

ADVERBS OF EVALUATION IN JAPANESE: A CONDITIONAL ACCOUNT

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ABSTRACT

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This dissertation investigates the semantic and syntactic nature of what I refer to as ‘adverbs of evaluation’ in Japanese. This includes evaluative adverbs (1), which are a kind of subject-oriented adverbs, and what I call ‘stupid adverbs’ (2), which are a kind of speaker-oriented adverbs.

- (1) Kare-wa {kimyooni-mo/igaini-mo} sarusa-o odotta.
he-TOP {oddly-*mo*/surprisingly-*mo*} salsa-ACC danced
‘{Oddly/Surprisingly}, he danced salsa.’
- (2) Kare-wa {orokani-mo/shinsetsuni-mo} sono-ko-ni hanashikaketa.
he-TOP {stupidly-*mo*/kindly-*mo*} that-child-DAT spoke.to
‘{Stupidly/Kindly}, he spoke to the child.’

It has been observed that these adverbs show semantically interesting characteristics that are not shared by predicate adverbs (such as manner adverbs) when they interact with operators such as negation, question, and imperatives (Greenbaum 1969, Quirk et al. 1972, Bellert 1977, Sawada 1978, Nakau 1980, Bonami & Godard 2008, Mayol & Castroviejo 2013). However, the formal analysis of adverbs of evaluation is still under debate. I propose that adverbs of evaluation are (semi-)propositional modifiers, which appear above tense and are associated with non-at-issue conditional meanings.

In chapter 2, I show that (i) evaluative adverbs in Japanese cannot be in the scope of predicate negation, (ii) they can appear in questions, but they cannot be in the scope of the question operator, and (iii) they cannot appear in imperatives, but they can appear in sentences with deontic modals. I adopt Bonami & Godard’s (2008) idea that evaluative adverbs are associated with non-at-issue meanings that have a conditional form. I propose a revised version of their conditional account, and argue that evaluative adverbs are propositional modifiers which take an argument *p* of type

$\langle s, t \rangle$ with the conditional meaning ‘in the speaker’s opinion, if p is true, then it is ADJ that p ’.

In chapter 3, I extend the revised conditional account to stupid adverbs in Japanese. Stupid adverbs are similar to evaluative adverbs in that (i) they cannot be under the scope of predicate negation, and (ii) they can appear in questions, but they cannot be in the scope of the question operator. However, they can appear in imperatives under a certain condition. I propose that stupid adverbs are semi-propositional modifiers which take an argument P of type $\langle e, st \rangle$ and the subject x with the conditional meaning ‘in the speaker’s opinion, if $P(x)$ is true, x is ADJ for P ’. I also argue that the conditional account can only be applied to stupid adverbs, but not to the other kind of subject-oriented adverbs, which I call ‘reluctant adverbs’ such as *iyaiya* ‘reluctantly’ and *itotekini* ‘intentionally’. This explains why reluctant adverbs are different from stupid adverbs in that (i) they can be under the scope of predicate negation, (ii) they can be in the scope of a question operator, (iii) they can appear in imperatives without any restriction, and (iv) they show ambiguity in passive sentences. I suggest that reluctant adverbs are more like manner modifiers, that is, predicate modifiers without any conditional meaning that appear below tense.

In chapter 4, I consider the relation between adverbs of evaluation and their corresponding predicate adverbs such as (3) and (4).

(3) Kare-wa {kimyooni/igaini umaku} sarusa-o odotta.
he-TOP {oddly/surprisingly well} salsa-ACC danced
‘He danced salsa {oddly/surprisingly well}.’

(4) Kare-wa {orokani/shinsetsuni} furumatta.
he-TOP {stupidly/kindly} behaved
‘He behaved {stupidly/kindly}.’

I discuss three possible approaches, (i) deriving predicate adverbial meanings from adverbs of evaluation, (ii) deriving evaluative meanings from predicate adverbs, and (iii) a lexical ambiguity approach, and point out some key questions for future research.

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KEY TO ABBREVIATIONS

ACC ... Accusative Case Marker

CL ... Classifier

COMP ... Complementizer

COND ... Conditional

CONT ... Contrastive

COP ... Copular Verb

DAT ... Dative Case Marker

GEN ... Genitive Case Marker

IMP ... Imperative

NEG ... Negation

NOM ... Nominative Case Marker

PASS ... Passive

Q ... Question Marker

SFP ... Sentence Final Particles (Discourse Particles)

TOP ... Topic Marker

VOL ... Volitional

CHAPTER 1

INTRODUCTION

1.1 Sentence adverbs and predicate adverbs

In English, it is quite easy to find ‘ambiguous’ adverbs. By that I mean adverbs such as in (1) that can be interpreted in more than one way.

- (1) a. Clumsily he trod on the snail.
b. He trod on the snail clumsily. (Austin 1956:25)

Sentence (1-a) can be paraphrased as ‘It was clumsy of him to tread on the snail’ or ‘He was clumsy to tread on the snail’, whereas sentence (1-b) can be paraphrased as ‘The way he trod on the snail was clumsy’. As indicated by these paraphrases, the meaning of the adverb *clumsily* in (1-a) and (1-b) are related to each other but not equivalent. *Clumsily* in (1-a) expresses an evaluation of the subject for doing whatever activity the rest of sentence denotes, whereas *clumsily* in (1-b) is a description of how the event was executed. This example also indicates a correlation between word orders and the interpretations of adverbs. The meaning of *clumsily* differs depending on whether it appears in the sentence-initial position or the sentence-final position.¹

There are many English adverbs that seem to show the same kind of polysemy (although, obviously not all of them, e.g., *loudly*, *probably*, *unfortunately*, and so on). Here are some more examples from Ernst (2002). The labels in brackets are Ernst’s (2002) terminology.

- (2) a. Roughly, the plan will fail because they are all inexperienced. [Speech-act]
b. She laid out the plan roughly. [Manner]

¹As Austin (1956) notes, however, the adverb in (1) can be understood in the other way, when the sentence is put in an appropriate discourse context and accompanied by a certain intonation/stress. For example, when *clumsily* in (1-a) bears a contrastive topic/focus (*CLUMSILY, he trod on a snail, not skillfully.*), or *clumsily* in (1-b) had a so-called comma intonation (*He trod on the snail, clumsily.*). See chapter 4 for the comma intonation.

- | | | | |
|-----|----|---|-------------------|
| (3) | a. | Clearly, they saw the sign. | [Evidential] |
| | b. | They saw the sign clearly. | [Manner] |
| (4) | a. | Delightedly, Chris waited while the new robot cooked his supper. | [Mental-attitude] |
| | b. | To say the least, Chris did not speak delightedly after the defeat. | [Manner] |
| (5) | a. | Strangely, Jessica was explaining it. | [Evaluative] |
| | b. | Jessica was explaining it strangely. | [Manner] |
| (6) | a. | Rudely, she left. | [Agent-oriented] |
| | b. | She left rudely. | [Manner] |
| (7) | a. | Similarly, this machine makes widgets. | [Exocomparative] |
| | b. | This machine functions similarly. | [Manner] |

The pairs of adverbs in (2)–(7) are interpreted differently. *Roughly* in (2-a), paraphrasable as ‘roughly speaking’, describes the way the speaker speaks, whereas *roughly* in (2-b) describes how the subject laid out the plan. *Clearly* in (3-a) can be paraphrased as ‘It is clear that ...’, expressing the certainty of the proposition, whereas *clearly* in (3-b) expresses how well they saw the sign. In (4-a), *delightedly* describes Chris’s mental state while he waited for his supper, whereas in (4-b), it rather describes the way he spoke. In (5-a), it was the fact that Jessica was explaining that was strange, whereas in (5-b), it was her way of explaining something that was strange. In (7-a), the use of *similarly* indicates that there is a previously mentioned machine or something (or someone) that does the same kind of thing, while *similarly* in (7-b) expresses that the manner in which the machine functions is similar to the manner in which a previously mentioned thing functions.

Ernst (2002) refers to the ambiguity found in these examples as the ‘clausal/manner ambiguity’. However, although in many cases the post-verbal adverbs can be paraphrased with ‘... in the ADJ manner’, it is not always so. For example, ‘They saw the sign in a clear manner’ is not an adequate paraphrase for (3-b). As Maienborn & Schäfer (2011) point out, even those that are typically considered as manner adverbs such as those in (8) are, strictly speaking, not manner modifiers. In

(8-a), it is about the speed of Peter's running, not the manner/way of his running. In (8-b), it is about the sound-volume of her singing, not the manner/way of her singing.

- (8) a. Peter runs fast/slowly.
 b. Marie sings loudly/quietly. (Maienborn & Schäfer 2011:(79))

Furthermore, there are predicate adverbs that may function as degree modifiers (Morzycki 2008, Nouwen 2011).

- (9) a. Amazingly, John is tall. [Evaluative]
 b. John is amazingly tall. [Degree modifier]

What is 'amazing' in (9-a) is the fact that John is tall, where the standard of tallness is determined contextually. In (9-b), on the other hand, the speaker is amazed by how tall he is. Thus, in a situation in which we expected John to be tall (e.g., we knew that John is a professional basketball player), we would not say (9-a), but we could say (9-b) if he was significantly taller than we had expected. *Amazingly* in (9-b) is clearly not an example of manner adverb (as there is no way to describe the manner in which someone is tall). Therefore, the better terms to refer to the patterns shown in the pairs in (1)–(9) is 'sentence adverbs' and 'predicate adverbs' rather than 'clausal' and 'manner'.

The idea of distinguishing sentence adverbs and predicate adverbs is commonly found in the literature, e.g. Jackendoff (1972), Quirk et al. (1972), Thomason & Stalnaker (1973), Bellert (1977), McConnell-Ginet (1982), Cinque (1999), Ernst (2002), Delfitto (2006). Other terms for a similar distinction are 'disjunct adverbials' vs. 'adjunct adverbials' (Quirk et al. 1972), 'Ad-Sentence' vs. 'Ad-Verbs' (McConnell-Ginet 1982), 'sentence adverbials' vs. 'verb-related adverbials' (Maienborn & Schäfer 2011), and 'high' vs. 'low' adverbs (Rawlins 2008b). However, it is actually not a simple task to classify adverbs into the two categories (sentence adverbs and predicate adverbs), and there is no consensus on how to distinguish between the two precisely. For example, among the four criteria proposed by Thomason & Stalnaker (1973), one in (10), according to them,

“comes close to being a necessary and sufficient condition” to determine if the adverb is a sentence modifier or a predicate modifier.

- (10) Only if *Q-ly* occurs as a sentence modifier can one paraphrase the sentence by deleting the adverb and prefacing the resulting sentence by *It is Q-ly true that*.

This works well with examples such as *probably* and *slowly*. *Probably* is classified as a sentence modifier by the criterion (10), because *He probably will dance* can be paraphrased as *It is probably true that he will dance*. On the other hand, *slowly*, according to the criterion (10), should not be considered as a sentence modifier, because *He slowly danced* cannot be paraphrased as *It is slowly true that he danced*. However, there are adverbs, as shown below, that are apparently sentence modifiers in contrast to their manner counterparts, but the paraphrases do not sound quite right.

- (11) a. {Frankly/Honestly}, the explanation is useless.
 b. It is {frankly/honestly} true that the explanation is useless.
- (12) a. {Rudely/Stupidly}, he left.
 b. It is {rudely/stupidly} true that he left.

According to Jackendoff (1972), some ‘speaker-oriented’ adverbs such as *frankly* and *honestly* are interpreted as two-place predicates as in (13), where ADJ stands for the adjectival counterpart of the adverb, whose first argument is the speaker and the second argument is basically what is expressed by the rest of the sentence (i.e., a relation between the verb and its arguments).

- (13) ADJ(SPEAKER, $f(\text{NP}^1, \dots, \text{NP}^n)$)

Similarly, ‘subject-oriented’ adverbs such as *rudely* and *stupidly* are also interpreted as two-place predicates as in (14), but whose first argument is one of the NPs of the sentence, usually the surface subject.

- (14) ADJ(NP^i , $f(\text{NP}^1, \dots, \text{NP}^n)$), where $1 \leq i \leq n$

As the names indicate, speaker-oriented adverbs are taken to express the speaker's attitude toward the sentence or in saying the sentence, and subject-oriented adverbs to express some additional information about the subject of the sentence. Thus, in this view, not all sentence adverbs (assuming that speaker-oriented and subject-oriented adverbs are indeed sentence adverbs) just operate on the sentence. In addition, sentence adverbs include modal adverbs (e.g., *probably*) and evaluative adverbs (e.g., *fortunately*), which are also classified as speaker-oriented adverbs in Jackendoff 1972. These have a simpler semantic structure as in (15).

$$(15) \quad \text{ADJ}(f(\text{NP}^1, \dots, \text{NP}^n))$$

Bellert (1977) further argues that Jackendoff's (1972) classification, especially the class of speaker-oriented adverbs, is too broad, and suggests subcategorizing it into several subclasses (evaluative adverbs, modal adverbs, domain adverbs, conjunctive adverbs, and pragmatic adverbs) based on various semantic properties.

Thus, it is clear that what we would like to refer to as sentence adverbs are not at all homogeneous, and it may not be as simple as it first looked to characterize them in a uniform way. Similarly, predicate modifiers are also semantically diverse. As already mentioned, in addition to manner adverbs (e.g., *He trod on the snail clumsily*), predicate modifiers may also function as degree adverbs (e.g., *John is amazingly tall*). There are also so-called result-oriented adverbs such as *elegantly* in *Miriam dressed elegantly* (Eckardt 2003), where the sentence could mean that the process of dressing was elegant even though her outfits were not elegant (the manner meaning), or that the result state of dressing looked elegant (the result reading, or 'implicit resultative' (Schäfer 2005)). Furthermore, there are a variety of adverbs and adverbial phrases which may or may not belong to either one of the groups of adverbs, e.g., domain adverbs² (*linguistically, logically, mathematically, morally*, etc.), conjunctive adverbs³ (*however, nevertheless, hence, therefore, firstly*,

²This seems to correspond to what Schäfer (2005) calls 'method-oriented adverbials'.

³Or 'connectives' (Bonami et al. 2004).

finally, etc.), locative adverbials (*here, in the bathroom*, etc.), temporal adverbials⁴ (*often, immediately, for a long time* etc.), participant adverbials (*on the wall, with a bowl*, etc.), and focus related adverbs (*also, even, just, only*). There could be more to add to this list, but I will stop here.

The point is that while there is traditionally an idea of distinguishing adverbs into sentence adverbs and predicate adverbs, it is not easy to draw a simple line between the two. One of the reasons for this situation is probably because adverbs are quite semantically diverse. The semantic diversity makes it harder to come up with a simple generalization that can group sentence adverbs together on the one hand and group predicate adverbs together on the other hand.

Among various proposals, it seems to me that Greenbaum's (1969) diagnostic is the most useful for determining if an adverb is a sentence adverb or a predicate adverb. Greenbaum (1969) actually proposes the diagnostic in order to define what he calls 'adjuncts' and 'disjuncts'. (16) shows a way to determine whether an adverb is an 'adjunct', which seems to work for determining if an adverb is a predicate adverb.

- (16) If an adverb satisfies at least one of the three criteria below, it is a predicate adverb.
- a. It must be unacceptable in initial position when the clause is negated.⁵
 - b. It must be able to serve as the focus of clause interrogation.
 - c. It must be able to serve as the focus of clause negation.

As an illustration, let us consider two adverbs, *always* and *probably*. According to this diagnostics, *always* is, but *probably* is not, a predicate adverb. First, *always* is not acceptable in initial position when the clause is negated, thus meeting the first criterion, whereas *probably* is acceptable.

- (17) a. *Always he doesn't want it.
b. Probably he doesn't want it.

⁴Temporal adverbs can be further classified into 'frequency adverbs', 'punctual adverbials', 'durative adverbials', etc. (Delfitto 2006).

⁵To be more precise, "The item must be unacceptable in initial position in an independent tone unit with a rising, falling-rising, or level nuclear tone when the clause is negated." (Greenbaum 1969:24)

As for (16-b), whether the item can be the ‘focus of interrogation’ can be tested by its ability to be contrasted with another focus in alternative interrogation. So, for example, *politely* and *rudely* satisfy (17-b), but *probably* and *certainly* do not.⁶

- (18) a. Did he reply to them politely or did he reply to them rudely?
b. *Did he probably die or did he certainly die?

Similarly, whether the item can be the ‘focus of negation’ can be tested by its ability to be contrasted with another focus in alternative negation. For example, *always* satisfies the criterion (18-c), but *probably* doesn’t.

- (19) a. He did not always reply politely, but he did reply politely sometimes.
b. *He did not probably die, but he did certainly die.

On the other hand, sentence adverbs, or ‘disjuncts’ in Greenbaum’s term, can be diagnosed by the criteria in (20), which are the reverse of (a-c) in (16).⁷

- (20) If an adverb satisfies all the three criteria below, it is a sentence adverb.
a. It is acceptable in initial position when the clause is negated.⁸
b. It cannot be the focus of clause interrogation.
c. It cannot be the focus of clause negation.

⁶Excluding metalinguistic negation.

⁷There is another criterion: It can serve as a response to a yes-no question by itself or with *yes/no*. This is for the purpose of distinguishing what he calls ‘conjuncts’ from ‘disjuncts’. For example, *briefly* is a ‘disjunct’ because it satisfies (19-d) in addition to (19-a-c), but *however* is not because it does not satisfy (19-d) although it does satisfy (19-a-c).

- (i) A: Did he fail?
B1: Briefly, yes.
B2 *However, no.

⁸To be more precise, “It is acceptable in initial position in an independent tone unit with a rising, falling-rising, or level nuclear tone when the clause is negated.” (Greenbaum 1969:24)

Suppose Greenbaum's diagnostics are the most adequate way to distinguish sentence adverbs and predicate adverbs. Even if that was the case, we would still be left with a big puzzle to solve: what should we do with all those adverbs that have both the sentence adverbial use and the predicate adverbial use? What kind of ambiguity do they exhibit: lexical ambiguity or structural ambiguity? Is it just an accident, or is there a hidden reason behind the fact that there are so many ambiguous adverbs in a language? While such ambiguous adverbs have drawn attention of linguists, e.g., Austin (1956), Greenbaum (1969), Bartsch (1976), McConnell-Ginet (1982), Vendler (1984), Ernst (2002), Geuder (2002), Rawlins (2008b), Piñón (2010), there is no conclusive answer yet to the questions that polysemous adverbs raise.

1.2 The target of study: Adverbs of evaluation

Taking the issue of ambiguous adverbs just mentioned above as the point of departure, this thesis will focus on a particular kind of sentence adverbs, which I will call 'adverbs of evaluation'. This includes a class of adverbs commonly referred to as 'evaluative adverbs' such as *oddly* in (21-a) and (a certain type of) subject-oriented adverbs such as *stupidly* in (21-b).

- (21) a. Oddly, John danced. [Evaluative]
 b. Stupidly, John answered the question. [Subject-oriented]

Sentences with evaluative adverbs (21-a) generally allow the paraphrase 'It is ADJ that S', where ADJ is the adjectival form of the adverb. Subject-oriented adverbs (of a certain kind) such as *stupidly* in (21-b) can be paraphrased as 'It was ADJ of SUBJ to VP', where SUBJ stands for the subject and VP for the verb phrase. Both *oddly* and *stupidly* have the corresponding manner adverbial uses as shown in (22). In these cases, the adverbs modify the verb phrases and specify the manner/way in which the event occurred.

- (22) a. John answered the question stupidly. [Manner]
 b. John danced oddly. [Manner]

Comparing the pairs of sentence adverbs (21) and predicate adverbs (22), the most noticeable differences are the word orders and what they modify. The adverbs that appear in the sentence initial position modify the proposition denoted by the rest of the sentence, whereas those that appear in the sentence final position modify the predicate denoted by the verb phrase. These contrasts raise the same kind of questions as we saw earlier. Are these cases of lexical ambiguity, or is it possible to derive the two different meanings of these adverbs from the same lexical source with different underlying structures, regarding these cases as structural ambiguity?

While there are many polysemous adverbs like (21) and (22) in English, it is not always so in other languages, for instance, Japanese. As shown below, sentence adverbs and predicate adverbs are not lexically ambiguous.

- (23) a. Kimyooni-mo kare-wa odotta.
 oddly he-TOP danced
 ‘Oddly, he danced.’ [Evaluative]
- b. Kare-wa kimyooni odotta.
 he-TOP oddly danced
 ‘He danced oddly.’ [Manner]
- (24) a. Orokani-mo kare-wa shitsumon-ni kotaeta.
 stupidly he-TOP question-DAT answered
 ‘Stupidly, he answered the question.’ [Subject-oriented]
- b. Kare-wa orokani furumatta.
 he-TOP stupidly behaved
 ‘He behaved stupidly.’ [Manner]

Since the adverbs are not lexically ambiguous, their meanings are not affected by the word order as shown in (25)–(26) (cf. (23)–(24)). This contrasts with English in which the interpretation of adverbs are often affected by their position in a sentence.

- (25) a. Kare-wa kimyooni-mo odotta.
 he-TOP oddly danced
 ‘Oddly, he danced.’ [Evaluative]
- b. Kimyooni kare-wa odotta.
 oddly he-TOP danced

‘He danced oddly.’ [Manner]

- (26) a. Kare-wa orokani-mo shitsumon-ni kotaeta.
 he-TOP stupidly question-DAT answered
 ‘Stupidly, he answered the question.’ [Subject-oriented]
- b. Orokani kare-wa furumatta.
 stupidly he-TOP question-DAT answered
 ‘He behaved stupidly.’ [Manner]

These Japanese examples give us an impression that the lexical entries of sentence adverbs are different from the corresponding predicate adverbs. At the same time, the morphological pattern (i.e., with or without *mo*) indicates the existence of some relation between sentence adverbs and predicate adverbs. What is the connection between them, and how can we formalize it?

One of the motivations in focusing on these two types of sentence adverbs (i.e., evaluative and a certain type of subject-oriented adverbs) is that these are the two classes of adverbs in Japanese that have this lexical alternation by *mo*. As far as I am aware, other classes of adverbs do not exhibit this *mo*-alternation. Consider the following examples which correspond to the English examples in (2)-(9).

- (27) a. {Oozappani/Socchokuni} itte, setsumee-wa muda-da.
 {roughly/frankly} speaking explanation-TOP useless-is.
 ‘{Roughly/Frankly} speaking, the explanation is useless.’ [Speech-act]
- b. Kare-wa {oozappani/socchokuni} setsumee-shita.
 he-TOP {roughly/frankly} explanation-did
 ‘He explained {roughly/frankly}.’ [Manner]
- (28) a. {Akirakani/*Hakkiri} sakki dareka-ga ita.
 {clearly/clearly} a while ago someone-NOM existed
 ‘Clearly, someone was there a while ago.’ [Evidential]
- b. Watashi-wa {*akirakani/hakkiri} genba-o mita.
 I-TOP {clearly/clearly} scene-ACC saw
 ‘I saw the scene clearly.’ [Manner(?)]
- (29) a. {Yorokonde/*Ureshisooni} kare-wa tenisubu-ni nyuubu-shita.
 {delightedly/delighted} he-TOP tennis-club-to joined
 ‘Delightedly, he joined the tennis club.’ [Mental-attitude]

- b. {*Yorokonde/Ureshisooni} kare-wa hohoenda.
 {delightedly/delightedly} he-TOP smiled
 ‘He smiled delightedly.’ [Manner]
- (30) a. {Kimyooni-mo/Kokkeeni-mo} kare-wa odotta.
 {oddly/ridiculously} he-TOP danced
 ‘{Oddly/Ridiculously}, he danced.’ [Evaluative]
- b. Kare-wa {kimyooni/kokeeni} odotta.
 he-TOP {oddly/ridiculously} danced
 ‘He danced {oddly/ridiculously}.’ [Manner]
- (31) a. {Bushitsukeni-mo/Shinsetsuni-mo} kare-wa kotaeta.
 {rudely/kindly} he-TOP answered
 ‘{Rudely/Kindly}, he answered.’ [Agent-oriented]
- b. Kare-wa {bushitsukeni/shinsetsuni} kotaeta.
 he-TOP {rudely/kindly} answered
 ‘He answered {rudely/kindly}.’ [Manner]
- (32) a. {Dooyooni/Onajiyooni} kare-wa kotae-nakatta.
 {similarly/similarly} he-TOP answer-didn’t
 ‘Similarly, he didn’t answer.’ [Exocomparative]
- b. Kare-wa {dooyooni/onajiyooni} kotae-nakatta.
 he-TOP {similarly/similarly} answer-didn’t
 ‘He didn’t answer similarly.’ [Manner]
- (33) a. Kono-kuni-de-wa igaini-mo koohii-ga takai.
 this-country-in-TOP surprisingly coffee-*nom* expensive
 ‘Surprisingly, coffee is expensive in this country.’ [Evaluative]
- b. Kono-kuni-de-wa koohii-ga igaini takai.
 this-country-in-TOP coffee-*nom* surprisingly expensive
 ‘Coffee is surprisingly expensive in this country.’ [Degree modifier]

As these examples show, it is less common in Japanese, compared to English, to find a case in which the exact same adverb can be used both as a sentence adverb and as a predicate adverb (*dooyooni* ‘similarly’ in (32) being the rare case). It is clearly not the case that *mo* can convert any predicate modifier into the corresponding sentence modifier. That only happens for evaluative adverbs and what Ernst (2002) calls ‘agent-oriented adverbs’, which is one of the subgroups of

subject-oriented adverbs.⁹

In addition to the morphological property, there is also a semantic characteristic shared by the two classes of adverbs. Roughly speaking, they are associated with some kind of speaker's evaluation or judgement. For example, evaluative adverbs such as *oddly*, *fortunately* and *strangely* express the speaker's evaluation toward the proposition denoted by the rest of the sentence, and agent/subject-oriented adverbs such as *stupidly*, *clumsily*, and *cleverly* express the speaker's evaluations toward the subject for doing whatever action is denoted by the verb phrase. To avoid confusion with the terminology, I reserve the term 'evaluative adverbs' for the class of adverbs like *oddly* and *fortunately*, and use 'adverbs of evaluation' as a term to cover the two classes of adverbs – evaluative adverbs and a certain type of subject-oriented adverbs which I will call '*stupid* adverbs' (see chapter 3 for details).

It has been observed in the previous literature (Sawada 1978, Nakau 1980, Morimoto 1994) that sentence adverbs like *kimyooni-mo* 'oddly' and *orokani-mo* 'stupidly' express the speaker's comment about the propositions they modify, whereas predicate adverbs like *kimyooni* 'oddly' and *orokani* 'stupidly' modify the verb phrases and they are part of the propositional contents. For example, Sawada (1978) argues that sentence adverbs that express the speaker's attitude belong to what he calls the 'attitudinal stratum', and predicate adverbs belong to the 'propositional stratum'.¹⁰ Similarly, Nakau (1980) calls sentence adverbs 'proposition-external adverbs' or 'modality' and predicate adverbs 'proposition-internal adverbs'.

The idea of distinguishing propositional contents and the speaker's attitude is not very uncommon. Other authors have made similar distinctions based on their analyses of sentence adverbs in other languages. For example, Quirk et al. (1972) use the terms 'disjuncts' and 'adjuncts', Potts (2005) 'conventional implicature' and 'at-issue meaning', Bonami & Godard (2008) 'ancillary commitment' and 'main assertion', and Mayol & Castroviejo (2013) 'projective tier' and 'at-issue

⁹This is not to say that all evaluative adverbs and agent-oriented adverbs in Japanese have *mo*. See section 2.2.1 in chapter 2.

¹⁰Sawada's (1978) term 'attitudinal stratum' comes from Greenbaum's (1969) 'attitudinal disjuncts', which is defined as those that "express the speaker's attitude to what he is saying, his evaluation of it, or shades of certainty or doubt about it" (Greenbaum 1969:94).

tier’. While such a semantic distinction has been recognized, nonetheless, there seems to be no consensus on how the semantics of adverbs of evaluation should be formally analyzed to begin with.

The purpose of this thesis is to investigate the syntactic and semantic nature of adverbs of evaluation, and clarify in what way their syntactic and semantic properties contrast with their manner adverbial counterparts. It will be shown that the difference between adverbs of evaluation (the two kinds of sentence adverbs) and their corresponding manner adverbs is not just what they modify (propositions or predicates), but also what kind of meanings they express.

Specifically, this thesis aims to answer the following questions based on Japanese.

- (34) a. What characteristics do adverbs of evaluations have? For example, how do they interact with various operators such as negation, question, and imperatives?
- b. What is the adequate way to formally analyze the meanings of adverbs of evaluation?
- c. In what way are adverbs of evaluation different from, or similar to, the corresponding predicate adverbs? Why is this connection commonly found across languages?

Question (34-a) is an empirical question, and question (34-b) concerns theoretical aspects of adverbs of evaluation. Question (34-c) presents to a broader issue that may provide us a key to understanding the connection between sentence adverbs and predicate adverbs. It is not the case that we can fully account for all the cases of polysemous (ambiguous) adverbs that we saw earlier just by answering all the questions in (34). Even so, the findings in this thesis will help us get one step closer to a full explanation of the puzzle of sentence adverbs and predicate adverbs.

This thesis is organized as follows. First, in chapter 2, I examine the semantics of evaluative adverbs such as *kimyooni-mo* ‘oddly’ in (30). I show that evaluative adverbs cannot be directly negated (except by a special kind of negation), cannot be part of the inquiry but can still appear in questions, and cannot appear in imperatives. To account for these characteristics of evaluative adverbs, I argue that evaluative adverbs have non-at-issue conditional meanings. Then, in chapter 3, I turn to subject-oriented adverbs such as *orokani-mo* ‘stupidly’ in (24). I extend my analysis

of evaluative adverbs proposed in chapter 2 but only to a certain kind of subject-oriented adverb (namely, a subgroup of subject-oriented adverbs which I call ‘stupid adverbs’) and not to the other kind (which I call ‘reluctant adverbs’). The proposed analysis accounts for the different characteristics of the two types of subject-oriented adverbs observed in negation, question, imperative, and passive sentences. Finally, in chapter 4, I reconsider what makes adverbs of evaluation (evaluative adverbs and stupid adverbs) special, and point out some key questions for future research. Chapter 5 concludes the thesis.

CHAPTER 2

A REVISED CONDITIONAL ACCOUNT OF EVALUATIVE ADVERBS

2.1 Introduction

In this chapter, I examine a class of adverbs commonly referred to as ‘evaluative adverbs’ such as *strangely* in (1). Other examples of this type of adverb include *amazingly*, *appropriately*, *annoyingly*, *astonishingly*, *curiously*, *conveniently*, *ironically*, *luckily*, *oddly*, *naturally*, *unnaturally*, *fortunately*, *unfortunately*, *thankfully*, *tragically*, *regrettably*, *significantly*, and so forth.

- (1) Strangely, John arrived on time.

This class of adverbs generally correspond to what Quirk et al. (1972) classify as ‘Subgroup IIa’ of ‘Attitudinal Disjuncts’. These adverbs are said to “convey some attitude towards what is said”, and they “do not normally express the view that the speaker’s judgment applies also to the subject of the clause to which the disjunct [i.e., the adverb] is attached” (Quirk et al. 1972:512). *Strangely* in (1), for example, conveys the speaker’s attitude, the evaluation ‘it is strange’, towards the proposition that John arrived on time. Bellert (1977) identifies evaluative adverbs as one of the subclasses of Jackendoff’s (1972) ‘speaker-oriented adverbs’ among other subclasses such as ‘modal adverbs’ (*probably*, *possibly*, etc.) and ‘pragmatic adverbs’ (*frankly*, *sincerely*, etc.).

As shown in the next section, this class of adverbs presents several semantically interesting characteristics with respect to their interaction with negation, questions, imperatives, and modals. As such, it is necessary for a formal analysis to account for those peculiar characteristics observed among evaluative adverbs. However, although evaluative adverbs have been studied since the ’70s, their formal analysis is still under development. Recently, Bonami & Godard (2008) proposed a new perspective on the meaning of evaluative adverbs based on French data, and Mayol & Castroviejo (2013) extend their approach to Catalan and Spanish data. Bonami & Godard’s (2008) approach, which I call a ‘conditional approach’ can account for the behavior of evaluative adverbs

better than other previous analyses, especially when they interact with questions. Even so, there are still remaining issues, both theoretically and empirically, that need to be addressed. I propose a revised version of the conditional approach in order to tie up such loose ends while maintaining the basic insight that there is a conditional meaning associated with evaluative adverbs. I will do so by using Japanese as my primary source of data, which includes previously unmentioned facts about evaluative adverbs in Japanese. The analysis presented here aims to account for the characteristics of evaluative adverbs particularly regarding their interaction with negation, questions, and imperatives, in order to shed light on the nature of evaluative adverbs shared across languages. I show that the analysis has further theoretical implications for the mechanism of predicate negation (in contrast with propositional negation), interpretation of variables in questions, and the semantics and pragmatics of imperatives (in contrast to modal sentences).

This chapter is organized as follows. Section 2.2 presents descriptive facts about evaluative adverbs in Japanese, highlighting how they interact with negation, questions, modals and imperatives. Section 2.3 provides an overview of how the analyses of evaluative adverbs have developed, and point out what still needs to be resolved. In section 2.4, I propose my analysis of evaluative adverbs, and show how it handles the characteristics of evaluative adverbs observed in section 2.2. Section 2.5 discusses further implications of the proposed analysis, particularly regarding how negation should be treated in Japanese, the mechanism of variable binding, and the analysis of imperatives. Section 2.6 summarizes and concludes this chapter.

2.2 Characteristics of evaluative adverbs

In this section, I show how evaluative adverbs in Japanese interact with negation, questions, imperatives, modals and related constructions. The observations presented here, some from the literature and some of my own, suggest that evaluative adverbs are not part of the main assertion of the sentence, as many authors have recognized. It also supports their claim that evaluative adverbs are associated with some kind of conditional meaning.

2.2.1 A Note on Evaluative Adverbs in Japanese

As a side note, let me briefly note some morphological facts about what evaluative adverbs in Japanese generally look like. Besides *kimyooni-mo* ‘oddly’, which I use as a representative example of evaluative adverbs in the ensuing discussion, there are many adverbs of this type as listed in (2).¹

- (2) *saiwai(ni(-mo))* ‘fortunately’, *fukooni(-mo)* ‘unfortunately’, *fuunni-mo* ‘unfortunately’,
zannenni-mo ‘unfortunately’, *unwaruku(-mo)* ‘unfortunately’, *fushigini(-mo)* ‘strangely’,
mezurasiku(-mo) ‘uncommonly’, *kinodokuni(-mo)* ‘regrettably’, *oshiku-mo* ‘regrettably’,
osoreooku(-mo) ‘humbly’, *hinikuni-mo* ‘ironically’, *kokkeeni-mo* ‘ridiculously’, *tsuukaini-*
mo ‘to one’s great satisfaction’, *yukaini-mo* ‘pleasantly’, *fuyukaini-mo* ‘unpleasantly’,
igaini-mo ‘surprisingly’, *aware(ni-mo)* ‘pitifully’, *kanshinni(-mo)* ‘admirably’, *migotoni-*
mo ‘admirably’, *toozen(ni-mo)* ‘unsurprisingly’, *imibukaku-mo* ‘meaningfully’, *mijimeni-*
mo ‘miserably’, *kimyooni-mo* ‘oddly’, *kushiku-mo* ‘strangely’, *iyooni-mo* ‘weirdly’,
bukimini-mo ‘weirdly’, *kyokutanni-mo* ‘extremely’, etc.

Morphologically, evaluative adverbs listed in (2) are all derived from adjectives. For example, *kimyooni-mo* is derived from the adjectival stem *kimyoo* ‘odd’. *Kimyoona* ‘odd’ in (3-a) is an attributive adjective which modifies the noun *odori* ‘dance’, and *kimyooni* ‘oddly’ in (3-b) is a predicate adverb which modifies the verb *odoru* ‘to dance’. By adding *mo* to (3-b), we have the evaluative adverb *orokani-mo* ‘oddly’ as in (3-c).

- (3) a. *kimyoona odori* ‘an odd dance’
b. *kimyooni odoru* ‘dance oddly’
c. *kimyooni-mo odoru* ‘Oddly, (someone) dance(s).’

At this point, one might wonder what *mo* is, or might even guess that *mo* is a unique morpheme that marks evaluative adverbs. However, it is not easy to identify what *mo* really is. I tentatively

¹The list of adverbs in (2) is based on the examples listed in Sawada (1978) and Nakau (1980) with some addition of my own.

follow Sawada (1978) who assumes that *mo*, as far as this phenomenon is concerned, is a kind of interjectional particle which has a function that marks the speaker's subjective attitude toward the proposition.² I will comment a little more on *mo* in chapter 4 (section 4.2.4).

Although evaluative adverbs are typically derived from the adverbial form of an adjective followed by *mo*, there are also many adverbs that function as evaluative adverbs without *mo*. Another common pattern is *koto-ni* as in *ureshii-koto-ni* 'happily', *odoroita-koto-ni* 'amazingly', *kanashii-koto-ni* 'sadly', *myoona-koto-ni* 'oddly', *osoroshii-koto-ni* 'frighteningly', and so on. They consist of a verb (e.g., *odoroita* 'was surprised' + *koto-ni*) or an adjective (e.g., *ureshii* 'is happy' + *koto-ni*) in an attributive form, followed by the head noun *koto* 'thing'. Unlike the *mo* adverbs, the *koto-ni* adverbs have a clausal structure. As the following examples show, the *koto-ni* adverbs can (but the *mo* adverbs cannot) take a full clause with the nominative marked subject and the past tense.

- (4) a. Ooku-no-hito-ga odorita-koto-ni kare-wa kyoogi-o
 many-GEN-people-NOM surprise.PAST-thing-for he-TOP competition-ACC
 kiken-shita.
 withdrawal-did
 'To the surprise of many people, he withdrew from the competition.'
- b. *Ooku-no-hito-ga igaini-mo kare-wa kyoogi-o kiken-shita.
 many-GEN-people-NOM surprisingly-*mo* he-TOP competition-ACC withdrawal-did
 Intended: 'To the surprise of many people, he withdrew from the competition.'

Other common evaluative adverbs are *zannen-nagara* 'unfortunately', *ikan-nagara* 'regrettably', *touzen-nagara* 'unsurprisingly', *fukooni-shite* 'unfortunately', *kanashii-kana* 'sadly', and so on. Although this thesis focuses on the *mo*-marked adverbs such as those in (2), I assume that all evaluative adverbs can be analyzed in the same way. The main goal is to deepen our understanding of the semantics of evaluative adverbs. So, morphological decomposition is not a central issue to be discussed extensively in this chapter.

²The interjectional use of *mo* is often called *eetan no mo* 'exclamatory *mo*' such as in (i).

- (i) Kono-ko-mo zuibun ookiku-natta naa.
 This-child-*mo* a.lot big-became EXCL
 'This child has become so big!'

2.2.2 Negation

Evaluative adverbs cannot scope below negation, as pointed out by many researchers, see e.g., Bellert (1977), Sawada (1978), Nakau (1980), Bonami & Godard (2008), Mayol & Castroviejo (2013) and references therein. As the example (5) shows, when an evaluative adverb appears in a sentence with negation, the only possible interpretation is the one which entails that John did not dance, i.e., ‘it is odd that John didn’t dance’. Thus, the adverb takes scope above negation. If the adverb scopes below negation, the sentence should mean ‘it wasn’t odd that John danced’, but it cannot be interpreted in such a way.

- (5) Oddly, John didn’t dance. (*oddly* > *not*), (~~*not* > *oddly*~~)

This is also the case in Japanese as well.

- (6) Kare-wa kimyooni-mo odora-nakatta.
he-TOP *oddly-mo* dance-didn’t
‘Oddly, he didn’t dance.’ (ADV > NEG), (~~NEG > ADV~~)

The meaning is not affected by the word order change, as (7) indicates.

- (7) Kimyooni-mo kare-wa odora-nakatta.
oddly-mo he-TOP dance-didn’t
‘Oddly, he didn’t dance.’ (ADV > NEG), (~~NEG > ADV~~)

This is one of the characteristics that is shared by many sentence adverbs but not by typical predicate adverbs. For example, when *oddly* is used as a manner adverb (predicate adverb) and not as an evaluative adverb (sentence adverb), negation may take scope above the adverb as shown in (8) and (9). Thus, these sentences do not necessarily entail that John did not dance – he might have danced but not in a odd way. (In fact, they must be interpreted in a way such that negation scopes above the adverb, otherwise it is hard to conceptualize what it means by ‘The manner in which John did not dance was odd’.)

- (8) John didn’t dance oddly. (~~*oddly* > *not*~~), (*not* > *oddly*)

- (9) Kare-wa kimyooni(-wa) odora-nakatta.
 he-TOP oddly(-CONT) dance-NEG:PAST
 ‘He didn’t dance oddly.’ (ADV \rightarrow NEG), (NEG > ADV)

In Japanese, the contrastive marker *wa* may be used to explicitly mark the focus of negation as in (9). However, this is not a possible option for evaluative adverbs, since particles *mo* and *wa* are in complementary distribution and cannot occur together for an independent reason. It is therefore impossible to force the evaluative adverb to scope below negation by attaching *wa* directly to the adverb. Without *wa*, the sentence is of course grammatical (cf.(6)), but it does not have the reading in which negation scopes above the adverb. Thus, in both English and Japanese, when evaluative adverbs appear with negation, evaluative adverbs cannot scope below negation.

On the other hand, there is a particular kind of negation that is allowed to scope above an evaluative adverb, which is not discussed in the previous analyses of evaluative adverbs. In case of Japanese, this is possible with a propositional negation *-to-iu-wake-de-wa-nai* ‘it is not the case that’, but not with the negation *-nai* ‘not’, as in *odora-nai*, the non-past form of *odor-nakatta* ‘did not dance’ in the above examples.

- (10) John-wa tanni koounni-mo shiken-ni gookakushita to-iu-wake-de-wa-nai.
 John-TOP merely luckily exam-DAT passed it.is.not.the.case.that
 (Kare-jishin-no doryoku-no kekka-da.)
 (he-himself-GEN effort-GEN result-is)
 ‘It is not the case that John just luckily passed the exam. (It is the result of his own effort.)’
 (NEG > ADV)

With this special kind of negation, it is possible to interpret the evaluative adverb below negation. As it is clear from the continuation in the parentheses, what is negated is just the adverb *koounni-mo* ‘luckily’, and not *shiken-ni gookakushita* ‘passed the exam’. Thus, evaluative adverbs may or may not scope below negation depending on the type of negation: if it is a kind of negation that appears in between the verb stem and tense morpheme, evaluative adverbs may not scope below negation, but if it is a special type of negation such as *-to-iu-wake-de-wa-nai* ‘it is not the case that’, then evaluative adverbs may be targeted by such negation. The fact that *to-iu-wake-de-wa-nai* ‘it

is not the case that' must scope above negation is not surprising, since just as in case of English *it is not the case that*, it involves a sentence embedding, and it is structurally obvious that the scope of negation is the entire embedded sentence.

2.2.3 Questions

It has been claimed by some authors in the literature that evaluative adverbs, both in English and in Japanese, cannot appear in questions (Schreiber (1971), Quirk et al. (1972), Bellert (1977), Ernst (2009) for English, and Sawada (1978), Nakau (1980) for Japanese).

(11) *Is he ironically/surprisingly a scholar? (Schreiber 1971:16)

(12) *Does he fortunately know about it? (Quirk et al. 1972:517)

(13) **Saiwai* sono madarano fuefuki-ga machijuu-no nezumi-o obikidashita no-desu
 fortunately that pied piper-NOM whole.town-GEN rat-ACC lured.away it.is
 ka?

Q

'Did that pied piper fortunately lure rats in the town away?' (Sawada 1978:(86))

It has also been claimed, according to Bonami & Godard (2008), that evaluative adverbs in French are also unacceptable in questions as shown in (14-a) and (14-a). However, Bonami & Godard (2008) argue against this observation, showing that evaluative adverbs are actually acceptable in questions as long as they are not clause-initial as in (14-b) and (14-b).

(14) a. *Bizarrement, qui est arrivé à l'heure?

b. Qui est arrivé à l'heure, bizarrement?

'Who arrived on time, oddly?' (Bonami & Godard 2008:(48))

(15) a. *Bizarrement, Paul est-il arrivé en retard?

b. Paul est-il, bizarrement, arrivé en retard?

'Did Paul oddly arrive late?' (Bonami & Godard 2008:(49))

Furthermore, Mayol & Castroviejo (2013) observe that evaluative adverbs in Catalan and Spanish are also acceptable in questions, given an appropriate discourse context. (16) and (17) show that evaluative adverbs may appear both in yes-no questions and wh-questions in the two languages.

(16) [Scenario: Two friends, Anne and Betty, invite Maria for dinner. Before the dinner starts, Anne receives a call from work and needs to leave. One hour later, Anne arrives home and sees there's no one in the living room, other than Betty. She asks:]

- a. Ostres, que ja ha hagut de marxar, per desgràcia, la Maria?
 gosh Q already has had of leave unfortunately the Maria
 'Gosh, did Maria have to go already?' + 'If Maria had to go, this is unfortunate.'

(Catalan)

- b. Ostras, ya se ha tenido que ir, por desgracia, María?
 gosh already CL has had to leave unfortunately Maria
 'Gosh, did Maria have to go already?' + 'If Maria had to go, this is unfortunate.'

(Spanish)

(Mayol & Castroviejo 2013:(81))

(17) [Scenario: The speaker is the quizmaster of *Who wants to be a millionaire?*.]

- a. Quin corredor català va perdre, per desgràcia, la final dels 100 metres de
 which runner Catalan lost unfortunately the final of the 100 meters of
 Barcelona 92?
 Barcelona 92
 'Which Catalan athlete lost the 100 meters final in Barcelona's 1992 games?' + 'If
 the Catalan athlete lost the final, this is unfortunate.' (Catalan)

- b. Qué corredor catalán perdió, por desgracia, la final de los 100 metros de
 which runner Catalan lost unfortunately the final of the 100 meters of
 Barcelona 92?
 Barcelona 92
 'Which Catalan athlete lost the 100 meters final in Barcelona's 1992 games?' + 'If
 the Catalan athlete lost the final, this is unfortunate.' (Spanish)

(Mayol & Castroviejo 2013:(82))

In addition to the fact that evaluative adverbs are acceptable in questions, it is essential to examine what kind of semantic effect evaluative adverbs have in questions. According to Bonami & Godard (2008) and Mayol & Castroviejo (2013), when evaluative adverbs appear in questions, the adverb itself is not part of the query. For example, in (15-b), the question is whether Paul arrived late or not, but there is an additional meaning introduced by the adverb in a conditional form ‘if he arrived late, that is odd’. In the case of *wh*-questions such as (14-b), the main question is ‘who arrived on time?’ (not ‘who oddly arrived on time?’), and the conditional meaning provided by the evaluative adverbs is ‘whoever arrived on time, it is odd that they did’. Such expressions involving subordinate clauses headed by *wh-ever* (*whoever*, *whatever*, *whenever* etc.) are sometimes called ‘unconditionals’ (Rawlins 2008a), and are one kind of conditional expressions. Thus, one of the semantic effects of evaluative adverbs is to give rise to some kind of conditional meaning.

The above observations by Bonami & Godard (2008) and Mayol & Castroviejo (2013) are further confirmed by Japanese data I show below. Contrary to what has been previously claimed (e.g., Sawada 1978), evaluative adverbs in Japanese are acceptable in both yes-no and *wh*-questions.

(18) A: ‘The Little Mermaid was told that she would melt into bubbles and disappear if she didn’t kill the prince. However, she couldn’t kill the person she loved.’

B: Ja, fukooni-mo kanojo-wa shindeshimau n-desu ka?
 then, unfortunately she-TOP die it.is Q
 ‘Is she going to die, then?’ + ‘If she is going to die, that is unfortunate.’

(19) A: ‘Over time, the news of Princess Kaguya’s beauty spread, and eventually five princes proposed her.’

B: Dewa, sono go-nin-no naka-de dare-ga koounni-mo Kaguyahime-to
 then, that five-CL-GEN among who-NOM fortunately Princess.Kaguya-with
 kekkon-dekita n-desu ka?
 marriage-do.could it.is Q
 ‘So, among those five, who was able to marry Princess Kaguya?’
 + ‘Whoever that is, it is fortunate that he could marry her.’

Even though evaluative adverbs in Japanese are acceptable in questions, why it has been thought that they are not? This may be partly because a question with an evaluative adverb often sounds less natural when no contextual information is given. For example, sentence (20) is judged as ungrammatical in Sawada (1978), but with an appropriate context, the same sentence becomes acceptable as shown in (21).

- (20) *Saiwai sono madarano fuefuki-ga machijuu-no nezumi-o obikidashita no-desu
 Fortunately that pied piper-NOM whole.town-GEN rat-ACC lured.away it.is
 ka?

Q

‘Did that pied piper fortunately lure rats in the town away?’ (Sawada 1978:(86))

- (21) A: Mukashi Haamerun-to-iu machi-de-wa taihenna-koto-ga atte ne.
 long.ago Hameln-that-say town-LOC-TOP troubled-thing-NOM exist SFP
 ‘A long time ago, there was a big trouble in a town called Hameln.’
 B: E, nani-ga atta n-desu ka?
 oh what-NOM existed it.is Q
 ‘Oh, what happened?’
 A: Aruhi nezumi-ga tairyoo-hassee-shite machijuu-ga nezumi-darake,
 one.day rat-NOM massive-outbreak-did whole.town-NOM rat-ridden
 byoonin-mo takusan deta n-desu yo.
 sick.person-also many occurred it.is SFP
 ‘One day, a massive amount of rats swarmed over the whole town, and many people got sick.’
 B: Sore-wa hidoidesu ne. Sorede, machi-wa doo natta n-desu ka?
 that-TOP awful SFP then town-TOP how become it.is Q
 ‘That sounds awful. What happened to the town then?’
 A: Ee, demo choodo sono-toki fue-no oto-de nezumi-o ayatsureru-to
 yes but just that-time pipe-GEN sound-with rat-ACC manipulate.POT-that
 iu fushigina madara-no fuefuki-ga arawarete, machi-wa sukuwareta n-desu yo.
 say mysterious pied piper-NOM appeared town-TOP saved it.is SFP
 ‘Yes, but just at that time, a mysterious pipe-piper appeared, who said he can puppeteer rats with the sound of pipe, and the town was saved.’
 B: Ja, saiwai sono madara-no fuefuki-ga machijuu-no nezumi-o
 then fortunately that pied piper-NOM whole.town-GEN rat-ACC
 obikidashita no-desu ka?
 lured.away it.is Q
 ‘Did that pied piper fortunately lure rats in the town away, then?’

It does not seem to be the case, however, that one can never judge the acceptability of a question with an evaluative adverb if no context is provided. For example, a sentence like (22) may be easier to judge as acceptable even without a specific context.

- (22) John-wa saiwai shuuden-ni maniatta no?
John-TOP fortunately last.train-to made.it Q
'Did John fortunately catch the last train?'

This may be because it is relatively easy to imagine the background compared to the one in (20). The only thing the addressee needs to understand from this sentence is that the speaker has an assumption that it would be fortunate if John caught the last train (which is quite a general and common situation).

However, it seems to be true that one might sometimes need to pay attention to the context of utterance when checking the acceptability of an evaluative adverb in questions. In fact, Mayol & Castroviejo (2013) argue that a question with an evaluative adverb is acceptable in Catalan and Spanish only when uttered in a situation where the speaker is biased toward a particular proposition. The most common situation is when a question is used as a confirmation-seeking question. Their observation might seem to be correct with respect to the pied-piper example in (21): speaker B presumably has an assumption, upon hearing the story from A, that the pied-piper lured rats away, i.e., the speaker B is biased toward the proposition 'the pied piper lured rats away', but would like to confirm if that is actually the case. However, according to their proposal, it is predicted that the interrogative contexts in which evaluative adverbs occur are restricted to "confirmation-seeking questions, biased polar questions (which include antiexpectational and negative questions), and wh-questions in which the speaker manifestly knows the answer" (Mayol & Castroviejo 2013:221). At least for Japanese, however, this restriction is too strong. For example, it is not clear whether the polar question in (22) has to be used as a confirmation-seeking question. I can think of a situation in which the speaker has no idea if John caught the train or not. Furthermore, Mayol & Castroviejo (2013) argue that wh-questions (in Catalan and Spanish) allow evaluative adverbs only when the speaker manifestly knows the answer (such as in a context where the speaker is the quizmaster of

a TV program as in (17)), but this is not true for Japanese wh-questions. For example, in (19), speaker B does not know which prince married Princess Kaguya, and is not biased toward any specific proposition in this context, yet the evaluative adverb is acceptable. Thus, while it seems to be the case that we need to consider the context of utterance especially when checking the acceptability of evaluative adverbs in questions, it is not true (as far as Japanese data is concerned) that the speaker has to be biased toward a certain proposition which he thinks is the answer.

As it was also the case in French, Catalan, and Spanish, evaluative adverbs in Japanese, when they appear in questions, contribute conditional meanings ('if she is going to die, ...' in (21) and 'Whoever that is, ...' in (22)). In addition, as pointed out by Bonami & Godard (2008) and Mayol & Castroviejo (2013) for French, Catalan and Spanish, although evaluative adverbs can appear in questions, they are not part of the query. This is shown by the fact that the adverbs themselves cannot be the focus of alternative questions.

(23) *Did John, fortunately, dance, or did he, unfortunately, dance?

(24) *Kare-wa saiwai(ni(-mo)) odorimashita ka? Soretomo, fuunni-mo odorimashita ka?
 he-TOP fortunately danced Q or unfortunately danced Q
 Intended: 'Was it fortunate, or unfortunate, that he danced?'

2.2.4 Imperatives and other related expressions

It has been observed that evaluative adverbs are generally not acceptable in imperatives (as in (25) and (28)) and other related constructions (as in (26), (27), (29) and (30)) which have a similar pragmatic effect of telling the addressee to engage in a certain action, such as command, request, advice, warning, and plea (Schreiber 1971, Quirk et al. 1972, Sawada 1978).

(25) *Fortunately, don't tell him. (Quirk et al. 1972:517)

(26) *Could you surprisingly open the window, please? (Sawada 1978:(98))

(27) *Let's happily play tennis. (Sawada 1978:(100))

- (28) *Zannennagara kyoo-wa hayaku kinasai.
unfortunately, today-TOP early come.IMP
'Unfortunately, come early today.'
- (29) ?*Zannennagara kyoo-wa hayaku kite-kudasai.
unfortunately, today-TOP early come-please
'Unfortunately, please come early today.'
- (30) *Saiwai(ni(-mo)) kyoo-wa hayaku kaeri-mashoo.
fortunately, today-TOP early return-let's
'Fortunately, let's go home early today.'

On the other hand, evaluative adverbs can appear with deontic modals.

- (31) Fortunately, you may leave early today.
- (32) Unfortunately, you may not come to the party.
- (33) Zannennagara kyoo-wa hayaku kaeranakute-wa ikemasen.
unfortunately, today-TOP early return.NEG-CONT not.allowed
'Unfortunately, (I/you/someone) should go home early today.'
- (34) Zannennagara zenbu ichi-kara yarinaosu bekidesu.
unfortunately, all first-from redo must
'Unfortunately, you must redo everything from scratch.'

Thus, the unacceptability of evaluative adverbs in imperatives and related constructions (25)-(30) as opposed to their availability in modal sentences indicates that there is some fundamental difference between the two types of constructions, despite the pragmatic similarity.

2.2.5 Summary of the characteristics of evaluative adverbs

Here is a list of characteristics of evaluative adverbs discussed so far.

- Evaluative adverbs cannot be directly negated by (i.e., cannot scope below) the negation *nai* which appears directly on to the verb stem, but may be negated by some other negation (such as *-to-iu-wake-de-wa-nai* 'it is not the case that').

- Although the contents of evaluative adverbs cannot be directly interrogated, evaluative adverbs are acceptable in questions (at least in French, Catalan, Spanish, and Japanese).
- Evaluative adverbs cannot appear in imperatives and other similar constructions which express the speaker's desire or wish, but may appear in modal sentences.

With these characteristics in mind, let us review the previous analyses in the following section. My analysis is proposed in section 2.4 below.

2.3 Previous studies

2.3.1 Factive predicate approaches

In some literature, it has been said that evaluative adverbs are factive (Schreiber 1971, Bellert 1977, Ernst 2009). The claim is that evaluative adverbs entail that the propositions they modify are true propositions (i.e., facts). For example, Schreiber (1971), who used the term 'factive adverbs' in his 1968 dissertation, claims that "an evaluative adverb presupposes the positive truth-value of the (surface) predication with which it is in construction and offers an evaluative (value-judgement) of it" (Schreiber 1971:88). Bellert (1977) also regards evaluative adverbs as 'factive predicates' "the argument of which is the fact, event, or state of affairs denoted by the sentence in which they occur" (Bellert 1977:342). Bellert (1977) specifically argues that a sentence with an evaluative adverb expresses two asserted propositions. For example, sentence (35-a) asserts the two propositions (35-b) and (35-c). The proposition in (35-b) is the proposition (fact) that the adverb modifies.

- (35)
- a. Fortunately John has come.
 - b. Asserted proposition 1: John has come.
 - c. Asserted proposition 2: It is fortunate that John has come.

As a support to this claim, she points out that these two asserted propositions can be negated independently: (36-a) to negate (35-b), and (36-b) to negate (35-c).

- (36) a. Fortunately, John has not come.
b. Unfortunately, John has come.

In this view, it can be said that the predicate negation *not* can only negate the first assertion and not the second assertion. It remains unclear, however, why this is the case. Both propositions are assertions, and yet only the first one can be negated by *not*.

Furthermore, according to Bellert (1977), the factivity is the reason why evaluative adverbs cannot be used in questions as in (37).

- (37) *Has John surprisingly arrived? (Bellert 1977:(15))

It is explained that (37) is unacceptable because it “would make a semantically inconsistent proposition amounting to asking if John has arrived and asserting at the same time that it is a surprise” (Bellert 1977:343).

However, as noted in section 2.2.3, evaluative adverbs can appear in questions under some circumstances. Therefore, an approach that considers evaluative adverbs as factive predicates will face a difficulty, because it rules out the possibility of evaluative adverbs appearing in questions at all. Furthermore, as Bonami & Godard (2008) point out, the proposition which is modified by an evaluative adverb may not necessarily be a true proposition (a fact), especially when we consider an example like (38).

- (38) Si Paul est malencontreusement en retard, le patron sera furieux.
‘If Paul is unfortunately late, the boss will be furious.’
↗ Paul is late. (Bonami & Godard 2008:(15))

In (38), the proposition which the adverb modifies is the antecedent clause ‘Paul is late’. But since this is a conditional sentence, the content of the antecedent clause does not have to be true. This situation contrasts with the following cases with the factive verb *regretter* ‘to regret’ in (39) and with the adjective *malheureux* ‘unfortunate’ in (40).

- (39) Si Marie regrette que Paul soit en retard, c’est qu’elle ne le donnait pas bien.

‘If Marie regrets that Paul is late, it is because she does not know him well.’

→ Paul is late. (Bonami & Godard 2008:(13))

(40) S’il est malheureux que Paul soit en retard, ça l’est encore plus que le patron le soit aussi.

‘If it is unfortunate that Paul is late, it is even worse that the boss is late too.’

→ Paul is late. (Bonami & Godard 2008:(14))

As these show, unlike the evaluative adverb in (38), the factive verb *regretter* ‘to regret’ in (39) and the adjective *malheureux* ‘unfortunate’ (40) do imply that Paul is late even when they are embedded under the antecedent of conditionals. If evaluative adverbs are factive, then the prediction is that they imply that the content of the antecedent of conditionals is true just like the factive verb and the corresponding adjective construction, but that is not the case.

In Japanese too, evaluative adverbs are generally acceptable in the antecedent of conditionals as in (41). Like (38), the sentence does not entail that the content of the antecedent of conditionals is true.

(41) Moshi zannennagara shuuden-ni maniawanakattara takushii-ni norinasai.

If unfortunately last.train-DAT make.it:NEG:COND taxi-DAT ride:IMP

‘If you unfortunately don’t make it for the last train, take a taxi.’

→ You don’t make it for the last train.

In contrast to (41), *kookaishiteiru* ‘to regret’ in (42) and *zannenni-omou* ‘to think it is unfortunate’ in (43) retain their factivity, so the sentences in (42) and (43) imply that the addressee didn’t make it for the last train.

(42) Moshi shuuden-ni maniawanakatta-koto-o kookaishiteru-nara tsugi-kara-wa

If last.train-DAT make.it:NEG-thing-ACC regret-COND next-from-TOP

osoku-naranai-yooni ki-o-tsukenasai.

late-become:NEG-so.that be.careful:IMP

‘If you regret that you didn’t make it for the last train, be careful from next time not to be late.’

→ You didn’t make it for the last train.

- (43) Moshi shuuden-ni maniawanakatta-koto-o zannenni-omou-nara tsugi-kara-wa
 If last.train-DAT make.it:NEG-thing-ACC unfortunate-think-COND next-from-TOP
 osoku-naranai-yooni ki-o-tsukenasai.
 late-become:NEG-so.that be.careful:IMP
 'If you think it was unfortunate that you didn't make it for the last train, be careful from
 next time not to be late.'
 → You didn't make it for the last train.

Thus, Japanese data confirms the observation by Bonami & Godard (2008) that evaluative adverbs are not factive predicates.

Another important issue to consider, in addition to factivity, is the kind of meaning that evaluative adverbs are associated with. While Bellert (1977) argues that a sentence with an evaluative adverb has two asserted propositions, there is an intuition that evaluative adverbs express an additional comment or judgment about what is being said. In other words, the meaning expressed by the evaluative adverbs has somewhat different status from the main assertion expressed by the rest of the sentence. To illustrate, let us consider the contrast between evaluative adverbs and the corresponding adjectival paraphrases.

A sentence with an evaluative adverb is generally paraphrasable using the corresponding adjective as in (44). Sentence (45-a) can thus be paraphrased as (45-b).

- (44) ADJ-ly S --> *It is ADJ that S*
- (45) a. *Strangely, John arrived on time.*
 b. *It is strange that John arrived on time.*

However, the sentences in (45-a) and (45-b) are not semantically equivalent. For example, as Nakau (1980) points out, while the evaluative meaning cannot be directly questioned when it is expressed by an adverb as in (46-a), it can be the target of question when it is expressed by the corresponding adjective as in (46-b).

- (46) a. *Has John fortunately come?
 b. Is it fortunate that John has come? (Nakau 1980:178)

He also points out that they differ with respect to the availability of tag questions.³

- (47) a. *Surprisingly, he ate wild mushrooms, didn't he?
b. It is surprising that he ate wild mushrooms, {isn't it/*didn't he}? (ibid.)

According to Nakau (1980), the reason why (46-a) and (47-a) are unacceptable is that expressions like *fortunately* presuppose that the proposition they modify is true. So, on the one hand, the speaker presupposes that John came, but on the other hand, he is asking whether that is true. But in (46-b) and (47-b), since the adjective version *it is surprising that ...* does not have such a presupposition, the sentence can be turned into a question or can be followed by a tag-question that targets the adjective.

Although Nakau (1980) resorts to the factive predicate approach like Bellert (1977), he expresses his intuition that while the adjective *fortunate* in *It is fortunate that ...* is part of the main proposition, the adverb *fortunately* is not part of the main proposition but rather what he calls 'modality', a term that broadly refers to expressions that describe the speaker's mental attitude at the time of utterance.

Bonami & Godard (2008) also provide evidence that evaluative meanings expressed by adverbs and those by adjectives differ in terms of whether the meaning is part of the main assertion. As they show in (48) and (49), the truth conditions of conditionals remain basically the same with or without the adverb, but that is not the case with the corresponding adjective.

- (48) a. Si Paul, bizarrement, part en vacances, nous serons furieux.
"If, strangely, Paul goes away on vacation, we will be furious."
⇔ Si Paul part en vacances, nous serons furieux.
"If Paul goes away on vacation, we will be furious."

³Although according to some native speakers of English, (i-a) is grammatical if the sentence is accompanied by a falling tone. This indicates that evaluative adverbs are possible in tag questions if the function of the sentence is to seek for an agreement (not a real question) rather than to ask for a confirmation (a kind of question). Thanks to Alan Munn and Mutsuko Endo Hudson for the comments.

- b. Si Paul part en vacances, nous ne le saurons bizarrement pas.

“If Paul goes away on vacation, we will, strangely, not know of it.”

⇔ Si Paul part en vacances, nous ne le saurons pas.

“If Paul goes away on vacation, we will not know of it.”

(Bonami & Godard 2008:(12))

- (49) a. S’il est bizarre que Paul parte en vacances, nous comptons pourtant dessus.

“If it is strange that Paul goes away on vacation, still we count on it.”

⇔ ?Si Paul part en vacances, nous comptons pourtant dessus.

“If Paul goes away on vacation, still we count on it.”

- b. Si Paul part en vacances, il est bizarre que nous ne le sachions pas.

“If Paul goes away on vacation, it is strange that we don’t know of it.”

⇔ Si Paul part en vacances, nous ne le savons pas.

“If Paul goes away on vacation, we don’t know of it.”

((12) *ibid.*)

These contrasts indicate that the adverb *bizarrement* ‘strangely’ does not, but the adjectival counterpart *S’il est bizarre que ...* ‘It is strange that ...’ does, affect the truth conditions of the entire sentence.

Nakau’s (1980) analysis and Bonami & Godard’s (2008) analysis are quite different, especially in that the former does, but the latter does not, take the factive predicate approach due to Bellert 1977. Bonami & Godard (2008) do not claim that the proposition which is modified by the adverb is presupposed. Nonetheless, the two analyses do share the idea that evaluative adverbs are not, but the corresponding adjectives are, part of the main assertion.

Thus, while the paraphrase in (44) generally seems to hold, sentences with evaluative adverbs and the corresponding sentences with adjectives are not semantically equivalent. Therefore, as Jackendoff (1972) claims, it is not adequate to derive the evaluative adverbial meaning directly from the corresponding adjectival constructions, e.g., via transformations. We need an analysis for evaluative adverbs to account for the distinct semantic property that is not shared with the

corresponding adjectival construction. The key idea is the distinction between the main assertion and the kinds of implication other than main assertion. We will turn to a type of approach which takes into account such a distinction.

2.3.2 Multidimensional approaches

Sawada (1978) provides a comparative analysis of sentence adverbials in English and Japanese. Inspired by Greenbaum's (1969) idea of 'disjuncts', he uses various sentential operators to show that evaluative adverbs (along with other sentential adverbs) are not part of the propositional level (or what he calls the 'propositional stratum') but are included in a 'higher' level (or the 'attitudinal stratum' in his words). This is based on the observation that sentential adverbials are not included in the scope of questions (50-a), negation (50-b), imperatives (50-c), and sentential pronominalization (50-d). The following examples are from Sawada (1978) who cites Quirk et al. (1972) and Schreiber (1971). (As I show below, however, it is not the case that questions never allow an evaluative adverb at least in French, Catalan, Spanish, and Japanese.)

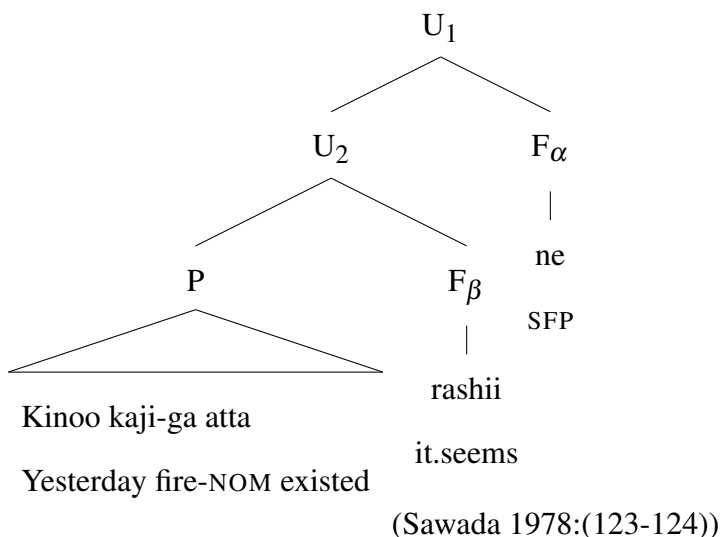
- (50) a. *Does he fortunately know about it?
b. Obviously, he doesn't want us to help him. (obviously > NEG, *NEG > obviously)
c. *Country road, fortunately take me home.
d. A: Clearly, Hitler was a madman.
B: That's false. (*That* = 'that Hitler was a mad man')

Sawada (1978) proposes that since the scope of questions, negation, imperatives and sentential pronominalization is supposed to be limited to the ‘propositional stratum’, sentential adverbials, which are argued to belong to the ‘attitudinal stratum’, are not included in the scope of such operators. This is why, according to Sawada (1978), the sentences are unacceptable in (50-a) and (50-c), negation cannot scope above the adverb in (50-b), and the adverb is not part of the content which is referred to by the sentential pronoun *that* in (50-d).

Incidentally, Sawada's (1978) notions of 'propositional stratum' and 'attitudinal stratum' (as well as Nakau's (1980) 'propositional content' and 'modality') are highly reminiscent of Potts's (2005) 'at-issue meaning' and 'CI (conventional implicature) meaning'. The difference between the two analyses can be found in the way the two levels of meanings interact. In Sawada 1978, there are three levels (or 'strata') of meaning: the 'propositional stratum' as indicated by P, the 'attitudinal stratum' by U_2 , and the 'performative stratum' by U_1 in (51-b), where $U=F(P)$.

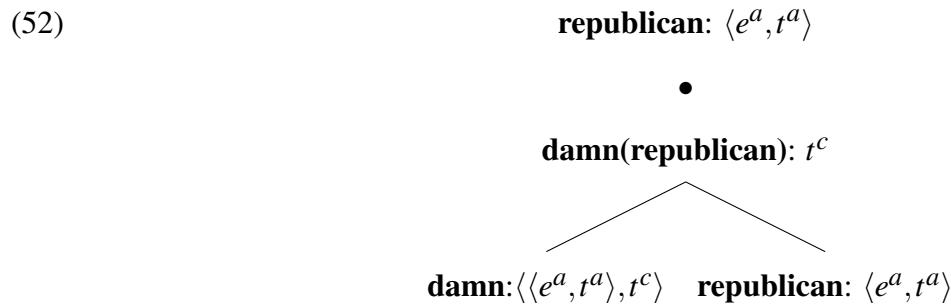
- (51) a. Kinoo kaji-ga atta rashii ne.
 Yesterday fire-NOM existed it.seems SFP
 'It seems that there was a fire yesterday (isn't it).'

b.



Since the higher strata like U_1 and U_2 are simply built upon the lower one, it is not clear just from this representation how the different kinds of meanings are kept distinct semantically when all the pieces of meaning are composed together.

On the other hand, in Potts's (2005) multidimensional semantic model, different levels (or dimensions) of meanings are kept separate throughout the derivation. This is made possible by an additional notational tool, the bullet '•', to keep the at-issue meaning distinct from the CI meaning along the course of semantic computation. As an illustration, consider the following derivation for a phrase like *a damn republican*, with the expressive meaning (in this case, the speaker's negative attitude toward republicans) triggered by *damn*.



The expressive word *damn* is supposed to be an expression that only has a CI meaning and has no effect on the at-issue (truth-conditional) meaning. It is a function that takes an argument of semantic type $\langle e^a, t^a \rangle$, where the superscript *a* indicates ‘at-issue’, and provides the meaning of the phrase *damn republican* in a multi-dimensional way, i.e., in the at-issue dimension, it simply means ‘republican’, and in the CI dimension, it has the expressive meaning ‘damn republican’. The two dimensions are kept distinct throughout the course of meaning computation by ‘•’.

Thus, the way the different levels (‘strata’ or ‘dimension’) of meanings are represented is more complex in Potts 2005, but what Sawada (1978) and Potts (2005) have in common is the idea of keeping the contents of assertion distinct from other non-assertive meaning. Seen from this perspective, the fact that evaluative adverbs can only be targeted by a certain kind of negation but not by some other kind of negation can be analyzed in terms of multidimensionality as well. As mentioned in section 2.2.2 and repeated below, while predicate negation never scopes above evaluative adverbs, as many authors have noted, there are also cases in which negation can take scope above evaluative adverbs, for example with the expression *it is not the case that*.

- (53) Kare-wa kimyooni-mo odora-nakatta.
 he-TOP oddly-*mo* dance-didn’t
 ‘Oddly, he didn’t dance.’ (ADV > NEG), (NEG > ADV)
- (54) John-wa tanni koounni-mo shiken-ni gookakushita to-iu-wake-de-wa-nai.
 John-TOP merely luckily exam-DAT passed it.is.not.the.case.that
 (Kare-jishin-no doryoku-no kekka-da.)
 (he-himself-GEN effort-GEN result-is)
 ‘It is not the case that John just luckily passed the exam. (It is the result of his own effort.)’
 (NEG > ADV)

One way to analyze this contrast is to compare the predicate negation *-nai* ‘not’ that appears on the stem of verbs and adjectives and the sentential negation *to-iu-wake-de-wa-nai* ‘it is not the case that’ in terms of their interaction with adverbs. This is motivated by the fact that the latter is the one that is generally used to express so-called metalinguistic negation – a kind of negation that does not show a disagreement with respect to the content of what is said (the propositional/at-issue content) but rather how it is expressed (the locution), e.g., *Chris didn’t MANAGE to solve the problem – it was quite easy for him., It isn’t WARM, it’s HOT.* (Horn 1985, 1989, McCawley 1991). For example, the negation in (55) is negating the correctness/appropriateness of the sentence rather than the turn of the proposition.

- (55) John-wa nantoka kaiketushita to-iu-wake-de-wa-nai. (Itomo kantanni shorishita
 John-TOP somehow solved it.is.not.the.case.that (extremely easy handled
 no-da.)
 it.is)
 ‘John didn’t manage to solve it. (He handled it as if it were nothing.)’

On the other hand, the other type of negation (*nai* that appears on the stem of verbs and adjectives) is not suitable for this kind of metalinguistic negation. With the first type of negation, as shown in (56), it denies that John solved the problem. Therefore, the continuation in the parenthesis is inconsistent. (In fact, the first sentence in (56) sounds already odd, as it sounds like John put effort on not solving it.)

- (56) John-wa nantoka kaiketushi-nakatta. (#Itomo kantanni shorishita no-da.)
 John-TOP somehow solve-didn’t (extremely easy handled it.is)
 Intended: ‘John didn’t manage to solve it. (He handled it as if it were nothing.)’

Thus, the idea of multidimensionality is useful for explaining the fact that some negation operates on the propositional/at-issue content, whereas some other negation operates on the metalinguistic/non-at-issue content. (See section 2.5.1 for discussion.)

However, such an idea of multidimensionality itself is not sufficient to fully account for the characteristics of evaluative adverbs. The biggest problem is that it cannot account for the fact that evaluative adverbs are actually acceptable in questions (see section 2.2.3). It may explain

why the meanings of evaluative adverbs are not part of the inquiry, but does not explain how the evaluative meanings arise as the speaker's side comments. Furthermore, when we consider the difference between sentence adverbs and predicate adverbs (e.g., *Oddly*, *John danced* vs. *John danced oddly*), it becomes clear that simply separating the dimensions of meanings into at-issue and non-at-issue cannot account for the meaning difference between the two. Let me review Potts's (2005) analysis of evaluative adverbs briefly to clarify these points.

First, Potts (2005) notes the importance of the comma intonation accompanied by evaluative adverbs. For example, the adverb *luckily* with the comma intonation as in (57) is interpreted as an evaluative adverb, whereas without the comma intonation as in (58) it is interpreted as a manner adverb.

- (57) a. Luckily, Willie won the pool tournament.
 b. Willie, luckily, won the pool tournament.
 c. Willie won the pool tournament, luckily.
- (58) a. Willie luckily won the pool tournament.
 b. Willie won the pool tournament luckily.

According to Potts (2005), evaluative adverbs (among other adverbs that he calls 'supplementary adverbs') introduce multidimensional meanings by contributing a non-at-issue (CI) proposition, whereas manner adverbs do not. He proposes the following interpretation of the adverb *luckily*.⁴ This shows that the adverb takes a proposition (*p*) and denotes the meaning 'it is lucky that *p*'.

$$(59) \quad \textit{luckily} \rightsquigarrow \lambda p. \mathbf{ lucky}(p) : \langle t^a, t^a \rangle$$

Note that this does not have a CI meaning; it is simply an at-issue propositional modifier. However, when the comma intonation is involved, the comma intonation (COMMA below) converts the manner adverb *luckily* into an evaluative adverb by turning it into an adverb that only contributes to a CI meaning without affecting the at-issue meaning.

⁴This is slightly simplified but will not affect the argument here. See (Potts 2005:140) for detail.

$$(60) \quad \text{COMMA} \rightsquigarrow \lambda P.P : \langle \langle t^a, t^a \rangle, \langle t^a, t^c \rangle \rangle$$

Potts (2005) presents the following two analyses: one with the manner adverb *luckily* (61), and one with the evaluative adverb *luckily* (62).

$$(61) \quad \begin{array}{c} \text{**lucky(win(the(tournament))(willie)): } t^a**} \\ \diagup \quad \diagdown \\ \text{**lucky: } \langle t^a, t^a \rangle \quad \text{win(the(tournament))(willie): } t^a \end{array}**$$

$$(62) \quad \begin{array}{c} \text{win(the(tournament))(willie): } t^a \\ \bullet \\ \text{comma(lucky)(win(the(tournament))(willie)): } t^c \\ \diagup \quad \diagdown \\ \text{comma(lucky): } \langle t^a, t^c \rangle \quad \text{win(the(tournament))(willie): } t^a \\ | \\ \text{lucky: } \langle t^a, t^a \rangle \end{array}$$

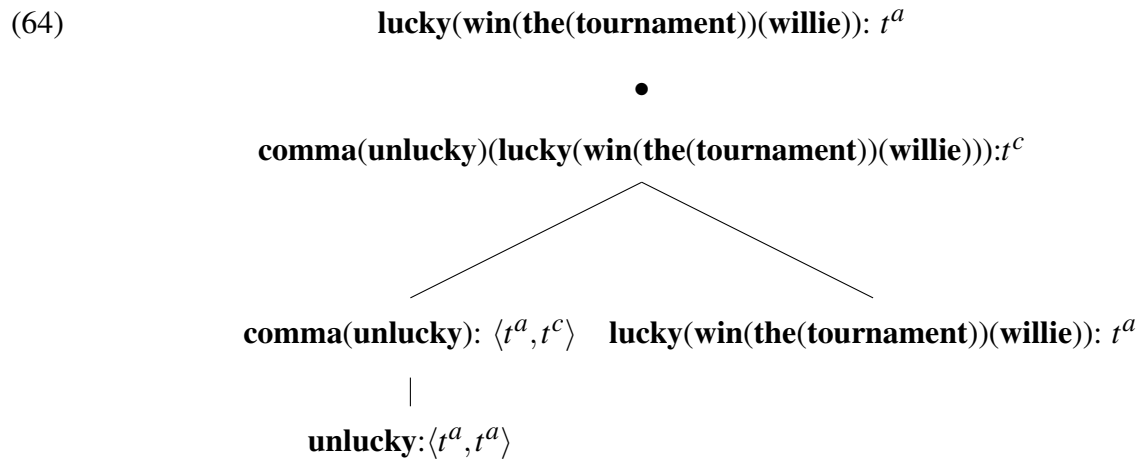
The only difference between the two structures above is whether there is COMMA or not. In (61), the meaning is one-dimensional and there is no CI meaning involved. The only meaning derived is the proposition that Willie won the tournament in a lucky way. In (62), on the other hand, the meaning is multidimensional: the at-issue meaning simply says that Willie won the tournament, and the CI-meaning says that it is lucky that Willie won the tournament. However, since COMMA is essentially an identity function ($\lambda P.P$) as shown in (29), the at-issue meaning in (61), and the CI-meaning in (62) turn out to be the same.

Apparently, then, the only difference between the manner meaning and the evaluative meaning is whether the adverbial meaning is included in the at-issue meaning or in the CI meaning. While the idea that the meaning of manner adverbs and that of evaluative adverbs belong to different levels or dimensions of meaning can explain some of the differences between the two classes of adverbs, this alone is not enough for explaining other semantic differences between the two. For

example, consider a case in which there are two adverbs, *luckily* and *unluckily*, one being a manner adverb and the other being an evaluative adverb such as below, which is from Potts 2005 although he does not give any explicit analysis for it.

(63) Unluckily, Willie luckily won the pool tournament. (Potts 2005:(4.123))

From (61)-(62), sentence (63) is presumably analyzed as follows.



The adverb *luckily*, which is a manner adverb in (63), appears not only in the at-issue meaning but also in the CI meaning, and the CI meaning has both *lucky* and *unlucky*. This apparently is a contradiction, since COMMA is essentially an identity function ($\lambda P. P$) as in (29), which leads us to expect that the CI meaning is interpreted as something like ‘it is unlucky that it is lucky that Willie won the tournament’ (**unlucky**((**lucky**(**win**(**the**(**tournament**))(**willie**))))). In order to interpret the sentence correctly, we need the adverb *luckily* to be interpreted as a manner adverb and not as an evaluative adverb. However, it is not clear how *lucky* in the CI meaning of the example (64) is to be interpreted as a manner adverb, whereas *lucky* in the CI meaning of the example (62) is interpreted as an evaluative adverb. This problem arises because, as it is, Potts’s analysis does not take into account the difference between manner meanings and evaluative meanings. In other words, in addition to the idea that manner adverbs and evaluative adverbs make meaning contributions to different dimensions of meaning, it is also necessary to consider more subtle semantic differences between the two adverbs. (See chapter 4 for more detail.)

Furthermore, the way the meanings of evaluative adverbs are represented such as in (59) cannot account for the conditional meaning of evaluative adverbs in questions. This is because the meaning of evaluative adverbs is represented basically the same as what the corresponding adjectives would mean. As pointed out in section 2.3.1, there is a fundamental difference between the two constructions (e.g., *Fortunately, John came* vs. *It is fortunate that John came*). It is not clear how exactly the dimensional difference in the sense of Potts (2005) alone can derive such a difference. The idea of multidimensionality is indeed important, but it is not sufficient to account for all the characteristics observed in 2.2. In the next section, I review another type of approach which aims to overcome a challenge, especially regarding the case of evaluative adverbs in questions without resorting to factivity.

2.3.3 Conditional approaches

So far I reviewed two types of approaches: factive predicate approaches, and multidimensional approaches. It was shown that both types of approaches are not suitable for accounting for the characteristics of evaluative adverbs, especially for the fact that evaluative adverbs are acceptable in questions. To account for these cases of evaluative adverbs in questions, a new approach, which I call a ‘conditional approach’, was proposed by Bonami & Godard (2008), and adopted by Mayol & Castroviejo (2013). The conditional approach is similar to multidimensional approaches in that evaluative adverbs are not treated as factive predicates and that the meanings of evaluative adverbs do not belong to the main assertion, but it has a new feature that is useful for deriving the evaluative meanings in questions. In this section, I point out how conditional approaches can better account for evaluative adverbs than the other approaches, and what remains to be solved.

Like Potts (2005), Bonami & Godard (2008) assume two distinct levels of meaning for evaluative adverbs. They claim that the meanings of evaluative adverbs do not belong to the main assertion, but to the ‘ancillary commitment’ of the speaker “which is not added to the common ground nor placed under discussion” (Bonami & Godard 2008:274). This means that ancillary commitment is a level of meaning that is distinct from both assertion and presupposition. There

are two new ideas in their proposal: (i) that the meanings of evaluative adverbs involve conditionality, and (ii) that there is a universal closure built within the meaning of evaluative adverbs. For example, the sentence (65) has the two meaning components (65-a) and (65-b).

(65) Marie est malheureusement venue.

‘Unfortunately, Marie came.’

(66) a. Main assertion: **came(Marie)**

b. Ancillary commitment: $\forall^*[\mathbf{came(Marie)} \rightarrow \mathbf{unfortunate(came(Marie))}]$

(where \forall^* denotes a universal closure operation such that it binds all free variables in its scope but has no effect if there is no such variable in its scope)

In the above example, the evaluative adverb ‘unfortunately’ takes a propositional argument (in this case ‘Marie came’) and without changing the main assertion, it adds an ancillary commitment in a conditional form ‘if Marie came, that is unfortunate’. In addition to conditionality, there is a universal closure (\forall^*). Since there is no free variable to be bound in this simple declarative sentence, the universal closure has no effect here. The reason for them to have a universal closure becomes clear when we turn to the case of evaluative adverbs in wh-questions.

For wh-questions with an evaluative adverb such as (67), Bonami & Godard (2008) assume that the evaluative adverb takes an abstracted proposition in (67-b) as an argument.

(67) Qui est arrivé à l’heure, bizarrement?

who is arrive on time oddly

‘Who arrived on time, oddly?’

(Bonami & Godard 2008:(24b))

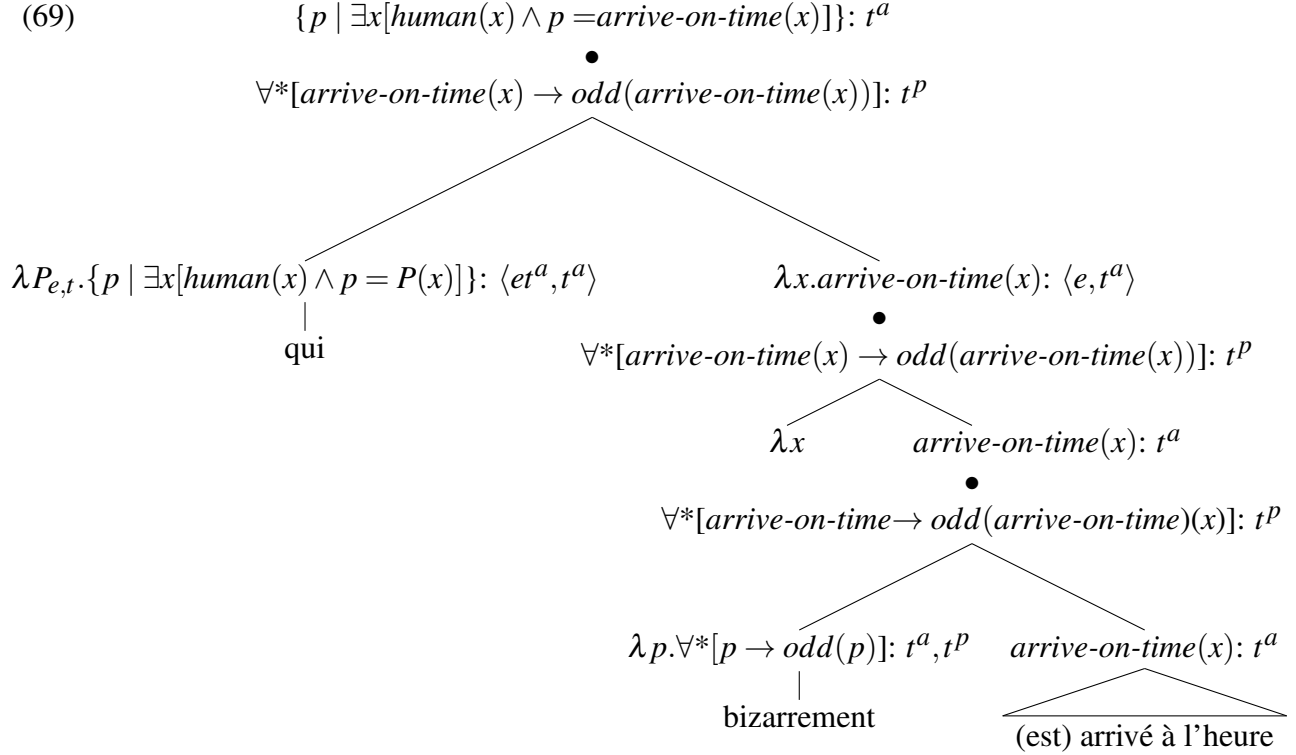
(68) a. Main assertion: $\lambda x. \mathbf{arrive-on-time}(x)$

b. Ancillary commitment: $\forall^*[\mathbf{arrive-on-time}(x) \rightarrow \mathbf{odd(arrive-on-time(x))}]$

$\rightsquigarrow \forall x[\mathbf{arrive-on-time}(x) \rightarrow \mathbf{odd(arrive-on-time(x))}]$

As shown in (68-b), the universal closure binds the free variable x and it produces an unconditional meaning ‘for all x who arrived on time (whoever it is that arrived on time), it is odd that x arrived

on time’. According to Mayol & Castroviejo (2013), who convert Bonami & Godard’s (2008) analysis into a Potts-style multidimensional framework, a *wh*-question with an evaluative adverb can be derived compositionally in the following way.



(Based on (51) in Mayol & Castroviejo (2013) with minor modification)

This derivation shows that the evaluative adverb *bizarrement* ‘oddly’ takes a proposition (where ^a indicates that the content is at-issue) and returns the exact same content plus the conditional meaning (where ^P indicates that it is a projective content). The two kinds of meanings are kept distinct throughout the derivation by ‘•’ just as in Potts (2005). Importantly, since lambda abstraction takes place due to the existence of a *wh*-phrase, the proposition that the adverb takes as its argument has a variable *x*. The assumption here is that the *wh*-phrase only operates on the at-issue content without affecting the projective meaning. As a result, the variable *x* in the projective meaning remains free. This is when the universal closure plays a role. While Bonami & Godard (2008) do not explicitly formalize how the universal closure works, Mayol & Castroviejo (2013) assume that it is a special operator that binds free variables in its scope only at the end of derivation. This

is a necessary assumption, because if it binds before the end of the derivation, it will automatically bind p right away, and that would result in an unwanted presupposition (for any proposition p , if p is true, then p is odd).

The most important contribution by Bonami & Godard's (2008) analysis is that it derives the meanings of evaluative adverbs in questions, which was not achieved by any other previous analyses. However, one ad-hoc assumption they resort to is the universal closure built within the meaning of evaluative adverbs. In the next section, I propose a revised version of conditional approach, which derives the universal flavor of meaning without making use of the universal closure.

2.4 A revised conditional approach of evaluative adverbs in Japanese

In this section, I propose my version of conditional approach to account for the characteristics of evaluative adverbs in Japanese observed in section 2.2. I adopt Bonami & Godard's (2008) basic idea that evaluative adverbs involve a conditional meaning, but without the universal closure, to account for the fact that evaluative adverbs in Japanese, just like those in French as observed by Bonami & Godard (2008), are acceptable in questions and associated with a conditional meaning. I first start with a simple case ignoring tense and other operators such as negation and question. Later, I will add them on step by step.

2.4.1 The basics

First, consider a sentence like (70).

- (70) Kimyooni-mo John-wa odotta.
 Oddly-*mo* John-TOP danced
 'Oddly, John danced.' [Evaluative]

Following Bonami & Godard (2008), I propose that the evaluative adverb *kimyooni-mo* 'oddly' has a conditional non-at-issue meaning.

- (71) a. At-issue: John danced.

- b. Non-at-issue: If John danced, then it is odd that he did so.

Instead of the universal closure, I suggest having a universal operator that quantifies over possible worlds. To put it formally, (71) can be written as (72).

- (72) a. At-issue: $\lambda w. \text{danced}(\text{John})(w)$
 b. Non-at-issue: $\forall w' \in \text{Acc}_{w,a}[\text{dance}(\text{John})(w') \rightarrow \text{odd}_{w'}(\lambda w. \text{dance}(\text{John})(w))]$

In addition to the universal quantifier, there is a domain restriction on w' , as represented as $\text{Acc}_{w,a}$, which stands for ‘what the attitude holder a believes in w ’.⁵ The attitude holder is the person, typically the speaker, who evaluates if it is odd, fortunate, unfortunate, etc. What (72-b) expresses is that for all possible worlds w' which is accessible from what the attitude holder (the speaker) believes in w , if John danced is true in w' then it is odd in w' that he did so. By restricting the domain of possible worlds in this way, it becomes possible to let the conditional meaning of evaluative adverbs to be accessible and true for the attitude holder (the speaker in this case) regardless of what the addressee, or anyone else, might think.

The denotation of the evaluative adverb *kimyooni-mo* ‘oddly’ I propose is (73).

- (73) $\llbracket \text{kimyooni-mo} \rrbracket = \lambda p_{\langle s,t \rangle} \lambda w: \forall w' \in \text{Acc}_{w,a}[p(w') \rightarrow \text{odd}_{w'}(p)]. p(w)$

As shown above, the adverb is a propositional modifier which does not change the at-issue meaning of the proposition it modifies (as $p(w)$ after the period indicates) but expresses the evaluative meaning in a conditional form ‘the speaker thinks that if p then p is odd’.⁶

For sake of simplicity, I write (73) as (74) henceforth, but let us keep in mind that the domain of w' is $\text{Acc}_{w,a}$ ‘what the speaker a believes in w ’.

- (74) $\llbracket \text{kimyooni-mo} \rrbracket = \lambda p \lambda w: \forall w'[p(w') \rightarrow \text{odd}_{w'}(p)]. p(w)$

⁵I assume that the referent of a is determined contextually. If the adverb appears in the matrix clause, the referent is the speaker. If it appears in an embedded clause, for example, in the complement of *Mary thinks that*, then the referent is *Mary*.

⁶At the moment, I treat the conditional meanings of evaluative adverbs as ‘non-at-issue’ meanings without specifying what kind of non-at-issue meaning they are (e.g., presupposition or conventional implicature in Potts’s sense) as it is not the central issue here. See chapter 4 for detail.

2.4.2 Negation

As mentioned earlier in section 2.2.2 and repeated below, evaluative adverbs can appear with negation, but they do not scope below negation.

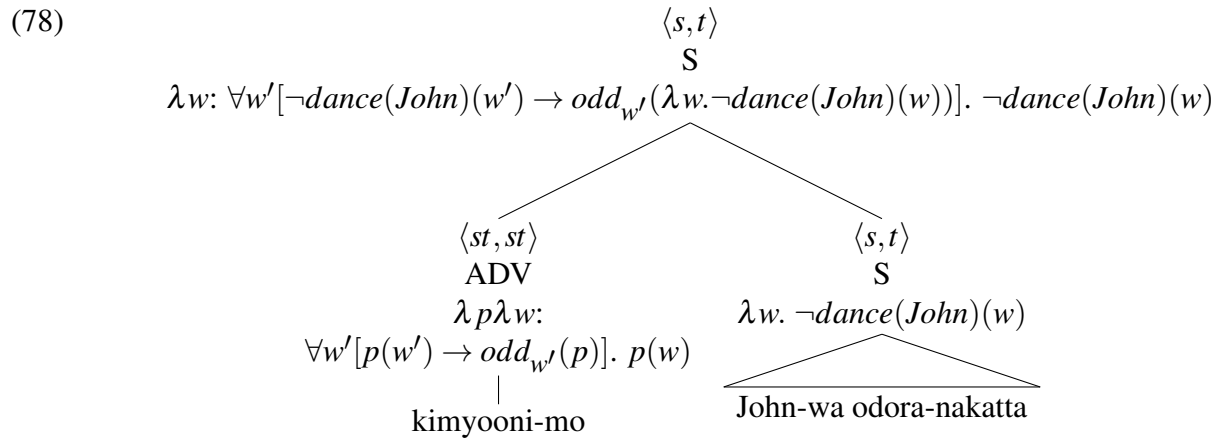
(75) Oddly, John didn't dance. (*oddly* > *not*), (~~*not* > *oddly*~~)

(76) Kare-wa kimyooni-mo odora-nakatta.
 he-TOP oddly-*mo* dance-NEG:PAST
 'Oddly, he didn't dance.' (ADV > NEG), (~~NEG > ADV~~)

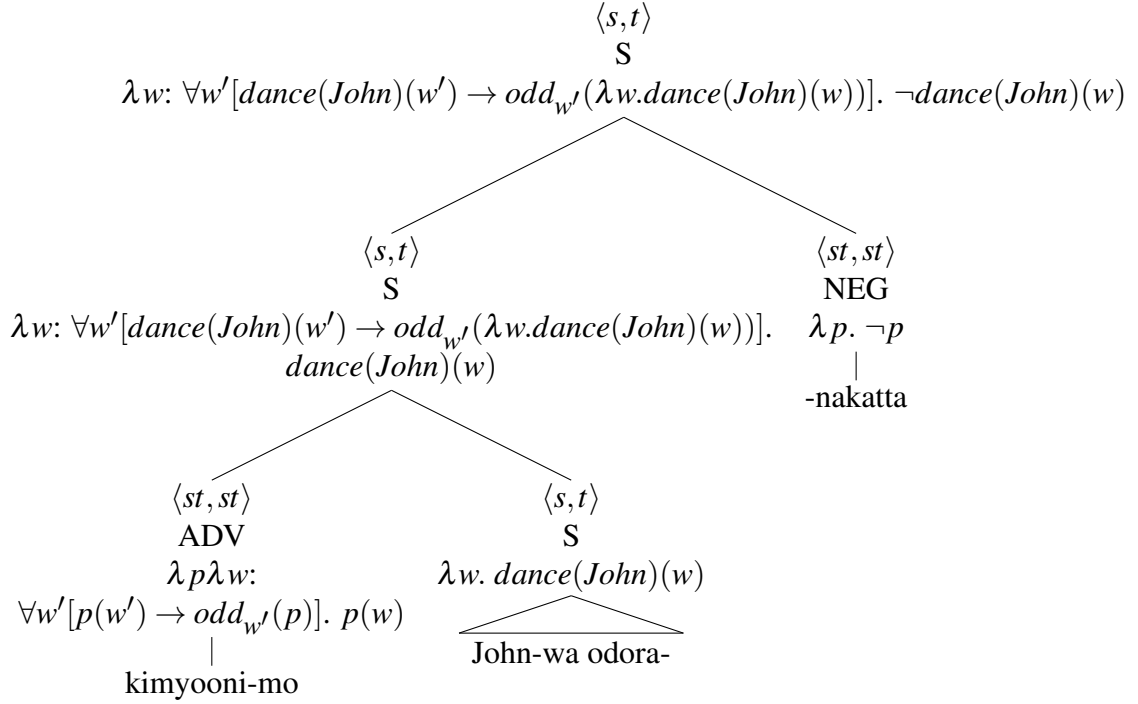
Suppose negation is a propositional operator, i.e., a function from a proposition to a proposition $\langle st, st \rangle$ as in (77).

(77) $\llbracket \text{-nai} \rrbracket = \lambda p. \neg p$

Then, in principle, there should be two readings possible for the sentences in (76): one in which the adverb takes scope above the negation (78), and the other in which the negation takes scope above the adverb (79).



(79)



Contrary to this expectation, the only possible interpretation is (78). Why is the reading (79) not attested even though there is nothing wrong with the syntax or the semantics? Bonami & Godard (2008) argue that this can be explained in terms of pragmatic oddity, rather than a syntactic or semantic reason. Evidently, there is no contradiction in expressing the at-issue meaning ‘John danced’ on the one hand, and at the same time expressing the non-at-issue meaning ‘if John didn’t dance, it is odd that he didn’t’ on the other hand. The reason why this reading is blocked nonetheless is that “it is quite odd for a speaker to engage in conditional talk about a proposition which he simultaneously asserts to be false” (Bonami & Godard 2008:287). Intuitively, however, I have a sense that the reading (79) is absolutely impossible, not just hard or awkward, even when I force myself to interpret the sentence (76) that way. Is the unavailability of the reading (79) only due to pragmatic oddity, or is it possible to derive that differently, such as in a syntactic way?

In what follows, I pursue the latter possibility. In doing so, I analyze the negation *-nai* as a predicate negation rather than a propositional negation. Specifically, I adopt Krifka’s (1989) analysis of negation and tense, and treat the negation *-nai* as a predicate operator which appears below tense. There are a few motivations behind this besides the intuition just mentioned. The first

one is a morphological fact: the verbal complex *odoranakatta* ‘did not dance’ can be decomposed into the verb stem (*odora*), negation (*naka*), and the past tense (or perfect) morpheme (*tta*). By analyzing the negation *nai* as a predicate negation that appears lower than tense, this morphological order in the verbal complex would be straightforwardly accounted for. Secondly, as Krifka (1989) points out, there are certain cases in which negation must be analyzed as a predicate operator rather than a propositional operator. For example, consider the following sentence with two possible interpretations (a) and (b).

- (80) John didn’t laugh for two hours. (Krifka 1989:(21))
- a. For two hours, John didn’t laugh. (He remained serious for two hours.)
(*for two hours* > NEG)
 - b. It is not the case that John’s laughing lasted for two hours. (He just laughed for one hour.) (NEG > *for two hours*)

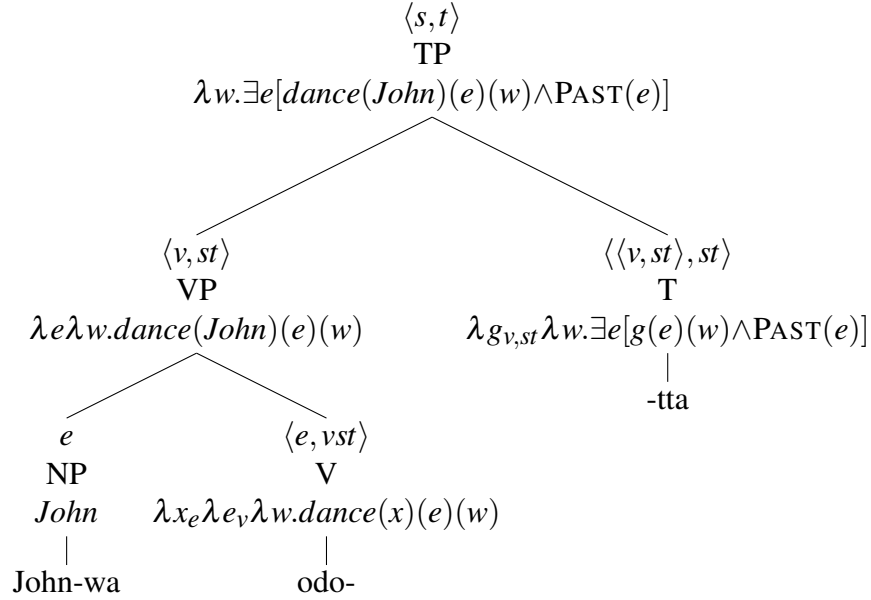
The phrase *for two hours* is generally considered as an event predicate modifier. If negation is always assumed to be a propositional operator, it can only derive the second reading (80-b) and not the first one (80-a) unless the phrase *for two hours* can also function as a propositional modifier. Thus, this suggests that negation is not always a propositional modifier.

To illustrate how the event predicate modification work, consider a simple sentence as in (81) analyzed as (82).⁷

- (81) John-wa odotta.
John-TOP dance.PAST
‘John danced.’

⁷For simplicity, I omit the functional projections such as *vP*, voice *P*, and the like. Although I assume that the subject noun phrase ends up in the spec of *TP* in order to be assigned case, I omit it in this chapter, as such a purely syntactic operation does not have a semantic effect for the interpretation of evaluative adverbs.

(82)



Following the tradition of the Davidsonian event semantics framework (Davidson 1967), I assume events as basic entities whose semantic type is conventionally written as v . When a tense morpheme takes an argument of type $\langle v, st \rangle$, i.e., a verb phrase, it existentially binds the event argument. If it is the past tense morpheme, for example, it denotes that there was an event which happened sometime in the past. This tense morpheme corresponds to Krifka's (1989) 'declarative operator', and is essentially the same as the past tense morpheme assumed in Kratzer (1996). Once the tense binds the event variable, the constituent becomes a proposition ('there is an event e such that e is John's dancing and e occurred in the past').

The predicate negation I use is shown in (83), which is basically the same as the negation operator proposed by Krifka (1989), except that (83) is a type-shifted version. At first sight, this may look unnecessarily complex, but there is a reason for this complication, which becomes clear below when we turn to the interaction of adverbs and negation.

(83) Predicate Negation

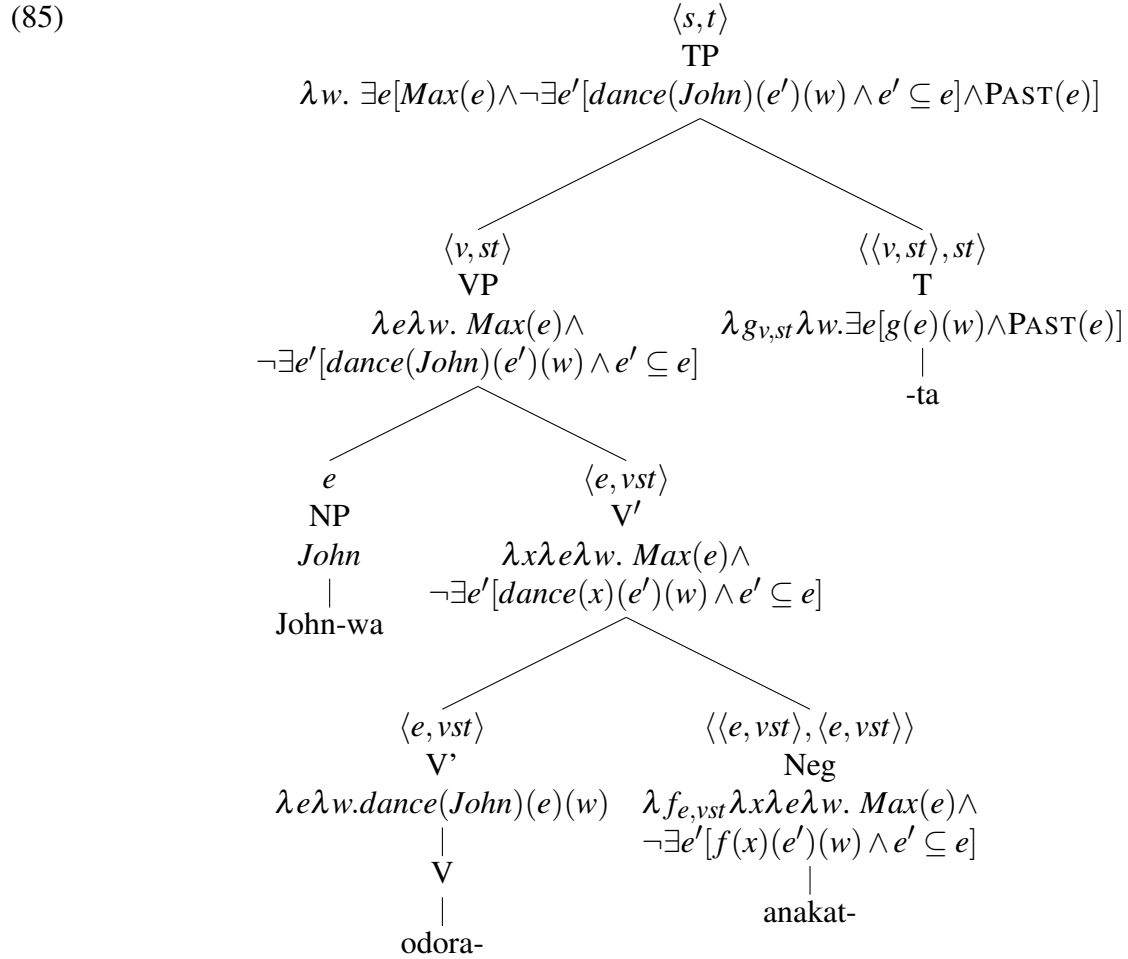
$$[\text{nai}] = \lambda f_{e, vst} \lambda x \lambda e \lambda w. \text{Max}(e) \wedge \neg \exists e' [f(x)(e')(w) \wedge e' \subseteq e]$$

First, this takes a function of type $\langle e, vst \rangle$, a predicate (VP) whose event variable is not yet bound. It introduces what Krifka (1989) calls a 'maximal event', represented here as $\text{Max}(e)$, which is the

fusion of all events at a certain reference time.⁸ What is negated is the existence of an event e' , which is a sub event of the maximal event e , such that e' is an event of x engaging in f .

As an illustration, consider the following sentence (84), which can be analyzed as in (85).

- (84) John-wa odora-nakatta.
 John-TOP dance-NEG.PAST
 'John didn't dance.'



What this denotes is that there exists a maximal event e at a reference time in the past that does not include a subevent e' , where e' is a dancing event by John (or 'during a certain period of time in the past, e.g., yesterday or last week, John's dancing event did not happen'). Again, this may

⁸I simplified the notion of maximal event for convenience. See (Krifka 1989:100-104) for detail.

look clumsy at this point. However, this way of negating event predicates becomes crucial when we turn to situations that involves adverbs that are event predicate modifiers such as the earlier example introduced in (80) repeated here as (86).

- (86) John didn't laugh for two hours. (Krifka 1989:(21))
- a. For two hours, John didn't laugh. (He remained serious for two hours.)
(*for two hours* > NEG)
- b. It is not the case that John's laughing lasted for two hours. (He just laughed for one hour.) (NEG > *for two hours*)

Recall that the meaning (86-a) cannot be derived with a propositional negation. With the predicate negation just introduced, we now can account for the meaning (86-a) as in (87).

$$(87) \quad \lambda w. \exists e[Max(e) \wedge \neg \exists e'[dance(John)(e')(w) \wedge e' \subseteq e] \wedge PAST(e) \wedge duration(e) = 2]$$

While the negation operates on the subevent e' (i.e., John's dancing), the modifier *for two hours* does not modify the subevent e' but modifies the maximal event e , taking scope above negation. As a result, it denotes the meaning that there was a certain period of time which lasted for two hours and during that two hours, John did not laugh at all. This contrasts with (88) in which the negation takes scope above *for two hours*.

$$(88) \quad \lambda w. \exists e[Max(e) \wedge \neg \exists e'[dance(John)(e')(w) \wedge duration(e') = 2 \wedge e' \subseteq e] \wedge PAST(e)]$$

In (88), the modifier *for two hours* modifies the subevent e' , i.e., John's dancing event. It denotes that such a subevent (i.e., two hours of John's dancing) did not occur during some time in the past.

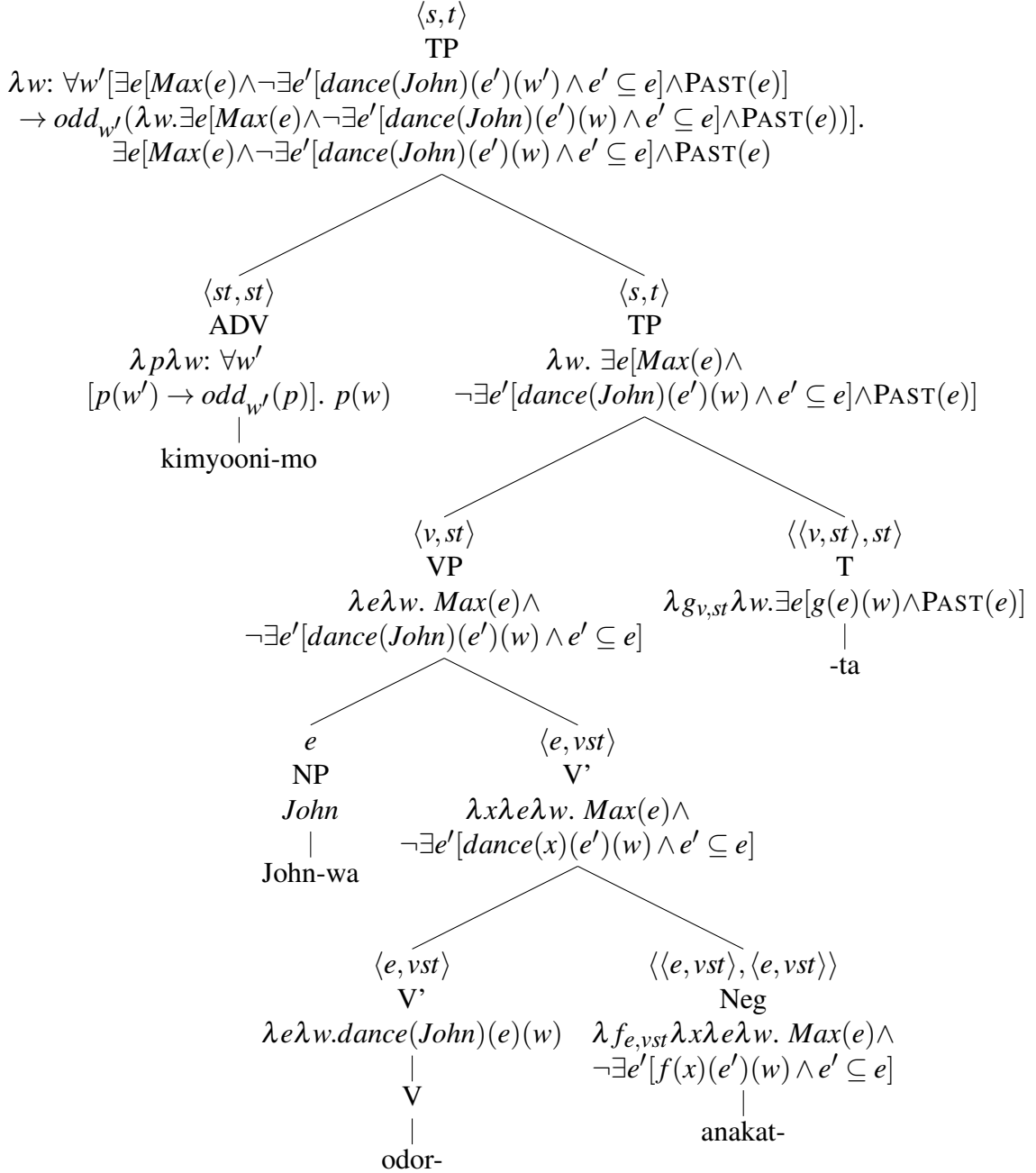
With this framework, we can now straightforwardly account for why evaluative adverbs always scope above negation and do not show scope ambiguity like the modifier *for two hours*: it is predicted that evaluative adverbs scope above the predicate negation *nai* because they are propositional operator, as shown in the following example.

- (89) John-wa kimyooni-mo odor-anakatta.
John-TOP oddly dance-didn't

‘Oddly, John didn’t dance.’

(ADV > Neg), (Neg > ADV)

(90)



However, this is not to say that there is no propositional negation at all. In case of Japanese, a clear case of propositional negation is *to-iu-wake-de-wa-nai* ‘It’s not the case that’ as in (10) repeated here as (91).

- (91) John-wa tanni koounni-mo shiken-ni gookakushita to-iu-wake-de-wa-nai.
 John-TOP merely luckily exam-DAT passed it.is.not.the.case.that
 (Kare-jishin-no doryoku-no kekka-da.)
 (he-himself-GEN effort-GEN result-is)
 ‘It is not the case that John just luckily passed the exam. (It is the result of his own effort.)’

As pointed out earlier, this sentence does not imply that John failed the exam. Rather, it negates the entire sentence including the evaluative adverb. This means that *to-iu-wake-de-wa-nai* ‘It’s not the case that’ is a special kind of negation as it can take a propositional argument and can operate on the non-at-issue content. I will leave the detailed analysis of this kind of non-at-issue negation for future research as it is beyond the scope of this thesis.⁹

⁹One possibility is to analyze *to-iu-wake-de-wa-nai* ‘It’s not the case that’ as some kind of metalinguistic negation. To do so, however, we need to treat the argument of the negation (i.e., the clause *John-wa tanni koounni-mo shiken-ni gookakushita* ‘John just luckily passed the exam’) as something different from a proposition, e.g., an utterance (Potts 2007). However, this approach would face a difficulty when it tries to analyze a case in which the entire sentence is embedded under other operators such as question and conditionals. (Thanks to Yusuke Kubota for pointing this out.)

- (i) John-wa tanni koounni-mo shiken-ni gookakushita to-iu-wake-de-wa-nai n-desu ka?
 John-TOP merely luckily exam-DAT passed it.is.not.the.case.that it.is Q
 ‘Is it not the case that John just luckily passed the exam? (Was that the result of his own effort?)’
- (ii) John-ga tanni koounni-mo shiken-ni gookakushita to-iu-wake-de-wa-nai nara,
 John-NOM merely luckily exam-DAT passed it.is.not.the.case.that if
 shooko-o misenasai.
 evidence-ACC show.IMP
 ‘If it is not the case that John just luckily passed the exam, then show me the evidence. (Prove that it was his effort.)’

Since operators such as question and conditionals take a propositional argument, these examples suggest that the sentence with *to-iu-wake-de-wa-nai* ‘It’s not the case that’ is a proposition and the negative meaning is part of it.

2.4.3 Questions

As shown in section 2.2.3 and repeated below as (92) and (93), Japanese evaluative adverbs can appear in questions (contra Sawada (1978)), but the content of evaluative adverbs is not part of what is being inquired, similar to evaluative adverbs in French (Bonami & Godard 2008) and in Catalan and Spanish (Mayol & Castroviejo 2013).

(92) A: ‘The Little Mermaid was told that she would melt into bubbles and disappear if she didn’t kill the prince. However, she couldn’t kill the person she loved.’

B: Ja, fukooni-mo kanojo-wa shindeshimau n-desu ka?
then, unfortunately she-TOP die:NPST it.is Q
‘Is she going to die, then?’ + ‘If she is going to die, that is unfortunate.’

(93) A: ‘Over time, the news of Princess Kaguya’s beauty spread, and eventually five princes proposed her.’

B: Dewa, sono go-nin-no naka-de dare-ga koounni-mo Kaguyahime-to
then, that five-CL-GEN among who-NOM fortunately Princess.Kaguya-with
kekkon-dekita n-desu ka?
marriage-do.could it.is Q
‘So, among those five, who was able to marry Princess Kaguya?’
+ ‘Whoever that is, it is fortunate that he could marry her.’

To analyze the interaction between evaluative adverb and questions, let me first clarify how questions are treated in the current framework, setting aside evaluative adverbs for the moment.

(94) Ningyohime-wa shindeshimau n-desu ka?
Little.Mermaid-TOP die:NPST it.is Q
‘Is the Little Mermaid going to die?’

(95) Sono go-nin-no naka-de dare-ga Kaguyahime-to kekkon-dekita
that five-CL-GEN among who-NOM fortunately Princess.Kaguya-with
n-desu ka?
marriage-do.could it.is Q
‘So, among those five, who were able to marry Princess Kaguya?’

Questions are commonly taken to denote sets of propositions. Following Hamblin (1973), let us

assume that the sets of propositions denoted by questions consist of possible answers. So, for example, the yes-no-question in (94) denotes a set of propositions in (96), and the wh-question in (95) denotes a set of propositions in (97).

$$(96) \quad \left\{ \begin{array}{l} \text{'The Little Mermaid is going to die'}, \text{'The Little Mermaid is not going to die'} \end{array} \right\}$$

$$(97) \quad \left\{ \begin{array}{l} \text{'Prince A was able to marry Princess Kaguya'}, \\ \text{'Prince B was able to marry Princess Kaguya'}, \\ \text{'Prince C was able to marry Princess Kaguya'}, \\ \text{'Prince D was able to marry Princess Kaguya'}, \\ \text{'Prince E was able to marry Princess Kaguya'} \end{array} \right\}$$

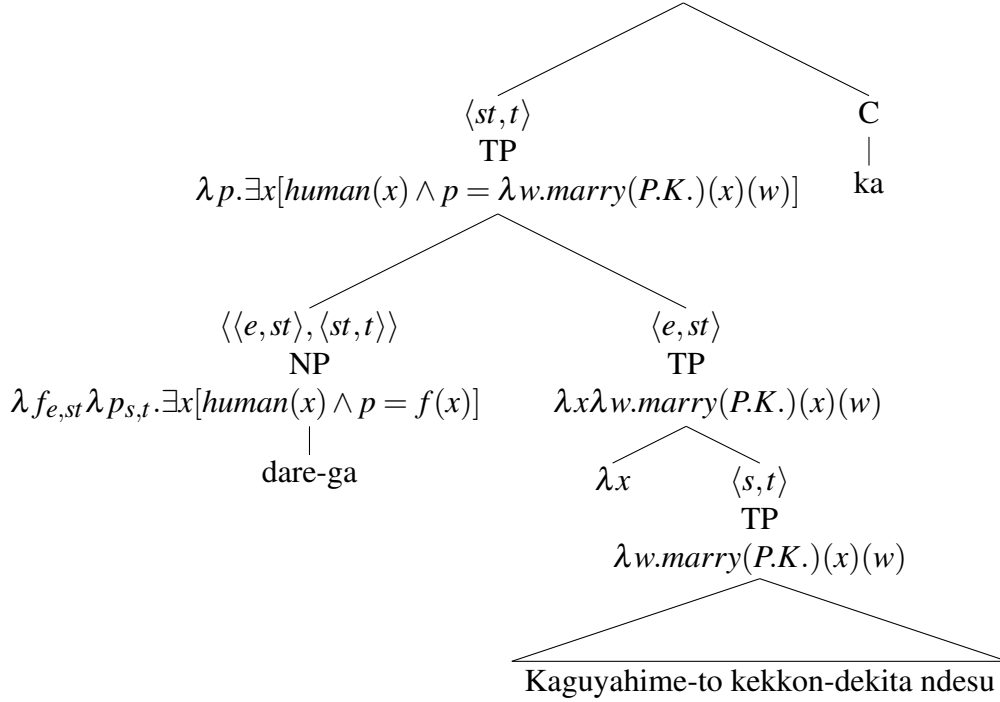
In order to derive sets of propositions, I assume that there is an operator Q (98) for yes-no-questions, following (Mayol & Castroviejo 2013).

$$(98) \quad \llbracket Q \rrbracket = \lambda p. \{p, \neg p\}$$

When this is applied to a proposition, for example ‘she is going to die’, we will have $\{\lambda w. die(L.M.)(w), \lambda w. \neg die(L.M.)(w)\}$.

As for wh-questions, I assume wh-phrases to be a function from a property to a set of propositions. For example, the wh-word *dare* ‘who’ first undergoes wh-movement and creates a property $\langle e, st \rangle$ leaving behind its trace, and then takes the property as its argument.

(99)

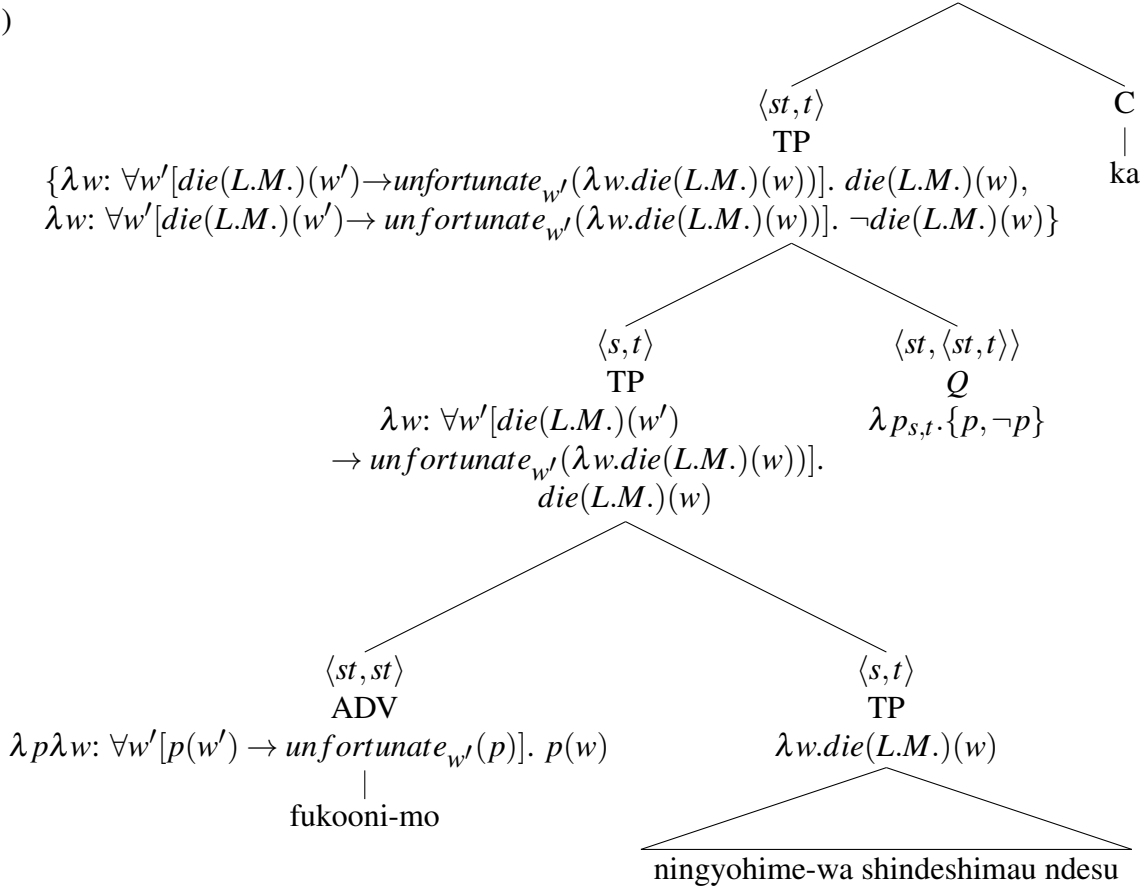


The denotation of wh-phrases I assume here is essentially the same as the one in Mayol & Castroviejo (2013). However, in my analysis, the way the meanings of wh-phrases interact with the meanings of evaluative adverbs is quite different from theirs, as I show below.

Building on this mechanism of questions, I derive the meaning of a question with an evaluative adverb to see why the meanings of evaluative adverbs cannot be part of the inquiry and how the conditional evaluative meanings arise as some kind of side comment. The structure in (101) shows the derivation for the yes-no-question in (100). Tense is omitted for sake of simplicity.

- (100) Fukooni-mo ningyohime-wa shindeshimau n-desu ka?
 unfortunately Little.Mermaid-TOP die:NPST it.is Q
 ‘Is the Little Mermaid going to die?’ + ‘If she is going to die, that is unfortunate.’

(101)



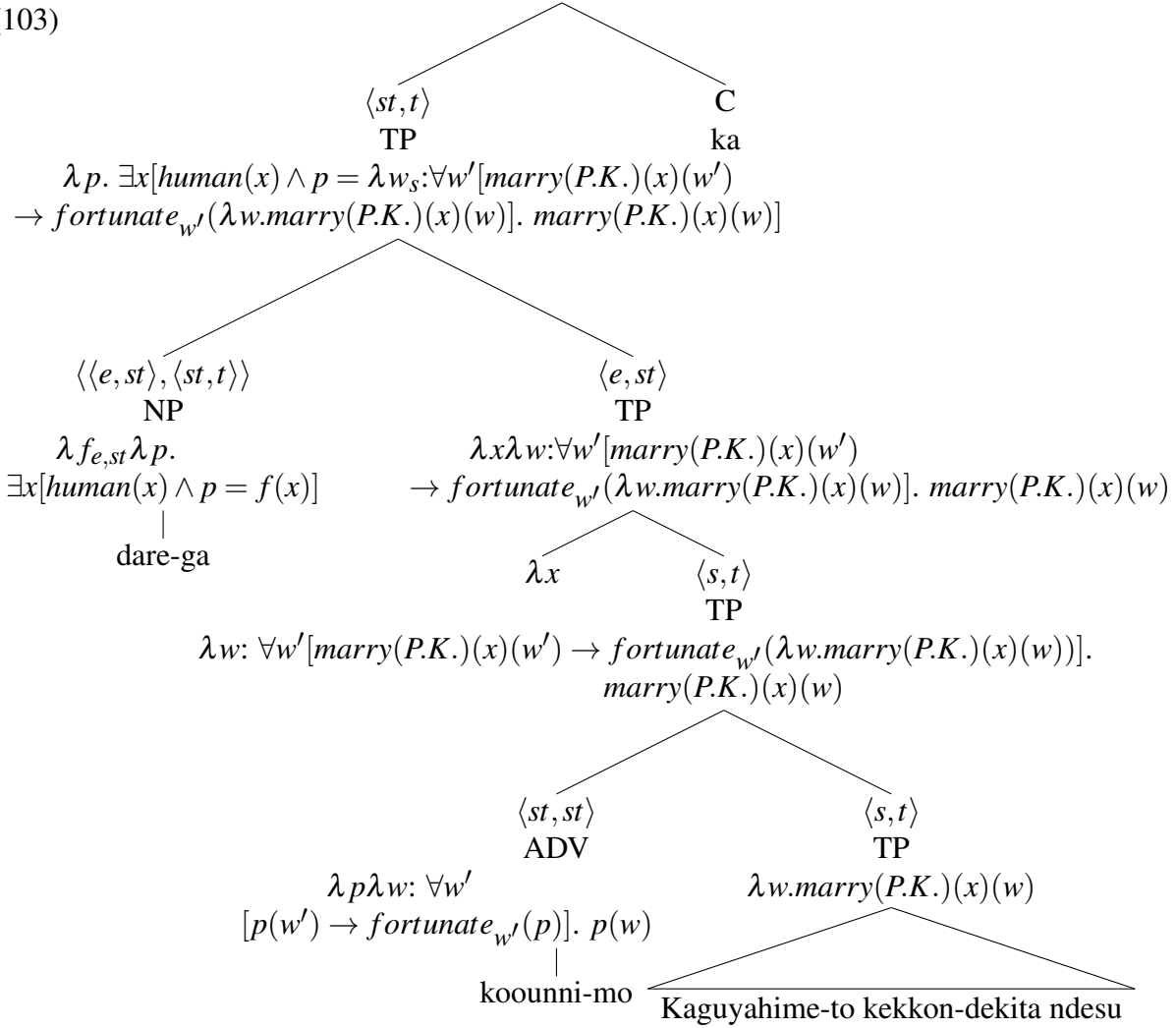
Roughly speaking, the set of propositions derived in (101) consists of the following two propositions: ‘the speaker thinks that it’s unfortunate if the Little Mermaid is going to die, and she is going to die’, and ‘the speaker thinks that it’s unfortunate if the Little Mermaid is going to die, but she is not going to die’. The key is that the operator Q , which is responsible for creating a set of propositions, operates on the at-issue meaning and has no effect on the non-at-issue meaning. This is how the meanings of evaluative adverbs are not part of the inquiry. To give an analogous example, consider the implication of *stop* as in *John stopped smoking*. There is a meaning triggered by the word *stop* that John had been smoking. If someone asks *Did John stopped smoking?*, the set of possible answers are the following two: ‘Yes, John stopped smoking (he had been smoking)’ and ‘No, John did not stop smoking (he had been smoking)’. Both answers has the meaning ‘John had been smoking’. This suggests that the non-at-issue meaning (in this case the implication ‘John had been smoking’ triggered by the word *stop*) remains as it is even when the operator Q is applied.

As for wh-questions such as (102),

- (102) Dare-ga koounni-mo Kaguyahime-to kekkon-dekita n-desu ka?
who-NOM fortunately Princess.Kaguya-with marriage-do.could it.is Q
'Who was able to marry Princess Kaguya?'
+ 'Whoever that is, it is fortunate that he could marry her.'

recall that this is the situation in which the universal closure (\forall^*) has to play a role in Bonami & Godard (2008) and Mayol & Castroviejo (2013) (see section 2.3.3). It was necessary for them in order to derive unconditional meanings ('no matter who came ...' or 'whoever came ...'). Unlike their analyses, however, I do not assume such an operator that only has an effect when there is a free variable within its scope at the end of derivation. Here is how to derive the meaning of a wh-question with an evaluative adverb without the universal closure.

(103)



This denotes a set of propositions ‘a human x (where x is Prince A, Prince B, Prince C, Prince D, or Prince E, in this given context with a phrase *sono-go-nin-no naka-de* ‘among those five people’ which is omitted here) married Princess Kaguya’. In addition, for each proposition in the set, there is a speaker’s presupposition that it is fortunate if x (where x is Prince A, Prince B, Prince C, Prince D, or Prince E, in the given context) married Princess Kaguya. Because each proposition in the set is accompanied by this speaker’s presupposition, we do get a sense of universal flavor, even though there is no universal closure. Therefore, there is no need to stipulate a universal closure. Importantly, the variable x created by the wh-phrase, both that appear in the at-issue meaning and in the presupposition, are bound by the existential operator introduced by the wh-phrase, thus there

is no free variable at the end of the derivation.¹⁰

2.4.4 Imperatives and other related expressions

Evaluative adverbs are unacceptable in imperatives (see section 2.2.4).

- (104) *Zannennagara asu-wa hayaku kinasai.
unfortunately, tomorrow-TOP early come.IMP
'Unfortunately, come early tomorrow.'
- (105) ?*Zannennagara asu-wa hayaku kite-kudasai.
unfortunately, tomorrow-TOP early come-please
'Unfortunately, please come early tomorrow.'
- (106) *Koounni-mo kyoo-wa hayaku kaeri-mashoo.
fortunately, today-TOP early return-let's
'Fortunately, let's go home early today.'

It has been pointed out in the literature (Schreiber 1971, Quirk et al. 1972, Sawada 1978) that evaluative adverbs are generally unacceptable in imperatives and other expressions which express the speaker's desire that the addressee engages in a certain action. For example, the imperative sentence used as a command (104) and the one used as a request (105) both express that the speaker's desire that the addressee comes early today.

Besides these constructions, there are some other types of sentences that may have a very similar pragmatic effect. Modal sentences such as below are examples of such cases. For example, a modal sentence like *You must submit your paper by 5 this Friday!*, when uttered in a certain situation (e.g., a teacher is talking to his student), can have the same pragmatic effect as the imperative sentence *Submit your paper by 5 this Friday!* However, unlike imperatives, modal sentences do

¹⁰If there are more than one wh-phrase, all the wh-phrases have this effect of universal flavor as expected.

- (i) Koounni-mo dare-ga dare-to kekkon-dekita ndesu ka?
fortunately who-NOM who-with marriage-do.could it.is Q
'Who married who?' + 'Whoever those people are, it is fortunate that they got married.'

allow evaluative adverbs to appear.

(107) Zannennagara asu-wa hayaku konakute-wa ikemasen yo.
 unfortunately, tomorrow-TOP early come.NEG-CONT not.allowed SFP
 ‘Unfortunately, (you) should come early tomorrow.’

(108) Zannennagara zenbu ichi-kara yarinaosu bekidesu.
 unfortunately, all first-from redo must
 ‘Unfortunately, (we/you/someone) must redo everything from scratch.’

Modal sentences (107) and (108) express one’s obligation, like imperatives and other related constructions do (104)-(106), but nonetheless they are compatible with evaluative adverbs. It is worth noting that there is nothing conceptually anomalous about expressing an obligation and an evaluation of the situation at the same time. What these suggest is that there is a fundamental linguistic difference between imperatives and modal sentences. In order to account for the unacceptability of evaluative adverbs in the former, I adopt Portner’s (2004) analysis of imperatives, which treats imperatives (and other related sentence types that directly express the speaker’s desire) distinctly from modal sentences.

According to Portner (2004), imperatives are both semantically and pragmatically quite different from modal sentences. He argues that imperatives denote properties and have an effect of updating the addressee’s ‘To-Do-List’, a set of properties which represent a list of actions which the addressee should take. This contrasts with declaratives, which denote propositions, and have an effect of updating the ‘Common Ground’, a set of propositions mutually assumed by the participants in a conversation. For example, an imperative (109-a) denotes a property (109-b) with the presupposition ‘ x is the addressee’. When this is uttered, the action (leaving) is added to the addressee’s To-Do List.

(109) a. Leave!
 b. $\lambda x \lambda w : x = \text{addressee. } \textit{leave}(x)(w)$

On the other hand, a modal sentence (110-a) denotes a proposition, which can be represented as (110-b) (a la Kratzer (1981)).

- (110) a. You should leave!
 b. λw . for all w' that are compatible with what is commanded in w , $leave(Addressee)(w')$

With this framework, and assuming that imperatives are inherently property-denoting (i.e., not derived from a proposition)¹¹, the reason why evaluative adverbs can not appear in imperatives is naturally explained: since evaluative adverbs are propositional modifiers ($\langle st, st \rangle$), they cannot take a property ($\langle e, st \rangle$) as an argument. Whereas for modal sentences, since they are propositions ($\langle s, t \rangle$), they are possible arguments for an evaluative adverb. Thus, adopting Portner's (2004) theory of imperatives, it is predicted that evaluative adverbs are not compatible with imperatives.

I further assume that the sentences (105) and (106), although they are not commonly called 'imperatives', also denote properties rather than propositions. Expressions such as *V-te kudasai* 'Please V' in (105) and *V-mashoo* 'let us' in (106) are not typically called imperatives and do not typically function as a command, but they have similar pragmatic effects as imperatives: they suggest to update the addressee's To-Do-List. The difference is that imperatives have a stronger force and their prototypical use is to give a command, whereas *V-te kudasai* 'Please V' in (105) and *V-mashoo* 'let us' in (106) have a weaker force. As such, *V-te kudasai* 'Please V' in (105) is typically used as a request, and *V-mashoo* 'let us' in (106) as an invitation or suggestion.

In fact, there is also a wide range of meaning/function even with English imperatives. As Condoravdi & Sven (2012) note, even though imperatives typically create obligations for the addressee, they are also used with a weaker directive force, such as requests, advice, wish, offer etc.

- (111) a. Hand me the salt, please. (request)
 b. Take these pills for a week. (advice)
 c. Get well soon! (well-wish)
 d. Have a cookie(, if you like). (offer) (Condoravdi & Sven 2012:38-39)

¹¹In Portner (2004), he mentions that there are two possible ways to derive property denoting imperatives compositionally. The first way is to assume that the subject argument of imperatives is never saturated, which means that imperatives are inherently property denoting. The second way is to assume that there is a subject in imperatives (which is often phonologically null), but it is abstracted over later on. In the latter case, it means that imperatives are at some point a proposition.

What these all have in common is the directive meaning, or the ‘speaker’s endorsement’ (Condoravdi & Sven 2012), which is an expression of the speaker’s desire. By treating the type of sentences as ‘imperatives’ (in a broader sense) which denote properties rather than propositions, we can account for the unacceptability of evaluative adverbs in such sentences.

This idea is quite different from how Sawada (1978) accounts for the same issue. For him, the reason why evaluative adverbs are unacceptable in imperatives is the same as the reason why they are ‘unacceptable’ (according to his observation) in questions. That is, the imperative operator and the question operator only operate on the content which belongs to the propositional stratum and not on the content which belongs to the attitudinal stratum. Since evaluative adverbs belong to the attitudinal stratum, they cannot be incorporated as part of the imperative and question sentences. However, such an explanation is not plausible, since evaluative adverbs are actually acceptable in questions in which case they independently express the evaluative meaning as a side note to the main inquiry (see section 2.2.3). Thus, it is not the multidimensionality (such as propositional stratum vs. attitudinal stratum, or at-issue meaning vs. non-at-issue meaning) but the fundamental linguistic differences that prohibits evaluative adverbs to appear in imperatives.

The idea that imperatives denote properties is, however, not very common and it is still under discussion. For example, one might argue that imperatives are fully propositional as they may take overt subjects.

- (112) a. You be quiet!
b. Everyone sit down!
c. JOHN stand HERE and MARY stand THERE! (Portner 2004:(16))

However, subjects of imperatives, when overtly expressed, have different properties compared to normal subjects (e.g., in declarative sentences). For example, the verb does not show the regular subject agreement (e.g., **You are quiet!*), and the subject of imperatives can be null (e.g., *Be quiet!*) or can be dislocated at the end of sentence (e.g., *Sit down, everyone!*, *Stand here, John!* And, *stand there, Mary!*). It seems difficult, especially for (112-b-c), to distinguish a subject from a vocative

noun phrase.

It is also indicated in Japanese that overt subjects in imperatives have some different property from those in other sentence types (e.g., declaratives). For example, while vocative (113-a) may be used, the topic or nominative subject (113-b) is infelicitous in the situation where it is addressed directly to Hanako, who is the only addressee in the room.¹²

(113) [A mother sees her daughter Hanako staying up late, and tells her:]

- a. Hanako, hayaku nenasai!
Hanako early sleep.IMP
'Hanako, go to bed immediately!'
- b. #Hanako-*{wa/ga}* hayaku nenasai!
Hanako-TOP/NOM early sleep.IMP
Intended: 'Hanako, go to bed immediately!'

Furthermore, besides imperatives, sentences that function as requests, advice, suggestion and so on (i.e., those that express the speaker's desire or wish directed toward the addressee), do not take an overt subject (i.e., the addressee). For example, in a situation in which a student visits his professor (*Tanaka-sensee*) and asks for a letter of recommendation, he should say (115), not (114). Like the English equivalent, the subject *Tanaka-sensee* can only appear as vocative.¹³

- (114) a. Tanaka-sensee, suisenjoo-o kaite-kudasai-masen ka?
Tanaka-teacher, recommendation-ACC write-please-not Q
'Professor Tanaka, could you please write me a letter of recommendation?'

¹²The only case in which the *wa/ga*-marked subjects can appear in imperatives is the ones involve contrastive topic/focus.

- (i) Hanako-wa sara-o arainasai. Taroo-wa mado-o fukinasai.
Hanako-TOP dish-ACC wash.IMP Taro-TOP window-ACC wipe.IMP
'Hanako wash the dishes, and Taro wipe the windows!'
- (ii) Hanako-ga sara-o arainasai.
Hanako-TOP dish-ACC wash.IMP
'Hanako, YOU wash the dishes! (It's you, Hanako, who has to do it, not anyone else!)

I will leave this case as it is beyond the topic of this thesis.

¹³Again, (114) with the *{wa/ga}*-marked subject may be used but only in a special situation in which *Tanaka-sensee* is contrasted with another person (e.g., 'I want YOU to write it, not Suzuki-sensee.'). See the previous footnote.

- b. #Tanaka-sensee-{wa/ga} suisenjoo-o kaite-kudasai-masen ka?
 Tanaka-teacher-TOP/NOM recommendation-ACC write-please-not Q
 Intended: ‘Professor Tanaka, could you please write me a letter of recommendation?’

As far as evaluative adverbs are concerned, it is tempting to adopt the idea that imperatives are inherently property-denoting rather than proposition-denoting. Although it is still controversial whether the imperative subject is missing originally or just not always overt, the idea of imperatives as property denoting expressions, or at least as something that is not proposition denoting, seems to be plausible in other respects too. First, as one of the notable characteristics of imperatives, it has been known that the content expressed by the imperatives cannot be judged true or false. As the following examples show, while it is possible for the addressee to challenge the speaker by saying that the speaker is saying something false in (115), this is not possible in (116) with an imperative.

(115) A: I want you to give me an aspirin!

B: No, you don’t, you’re lying.

(116) A: Give me an aspirin!

B: #You are lying, you don’t want me to give you one. (Condoravdi & Sven 2012:(23))

The fact that imperatives cannot be judged true or false is not direct evidence for the idea that imperatives are property denoting. For example, questions also cannot be judged true or false. There might be another reason that imperatives cannot be judged true or false. However, sentence (116) indicates at least that the sentence does not denote a proposition just like sentence (115) does.

Another point that shows a contrast between a statement and an imperative sentence, as Condoravdi & Sven (2012) note, is contextual consistency. As the following contrast shows, while it is not anomalous at all to express the contradicting wish in (117), it sounds incoherent when expressing the same wish using an imperative form. ((117) and (118) are a slightly modified version of Condoravdi & Sven’s (2012) (16) and (15) respectively.)

(117) I want it to rain so the picnic gets cancelled, but on the other hand, I don’t want it to rain

so I can go hiking.

(118) #Please, rain so the picnic gets cancelled, but don't rain so I can go hiking!

Thus, these seem to suggest that imperatives are semantically different fundamentally from sentences that are normally considered to be denoting propositions. Although these are not direct evidence for the idea that imperatives are not proposition denoting but property denoting, they will be straightforwardly accounted for if we assume that the idea of imperatives as property denoting expressions is on the right track. Moreover, the case of evaluative adverbs we just looked at (the fact that imperatives, unlike modal sentences, are not compatible with evaluative adverbs) would be also explained.

2.5 A Note on Universal Closure

In this analysis, I propose a revised version of conditional approach, which was originally put forth by Bonami & Godard 2008. While I maintain the most crucial part of their approach (i.e., the idea that evaluative adverbs have non-at-issue conditional meanings), I did not adopt the idea that the meanings of evaluative adverbs involve a universal closure. As I presented in my analysis, it is possible to derive the desired meaning without the universal closure. Originally, the universal closure is supposed to have an effect only when there is a free variable remaining in its scope at the end of the derivation. As such, evaluative adverbs, when appearing in a *wh*-question, take as an argument the proposition that contains a free variable created by the lambda abstraction by the *wh*-phrase. In the at-issue meaning, the variable is eventually bound by the *wh*-phrase, but in the non-at-issue meaning (ancillary commitment (Bonami & Godard 2008)), it remains free until the end of the derivation, and in the end it is bound by the universal closure operator introduced by the evaluative adverb. As a result, the unconditional meaning (the *wh-ever* meaning) is derived. Note that the binding mechanism is quite atypical. In order to derive the desired unconditional meaning, it is crucial to assume that the universal closure operator waits until the derivation is complete. Otherwise, it will bind *p* in its scope from the very beginning of the derivation, and will derive a

bizarre meaning, i.e., for all proposition p , if p then it is odd that p . This raises questions as to whether it is theoretically adequate to have an operator whose timing of binding is restricted in such a way, and whether there is any lexical item other than evaluative adverbs which suggests the existence of such an operator.

To support the idea of universal closure, Bonami & Godard (2008) discuss the following example with the quantificational phrase *la plupart des étudiants* ‘most students’. However, as I show below, the same effect can be derived even without the universal closure.

(119) Heureusement, la plupart des étudiants sont venus.

‘Fortunately, most students came.’

- a. Most students came, and it is fortunate that most students came (rather than a different proposition).
- b. Most students came, and for those who came, it is fortunate that they did.

(Bonami & Godard 2008:(41))

According to Bonami & Godard (2008), the sentence (119) has two interpretations, (119-a) and (119-b). To distinguish the subtle meanings between the two, imagine the following contexts. For the first reading, for example, suppose we are talking about the colloquium we had the day before, and we had a worry that few students will show up because of the short notice and it was right before the finals. But it turned out that most students in the department came to the colloquium to fill the room, which of course pleased the speaker. The sentence (119) would mean in that case that it was fortunate that most students came (rather than few students came). For the second reading, imagine a situation in which we are talking about the review session which was held a week before the final. The review session covered most of the important points for the final and was very helpful for the students. In this case, the sentence (119) means that for those who came, it is fortunate that they did (because it helped them prepare for the exam).

This is also the case in Japanese as shown below. (120-a) and (120-b) correspond to the first reading (119-a) and the second reading (119-b) respectively.

- (120) a. Koounni-mo hotondo-no gakusee-ga kita.
 fortunately-*mo* most-GEN student-NOM came
 ‘Fortunately, most students came.’ (Reading (119-a))
- b. Hotondo-no gakusee-wa koounni-mo kita.
 most-GEN student-TOP fortunately-*mo* came
 ‘Fortunately, most students came.’ (Reading (119-b))

As these show, the surface word order reflects the scope relation of the adverb and the quantifier.¹⁴

Bonami & Godard (2008) argue that a sentence with an evaluative adverbs and a quantificational phrase has two interpretations because there is a scope interaction between the quantifier and the adverb. In other words, the two meanings arise because the quantificational phrase creates two possible attachment site for the evaluative adverb. The assumption here is that a quantifier undergoes movement (Quantifier Raising), leaving a trace (variable). However, scope interaction does not support the necessity of universal closure per se. As I show below, the revised conditional account, which does not have the universal closure built in the meaning of evaluative adverb, still can account for the two readings that are due to the scope interaction between an evaluative adverbs and a quantificational phrase.

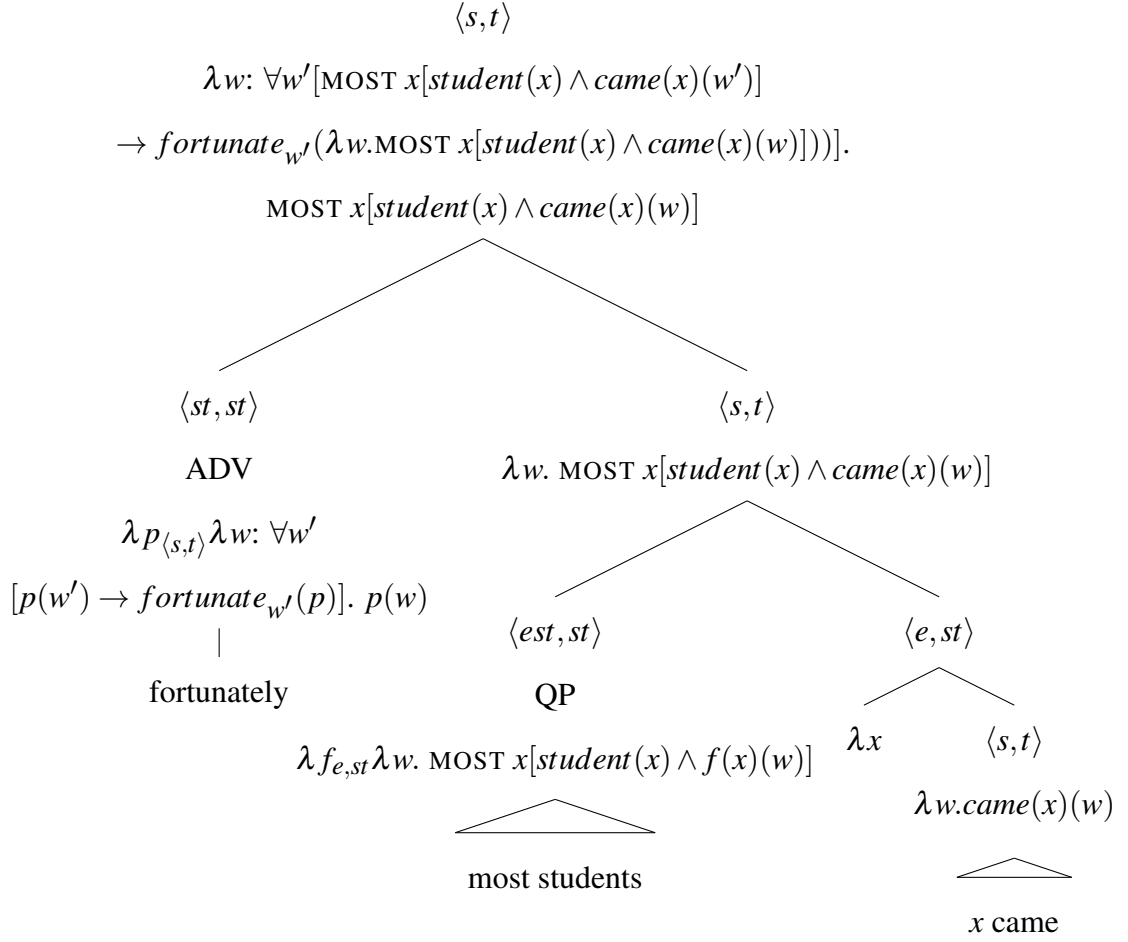
If the adverb takes scope above the quantifier as in (121) the first reading (120-a) is derived. If the adverb slips underneath the quantifier as in (122), the second reading (120-b) will arise. (I used English instead of French in (121) and (122) for convenience.)

¹⁴It is not the case that the *wa*-marked noun phrase must precede the adverb, nor that the nominative marked noun phrase may not precede the adverb. The following sentences are also grammatical.

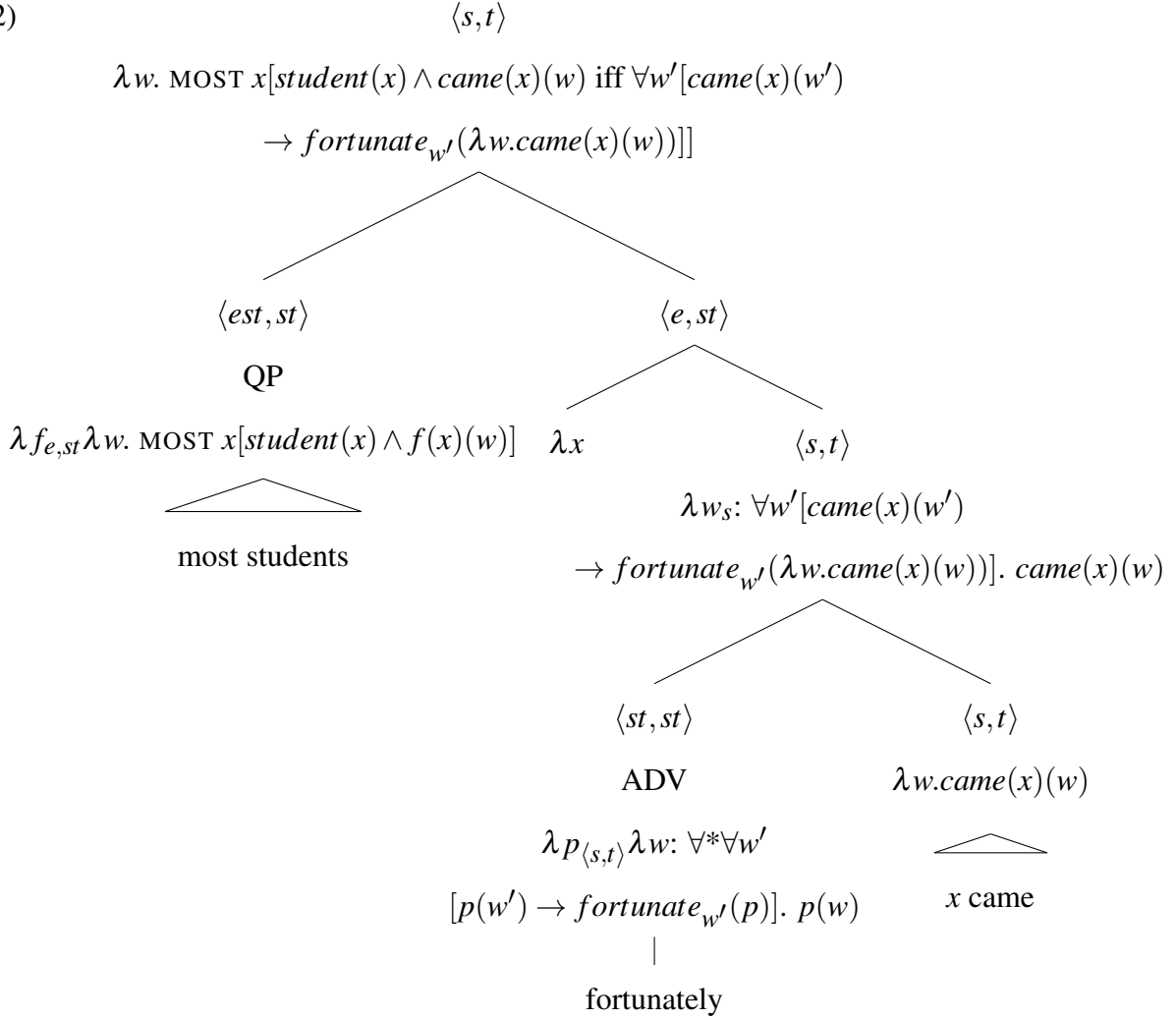
- (i) a. Koounni-mo hotondo-no gakusee-wa kita.
 fortunately-*mo* most-GEN student-TOP came
 ‘Fortunately, most students came.’
- b. Hotondo-no gakusee-ga koounni-mo kita.
 most-GEN student-NOM fortunately-*mo* came
 ‘Fortunately, most students came.’

My intuition is that these are scrambled versions of the sentences in (120). Furthermore, the two sentences sound to me to be ambiguous between the two readings, depending on the intonation, but we need to be careful about some other complicated factors such as focus and/or contrastive topic in order to make the interpretation clear. For the sake of clarity, I set aside these examples from the consideration at the moment.

(121)



(122)



In the former structure (121), it asserts that most students came, and the speaker thinks that it is fortunate if most students came. On the other hand, in (122), it asserts that for most individual x , x is a student and x came, and what the speaker thinks is that it is fortunate if x came. Thus, comparing (121) and (122), the content of adverbial meaning is different. In the former, what is being presupposed by the speaker is that it is fortunate if most students came. In the latter, ‘most students’ is not included in the meaning of the adverb. In this way, the scope interaction can be captured even without the universal closure. Therefore, the scope interaction between evaluative adverbs and quantificational phrases is not a straightforward evidence to argue that it is necessary for the universal closure to be built in the meaning of evaluative adverbs.

2.6 Summary of chapter 2

In this chapter, I examined the semantic nature of evaluative adverbs in Japanese with a focus on their interaction with negative, questions, and imperatives (and other similar constructions). I showed that (i) evaluative adverbs do not scope below the negation *nai* that appears directly on to the verb stem as in *odora-nai* ‘do not dance’, but scope above the propositional negation *to-
iu-wake-dewa-nai* ‘it is not the case that’, (ii) evaluative adverbs are acceptable in questions, but their meanings cannot be part of the inquiry, and (iii) evaluative adverbs are not acceptable in imperatives and other similar constructions that express the speaker’s desire or wish, but they are acceptable in modal sentences.

To account for these observations, I adopted Bonami & Godard’s (2008) idea that evaluative adverbs have a non-at-issue meaning in a conditional form but without a rather ad-hoc universal closure. I showed that we can still derive the meaning without it. By adopting Krifka’s (1989) predicate negation, I proposed a syntactic/semantic account for why evaluative adverbs do not scope below a certain type of negation (*nai*). This is different from Bonami & Godard’s (2008) analysis, which accounts for this fact in terms of pragmatic oddity. Furthermore, I adopted Portner’s (2004) idea, which was proposed independently of adverbs, that imperatives denote properties rather than propositions to account for why evaluative adverbs are not acceptable in imperatives and other similar expressions.

CHAPTER 3

APPLYING THE CONDITIONAL ACCOUNT TO *STUPID* ADVERBS

3.1 Introduction

In this chapter, I extend the revised conditional account presented in the previous chapter to another class of adverbs, the so-called ‘subject-oriented adverbs’. However, as far as Japanese is concerned, not all adverbs that belong to subject-oriented adverbs share the same characteristics. I show that the conditional account applies only to one of the two subclasses of subject-oriented adverbs, which I call ‘stupid adverbs’, and not to the other subclass, which I call ‘reluctant adverbs’. While some analyses do not clarify whether the term ‘subject-oriented adverbs’ includes both subclasses or just stupid adverbs (Jackendoff 1972, Bellert 1977), I use the term ‘subject-oriented adverbs’ to mean a class of adverbs that includes both stupid adverbs and reluctant adverbs in this thesis.

While evaluative adverbs, the group of adverbs we examined in the previous chapter, are classified as one of the subgroups of ‘speaker-oriented adverbs’ (Jackendoff 1972, Bellert 1977, Ernst 2002), the target groups of adverbs in this chapter belong to what have been commonly referred to as ‘subject-oriented adverbs’ such as in (1).

- (1) a. {Stupidly/Cleverly/Rudely}, John answered the question.
b. {Reluctantly/Willingly/Sadly}, John answered the question.

Generally speaking, subject-oriented adverbs are those that “express some additional information about the subject” (Jackendoff 1972:57), and the sentences that contain them (1) can be paraphrased as ‘John was {stupid/clever/rude/reluctant/willing/sad} to answer the question’.

Ernst (2002) further classifies subject-oriented adverbs into two subclasses: those that “indicate that an event is such as to judge its agent as ADJ with respect to the event” (the examples in (1-a)), and those that “describe, most fundamentally, a state of mind experienced by the referent of the

subject of the verb” (the examples in (1-b)). He calls the former ‘agent-oriented adverbs’ and the latter ‘mental-attitude adverbs’, and provides some more examples in (2).

(2) Examples of subject-oriented adverbs (Ernst 2002:(2.34))

a. Agent-oriented adverbs:

cleverly, stupidly, wisely, tactfully, foolishly, rudely, ostentatiously, intelligently, etc.

b. Mental-attitude adverbs:

reluctantly, calmly, willingly, anxiously, eagerly, frantically, absent-mindedly, gladly, sadly, etc.

Such a distinction between the two types of subject-oriented adverb is not new. For example, Quirk et al. (1972), who do not use the term ‘subject-oriented adverbs’, distinguish what they call ‘subject disjuncts’ and ‘subject adjuncts’, which seem to correspond to Ernst’s (2002) agent-oriented adverbs and mental-attitude adverbs respectively.¹ Some of their examples are listed below.

(3) a. Examples of subject disjuncts: (Quirk et al. 1972:512-513)

(in)correctly, (un)justly, rightly, wrongly, artfully, cleverly, cunningly, foolishly, prudently, (un)reasonably, sensibly, shrewdly, (un)wisely, etc.

b. Examples of subject adjuncts:

bitterly, consistently, deliberately, (un)intentionally, purposefully, reluctantly, resentfully, voluntarily, willfully, (un)willingly, etc.

The former is a group of adverbs that “express a judgment of what is being said as a whole and normally apply the same judgment simultaneously to the subject of the clause” (Quirk et al. 1972:512), while the latter is a group of adverbs that “characterize the referent of the subject with respect to the process or state denoted by the verb” (Quirk et al. 1972:265).

¹In Quirk et al.’s (1972) classification subject disjuncts and subject adjuncts do not form a natural class of adverbs. What they call ‘adjuncts’ are adverbials that are integrated in a clause structure, whereas ‘disjuncts’ are not. For more detail, see chapter 8 in Quirk et al. 1972.

Nakau (1980) also distinguishes between the two types of subject-oriented adverbs in English and Japanese: ‘*hyooka no shugo-fukushi*’ (‘subject-oriented adverbs of evaluation’) and ‘*yootai no shugo-fukushi*’ (‘subject-oriented adverbs of manner’), which, according to him, correspond to Quirk et al.’s (1972) subject disjuncts and subject adjuncts respectively.

(4) Examples of subject-oriented adverbs in Japanese (Nakau 1980:183-184)

a. Subject-oriented adverbs of evaluation²:

kenmeeni-mo ‘cleverly’, *orokanini-mo* ‘stupidly’, *zurugasikoku-mo* ‘cunningly’, *bureeni-mo* ‘rudely’, *fukinshinni-mo* ‘inappropriately’, *daitanni-mo* ‘boldly’, *shinsetsuni-mo* ‘kindly’, *gankoni-mo* ‘stubbornly’, *bagageta-koto-ni* ‘stupidly’

b. Subject-oriented adverbs of manner:

iyaiya(nagara) ‘reluctantly’, *koini* ‘purposefully’, *wazato* ‘purposefully’, *itotekini* ‘intentionally’, *susunde* ‘willingly’, *fungaishite* ‘angrily’, *hokorashigeni* ‘proudly’, *jishinarigeni* ‘with confidence’, *kanashigeni* ‘sadly’, *tanoshisooni* ‘happily’, etc.

As Nakau (1980) notes, there is some difference in morphological patterns among the two types of subject-oriented adverbs in Japanese: the adverbs in the former group typically have *mo* or *-koto-ni* ‘for a thing’³, whereas those in the latter group typically have morphemes that express how the subject looks (e.g., *ADJ-geni* ‘in a ADJ look/manner’). He argues that the former is not part of the propositional content, but rather belongs to ‘modality’, which he defines “a description of the speaker’s mental attitude at the time of utterance” (Nakau 1980:159, my translation). On the other hand, he argues that the latter is part of the propositional content, and claims that it is a special kind of manner adverbs, as the name suggests.

While I generally follow the idea that there are two types of subject-oriented adverbs, I do

²Nakau (1980) includes *sasugani* ‘as might be expected’ and *mazui-koto-ni* ‘inconveniently (lit. for an inconvenient thing)’ in the examples of subject-oriented adverbs of evaluation. However, they are not likely to be good examples of that kind of adverbs, since they can appear in a sentence whose subject has no reference, e.g., {*Sasugani/Mazui-koto-ni*} *dare-mo ko-nakatta*. ‘{As might expected/Inconveniently}, no one came.’ (cf. #*Orokani-mo dare-mo ko-nakatta*. #‘Stupidly, no one came.’).

³See section 2.2.1 in chapter 2

not use any of the terminologies in the previous literature. Instead, I call the two types ‘stupid adverbs’ and ‘reluctant adverbs’ hereafter. This is just for convenience and to avoid confusion: Quirk et al.’s (1972) ‘disjuncts’ and ‘adjuncts’ are not very common terms in the recent literature of adverbs, Ernst’s (2002) ‘agent-oriented’ is misleading particularly when we consider Japanese data, because they are not strictly *agent*-oriented (as I show in detail in the following section), and Nakau’s (1980) ‘subject-oriented adverbs of evaluation’ is not only lengthy but also might be confused with evaluative adverbs.

In the following section, I provide more descriptive facts about the two types of subject-oriented adverbs in Japanese particularly with respect to how they interact with negation, question, imperative, and passive constructions, highlighting the syntactic and semantic differences between them (section 2). After I review the relevant previous studies in section 3, I propose my analysis of the two types of subject-oriented adverbs in section 4. Section 5 discusses some implications of the presented analysis, and section 6 summarizes this chapter.

3.2 Observations: Stupid adverbs vs. Reluctant adverbs

3.2.1 Negation

At first glance, stupid adverbs and reluctant adverbs seem to behave similarly with respect to negation. Sentences (5) and (6) both imply that John did not speak, showing that both types of adverbs must scope above negation.

- (5) John-wa orokani-mo hanasa-nakatta.
 John-TOP stupidly-*mo* speak-didn’t
 ‘Stupidly, John did not speak.’ (ADV > NEG), (~~NEG > ADV~~)
- (6) John-wa itotekini hanasa-nakatta.
 John-TOP purposefully speak-didn’t
 ‘John purposefully did not speak.’ (ADV > NEG), (~~NEG > ADV~~)

However, reluctant adverbs, but not stupid adverbs, can take scope below negation when they are marked by *wa* with focus intonation. As the translation shows, sentence (8) implies that John did speak but not purposefully (e.g., he spoke inadvertently).

- (7) *John-wa {orokani-mo-wa/orokana-koto-ni} hanasa-nakatta.
 John-TOP {stupidly-*mo*/stupidly} speak-didn't
 Intended: 'Not stupidly, John spoke.' (NEG > ADV)

- (8) John-wa itotekini-wa hanasa-nakatta.
 John-TOP purposefully-CONT speak-didn't
 'John did not speak PURPOSEFULLY.' (NEG > ADV)

On the other hand, when metalinguistic negation is used (*-to-iu-wake-de-wa-nai* 'it is not the case that'), both stupid adverbs and reluctant adverbs can be under the scope of negation like evaluative adverbs.

- (9) John-wa orokani-mo hanashita-to-iu-wake-de-wa-nai. (Sore-wa kenmeena handan
 John-TOP stupidly-*mo* spoke-it.is.not.the.case.that (that-TOP clever decision
 datta no-da.)
 was it-is.)
 'It's not the case that John stupidly spoke. (It was a clever decision.)' (NEG > ADV)

- (10) John-wa itotekini hanashita-to-iu-wake-de-wa-nai. (Nanimo
 John-TOP purposefully-CONT spoke-it.is.not.the.case.that (anything
 kangaete-inakatta no-da.)
 thinking-was it-is)
 'John did not speak purposefully. (He wasn't thinking anything.)' (NEG > ADV)

Thus, stupid adverbs are similar to evaluative adverbs in that they can only be under negation if it is metalinguistic negation but not with predicate negation. In contrast, reluctant adverbs are different from stupid adverbs and evaluative adverbs, as they can scope below predicate negation when the contrastive *wa* with a relevant focus intonation.

3.2.2 Questions

Like evaluative adverbs (see chapter 2 section 2.2.3), it has been observed that subject-oriented adverbs (those that I refer to as stupid adverbs) are not acceptable in questions. Bellert (1977), for example, claims that sentence (11) is not well formed or is at least anomalous unless the adverbs are interpreted as manner adverbs.

- (11) *Did John {cleverly/wisely/carefully} drop his coffee? (Bellert 1977:(10))

A similar observation is made in Japanese. According to Sawada (1978), a sentence with a stupid adverb such as in (12) is not acceptable.

- (12) *Orokani-mo sono madarano fuefuki-ga machijuu-no nezumi-o obikidashita no-desu
stupidly that pied piper-NOM whole.town-GEN rat-ACC lured.away it.is
ka?
Q
'Did that pied piper stupidly lure rats in the town away?' (Sawada 1978:(86))

Contrary to those observations, however, subject-oriented adverbs in Japanese, both stupid adverbs and reluctant adverbs, are acceptable in yes/no-questions (13) and in wh-questions (14).

- (13) A: 'Bill told us a crazy rumor that Mary had been secretly performing at a strip club, and of course we didn't take it seriously because it sounded too ridiculous and it was April Fool's Day anyway, but John got really upset.'

B: John-wa orokani-mo sonna-koto shinjita n-desu ka?
John-TOP stupidly such-thing believed it.is Q
'Did John believe such a thing?' + 'If he believed it, he is stupid.'
- (14) John-wa itotekini sono-koto-o hanashita n-desu ka?
John-TOP purposefully that-thing-ACC spoke it.is Q
'Did John purposefully speak of that issue?'
- (15) A: 'Bill told us a crazy rumor that Mary had been secretly performing at a strip club, but, you know, it was just too ridiculous and it was April Fool's Day anyway, so none of us, except one person, took it seriously.'

B: Dare-ga orokani-mo sonna-koto shinjita n-desu ka?
 who-NOM stupidly such-thing believed it.is Q
 ‘Who believed such a thing?’ + ‘Whoever believed it, he is stupid.’

- (16) Dare-ga itotekini sono-koto-o hanashita n-desu ka?
 who-NOM purposefully that-thing-ACC spoke it.is Q
 ‘Who purposefully spoke of that issue?’

Note that there is a difference between the meanings of stupid adverbs and reluctant adverbs. While it is possible to paraphrase the sentences using a conditional expression (‘If so, that is stupid’ in (13) and ‘Whoever that is, that is stupid’ (15)) with stupid adverbs, such paraphrase does not work with reluctant adverbs (‘If so, he was purposeful’ for (14) and ‘Whoever that is, he is purposeful’ for (16)).

This is related to the observation that stupid adverbs are not, but reluctant adverbs are, ‘integrated in clause structure’ (Quirk et al. 1972) or part of the ‘propositional content’ (Nakau 1980). According to (Quirk et al. 1972), an adverb is ‘integrated in clause structure’ (what they call ‘adjuncts’), if it can be contrasted with another adverb in an alternative question.⁴ As the following sentences show, an alternative question with stupid adverbs (17) does not sound good unlike an alternative question with reluctant adverbs (18), which is completely natural without any special intonation.

- (17) John-wa kenmeeni-mo damatte-ita n-desu ka? #Soretomo orokani-mo damatteita
 John-TOP cleverly be.silent-was it.is Q or stupidly be.silent-was
 n-desu ka?
 it.is Q
 Intended: ‘Was it clever, or stupid, of John to have kept silence?’

- (18) John-wa itotekini hanashita n-desu ka? Soretomo ukkari hanashita
 John-TOP purposefully spoke it.is Q or absent-mindedly spoke
 n-desu ka?
 it.is Q
 ‘Did John speak purposefully or absent-mindedly?’

⁴This is one of the criteria for diagnosing ‘adjuncts’ in Quirk et al.’s (1972) sense.

Since stupid adverbs are not integrated in the clause structure or part of the propositional content, as Quirk et al. (1972) and Nakau (1980) claim, they cannot be the focus of interrogation. However, that does not prevent stupid adverbs from being used in questions. As long as they are not the focus of interrogation, they can appear in questions, without being part of the interrogation, but expressing a side comment in a conditional form. Reluctant adverbs, on the other hand, do not have such a property of expressing a side comment in questions.

3.2.3 Imperatives

Unlike evaluative adverbs, which are not acceptable in imperatives (chapter 2, section 2.2.4), some subject-oriented adverbs are acceptable in imperatives of a certain kind, although the situation is slightly complicated. First, reluctant adverbs are generally acceptable in imperatives.

- (19) {Itotekini/Iyaiya/Hokorashigeni/Tanoshigeni} hanase.
 {purposefully/reluctantly/proudly/happily} speak:IMP
 ‘Speak {purposefully/reluctantly/proudly/happily}.’
- (20) {Itotekini/Iyaiya/Hokorashigeni/Tanoshigeni} hanasuna.
 {purposefully/reluctantly/proudly/happily} speak:NEGIMP
 ‘Don’t speak {purposefully/reluctantly/proudly/happily}.’

However, the use of stupid adverbs in imperatives is more restricted. While they are acceptable in negative imperatives (21),⁵ they are unacceptable in non-negative imperatives (22).

- (21) Orokani-mo naguriai-nado suruna.
 stupidly-*mo* fistfight-such.as do:NEGIMP
 ‘Don’t do anything like a fistfight.’ + ‘If you do anything like a fistfight, you are stupid.’
- (22) *Orokani-mo hontou-no koto-o ie.
 stupidly-*mo* real-GEN thing-ACC say:IMP
 Intended: ‘Speak truth!’ + ‘If you speak truth, you are stupid.’

⁵For some speakers including me, sentence (21) is perfectly fine, but not so much for others. However, those who do not feel (21) is perfectly acceptable agree that it is not as bad as (22).

Furthermore, not all stupid adverbs can appear in negative imperatives, but only those with some kind of negative connotation. While stupid adverbs with negative connotation such as *orokani-mo* ‘stupidly’, *hikyooni-mo* ‘cowardly’, and *namaikini-mo* ‘impertinently’ are acceptable in imperatives (as long as the sentence is negative imperative) as in (23)-(24), stupid adverbs such as *kenmeeni-mo* ‘cleverly’, *yuukanni-mo* ‘courageously’, and *shinsetsuni-mo* ‘kindly’ cannot (no matter whether it is negative imperative or not) as in (25)-(26).

- (23) Hikyooni-mo kosokoso nigedashi-tari suruna.
 cowardly-*mo* sidle flee-such.as do:NEGIMP
 ‘Don’t do anything like sidling away.’
 + ‘If you do anything like sidling away, you are coward.’
- (24) Namaikini-mo kuchigotae suruna.
 impertinently-*mo* back-talk do:NEGIMP
 ‘Don’t talk back to me.’ + ‘If you talk back to me, you are impertinent.’
- (25) *Kenmeeni-mo damas-are-ta furi-nado suruna.
 cleverly-*mo* deceive-PASS-PAST pretense-such.as do:NEGIMP
 Intended: ‘Don’t act like you’re deceived.’
 + ‘If you act like you’re deceived, you are clever.’
- (26) *Yuukanni-mo moesakaru hi-no naka-e tobikomuna.
 courageously-*mo* blazing fire-GEN inside-to plunge:NEGIMP
 Intended: ‘Don’t plunge into the blazing fire.’
 + ‘If you plunge into the blazing fire, you are courageous.’

Stupid adverbs are acceptable in imperatives only if the adverb has negative connotation and if the sentence is negative imperative. Reluctant adverbs, on the other hand, are generally acceptable in imperatives without such restrictions.

3.2.4 Passives

Subject-oriented adverb are also called ‘passive sensitive adverbs’ (McConnell-Ginet 1982). This name comes from an observation that passive sentences with such adverbs are ambiguous even though the corresponding active sentences are not (Jackendoff 1972, McConnell-Ginet 1982, Wyner

(27) a. Reluctantly, Joan instructed Mary.
b. Reluctantly, Mary was instructed by Joan. (McConnell-Ginet 1982:(1))

Passive-sensitivity is also observed in Japanese, but only with reluctant adverbs. As (28) shows, a passive sentence with a stupid adverb has only one interpretation (28-a). No matter where the adverb appears in the sentence (whether it is sentence-initial, after the surface subject, etc.), the only interpretation possible is the one in which Mary, the surface subject (the theme argument), is stupid (28-a). This is why I do not adopt Ernst's (2002) term 'agent-oriented' adverb for stupid adverbs: the agent argument in the passive is the underlying subject, but stupid adverbs in Japanese cannot be oriented to it when the sentence is passivized, hence it is misleading to call them *agent-oriented* adverbs.

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In contrast to stupid adverbs, reluctant adverbs are passive-sensitive: there are two possible interpretations (29-a) and (29-b).

- (29) Mary-wa John-ni iyaiya dakishime-rare-ta.
Mary-TOP John-by reluctantly hug-PASS-PAST
'Mary was reluctantly hugged by John.'

- a. →Mary was reluctant when she was hugged by John.
b. →John was reluctant when he hugged Mary.

Thus, in Japanese, stupid adverbs are not, but reluctant adverbs are, passive-sensitive. Only the latter give rise to ambiguity in passive sentences.

3.2.5 Summary of the Characteristics of Subject-oriented Adverbs

To summarize the observations, we found that:

- Stupid adverbs cannot scope below the predicate negation *V-nai*, but reluctant adverbs can when accompanied by the contrastive *wa* with an appropriate focus intonation. Both stupid and reluctant adverbs can scope below the propositional negation *to-iu-wake-dewa-nai* 'it is not the case that'.
- Both stupid adverbs and reluctant adverbs are acceptable in questions. However, only the latter can be directly interrogated in alternative questions. The meanings attributed to stupid adverbs in questions, on the other hand, stand as side comments and cannot be part of the interrogation.
- Stupid adverbs can appear in imperatives only when (i) they are associated with negative connotation (e.g., *orokani-mo* 'stupidly', *hikyooni-mo* 'cowardly', and *namaikini-mo* 'impertinently', as opposed to *kenmeeni-mo* 'cleverly', *yuukanni-mo* 'courageously', and *shinsetsuni-mo* 'kindly'), and (ii) the sentences in which they appear are negative imperative (prohibition). On the other hand, reluctant adverbs can appear in imperatives without such restrictions.

- Stupid adverbs are not passive-sensitive adverbs, as they do not exhibit ambiguity in passive sentences. *Reluctantly* adverb are passive-sensitive, just like English subject-oriented adverbs, giving rise to ambiguity in passive sentences.

The characteristics of stupid adverbs clearly contrast with the other type of subject-oriented adverbs, which I call reluctant adverbs and are not included in adverbs of evaluation. Reluctant adverbs are similar to manner adverbs in that (i) they can be in the scope of predicated negation (30), (ii) they can be part of the inquiry when appearing in questions (31)-(32), and (iii) they can appear in imperatives without any restriction unlike stupid adverbs (33).

- (30) a. John-wa orokani-mo hanas-anakatta.
John-TOP stupidly-*mo* speak-didn't
'Stupidly, John did not speak.' (ADV > NEG), (~~NEG > ADV~~)
- b. John-wa itotekini hanas-anakatta.
John-TOP purposefully speak-didn't
'John did not speak purposefully.' (ADV > NEG), (~~NEG > ADV~~)
- c. John-wa yukkuri hanas-anakatta.
John-TOP slowly speak-didn't
'John did not speak slowly.' (ADV > NEG), (~~NEG > ADV~~)
- (31) a. John-wa orokani-mo sonna-koto shinjita n-desu ka?
John-TOP stupidly such-thing believed it.is Q
'Did John believe such a thing?' + 'If he believed it, he is stupid.'
- b. John-wa itotekini sono-koto-o hanashita n-desu ka?
John-TOP purposefully that-thing-ACC spoke it.is Q
'Did John purposefully speak of that issue?'
- c. John-wa yukkuri sono-koto-o hanashita n-desu ka?
John-TOP slowly that-thing-ACC spoke it.is Q
'Did John slowly speak of that issue?'
- (32) a. Dare-ga orokani-mo sonna-koto shinjita n-desu ka?
who-NOM stupidly such-thing believed it.is Q
'Who believed such a thing?' + 'Whoever believed it, he is stupid.'
- b. Dare-ga itotekini sono-koto-o hanashita n-desu ka?
who-NOM purposefully that-thing-ACC spoke it.is Q
'Who purposefully spoke of that issue?'

- c. Dare-ga yukkuri sono-koto-o hanashita n-desu ka?
 who-NOM slowly that-thing-ACC spoke it.is Q
 ‘Who slowly spoke of that issue?’
- (33) a. *Orokani-mo hanase.
 stupidly-*mo* speak.IMP
 ‘Speak.’ + ‘If you speak, you are stupid.’
- b. Itotekini hanase.
 purposefully speak.IMP
 ‘Speak purposefully.’
- c. Yukkuri hanase.
 slowly speak.IMP
 ‘Speak slowly.’

The difference between reluctant adverbs and manner adverbs is whether they are passive-sensitive or not. Manner adverbs do not show the kind of ambiguity like reluctant adverbs do in passive sentences.

- (34) a. Mary-wa John-ni iyaiya dakishime-rare-ta.
 Mary-TOP John-by reluctantly hug-PASS-PAST
 ‘Mary was reluctantly hugged by John.’
- (i) →Mary was reluctant when she was hugged by John.
- (ii) →John was reluctant when he hugged Mary.
- b. Mary-wa John-ni sotto dakishime-rare-ta.
 Mary-TOP John-by softly hug-PASS-PAST
 ‘Mary was softly hugged by John.’
- (i) ↗Mary gave a soft hug to John.
- (ii) →John gave a soft hug to Mary.

This can be explained by their very nature of meanings. Reluctant adverbs (*reluctantly, willingly, eagerly, sadly*, etc.) are those that express one’s mental attitudes, so it is important to specify who the experiencer is. On the other hand, manner adverbs are those that describes the way in which the action has taken place, and do not require any experiencer.

3.3 Previous Studies

3.3.1 Factive predicate approaches

In chapter 2, I introduced Bellert's (1977) factive predicate approach to evaluative adverbs (section 2.3.1). Bellert (1977) analyzes subject-oriented adverbs (without distinguishing between the two subclasses of subject-oriented adverbs) essentially the same way as evaluative adverbs, except that a subject-oriented adverb is considered as a predicate whose arguments are the subject of the sentence and the entire sentence (without the adverb), whereas an evaluative adverb takes just the sentence (without the adverb) as its argument. She argues that there are two propositions asserted when there is a subject-oriented adverb in the sentence just like when there is an evaluative adverb in it. In this view, sentence (35) can be considered as having two asserted propositions (36-a) and (36-b), where (36-a) is taken as a fact (true proposition).

(35) John {cleverly/wisely/carefully} dropped his cup of coffee. (Bellert 1977:(6))

- (36) a. Asserted proposition 1: John dropped his cup of coffee.
b. Asserted proposition 2: John was {clever/wise/careful} to drop his cup of coffee.

It is then predicted that subject-oriented adverbs are not acceptable in questions because of this factivity, just like evaluative adverbs.

(37) *Did John {cleverly/wisely/carefully} drop his coffee? (Bellert 1977:(10)) = (11)

According to this factive predicate approach, the unacceptability of subject-oriented adverbs in questions is due to the situation that the clause modified by a subject-oriented adverb is asserted as a fact (36-a).

However, as mentioned in section 3.2.2, subject-oriented adverbs (at least in Japanese) are acceptable in questions when given an appropriate context.

- (38) A: 'Bill told us a crazy rumor that Mary had been secretly performing at a strip club, and of course we didn't take it seriously because it sounded too ridiculous and it was

April Fool's Day anyway, but John got really upset.'

- B: John-wa orokani-mo sonna-koto shinjita n-desu ka?
 John-TOP stupidly such-thing believed it.is Q
 'Did John believe such a thing?' + 'If he believed it, he is stupid.' = (13)

- (39) John-wa itotekini sono-koto-o hanashita n-desu ka?
 John-TOP purposefully that-thing-ACC spoke it.is Q
 'Did John purposefully speak of that issue?' = (14)

Furthermore, recall that there is a clear difference between the two subclasses of subject-oriented adverbs: stupid adverbs cannot, but reluctant adverbs can, be the focus of interrogation in alternative questions.

- (40) John-wa kenmeeni-mo damatte-ita n-desu ka? #Soretomo orokani-mo damatteita
 John-TOP cleverly be.silent-was it.is Q or stupidly be.silent-was
 n-desu ka?
 it.is Q
 Intended: 'Was it clever, or stupid, of John to have kept silence?' = (17)

- (41) John-wa itotekini hanashita n-desu ka? Soretomo ukkari hanashita
 John-TOP purposefully spoke it.is Q or absent-mindedly spoke
 n-desu ka?
 it.is Q
 'Did John speak purposefully or absent-mindedly?' = (18)

Thus, in order to deal with Japanese subject-oriented adverbs, Bellert's (1977) factive predicate approach is not adequate, because (i) no distinction is made between stupid adverbs and reluctant adverbs, and (ii) even if we set aside reluctant adverbs, it cannot explain why stupid adverbs, although they cannot be the focus of interrogation, still can appear in questions.

Another factive predicate approach, one proposed by Geuder (2002), would also face the same kind of problem. According to Geuder (2002), stupid adverbs are semantically predicates that take an agent (subject) and a fact as arguments. However, the *fact* here is characterized as "an event accessible that is known from the context" (Geuder 2002:160), represented by an abstract object which picks out the referent from the discourse, and it is not the proposition expressed in the sentence. Because of this assumption, this analysis of stupid adverbs cannot derive the meaning

fully compositionally. Furthermore, Geuder (2002) argues that a sentence with a *stupid* adverb (e.g., *John stupidly dropped his cup of coffee*) is semantically equivalent to the corresponding adjectival construction (e.g., *It was stupid of John to drop his cup of coffee*). However, as he notes himself, such an idea cannot sufficiently explain the difference between the two constructions. Citing Bellert 1977, he mentions that the adjective *stupid* and the adverb *stupidly* behave differently with respect to negation and question: the adjective *stupid* can, but the adverb *stupidly* cannot, be directly negated (42) and be questioned (43). (As for the ‘#’ mark in (42) and (43), it should be understood as ‘not well-formed in the intended meaning’.)

- (42) a. It was not stupid of John to return.
 b. #John didn’t stupidly return. (Geuder 2002:(115))
- (43) a. Was it stupid of John to return?
 b. #Did John stupidly return? (Geuder 2002:(116))

Geuder (2002) actually recognizes the fundamental difference between two constructions, noting that “with the adjective, the characterisation of an action constitutes the main assertion, whereas with the adverb, the action itself is the main assertion” (Geuder 2002:167). However, that observation does not seem to be reflected in his analysis (see Geuder (2002) section 4.5 in chapter 4 for detail), since there is no distinction between main assertion and something other than main assertion (e.g., presupposition) in Geuder’s (2002) semantic representations.

In the following subsection, let us turn to a different kind of approaches to subject-oriented adverbs that can handle the difference between main assertion and something other than main assertion in a formal way.

3.3.2 Multidimensional approaches

Sawada’s (1978) analysis, reviewed in chapter 2 (section 2.3.2), is not meant to just analyze evaluative adverbs, but it covers what he calls ‘sentence adverbials’, which is a class of adverbs equivalent to ‘attitudinal disjunct’ (Greenbaum 1969, Quirk et al. 1972). It includes some of the speaker-

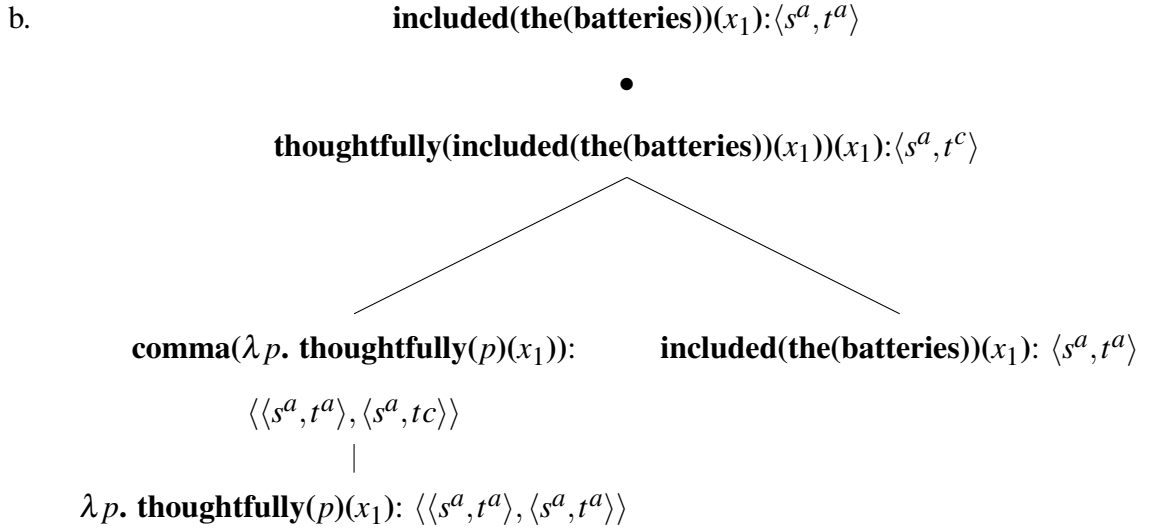
oriented adverbs such as evaluative adverbs (*fortunately, conveniently, surprisingly* etc.) and epistemic/modal adverbs (*clearly, perhaps, possibly*, etc.), and some of the subject-oriented adverbs such as stupid adverbs. According to Sawada (1978), an utterance (U) consists of two levels of ‘illocutionary force indicator (F)’ (‘performative stratum’ and ‘attitudinal stratum’) build on the ‘propositional stratum’. He argues that the meanings associated with sentence adverbials (excluding reluctant adverbs) do not belong to the propositional stratum, but to the attitudinal stratum. He further claims that operators such as question, negation, imperative, and sentence pronominalization only affect the contents in the propositional stratum, and that that is why sentence adverbials (including evaluative adverbs and stupid adverbs, but not reluctant adverbs) cannot be the ‘focus of’ (i.e., must take a scope below) such operators. This explains the observation that stupid adverbs cannot be directly negated or questioned (section 3.2.1-3.2.2).

However, since Sawada (1978) does not realize the cases in which stupid adverbs are actually acceptable in questions (section 3.2.2) and, under certain conditions, imperatives (section 3.2.3), his account requires an additional explanation to cover those cases. Furthermore, since his analysis is not fully compositional, it remains unclear what the lexical entries look like for the adverbs themselves and how they interact with the rest of the sentence to produce the meanings of the sentences as observed. The issue of compositionality matters when analyzing subject-oriented adverbs more so than analyzing evaluative adverbs, because subject-oriented adverbs, as the name suggests, have orientation not only to the entire sentence (without the adverb) but also to the subject of the sentence. That is, the internal structure of the sentence must be accessible to subject-oriented adverbs at least to the extent that they can see the noun phrase that is identified as the subject.

Sawada’s (1978) distinction between the ‘propositional stratum’ and the ‘attitudinal stratum’ is reminiscent of Potts’s (2005) ‘at-issue meaning’ and ‘conventional implicature (CI)’. Potts’s (2005) multidimensional analysis of what he calls ‘supplementary adverbs’ covers some of the speaker-oriented adverbs (evaluative adverbs and speech-act adverbs (Ernst 2002) (or pragmatic adverbs (Bellert 1977)) such as *frankly, honestly, roughly*, etc.) as well as subject-oriented adverbs, which he calls ‘topic-oriented adverbs’ instead. The reason why he uses the term *topic*-oriented (not

subject-oriented or *agent*-oriented) is because, according to him, it is actually the discourse topic, which does not have to be overtly present in the sentence, to which the adverb is oriented. The following example is given to illustrate this point. The semantic representation in (44-b) shows that the at-issue meaning of sentence (44-a) is simply that somebody included the batteries, and the CI meaning is that the person is thoughtful to have included the batteries. This corresponds to Sawada's (1978) view that the meanings of subject-oriented adverbs are not part of the propositional stratum (at-issue meaning for Potts (2005)) but belong to the attitudinal stratum (CI for Potts (2005)).

(44) a. Thoughtfully, the batteries were included.



According to Potts (2005), the individual who is described as thoughtful is the person who included the batteries which is not overtly expressed in sentence (44-a) but represented as x_1 in (44-b) as a variable whose referent is the discourse topic. Thus, in Potts's (2005) analysis of subject-oriented adverbs, the relation between the adverb and the individual that the adverb is oriented to is not determined structurally but by the discourse.

However, treating subject-oriented adverbs as topic-oriented adverbs will face a difficulty when passive-sensitivity is taken into consideration. As mentioned in 3.2.4, subject-oriented adverbs in English are passive-sensitive: they can be oriented either to the surface subject (the theme) or to

the underlying subject (the agent) in passive sentences (45)⁶, while they can only be oriented to the subject (the agent) in active sentences (46).

- (45) a. Ashley was wisely examined by the doctor. (Ernst 2002:(2.41))
 b. Debbie was willingly hired by the conductor. (ibid. (3.52b))
- (46) a. The doctor wisely examined Ashley.
 b. The conductor willingly hired Debbie.

This is problematic for Potts's (2005) analysis, which views subject-oriented adverbs as topic-oriented adverbs, because the above contrast shows that the two arguments can be a discourse topic in passive sentences, but only one of them, the agent, can be the discourse topic in active sentences. In order to maintain the topic-oriented approach, we would need to assume, for example, that the object (theme) argument in an active sentence can never be a discourse topic. However, such an assumption is not supported empirically both in Japanese and in English.

Japanese is a language that morphologically marks a discourse topic with the topic marker *wa* (without the contrastive/focus intonation). In (47), the subject is marked with *wa* (no contrastive/focus intonation intended), and the adverb is oriented to the *wa*-marked subject, the discourse topic, as expected.

- (47) John-wa orokani-mo kabin-o otoshite watta.
 John-TOP stupidly-*mo* vase-ACC drop.and broke
 'John stupidly dropped and broke a/the vase.'

It is true that the subject of a sentence tends to be the discourse topic as in (47), but noun phrases other than the subject can also be the discourse topic. For example, consider the following short discourse.

- (48) A: Nee, koko-ni atta kabin-wa doo shita no?
 hey here-at existed vase-TOP how did Q

⁶It is known that passive sentences with subject-oriented adverbs are ambiguous only when the adverbs are located in between the auxiliary and the verb (Jackendoff 1972, Ernst 2002), but I set aside the issue for the moment.

‘Hey, what happened to the vase that had been here?’

- B: Aa, sono kabin-wa John-ga orokani-mo otoshite watta n-da yo.
oh that vase-TOP John-NOM stupidly-*mo* drop.and broke it.is SFP
‘Oh, John dropped and broke the vase.’

If subject-oriented adverbs were really topic-oriented adverbs, then it would be predicted that sentence (48-b) is infelicitous, because the discourse topic is the *wa*-marked *kabin* ‘vase’, to which the adverb *orokani-mo* ‘stupidly’ is supposed to be oriented, which would imply that the vase was stupid. However, the sentence is felicitous, and the only possible meaning is that John was stupid to drop and break the vase.

A similar point can be made in English as well, as pointed out by Morzycki (to appear). To test whether topic-orientation holds or not, Morzycki (to appear) uses a phrase such as *as for X* and *speaking of X* to explicitly mark the topic in a sentence. In (49) and (50), for example, *Clyde* is the topic. Therefore, if the adverbs *cleverly*, *stupidly*, and *eagerly* are really topic-oriented, it is expected that the person who is clever, stupid or eager is Clyde. However, that is not how the sentence is interpreted. In (49), the only possible interpretation is that Floyd is clever, stupid or eager to build a robot monkey with him, not Clyde. Topic-orientation is not possible even when we force ourselves to topic-orientation by getting rid of Floyd as in (50).

- (49) {As for Clyde/Speaking of Clyde}, Floyd {cleverly/stupidly/eagerly} built a robot monkey with him. (Morzycki to appear)
- (50) #{As for Clyde/Speaking of Clyde}, there was {cleverly/stupidly/eagerly} a robot monkey built with him. (Morzycki to appear)

Thus, both the Japanese and the English data do not support the claim that subject-oriented adverbs are topic-oriented.

Setting that aside, one of the contributions of Potts’s (2005) analysis is that it proves a compositional analysis to capture the multidimensionality of subject-oriented adverbs, which had been recognized by other authors earlier, e.g., Quirk et al. (1972), Sawada (1978), Nakau (1980), but

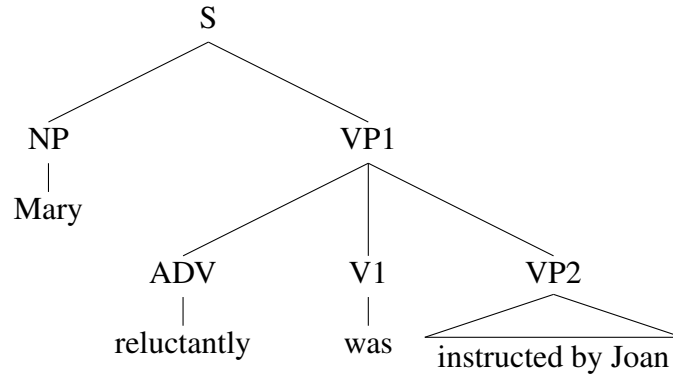
had not been yet formalized. Potts (2005) also offers a lexical decomposition of subject-oriented adverbs and shows how to relate them with homonymous manner adverbs. As shown in (44), the subject-oriented adverb *thoughtfully* can be decomposed into two pieces: the verb-phrase modifier (manner adverb) *thoughtfully*, whose meaning only contributes to at-issue, and COMMA, the comma intonation, that turns the verb-phrase modifier into a subject-oriented adverb. In other words, subject-oriented adverbs are derived from verb-phrase modifiers (manner adverbs) and COMMA. In Potts's (2005) simplified analysis of adverbs, it is assumed that the only difference between subject-oriented adverbs and their homonymous manner adverbs is whether the meanings belong to non-at-issue dimension (subject-oriented adverbs) or at-issue dimension (manner adverbs). This point is worth considering, since the homonymy of subject-oriented adverbs and manner adverbs, or more broadly, sentence adverbs and verb-phrase/predicate adverbs, is quite pervasive within a language and also across languages. (See chapter 4 for more on this issue.)

3.3.3 Other approaches: Syntactic analyses of subject-oriented adverbs

While the multidimensional approaches just reviewed do not seem to take into consideration the passive-sensitivity of subject-oriented adverbs, there are some other earlier analyses that do. For example, McConnell-Ginet (1982) analyzes what she calls 'passive-sensitive adverbs', adverbs that yield ambiguity when appearing in passive sentences such as *reluctantly*, *wisely*, *unwillingly*, *obediently*, *knowingly*, i.e., subject-oriented adverbs. According to her, the ambiguity can be explained syntactically, i.e. the two interpretations in passive sentences arise from two different syntactic structures. She assumes that there are two verbs in passive sentences, thus creating two possible attachment sites for the adverb. For instance, the passive sentence (51) has two verbs, the lower one *instructed* and the higher one *was* (i.e., the passive auxiliary).

- (51) a. Mary reluctantly was instructed by Joan. (McConnell-Ginet 1982:(69))

b.



(From Figure 8 in McConnell-Ginet (1982). The labels ‘VP1’ and ‘VP2’ are mine.)

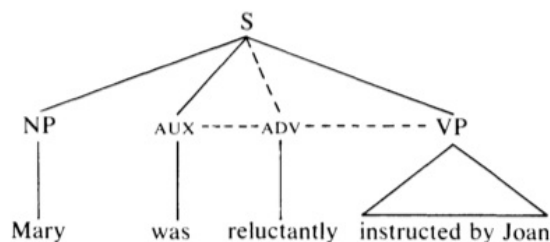
Sentence (51) is actually not ambiguous, since the adverb is located higher than the passive auxiliary verb. In order to elicit passive-sensitivity, as noted by Jackendoff (1972) and Ernst (2002), subject-oriented adverbs must be located between the passive auxiliary verb and the main verb as in (52).

(52) Mary was reluctantly instructed by Joan. (McConnell-Ginet 1982:(13))

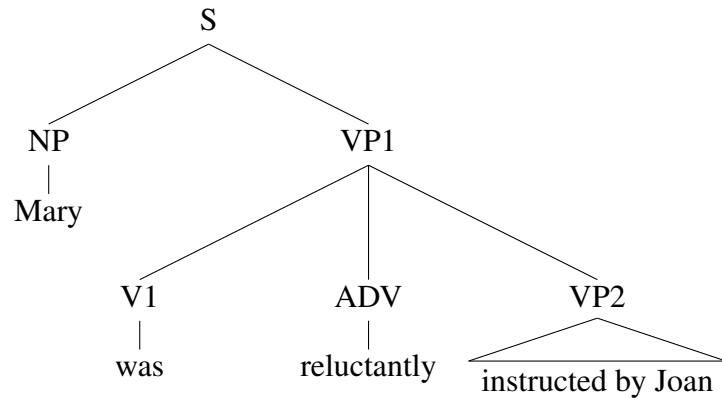
Based on her argument, the structure of sentence (52) presumably would look like (53-a) or (53-b).⁷

⁷McConnell-Ginet (1982) only provides her tentative representation of the structure:

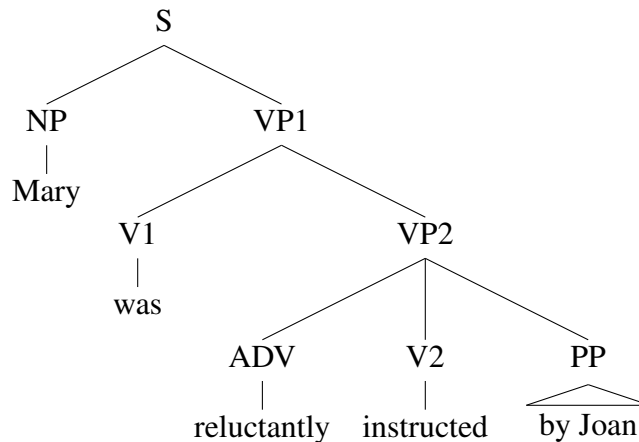
(i) (ibid. Figure 2)



(53) a.



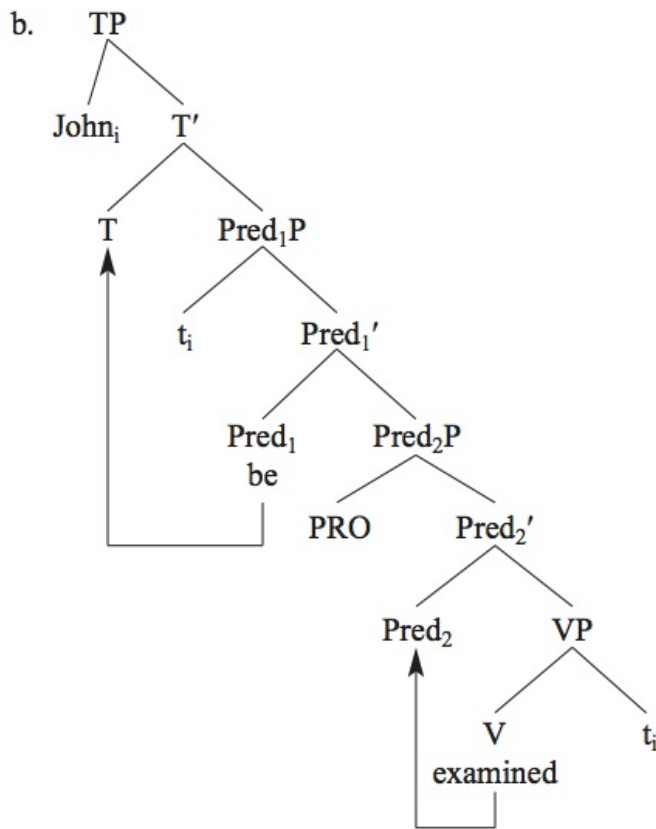
b.



McConnell-Ginet (1982) argues that subject-oriented adverbs are ‘Ad-Verbs’, and they modify the verb head of the VP which they are directly dominated by. In (53-a), *reluctantly* is internal to VP1 (but external to VP2), so what it modifies is the higher verb *was*, whereas in (53-b), *reluctantly* is within VP2, so it modifies the lower verb head *instructed*. The former structure derives the meaning that Mary was reluctant to be instructed by Joan, and the latter derives the meaning that Joan was reluctant to instruct Mary. The reason that subject-oriented adverbs do not yield ambiguity in active sentences is now clear: there is no higher verb, the auxiliary verb, which would provide a possible attachment place for the adverb if it was there.

Matsuoka (2013) proposes a similar analysis of subject-oriented adverbs in the passive (among other types of constructions) within a more recent syntactic framework. The following is the structure of passive sentences he assumes. Like McConnell-Ginet’s (1982) analysis, there are two possible heads, Pred(icate)₁ and Pred(icate)₂, to which a subject-oriented adverb can attach.

(54) a. John was examined.



(Matsuoka 2013:(77))

When a subject-oriented adverb appears between the auxiliary verb and the main verb (e.g., *John was stupidly/reluctantly examined (by the doctor)*), there are two possible underlying structures: the adverb is adjoined either to Pred₁ or to Pred₂. Since the auxiliary verb is head-moved to T in this case, both structures result in the same surface word order. When the adverb is construed with Pred₁, it is oriented to the subject of Pred₁, i.e., John, and the derived meaning is that John was stupid/reluctant to be examined. On the other hand, when the adverb is construed with Pred₂, it is oriented to the subject of Pred₂, i.e., PRO, which refers to the agent of the main verb, so the derived meaning is that someone was stupid/reluctant when s/he examined John. However, if the adverb appears between the subject and the auxiliary verb (e.g. *John stupidly/reluctantly was examined by the doctor*), there is only one underlying structure: the adverb is adjoined to *be* at T. So the only possible meaning is that John (the subject of *be* at T) was stupid/reluctant.

In this way, Matsuoka (2013) as well as McConnell-Ginet (1982) analyzes the ambiguity in passive sentences with subject-oriented adverbs in terms of structural ambiguity. In contrast, Wyner (1998) denies structural ambiguity, and argues that the ambiguity can be derived by making use of thematic roles (and what he calls ‘thematic properties’). According to him, subject-oriented adverbs, or what he calls ‘thematically dependent adverbs (TDAs)’, are sensitive to volitionality, one of the prototypical properties that an argument that bears Agent thematic role tends to be associated with. Wyner (1998) argues that this volitional thematic *property* (not thematic *role*) is assigned independent of the assignment of Agent thematic role, assuming that Theta-Criterion only applies to thematic roles and not to thematic properties. In addition, he assumes that there are two types of passive auxiliary verb: the ‘volitional passive auxiliary’ (55-a), which assigns the volitional thematic property to the argument (the surface subject), and the ‘null passive auxiliary’ (55-b), which is semantically vacuous. (*P* is a variable for the verb, *z* an individual, and *e* stands for an event variable.)

- (55) a. $\lambda P \lambda z \lambda e. P(z)(e) \wedge \text{Volition}(e) = z$
 b. $\lambda P \lambda z \lambda e. P(z)(e)$ (Wyner 1998:(21))

In short, the ambiguity found in passive sentences with subject-oriented adverbs (or TDAs) is due to the lexical ambiguity of the passive auxiliary verb. That is, when a passive sentence with the volitional passive auxiliary (55-a) contains a subject-oriented adverb, the adverb is oriented to the surface subject. When a passive sentence with the null passive auxiliary (55-b) contains a subject-oriented adverb, then the adverb is oriented to the underlying subject (the individual with the Agent theta role). However, in order to maintain this view, one has to assume that any passive sentence, with or without a subject-oriented adverb, is potentially ambiguous depending on whether or not the passive auxiliary verb translates as (55-a) or (55-b). Furthermore, one must assume that when the volitional passive auxiliary is used, the main verb does not assign volitionality to the underlying subject (the individual with the Agent theta role), and when there is the null passive auxiliary, the main verb assigns volitionality (along with the Agent theta role) to the underlying subject.

Otherwise, this theory would predict that there could be a sentence whose surface subject and underlying subject are both assigned (or both not assigned) the volitional thematic property. This is an undesirable situation, since it would allow the subject-oriented adverbs to be oriented to both the surface subject and the underlying subject (or neither) simultaneously. In addition, it does not account for why the position of the adverb in a sentence (i.e., whether the adverb precedes or follows the auxiliary) does affect the interpretation.

So far, I have shown that passive-sensitivity can be handled well by the approaches which accounts for passive-sensitivity in terms of structural ambiguity (McConnell-Ginet 1982, Matsuoka 2013). What remains unclear under those approaches, however, is how to derive the overall meaning of a passive sentence with a subject-oriented adverb compositionally based on the proposed structure and the lexical meaning of the adverb. Furthermore, those structural ambiguity approaches do not have anything to say about multidimensionality of the meanings of subject-oriented adverbs. For example, as we saw in section 3.3.2, there has been an observation that the meanings of subject-oriented adverbs are not part of the main assertion (Sawada 1978, Potts 2005). However, a syntactic analysis alone is not sufficient to account for such a semantic property. Thus, what seems to be the best way to put together the most important ideas from the previous studies is to combine the essential ideas from the multidimensional approaches (Sawada 1978, Potts 2005) and from the structural ambiguity approaches (McConnell-Ginet 1982, Matsuoka 2013).

3.4 A Conditional Account of Stupid Adverbs

I adopt the syntactic view from the structural ambiguity approaches (McConnell-Ginet 1982, Matsuoka 2013), and the semantic view from the multidimensional approaches (Sawada 1978, Potts 2005), and propose a compositional analysis of subject-oriented adverbs. On top of these, I suggest to add one more ingredient, namely, the key idea of conditional presuppositional meaning presented in the previous chapter on evaluative adverbs.

However, as observed in section 3.2, there are significant differences between the two types of subject-oriented adverbs in Japanese. I propose that the conditional account presented in the

previous chapter for evaluative adverbs can be extended only to one of the two types of subject-oriented adverbs in Japanese, namely, stupid adverbs. In this section, I present an analysis of stupid adverbs. An analysis of reluctant adverbs will be presented in section 3.5. Each section covers the characteristics of both types of adverbs, i.e., how they interact with negation, question, imperatives, and passive as observed in section 3.2.

3.4.1 The basics

I propose that stupid adverbs are functions which take three arguments: a predicate of type $\langle e, st \rangle$, an individual x_e , and a world w_s . Here is the denotation of *orokani-mo* ‘stupidly’.

$$(56) \quad \llbracket \text{orokani-mo} \rrbracket = \lambda P_{\langle e, st \rangle} \lambda x \lambda w: \forall w' \in Acc_{w,a} [P(x)(w') \rightarrow stupid_{w'}(x)(P)]. P(x)(w)$$

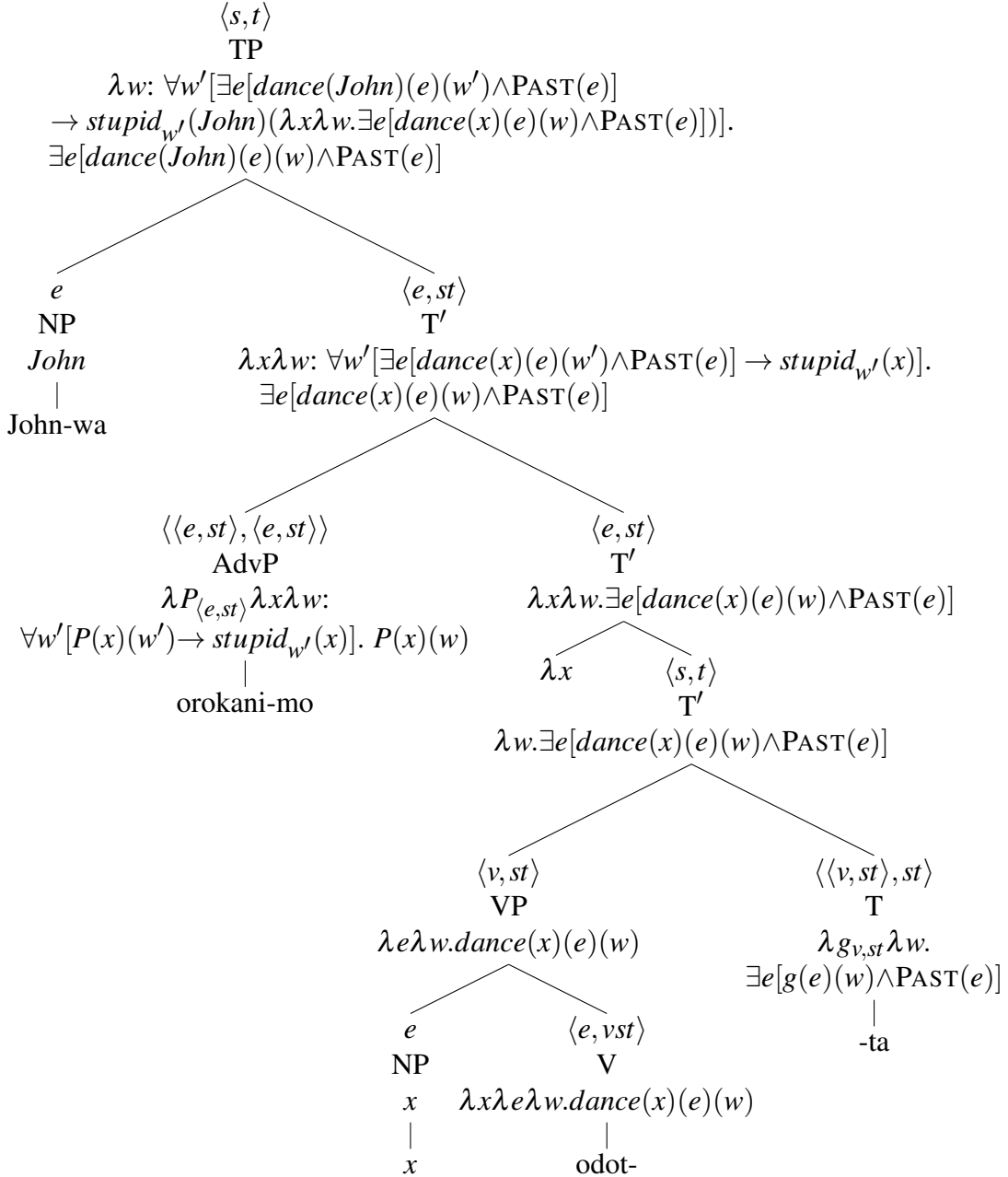
The meaning of a stupid adverb looks very similar to the meaning of an evaluative adverb. Like evaluative adverbs, stupid adverbs do not affect the main assertion, but they trigger a conditional meaning ‘if $P(x)$, then x is stupid to P ’.⁸ In this conditional presupposition, there is a domain restriction on w' , as represented as $Acc_{w,a}$, which stands for ‘what the attitude holder a believes in w' ’. This domain restriction makes it clear that the conditional statement is what the attitude holder (the speaker) believes, but not necessarily part of the common ground prior to the utterance (see section 2.4.2 in chapter 2). Henceforth, I omit this for sake of simplicity. The only difference between stupid adverbs and evaluative adverbs is that the former are predicate modifiers of type $\langle est, est \rangle$, whereas the latter are propositional modifiers of type $\langle st, st \rangle$. This is so, because stupid adverbs are subject-oriented, i.e., they are predicated of the subject.

Let us begin with the basic case in (57), which I analyze as (58).

- (57) John-wa orokani-mo odotta.
 John-TOP stupidly danced
 ‘John stupidly danced.’

⁸I assume that *stupid* does not only take an individual x as its argument but also the predicate P . Without specifying P , the meaning would be too strong. Clearly, we do not want the sentence *John stupidly danced* to entail that John is stupid.

(58)



This shows that stupid adverbs can be analyzed almost in the same way as evaluative adverbs except that they are adjoined to T', not VP, so that they can take the subject as their argument. The subject noun phrase, which originates within the VP, undergoes movement to the specifier of TP. This is purely a syntactic option (i.e., to get its case assigned) without a semantic effect. In the previous chapter, I omitted this part from the derivation for simplicity, as it did not affect the analysis of evaluative adverbs. In this chapter, however, this operation is shown explicitly in the derivation, since it becomes crucial when interpreting subject-oriented adverbs. The assert

operator is omitted henceforth, as it does not affect the interpretation of subject-oriented adverbs.

The at-issue meaning derived in (58) is ‘John danced’ (or more precisely, ‘there was an event e , which is a dancing event by John in the actual world w , and which happened in the past’). Besides this at-issue meaning, there is a non-at-issue meaning ‘if John danced, John is stupid to have danced’ (or more precisely ‘for all worlds w' that are compatible with what the attitude holder a (the speaker) believes, if John danced in w' , John is stupid to have danced in w' ’).

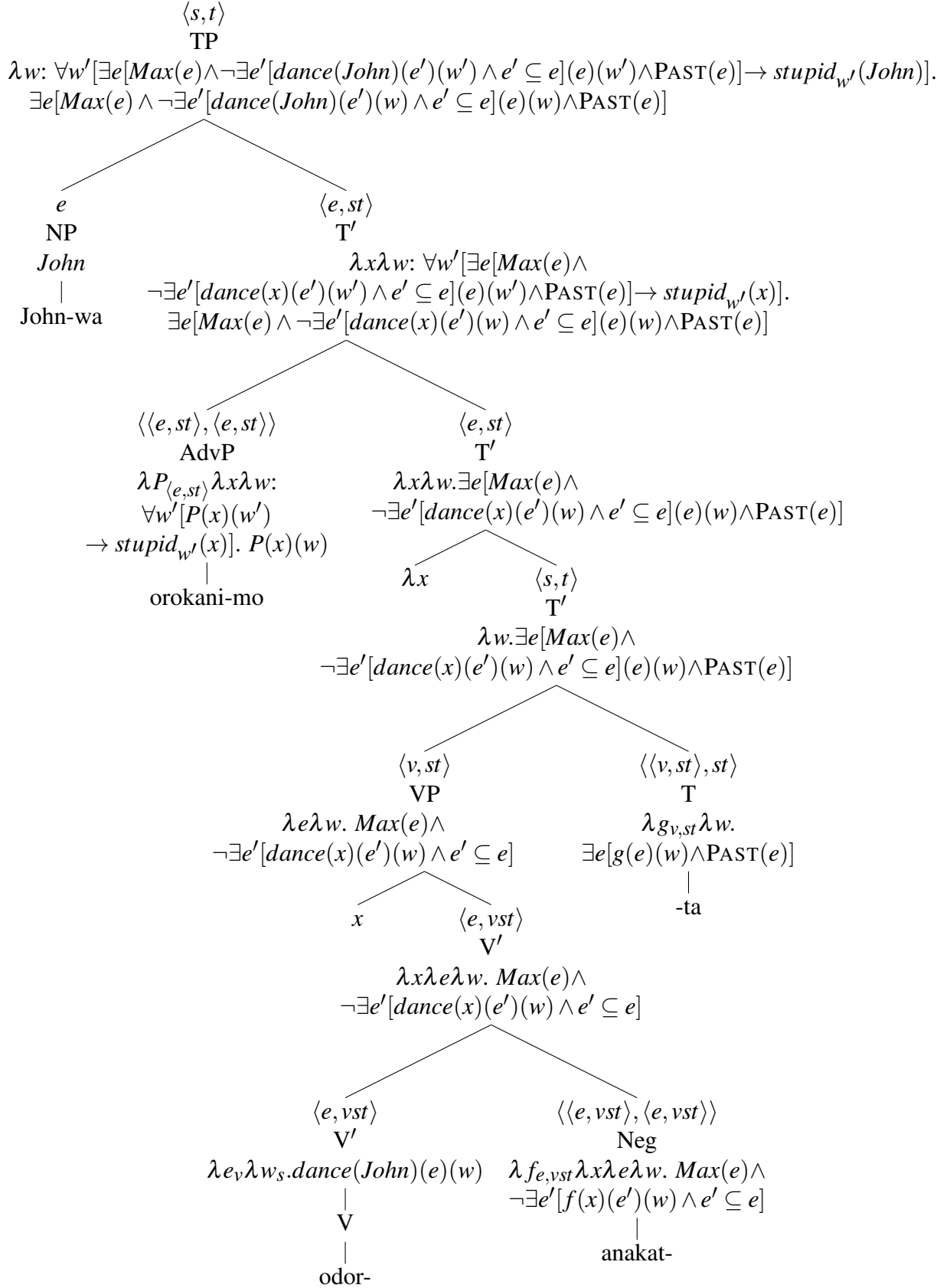
3.4.2 Negation

As shown in section 3.2.1 and repeated below, stupid adverbs are similar to evaluative adverbs in that they scope above the predate negation *V-nai*, but scope below the propositional negation *to-iu-wake-dewa-nai* ‘it is not the case that’.

- (59) John-wa orokani-mo hanas-anakatta.
 John-TOP stupidly-*mo* speak-didn’t
 ‘Stupidly, John did not speak.’ (ADV > NEG), (~~NEG~~ > ADV)
- (60) John-wa orokani-mo hanashita-to-iu-wake-de-wa-nai. (Sore-wa kenmeena handan
 John-TOP stupidly-*mo* spoke-it.is.not.the.case.that (that-TOP clever decision
 datta no-da.)
 was it-is.)
 ‘It’s not the case that John stupidly spoke. (It was a clever decision.)’ (NEG > ADV)

To account for this fact, I adopt the predicate negation as introduced in section 2.4.2 (a la Krifka 1989). Predicate negation takes a predicate of type $\langle e, vst \rangle$ before its event argument e of type v is bound by tense.

(61)



As shown above, predicate negation must appear below tense, but the subject-oriented adverb must be located above tense, so there is no way to get the opposite scope relation. In the derived meaning, the main assertion is ‘John did not dance’ (or more precisely ‘there was a maximal event *e* in the past which does not contain a sub-event *e'*, a dancing event by John’). The non-at-issue meaning is that if John did not dance, John was stupid not to have danced. On the other hand, the propositional negation takes the entire sentence including the subject-oriented adverbs as an argument, thus taking a scope above the adverb.

3.4.3 Questions

As pointed out in section 3.2.2, stupid adverbs are acceptable in both yes-no-questions and wh-questions. Like evaluative adverbs, however, the meanings of stupid adverbs cannot be part of the inquiry.

(62) A: ‘Bill told us a crazy rumor that Mary had been secretly performing at a strip club, and of course we didn’t take it seriously because it sounded too ridiculous and it was April Fool’s Day anyway, but John got really upset.’

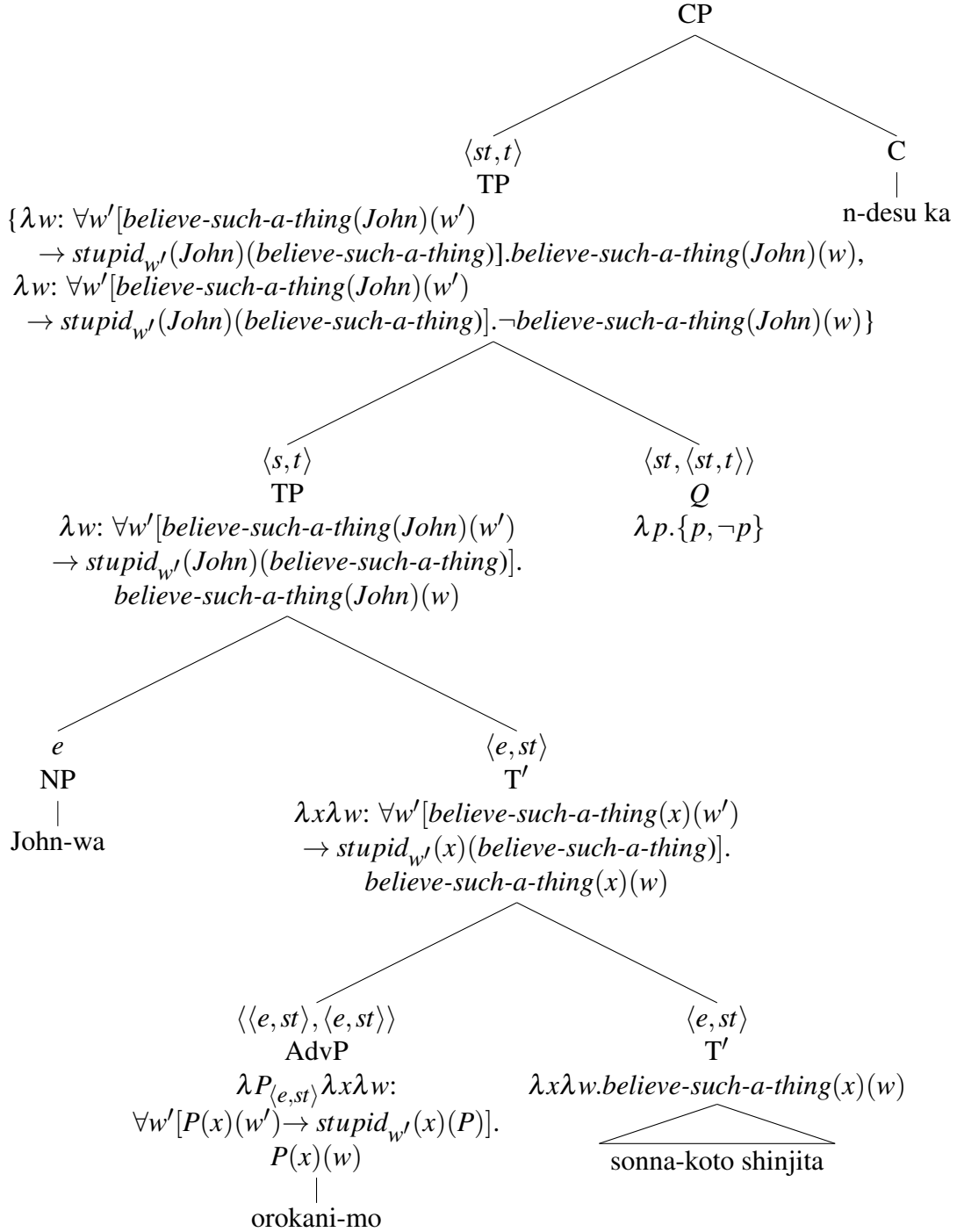
B: John-wa orokani-mo sonna-koto shinjita n-desu ka?
 John-TOP stupidly such-thing believed it.is Q
 ‘Did John believe such a thing?’ + ‘If he believed it, he is stupid.’

(63) A: ‘Bill told us a crazy rumor that Mary had been secretly performing at a strip club, but, you know, it was just too ridiculous and it was April Fool’s Day anyway, so none of us, except one person, took it seriously.’

B: Dare-ga orokani-mo sonna-koto shinjita n-desu ka?
 who-NOM stupidly such-thing believed it.is Q
 ‘Who believed such a thing?’ + ‘Whoever believed it, he is stupid.’

This fact can be explained in the same way as how the meanings of evaluative adverbs are derived in questions (see section 2.4.2 in chapter 2). As before, I assume that questions denote a set of propositions. For yes-no questions, there is a question operator *Q* which takes a proposition *p* and returns a set of propositions $\{p, \neg p\}$. The yes-no question (62) can be analyzed as follows.

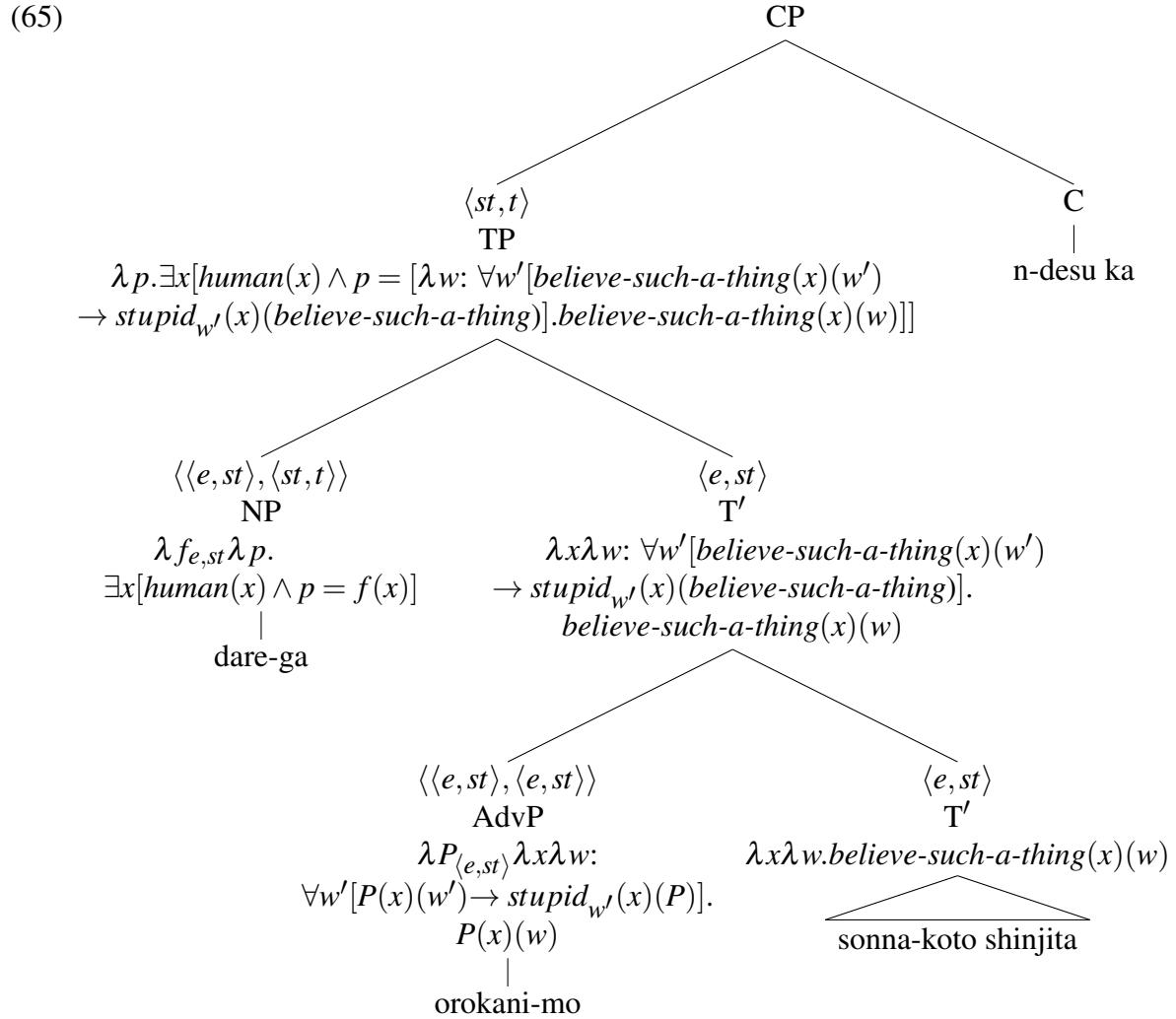
(64)



This yes-no-question denotes a set of propositions that consists of the following two members: ‘the speaker thinks that if John believed such a thing, that is stupid of him, and John believed such a thing’, and ‘the speaker thinks that if John believed such a thing, that is stupid of him, but John did not believe such a thing’. The conditional meaning of the stupid adverb is not affected by the

operator Q just like the conditional meaning of evaluative adverbs do not interact with the question operator.

As for wh-questions, wh-phrases are responsible for creating the set of propositions (again, see section 2.4.2 in chapter 2). The wh-phrase *dare-ga* ‘who’ takes a predicate of type $\langle e, st \rangle$, and binds the variable it has left behind. The *stupid* adverb appears below the wh-phrase.



Suppose there are John, Mary, Bill, and Sue as possible referents in the discourse. To derive the set of propositions denoted by this question, we substitute x in ‘ x believed such a thing’ with those individuals, i.e., {John believed such a thing, Mary believed such a thing, ...}. For each proposition in the set, there is a conditional meaning ‘if x (John, Mary, Bill, or Sue) believed such

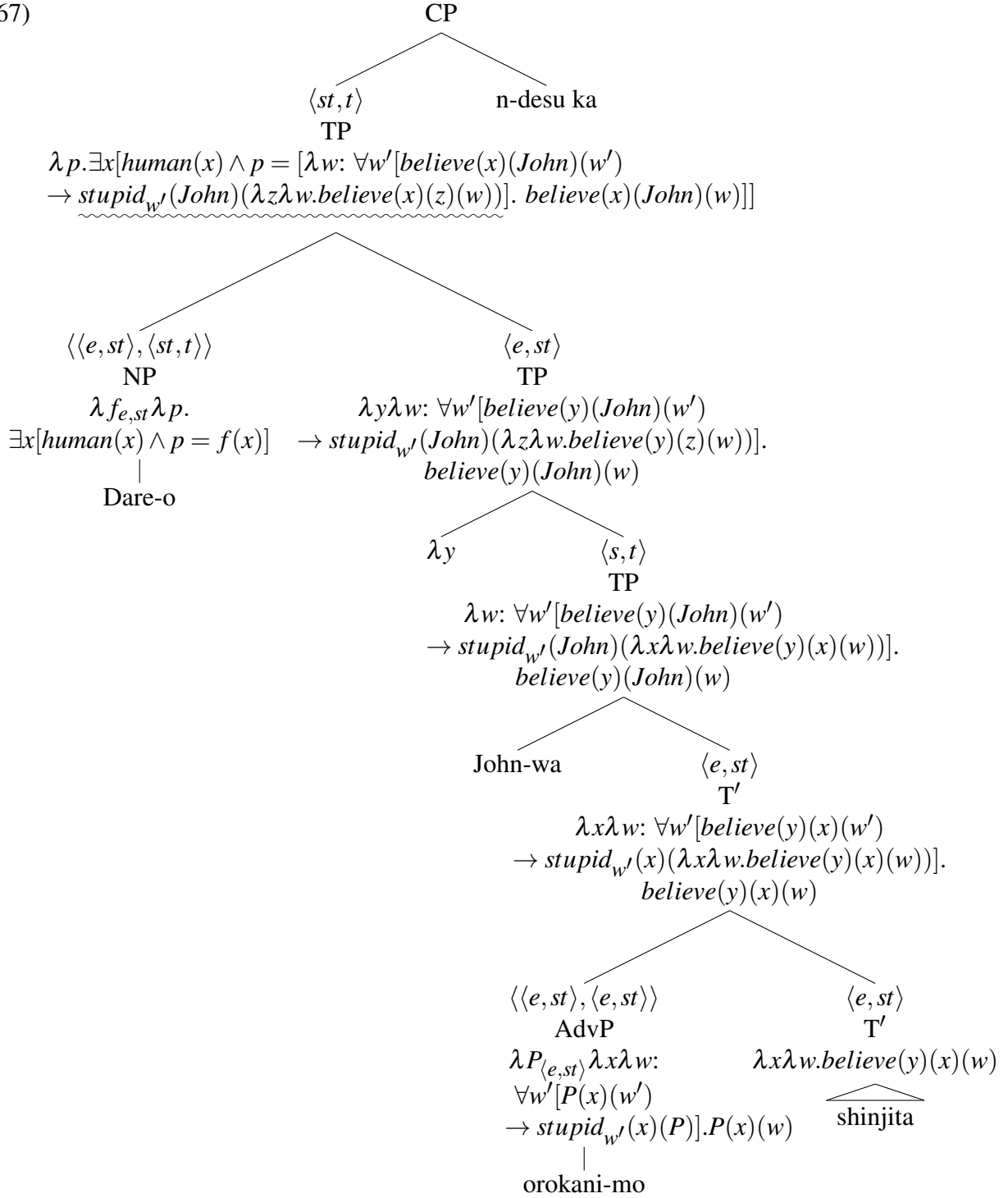
a thing, x (John, Mary, Bill, or Sue) is stupid to believe such a thing’. This conditional non-at-issue meaning, by its very nature, can not be included in the interrogation. It is a statement of what the speaker believes, and the speaker is not asking the addressee what the speaker believes.

Since the wh-question just analyzed above only includes a wh-phrase in the subject position, there is no need to reflect wh-movement in the derivation, as it will not affect the semantic interpretation. However, care should be taken when dealing with sentences with non-subject wh-phrases. For example, consider (66) with a non-subject wh-phrase, which appears as a direct-object.

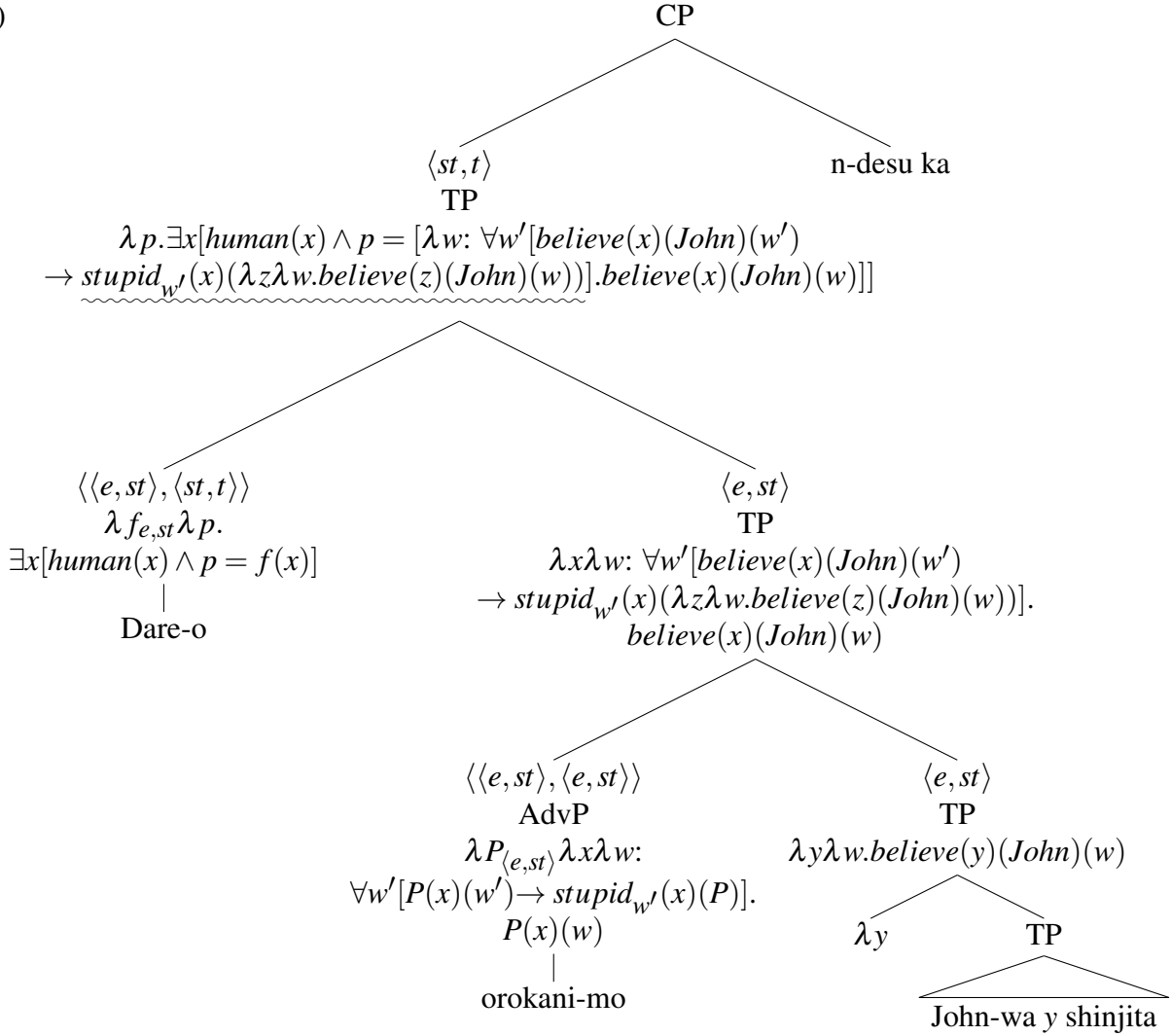
- (66) John-wa orokani-mo dare-o nagutta n-desu ka.
 John-TOP stupidly-*mo* who-ACC hit it.is Q
 ‘Who did John hit?’ + ‘Whoever it is that John hit, John is stupid to hit that person.’

In this case, there are two possible positions (two $\langle e, st \rangle$ nodes) for the *stupid* adverb to attach to. This is because the wh-movement of *dare-o* ‘who’ of type $\langle \langle e, st \rangle, \langle st, t \rangle \rangle$ creates a predicate of type $\langle e, st \rangle$ via lambda abstraction. So, in theory, the adverb can appear just below the subject (67), or in between the wh-moved object and the subject (68). (Tense is omitted.)

(67)



(68)



Both structures above denote a set of propositions that can be achieved by substituting x with each member of the relevant set of individuals in the context (e.g., John, Mary, Bill, and Sue) in ‘John believed a human x ’. However, their conditional meanings that arise from the *stupid* adverb are different (as indicated by ~~~~~). In (67), the speaker’s presupposition is that if John believed x , then John is stupid to do so. Whereas in (68), the speaker thinks that if John believed x , then x is stupid to have been believed by John. Clearly, the only interpretation available for this sentence is (67). The proposed analysis of stupid adverbs overgenerates the impossible interpretation (68).

One possible way to rule this out is to assume that stupid adverbs have a syntactic selectional property, for example, that the argument of stupid adverbs must be T' . This is admittedly a rather

uncommon constraint, but it ensures stupid adverbs to appear right below the subject in the spec, TP (as in (67)). (68) is ruled out because the adverb is adjoined to TP.

3.4.4 Imperatives

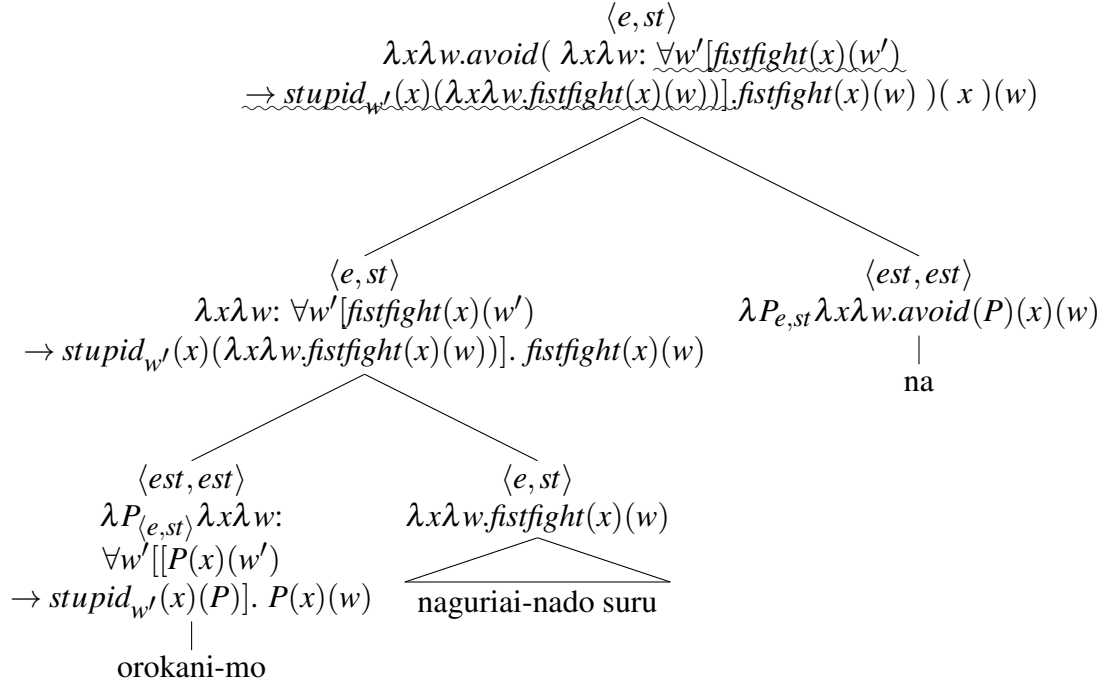
This is the most complicated and challenging case for any analysis of Japanese stupid adverbs because of their peculiar distributional patterns in imperatives. The analysis just proposed overgenerates imperative sentences that are actually not acceptable. I first show how my analysis derives the meaning of imperatives with a stupid adverb that is acceptable, and then clarify what needs to be considered in order to correctly predict that certain types of stupid adverbs are not acceptable in imperatives under a certain condition.

As mentioned in 3.2.3, it is not entirely impossible to find a situation in which a stupid adverb appears in imperatives. The relevant example from (21) is repeated below.

- (69) Orokani-mo naguriai-nado suruna.
 stupidly-*mo* fistfight-such.as do:NEGIMP
 ‘Don’t have anything like fistfights.’ + ‘If you have anything like fistfights, you are stupid.’

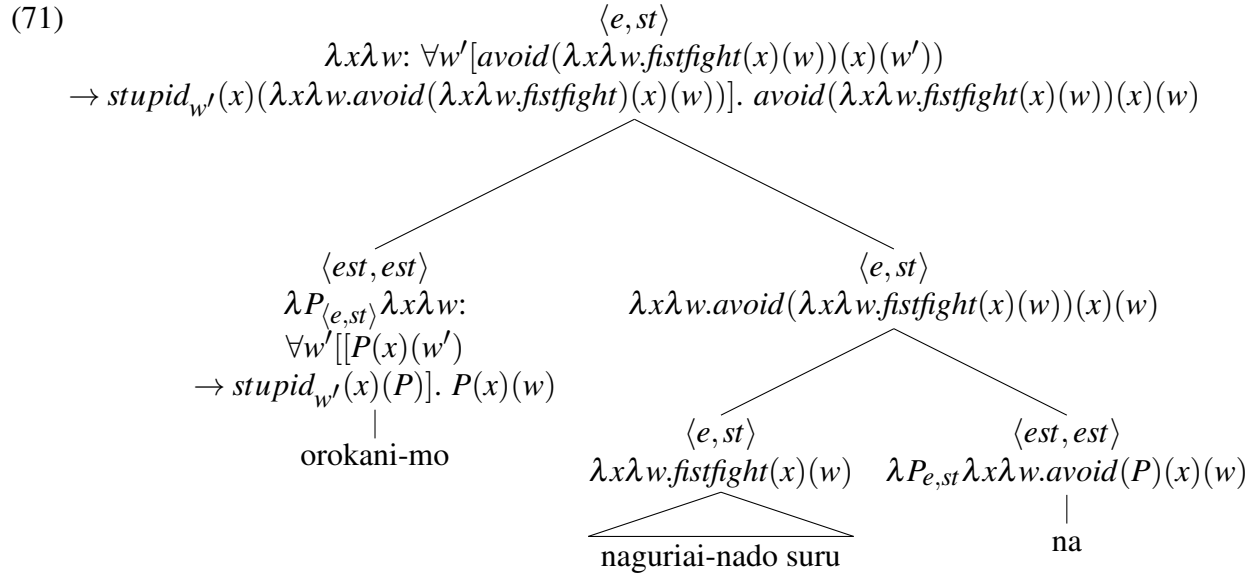
As before, I adopt Portner’s (2004) theory of imperatives (see section 2.4.4 in chapter 2). According to this theory, imperatives denote properties and have an effect of updating the addressee’s To-Do-List, a set of properties which represents a list of actions which the addressee should take. One way to think of negative imperatives in this view is to consider negative imperatives as expressions that denote properties of individuals that describe avoidance of some action. For example, the denotation of an imperative sentence such as ‘don’t get into a fistfight’ can be thought of as $\lambda x \lambda w. \text{avoid}(\lambda x \lambda w. \text{fistfight})(x)(w)$. The pragmatic effect is to add this property to the addressee’s To-Do-List. As the translation in (69) indicates, what is evaluated as stupid is to do anything like a fistfight. Therefore, the structure presumably should look like (70), which shows that the stupid adverb is taking the property $\lambda x \lambda w. \text{fistfight}(x)(w)$ as its argument.

(70)



There is a non-at-issue conditional meaning, as indicated by ~~~~~, that if x gets into a fistfight then x is stupid to do so. Since this is just what the speaker believes, what the addressee is asked to put on to his/her To-Do-List is to avoid getting into a fistfight. This is what is essentially expressed by sentence (69).

When only semantic types are concerned, it seems that, in theory, an alternative structure is also possible as shown in (71).



In (71), what is going to be added to the addressee's To-Do-List is to avoid getting into a fistfight, which is the same as the previous one in (70). On the other hand, there is a conditional meaning 'if x avoids getting into a fistfight, x is stupid to do so'. The reason why the sentence is not interpreted in this way is presumably because of a pragmatic reason: while the speaker is giving a command to avoid a fistfight, s/he thinks at the same time that avoiding a fistfight is a stupid thing to do. From a commonsensical perspective, it is odd to give a command which one believes to be stupid.

The same reasoning may be applicable to the unacceptability of stupid adverbs that appear in non-negative imperatives such as (72) repeated from (22).

- (72) *Orokani-mo hontou-no koto-o ie.
 stupidly-*mo* real-GEN thing-ACC say:IMP
 Intended: 'Speak truth!' + 'If you speak truth, you are stupid.'

In (72), while the speaker commands to speak truth, s/he also believes that speaking truth is a stupid thing to do. If we assume that there is a pragmatic rule that prohibits us to give a command that we think is not beneficial, this kind of pragmatic explanation may make some sense. However, imagine a situation that speaking truth is indeed a stupid thing to do (e.g., for a spy, saying his/her real name may be stupid), but even in such a situation, sentence (72) is still unacceptable.

To make matters worse, such a pragmatic reasoning would predict that stupid adverbs with a positive connotation (such as *kenmeeni-mo* ‘cleverly’, *yuukanni-mo* ‘courageously’, and *shinsetsuni-mo* ‘kindly’) are acceptable in imperatives. However, as pointed out in 3.2.3, such stupid adverbs cannot appear in imperatives (both negative and non-negative imperatives). For example, it is conceivable that, under some circumstance, it is clever to act as if one is deceived by others, but even if that is the case, (73) is unacceptable.

- (73) *Kenmeeni-mo damas-are-ta furi-o shiro.
 cleverly-*mo* deceive-PASS-PAST pretense-ACC do:IMP
 Intended: ‘Act like you’re deceived.’ + ‘If you act like you’re deceived, you are clever.’

Similarly, plunging into a blazing fire is surely courageous, but as shown in (74), the adverb *yuukanni-mo* ‘courageously’ cannot appear in imperatives (both non-negative and negative).

- (74) *Yuukanni-mo moesakaru hi-no naka-e tobikome.
 courageously-*mo* blazing fire-GEN inside-to plunge:IMP
 Intended: ‘Plunge into the blazing fire.’
 + ‘If you plunge into the blazing fire, you are courageous.’

We can imagine a situation in which a fire chief says (73) to give a command to his/her people to plunge into the blazing fire, because that is what s/he thinks is necessary to save a child inside the house. The fire chief also thinks that plunging into the blazing fire is a courageous thing to do. There seems to be nothing pragmatically wrong with the intended meaning in this situation, but the sentence is not acceptable nonetheless. These adverbs with positive connotations cannot appear in imperatives even in negative imperatives.

- (75) *Kenmeeni-mo damasareta furi-nado suruna.
 cleverly-*mo* deceive:PASS:PST pretense-such.as do:NEGIMP
 Intended: ‘Don’t act like you’re deceived.’ + ‘If you act like you’re deceived, you are clever.’
- (76) *Yuukanni-mo kawa-ni tobikomuna.
 courageously-*mo* river-to plunge:NEGIMP
 Intended: ‘Don’t jump into the river.’ + ‘If you jump into the river, you are courageous.’

For these cases, however, we might be able to explain informally in terms of pragmatic and/or commonsensical reasoning. In (75) and (76), the speaker gives a command to avoid acting like being deceived or to avoid jumping into the river, but at the same time expressing his/her thought that the actions s/he commands to avoid (i.e., acting like being deceived and jumping into the river) are something that s/he thinks positively (clever or courageous). The reason why (75) and (76) are unacceptable may be because of this inconsistency.

Thus, the most puzzling case is when stupid adverbs with positive connotation appear in non-negative imperatives (73) and (74). Other cases such as (22), (75) and (76) are still somewhat puzzling, but may be explained informally with a pragmatic/commonsensical reasoning. My analysis of stupid adverbs as it is simply predicts that any stupid adverb can appear in any kind of imperatives, which is clearly an overgeneration. More consideration on imperatives and their interaction with adverbs is needed in order to correctly predict that stupid adverbs can appear in imperatives only (i) when stupid adverbs have negative connotations and (ii) in negative imperatives. I leave this as a problem for future research.

3.4.5 Passive-sensitivity

Finally, let us consider one of the prime characteristics of subject-oriented adverbs, namely, passive-sensitivity. As mentioned in section 3.2.4, Japanese stupid adverbs are not passive-sensitive, i.e., they do not invoke ambiguity in passive sentences. Regardless of the word order, sentence (77), repeated from (28), has only one interpretation (77-a). This shows that Japanese stupid adverbs are always oriented to the surface subject.

(77) Mary-wa John-ni orokani-mo dakishime-rare-ta.
 Mary-TOP John-by stupidly-*mo* hug-PASS-PAST
 ‘Mary was stupidly hugged by John.’

- a. →It was stupid of Mary to be hugged by John.
- b. →It was stupid of John to hug Mary.

To explain this fact, let me first clarify the basic structure of a passive sentence without a stupid adverb such as (78).

- (78) Mary-wa John-ni dakishime-rare-ta.
Mary-TOP John-by hug-PASS-PAST
'Mary was hugged by John.'

The structure of (78) is shown in (79). It reflects the fairly standard assumption that passive sentences involve two verbal predicates, the main verb V_1 and the passive auxiliary V_2 . I assume that the main verb *dakishime*- 'to hug' takes two individuals as its arguments (the theme argument and the agent argument), and that the theme argument *Mary* and the agent argument, an empty category PRO, are thematically licensed by V_1 . The passive morpheme at V_2 head is semantically vacuous. While PRO stays in-situ, the theme argument *Mary* moves to the specifier of TP to be assigned a case, stopping by the specifier of V_2P .⁹

⁹For the technical syntactic issue regarding the movement of the surface subject in passives, see Matsuoka (2013) footnote 26 and the references therein.

$$(79) \quad \frac{\langle s, t \rangle}{\text{TP}} \\ \lambda w. \exists e [hug(Mary)(PRO)(e)(w) \wedge Ag(e) = John \wedge PAST(e)]$$


Since stupid adverbs can only take a predicate of type $\langle e, st \rangle$, the only position it can adjoin to is the T' right below TP, the node indicated with $\leftarrow\leftarrow\leftarrow$ in (79). Thus, having no other position to appear, there is only one interpretation available, i.e., it is the surface subject Mary who was stupid (not John) to be hugged.

- (80) Mary-wa John-ni orokani-mo dakishime-rare-ta.
 Mary-TOP John-by stupidly-*mo* hug-PASS-PAST
 ‘Mary was stupidly hugged by John.’

- (81) $\llbracket (80) \rrbracket$
 $= \llbracket \text{orokani-mo} \rrbracket (\llbracket \text{dakishime-rareta} \rrbracket)(\llbracket \text{Mary-wa} \rrbracket) =$
 $= [\lambda P_{\langle e, st \rangle} \lambda x \lambda w: \forall w' [P(x)(w') \rightarrow \text{stupid}_{w'}(x)(P)]. P(x)(w)]$
 $(\lambda z \lambda w. \exists e [hug(z)(PRO)(e)(w) \wedge Ag(e) = John \wedge PAST(e)])(Mary)$
 $= \lambda w: \forall w' [[\exists e [hug(Mary)(PRO)(e)(w') \wedge Ag(e) = John \wedge PAST(e)]]$
 $\rightarrow \text{stupid}_{w'}(Mary) (\lambda x \lambda w. \exists e [hug(x)(PRO)(e)(w) \wedge Ag(e) = John \wedge PAST(e)]).$
 $\lambda w. \exists e [hug(Mary)(PRO)(e)(w) \wedge Ag(e) = John \wedge PAST(e)]$

In short, the derived at-issue meaning is that Mary was hugged by John. In addition, there is a conditional non-at-issue meaning which says that if Mary was hugged by John, it is stupid of Mary to have been hugged by John. In this way, this analysis of Japanese stupid adverbs correctly predicts that they are not passive-sensitive: Japanese stupid adverbs can only be oriented to the surface subject. As will be shown in the next section, this contrasts with reluctant adverbs, in which case there are two structural position for the adverb to appear in the sentence, resulting in structural ambiguity.

3.5 Reluctant adverbs as predicate adverbs

We will now turn to reluctant adverbs in Japanese, which behave quite differently from stupid adverbs. I argue that Japanese reluctant adverbs are predicate adverbs, by which I mean they are more like manner adverbs. I propose that the denotation of reluctant adverbs can be written as

(82). For comparison, the denotation of stupid adverbs is repeated in (83).

$$(82) \quad \llbracket \text{iyaiya} \rrbracket = \lambda f_{\langle e, vst \rangle} \lambda x \lambda e \lambda w. f(x)(e)(w) \wedge \text{reluctant}(x)(e)(w)$$

$$(83) \quad \llbracket \text{orokani-mo} \rrbracket \\ = \lambda P_{\langle e, st \rangle} \lambda x \lambda w: \forall w' \in \text{Acc}_{w,a} [P(x)(w') \rightarrow \text{stupid}_{w'}(x)(P)]. P(x)(w)$$

Comparing (82) and (83), it is clear that stupid adverbs and reluctant adverbs are quite different both syntactically and semantically. While stupid adverbs are predicate modifiers which take arguments of type $\langle e, st \rangle$, reluctant adverbs are predicates modifiers which take arguments of type $\langle e, vst \rangle$. (Alternatively, reluctant adverbs can be written as $\lambda x \lambda e \lambda w. \text{reluctant}(x)(e)(w)$, which are predicates of type $\langle e, vst \rangle$. In terms of semantic types, this is the same kind of predicate as verb phrases such as *dance* ($\lambda x \lambda e \lambda w. \text{dance}(x)(e)(w)$). Thus, a reluctant adverb and a verb phrase can be put together via Predicate Modification (Heim & Kratzer 1998), a compositional rule which can combine them intersectively.)

In addition, the structural position of stupid adverbs and reluctant adverbs are different: stupid adverbs appear after the tense has bound the event variable (adjoining to a T' node), whereas reluctant adverbs appear before the tense binds the event variable (adjoining to a VP node, or a vP or PredP node depending on the syntactic framework). Another crucial difference is their semantic contributions. Stupid adverbs introduce a conditional meaning as an additional side comment of the speaker besides the at-issue meaning. In contrast, reluctant adverbs are not associated with such a conditional meaning, but modify the at-issue meaning denoted by the predicates they take as arguments by adding information about the individual x 's mental state. In what follows, I show how the proposed denotation in (82) accounts for the characteristics of reluctant adverbs as observed in section 3.2, which differ from the characteristics of stupid adverbs.

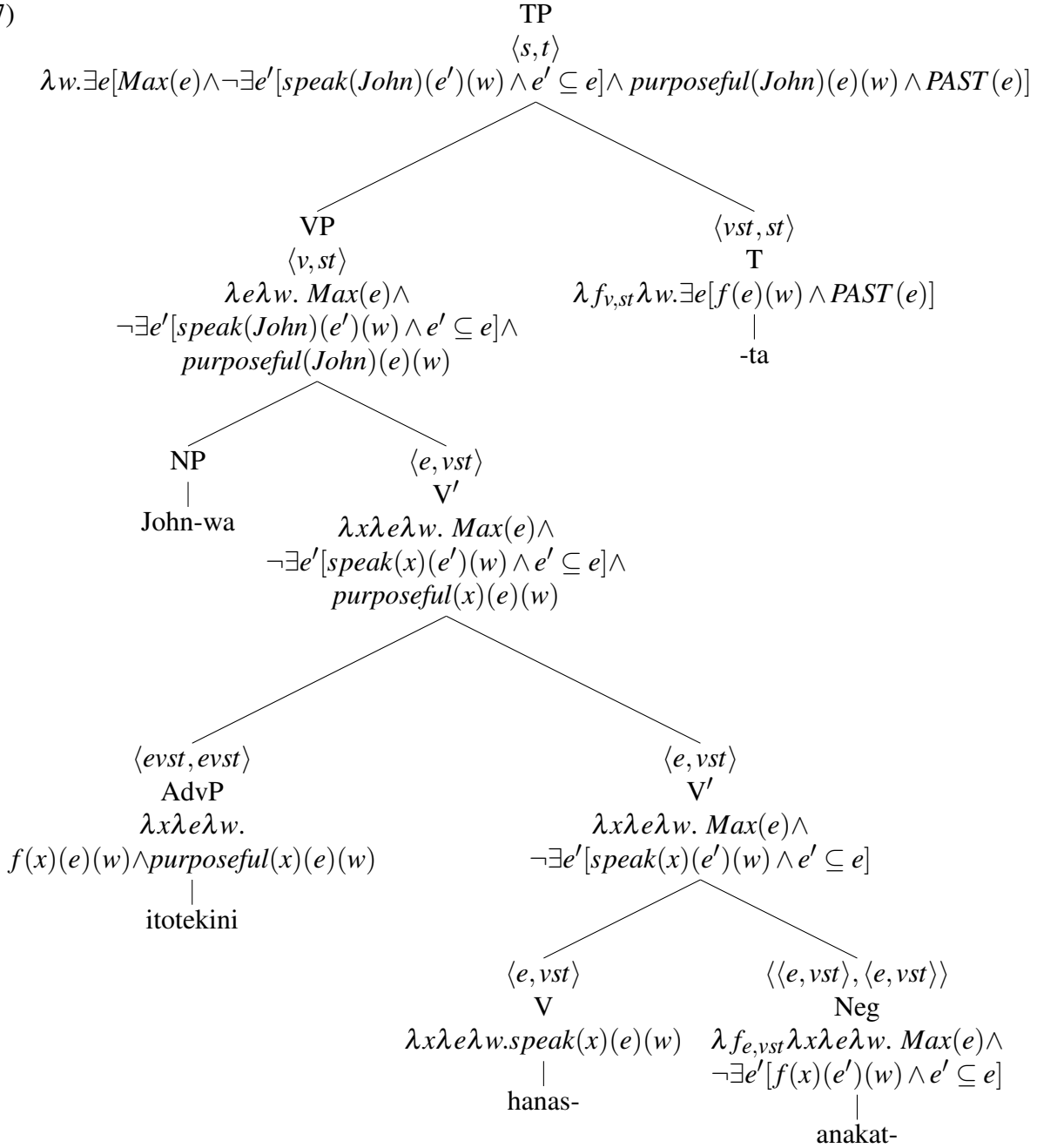
3.5.1 Negation

Let us start with the interaction between reluctant adverbs and negation. As mentioned in section 3.2.1, reluctant adverbs usually take scope below negation (84), but when they are associated with focus (i.e., marked with *wa* and accompanied by a focus intonation), they take scope below negation, and can be directly negated, as in (85). This contrasts with stupid adverbs, which cannot be targeted by predicated negation via focus association, cf. (86).

- (84) John-wa itotekini hanasa-nakatta.
John-TOP purposefully speak-didn't
'John purposefully did not speak.' (ADV > NEG)
- (85) John-wa itotekini-wa hanasa-nakatta.
John-TOP purposefully-CONT speak-didn't
'John did not speak PURPOSEFULLY.' (NEG > ADV)
- (86) *John-wa orokani-mo-wa hanasa-nakatta.
John-TOP stupidly-mo-CONT speak-didn't
Intended: 'Not stupidly, John spoke.' (NEG > ADV)

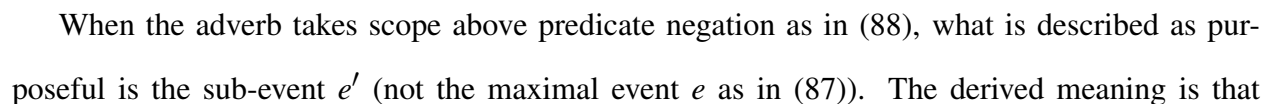
What we need to account for is the fact that both reluctant adverbs and negation can take scope above the other. The proposed denotation of reluctant adverbs can derive the two interpretations in the following ways. (87) is the derivation for (84) and (88) for (85).

(87)



Sentence (84) entails that John did not speak during a certain period of time in the past and that that was his intention. This meaning can be derived compositionally by letting the adverb *itotekini* ‘purposefully’ take scope above negation as in (87). The derived meaning says that there was a maximal event e at a certain time in the past, which was a purposeful one by John, and within the maximal event e , there was no sub-event e' , where e' is an event of John’s speaking. Thus, there was no speaking event by John (during some time in the past), and non-speaking was what John

Since reluctant adverbs are of type $\langle evst, evst \rangle$, they can also appear below negation as shown below.



there was a maximal event e in the past, and within the maximal event e , there was no sub-event e' , John's purposeful speaking event. In this way, the proposed analysis accounts for the scope interaction between reluctant adverbs and predicate negation, and derives the two interpretations compositionally.¹⁰

3.5.2 Questions

Next, let us turn to reluctant adverbs in questions. As mentioned in section 3.2.2 and repeated below, reluctant adverbs are different from stupid adverbs in that they do not have a conditional meaning (89), and can be the target of the inquiry (90).

- (89) John-wa itotekini sono-koto-o hanashita n-desu ka?
 John-TOP purposefully that-thing-ACC spoke it.is Q
 'Did John purposefully speak of that issue?'

- (90) John-wa itotekini hanashita n-desu ka? Soretomo ukkari hanashita
 John-TOP purposefully spoke it.is Q or absent-mindedly spoke
 n-desu ka?
 it.is Q
 'Did John speak purposefully or absent-mindedly?'

In this respect, reluctant adverbs are like manner adverbials.

- (91) John-wa oogoe-de sono-koto-o hanashita n-desu ka?
 John-TOP loud.voice-in that-thing-ACC spoke it.is Q
 'Did John speak of that issue in a loud voice?'

- (92) John-wa oogoe-de hanashita n-desu ka? Soretomo kogoe-de hanashita n-desu
 John-TOP loud.voice-in spoke it.is Q or low.voice-in spoke it.is
 ka?
 Q
 'Did John speak loudly or quietly?'

¹⁰Note that the above sentence is interpreted this way only when the adverb is marked by *wa* and focus intonation. I assume that this is a case of 'contrastive negation' in the sense of McCawley (1991).

These characteristics of reluctant adverbs in questions is expected from the proposed denotation, repeated below.

$$(93) \quad \llbracket \text{iyaiya} \rrbracket = \lambda f_{e, \text{vst}} \lambda x \lambda e \lambda w. f(x)(e)(w) \wedge \text{reluctant}(x)(e)(w)$$

Unlike stupid adverbs, there is no conditionality involved in (93), and the core meaning of reluctant adverbs ($\text{reluctant}(x)(e)(w)$ in (93)) is part of the at-issue content. Thus, when the question operator Q (94) takes the proposition ‘John purposefully spoke’ as an argument, it derives the following set of propositions (95).

$$(94) \quad \llbracket Q \rrbracket = \lambda p_{s,t}. \{p, \neg p\}$$

$$(95) \quad \left\{ \begin{array}{l} \lambda w. \exists e [\text{speak}(\text{John})(e)(w) \wedge \text{reluctant}(x)(e)(w) \wedge \text{PAST}(e)], \\ \lambda w. \neg \exists e [\text{speak}(\text{John})(e)(w) \wedge \text{reluctant}(x)(e)(w) \wedge \text{PAST}(e)] \end{array} \right\}$$

In (95), e is an event of John’s speaking reluctantly in the past. What the yes-no question (14) asks is whether such an event existed or not. Thus, the difference between stupid adverbs and reluctant adverbs in questions is basically explained in terms of the kind of meanings they contribute, i.e., whether it is part of the at-issue meaning or not.

3.5.3 Imperatives

Whether the meaning belongs to the at-issue content or not also matters when we consider the case of imperatives. In contrast to stupid adverbs, which exhibit a puzzling distributional pattern in imperatives (see section 3.2.3), reluctant adverbs do not have such a complication in imperatives, and can appear quite freely in imperatives (96) like other predicate modifiers such as manner adverbials (cf. (97)).

$$(96) \quad \begin{array}{l} \{\text{Itotekini/Iyaiya/Hokorashigeni/Tanoshigeni}\} \text{ hanase.} \\ \{\text{purposefully/reluctantly/proudly/happily}\} \text{ speak:IMP} \\ \text{‘Speak \{purposefully/reluctantly/proudly/happily\}.’} \end{array}$$

- (97) Yukkuri oogoe-de hanase.
 slowly loud.voice-in speak:IMP
 ‘Speak slowly and loudly.’

As discussed in 3.4.4, the main reason why stupid adverbs are subject to various restrictions in imperatives is that their conditional non-at-issue meanings interact with the pragmatics of imperatives. Reluctant adverbs are not associated with a non-at-issue meaning, so it is expected that there is no such interference.

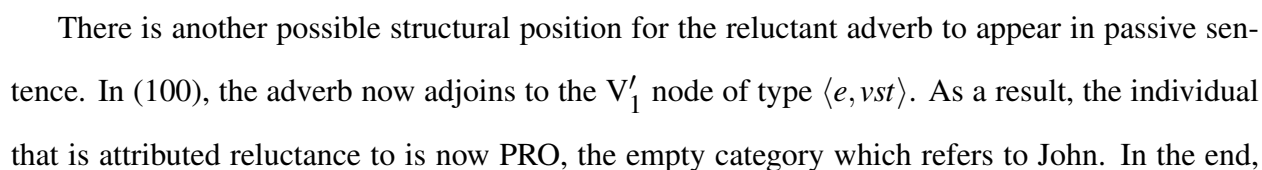
3.5.4 Passive-sensitivity

Finally, let us consider passive-sensitivity. As mentioned in section 3.2.4, passive-sensitivity is one of the most prominent characteristics of subject-oriented adverbs in English, but is only observed with reluctant adverbs, not with stupid adverbs, in Japanese. In section 3.4.5, I showed why Japanese stupid adverbs are not passive-sensitive. In this section, I now account for why reluctant adverbs are passive-sensitive, as shown in (98), repeated from (29). My analysis of passive-sensitivity generally follows the structural ambiguity approaches (McConnell-Ginet 1982, Matsuoka 2013), which derives the two interpretations of a passive sentence with a reluctant adverb from two distinct underlying syntactic structures.

- (98) Mary-wa John-ni iyaiya dakishime-rare-ta.
 Mary-TOP John-by reluctantly hug-PASS-PAST
 ‘Mary was reluctantly hugged by John.’
- a. →Mary was reluctant when she was hugged by John.
 b. →John was reluctant when he hugged Mary.

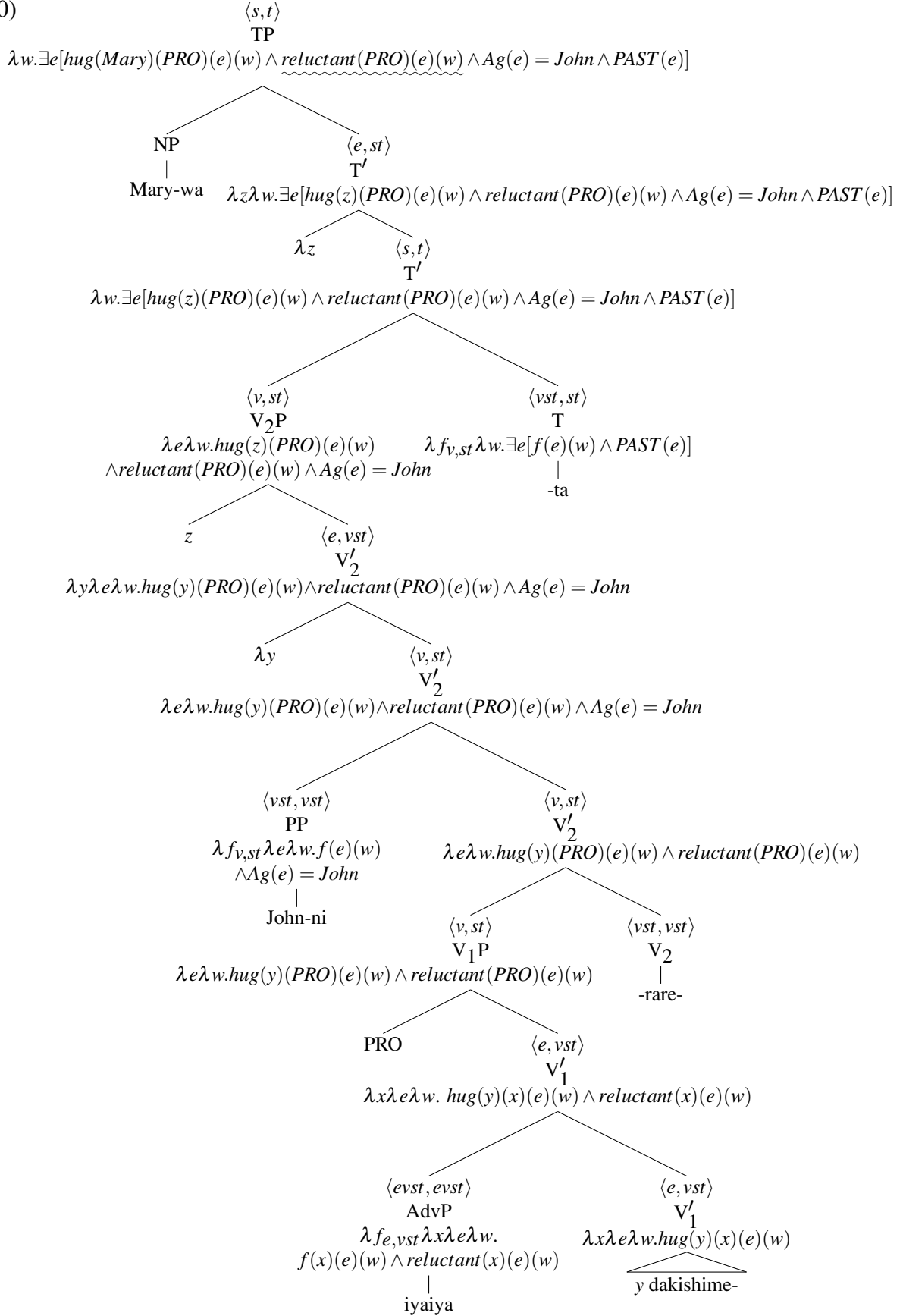
Assuming the basic structure of passive sentences (79) introduced in 3.4.5, we can derive the two interpretations (98-a) and (98-b) as in (99) and (100) respectively. In (99), the reluctant adverb is adjoined to one of the V'_2 nodes of type $\langle e, vst \rangle$. Since the first argument of the predicate that the adverb is adjoined to (i.e., λx) is going to be filled in with z and then *Mary*, the individual that is attributed reluctance to is *Mary*. The derived meaning says that there was an event e in the past,

(99)



the derived meaning says that there was an event e in the past, where e is a hugging of Mary by John, and it was the agent (PRO = John) who was reluctant. Thus, in this way, the proposed analysis of reluctant adverbs can derive the two distinct interpretations based on the idea of structural ambiguity as argued by McConnell-Ginet (1982) and Matsuoka (2013).

(100)



3.6 Stupid adverbs and stupid adjectives

In the analysis of stupid adverbs in imperatives (section 3.4.4), I mentioned Barker's (2002) work on what he calls stupid adjectives that appear with infinitival complements.

(101) Feynman is stupid to dance like that.

Barker (2002) argues that stupid adjectives are associated with three kinds of presupposition. For example, sentence (101) has the presuppositional meanings (102-a-c) due to the existence of the adjective.

- (102) a. The subject (*Feynman*) must be sentient.
b. The subject (*Feynman*) must have discretionary power over the state of affairs described by the infinitival (*to dance*).
c. The proposition formed by applying the infinitival property to the subject (*Feynman danced*) must be entailed by the context.

Barker (2002) notes that it is not his main point to argue for the existence of a natural class of 'stupid adverbs'. However, it is still worth noting that many of the adjectives that are listed as examples of stupid adjectives have the corresponding adverbs that are subject-oriented adverbs.

(103) Examples of stupid adjectives (from (Barker 2002:18)):

brave, careless, clever, (in)considerate, courageous, cowardly, crazy, cruel, dumb, evil, foolish, impudent, (un)kind, (un)lucky, mean, naughty, nice, (im)polite, (im)prudent, right, rude, silly, smart, stupid, wicked, (un)wise, wrong, etc.

It should not be surprising to find similarities between stupid adjective and stupid adverbs, or even between adjectives and adverbs in general. In fact, Geuder (2002), for example, argues that the adverb *stupidly* is semantically exactly the same as the adjective *stupid*. However, although I do think that adverbs share the core meaning with their corresponding adverbs¹¹, I am going to

¹¹In addition I think that vagueness and comparison classes are also important in determining the meanings of many adverbs just like gradable adjectives. See Ernst (2002) and Kubota (to appear)

(104) a. Fortunately, John came. [Evaluative adverb]
b. Stupidly, John came. [Stupid adverb]

(105) a. It is fortunate that John came.
b. {It was stupid of John/John was stupid} to came.

(106) Si Paul est malencontreusement en retard, le patron sera furieux.
 ‘If Paul is unfortunately late, the boss will be furious.’
 ↗ Paul is late. (Bonami & Godard 2008:(15))

(107) S’il est malheureux que Paul soit en retard, ça l’est encore plus que le patron le soit aussi.
 ‘If it is unfortunate that Paul is late, it is even worse that the boss is late too.’
 → Paul is late. (Bonami & Godard 2008:(14))

for more on comparison classes of adverbs.

3.7 Stupid adverbs in Japanese and English: A cross-linguistic issue

In this chapter, I focused on Japanese as the target language of my analysis of subject-oriented adverbs. However, it is quite possible that not every language has the exactly same classes of adverbs with the exactly same characteristics, in which case we would like to know where the cross-linguistic variations come from. For instance, let us consider once again passive sentences with a stupid adverb in English (108) and in Japanese (109).

(108) Mary was stupidly hugged by John.

- a. →It was stupid of Mary to be hugged by John.
- b. →It was stupid of John to hug Mary.

(109) Mary-wa John-ni orokani-mo dakishime-rare-ta.
Mary-TOP John-by stupidly-*mo* hug-PASS-PAST
'Stupidly Mary was hugged by John.'

- a. →It was stupid of Mary to be hugged by John.
- b. →It was stupid of John to hug Mary.

While sentence (108) in English is ambiguous, allowing both of the two interpretations (108-a) and (108-b), the corresponding sentence (109) in Japanese is not ambiguous. It therefore seems that stupid adverbs in English and in Japanese are syntactically and/or semantically different. In English, however, the position of adverbs in a sentence affects the interpretation. As it has been observed by many authors (Jackendoff 1972, Ernst 2002, Matsuoka 2013), when the adverb is located between the subject and the auxiliary, there is no ambiguity.

(110) Mary stupidly was hugged by John.

- a. →It was stupid of Mary to have been hugged by John.
- b. →It was stupid of John to have hugged Mary.

In Japanese, on the other hand, the word order does not affect the interpretation. No matter where the adverb appears in a sentence, the only interpretation is that Mary was stupid to be hugged by

John.

- (111) Mary-wa orokani-mo John-ni dakishime-rare-ta.
Mary-TOP stupidly-*mo* John-by hug-PASS-PAST
'Stupidly Mary was hugged by John.'

- a. →It was stupid of Mary to be hugged by John.
b. ↗It was stupid of John to hug Mary.

- (112) Orokani-mo Mary-wa John-ni dakishime-rare-ta.
stupidly-*mo* Mary-TOP John-by hug-PASS-PAST
'Stupidly Mary was hugged by John.'

- a. →It was stupid of Mary to be hugged by John.
b. ↗It was stupid of John to hug Mary.

A possible explanation for this cross-linguistic difference is that the semantic type of Japanese stupid adverbs is fixed as $\langle est, est \rangle$, whereas the semantic type of English stupid adverbs is flexible, can be either $\langle est, est \rangle$ or $\langle evst, evst \rangle$. This means that Japanese stupid adverbs can only adjoin to T'^{12} , but English stupid adverbs can appear both above T (in which case they behave like Japanese stupid adverbs) or below T (in which case they are more like Japanese reluctant adverbs). Thus, since the proposed analysis is based mostly on Japanese adverbs, the next step is to examine other languages to determine to what extent my analysis is universal and how variations occur, which is left for future research.

3.8 Summary of chapter 3

In this chapter, I examined the class of adverbs commonly referred to as subject-oriented adverbs. As pointed out in the previous literature (Quirk et al. 1972, Nakau 1980, Ernst 2002), those that are referred to as subject-oriented adverbs can be classified into two subgroups, which I renamed stupid adverbs and reluctant adverbs for convenience. Based on Japanese, I showed that the conditional

¹²The assumption is that various surface word orders are derived via scrambling, which does not affect the semantic interpretation.

account I proposed in chapter 2 for evaluative adverbs can be extended to stupid adverbs, but not to reluctant adverbs. Specifically, I argued that the fundamental differences between the two types of subject-oriented adverbs are (i) their semantic types (stupid adverbs are of type $\langle est, est \rangle$, whereas reluctant adverbs are of type $\langle evst, evst \rangle$), and (ii) the kinds of meaning they are associated with (i.e., while the meanings of stupid adverbs is non-at-issue and conditional, the meanings of reluctant adverbs belong to the at-issue content).

$$(113) \quad \llbracket \text{orokani-mo} \rrbracket \\ = \lambda P_{\langle e, st \rangle} \lambda x \lambda w: \forall w' \in Acc_{w,a} [P(x)(w') \rightarrow stupid_{w'}(x)(P)]. P(x)(w)$$

$$(114) \quad \llbracket \text{iyaiya} \rrbracket = \lambda f_{e, vst} \lambda x \lambda e \lambda w. f(x)(e)(w) \wedge reluctant(x)(e)(w)$$

As observed in section 3.2, stupid adverbs and reluctant adverbs are different in several respects. The following table highlights the major differences.

	stupid adverbs	reluctant adverbs
(a) Can take a scope below the predicate negation <i>V-nai</i>	No	Yes
(b) Can be part of the inquiry	No	Yes
(c) Can appear in non-negative imperatives	No	Yes
(d) Passive-sensitive	No	Yes

Table 3.1: Characteristics of Subject-oriented Adverbs

In my analysis, I showed how these differences can be accounted for by the proposed denotations of stupid adverbs and reluctant adverbs.

As for property (a), since reluctant adverbs modify predicates of type $\langle e, vst \rangle$, being applied before tense binds the event variable, they can take a scope either below or above predicate negation, which also appears below tense. On the other hand, stupid adverbs modify predicates of type $\langle e, st \rangle$, adjoining to the structure after the tense has bound the event variable. Thus, they can only take scope above predicate negation, and cannot interact with it like reluctant adverbs. Property (b) can be explained by the kinds of meaning the adverbs are associated with and the nature of the question operator and wh-phrases. The question operator and wh-phrases generate a set of

propositions based on the content in the at-issue meaning. The meanings of stupid adverbs are non-at-issue meanings, and cannot be included in the set of propositions, hence cannot be part of the inquiry. The meanings of reluctant adverbs, on the other hand, are part of the at-issue content, so they can be part of the question. Whether the meaning is at-issue or not also (partially) explains property (c). While the conditional non-at-issue meaning of stupid adverbs interfere with the pragmatic properties of imperatives, no such interference occurs with reluctant adverbs. The remaining puzzle is that the proposed analysis of stupid adverbs is not strict enough to explain why stupid adverbs with positive meanings are unavailable in imperatives. Finally, property (d) is expected, since reluctant adverbs, but not stupid adverbs, have two possible positions to appear in the passive construction. The availability of structural ambiguity thus results in passive-sensitivity of reluctant adverbs.

CHAPTER 4

SYNTACTIC AND SEMANTIC CHARACTERISTICS OF ADVERBS OF EVALUATION

This thesis is devoted to an investigation of the nature of adverbs of evaluation. I examined two types of them: one of the subgroups of speaker-oriented adverbs commonly referred to as evaluative adverbs, and what I call stupid adverbs, one of the subgroups of so-called subject-oriented adverbs. In chapter 2, I proposed a revised version of the conditional approach, which was originally put forth by Bonami & Godard (2008) for evaluative adverbs. In chapter 3, the conditional approach was further extended to stupid adverbs. In this chapter, based on the findings in chapter 2 and 3, I take a step back to reconsider the characteristics of adverbs of evaluation (section 4.1). I also revisit the issue of the connection between sentence adverbs and predicate adverbs (section 4.2), bringing up some open-ended questions and a possible direction for future research.

There are two fundamental properties of adverbs of evaluation, a syntactic one (1-a) and a semantic one (1-b). Furthermore, in so far as Japanese data goes, there is a morphological property shared by adverbs of evaluation, namely: Adverbs of evaluation generally have *mo*.

- (1) a. Adverbs of evaluation appear above tense.
- b. Adverbs of evaluation have non-at-issue conditional meanings.

As for (1-a), I proposed that evaluative adverbs adjoin to TP, taking a propositional argument of type $\langle s, t \rangle$, and that stupid adverbs adjoin to T', taking a semi-propositional argument, which lacks the surface subject, of type $\langle e, st \rangle$. Thus, both types of adverbs take (semi-)propositional arguments whose event variables are already bound by tense. This is expected as adverbs of evaluation are sentence adverbs that appear 'higher' in the structure. However, this syntactic property is not the prime characteristics that makes adverbs of evaluation so special. There are many other types of adverbs that are sentential that apparently appear above tense. To give a few examples, there are so-called speech-act adverbs ('pragmatic adverbs' (Bellert 1977), 'utterance-modifying adverbs'

(Potts 2005), or ‘discourse-oriented adverbs’ (Ernst 2009)) such as *frankly*, *honestly*, and *roughly* in (2), and epistemic adverbs (‘modal adverbs’ (Bellert 1977)) such as *clearly* and *obviously* in (3).

- (2) a. Frankly, you shouldn’t speak to Annette.
- b. We’ve honestly been dealing with them for a long time.
- c. Roughly, management intends to beat the union by wearing them down.

(Ernst 2002:(2.86-2.88))

- (3) a. Clearly, they saw the sign.
- b. Marian has quite obviously been coughing. (Ernst 2002:(2.110-2.111))

Speech-act adverbs and epistemic adverbs fall under Jackendoff’s (1972) ‘speaker-oriented adverbs’ along with evaluative adverbs. However, evaluative adverbs have a semantically unique property which is not shared by other speaker-oriented adverbs, namely (1-b). Speech-act and epistemic adverbs do not have such non-at-issue conditional meanings. What is more interesting is that this semantic property (1-b) is not the prime characteristic which only evaluative adverbs (a subclass of the speaker-oriented adverbs) have, but also the prime characteristic of another class of adverbs, namely, stupid adverbs (a subclass of subject-oriented adverbs). Moreover, all Japanese adverbs with *mo* are either evaluative adverbs or stupid adverbs.

4.1 The meanings of evaluative adverbs as projective content

At this point, two questions arise with respect to this semantic property (1-b) shared among adverbs of evaluation.

- (4) a. Why are the evaluative meanings conditional? In other words, why cannot the meaning of *fortunately* and *stupidly* be simply $\lambda p. \textit{fortunate}(p)$ ‘it is fortunate that *p*’ and $\lambda P. \textit{stupid}(x)(P)$ ‘*x* is stupid to *P*’ respectively?
- b. What do we mean by ‘non-at-issue’? What kind of non-at-issue meaning is it (e.g., presupposition or conventional implicature in Potts’ sense)?

As for the first question, we can explain it in terms of the kind of meanings associated with adverbs of evaluation. We have seen that the evaluative meanings appear as side comments of some sort (or ‘ancillary commitment’ in Bonami & Godard’s (2008) words). By taking a conditional form, the domain of possible worlds can be restricted to what the attitude holder (the speaker¹) thinks. In this way, the evaluative meanings are kept personal to the attitude holder. If the evaluative meanings did not take a conditional form, then they would not be what the attitude holder thinks, but something that would be true in the actual world.

As for the second question, I argue that it is not Pottsian conventional implicature, but rather a special, non-standard case of ‘presupposition’. Specifically, I show that the conditional meanings of adverbs of evaluation belongs to what Tonhauser et al. (2013) calls ‘class C’ type projective contents. According to Tonhauser et al. (2013), the notion of projection “concerns implications associated with particular words, constructions, and utterances, so-called TRIGGERS (where the term IMPLICATION is neutral between assertion, entailment, conversational implicature, etc.)” (Tonhauser et al. 2013:66). As the name represents, projection is a property of those implications that tend to survive “even when the trigger is embedded under operators that usually block the implications of material in their scope” (ibid.). Whether a certain implication projects or not can be determined by the FAMILY-OF-SENTENCES diagnostics (Chierchia & McConnell-Ginet 1990), as illustrated below.

(5) Chierchia & McConnell-Ginet 1990:28 cited in Tonhauser et al. 2013:67

- a. The present queen of France lives in Ithaca.
- b. It is not the case that the present queen of France lives in Ithaca.
- c. Does the present queen of France live in Ithaca?
- d. If the present queen of France lives in Ithaca, she has probably met Nelly.

This illustrates that the implication that there is a unique queen of France, which is triggered by the definite noun phrase *the present queen of France*, projects or survives even when the expression is

¹Unless the sentence is embedded under an attitude predicate such as *say*, *think*, *believe* and so forth.

embedded in sentential negation (5-b), question (5-c), and antecedent of conditional (5-d).

The range of words and constructions that are associated with projective meanings is huge, and includes those that are “standardly analyzed as presuppositions or as conventional implicatures” (ibid.). They propose a set of diagnostics and techniques to classify projective contents into four subclasses, based on two properties that the implication may have: (i) STRONG CONTEXTUAL FELICITY, and (ii) OBLIGATORY LOCAL EFFECT.

CLASSES	STRONG CONTEXTUAL FELICITY	OBLIGATORY LOCAL EFFECT
A	yes	yes
B	no	no
C	no	yes
D	yes	no

Table 4.1: Four classes of projective contents

Let me briefly review what the two properties (i) and (ii) mean. As for the first property, if a trigger associated with a certain implication p can be used felicitously only when it is used in an utterance context that entails p , then it is said that the implication has the property of strong contextual felicity. As shown in (5), the projective contents of classes A and D are those that have this property. According to Tonhauser et al. (2013), classes A and D are typically the implications associated with anaphoric expressions such as pronouns, demonstrative noun phrases, and the adverb *too*. For example, the adverb *too*, which has an implication that there exists an alternative of the same sort, must be used within a particular utterance context that entails the existence of such an alternative. This is illustrated in (6), which corresponds to their example (17).

- (6) [Context: Mary and her friend Sue are drinking coffee in the cafeteria. Sue finds John eating ramen at a different table, and says to Mary:]

#John-mo raamen tabeteru yo.
 John-also ramen eating SFP
 #‘John is also eating ramen.’

The sentence (6) is grammatical but not felicitous under the given context, since it has an implication (presupposition) that there exists someone, besides John, who is eating ramen. In order to felicitously utter this sentence, however, there must be a salient person implied by the context who is eating ramen. For example, if it were the case that Mary or Sue was eating ramen, then the sentence (6) can be uttered felicitously. In this way, it can be diagnosed that the expression *too/also* with the implication of the existence of an alternative has the property of strong contextual felicity. Being a projective content, this implication survives even when it is embedded under the set of family-of-sentences as introduced in (5).

- (7)
- a. John-mo raamen-o tabeteiru.
John-also ramen-ACC eating
'John is also eating ramen.'
 - b. John-mo raamen-o tabeteiru to-iu-wake-de-wa-nai.
John-also ramen-ACC eating it.is.not.the.case.that
'It is not the case that John is also eating ramen.'
 - c. John-mo raamen-o tabeteiru no?
John-also ramen-ACC eating Q
'Is John also eating ramen?'
 - d. Moshi John-mo raamen-o taberu-nara watashi-wa hoka-no-ni shiyoo.
if John-also ramen-ACC eat-COND I-TOP other-one-DAT do:VOL
'If John is also going to eat ramen, I will have something else.'

As it is also the case in English equivalents, all sentences in (7) entails that there exists someone else besides John who is eating ramen due to the use of *mo* 'also/too'.²

Let us turn to obligatory local effect, the second property that projective contents may have. This property concerns how a triggered implication interacts with operators such as propositional attitude verbs, modals, and conditionals. It is said that a triggered implication has obligatory local effect only when "it is necessarily part of the content that serves as the operator's semantic scope" (Tonhauser et al. 2013:67). To illustrate this, consider the following examples.

²I treat *mo* 'also/too' and *mo* in evaluative adverbs such as *kimyooni-mo* 'oddly' as distinct items for the moment. See section 4.2.4 below.

- (8) a. Jane believes that Bill has **stopped smoking** (although he's actually never been a smoker).
- b. [Context: Joan is crazy. She's hallucinating that some geniuses in Silicon Valley have invented a new brain chip that's been installed in her left temporal lobe and permits her to speak any of a number of languages she's never studied.]
Joan believes that her chip, **which she had installed last month**, has a twelve year guarantee.

(Tonhauser et al. 2013:(38))

The propositional attitude verb (in these cases *believe*) attributes to the attitude holder (*Jane* and *Joan*) the belief that the proposition denoted by the embedded clause (*Bill has stopped smoking* and *her chip, which she had installed last month*) is true. In (8-a), because of the use of the verb *stop*, it has an implication that Bill used to smoke in the past (i.e., the prestate implication). In (8-b), the use of non-restrictive relative clause (NRRC) implies that Joan's chip had installed last month. In both examples, the projective meanings (the prestate implication by *stop* and the content of NRRC) are part of the attitude holders' belief states. However, it is said that only the former has *obligatory* local effect. This is shown in (9).

- (9) a. #Jane believes that Bill has **stopped smoking** and that he has never been a smoker.
- b. Jane believes that Bill, **who is Sue's cousin**, is Sue's brother.

(Tonhauser et al. 2013:(39))

(9-a) is unacceptable, because the attitude holder's belief contains a contradiction – the two conjoined propositions ('Bill has stopped smoking' and 'Bill has never been a smoker') cannot be both true at the same time. On the other hand, (9-b) is acceptable, even though the two propositions ('Bill is Sue's cousin' and 'Bill is Sue's brother') are contradictory. This is because the content of NRRC does not always have to be part of the attitude holder's belief state, and in fact, in the case of (9-b), it is rather part of the speaker's belief state, not Jane's. Thus, while the prestate implication of *stop* does have obligatory local effect, the content of NRRC does not (although it

may be locally anchored in some cases such as in (8), but not always as in (9)).

According to the table in ??, obligatory local effect is the property that distinguishes classes B/D from classes A/C. Class B is said to include Potts's (2005) conventional implicatures (CI) with some contents associated with indexicals and anaphoric expressions. That means that if the meaning of evaluative adverbs is a CI in Potts' sense, then it must show the same behavior with respect to the two properties of projective contents as other CIs, i.e., it must show no strong contextual felicity and no obligatory local effect. However, as I will show below, the meanings of evaluative adverbs have no strong contextual felicity but does have obligatory local effect.

First, consider the following sentence with the evaluative adverb *saiwai* 'fortunately'.

- (10) [Context: Two people, who are strangers to each other, are chitchatting while they wait for a bus. One of them mentions that the weather these days has been unusually cool for this time of year. The other person agrees, and continues:]

Demo, raishuu-wa saiwai atsuku-naru rashii-node watasi-wa biichi-ni
but next.week-TOP fortunately hot-become I.hear-so I-TOP beach-to
ikoo-to omotteru n-desu yo.
go:VOL-COMP think it.is SFP
'But, fortunately, I heard that it's going to be hot next week, so I'm thinking of going to the beach.'

By virtue of the use of the evaluative adverb, the sentence has the implication that it is fortunate if it becomes hot. For the person who uttered this sentence, the weather being hot is a fortunate thing (because he is looking forward to going to the beach). This evaluation may or may not be shared by the other person. If he also thinks that hot weather is a fortunate thing, then he would respond, for example, 'Oh, that sounds nice! Maybe I should do that too!'. Alternatively, it could be the case that he hates hot weather and is happy about cool weather these days. Even if it was the case, the uttered sentence is completely felicitous, and he would still understand what is said and would also understand that hot weather is a fortunate thing for the speaker (though not for him). What this shows is that the implication of evaluative adverbs (in this case 'if it becomes hot, that is fortunate') does not have to be implied by the context or be part of shared assumption by

the participants. Thus, it is shown that the meaning of evaluative adverbs does not have strong contextual felicity, just like CI.

Next, consider the following case in order to determine if the meanings associated with evaluative adverbs are associated with obligatory local effect.

- (11) #John-wa saiwai kinoo-wa ichinichijuu hareta-to omotteiru-ga,
 John-TOP fortunately yesterday-TOP all.day was.sunny-COMP think-but
 ame-ga futte hoshikatta-to-mo omotteru.
 rain-NOM fall wanted-COMP-also think
 #‘John thinks that it was fortunately sunny all day yesterday, but he also wishes it had rained.’

The two propositions (‘it was fortunately sunny all day yesterday’ and ‘John wanted that it had rained’) are both under the scope of the propositional attitude verb *omou* ‘to think’. The sentence is unacceptable, because the two propositions are contradictory. This shows that the meaning of the evaluative adverb is part of the attitude holder’s belief state. On the other hand, NRRCs such as in (12) do not seem to be associated with obligatory local effect. Consider the following sentence that corresponds to the English NRRC example (9-b).³

- (12) John-wa Sue-no itoko dearu Bill-o Sue-no ani da-to omotteiru.
 John-TOP Sue-GEN cousin be Bill-ACC Sue-GEN brother be-COMP think
 ‘John thinks that Bill, who is Sue’s cousin, is Sue’s brother.’

As is also the case in English, the content of NRRC (‘Bill is Sue’s cousin’) and the proposition of the main clause (‘Bill is Sue’s brother’) are contradictory, and yet the sentence is acceptable. Therefore, according to Tonhauser et al.’s (2013) diagnostics, the meaning of an evaluative adverb is not associated with obligatory local effect, unlike the content of NRRC which is associated with obligatory local effect.

³In Japanese, there is no clear way to distinguish nonrestrictive relative clauses from restrictive relative clauses, because there is no morphological or phonological distinction between the two (Tsuji-mura 2001). However, (i) is most naturally interpreted as what NRRC would mean, unless we assume a context in which there are several people named Bill and we just want to pick out and talk about the Bill who is Sue’s cousin and not the other Bills.

Being a projective content, the meaning of an evaluative adverb survives under family-of-sentences as expected.

- (13) a. John-wa saiwai shuuden-ni maniatta.
John-TOP fortunately last.train-to made.it
'Fortunately, John caught the last train.'
- b. John-wa saiwai shuuden-ni maniatta to-iu-wake-de-wa-nai.
John-TOP fortunately last.train-to made.it it.is.not.the.case.that
'It is not the case that John fortunately caught the last train.'
- c. John-wa saiwai shuuden-ni maniatta no?
John-TOP fortunately last.train-to made.it Q
'Did John fortunately caught the last train?'
- d. Moshi saiwai shuuden-ni maniattara, John-wa soochoo kochira-ni
if fortunately last.train-to made.it:COND John-TOP early.morning here-to
tsuku-daroo
arrive-will
'If John fortunately catches the last train, he will arrive here early in the morning.'

All of these sentences imply that, if John caught the last train, that is fortunate, due to the use of evaluative adverb.

To conclude, the implication associated with evaluative adverbs (e.g., 'if *p*, then that is fortunate') does not belong to class B, but rather class C. This is based on the result of diagnostics proposed by Tonhauser et al. (2013). The implication associated with evaluative adverbs does not have strong contextual felicity, but it has obligatory local effect, hence class C, whereas those that are said to be CIs (Potts 2005) such as NRRCs do not have strong contextual felicity and do not have obligatory local effect either, hence class B. It is worth noting that, to compare the examples of triggers that are said to be associated with class C projective contents and those that are said to be associated with the other classes, function words (including anaphoric expressions) tend to fall under class A or D, whereas contents words tend to fall under class C. Since evaluative adverbs are content words, it intuitively makes sense that they belong to class C. According to Tonhauser et al. (2013), "the set of projective implications in class C are perhaps the most heterogeneous of the classes", since it includes classical presuppositions such as the prestate implication of *stop* and

factivity implied by *know*, and also some implications that are not classically treated as presuppositions such as the prejacent of *only*. As far as I know, the idea of treating the meaning of evaluative adverbs as class C projective contents is new. I therefore believe that my analysis which views evaluative adverbs as triggers of class C projective contents will provide us further insight into class C projective contents and help us gain a deeper understanding of projective contents in general. Henceforth, I use the term ‘presupposition’ to refer to the kind of implication that evaluative adverbs are associated with, but the assumption is that it is class C projective contents, precisely speaking.

4.2 Sentence adverbs and predicate adverbs

Finally, let us reconsider ambiguous (polysemous) adverbs and the relation between sentence adverbs and predicate adverbs. As introduced in chapter 1, there is quite a lot of adverbs in English that have both the sentence adverbial use and the predicate adverbial use (see section 1.1). A number of adverbs of evaluation have the predicate adverbial use too.

- | | | | |
|------|----|---|---------------------|
| (14) | a. | <u>Oddly</u> , John danced. | [Evaluative adverb] |
| | b. | <u>Stupidly</u> , John answered the question. | [Stupid adverb] |
| (15) | a. | John danced <u>oddly</u> . | [Manner adverb] |
| | b. | John answered the question <u>stupidly</u> . | [Manner adverb] |

Although this is not the prime characteristic of adverbs of evaluation per se (as many other adverbs have this kind of polysemy), it raises a general question as to whether this is a kind of lexical ambiguity. Or, is there a way to derive the two distinct adverbial interpretations from a single lexical source? For this question, three different approaches are possible and have been proposed: (i) posit a sentence adverb as the basic lexical entry from which a manner adverb is derived (section 4.2.1), (ii) posit a manner adverb as the basic lexical entry from which a sentence adverb is derived (section 4.2.2), and (iii) posit two distinct lexical entries rather than deriving one from the other

(section 4.2.3).

4.2.1 Deriving predicate adverbial meanings from sentence adverbs

According to Ernst (2002), ambiguous (polysemous) adverbs that have both the sentence adverbial use and the predicate (manner) adverbial use are inherently sentence adverbs (i.e., their lexical entries are set for sentence adverbial meanings). To interpret his claim, for example, the adverb *oddly* has a clausal meaning (16) by default.

$$(16) \quad \lambda p \lambda w. p(w) \wedge odd_w(p)$$

This is a propositional modifier which takes p as its argument, denotes that p is true in w and adds the evaluative meaning ‘it is odd that p ’. He then proposes what he calls the Manner Rule, which essentially converts sentence adverbs into manner adverbs. Setting aside the technical detail (see chapter 2 in Ernst (2002)), the application of the Manner Rule yields the manner adverbial version of *oddly*.

$$(17) \quad \lambda P \lambda e \lambda w. P(e)(w) \wedge odd_w(e)$$

This is now a predicate modifier, which takes the predicate P denoted by the verb phrase as its first argument. The crucial difference between the ‘original’ interpretation of *oddly* (16) and the derived one of *oddly* (17) is what they modify (whether it is a proposition (16) or a predicate (17)) and what the ‘comparison classes’ are. Comparison class is a key notion in the discussion of gradable expressions. For example, a gradable predicate such as *tall* involves comparison classes: in order to determine whether a sentence like *John is tall* is true or not, one must be provided with what kind of group of people we are talking about. Such information can be specified by an additional phrase like *for a 5-year-old boy*, or contextually understood in the discourse. Since adverbs of evaluation are also gradable, it is natural to assume that comparison classes play a role in interpreting their meanings. Ernst (2002) argues that one of the differences between sentence adverbs and predicate adverbs is comparison classes. For example, the sentence adverb *oddly*

(18-a) is associated with a comparison class (18-b), whereas the predicate adverb *oddly* (19-a) is associated with a comparison class (19-b).

- (18) a. Oddly, Carol danced.
 b. Various things that could have happened at that time:
 e.g., Anne shouted, Bob gave a speech, Carol danced, Daniel drunk martinis, Elena ate a whole cake, etc.
- (19) a. Carol danced oddly.
 b. Various ways of dancing:
 e.g., to dance with accuracy, to dance with enthusiasm, to dance with one's eyes rolled in the back of one's head, etc.

The difference in comparison class affects the interpretation of the gradable expression *oddly*. In (18), it is relatively odd that Carol's dancing happened compared to other various things that might have happened at a certain time. In (19), the way Carol danced was relatively odd compared to other various ways of dancing.

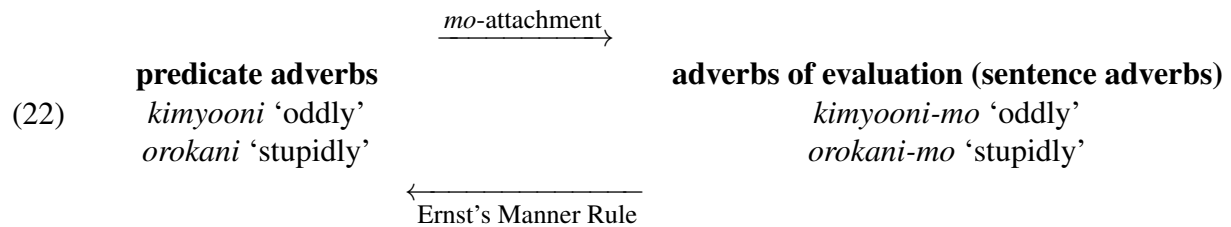
Ernst's (2002) idea that these gradable adverbs involve comparison classes will become important especially when one tries to account for how adverbs interact with various degree modifiers (e.g., *oddly enough*, *even more oddly*, *very oddly*, etc.). As adverbs of evaluation are all gradable and vague (context dependent) in nature, the notion of comparison class should also be taken into account.

However, Ernst's (2002) analysis of ambiguous adverbs, particularly the Manner Rule, does not seem to be supported by adverbs of evaluation in Japanese. As already mentioned, adverbs of evaluation in Japanese are, morphologically speaking, composed of predicate (manner) adverbs plus *mo*.

- (20) a. Kimyooni-mo kare-wa odotta.
 oddly he-TOP danced
 'Oddly, he danced.' [Evaluative adverb]

- b. Kare-wa kimyooni odotta.
 he-TOP oddly danced
 ‘He danced oddly.’ [Manner adverb]
- (21) a. Orokani-mo kare-wa shitsumon-ni kotaeta.
 stupidly he-TOP question-DAT answered
 ‘Stupidly, he answered the question.’ [Stupid adverb]
- b. Kare-wa orokani shitsumon-ni kotaeta.
 he-TOP stupidly question-DAT answered
 ‘He used answered the question stupidly.’ [Manner adverb]

If we take Ernst’s (2002) approach, then it means that those adverbs without *mo* in (20-b) and (21-b) are never interpretable without the obligatory application of the Manner Rule. Furthermore, *mo* would be a semantically vacuous morpheme which only has a function of blocking the application of Manner Rule.



It is highly unlikely, however, that a lexical item that is never interpretable without an obligatory application of a special lexical rule becomes suddenly interpretable in the presence of an overt but semantically vacuous morpheme. In this respect, this approach is not the most ideal to deal with the connection between the sentence adverbial use and the predicate adverbial use of adverbs of evaluation.

4.2.2 Deriving sentence adverbial meanings from predicate adverbs

On the other hand, McConnell-Ginet (1982) argues that subject-oriented adverbs (or what she refers to as ‘passive-sensitive adverbs’) such as *stupidly* and *rudely* are ‘Ad-Verbs’, i.e., adverbs

that are always internal to a VP and modify the verb that heads the VP.⁴ In her theory, for example, both the sentence adverb *rudely* in (23-a) and the predicate adverb *rudely* in (23-b) are Ad-Verbs: the former is directly dominated by VP1 and modifies a higher abstract verb *act* as in (24-a), whereas the latter is directly dominated by VP2 and modifies the verb *depart* as in (24-b).

- (23) a. Louisa rudely departed. [Subject-oriented adverb]
 b. Louisa departed rudely. [Manner adverb]
- (24) a. Louisa [_{VP1} acted rudely [_{VP2} to depart]]
 b. Louisa [_{VP1} acted to [_{VP2} depart rudely]]

Thus, for McConnell-Ginet (1982), both instances of *rudely* in (23-a) and (23-b) are inherently predicate adverbs. The crucial assumption here is that there is a higher abstract verb *act* in every sentence that can potentially take a subject-oriented adverb. However, Geuder (2002) criticizes this and says that such an assumption is questionable, since the paraphrase relation using *act* is not adequate for simple sentences without an adverb, e.g., a sentence like *John departed* cannot be rephrased as *John acted to depart*. He also points out that McConnell-Ginet's (1982) approach cannot explain the difference between *John rudely acted* and *John acted rudely*, since in both sentences, the adverb is modifying *act* (the higher abstract verb *act* in the former, and the lower verb *act* in the latter). Thus, the difficulty seems to be how to justify the higher abstract verb *act*. Even so, this approach of deriving the two adverbial meanings from predicate adverbs and structural ambiguity is favorable in terms of the *mo*-alternation of Japanese adverbs.

4.2.3 Lexical ambiguity approach

Like McConnell-Ginet (1982), Piñón (2010) adopts the idea that the semantic difference between subject-oriented adverbs and manner adverbs boils down to which verb (or event) the adverb modifies (either the higher abstract verb *act/decide* or the lower/lexical verb). However, following

⁴Strictly speaking, McConnell-Ginet (1982) regards adverbs as arguments of the verbs rather than modifiers, although this point does not affect the central issue here.

Geuder's (2002) criticism, Piñón (2010) argues that the higher abstract verb should be *decide* instead of *act*. He furthermore claims that the higher verb *decide* is built within the meanings of subject-oriented adverbs themselves. Thus, there are two lexical entries for the word *stupidly*: the subject-oriented adverb *stupidly^s* (25) and the manner adverb *stupidly^m* (26).

$$(25) \quad \llbracket \text{stupidly}^s \rrbracket \\ = \lambda W_{e,vt} \lambda x_e \lambda e_v. \exists e'' [decide(\lambda e'. W(x)(e'))(x)(e'') \wedge CAUSE(e)(e'') \wedge W(x)(e) \wedge stupid(e'')]]$$

$$(26) \quad \llbracket \text{stupidly}^m \rrbracket = \lambda V_{v,t} \lambda e_v. V(e) \wedge stupid(e)$$

What the subject-oriented adverb *stupidly* says in (25) is that there is an event e'' , which is x 's deciding to be engaged in the activity W , and the deciding event e'' causes another event e , which is x being engaged in the activity W . Importantly, what is stupid is e'' , the event of x 's deciding to do W . So, roughly speaking, this analysis says that the sentence *Stupidly, John danced* means that John danced and his decision to dance was stupid. Whereas for the manner adverb, it simply modifies the dancing event e , so the sentence *John danced stupidly* means that John danced and it was a stupid dance.

With the versions of *stupidly* in (25) and (26), it becomes complicated, although not impossible, to derive one from the other. For example, we can convert the sentence adverb *stupidly* (25) from its manner version (26) in the following way.

$$(27) \quad \left[\lambda S_{vt,vt} \lambda W_{e,vt} \lambda x_e \lambda e_v. \exists e'' \left[\begin{array}{l} CAUSE(e'', e) \wedge W(e, x) \wedge \\ S(e'', \lambda e. decide(e, x, [\lambda e'. W(e', x)])) \end{array} \right] \right] (\llbracket \text{stupidly}^m \rrbracket) \\ = \lambda W \lambda x \lambda e. \exists e'' \left[\begin{array}{l} CAUSE(e'', e) \wedge W(e, x) \wedge \\ \llbracket \text{stupidly}^m \rrbracket(e'', \lambda e. decide(e, x, [\lambda e'. W(e', x)])) \end{array} \right] \\ = \lambda W \lambda x \lambda e. \exists e'' \left[\begin{array}{l} CAUSE(e'', e) \wedge W(e, x) \wedge \\ decide(e'', x, [\lambda e'. W(e', x)]) \wedge stupid(e'') \end{array} \right] \\ = \llbracket \text{stupidly}^s \rrbracket$$

The problem is that this is certainly not a simple type shift (as Rawlins (2008b) does for the polysemous adverb *illegally*). Rather, this is a specialized operation which takes a manner adverb and adds the causal meaning to it, although Piñón (2010) does not specifically argue for deriving a subject-oriented adverb from a manner adverb or vice versa.

4.2.4 A note on *mo*

From the perspective of Japanese adverbs, it is tempting to adopt the second approach (section 4.2.2), which derives the sentence adverbial meanings from their corresponding predicate adverbs, since in that way we can think of *mo* as a functional morpheme that converts a predicate adverb into a sentence adverb (adverbs of evaluation in particular).

	predicate adverbs		adverbs of evaluation (sentence adverbs)
(28)	<i>kimyooni</i> ‘oddly’ <i>orokani</i> ‘stupidly’	$\xrightarrow{\text{mo-attachment}}$	<i>kimyooni-mo</i> ‘oddly’ <i>orokani-mo</i> ‘stupidly’

When Japanese adverbs are compared with English adverbs, such a particle like *mo* may look somewhat peculiar. However, according to Geuder (2002), there is also a morpheme in German, namely the suffix *-erweis* that marks stupid adverbs (but not manner adverbs) as in *dumm-erweis* ‘stupidly’. The situation seems to be similar to the alternation by *mo* in Japanese. (Etymologically, however, the suffix has derived from the noun *weise* ‘way/manner’. It sounds counterintuitive to me, since *dumm-erweis* ‘stupidly’ is a sentence adverb and not a manner adverb.)

Furthermore, even in English, there is a candidate element that may have a very similar role as *mo*, namely, the comma intonation.⁵ As mentioned in chapter 2, Potts (2005) takes the comma intonation seriously, and explicitly proposes that it is a function which take an adverb associated with an at-issue meaning (t^a) and to convert it into an adverb that denotes conventional implicature (t^c).

$$(29) \quad \text{COMMA} \rightsquigarrow \lambda P. P \quad \langle \langle t^a, t^a \rangle, \langle t^a, t^c \rangle \rangle$$

⁵ Another element in English that may have a similar role as *mo* is *enough* as in *oddly enough*.

Thus, to adopt this idea, the adverb *stupidly* without COMMA would be a predicate adverb (manner adverb in this case), but with COMMA, the adverbs would be a sentence adverb (adverb of evaluation). If this is indeed the case, then this would be a situation in which a certain function is marked morphologically (with an overt morpheme like *mo*) in one language, whereas the same function is marked by a particular intonation in another language.

However, it is unlikely that the function of *mo* is merely to shift at-issue meanings to non-at-issue meanings. As we saw in chapter 2 and 3, what is most unique about adverbs of evaluation is the conditional meaning. Since all the *mo* attached adverbs are adverbs of evaluation, this suggests that *mo* is the source of conditionality. The function of *mo*, then, is to introduce conditionality to the non-at-issue level of meaning, as far as adverbs of evaluation are concerned. It remains unclear, though, if this *mo* is the same *mo* as found in various other cases as shown below.

- (30) Mary-ga kita. John-mo kita.
 Mary-NOM came John-*mo* came
 'Mary came. John came too.'
- (31) Dare-mo-ga kare-no jitsuryoku-o mitometa.
 who-*mo*-NOM he-GEN ability-ACC recognized
 'Everyone recognized his ability.'
- (32) a. Dare-mo ko-nakatta.
 who-*mo* come-didn't
 'No one came.'
- b. *Dare-mo kita.
 who-*mo* came
- (33) a. Hitori-mo ko-nakatta.
 one.person-*mo* come-didn't
 'Not even one person came.'
- b. *Hitori-mo kita.
 one.person-*mo* came
- (34) John-ga kite-mo mondai-wa kaiketsu-shinai.
 John-NOM come-*mo* problem-TOP solution-don't
 'Even if John comes, the problem won't be resolved.'

- (35) Dare-ga kite-mo mondai-wa kaiketsu-shinai.
 who-NOM come-*mo* problem-TOP solution-don't
 'No matter who comes, the problem won't be resolved.'

Mo can have the additive meaning 'also/too' as in (30) (see section 4.1 above). When *mo* appears with a *wh*-phrase, it is associated with some kind of universal meaning as in (31) (Nishigauchi 1991, Kratzer & Shimoyama 2002, Shimoyama 2006) or function as a negative polarity item as in (32) and (33) (Nakanishi 2006, Yoshimura 2007). In other cases, it can appear to mark concessive clauses such as in (34) and (35) (Matsui 2009).

Very loosely speaking, *mo* generally seems to be related to universality, conditionality, or the speaker's attitude. However, since the distribution and the function of *mo* are quite diverse, it is not easy to formulate a unified account to cover all of these cases. One might even be suspicious if these are actually the same morpheme. It could be the case that these are all homophonous morphemes with different functions and meanings (for example, like the inflectional suffix *er* as in *smarter*, *faster*, *heavier* etc. and the derivational suffix *er* as in *dancer*, *writer*, *hitter* etc.). Although finding out the true identity of *mo* is beyond the scope of this thesis, I hope that the current analysis sheds light on the mystery of *mo*.

4.2.5 Toward an understanding of polysemous adverbs

As mentioned in chapter 1, the point of departure of this thesis was the contrast between sentence adverbs and predicate adverbs. To fully account for the relation between sentence adverbs and predicate adverbs in general, we would first need to examine what we have been referring to as predicate adverbs. The first thing to pay attention to is that predicate adverbs are not homogeneous at all, e.g., predicate adverbs are not always interpreted as manner adverbs. As mentioned section 1.1 in chapter 1, there are other kinds of adverbial meanings beside manner such as degree modification (36) and result-oriented meaning (37).

- (36) John is surprisingly tall. [Degree modification]
- (37) Mary dressed elegantly. [Result-oriented/Manner]

Likewise, Japanese predicate adverbs (those without *mo*) are interpreted in different ways. There are even cases like (38-c) and (39-b), which do not seem like manner adverbs, degree modifiers, nor result-orientated adverbs. (One may suspect that *kimyooni* in (38-c) and *igaini* in (39-b) are adjectives based on English translations. However, the morphological fact shows that they are adverbs as they take the *-ni* form. Adjectives take *-na* instead, e.g., *kimyoonana hito* ‘odd person’.)

- (38) a. John-wa kimyooni odotta.
 John-TOP oddly danced
 ‘John danced oddly.’ [Manner adverb]
- b. Sono-supuun-wa kimyooni magatteiru.
 that-spoon-TOP oddly bent
 ‘That spoon is oddly bent.’ [Result-oriented?]
- c. Sono-hanashi-wa kimyooni kikoeru.
 that-story-TOP oddly hear
 ‘That story sounds odd.’ [?]
- (39) a. John-wa igaini se-ga takai.
 John-TOP surprisingly height-NOM high
 ‘John is surprisingly tall.’ [Degree adverb]
- b. John-no totsuzen-no kikoku-o igainini omou.
 John-GEN sudden-GEN return.to.one’s.country-ACC surprisingly think
 ‘I think that John’s sudden return to his home country is surprising.’ [?]
 (‘I perceive John’s sudden return to his home country surprising.’)

These show that predicate adverbs are semantically diverse, which means that the *mo*-alternation (e.g., *kimyooni* ‘oddly’ +*mo* \Rightarrow *kimyooni-mo* ‘oddly’) should not be considered as an operation that specifically turns manner adverbs into evaluative adverbs.

The semantic diversity of predicate adverbs requires a semantic model that is capable of deriving different kinds of predicate adverbial meanings such as manner, result-oriented, and degree adverbs. However, the formal analysis of predicate adverbs in general is still under development, and it involves elaboration of the semantic machinery in some way or another. For example, how should manner modification be formally analyzed? Some argue that the notion of manner requires an abstract object *m* in the semantic model just like individuals *x* and possible worlds *w* (Maienborn

& Schäfer 2011).⁶ In the literature of degree-related expressions, it is fairly common to assume an abstract object *d* for degree (von Stechow (1984), Kennedy (1997) and the references there). On the other hand, Anderson & Morzycki (to appear) propose a unified analysis of manner and degree by regarding both of them as kinds: manner as kinds of events and degrees as kinds of states. However, we are still left with result-oriented adverbs (38-b) and other less familiar ones (38-c)/(39-b). Anderson & Morzycki's (to appear) analysis may be able to cover those cases as well, but it is not clear at the moment if that is a possibility.⁷ What is clear is that the semantic model presented in this thesis is not capable of analyzing various predicate adverbial meanings (which is natural as the focus of this thesis is adverbs of evaluation, a kind of sentence adverbs), and it needs to be upgraded.

After all, we might arrive at a conclusion that ambiguous adverbs are lexically ambiguous and that it is not possible to derive sentence adverbial meanings from the corresponding predicate adverbs. Even if that would be the case, we would first need to establish a formal semantic analysis of various predicate adverbs as it has been done for adverbs of evaluation in this thesis. That will lead us to a better understanding of the issue of ambiguous adverbs and the relation of sentence adverbs and predicate adverbs.

⁶In their theory, the meaning of *John dances oddly* would be something like $\exists e[Agent(e)(John) \wedge dance(e) \wedge \exists m[R(e,m) \wedge odd(m)]]$, where *R* is an unspecified relation.

⁷But see Eckardt (2003), which claims that result-oriented adverbs requires a semantic analysis distinct from manner adverbs.

CHAPTER 5

CONCLUSION

At the beginning of this thesis, we started off with a general issue about ambiguous adverbs. In order to understand the phenomenon, it is necessary to have a semantic model that can formally analyze each different kind of adverbs. With this in mind, I focused on what I refer to as adverbs of evaluation: evaluative adverbs, which is one of the subclasses of subject-oriented adverbs, and what I call stupid adverbs, which is one of the subclasses of speaker-oriented adverbs. Specifically, I analyzed them to answer the following questions, repeated from chapter 1.

- (1) a. What characteristics do adverbs of evaluations have? For example, how do they interact with various operators such as negation, question, imperatives, etc.?
- b. What is the adequate way to formally analyze the meanings of adverbs of evaluation?
- c. In what way are adverbs of evaluation different from, or similar to, the corresponding predicate adverbs? Why is this connection commonly found across languages?

As for the question (1-a), we observed in chapter 2 and 3 (section 2.2 and section 3.2) that evaluative adverbs and stupid adverbs, both sentence adverbs, are similar in that (i) they cannot be negated by predicate negation, and (ii) although they can appear in questions, they cannot be part of the inquiries. The difference between evaluative adverbs and stupid adverbs is that while evaluative adverbs never appear in imperatives, stupid adverbs can although under a very limited condition (only when the adverb is associated with negative connotation and when the sentence is negative imperative). These observations can be summarized as follows.

As for the question (0-b), I adopted Bonami & Godard's (2008) idea that evaluative adverbs are associated with non-at-issue conditional meanings, and proposed a revised version of their conditional account, which does not resort to an ad-hoc universal closure. In my analysis, I argued that

	Evaluative <i>kimyooni-mo</i> 'oddly'	Stupid <i>orokani-mo</i> 'stupidly'	Reluctant <i>iyaiya</i> 'reluctantly'
(a) Can be under the scope of predicate negation	no	no	yes
(b) Can be under the scope of question	no	no	yes
(c) Can appear in imperatives	no	yes*	yes
(d) Show passive-sensitivity	no	no	yes

*in very limited conditions

Table 5.1: Summary of the three types of adverbs

adverbs of evaluation are (semi-)propositional modifiers, which appear above tense, and are associated with non-at-issue conditional meanings. Specifically, I proposed (i) that evaluative adverbs are propositional modifiers which take an argument p of type $\langle s, t \rangle$ with the conditional meaning ‘(in the speaker’s opinion) if $p(w)$ is true, then it is ADJ that p ’, and (ii) that stupid adverbs are semi-propositional modifiers which take an argument P of type $\langle e, st \rangle$ with the conditional meaning ‘(in the speaker’s opinion) if $P(x)(w)$ is true, then it is ADJ that $P(x)$ ’.

$$(2) \quad \llbracket \text{kimyooni-mo} \rrbracket = \lambda p \lambda w: \forall w' \in \text{Acc}_{w,a}[p(w') \rightarrow \text{odd}_{w'}(p)]. p(w)$$

$$(3) \quad \llbracket \text{orokani-mo} \rrbracket = \lambda P \lambda x \lambda w: \forall w' \in \text{Acc}_{w,a}[P(x)(w') \rightarrow \text{stupid}_{w'}(x)(P)]. P(x)(w)$$

I further suggest that reluctant adverbs are predicate modifiers without any conditional meaning.

$$(4) \quad \llbracket \text{iyaiya} \rrbracket = \lambda f_{e, \text{vst}} \lambda x \lambda e \lambda w. f(x)(e)(w) \wedge \text{reluctant}(x)(e)(w)$$

Thus, what makes adverbs of evaluation (evaluative adverbs and stupid adverbs) so special is their conditional meanings which appear as the speaker’s comment and do not affect the at-issue content.

Finally, as for the last question (1-c), I reviewed three possible approaches: one that derives predicate adverbial meanings from sentence adverbs, another one that derives sentence adverbial meanings from predicate adverbs, and the lexical ambiguity approach. I pointed out that whichever approach we take, it is first necessary to start with careful observations of semantically diverse predicate adverbs and a semantic model that can analyze them formally.

BIBLIOGRAPHY

BIBLIOGRAPHY

- Anderson, Curt & Marcin Morzycki. To appear. 'Degrees as kinds'. *Natural Language and Linguistic Theory*.
- Austin, J. L. 1956. 'A plea for excuses: The presidential address'. In *Proceedings of the Aristotelian Society*, vol. 57, pp. 1–30. Blackwell Publishing on behalf of The Aristotelian Society.
- Barker, Chris. 2002. 'The dynamics of vagueness'. *Linguistics and Philosophy* **25**, 1–36.
- Bartsch, Renate. 1976. *The Grammar of Adverbials*. North-Holland Publishing.
- Bellert, Irena. 1977. 'On semantic and distributional properties of sentential adverbs'. *Linguistic Inquiry* **8**(2), 337–351.
- Bonami, Olivier & Danièle Godard. 2008. 'Lexical semantics and pragmatics of evaluative adverbs'. In Louise McNally & Christopher Kennedy (eds.), *Adjectives and Adverbs: Syntax, Semantics, and Discourse*. Oxford University Press.
- Bonami, Olivier, Danièle Godard, & Brigitte Kampers-Manhe. 2004. 'Adverb classification'. In Francis Corblin & Henriëtte de Swart (eds.), *Handbook of French Semantics*. CSLI Publications.
- Chierchia, Gennaro & Sally McConnell-Ginet. 1990. *Meaning and Grammar*. MIT Press.
- Cinque, Guglielmo. 1999. *Adverbs and Functional Heads: A Cross-Linguistic Perspective*. Oxford University Press.
- Condoravdi, Cleo & Lauer Sven. 2012. 'Imperatives: meaning and illocutionary force'. In Christopher Piñón (ed.), *Empirical [I]ssues in [S]yntax and [S]emantics* 9, pp. 37–58.
- Davidson, Donald. 1967. 'The logical form of action sentences'. In N. Rescher (ed.), *The Logic of Decision and Action*, pp. 81–95. The University of Pittsburgh Press.
- Delfitto, Denis. 2006. 'Adverb classes and adverb placement'. In Martin Everaert & Henk van Riemsdijk (eds.), *The Blackwell Companion to Syntax*, vol. 1. Blackwell Publishing.
- Eckardt, Regine. 2003. 'Manner adverbs and information structure: evidence from the adverbial modification of verbs of creation'. In Ewald Lang, Claudia Maienborn, & Cathrine Fabricius-Hansen (eds.), *Modifying Adjuncts*, pp. 261–305. Mouton de Gruyter.
- Ernst, Thomas. 2002. *The Syntax of Adjuncts*. Cambridge University Press.
- Ernst, Thomas. 2009. 'Speaker-oriented adverbs'. *Natural Language and Linguistic Theory* **27**, 497–544.
- Geuder, Wilhelm. 2002. *Oriented Adverbs: Issues in the Lexical Semantics of Event Adverbs*. Doctoral dissertation, Universität Tübingen.
- Greenbaum, Sidney. 1969. *Studies in English Adverbial Usage*. University of Miami.

- Hamblin, C. L. 1973. 'Questions in Montague English'. *Foundations of Language* **10**(1), 41–53.
- Heim, Irene & Angelika Kratzer. 1998. *Semantics in Generative Grammar*. Blackwell Publishers.
- Horn, Laurence R. 1985. 'Metalinguistic negation and pragmatic ambiguity'. *Language* **61**(1), 121–174.
- Horn, Laurence R. 1989. *A Natural History of Negation*. CSLI Publications.
- Jackendoff, Ray. 1972. *Semantic Interpretation in Generative Grammar*. MIT Press.
- Kennedy, Christopher. 1997. *Projecting the Adjective: The Syntax and Semantics of Gradability and Comparison*. Doctoral dissertation, UC Santa Cruz.
- Kratzer, Angelika. 1981. 'The notinal category of modality'. In H.-J. Eikmeyer & H. Rieser (eds.), *Words, worlds, and contexts*, pp. 38–74. de Gruyter.
- Kratzer, Angelika. 1996. 'Severing the external argument from its verb'. In J. Rooaryck & L. Zaring (eds.), *Phrase structure and the lexicon*, pp. 109–137. Kluwer Academic Publishers.
- Kratzer, Angelika & Junko Shimoyama. 2002. 'Indeterminate Pronouns: The view from Japanese'. In *the 3rd Tokyo Conference on Psycholinguistics*, pp. 1–25.
- Krifka, Manfred. 1989. 'Nominal reference, temporal constitution and quantification in event semantics'. In Renate Bartsch, Johan van Benthem, & P. van Emde Boas (eds.), *Semantics and Contextual Expression*, pp. 75–115. Foris.
- Kubota, Ai. To appear. 'Transforming manner adverbs into subject-oriented adverbs: evidence from Japanese'. *Natural Language and Linguistic Theory*.
- Maienborn, Claudia & Martin Schäfer. 2011. 'Adverbs and adverbials'. In Claudia Maienborn, Klaus von Heusinger, & Paul Portner (eds.), *Semantics: An International Handbook of Natural Language Meaning*, vol. 1. Mouton de Gruyter.
- Matsui, Ai. 2009. 'Constructing concessive conditionals: In case of Japanese'. In Arndt Riester & Torgrim Solstad (eds.), *Proceedings of Sinn und Bedeutung 13*, vol. 2, pp. 357–369. University of Stuttgart, Stuttgart.
- Matsuoka, Mikinari. 2013. 'On the notion of subject for subject-oriented adverbs'. *Language* **89**(3), 586–618.
- Mayol, Laia & Elena Castroviejo. 2013. '(Non)integrated evaluative adverbs in questions: a cross-romance study'. *Language* **89**(2), 195–230.
- McCawley, James D. 1991. 'Contrastive negation and metalinguistic negation'. In *The proceedings of the 27th Annual Meeting of the Chicago Linguistics Society (CLS 27)*, pp. 189–206. Chicago Linguistics Society.
- McConnell-Ginet, Sally. 1982. 'Adverbs and logical form: A linguistically realistic theory'. *Language* **58**(1), 144–184.

- Morimoto, Junko. 1994. *Hanashite no shukan o arawasu fukushi ni tusite [On Adverbs That Represent the Speaker's Subjectivity]*. Kuroshio, Tokyo.
- Morzycki, Marcin. 2008. 'Nonrestrictive modifiers in non-parenthetical positions'. In *Adjectives and Adverbs: Syntax, Semantics, and Discourse*. Oxford University Press.
- Morzycki, Marcin. To appear. *Modification*. Cambridge University Press.
- Nakanishi, Kimiko. 2006. 'Even, only, and negative polarity in Japanese'. In *the Proceedings of SALT 16*.
- Nakau, Minoru. 1980. 'Bunfukushi no hikaku [comparison of sentential adverbs]'. In Tetsuya Kunihiro (ed.), *Nichi-eego Hikaku Kooza Dai-2-kan: Bunpoo [Japanese-English Comparative Studies Volume 2: Grammar]*, pp. 159–219. Taishukan Shoten.
- Nishigauchi, Taisuke. 1991. 'Construing wh'. In C.-T. James Huang & Robert May (eds.), *Logical Structure and Linguistic Structure*, Studies in Linguistics and Philosophy, pp. 197–232. Kluwer Academic Publishers, Dordrecht, The Netherlands.
- Nouwen, Rick. 2011. 'Degree modifiers and monotonicity'. In Paul Égré & Nathan Klinedinst (eds.), *Vagueness and Language Use*, pp. 146–165. Palgrave Macmillan.
- Piñón, Christopher. 2010. 'What to do with agent-oriented adverbs'. Handout.
- Portner, Paul. 2004. 'The semantics of imperatives within a theory of clause types'. In Robert B. Young (ed.), *Proceedings of SALT XIV*, pp. 235–252. Cornell University.
- Potts, Christopher. 2005. *The Logic of Conventional Implicature*. Oxford University Press.
- Potts, Christopher. 2007. 'The dimensions of quotation'. In Chris Barker & Pauline Jacobson (eds.), *Direct Compositionality*, pp. 405–431. Oxford University Press.
- Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech, & Jan Svartvik. 1972. *A Grammar of Contemporary English*. Longman Group United Kingdom.
- Rawlins, Kyle. 2008a. *(Un)conditionals: An Investigation in the Syntax and Semantics of Conditional Structures*. Doctoral dissertation, UC Santa Cruz.
- Rawlins, Kyle. 2008b. 'Unifying 'illegally''. In Tatjana Heyde-Zybatow Johannes Dölling & Martin Schäfer (eds.), *Event Structures in Linguistic Form and Interpretation*, pp. 81–102. Mouton de Gruyter.
- Sawada, Harumi. 1978. 'Nichi-eego bunfukushi-rui no taishoo gengogaku-teki kenkyuu [A contrastive study of Japanese and English sentence adverbials: From the viewpoint of speech act theory]'. *Gengo Kenkyu* **74**, 1–36.
- Schäfer, Martin. 2005. *German Adverbial Adjective: Syntactic Position and Semantic Interpretation*. Doctoral dissertation, Universität Leipzig.
- Schreiber, Peter A. 1971. 'Some constraints on the formation of English sentence adverbs'. *Linguistic Inquiry* **2**(1), 83–101.

- Shimoyama, Junko. 2006. 'Indeterminate Phrase Quantification in Japanese'. *Natural Language Semantics* **14**(2), 139–173.
- von Stechow, Arnim. 1984. 'Comparing semantic theories of comparison'. *Journal of Semantics* **3**, 1–77.
- Thomason, Richmond H. & Robert C. Stalnaker. 1973. 'A semantic theory of adverbs'. *Linguistic Inquiry* **4**(2), 195–220.
- Tonhauser, Judith, David Beaver, Craige Roberts, & Mandy Simons. 2013. 'Toward a taxonomy of projective content'. *Language* **89**(1), 66–109.
- Tsujimura, Natsuko. 2001. 'Degree words and scalar structure in Japanese'. *Lingua* **111**, 29–52.
- Vendler, Zeno. 1984. 'Adverbs of action'. In D. Testen, M. Veena, & M. Drogo (eds.), *Papers from the Parasession on Lexical Semantics*, pp. 297–307. Chicago Linguistic Society.
- Wyner, Adam Zachary. 1998. 'Subject-oriented adverbs are thematically dependent'. In Susan Rothstein (ed.), *Events in Grammar*, pp. , 333–348. Kluwer Academic Publishers, Dordrecht.
- Yoshimura, Keiko. 2007. *Focus and Polarity: 'even' and 'only' in Japanese*. Doctoral dissertation, University of Chicago.