restricted to the referent of the phonetically null pronoun in [Spec,SAP]. The [sen] feature just indicates that the referent of the bearer of the feature can have epistemic states (see (255a)), and so it does not yield the Experiencer restriction under discussion.

This accounts for the absence of the Experiencer restriction in *no*-complement clauses under a verb of knowing, (294), but it does not account for the presence of the Experiencer restriction in *no*-complement clauses under a verb of vivid memory report. As explained in section 3.8 of CHAPTER 3, the situation-based analysis can account for the Experiencer restriction in *no*-complement clauses under a verb of vivid memory report, so it is favored by the principle of parsimony.

## CHAPTER 6

### PREVIOUS FORMAL ANALYSES OF THE EXPERIENCER RESTRICTION

#### 6.1 Introduction

In this chapter, I look at some previous formal analyses and point out problems which they face: (i) Kamio's (1995, 1997a,b) account based on his theory of territory of information, (ii) Tenny's (2006) feature-checking account using morphosyntactic features [+sentient] and [+discourse participant], and (iii) Fujii's (2006, 2007) proposal of the reflexive subject requirement for Experiencer adjectives.

#### 6.2 Kamio's territory-of-information analysis

In this section, I look at Kamio's (1995, 1997a,b) analysis of the Experiencer restriction based on his (1990, 1995, 1997a,b, 2002) theory of territory of information.

When a speaker makes an assertion, he needs evidence for the truth of the asserted content.<sup>119</sup> An aim of the theory of territory of information is to clarify the notion of evidence necessary for assertion. The theory employs a notion of the speaker's and hearer's 'territory of information', which is based on a notion of psychological 'closeness' of conveyed information to the speaker/hearer, and explains the conditions for specific utterance forms (e.g., sentences without any modals/evidentials, sentences with a modal/evidential, sentences with a tag question, and so on). For example, he claims that information which is within the speaker's territory of information but not within the hearer's territory of information is conveyed by sentences without a modal or evidential.

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<sup>119</sup> It is stated, for example, in Searle's (1969) speech act theory as a preparatory condition for assertion: "the speaker has evidence (reasons, etc.) for the truth of proposition *p*".

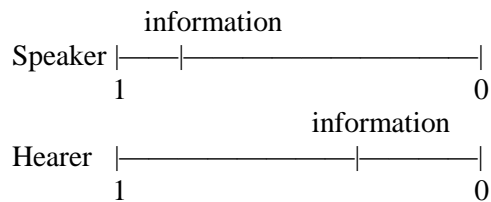
I explain the theory of territory of information briefly in section 6.2.1. Based on it, it is argued in section 6.2.2 that his analysis works for the Experiencer restriction in root clauses, but, as Tenny (2006:280) and Kamio himself (1995: 251f n.13) note, it is not clear how it can be extended to account for the behavior of the Experiencer in complex sentences.

### 6.2.1 The closeness of information and territory of information

This section introduces the theory of territory of information by Kamio (1990, 1995, 1997a,b, 2002).

The theory of territory of information tries to understand functions of different sentential forms in terms of psychological ‘closeness’ of conveyed information to the speaker and the hearer. The basic postulate of the theory is the following.

(297) There are two linear psychological scales, one for the speaker and the other for the hearer, which measure the distance between the speaker/hearer and a given piece of information:



A given piece of information is located on these scales and can take any value between (and including) 1 and 0. (Kamio 1995: 236f)

He states that the meaning of values 1 and 0 is given as follows.<sup>120</sup>

<sup>120</sup> Note, however, that it is not clear what he means by the explanation for the value 1: what does knowing information “completely” (or possessing full knowledge) mean? He does not explicate it.

- (298) a. That a given piece of information takes the value 1 on the psychological scale for the speaker (or for the hearer) represents a situation in which the speaker assumes that he (or the hearer) knows the information completely and thus possesses its full knowledge.
- b. That a given piece of information takes the value 0 on the psychological scale for the speaker (or for the hearer) represents a situation in which the speaker assumes that he (or the hearer) possesses no knowledge of the information.

(Kamio 1997b:147, slightly modified)

Based on this notion of the psychological distance of information to the speaker/hearer, the term of the speaker's/hearer's territory of information is defined. In short, if the speaker assumes that a piece of information is close enough to him (or to the hearer), the information is said to be within the speaker's (or the hearer's) territory of information. Formally, Kamio defines the term of the territory of information as follows.

- (299) There are two conceptual categories called the speaker's and the hearer's territory of information. A given piece of information that is closer to the speaker than  $n$  belongs to the speaker's territory of information, and that which is closer to the hearer than  $n$  belongs to the hearer's territory of information, where  $n$  is a specified value between 1 and 0 and designates the outer boundary of both territories. (Kamio 1997a: 17(24))

What kind of information is close to the speaker/hearer? In the case of Japanese, Kamio claims that information which satisfies one or more conditions of (300a-d) is considered to be close to the speaker/hearer.

(300) **Information which is considered to be close to the speaker/hearer in the case of Japanese**

- a. information obtained through the speaker's/hearer's internal direct experience
- b. information embodying detailed knowledge which falls into the range of the speaker's/hearer's professional or other expertise
- c. information obtained through the speaker's/hearer's external direct experience
- d. information about persons, objects, events and facts close to the speaker/hearer including such information about the speaker/hearer him/herself

(Kamio 1997a:39(1))

Here, 'internal direct experience' means internal feelings like emotion and other mental activities such as memory and belief. In contrast, 'external direct experience' means experience obtained using the five senses. Information (300d) includes, for example, the speaker's/hearer's plans, behavior, and geographical locations. It is "personal data in a broad sense" (Kamio 1997a:18).

In addition to (300), Kamio proposes the following meta-conditions.

(301) **Conditions which determine closeness of information to the speaker/hearer in the case of Japanese**

- a. information subject to condition [(300b)] and [(300d)] is considered less close to the speaker/hearer if he/she does not have an adequate basis for asserting it.
- b. information which is difficult for the speaker/hearer to have access to is considered less close to him/her.
- c. new information conveyed to the speaker is generally considered less close to him/her until considerable processing has taken place.

(Kamio 1997a: 41(4))



Kamio claims that utterance forms used by a speaker reflect the speaker's assumption of the psychological closeness of the conveyed information to the speaker and the hearer. His proposal is summarized as follows.

**Table 2.** Cases and utterance forms (Japanese) (Kamio 1997a: 42, table 2)

Case	Definition of case	Utterance form
A	$1 = \text{Speaker} > \text{Hearer} < n$	direct form
B	$1 = H \geq S > n$	direct- <i>ne</i> form
BC	$1 = S > H > n$	<i>daroo</i> form
CB	$H > S > n$	<i>daroo</i> form
C	$1 = H > S < n$	indirect- <i>ne</i> form
D	$n > S \geq H$	indirect form

For example, in Case A, a speaker assumes that he knows a piece of information ‘completely’ (see (298a)) and the information is within his territory of information, but it is not within the hearer’s territory of information. In this case, the speaker uses a direct form (i.e., the unmarked form, in which no modal, evidential, or other hedging expressions are used) to convey the information. Contrastively, in Case D, a speaker assumes that a piece of information is not within the speaker’s or hearer’s territory of information and is not psychologically closer to the hearer than to the speaker. In this case, the speaker uses an indirect form (a sentence with a modal or evidential, or other hedging elements which “attenuate the directness of the direct form” (Kamio 1997a:6)).

For illustration, let us consider (302) and (303). In the case of (302), the information that the speaker’s sister made a cake yesterday is obtained by the speaker’s seeing the situation, so it is close to the speaker (see condition (300a)). But (the speaker assumes that) it is not close to the hearer, namely that the hearer does not know the information. Therefore, the direct form is used in (302).

(302) (Context: The speaker saw his sister made a cake yesterday. The speaker assumes that the hearer does not know that.)

boku-no imôto-ga kinô kêki-o tukut-ta yo.

I-Gen sister-Nom yesterday cake-Acc make-Past SFP

‘My sister made a cake yesterday.’

In the case of (303), the information that Taro returned back yesterday is not closer to the hearer than to the speaker, but it is not within the speaker’s territory of information (or the hearer’s). Therefore, the speaker uses an evidential marker *sôda* to make a sentence in the indirect form.

(303) (Context: The speaker heard that Taro returned back yesterday, and he thinks that it is plausible. The speaker assumes that the hearer does not know the information.)

Tarô-ga kinô kaet-te ki-ta sôda yo.

Taro-Nom yesterday return-Conn come-Past Hearsay SFP

‘I heard that Taro returned back yesterday.’

### 6.2.2 Analysis of the Experiencer restriction in the theory of territory of information

This section first presents the explanation of the Experiencer restriction in root clauses in the theory of territory of information, following Kamio (1995, 1997a), and then looks at a difficulty of this approach to the Experiencer restriction.

According to the theory of territory of information, information of internal feelings of a speaker is within the speaker’s territory of information, but not in the hearer’s territory of information. Therefore, a speaker uses the direct form to convey information of his internal feelings, as in (304).

(304) boku-wa samu-k-at-ta yo.  
 I-Top cold-Pred-be-Past SFP  
 ‘I was cold.’

On the other hand, information of internal feelings of a third person is not within the speaker’s or the hearer’s territory of information. Hence, the direct form is not natural, as in (305).

(305) Tarô-wa samu-k-at-ta {#Ø/sooda} yo.  
 Taro-Top cold-Pred-be-Pres {#Ø/Hearsay} SFP  
 ‘{#Ø/I heard that} Taro was cold.’

This is Kamio’s explanation of the Experiencer restriction in root clauses.

This approach to the Experiencer restriction works for root clauses, but is insufficient to account for (the absence or presence of) the Experiencer restriction in non-root clauses (Tenny 2006:280). It is because the theory of territory of information given in Kamio (1990, 1995, 1997a,b, 2002) explains only the forms of the matrix clause and does not treat non-root clauses such as relative clauses. Kamio himself (1995: 251f n.13) acknowledges that a comprehensive explanation of the Experiencer restriction “must await much further research”.

### **6.3 Analysis using checking of features [+sentient] and [+discourse participant] (Tenny 2006)**

Tenny (2006) aims to account for the Experiencer restriction not only in root clauses but also in non-root ones, based on Speas and Tenny’s (2003) proposal of syntax of sentience and checking of morphosyntactic features relevant to it, [+sentient] and [+discourse participant]. In

section 6.3.1, I present a review of the analysis, and then in section 6.3.2 I point out a serious problem which the analysis bears.

### **6.3.1 A feature-driven analysis**

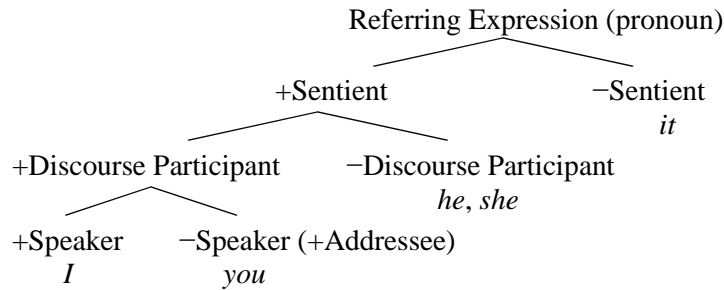
To account for the Experiencer restriction, Tenny (2006) proposes that (i) Experiencer adjectives lexically mark their Experiencer argument with two morphosyntactic features, (ii) those features are checked at specifier positions of higher projections in the left periphery, and (iii) the Experiencer raised to the specifier position of the higher projection, which is the place associated with feature [+speaker], is required to be the speaker.

First, let us see the idea on morphosyntactic features behind Tenny's proposal. Based on cross-linguistic research, Harley and Ritter (2002) claim that first person, second person, and third person pronouns are characterized by two types of morphosyntactic features (for discourse participants and for speaker/addressee distinction). Tenny proposes to add a feature for sentient individuals to their picture, as in (306).<sup>121</sup> The feature [+sentient] means that the bearer can have epistemic states. She attributes the introduction of the sentience feature to personal communication with Ritter on Harley and Ritter's work and Hanson (2003).

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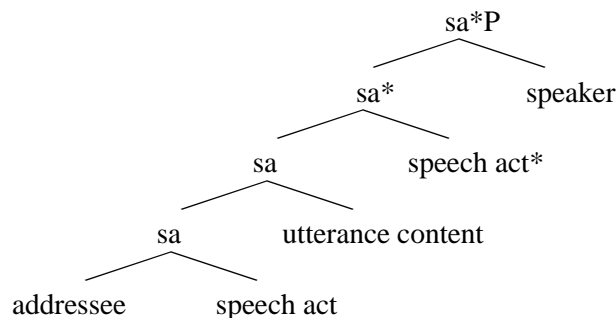
<sup>121</sup> Harley and Ritter (2002) assume that features are monovalent (p.485), but Tenny tacitly assumes that they are bivalent.

(306) Adaptation of Harley and Ritter (left branch only) (Tenny 2006: 264(50))



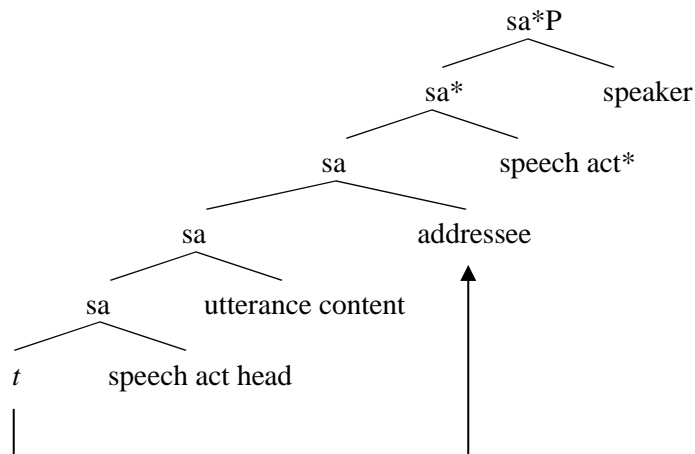
Second, let us look at the idea of Sentience/Evidentiality projection. As seen in the previous chapters, it has been claimed that there is a Speech Act projection at the top of the left periphery, which encodes illocutionary force (Rizzi 1997, 1999, Cinque 1999 among others). Based on cross-linguistic study, Cinque (1999) and Speas and Tenny (2003) propose that there is a projection in the left periphery for evidentiality. Tenny calls it Sentience/Evidentiality Phrase. Concretely, Tenny bases her analysis on Speas and Tenny's (2003) *syntax of sentience*: Different from Rizzi and others, Speas and Tenny (2003) propose that the Speech Act projection, the speaker, and the addressee are configurationally related as the VP and thematic roles are (cf. Hale and Keyser 1993, 1998, 1999). In their proposal, the Speech Act projection has inner and outer (starred) projections as Larson (1988) proposes for VPs, and the positions for the speaker and the addressee are supposed as in (307):

(307) The Speech Act Projection in declaratives (based on Tenny 2006: 260(41))



The structure given in (307) is for declarative clauses. In the case of interrogatives, Speas and Tenny assume that a process similar to passivization occurs, in which the addressee argument is raised to the specifier position of the Speech Act projection, as in (308).<sup>122</sup> What is important is that the addressee is closer than the speaker to utterance context in this structure.

(308) The Speech Act Projection in interrogatives (based on Tenny 2006: 263(49))

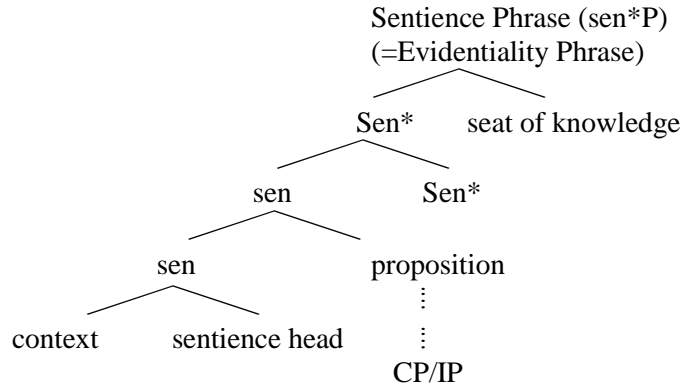


As for the ‘utterance content’ in (307) and (308), Speas and Tenny propose that it is realized as a Sentence/Evidentiality projection<sup>123</sup>. It also has inner and outer projections, as in (309).

<sup>122</sup> I do not go into the detail, because it does not matter in the following arguments.

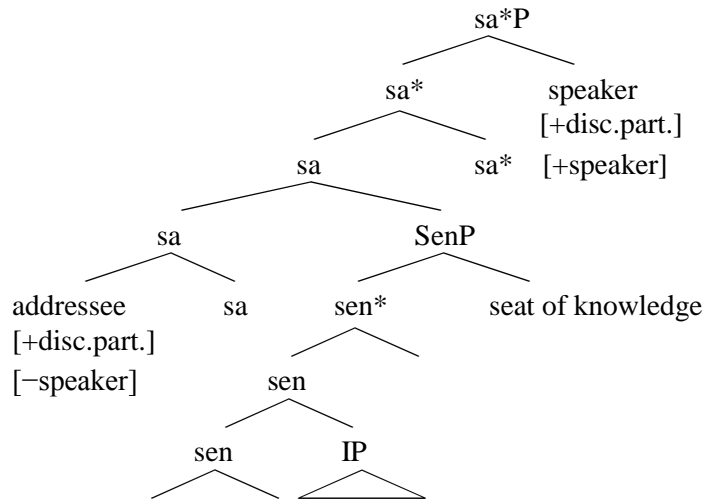
<sup>123</sup> The terms, ‘Sentence/Evidentiality projection’, ‘Evidentiality projection’, and ‘Sentence Projection’ are interchangeably used in the following.

(309) The Evidentiality Projection (Tenny 2006: 261(42))



Here, the ‘seat of knowledge’ is the individual who is “responsible for evaluating the truth of a proposition based on some kind of evidence, or who holds the evidence for the truth of the proposition in their head” (Tenny 2006:259). Combining the Speech Act projection and the Sentence/Evidentiality projection, we obtain the following structure for declarative sentences.

(310) Declarative (based on Tenny 2006: 263(48))



Third, let us look at the idea of a feature-driven minimalist syntax. In Chomsky (1995) and others, movement is associated with checking of features. An element (Probe) with an uninterpretable feature seeks an element (Goal) with a feature which matches the Probe’s feature

which is the closest to the Probe in the Probe's c-commanding domain. If the Probe finds a Goal, the Goal moves to the specifier position of the projection of the Probe and checking of features (matching and deletion, if possible) occurs.<sup>124</sup>

Based on these ideas, Tenny (2006) makes the following proposal.

- (311)(i) Experiencer predicates lexically mark their experiencer argument with features [+sentient] and [+discourse participant].
- (ii) The [+sentient] feature is checked at the specifier of the Sentience/Evidentiality Projection and the [+discourse participant] feature is checked at the specifier of the Speech Act Projection.

In her analysis, Experiencer adjectives such as *samu-i* 'be cold' and *uresi-i* 'be glad' assign features [+sentient] and [+discourse participant] to their Experiencer argument. The Experiencer NP with [+sentient] and [+discourse participant] raises to [Spec,Sen/EvidP] to check the feature [+sentient], and further raises to the closest [Spec,SAP] to check the feature [+discourse participant], if possible. (Here, I use SAP to collectively denote saP and sa\*P.) The specifier position of SAP which is closest to Sen/EvidP is the position for the speaker in declaratives and the hearer in interrogatives (see (307) and (308)), and so the Experiencer restriction emerges.

Let us see how this proposal accounts for the Experiencer restriction in root clauses in reportive style. For example, let us consider (312).

- (312) (Situation: Yoshio says to Hanako as follows.)

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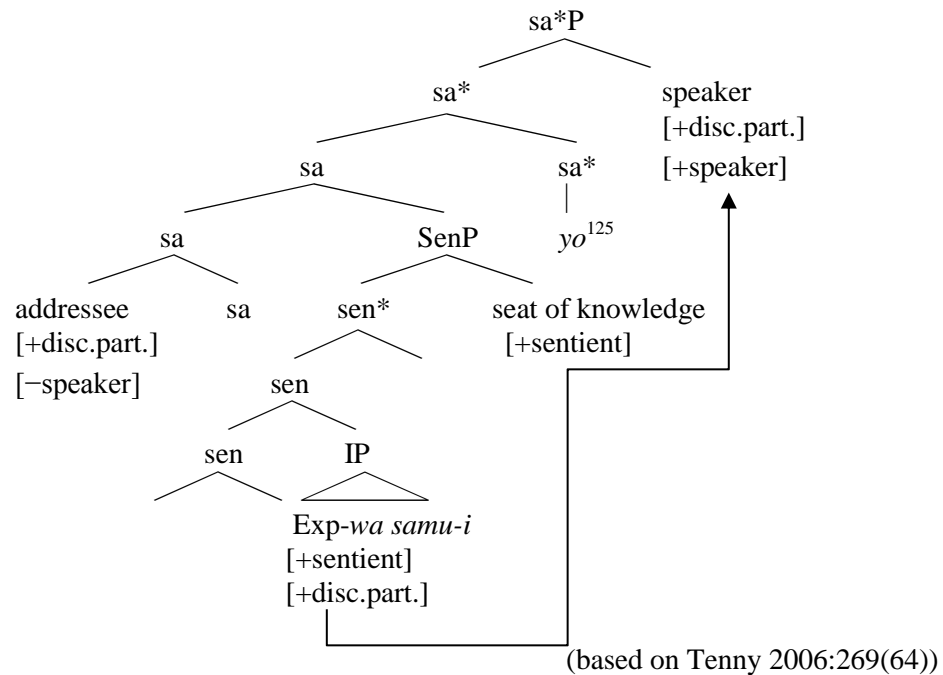
<sup>124</sup> The details differ among analyses. In recent analyses such as Chomsky (2000, 2001), instead of the notion of the checking domain, the EPP-feature is supposed to be the cause of movement. In either analysis, what triggers movement is feature-checking.



- a. *boku-wa samu-i yo.*  
 I-Top cold-Pred.be.Pres SFP  
 ‘I am cold.’
- b. #*Tarô-wa samu-i yo.*  
 Taro-Top cold-Pred.be.Pres SFP  
 (Intended:) ‘Taro is cold.’

The Experiencer adjective *samu-i* assigns features [+sentient] and [+discourse participant] to the experiencer arguments *boku* and *Tarô* in (312a,b), respectively. For checking of the [+sentient] feature, the Experiencer NP raises to [Spec, Sen/EvidP]. Then, for checking of the [+discourse participant] feature, the Experiencer NP raises to the closest [Spec,SAP], as in (313).

(313)



<sup>125</sup> Tenny supposes that sentence-final particle *yo* is a head of *sa\**. It is based on Kuroda’s (1973) observation that *yo* is acceptable only in reporative style.

In the case of declarative clauses, the closest specifier position of SAP is the position of the speaker as shown in (313), so *boku* ‘I’ is legitimate, but *Tarô* is not. This is why in declarative root clauses in reportive style only the speaker is allowed as an Experiencer.

### 6.3.2 A problem on assignment of [+discourse participant] to the Experiencer argument

In the previous section, we saw that in Tenny’s analysis the Experiencer is restricted to the speaker as a result of assignment of the morphosyntactic feature [+discourse participant] to the Experiencer by Experiencer adjectives. I presented an example of a declarative root clause in reportive style to show how her analysis works. The use of the feature [+discourse participant], however, has a serious problem: as we will see in this section, it works well only with clauses in which the Experiencer is restricted to a speaker or addressee.

As reviewed in the previous section, Tenny makes the following claim.

- (314) Experiencer predicates lexically mark their experiencer argument with the morphosyntactic features [+sentient, +discourse participant].

Tenny claims that the Experiencer restriction is lifted if the Experiencer does not raise to [Spec, SAP] to check the feature [+discourse participant] (I present her argument below). However, her proposal that Experiencer adjectives assign the feature [+discourse participant] to their Experiencer argument actually makes a different prediction: Experiencer arguments must be first person or second person whether feature-checking occurs or not. It is because pronouns which have the feature [+discourse participant] are first and second person pronouns (see (306)). Third person pronouns have a feature [–discourse participant], so they cannot bear the feature [+discourse participant].

Can third person pronouns be Experiencer arguments? Yes, in many cases. For example, let us consider *no*-complement clauses of a verb of knowing. As seen in previous chapters, the Experiencer restriction is lifted in the environment. As in (315), a third person Experiencer is allowed in such a *no*-complement clause.

- (315) Hanako-wa [kare-ga uresi-k-at-ta-no]-o sit-tei-ru.  
 Hanako-Top [he-Nom glad-Pred-be-Past-Fin]-Acc know-Perf-Pres  
 ‘Hanako knows that he was glad.’

The third person pronoun *kare* has feature [–discourse participant], so the Experiencer adjective *uresi-i* ‘be glad’ cannot mark it with feature [+discourse participant]. Therefore, according to proposal (314), sentence (315) should be unacceptable, contrary to the fact. Clearly, this kind of reasoning applies to all environments where the Experiencer restriction is lifted.

Let us look at Tenny’s explanation of sentences in which third-person Experiencer arguments appear. Let us consider a declarative root clause in nonreportive style, (316).

- (316) kare wa samui  
 He Top cold-Pres  
 ‘He is cold’ (non-reportive) (Tenny 2006: 271(66))

In this sentence, the Experiencer argument of Experiencer adjective *samu-i* ‘be cold’ is a third-person pronoun, *kare* ‘he’. Tenny’s own explanation of the acceptability of (316) is as follows (p.270).

Kuroda (1973) noted that the person constraint on *samui* holds in the reportive mode but not in the non-reportive mode. We analyze a sentence in the non-reportive mode as having no

First/Second Person Phrase [= SAP]. The experiencer NP that bears the features [+sentience, +discourse participant] assigned by *samui* can raise to the Sentience/Evidentiality projection but cannot raise from there to a Speech Act projection. The [+discourse participant] feature cannot be activated, which means the person constraint cannot be activated.

It is not clear what is meant by the last sentence. It seems that Tenny supposes that the feature [+discourse participant] “cannot be activated” unless the Experiencer NP raises to [Spec,SAP] to check it. But what does ‘activation’ here mean? Note that the feature [+discourse participant] on an NP is interpretable (which restricts the referent of the NP to discourse participants, namely a speaker or an addressee), and in general, interpretable features need no checking for their interpretability in minimalist syntax. Therefore, whether checking of the feature [+discourse participant] happens or not, the Experiencer should be restricted to the speaker or the addressee in her system.

In a nutshell, assignment of the morphosyntactic feature [+discourse participant] to an Experiencer argument by Experiencer adjectives leads to the restriction of the Experiencer to a speaker or an addressee. Such a proposal can explain the Experiencer restriction in root clauses in reportive style, where the Experiencer is restricted to a speaker (in the case of declaratives) or an addressee (in the case of interrogatives). In other environments, however, the Experiencer may be a non-discourse participant, and the proposal fails.

#### 6.4 The reflexive subject requirement for Experiencer adjectives (Fujii 2006, 2007)

This section considers a unified analysis of the Experiencer restriction and exceptional Case-marking (ECM) of the Theme argument of Experiencer adjectives<sup>126,127</sup> in *to*-complement clauses of verbs of thinking and feeling proposed by Fujii (2006, 2007).

A Theme argument of Experiencer adjectives, if present, is usually marked only with a Nominative Case marker (and I considered only such a case in the previous chapters). But it is marked with a Nominative Case marker or an Accusative Case marker in *to*-complement clauses of *omo-u* ‘think’ and *kanzi-ru* ‘feel’. Fujii (2006, 2007) argues that the Experiencer argument of Experiencer adjectives<sup>128</sup> in these *to*-complement clauses are obligatorily controlled (OC) PRO (if an accusative-marked Theme argument is present), or reflexive *zibun* ‘self’ or its phonetically null counterpart (if Nominative-marked Theme argument is present).<sup>129</sup> Extending this finding, he makes the following proposal (he calls it the ‘reflexive subject requirement for SubjExp predicates’):

(317) **Reflexive subject requirement for Experiencer adjectives**

Experiencer adjectives lexically select as their Experiencer argument

- (i) OC PRO,
- (ii) reflexive *zibun*, or
- (iii) the null counterpart of *zibun*

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<sup>126</sup> A terminological note: As in the previous sections, I use the term ‘Experiencer adjectives’ in this section. However, Fujii himself uses the term ‘Subject Experiencer (SubjExp) adjectives’ in his papers, borrowing it from Pesetsky (1995). Both terms ‘Experiencer adjectives’ and ‘SubjExp adjectives’ refer to the same class of adjectives.

<sup>127</sup> Many Experiencer adjectives (e.g., *urayamasi-i* ‘be envious of’, *uresi-i* ‘be glad’) are ambiguous between intransitive and transitive adjectives.

<sup>128</sup> A terminological note: In the following, I use the term Experiencer adjectives, as in the previous sections, but Fujii himself uses the term ‘Subject Experiencer (SubjExp) adjectives’ in his papers, borrowing it from Pesetsky (1995). Both terms refer to the same class of adjectives.

<sup>129</sup> I do not agree with his judgment on the non-ECM case, but the difference is left aside to avoid irrelevant complications.

And he claims that it explains not only the Experiencer restriction in the *to*-complement clauses of *omo-u* and *kanzi-ru*, but also the Experiencer restriction in root clauses and *to*-complement clauses of verbs of saying and asking.

In the following, I first present his analysis in sections 6.4.1-6.4.4. Then, in section 6.4.5, I argue that the reflexive subject requirement, (317), is not consistent with the fact that overt non-reflexive Experiencer is available in, for example, root clauses and *no*-complement clauses of verbs of believing and knowing. Also I argue that the claim that (317) explains the Experiencer restriction in root clauses is problematic because the explanation predicts that the Experiencer in *no*-complement clauses of verbs of believing and knowing is also restricted, contrary to the fact. These problems suggest that Experiencer adjectives do not have the selectional property proposed in (317). Finally, in section 6.4.6, I consider the data on the Experiencer restriction discussed in sections 6.4.1-6.4.5 with the situation-based and feature-checking analyses.

#### 6.4.1 Case-marking of the Theme argument of Experiencer adjectives

This section shows that a Theme argument of Experiencer adjectives, if present, is usually not marked with an Accusative Case marker, but it can be so in *to*-complement clauses of *omo-u* ‘think’ and *kanzi-ru* ‘feel’.

Adjectives in Japanese cannot mark their object with an accusative Case (Kuno 1973<sup>130</sup> and others). In root clauses (318a-d), the Theme argument of Experiencer adjectives is marked with a Nominative Case marker.

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<sup>130</sup> Kuno (1973:81) claims that all transitive adjectives mark their object with *ga* (the Nominative Case marker in Japanese). However, as the following example shows, a transitive adjective *kuwasi-i* ‘be knowledgeable (about)’ marks its object with a Dative Case.

(i) kare-wa kodaisi-ni kuwasi-i.  
he-Top ancient.history-Dat knowledgeable-Pred.be.Pres

- (318) a. watasi-wa watasi-no tomodati- $\{ga/*o\}$  urayamasi-i.  
 I-Top I-Gen friend- $\{Nom/*Acc\}$  envious-Pred.be.Pres  
 ‘I am envious of my friend.’
- b. watasi-wa Hiroshima- $\{ga/*o\}$  natukasi-i.  
 I-Top Hiroshima- $\{Nom/*Acc\}$  nostalgic-Pred.be.Pres  
 ‘I miss Hiroshima.’
- c. watasi-wa Mari- $\{ga/*o\}$  nikurasi-i.  
 I-Top Mari- $\{Nom/*Acc\}$  hate<sub>Adj</sub>-Pred.be.Pres  
 ‘I hate Mari.’
- d. watasi-wa Hanako-no koto- $\{ga/*o\}$  uresi-i.  
 I-Top Hanako-Gen event- $\{Nom/*Acc\}$  glad-Pred.be.Pres  
 ‘I am glad about Hanako’s news (good fortune, success, ..)’

Similarly, the Theme argument is marked with a Nominative Case in *to*-complement clauses of verbs of saying and knowing:

- (319) a. Hanako<sub>i</sub>-wa [ $e_i$  watasi-no koto- $\{ga/*o\}$  uresi-i-to] it-tei-ta.  
 Hanako<sub>i</sub>-Top [ $e_i$  I-Gen event- $\{Nom/*Acc\}$  glad-Pred.be.Pres-Rep] say-Perf-Past  
 ‘Hanako<sub>i</sub> said that she<sub>i</sub> was glad about my news (good fortune, success, ..)’
- b. Hanako-wa [watasi-ga Mari- $\{ga/*o\}$  nikurasi-i-to] sit-tei-ta.  
 Hanako-Top [I-Nom Mari- $\{Nom/*Acc\}$  hate<sub>Adj</sub>-Pred.be.Pres-Rep] know-Perf-Past  
 ‘Hanako knew that I hated Mari.’

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‘He is knowledgeable about ancient history.’

However, it is marked with a Nominative or an Accusative Case marker in *to*-complement clauses of *omo-u* ‘think’ and *kanzi-ru* ‘feel’, as shown in (320).

- (320) a. Hiroshi<sub>i</sub>-wa [ $\Delta_i$  Mari- $\{ga/o\}$           nikurasi-i-to]          {omot/kanzi}-tei-ta  
           Hiroshi<sub>i</sub>-Top [ $\Delta_i$  Mari- $\{Nom/Acc\}$  hate<sub>Adj</sub>-Pred.be.Pres-Rep] {think/feel}-Perf-Past  
           ‘Hiroshi<sub>i</sub> {thought/felt} that he<sub>i</sub> hates Mari.’          (based on Fujii 2007: 1(1b,c))
- b. Hanako<sub>i</sub>-wa [  $\Delta_i$  watasi-no koto- $\{ga/o\}$           uresi-i-to]          omot-tei-ta.  
           Hanako<sub>i</sub>-Top [  $\Delta_i$  I-Gen          event- $\{Nom/Acc\}$  glad-Pred.be.Pres-Rep] think-Perf-Past  
           ‘Hanako<sub>i</sub> thought that she<sub>i</sub> was glad about my news (good fortune, success, ..)’

In the following, I call the construction in which a Theme argument of an Experiencer adjective in a *to*-complement clause of *omo-u* ‘think’ or *kanzi-ru* ‘feel’ is marked with a non-Accusative Case marker the ‘non-exceptionally Case marked *to-omou/kanziru* construction (non-ECM TO/KC)’, and the construction in which a Theme argument of an Experiencer adjective in a *to*-complement clause of *omo-u* or *kanzi-ru* is marked with an Accusative Case marker the ‘long-distance ECM construction’<sup>131</sup>. They are schematically represented in (321).

- (321) a. **the non-ECM *to-omou/kanziru* construction (non-ECM TO/KC)**  
           Subj [ Exp-Nom Theme-**Nom** ExpAdj *to* ] {think/feel}
- b. **the long-distance ECM construction**  
           Subj [ Exp<sup>132</sup>          Theme-**Acc** ExpAdj *to* ] {think/feel}

<sup>131</sup> The term, ‘long-distance ECM’, is borrowed from Fujii.

<sup>132</sup> The Case marker of this Experiencer argument is not shown here because the argument is always phonetically null.



## 6.4.2 The Experiencer argument in the long-distance ECM construction

This section presents Fujii's analysis of the Experiencer argument in the long-distance ECM construction.

### 6.4.2.1 The Experiencer restriction in the long-distance ECM construction

The Experiencer argument in the long-distance ECM construction is restricted in an interesting way: it must be bound to the subject of the verb of thinking/feeling, namely the attitude holder, and must be phonetically null. Let us look at (322a,b) for illustration. They contain an accusative-marked Theme, so they are examples of the long-distance ECM construction. (322a) shows that the Experiencer must be bound to the subject to the matrix verb, *Hanako*. (322b) shows that the binding relation is insufficient to license the long-distance ECM construction. The Experiencer needs to be phonetically null.

- (322) a. Hanako<sub>i</sub>-wa [{ $\Delta_i$ /\* $\text{Tarô}$ -ga} watasi-no koto-o uresi-i-to]  
Hanako<sub>i</sub>-Top [{ $\Delta_i$ /\* $\text{Taro}$ -Nom} I-Gen event-Acc glad-Pred.be.Pres-Rep]  
omot-tei-ru.  
think-Perf-Pres  
'Hanako<sub>i</sub> thinks that {she<sub>i</sub>/\* $\text{Taro}$ } is glad about my news (good fortune, success, ..).'
- b. Atsuko<sub>i</sub>-wa [{ $\Delta_i$ /\* $\text{zibun}_i$ -ga/\* $\text{kanozyo}_i$ -ga} watasi-no tomodati-o  
Atsuko-Top self-Nom she -Nom my friend-Acc  
urayamasi-i -to] omotte ita  
envious -Prs -C thinking was  
'Atsuko<sub>i</sub> thought that { $\Delta_i$ , ?\*self<sub>i</sub>, \*she<sub>i</sub>} was envious of my friend.'

(Fujii 2007: 4(6a))

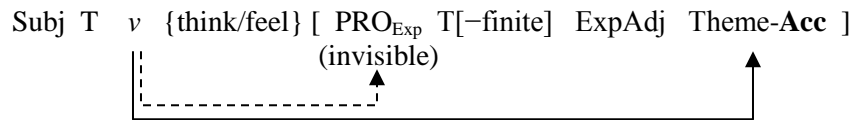
### 6.4.2.2 The Experiencer argument in the long-distance ECM construction is OC PRO

Why is the Experiencer argument in the long-distance ECM construction restricted as exemplified in (322)? Fujii (2006, 2007) claims as follows.

(323) The Experiencer argument in the long-distance ECM construction is always OC PRO.

It explains not only the binding by the subject of the verb of thinking/feeling but also the long-distance ECM: if OC PRO is invisible for Minimality (Bhatt 2005), the little *v* in the matrix clause can mark the Theme argument in the *to*-complement clause, as in (324).

(324) **Case assignment in the long-distance ECM construction (in the head-initial word order)**



As shown in (324), the embedded tense in the long-distance ECM construction is T[-finite], so it does not assign the Theme or the Experiencer argument the Nominative Case (it is argued that Nominative Case is assigned by T[+finite] (Takezawa 1987, Koizumi 1995)).<sup>133</sup> That the embedded clause in the long-distance ECM construction does not contain T[+finite] is consistent with the fact that the predicate in the embedded clause in the long-distance ECM construction does not show inflection in tense, as the following contrasting pair indicates:

(325) a. **the long-distance ECM construction**

<sup>133</sup> Another possibility is that the embedded clause does not contain TP and so Nominative Case is not assigned within the clause.

Hiroshi<sub>i</sub>-wa [ Δ<sub>i</sub> boku-no kazoku-o nikurasi-*{i/\*k-at-ta}*-to]  
 Hiroshi-Top [ Δ<sub>i</sub> I-Gen family-Acc hate<sub>Adj</sub>-*{Pred.be.Pres/Pred-be-Past}*-Rep]  
 omot-tei -ru  
 think-Perf-Pres  
 ‘Hiroshi thinks that he *{hates/\*hated}* my family.’

**b. the non-ECM *to-omou/kanziru* construction**

Hiroshi<sub>i</sub>-wa [ Δ<sub>i</sub> boku-no kazoku-ni kuwasi-*{i/kat-ta}*-to]  
 Hiroshi-Top [ Δ<sub>i</sub> I-Gen family-Dat familiar-*{Pred.be.Pres/Pred-be-Past}*-Rep]  
 omot-tei-ru  
 think-Perf-Pres  
 ‘Hiroshi thinks that he *{is/was}* knowledgeable about my family.’

As (325) shows, the long-distance ECM construction does not allow the past tense form. It suggests that the long-distance ECM construction does not have T[+finite]. The fact that *i*-ending (it is glossed as *Pred.be.Pres* throughout this dissertation) is allowed in this environment does not contradict with this supposition. It is because Japanese tense infection is impoverished and the present tense form and the nonfinite or tenseless form are the same for these adjectives (both are *-i*) (see e.g., Kusumoto 1999, Kawai 2006a).

In the next section, let us look at some pieces of evidence that the Experiencer argument is OC PRO which Fujii provides.

**6.4.2.3 Evidence for the claim that the Experiencer argument is OC PRO**

To illustrate that the Experiencer argument in the long-distance ECM construction is OC PRO, let us compare the Experiencer subject of Experiencer adjectives in the long-distance ECM

construction and a phonetically null pronoun *pro* which is a non-Experiencer subject of a non-Experiencer adjective. In the following,  $\Delta$  and  $\emptyset$  represent the Experiencer argument in the long-distance ECM construction and a phonetically null pronoun, respectively.

First,  $\Delta$  must be c-commanded by its antecedent, while  $\emptyset$  does not have to be c-commanded by its antecedent. For example, let us look at sentences (326a,b). (326a) and (326b) embed a non-Experiencer adjective *kibisi-i* ‘be hard’ and an Experiencer predicate *nikurasi-i* ‘be envious of’, respectively. In these sentences, the NP *Hiroshi* in the matrix subject *Hiroshi-no zosyū* ‘Hiroshi’s assistant’ does not c-command the embedded subject. Sentence (326a) illustrates that *Hiroshi* can be the antecedent of  $\emptyset$ , while sentence (326b) illustrates that *Hiroshi* cannot be the antecedent of  $\Delta$ .

- (326) a. Hiroshi<sub>i</sub>-no zosyū<sub>j</sub>-wa [ $\emptyset$ <sub>i/j</sub> Atsuko-ni kibisi-i-to] omotta.  
 Hiroshi’s assistant-Top Atsuko-Dat hard-Prs-C thought  
 ‘Hiroshi<sub>i</sub>’s assistant<sub>j</sub> found that {Hiroshi<sub>i</sub>, Hiroshi’s assistant<sub>j</sub>} was hard on Atsuko.’
- b. Hiroshi<sub>i</sub>-no zosyū<sub>j</sub>-wa [ $\Delta$ <sub>\*i/j</sub> Atsuko-o nikurasi-i-to] omotta.  
 Hiroshi’s assistant-Top Atsuko-Acc hard-Prs-C thought  
 ‘Hiroshi<sub>i</sub>’s assistant<sub>j</sub> found that {Hiroshi<sub>i</sub>, Hiroshi’s assistant<sub>j</sub>} hated Atsuko.’

(Fujii 2006: 161 (8a,b))

Second,  $\emptyset$  can be bound by a non-local antecedent, whereas  $\Delta$  cannot. Let us look at sentences (327a,b), that deeply embed a non-Experiencer adjective *kuwasi-i* ‘be familiar’ and an Experiencer adjective *natukasi-i* ‘be nostalgic’, respectively. The subject of the non-Experiencer adjective in (327a),  $\emptyset$ , allows a non-local antecedent *Mari*, as shown in (327a), while the subject of the Experiencer adjective in (327a),  $\Delta$ , does not, as shown in (327b).

- (327) a. Mari<sub>i</sub>-wa Hiroshi<sub>j</sub>-ni [ $\emptyset_{ij}$  ano mati-ni kuwasi-i-to] omotte hosikatta  
 Mari-Top Hiroshi-Dat that town-Dat familiar-Prs-C to.think wanted  
 ‘Mari<sub>i</sub> wanted Hiroshi<sub>j</sub> to think that {she<sub>i</sub>, he<sub>j</sub>} knew a lot about that town.’
- b. Mari<sub>i</sub>-wa Hiroshi<sub>j</sub>-ni [ $\Delta_{*ij}$  ano mati-o natukasi-i-to] omotte hosikatta  
 Mari-Top Hiroshi-Dat that town-Acc nostalgic-Prs-C to.think wanted  
 ‘Mari<sub>i</sub> wanted Hiroshi<sub>j</sub> to think that {\*she<sub>i</sub>, he<sub>j</sub>} missed that town.’

(Fujii 2006: 161f (9a,b))

It is expected if  $\Delta$  and  $\emptyset$  are OC PRO and *pro*, respectively.

Third, look at sentences (328a,b) in which an NP of the form NP-*dake* ‘only NP’ is the antecedent of  $\Delta$  and  $\emptyset$ . As they show,  $\Delta$  must be interpreted covariantly (i.e., as in interpretation (i)), while  $\emptyset$  can be interpreted covariantly and invariantly (i.e., as in interpretation (ii)).

- (328) a. Hiroshi<sub>i</sub>-dake-ga [ $\Delta_i$  Mari-no koto-o nikurasi-i-to] omot-tei-ru  
 Hiroshi-only-Nom Mari-Gen thing-Acc hate-Prs-C think-Asp-Prs  
 ‘Only Hiroshi<sub>i</sub> thinks that [ $\Delta_i$  hates Mari].’
- i. Only Hiroshi is an  $x$  such that  $x$  thinks that  $x$  hates Mari.  
 ii. \*Only Hiroshi is an  $x$  such that  $x$  thinks Hiroshi hates Mari.
- b. Hiroshi<sub>i</sub>-dake-ga [ $\emptyset_i$  Mari-no koto-ni kuwasi-i-to] omot-tei-ru  
 Hiroshi-only-Nom Mari-Gen thing-Dat familiar-Prs-C think-Asp-Prs  
 ‘Only Hiroshi<sub>i</sub> thinks that [ $\Delta_i$  hates Mari].’
- i. Only Hiroshi is an  $x$  such that  $x$  thinks that  $x$  knows a lot about Mari.  
 ii. Only Hiroshi is an  $x$  such that  $x$  thinks Hiroshi knows a lot about Mari.

(Fujii 2006: 162 (11a,b))

This indicates that  $\Delta$  must be interpreted as a bound variable, while  $\emptyset$  not. It is consistent with the claim that  $\Delta$  is OC PRO while  $\emptyset$  is *pro*.

Fourth,  $\Delta$  must be interpreted *de se*, while  $\emptyset$  does not have to be so. For example, sentence (329a) is felicitous only if Mari had a thought *de se*, while sentence (329b) is felicitous even if Mari had a thought which is not *de se*.

- (329) a. Mari<sub>i</sub>-wa [ $\Delta$ <sub>i</sub> Taro-o nikurasi-i-to] omotta  
 Mari-Top Taro-Acc hat-Prs-C thought  
 ‘Mari<sub>i</sub> thought that [ $\Delta$ <sub>i</sub> hated Taro].’
- b. Mari<sub>i</sub>-wa [ $\emptyset$ <sub>i</sub> Taro-ni kibisi-i-to] omotta  
 Mari-Top Taro-Dat hard-Prs-C thought  
 ‘Mari<sub>i</sub> thought that [ $\emptyset$ <sub>i</sub> was hard on Taro].’

(Fujii 2006: 162 (12a,b))

This is expected if  $\Delta$  is OC PRO, since OC PRO is interpreted *de se* (Chierchia 1989).

Based on these pieces of evidence, Fujii identifies  $\Delta$  as OC PRO.

#### 6.4.3 The Experiencer restriction in the non-ECM *to-omou/kanziru* construction

Fujii claims that the Experiencer is restricted also in the non-ECM *to-omou/kanziru* construction. I do not agree with him in this respect (see the previous chapters), but I follow his judgment in this section for the sake of presentation.

Let us look at (330). The Nominative Case marking on the Theme argument *Nagoya* shows that it is an example of the non-ECM *to-omou/kanziru* construction.

- (330) Mari<sub>i</sub>-wa [Hiroshi<sub>j</sub>-ni [ zibun<sub>ij</sub>-ga Nagoya-ga natukasi-i-to] omotte] hosikatta  
 Mari-Top Hiroshi-Dat self-Nom Nagoya-Nom nostalgic-Prs-C to.think wanted  
 ‘Mari<sub>i</sub> wanted Hiroshi<sub>j</sub> to think that {she<sub>i</sub>, he<sub>j</sub>} missed Nagoya.’

(Fujii 2007: 15(36))

The goodness of (330) shows that the Experiencer argument of the non-ECM *to-omou/kanziru* construction can be the reflexive *zibun* ‘self’.

Next, let us compare (331) and (332), in which the Experiencer arguments are phonetically null.

(331) **Non-ECM *to-omou/kanziru* construction**

- Mari<sub>i</sub>-wa [Hiroshi<sub>j</sub>-ni [ e<sub>ij</sub> Nagoya-ga natukasi-i-to] omotte] hosikatta  
 Mari-Top Hiroshi-Dat Nagoya-Nom nostalgic-Prs-C to.think wanted  
 ‘Mari<sub>i</sub> wanted Hiroshi<sub>j</sub> to think that {she<sub>i</sub>, he<sub>j</sub>} missed Nagoya.’

(Fujii 2007: 15(34))

(332) **Long-distance ECM construction**

- Mari<sub>i</sub>-wa [Hiroshi<sub>j</sub>-ni [ Δ\*<sub>ij</sub> Nagoya-o natukasi-i-to] omotte] hosikatta  
 Mari-Top Hiroshi-Dat Nagoya-Acc nostalgic-Prs-C to.think wanted  
 ‘Mari<sub>i</sub> wanted Hiroshi<sub>j</sub> to think that {\*she<sub>i</sub>, he<sub>j</sub>} missed Nagoya.’

(Fujii 2007: 15(33))

They show that the null Experiencer argument Δ in long-distance ECM example (332) does not allow long-distance antecedents (as standard OC PRO), while the null Experiencer argument in the non-ECM *to-omou/kanziru* example (331) does. The latter allows the same interpretations as reflexive *zibun* (compare (331) and (330)).

Based on these data, Fujii supposes as follows.

- (333) The Experiencer argument in the non-ECM *to-omou/kanziru* construction is *zibun* or the phonetically null counterpart of *zibun*.

#### 6.4.4 The reflexive subject requirement (Fujii 2007) and the Experiencer restriction

Extrapolating the above claims (323) and (333), Fujii makes the following proposal (which he calls the ‘reflexive subject requirement’):

(334) **The reflexive subject requirement for Experiencer adjectives**

Experiencer adjectives lexically select as their Experiencer subject

- (i) OC PRO,
- (ii) reflexive *zibun*, or
- (iii) the phonetically null counterpart of *zibun*

And he claims that it explains the Experiencer restriction in root clauses and *to*-complement clauses of verbs of saying and thinking (in the case of the non-ECM construction), as well as the Experiencer restriction in the long-distance ECM construction.

To account for the Experiencer restriction in root clauses and *to*-complement clauses of verbs of saying and thinking, Fujii claims that the OC PRO is bound to the Speech Act head (when there is no intervening element). Concretely, he assumes the following structures for root clauses and *to*-complement clauses which contain an Experiencer adjective.

(335) a. **The root clause**

$[_{SaP} Sa^{\circ}_{(+author-@)_i} [_{TP} PRO_i T^{\circ} [_{AP} t_{PRO} Adj \dots$

(Fujii 2006: 163(14))



b. **The *to*-complement clause except in the long-distance ECM construction**

(NP<sub>i</sub> says/thinks) [<sub>SaP</sub> Sa<sup>o</sup><sub>(+author)i</sub>] [<sub>TP</sub> *zibun*<sub>i</sub>/e<sub>i</sub> T<sup>o</sup>] [<sub>AP</sub> t<sub>*zibun/e*</sub> Adj ...

c. **The *to*-complement clause in the long-distance ECM construction**

(NP<sub>i</sub> thinks/feels) [<sub>SaP</sub> Sa<sup>o</sup><sub>(+author)i</sub>] [<sub>TP</sub> PRO<sub>i</sub> T<sup>o</sup>] [<sub>AP</sub> t<sub>PRO</sub> Adj ...

(based on Fujii 2006: 163(13))

Here, the feature [+author] represents the attitude holder. In the case of root clauses, he/she is the external speaker<sup>134</sup>.

One might wonder why an overt Experiencer NP in root clauses such as (336) does not block Sa<sup>o</sup>'s binding of the OC PRO and lift the Experiencer restriction.

- (336) \*Tarô-wa kanasi-i yo  
 Taro-Top sad-Pred.be.Pres SFP  
 (Intended:) 'Taro is sad.'

To answer this question, Fujii supposes that surface experiencers in root clauses are left-dislocated above the Speech Act projection. If it is correct, surface experiencers would not intervene Sa<sup>o</sup>'s local binding of the OC PRO, and the Experiencer restriction would emerge.

There is a large gap between the claims that the Experiencer argument in the long-distance ECM construction is OC PRO and that the Experiencer argument in the non-ECM *to-omou/kanziru* construction is *zibun* or its null counterpart and the reflexive subject requirement (334). The former claims are about Experiencer arguments in special environments, while the latter (the reflexive subject requirement) is about all Experiencer arguments. In the following sections, I argue that this extrapolation and the account of the Experiencer restriction is

<sup>134</sup> The external speaker (Sells 1987:456) is the person who utters the sentence.

problematic: (i) this extrapolation does not fit with the ‘surface Experiencer’ NP which can appear in root clauses and other environments, and (ii) the account of the Experiencer restriction predicts that *no*-complement clauses of verbs of believing and knowing restrict the Experiencer restriction, contrary to the fact.

### 6.4.5 Problems of this analysis

#### 6.4.5.1 Root clauses

First, before showing that the reflexive subject requirement is problematic, let us revise Fujii’s analysis of the root clause (335a), because it has another problem, which is tangential to the correctness of the reflexive subject requirement. The point is that the Experiencer subject in root clauses cannot be OC PRO because the tense in root clauses is [+finite], different from the embedded tense in the long-distance ECM construction, which is [–finite]. It is clear by the fact that root clauses allow present/past-tense inflection as in (337), different from the *to*-complement clause in the long-distance ECM construction, (325a).

- (337)    watasi-wa uresi-{i/k-at-ta}.
- I-Top        glad-{Pred.be.Pres/Pred-be-Past}
- ‘I {am/was} glad.’

Therefore, the proposed structure (335a), in which the Experiencer subject is OC PRO, is not tenable. To satisfy both the Case condition and the reflexive subject requirement for Experiencer

adjectives, the Experiencer argument in root clauses must be *zibun* or its null counterpart, as in (338).<sup>135</sup> Here, *e* represents the null counterpart of *zibun*.

(338)  $[_{SaP} Sa^{\circ}_{(+author-@)_i} [_{TP} \{zibun_i/e_i\} T^{\circ} [_{AP} \{t_{zibun}/t_e\} Adj] \dots$

There is a big difference between the root clause and the environments investigated in the previous three sections, namely the long-distance ECM construction and the non-ECM *to-omou/kanziru* construction. It is the acceptability of a ‘surface Experiencer’ NP. Note that a first-person pronoun is acceptable as a ‘surface Experiencer’ NP, as in (339).

(339) *watasi*-{*wa/ga*} *uresi-i*.  
 I-{Top/Nom} glad-Pred.be.Pres  
 ‘I am glad.’

If analysis (338) is correct, sentences like (339) must have a null counterpart of *zibun* as the Experiencer subject, and the ‘surface Experiencer’ NP must be a non-argument.

(340) *watasi*-{*wa/ga*} *e* *uresi-i*.  
 I-{Top/Nom} glad-Pred.be.Pres  
 ‘I am glad.’

Can the null counterpart of *zibun* be bound to the ‘surface Experiencer’ NP (as well as the Speech Act head)? If the answer is yes, the Experiencer restriction would emerge. Let us look at (341), for example.

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<sup>135</sup> I put aside the question of whether the reflexive raises to [Spec,TP].

- (341) \*Tarô<sub>i</sub>-{wa/ga}  $e_i$  uresi-i.  
 Taro-{Top/Nom} glad-Pred.be.Pres  
 (Intended:) ‘Taro is glad.’

If the null counterpart of *zibun* can be bound to the ‘surface Experiencer’ NP, the sentence should allow the interpretation that Taro is glad, contrary to the fact. Therefore, in this analysis, (342) must hold.

- (342) The ‘surface Experiencer’ NP is not a potential binder of the null counterpart of *zibun*.

This analysis of root clauses with a ‘surface Experiencer’ NP is, however, problematic: it does not account for the fact that a ‘surface Experiencer’ NP and an Experiencer subject *zibun* cannot co-occur. Note that *zibun* and its null counterpart are interchangeable in *to*-complement clauses of the non-ECM *to-omou/kanziru* construction, as shown in (330) and (331). If a null counterpart of *zibun* is present in root clauses with a ‘surface Experiencer’ NP as in (340), it is expected that *zibun* can appear in the same place as *e*. But the expectation is not borne out. Such a replacement yields an unacceptable sentence, as shown in (343).

- (343) \*watasi-{wa/ga} zibun-ga uresi-i.  
 I-{Top/Nom} self-Nom glad-Pred.be.Pres  
 (Intended:) ‘I am glad.’

It is not clear how the proposal explains the badness of sentences like (343), while keeping (340) intact. (It should be noted that in Japanese sentences with multiple *ga*-marked NPs are unexceptional (Kuno 1973, 1978, Heycock 1993, Takahashi 1994, Ura 1996, 1999, Doron and

Heycock 1999, Akiyama 2004, Koizumi 2008, among others). So it is implausible that there is a PF constraint which forbids multiple appearances of *ga*-marked NPs in a sentence.)

#### 6.4.5.2 *No-complement clauses*

Another problem of the proposal is that it imposes a too severe restriction on the Experiencer argument. Because the reflexive subject requirement is a condition on the inherent selectional property of Experiencer adjectives, it is difficult to explain the fact that there are environments where the Experiencer restriction is absent.<sup>136</sup> In this section, I consider *no-complement clauses* and argue that the reflexive subject requirement makes a wrong prediction.

As shown in section 2.3.2, the Experiencer restriction is absent in *no-complement clauses*, as in (42) and (50), which are reproduced below.

- (42) Hanako<sub>i</sub>-wa [(sore-o kii-te) kanozyo-no itoko-ga hontôwa  
 Hanako<sub>i</sub>-Top [(that-Acc hear-ing) she<sub>i</sub>-Gen cousin-Nom actually  
 uresi-k-at-ta-no]-o iw-ana-k-at-ta.  
 glad-Pred-be-Past-Fin]-Acc say-Neg-Pred-be-Past  
 ‘Hanako<sub>i</sub> did not say that her<sub>i</sub> cousin was actually glad (to hear that).’

- (50) Hanako<sub>i</sub>-wa [{zibun<sub>i</sub>/kanozyo<sub>i</sub>-no itoko}-ga uresi-k-at-ta no]-o  
 Hanako<sub>i</sub>-Top [{self<sub>i</sub> /she<sub>i</sub>-Gen cousin}-Nom glad-Pred-be-Pres Fin]-Acc  
 sit-tei-ru.  
 know-Perf-Pres  
 ‘Hanako<sub>i</sub> knows that {she<sub>i</sub>/her<sub>i</sub> cousin} was glad.’

<sup>136</sup> Fujii mentions but does not analyze such environments as relative and nominalized clauses. See his footnote 2 (Fujii 2006:163n2).

Let us consider the following example, which shows that the embedded tense of the *no*-complement clause is [+finite], namely that there is a distinction between present and past tense.

- (344) Hanako<sub>i</sub>-wa [kanozyo<sub>i</sub>-no itoko-ga uresi-{i/k-at-ta} no]-o  
 Hanako<sub>i</sub>-Top [she<sub>i</sub>-Gen cousin-Nom glad-{Pred.be.Pres/Pred-be-Past} Fin]-Acc  
 sit-tei-ru.  
 know-Perf-Pres  
 ‘Hanako<sub>i</sub> knows that her<sub>i</sub> cousin {is/was} glad.’

Because the tense is [+finite], if the reflexive subject requirement is correct, (344) must have a null counterpart of *zibun* as the Experiencer subject, which is bound to the ‘surface Experiencer’ NP *kanozyo-no itoko* ‘her cousin’, as in (345).

- (345) Hanako<sub>i</sub>-wa [[kanozyo<sub>i</sub>-no itoko]<sub>j</sub>-ga e<sub>j</sub> uresi-{i/k-at-ta}  
 Hanako<sub>i</sub>-Top [[she<sub>i</sub>-Gen cousin]<sub>j</sub>-Nom e<sub>j</sub> glad-{Pred.be.Pres/Pred-be-Past}  
 no]-o sit-tei-ru.  
 Fin]-Acc know-Perf-Pres  
 ‘Hanako<sub>i</sub> knows that her<sub>i</sub> cousin {is/was} glad.’

This analysis has at least two problems.

First, an overt reflexive *zibun* cannot appear in place of the supposed null reflexive, as exemplified in (346). It is not clear how this fact is explained in this analysis.

- (346) \*Hanako<sub>i</sub>-wa [kanozyo<sub>i</sub>-no itoko-ga zibun-ga uresi-{i/k-at-ta}  
 Hanako<sub>i</sub>-Top [she<sub>i</sub>-Gen cousin-Nom self-Nom glad-{Pred.be.Pres/Pred-be-Past}

no]-o sit-tei-ru.

Fin]-Acc know-Perf-Pres

(Intended:) ‘Hanako<sub>i</sub> knows that her<sub>i</sub> cousin {is/was} glad.’

Second, the analysis that the null counterpart of *zibun* can be bound to the ‘surface Experiencer’ NP is not compatible with this analysis’s explanation of the Experiencer restriction in root clauses. As stated in (342) in the previous section, the analysis of the Experiencer restriction in root clauses requires the ‘surface Experiencer’ NP is not a potential binder of the null counterpart of *zibun*. The point is this: In this analysis, the Experiencer restriction in root clauses is supposed to be due to the binding of the Experiencer reflexive argument by the Speech Act head. To suppose that the null Experiencer reflexive can be bound to the ‘surface Experiencer’ NP undermines this analysis.

#### 6.4.6 Discussion

In this section, let us consider the above data and arguments from the perspective of the situation-based analysis and the feature-checking analysis.

First, let us reconsider the contrast between (340) and (343), which are reproduced below.

(340) watasi-*{wa/ga}* e uresi-i.

I-*{Top/Nom}* glad-Pred.be.Pres

‘I am glad.’

(343) \*watasi-*{wa/ga}* zibun-ga uresi-i.

I-*{Top/Nom}* self-Nom glad-Pred.be.Pres

(Intended:) ‘I am glad.’

This contrast is a mystery under the reflexive subject requirement. However, in the situation-based and feature-checking analyses, which do not suppose the reflexive subject requirement, the difference between (340) and (343) in acceptability is not a mystery. In these analyses, the NP *watasi-{wa/ga}* is simply the Experiencer argument, and so (339), which is indistinguishable with (340) in sound, is fine, but (343) is ungrammatical because the reflexive *zibun-ga* is assigned no thematic role and violates the theta criterion.

(339)    *watasi-{wa/ga}*    *uresi-i*.  
           I-{Top/Nom}    glad-Pred.be.Pres  
           ‘I am glad.’

Second, as for the presence of the Experiencer restriction in root clauses and the absence of it in some *no*-complement clauses, it was shown that the situation-based analysis and the feature-checking analysis are both viable from Chapter 3 to Chapter 5.

Third, the Experiencer restriction in the long-distance ECM construction, which was not discussed in the previous chapters, is accounted for by Fujii’s claim (323) (reproduced below).

(323) The Experiencer argument in the long-distance ECM construction is always OC PRO.

To account for the Experiencer restriction, (323) can be simply added to the situation-based and feature-checking analyses without modifying them.

A more satisfactory move is to derive (323) from independently motivated principles. In Fujii’s proposal, (323) is supposed to be a consequence of the reflexive subject requirement, (334):



(334) **The reflexive subject requirement for Experiencer adjectives**

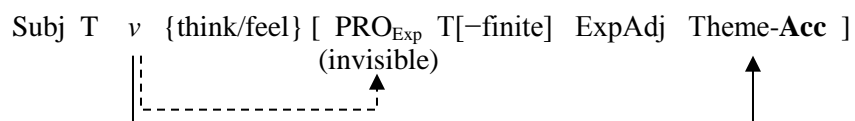
Experiencer adjectives lexically select as their Experiencer subject

- (i) OC PRO,
- (ii) reflexive *zibun*, or
- (iii) the phonetically null counterpart of *zibun*

However, I argued in the previous section that the reflexive subject requirement is problematic. I would like to claim that (323) is a consequence of the Case theory, instead of the reflexive subject requirement.

My explanation of (323) begins with the fact mentioned in section 6.4.2.2 that *i*-ending of adjectives is ambiguous between an element which contains T[+finite] and one which doesn't. When *i*-ending contains T[+finite], a Theme argument of transitive Experiencer adjectives is assigned a Nominative Case by it, and the non-ECM construction is produced. When *i*-ending does not contain T[+finite], however, a Theme argument of transitive Experiencer adjectives is not assigned a Case by *i*-ending (because T[+finite], not T[-finite], has the ability to assign a Nominative Case (Takezawa 1987, Koizumi 1995)). In this case, only if the Experiencer argument is OC PRO, the Theme argument of transitive Experiencer adjectives is assigned a Case. It is because OC PRO is invisible for the purpose of Minimality (Bhatt 2005) and so the little *v* of the matrix clause can assign an Accusative Case to the Theme argument, as in (324), reproduced below.

(324) **Case assignment in the long-distance ECM construction (in the head-initial word order)**



If the Experiencer argument is not OC PRO, the Theme argument is not assigned a Case, and so the sentence is ungrammatical: It is a violation of the Case filter.

One puzzle which remains in this explanation is what differentiates Experiencer adjectives and non-Experiencer adjectives with respect to availability of long-distance ECM construction. Fujii (2006, 2007) notes that the long-distance ECM construction is not possible for non-Experiencer adjectives, as shown in (347).

- (347) Taro<sub>i</sub>-wa [ $\Delta_{i/j}$  yakyuu- $\{ga/*o\}$  uma -i -to] omotta  
 Taro-Top baseball- $\{Nom/Acc\}$  skillful -Prs-C thought  
 ‘Taro thought that {he, someone else} was good at baseball.’ (Fujii 2006: 165(23))

He suggests that the difference is due to a constraint that an embedded T which is combined with an Experiencer adjectival root cannot have a tense feature, while an embedded T which is combined with a non-Experiencer adjectival root can. However, the suggestion is not tenable because an embedded T which is combined with an Experiencer adjectival root shows tense inflection, as exemplified in (348).

- (348) Hiroshi<sub>i</sub>-wa [ $\Delta_i$  boku-no kazoku-ga nikurasi- $\{i/k-at-ta\}$ -to]  
 Hiroshi-Top [ $\Delta_i$  I-Gen family-Nom hate<sub>Adj</sub>- $\{Pred.be.Pres/Pred-be-Past\}$ -Rep]  
 omot-tei -ru  
 think-Perf-Pres  
 ‘Hiroshi thinks that he {hates/hated} my family.’

At present, I do not have a solution for this problem which keeps assumption (323), namely that Experiencer arguments in the long-distance ECM construction are PRO.

Therefore, instead of keeping (323), I would like to propose that the adjectival complex ‘Adj-*i-to*’<sup>137</sup> modifies the matrix verb *omo-u* ‘think’/*kanzi-ru* ‘feel’, only if the adjective takes Theme and Experiencer arguments, as *omo-u* and *kanzi-ru* do (cf. Kawai 2008<sup>138</sup>).<sup>139,140</sup> In this

<sup>137</sup> This is the case of adjectives which take *i*-ending. For adjectives which take *da*-ending, the complex has the form, ‘Adj-*da-to*’. In the following, I use only *-i* just for simplicity.

<sup>138</sup> Kawai (2008) proposes a similar analysis for ‘NP-ga NP-o Adj-*ku omo-u*’ sentences, in line with Koizumi (2006). According to his proposal, Adj-*ku* in such sentences is an adverbial which modifies *omo-u*, and the construction is possible only if the adjective takes Theme and Experiencer arguments, as *omo-u* does.

<sup>139</sup> This analysis is due to personal communication with Rajesh Bhatt.

<sup>140</sup> There is another possible analysis which does not keep the PRO requirement on Experiencer arguments in the long-distance ECM construction. Let us suppose that the ‘long-distance ECM’ construction actually does not contain an Experiencer argument. Precisely, let us assume (i).

- (i) a. The Experiencer argument of Experiencer adjectives can be syntactically unrealized.  
b. If unrealized, the Experiencer is interpreted to be the attitude holder.

What is good about this proposal? The key is that there is a generalization (‘Kuno’s generalization’) that only one-place adjectives are allowed in the ECM complement in Japanese (Kuno 1976, Kitagawa 1986, Kawai 2006a). If the generalization is applicable to adjectives with PRO arguments, then the ‘long-distance ECM’ is impossible for any transitive adjectives, whether Experiencer adjectives or non-Experiencer adjectives. In this analysis, the reason why Experiencer adjectives seem to allow long-distance ECM on the Theme argument is that the *prima facie* long-distance ECM construction actually contains an intransitive adjective which lacks an Experiencer argument. Here, what divides transitive non-Experiencer adjectives and Experiencer adjectives is that the Experiencer argument of Experiencer adjectives can be syntactically unrealized.

Under the proposal (i), the Experiencer restriction found in section 6.4.2, which Fujii accounts for by the reflexive subject requirement, is accounted for by the condition that only one-place adjectives are allowed in ECM complements. Let us reconsider examples (322a,b), for illustration.

(322) a. Hanako<sub>i</sub>-wa [<sub>i</sub>/\*<sub>j</sub>/\*Taro-ga} watasi-no koto-o uresi-i-to]  
Hanako<sub>i</sub>-Top [<sub>i</sub>/\*<sub>j</sub>/\*Taro-Nom} I-Gen event-Acc glad-Pred.be.Pres-Rep]  
omot-tei-ru.  
think-Perf-Pres  
‘Hanako<sub>i</sub> thinks that {she<sub>i</sub>/\*<sub>j</sub>/\*Taro} is glad about my news (good fortune, success, ...).’

b. Atsuko<sub>i</sub>-wa [<sub>i</sub>/\*<sub>j</sub>/\*zibun<sub>i</sub>-ga/\*kanozyo<sub>i</sub>-ga} watasi-no tomodati-o  
Atsuko-Top self-Nom she -Nom my friend-Acc  
urayamasi-i -to] omotte ita  
envious -Prs -C thinking was  
‘Atsuko<sub>i</sub> thought that {<sub>i</sub>, ?\*self<sub>i</sub>, \*she<sub>i</sub>} was envious of my friend.’

(Fujii 2007: 4(6a))

In these examples, the embedded Theme arguments are marked with accusative Case. Because of the condition that only one-place adjectives are allowed in ECM complements, the Experiencer argument must be syntactically unrealized. Therefore, overt Experiencers are unacceptable in these examples. The interpretation of the unrealized Experiencer is consistent with (i.b).

This analysis, however, has some problems. It is not clear how the generalization that only one-place adjectives are allowed is explained theoretically. Furthermore, the generalization is more complicated



take Theme and Experiencer arguments. Because the  $\theta$ -grids of transitive non-Experiencer adjectives are different from those of *omo-u* and *kanzi-ru* (especially, *omo-u* and *kanzi-ru* take an Experiencer argument), non-Experiencer adjectives are not licensed in the ‘long-distance ECM’ construction. A supportive fact for this analysis is that *-to* can be used to modify verbs in other sentences, as in (350). *Gôn* and *karan* are onomatopoeias and (350) shows that *gôn-to* and *karan-to* can modify a verb (or a verb phrase).

- (350) a. *kane-ga gôn-to nat-ta.*  
 bell-Nom bong-quot ring-Past  
 ‘A bell rang with a sound, ‘bong.’’ (‘A bell bonged.’)
- b. *itakire-ga karan-to oto-o tate-ta.*  
 small board-Nom clop-quot sound-Acc make-Past  
 ‘Small boards made “clop” sounds.’

It should be noted that in this analysis, there are two mechanisms to produce the surface form, ‘NP-{Top/Nom} NP-Acc Adj-*i-to omo-u*.’ One mechanism is the one proposed above. The other mechanism is the one which produces sentences such as (351). As for the second mechanism, I have little to add to the previous studies (Kuno 1976, Kaneko 1988, Ueda 1988, Tanaka 1992, 2002, 2006, Sakai 1996, 1998, Ohta 1997, Bruening 2001, Kawai 2006a, among others), where these sentences are analyzed to involve Raising-to-Object or ECM as in English.

- (351) *Tarô-wa sora-o aka-i-to omot-tei-ru.*  
 Taro-Top sky-Acc red-Pred.be.Pres-Quot think-Perf-Pres  
 ‘Taro thinks the sky to be red.’

There are some differences between sentences produced by the first mechanism and ones produced by the second mechanism. One difference is that in the latter sentences, the embedded adjective need not take an Experiencer argument. For example, in (351), the embedded adjective *aka-i* ‘be red’ takes a Theme, but no Experiencer. On the other hand, in the former sentences, the embedded adjective’s  $\theta$ -grid must accord with the  $\theta$ -grid of the matrix verb. It means, in particular, that the  $\theta$ -grid contains an Experiencer.

Another difference is the selection of the matrix verb. The matrix verb of sentences produced by the first mechanism can be only *omo-u* ‘think’ and *kanzi-ru* ‘feel’ (as observed by Fujii), which have rather bleached meaning. On the other hand, the matrix verb of sentences produced by the second mechanism is not so limited. Epistemic verbs (which is called ‘b-type’ by Postal 1974) such as *sinzi-ru* ‘believe’ and *omoikom-u* ‘assume, convinced oneself’ can form the construction (e.g., Kawai 2006a), as in (352).

- (352) a. Tarô-wa sono nyûsu-o uresi-i-to  
 Taro-Top that news-Acc glad-Pred.be.Pres-Quot  
 {omot-tei/\*sinzi-tei/\*omoikon-dei}-ru.  
 {think-Perf/\*believe-Perf/\*assume-Perf}-Pres  
 ‘Taro<sub>i</sub> {thinks/\*believes/\*assumes} that he<sub>i</sub> is glad about the news.’
- b. Tarô-wa sora-o aka-i-to  
 Taro-Top sky-Acc red-Pred.be.Pres-Quot  
 {omot-tei/sinzi-tei/omoikon-dei}-ru.  
 {think-Perf/believe-Perf/assume-Perf}-Pres  
 ‘Taro {thinks/believes/assumes} the sky to be red.’

Yet another difference is that the embedded complement in the sentences made by the second mechanism must represent an individual-level predicate (e.g., Kawai 2006a), while that in the sentences made by the first mechanism need not. For example, (351) cannot be used if Taro thinks that the sky is temporarily red (say, with the setting sun). In such a situation, *sora* ‘sky’ must be marked with a nominative Case, as in (353).

- (353) Tarô-wa sora-ga aka-i-to omot-tei-ru.  
 Taro-Top sky-Nom red-Pred.be.Pres-Quot think-Perf-Pres  
 ‘Taro thinks that the sky is red.’

This applies to Experiencer adjectives also. For example, *uresi-i* ‘be glad’ represents a stage-level property, so it can be embedded with a nominative Experiencer, but it cannot be with an accusative Experiencer:

- (354) a. Tarô-wa Hanako-ga uresi-i-to omot-tei-ru.  
 Taro-Top Hanako-Nom glad-Pred.be.Pres-Quot think-Perf-Pres  
 ‘Taro thinks that Hanako is glad.’  
 b. \*Tarô-wa Hanako-o uresi-i-to omot-tei-ru.  
 Taro-Top Hanako-Acc glad-Pred.be.Pres-Quot think-Perf-Pres  
 (Intended:) ‘Taro thinks Hanako to be glad.’

Now, sentences produced by the first mechanism do not show this restriction, as exemplified by the goodness of the following example.

- (355) Tarô-wa sono nyûsu-o uresi-i-to omot-tei-ru.  
 Taro-Top that news-Acc glad-Pred.be.Pres-Quot think-Perf-Pres

‘Taro<sub>i</sub> thinks that he<sub>i</sub> is glad about the news.’

The existence of these differences is not a surprise if there are two different mechanisms which make sentences of the form, ‘NP-{Top/Nom} NP-Acc Adj-*i-to omo-u*’.

## 6.5 Summary

This section reviewed three previous analyses of the Experiencer restriction. First, Kamio’s analysis, which is based on his theory of territory of information, can explain the Experiencer restriction in root clauses. But it is not clear how it accounts for the behavior of the Experiencer in non-root clauses because the theory of territory of information at present treats only root clauses. Second, the feature-checking analysis by Tenny (2006) also can explain the Experiencer restriction in root clauses. The proposal, however, boils down to a too severe constraint on the Experiencer argument: Experiencer adjectives lexically select an Experiencer who is a speaker or an addressee. It is because of the claim that Experiencer adjectives assign a morphosyntactic feature [+discourse participant] to their Experiencer argument. The prediction that Experiencers are a speaker or an addressee does not fit with the empirical data. In fact, there are many environments where the Experiencer restriction is lifted. I used *no*-complement clauses of a verb of knowing for illustration of such an environment. Third, the reflexive subject requirement for Experiencer adjectives (Fujii 2006, 2007) is based on the Experiencer restriction found in clauses with an exceptionally Case-marked Theme argument, which was not discussed in the previous chapters. I argued that the requirement is inconsistent with the availability of overt non-reflexive Experiencer NPs in (at least) root clauses and *no*-complement clauses of verbs of believing and knowing. Also, I showed that the requirement does not account for the Experiencer restriction in root clauses and the absence of the restriction in *no*-complement clauses of verbs of believing and knowing in the same breath. Finally, I gave some possible accounts of the



Experiencer restriction in clauses with an accusative Case-marked Theme argument which can be incorporated into the situation-based and feature checking analyses developed in the previous chapters.

## CHAPTER 7

### CONCLUSION

This dissertation has analyzed the restrictions on the Experiencer argument of adjectives of emotions and sensations in Japanese. In Chapter 1, after introduction of the Experiencer restriction, I reviewed those analyses which preceded development of the cartographic approach to the left (right)-periphery. Many of them account for the restriction in some environments, but each fails to account for it in some other environments.

In Chapter 2, I first explained the background data and theoretical hypotheses which I use to analyze the Experiencer restriction, and then presented the basic data of the Experiencer restriction.

In many embedded clauses, emergence of the Experiencer restriction is dependent on the choice of the complementizer. To treat complementizers, I follow the cartographic approach to the left(/right)-periphery of clauses, and suppose the fine-structure of the Japanese right-periphery as in (20), based on the work by Saito and Haraguchi (2013) and others.

- (20) [ [ [ [ TP ] Fin ] ... ] Force ] (SA) ] (Report) ]  
(*ka*) (*wa, yo, ne, sa, ...*) (*to*)  
(ASSERT)  
(INTERROG)

In matrix clauses and some embedded clauses, emergence of the Experiencer restriction is dependent on the speech act. If a sentence is asserted in conversation (or in ‘reportive style’), the Experiencer restriction is active. But, if a sentence is uttered in third-person narrative (or in

‘non-reportive style’), the Experiencer restriction is lifted. Based on the fact that sentence-final particles can appear in conversation but not in third-person narrative, it was supposed that sentences which are asserted in conversation have a speech act projection (SAP), while sentences which are uttered in third-person narrative do not, as in Tenny (2006).

The distribution of the Experiencer restriction is summarized in (62).

- (62)
- a. In a root clause in reportive style, the Experiencer of an Experiencer adjective must be the speaker.
  - b. In a *to*-clause under a verb of saying, the Experiencer must be the local speaker. In a *no*-clause under a verb of saying, the Experiencer restriction is lifted.
  - c. In a clause under an epistemic modal, an evidential, or a non-communicational attitude predicate (except vivid memory report), the Experiencer restriction is lifted.
  - d. In a clause under a vivid memory report verb, an Experiencer must be the subject of the memory verb, namely the *de se* individual in the clause.
  - e. In a restrictive relative clause, the Experiencer restriction is lifted.
  - f. In a non-restrictive relative clause, the Experiencer is restricted to the speaker.

Chapter 3 presented a possibilistic situation semantic analysis which was inspired by the conceptual-structural analysis of Experiencers by Jackendoff (1990) and the locative syntax of Experiencers claimed by Landau (2010) and others. In my analysis, Experiencer adjectives like *uresi-* ‘glad’ have a presupposition as in (99). Here, *l* is a location function which maps a situation to its location, and  $\mu$  is a function which maps a sentient individual *a* to his mental location, which is called *a*’s *mind*.

(99)      $[[ \textit{uresi-} ]] = \lambda x. \lambda s: l(s) = \mu(x)$ . gladness is at *s*

This entry means that, for example, *Tarô-wa uresi-i* ‘Taro is glad’ means ‘gladness is at *s*’ if the location of *s* is Taro’s mind, and has no truth-value otherwise. The Japanese assertive speech act requires the location of the topic situation, if it is mental, to be the speaker’s mind, as in (103).

$$(103) \quad [[\text{Assert}]]^{\text{g,c}} = \lambda p. \lambda s: l(s) \in D_{\text{ph}} \cup \{\mu(\text{speaker}(c))\}. p(s)$$

The combination of the presuppositions on Experiencer adjectives and the speech act yields the Experiencer restriction. English assertion does not have requirement (103), so English does not show the Experiencer restriction.

In Chapter 4, I analyzed the appearance and disappearance of the Experiencer restriction in non-restrictive relative clauses. First, it was argued that the semantics of Japanese non-restrictive relative clauses is similar to the one proposed by Schlenker (2010, 2013a,b) for French and English non-restrictive relative clauses. Second, it was shown that an Experiencer in a non-restrictive relative clause is (i) restricted to a speaker if the non-restrictive relative clause is not in the scope of an attitude predicate, (ii) restricted to a local speaker if the non-restrictive relative clause is in the scope of a verb of saying, and (iii) not restricted if the non-restricted relative clause is in the scope of a non-communicational verb. Third, it was shown that the situation-based analysis proposed in Chapter 3 can account for this pattern.

Chapter 5 presented another analysis of the Experiencer restriction, which employs a feature [sen] and a semantic parameter *h*. In this analysis, Experiencer adjectives assign the feature [sen] to their Experiencer argument, and Mod also has the feature [sen]. When checking of the feature [sen] occurs at ModP which is headed by a phonetically null Mod  $\emptyset_{\text{Mod}}$ , the referent of the Experiencer NP is fixed to *h*. Supposing that assertion sets the value of *h* at a SAP to the speaker, it was shown that this mechanism leads to the Experiencer restrictions in various environments correctly. The supposition that assertion sets the value of *h* is the norm of assertion

proposed by Stephenson (2007b) for English. In the feature-checking analysis, what differentiates Japanese and English is the presence/absence of checking between an Experiencer NP and a Mod. This mechanism, however, cannot be involved in the Experiencer restriction in *no*-clauses under verbs of vivid memory because *no*-clauses do not contain ModP (*no*-clauses are FinP, and FinP are smaller than ModP). Thus, if this analysis is correct, there are at least two kinds of Experiencer restrictions whose derivations are different. And so the principle of parsimony favors the situation-based analysis over the feature-checking analysis.

In Chapter 6, I reviewed previous formal analyses of the Experiencer restriction. Kamio's (1995, 1997a,b) analysis based on the theory of territory of information explains the Experiencer restriction in root clauses, but it is not clear how the account can be extended to cover the Experiencer restriction in embedded clauses. In Tenny's (2006) feature-checking analysis, Experiencer adjectives assign two features, [+sentient] and [+discourse participant] to their Experiencer argument. The feature [+sentient] is checked at a Sentience/EvidentialP, and the feature [+discourse participant] is checked at a Speech Act projection. A difference between this analysis and the analysis proposed in Chapter 5 is the use of the feature [+discourse participant]. I argued that the use of the feature [+discourse participant] is problematic because the assignment of [+discourse participant] to the Experiencer argument means that the Experiencer is non-third-person in any environment, which does not fit the data. Fujii (2006, 2007) proposes the "reflexive subject requirement" for SubjExp predicates (SubjExp predicates include Experiencer adjectives). According to his proposal, Experiencer adjectives lexically select as their Experiencer argument (i) OC PRO, (ii) reflexive *zibun*, or (iii) the null counterpart of *zibun*. A problem of this analysis is that it does not account for the (un)grammaticality of the following pair of sentences.

- (339)    watasi- $\{wa/ga\}$     uresi-i.  
           I- $\{Top/Nom\}$     glad-Pred.be.Pres  
           'I am glad.'

- (343) \*watasi-{wa/ga} zibun-ga uresi-i.  
 I-{Top/Nom} self-Nom glad-Pred.be.Pres  
 (Intended:) ‘I am glad.’

Suppose that the reflexive subject requirement for Experiencer adjectives is correct. Then, the grammaticality of sentence (339) indicates that the Experiencer NP in (339) is the null counterpart of reflexive *zibun* (note that the Experiencer NP in (339) cannot be OC PRO for Case reasons). But if so, it is not clear why (343) is ungrammatical, for the difference of (339) and (343) is whether the Experiencer NP, the reflexive *zibun*, is pronounced or not. Another problem is that it is not clear how it can treat the cases where the Experiencer restriction is lifted.

In this dissertation, I presented a situation semantic analysis which supposes that Experiencers have a locative semantics and a feature-checking analysis which supposes that the Experiencer restriction involves a feature [sen] and a semantic parameter *h*. As mentioned above, I argued that the principle of parsimony favors the situation-based analysis over the feature-checking analysis. However, it is important to find empirical data which differentiates the two analyses. It is not done in this dissertation, but I am going to return to it in future work.

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