**EXPLORING ALLOCUTIVITY IN JAPANESE**

**THROUGH THE WINDOW OF EMBEDDING**

by

Keita Ishii

A dissertation submitted to the Faculty of the University of Delaware in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Linguistics

Spring 2025

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## ACKNOWLEDGEMENTS

I would first like to express my deepest gratitude to my Ph.D. advisor, Satoshi Tomioka, for his invaluable guidance, insightful comments, and continuous encouragement throughout my doctoral journey. Back in my undergraduate days at ICU, it was Satoshi who first inspired me to explore semantics and who ultimately led me to the University of Delaware. He was always warm and friendly to students, creating an intellectually stimulating and supportive environment. Thank you for your advice and support throughout my time at UD. Without you, I would not have been able to survive my Ph.D. life at Delaware.

I am also grateful to the members of my dissertation committee, Rebecca Tollan, Andrea Beltrama, and Mark Baker. To Rebecca Tollan, for giving me a help to learn how to design an experiment, how to run statistical analyses, and to incorporate experimental work into this thesis. To Andrea Beltrama, for asking me the nature of expressive meaning, which broadened my perspective on future research. To Mark Baker, for suggesting alternative theoretical possibilities of Japanese utterance honorifics, which provided crucial input for the syntactic aspects of my analysis. In addition to the comitte members, I would like to express my special thanks to Shota Negishi (Momma) for the discussions and his support to run the experiments.

I also thank other faculty members in the Department of Linguistics at University of Delaware, especially Benjamin Bruening and Michael Wilson for their encouragement and intellectually stimulating discussions over the years, and Robin Andreasen for fostering such a supportive academic environment.

It was a great fortune for me to work alongside such wonderful cohorts at the Department of Linguistics at the University of Delaware—especially Dursun Altinok, Bilge Palaz, Jinwoo Jo, Juyeon Cho, Yuki Seo, Brittlea Jernigan-Hardrick, Xiaoyi Tang, Daiki

Asami, Neemias Souza Filho, Gonzalo Raza Heras, Hyejin Lee, Connor Rodenbeck, and many more.

I would also like to show my appreciation to my friends back in Japan—especially my friends from my undergraduate days, Kengo Aihara, Reiko Imazeki, and Hiroki Kato, and my longtime friends from junior high school, Yusuke Furuya, Marina Tsuji, Saori Kadokura (Ando), and Mai Hagihara. Thank you for always cheering me up whenever I was feeling down.

My interest in linguistics has began when I was an undergraduate student at International Christian University (ICU). I would like to show my grattitude to colleagues that I had the opportunity to work with there, and my special thanks goes to Prof. Tomoyuki Toshida and Dr. Seunghun Lee for leading me to the world of generative lingusitics. I would also like to show my appreciation to my M.A. advisor Prof. Daiko Takahahi for his support.

Finally, I express my deepest gratitude and love to my family. To my sister, thank you for being the trusted companion since we were kids. To my parents, thank you for your boundless love and support. Lastly, to my wife, Naomi, thank you for believeing in me and being next to me.

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| | |
|---|---|
| ACC | accusative |
| AL | allocutive |
| APPL | applicative |
| CAUS | causative |
| CL | classifier |
| COMP | complementizer |
| COP | copula |
| CV | converb form |
| DAT | dative |
| DECL | declarative |
| ERG | ergative |
| EXH | hortative |
| FEM | feminine |
| FM | familiar |
| FORM | formal |
| GEN | genitive |
| H | honorific (in Magahi) |
| HON | honorific |
| HH | high-honorific (in Magahi) |
| IMP | imperative |
| IMPERF | imperfect |
| INF | infinitive |
| INST | instrumental |
| IRR | irrealis |
| JUNC | junctive (in Burmese) |
| LOC | locative |
| MASC | masculine |
| NEG | negation |
| NMLZ | nominalizer |
| NOM | nominative |
| NH | non-honorific |
| NSIT | new situation (in Burmese) |
| OH | object honorifics |
| PASS | passive |
| PAST | past |
| PERF | perfect |
| PL | plural |
| PRES | present |
| PROG | progressive |
| Q | question particle |
| RC | relative clause |
| RLS | realis |
| SFP | sentence-final particle |
| SG | singular |
| SH | subject honorifics |
| TOP | topic |
| UH | utterance honorifics |

## ABSTRACT

This dissertation explores the syntax and semantics of Japanese utterance honorifics (UHs) —morphological markers that convey respect toward the addressee — through the window of their embedding, aiming to contribute to the crosslinguistic research on allocutivity. While allocutive marking is cross-linguistically considered to be a root clause phenomenon (e.g., Oyharçabal, 1993; McCready, 2019; Miyagawa, 2012; 2017; Portner et al., 2019; 2022 among others), Japanese UHs may appear in various embedded contexts, sometimes even within clauses that lack strong root-like properties. This contrast raises the central question of this thesis: why Japanese UHs can be embedded relatively freely unlike the allocutive marking in other languages?

The main body of this thesis consists of three major discussions apart from one chapter summarizing the basic facts about the three mophological variants of Japanese UH marking and their embedding. First, I examine whether the embeddability of Japanese UHs is due to the embeddability of the specific layer for UHs, which I call 'cP' following Portner et al. (2019), building on the previous studies on Japanese UHs (Miyagawa, 2012; 2022; Yamada, 2019; Tomioka and Ishii, 2022). Through the comparisons of embedded UHs with other embedded root clause phenomena in Japanese and with embedded allocutivity in Magahi, I argue against Yamada's (2019) view that cP can be freely embedded in Japanese. Instead, I propose that cP is generally restricted to root clauses following Portner et al. (2019) and Tomioka and Ishii (2022).

Second, two psycholinguistic experiments were conducted to investigate the nature of the Consistency Requirement of UH embedding and whether the licensing of embedded UHs involve a long distance agreement as Tomioka and Ishii (2022) suggested. The Consistency Requirement is a restriction on UH embedding that the matrix clause needs to register higher or at least the same level of honorificity when UHs are embedded. The results of the

epxeriments showed that the honorificity level of two clauses are mediated pragmatically as Yamada (2019) proposed. There was no positive evidence for the long-distance agreement to license embedded UHs proposed by Tomioka and Ishii (2022).

Finally, building on the findings and discussions above, I propose a novel analysis that Japanese UHs are expressive honorific particles anaphoric to the speaker/addressee arguments in the local cP, but not an instance of addresee agreement in contrast to Miyagawa (2012; 2017; 2022). I also argue that the embeddability of Japanese UH markers is explained through their syntactic positions and the size of phrases that each complementizer selects, following Tomioka and Ishii (2022). A crosslinguistic case study of UH embedding in Burmese further supports the generalization that the syntactic position of allocutive morphology governs its embeddability.

# Chapter 1

# INTRODUCTION

## 1.1 Introducing Utterance Honorifics and the Puzzle of their Embedding

Allocutive marking is a set of morphemes that encode a speaker's particular attitude toward an addressee such as respect, formality, (un)familiarity, or solidarity. Among them, the expressions that give an honorific character to the entire speech act are called *Utterance Honorifics* (henceforth, UHs) (McCready, 2014; 2019; Portner et al., 2019; 2022; Yamada, 2019; Tomioka and Ishii, 2022). Allocutive markings are observed in a typologically wide variety of languages such as some dialects of Basque (Oyharçabal, 1993; Zu, 2018; Haddican, 2019), Burmese (Allott, 1965; Okell and Allott, 2001; Jenny and Hnin Tun, 2016; Kato, 2018; Ishii and Cho, 2023a;b), Magahi (Alok and Baker, 2018; Alok, 2020; 2021; Baker, submitted), Thai (McCready, 2014; 2019), Tamil (McFadden, 2020; McFadden and Sundaresan, 2021), Punjabi (Kaur and Yamada, 2019; Kaur, 2020), as well as East Asian languages such as Korean (Pak, 2008; Portner et al., 2019; 2022) and Japanese (Harada, 1976; Minami, 1987; Miyagawa, 1987; 2012; 2022; Yamada, 2019; 2020; Tomioka and Ishii, 2022).

An example sentence with a Japanese UH maker *mas* is given in (1). Compare the plain form (1a) to the UH-marked version in (1b).

(1) Utterance Honorifics *mas* in Japanese

a. Mari-wa gakko-ni it-ta.
   Mari-TOP school-LOC go-PAST
   'Mari went to school. '

   Honorific meaning: ∅

b. Mari-wa gakko-ni iki-**mashi**-ta.
   Mari-TOP school-LOC go-UH-PAST

'Mari went to school. '

Honorific meaning: the speaker is being respectful toward the addressee

The two sentences denote the identical propositional meaning that *Mari went to school*. However, *mas* in (1b) indicates that the speaker is being polite and respectful toward the addressee. Thus, (1b) is a preferred speech style when the conversation takes place in a formal setting or the addressee has a higher social status than the speaker.

Allocutive marking is considered to be a discourse-oriented phenomenon as it concerns the social relationship between the speaker and the addressee. Given this highly discourse-oriented property of allocutive marking, recent studies on allocutivity have convincingly argued that allocutive marking is linked to or resides in a specific layer situated above or around CP, which takes the speaker and the addressee as its arguments (Speas and Tenny, 2003; Miyagawa, 2012; 2022; Zu, 2018; Alok and Baker, 2018; Alok, 2020; Portner et al., 2019; 2022; Yamada, 2019; Tomioka and Ishii, 2022). In this thesis, I will call the layer 'cP' following Portner et al. (2019).

Discourse-oriented expressions are generally considered to be restricted to main clauses, known as root clause phenomena (Emonds, 1970; Hooper and Thompson, 1973; Haegeman, 2006; 2012; Heycock, 2017 among others), and allocutive marking is regarded as one of them. For example, Korean speech style particles are strictly restricted to root clauses and they never occur inside an embedded clause as shown in (2). As Portner et al. (2019) noted, this observation contrasts with the content-oriented honorifics in Korean shown in (3). Note that *supnita* in (2) is an allocutive marking encoding the respect from the speaker to the addressee, while the subject honorifics *kkeyse* in (3) encodes the respect to the grammatical subject.

(2) Korean Speech Style Particle

a. Ecey pi-ka o-ass-**supnita**.
yesterday rain-NOM come-PAST-DECL.FORM
'It rained yesterday.' (the speaker respects the addressee)

(Portner et, al 2019: (5))

b. * Inho-ka [ecey pi-ka o-ass-**supnita**-ko]
Inho-NOM [yesterday rain-NOM come-PAST-DECL.FORM-COMP]
malhayss-supnita.
said-DECL.FORM
'Inho said that it rained yesterday.' (Portner et, al 2019: (16a))

c. ✓ Inho-ka [ecey pi-ka o-ass-**ta**-ko]
Inho-NOM [yesterday rain-NOM come-PAST-DECL.PLN-COMP]
malhayss-supnita.
said-DECL.FORM
'Inho said that it rained yesterday.' (Portner et, al 2019: (16b))

(3) Subject honorifics in Korean

a. Wuli pwumonim-*kkeyse* ecey o-*si*-ess-ta.
our parents-NOM.SH yesterday come-SH-PAST-DECL
'My parents came yesterday.' (The speaker respects his parents)

(Portner et, al 2019: (3))

b. ✓ Inho-ka [wuli pwumonim-*kkeyse* ecey
Inho-NOM [our parents-NOM.SH yesterday
o-*si*-ess-ta-ko] malhayss-supnita.
come-SH-PAST-DECL-COMP] said-DECL.FORM
'Inho said that my parents came yesterday.' (Inho respects his parents)

(Portner et, al 2019: (4))

The unembeddability of allocutive marking is not limited to Korean. Allocutive marking in Thai *khráp* cannot be embedded as shown in (4) nor can allocutive marking in Souletin, a Northeastern dialect of Basque, as shown in (5).

(4) Allocutive Marking in Thai

a. kháw maa **khráp**.
he come UH.MASC
'He comes.'

b. * Sakol bɔɔk [waaa kháw maa **khráp**] khráp.
Sakol said that he come UH.MASC UH.MASC
'Sakol said that he comes.' (McCready, 2019)

(5) Allocutive Marking in Souletin (a Northeastern dialect of Basque)

a. Ez dinat nahi [gerta dakion].
NEG AUX.1ERG.ALLOC.FEM want happen 3ABS.AUX.3DAT.COMP
'I don't want it to happen to him.'

b. * Ez dinat nahi [gerta
NEG AUX.1ERG.ALLOC.FEM want happen
diakion**an**].
3ABS.AUX.3DAT.ALLOC.FEM.COMP

(Oyharçabal, 1993)

Hence, the specific layer(s) for allocutive marking is assumed to be restricted to root clauses in the previous literature (Speas and Tenny, 2003; Miyagawa, 2012; 2022; Portner et al., 2019; 2022 among others). For instance, Portner et al. (2019) claimed (6) to account for the Korean fact.

(6) (Portner et, al 2019: p.2)
*A key grammatical difference between content-oriented and utterance-oriented markers is that the former can be readily embedded, but in many cases the latter cannot be. ... We propose that the'unembeddable' particles are represented syntactically in a specific layer of the high periphery of the clause (cP), and argue that they cannot be embedded because of the type of meaning they express, which is not appropriate to serve as the argument of a predicate.*

Regarding Japanese UHs, Miyagawa (2012; 2017; 2022) argued that Japanese UHs are an instance of $\phi$-agreement with the addressee argument in a specific layer situated in the CP-domian, treating Japanese UHs on a par with allocutive marking in Souletin. This idea was based on his observation that the distribution of a Japanese UH marker *mas* matches Emonds's (1970) characterization of root in (7). According to Miyagawa (2012; 2017; 2022), *mas* may occur in the highest S, S dominated by the highest S, and the reported S in direct discourse as in (8), while non-root clauses such as non-factive *to*-complement clauses or factive *koto*-complement clauses cannot host *mas* as in (9).

(7) Emonds' (1970) characterization of root

A root will mean either the highest S in a tree, an S immediately dominated by the highest S, or the reported S in direct discourse. (Emonds, 1970: (6))

(8) a. Highest S

Hanako-wa ki-**mas**-u.
Hanako-TOP come-UH-PRES
'Hanako will come.' (Miyagawa, 2022: (23a))

b. S dominated by highest S

Hanako-ga ki-**mas**-u kara, ie-ni ite-kudasai.
Hanako-NOM come-UH-PRES because home-at be-please
'Because Hanako will come, please be at home.' (Miyagawa, 2022: (23b))

c. Reported S in direct discourse

Taroo-wa Hanako-ga ki-**mas**-u to itta.
Taro-TOP Hanako-TOP come-UH-PRES COMP said
'Taro said that Hanako will come.' (Miyagawa, 2022: (23c))

(9) a. Non-factive *to*-complement clause

Taroo-wa [Hanako-ga {kur-u/*ki-**mas**-u} to] sinzitei-ru.
Taro-TOP [Hanako-NOM come-PRES/come-UH-PRES COMP believe-PRES
'Taro believes that Hanako will come.' (Miyagawa, 2022: (24a))

b. Factive *koto*-complement clause

Taroo-wa [Hanako-ga {kita/*ki-mas-i-ta} koto]-ni odoroi-ta.
Taro-TOP [Hanako-NOM came/come-UH-PAST COMP-DAT surprise-PAST
'Taro was surprised that Hanako came.' (Miyagawa, 2022: (24c))

Based on this observation, Miyagawa (2012; 2017; 2022) also considered that a specific layer for UHs is generally restricted to root clauses in Japanese in line with the tradition of allocutive agreement literature, and treated examples like (8b,c) as an instance of embedded root clause phenomena. However, his observation is challenged by the fact that Japanese UHs can be embedded more freely than he observed, as long as the matrix predicate is properly utterance honorified. (Tagashira, 1973; Harada, 1976; Minami, 1987; Uchibori, 2008; Yamada, 2019; Tomioka and Ishii, 2022). For instance, the factive *koto*-complement clause may host *mas* as shown in (10a), if the matrix predicate is also properly utterance honorified. Moreover, it has been reported that *mas* can be embedded in a relative clause as shown in (10b), which is not known to have a strong root clause property.

(10) a. *Koto*-complement clause

[Hayaku go-kaifuku-nasai-**mas**-u koto]-o o-inori-shite-ori-**masu**.
quickly HON-recover-do.SH-UH-PRES COMP-UH HON-pray-do-be.OH-UH
'I pray (polite) for your quick recovery (polite).'

b. Relative Clause

[Ato-kara mairi-**masu** densha]-ni go-joosha-kudasai-**mase**.
after-from come.OH-UH train-DAT HON-take.car-please-UH-IMP
'Please take (polite) the train which comes later (polite).'

Thus, the central puzzle regarding Japanese UHs is why they can be embedded relatively freely in contrast to allocutive marking in other languages. This constitutes the broad research question of this thesis.

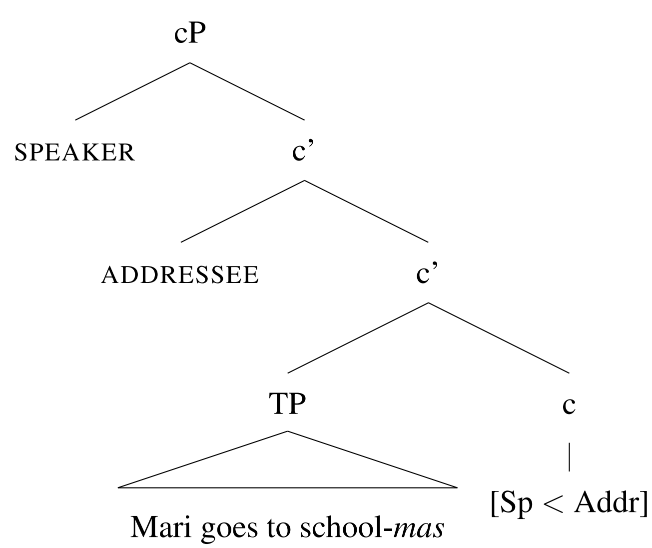
This thesis explores syntax and semantics of Japanese UHs through the window of their embedding, aiming to contribute to cross-linguistic research on allocutivity. Specifically, I offer an account for the puzzle with retaining the assumption that cP is restricted to root clauses. The main claims of this thesis are that (i) Japanese UHs are expressive honorific particles that are anaphoric to the local speaker/addressee arguments in the left clause periphery and (ii) the embeddability of Japanese UHs is determined by their syntactic positions and the size of the phrase that each subordinator selects. Expanding this analysis to cross-linguistic variations in allocutivity, I further suggest that the syntactic position of allocutive marking is the determining factor of its embeddability in a group of languages whose allocutive marking works as verbal particles such as Korean or Burmese.

## 1.2 Theoretical Frameworks

In this section, I will introduce the theoretical frameworks that I will use in this thesis. There are two major components: one is a formal projection for UHs which takes a speaker and an addressee as its arguments, and the other is multidimensional semantics to deal with the meaning of UHs.

The first element is a formal projection cP that contains a speaker and an addressee as its arguments. Though many researchers have proposed or adopted a layer containing speaker/addressee arguments with different names to discuss the system of syntax-discourse interface (e.g., Speech Act Phrase by Speas and Tenny (2003), SAP&saP by Miyagawa (2012; 2017; 2022), SpeakerP&AddresseeP by Yamada (2019), Kaur and Yamada (2019), and McFadden (2020)), I will call the projection cP in this thesis following Portner et al. (2019). The c-head sitting on the top of CP-domain takes a speaker and an addressee as its arguments, and mediates the syntax-pragmatics interface by specifying the social relation between the speaker and the addressee, as illustrated in (11).

(11)




In (11), the feature in the c-head [Sp $<$ Addr] specifies that the addressee has a higher social status than the speaker, licensing the occurrence of *mas* in the TP. In this thesis, I assume that cP is generally restricted to root clauses in concurring with the traditional assumption of the previous research on allocutive marking (Speas and Tenny, 2003; Miyagawa, 2012; 2022; Portner et al., 2019; 2022 among others).

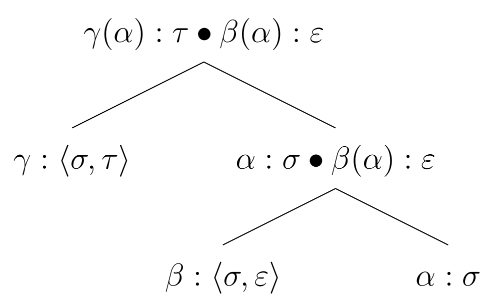
The second component is multidimensional semantics (Potts and Kawahara, 2004; Potts, 2007b; McCready, 2014; 2019; Portner et al., 2019; Yamada, 2019) to treat the expressive property of UHs. In the literature, the semantics of UHs is argued to be expressive, but not presuppositional. Though the detailed justification for this assumption will be given in Chapter 5, the expressive property of UHs can be observed in (12). The use of *mas* in (12a) is not contradictory even though the propositional meaning of (12a) expresses that the speaker does not respect the addressee. This contrasts with the contradictory example in (12b) where the honorific meaning of UHs is explicitly expressed.

(12) a. Watashi-wa anata-o sonkee-shi-te-i-**mase**-n.
I-TOP you-ACC respect-do-CV-be-UH-NEG
Propositional Meaning: I do not respect you.
Honorific Meaning by *mas*: The speaker respects the addressee.

b. # Watashi-wa anata-o sonkee-shi-nai-ga, anata-o
I-TOP you-ACC respect-do-NEG-but you-ACC
sonkee-shi-te-i-ru.
respect-do-CV-be-PRES
'Though I do not respect you, I respect you.'

To deal with this property of UHs, I assume that the meaning of UHs lives in a different dimension from the propositional at-issue meaning, and that the semantic composition takes place multidimensionally. The tree in (13) illustrates how multidimensional semantics work. Suppose that $\sigma$ and $\tau$ are regular types like $e$ or $t$, and $\varepsilon$ is the expressive type. $\alpha$, $\beta$ and $\gamma$ are functions. The colon indicates the type of the functions. The different dimensions are separated by $\bullet$ in (13).

(13) Multidimensional Semantics




In (13), $\beta$ is the trigger of an expressive meaning. In the propositional dimension, $\beta$ works as an identity function which takes $\alpha$ and returns $\alpha$. In the expressive dimension, $\beta$ takes $\alpha$ and adds the semantic object of $\varepsilon$ (i.e., an expressive meaning) to $\alpha$. The node $\gamma$ only touches the propositional meaning $\alpha$ and will not affect the expressive meaning added by $\beta$. Once the semantic computation finishes, we have one propositional content and a set of expressive meanings on the top.

Let us look at how this system works with an actual linguistic example. In English, *damn* in (14a) is considered to be a trigger of conventional implicature that the speaker has a negative attitude, which is assumed to be an expressive object (see Potts, 2003). The semantic computation of the bracketed part in (14a) is indicated in (14b).

(14) a. [ The **damn** teacher ] came in.

b. **the teacher**: $e$ • **damn(teacher)**: $\varepsilon$

- **the**: $\langle et, e \rangle$
- **teacher**: $et$ • **damn(teacher)**: $\varepsilon$
  - **damn**: $\langle et, \varepsilon \rangle$
  - **teacher**: $et$

When the meaning of *damn* is applied to its sister *teacher*, the content meaning of *teacher* is intact but the expressive object *damn(teacher)* is added to the expressive dimension $\varepsilon$ as a secondary meaning, indicating that the speaker is irritated with the teacher. The determiner *the* applies only to the content meaning of *teacher*, ignoring the expressive meaning as it lives in a different dimension from the content meaning. In the end, we get the content meaning *the teacher* and the expressive meaning *damn(teacher)*. I will deal with the semantics of UHs with this system in Chapter 5.

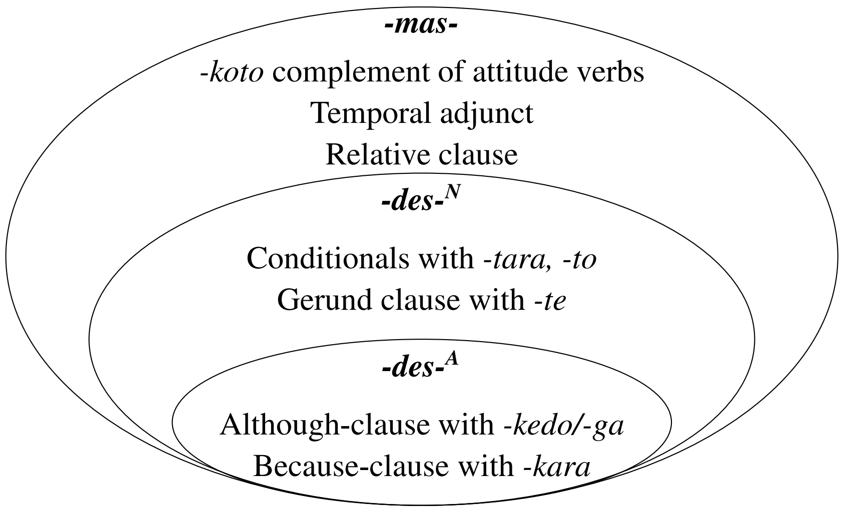
## 1.3 Outline

This thesis consists of five chapters apart from this introduction and the concluding chapter. The outline of the chapters are shown in below.

### 1.3.1 Chapter 2

In Chapter 2, I will show the distributions of three UH markers in Japanese, *mas*, *des*$^N$, and *des*$^A$, and the embedding patterns of them using a wide variety of embedding contexts. As reported by Tomioka and Ishii (2022), the embedding patterns of the three UH markers exhibit a subset-superset relationship shown in (15) where *mas* is the most embeddable among the three, followed by *des*$^{N}$ and *des*$^{A}$.

(15) Embedding patterns of *mas*, *des*$^{N}$ and *des*$^{A}$ (Tomioka and Ishii, 2022; (22))




Chapter 2 also reviews the recent studies of Japanese UHs and their embedding by Miyagawa (2012; 2017; 2022), Yamada (2019) and Tomioka and Ishii (2022). Though they all assumed that Japanese UHs involve some form of agreement with a syntactic element in cP, they differed in whether cP can be embedded and how embedded UHs are obtained. Miyagawa (2022) proposed that cP is restricted to root clauses, but some subordinators may be associated with an addressee $\phi$-feature which locally licenses embedding of *mas*. In contrast, Yamada (2019) pursued the idea that cP is actually embeddable in Japanese, assuming that embedded UH marking is obtained via local agreement with the addressee argument in the embedded cP. Tomioka and Ishii (2022) assumed that cP is generally restricted to root clauses same as Miyagawa (2022), but claimed that the embeddability of UHs is determined by their morpho-syntactic properties and that embedded UHs are licensed via long distance agereement with the matrix c-head.

### 1.3.2 Chapter 3

In Chapter 3, I will show two major empirical issues with Yamada's (2019) embeddable cP analysis through (i) the comparison with other root clause phenomena in Japanese and (ii) the comparison to embedded allocutivity in Magahi.

The first comparison builds on the tradition of studies about embedded root clause phenomena (Emonds, 1970; Hooper and Thompson, 1973; Haegeman, 2006; 2012; Heycock, 2017 among others). In the context of research on embedded root clause phenomena, it has been widely assumed that the embedders that may host root clause phenomena share some root-like properties. Hence, the embeddable cP analysis predicts that embedding patterns of Japanese UHs should show a similar pattern to the embedding of other root clause phenomena related to discourse participants. I will show that this is not the case by comparing the embedding patterns of UHs to three other root clause phenomena in Japanese.

The second comparison is based on the studies about embedded allocutive agreement in Magahi (Alok and Baker, 2018; Alok, 2020; 2021; Baker, submitted) with a special focus on the shift of embedded allocutivity and indexicals. Recent cross-linguistic research on allocutivity has reported that there are some languages that allow embedded allocutive marking (e.g., Magahi (Alok and Baker, 2018; Alok, 2020; 2021; Baker, submitted), Tamil (McFadden, 2020; McFadden and Sundaresan, 2021), Punjabi (Kaur and Yamada, 2019; Kaur, 2020), an Eastern dialect of Basque (Haddican and Etxeberria, 2022) among others). For instance, allocutive marking in Magahi may occur in some embedding contexts as shown in (16).

(16) a. *ki*-complement clause

Santee-aa {kaahl / sochl / jaanl / sunlai / chilal }-au [ki
Santee-FM {said / thought / knew / heard / shouted }-3.NH.S-NH.AL that
Bantee-aa bhag gel-**au**].
Bantee-FM escape went-3.NH.S-NH.AL

'Santee said/thought/knew/heard/shouted that Bantee ran away.'

(Alok, 2020: (27-31) in Chapter 3)

b. Relative clause

Laikwaa [je uhan khaRaa h-**au**] hamar bhaai
boy REL there stand be.3.NH.S-NH.AL my.GEN brother
h-au.
be-3.NH.S-NH.AL

'The boy who is standing there is my brother.' (spoken to a peer)

(Alok, 2020: (33) in Chapter 3)

The studies listed above generally assume that the speaker/addressee argguments are embeddable to account for the presence of embedded allocutive agreement, similarly to Yamada (2019). Thus, I take the series of influential work on embedded allocutivity in Magahi by Deepak Alok and Mark Baker as an example, and compare the behavior of Magahi embedded allocutivity to Japanese embedded UHs aiming to show that the embeddable speaker/addressee assumption does not work well with embedded UHs in Japanese.

### 1.3.3 Chapter 4

In Chapter 4, I will report the results of two psycholinguistic experiments investigating the penalty for violating the consistency requirement of UH embedding. The experiments aimed to quantitatively assess the theories of embedded UHs by Yamada (2019) and Tomioka and Ishii (2022).

Though Yamada (2019) and Tomioka and Ishii (2022) disagree on whether Japanese can embed cP and how embedded UHs are licensed, they agree on the observation that the use of embedded UHs must follow the consistency requirement in (17). Given this requirement, the lack of matrix UH marking is not allowed if a UH maker is used in an embedded clause as shown in (18b).

(17) *The Consistency Requirement of UH Embedding*

When an UH marker is embedded, the matrix clause needs to register higher (or at least the same) level of honorificity to the addressee.

(18) a. [$_{CP}$ Densha-ga okurete-ori-**mas**-u koto]-o owabi-itashi-**mas**-u.
train-NOM delay-be.OH-UH-PRES fact-ACC apologize-do.OH-UH-PRES

'I apologize (honorific) that the train is being delayed (honorific).'

b. * [$_{CP}$ Densha-ga okurete-ori-**masu** koto]-o owabi-(itas)-∅-u.
train-NOM delay-be.OH-PRES fact-ACC apologize-do.OH-∅-PRES
'I apologize (honorific) that the train is being delayed (non-honorific).'

Yamada (2019) and Tomioka and Ishii (2022) offered different explanations for the consistency requirement building on their respective analyses of embedded UH licensing. Yamada (2019) considered that the consistency requirement is a pragmatic constraint to match the speech style of any two clauses. On the other hand, Tomioka and Ishii (2022) suggested that it is a byproduct of multiple agreement between each instance of UHs and the matrix c-head.

The experiments tested the predictions of these two analyses using an acceptability judgment task (Experiment 1) and a speeded two-choice sentence completion task (Experiment 2). Both experiments showed no significant difference in penalty for violating the consistency requirement between different subordinating clause types, which suggests that no positive evidence for Tomioka and Ishii's (2022) analysis was found.

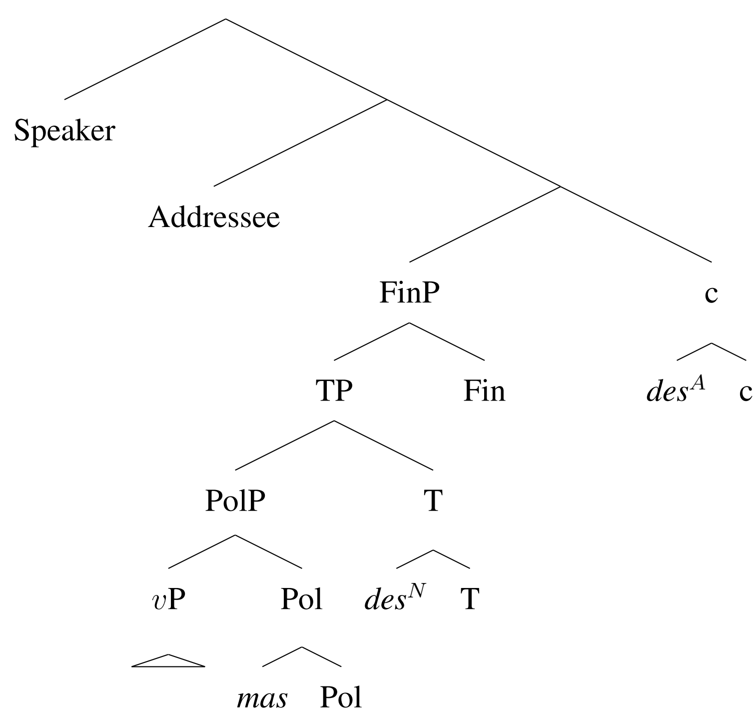
### 1.3.4 Chapter 5

In Chapter 5, I will offer a new analysis of Japanese UHs and their embedding based on the findings in the previous chapters, retaining the assumption that cP is generally restricted to root clauses.

The main claim of Chapter 5 is that Japanese UHs are expressive honorific particles anaphoric to the speaker/addressee arguments in the local cP. On the contrary to the previous studies (Miyagawa, 2012; 2022; Yamada, 2019; Tomioka and Ishii, 2022), I propose that Japanese UHs are not an instance of addressee agreement based on (i) a comparison of UHs to allocutive marking in other languages and (ii) a comparison of UHs with content honorifics in Japanese (e.g., Toribio, 1990; Niinuma, 2003; Hasegawa, 2006; Oseki and Tagawa, 2019; Ikawa, 2022). To implement the idea that UHs are anaphoric to the speaker/addressee arguments in the local cP, I propose new semantic denotations for UHs and c-head using the multidimensional semantic system.

Building on this assumption, I further suggest that each UH marker occupies a different position in narrow syntax to account for the embedding patterns of the UH markers. Specifically, I assume *mas* merges with Pol(arity)-head, $des^N$ merges with T-head, and $des^A$ merges with c-head as schematized in (19). Following Tomioka and Ishii (2022), I claim that the embeddability of UHs is determined by their syntactic positions and the size of the phrase that each subordinator selects (e.g. the subordinators which select TP as its complement may embed *mas* but cannot embed $des^A$ given the positions in (19)).

(19)




### 1.3.5 Chapter 6

The theoretical implication of my proposal in Chapter 5 is that the syntactic position of allocutive marking is the determining factor of its embeddability for the languages whose allocutive marking behaves as a particle. In Chapter 6, I will show a piece of supportive evidence for this implication from Burmese, based on my joint informant work with Juyeon Cho. The obtained data show that Burmese is one of the languages whose allocutive marker behaves as a particle, and its embeddability is generally determined by the syntactic position. Though the data points obtained in the elicitation work are limited, the embedding pattern of

Burmese allocutive marking exhibits a similar pattern to Japanese *des*$^N$, which supports the implication of my proposal.

# Chapter 2

# BASICS OF JAPANESE UHs AND THEIR EMBEDDING

As I mentioned in Chapter 1, Miyagawa (2012; 2017; 2022) argued that Japanese UHs is an instance of root clause phenomena, similarly to allocutive marking in Basque. However, a number of researchers have reported that Japanese UHs may occur in a wide range of embedding contexts as long as the matrix clause is properly UH-marked (Tagashira, 1973; Harada, 1976; Minami, 1987; Uchibori, 2008; Yamada, 2019; Tomioka and Ishii, 2022). This chapter aims to show the basics of Japanese UHs and their embedding patterns to set a stage for this thesis.

In Section 2.1, I will introduce the basic distributions of the three morphological variants of Japanese UHs. Section 2.2 shows the requirement to embed UHs. In Section 2.3, we will see the embedding patterns of UHs reported by Yamada (2019) and Tomioka and Ishii (2022). Section 2.4 reviews previous studies on Japanese UHs and their embedding.

## 2.1 Three Morphological Variants of Japanese UHs

Japanese has three morphological variants of UH marking; *mas*, $des^N$, and $des^A$. The distribution of these UH markers depends on the syntactic category of the preceding element as shown in (1) to (3). The sentences in (a) serve as a baseline, and the examples in (b) are the UH version of (a). The propositional contents of (a) and (b) are the same, but the examples in (b) encode the speakers' respectful attitude toward the addressee. The verbal suffix *mas* attaches to a verb stem and precedes the tense marker *-ta* as in (1b). The UH copula $des^N$ attaches to nouns or nominal adjectives (aka. *na*-adjectives) and precedes the tense marker *-ta* as in (2b). Notice that $des^N$ in (2b) replaces the copula *-da* in (2a). In contrast to $des^N$, $des^A$ occurs with canonical adjectives (aka. *i*-adjectives) and follows the past tense marker *-ta* as shown in (3b).

(1) Verbal suffix *mas*

a. Mari-wa gakko-ni it-ta.
Mari-TOP school-LOC go-PAST

b. Mari-wa gakko-ni iki-**mashi**-ta.
Mari-TOP school-LOC go-UH-PAST
Mari went to school.

(2) UH copula *des*$^N$

a. Mari-wa UD-no gakusee-dat-ta.
Mari-TOP UD-GEN student-COP-PAST

b. Mari-wa UD-no gakusee-**deshi**-ta.
Mari-TOP UD-GEN student-UH.COP-PAST
Mari was a UD student.

(3) UH marking for canonical adjectives *des*$^A$

a. Taiwan ryokoo-wa totemo tanoshikat-ta-∅.
Taiwan travel-TOP very fun-PAST

b. Taiwan ryokoo-wa totemo tanoshikat-ta-**desu**.
Taiwan travel-TOP very fun-PAST-UH
'It was so fun to travel Taiwan.'

There is no semantic differences between the three UH markers. They all indicate that the speaker in a relevant context (typicallly, the speaker in the utterance context) respects the addressee in the same context.

Though *des*$^N$ and *des*$^A$ are homophonous, they need to be treated separately because their morphological orders are strictly determined. As shown in (4), *des*$^N$ cannot follow the past tense marker. In the same vein, *des*$^A$ cannot precede the tense marker as in (5).

(4) * Mari-wa UD-no gakusee-dat-**ta-desu**.
Mari-TOP UD-GEN student-COP-PAST-UH

(5) * Taiwan ryokoo-wa totemo tanoshi-**deshi-ta**.
Taiwan travel-TOP very fun-UH-PAST

The behavior of *mas* in a negative sentence should also be noted here. When *mas* appears with a negation, it precedes the negative morpheme *-n* as shown in (6a). Though *mas* precedes the negative morpheme, the honorific meaning of *mas* will not be negated in (6a) because UHs are expressives which do not interact with other scope operators (see also Section 5.1). In addition, the negative morpheme has to be the special form *-n* instead of the regular form *-nai* if it occurs with *mas*. This special form of negation is used only for *mas*, and $des^N$ cannot be used with it as shown in (6b) (see also Section 5.3).

(6) a. Mari-wa kyoo gakko-ni ki-mase-n-∅.
Mari-TOP today school-DAT come-UH-NEG-PRES
'Mari does not come to school today.'

Honorific Meaning: the speaker respects the addressee

b. * Mari-wa UD-no gakusee dese-n.
Mari-TOP UD-GEN student COP.UH-NEG
Intended: 'Mari is not a student of UD.'

To examine the data of UH embedding in the following sections, the readers should keep in mind the morphological ordering of each UH marker.

### 2.2 The Consistency Requirement of UH Embedding

As I showed in Chapter 1, Japanese UHs may be embedded in some subordinate clauses as in (7) unlike Korean speech style particles. However, the embedding of Japanese UHs is not completely free. Yamada (2019) and Tomioka and Ishii (2022) reported that the UH embedding like (7) needs to follow the consistency requirement shown in (8). Note that the embedded UH marker in (7) encodes the utterance speaker's respectful attitute toward the addressee in the utterance context, along with the matrix UH marking.[1]

(7) a. [Hayaku go-kaifuku-nasai-**mas**-u koto]-o o-inori-shite-ori-**masu**.
Quickly HON-recover-do.SH-UH-PRES COMP-UH HON-pray-do-be.OH-UH

[1] Miyagawa's (2022) example shown in Chapter 1, which is repeated below, did not follow this requirement, which leads the ungrammaticality.

(i) Taroo-wa [Hanako-ga {kita/*ki-mas-i-ta} koto]-ni odoroi-ta.
Taro-TOP [Hanako-NOM came/come-UH-PAST COMP-DAT surprise-PAST
'Taro was surprised that Hanako came.' (Miyagawa, 2022: (24c))

'I pray (polite) for your quick recovery (polite).'

b. [Ato-kara mairi-**masu** densha]-ni go-joosha-kudasai-**mase**.
after-from come.OH-UH train-DAT HON-take.car-please-UH-IMP
'Please take (polite) the train which comes later (polite).'

(8) *The Consistency Requirement of Embedded UH*

When an UH marker is embedded, the matrix clause needs to register higher (or at least the same) level of honorificity to the addressee.

The effect of this requirement becomes clear when you look at the examples in (9). (9a) follows the consistency requirement as it has *mas* in the matrix clause along with the embedded *mas*. *Itas* (the humble form of *sur-u* 'do') in front of the matrix *mas* raises the honorificity level of the following UH marker, making the embedding of *mas* more natural. In contrast, (9b) violates this requirement as the matrix clause lacks UH marking despite the fact that the embedded clause has one. Note that the embedding of UH itself is optional as (9c) is grammatical without embedded UH marking.

(9) a. [$_{CP}$ Densha-ga okurete-ori-**mas**-u koto]-o
train-NOM delay-be-UH-PRES COMP-ACC
owabi-itashi-**mas**-u.
apologize-do$_{HUMBLE}$-UH-PRES
'I apologize (honorific) that the train is being delayed (honorific).'

b. * [$_{CP}$ Densha-ga okurete-ori-**masu** koto]-o owabi-(itas)-∅-u.
train-NOM delay-be-PRES COMP-ACC apologize-do$_{HUMBLE}$-∅-PRES
'I apologize (non-honorific) that the train is being delayed (honorific).'

c. [$_{CP}$ Densha-ga okurete-*iru* koto]-o owabi-itashi-**mas**-u.
train-NOM delay-be-PRES COMP-ACC apologize-do$_{HUMBLE}$-UH-PRES
'I apologize (honorific) that the train is being delayed (non-honorific).'

It should also be noted that the consistency requirement in (8) does not force an embedded UH marker and a matrix UH marker to be matched in their forms. For instance, *des*$^{N}$ can be embedded when the matrix predicate is marked with *mas*. The following examples show some cases where the matrix UH maker and the embedded UH maker do not match in their forms.

(10) a. *mas* embedded $\times$ $des^N$ matrix

[$_{CP}$ Sakaori-eki-o sugi-**masu**-to] tsugi-wa shuuten-no Kofu-**desu**.
Sakaori-station-ACC pass-UH-if next-TOP terminal-GEN Kofu-UH.COP

'When we pass Sakaori station, the next stop will be the terminal Kofu.'

b. $des^A$ embedded $\times$ *mas* matrix

[$_{CP}$ Raishuu-wa isogashi-i-**desu**-kara], saraishuu-ni
Next.week-TOP busy-PRES-UHbecause the.week.after.next-DAT
shi-**mashoo**.
do-UH.EXH
'Because I will be busy next week, it would be nice in the following week.'

Inportantly, there are two embedding contexts that are free from the consistency requirement in (8); one is the direct speech *to*-clause in the complement of verbs-of-saying and the other is a bare quotative context. Bare quotatives are embedded clauses which appear without overt predicates selecting them (see Fujita, 2000; Oshima, 2015; Tomioka and Kim, 2024 for the details of this embedding context). As shown in (11) and (12), both direct speech contexts and bare quotatives can embed *mas*, but the matrix clause does not have to be UH-marked.

(11) Direct speech *to*-clause

a. ✓ Ken$_1$-wa [boku$_1$-wa kinoo toshokann-ni iki-mashi-ta to] it-ta.
Ken-TOP I-TOP yesterday library-DAT go-UH-PAST COMP say-PAST
'Ken said (plain) "I went (hoonorific) to the library yesterday." '

b. ✓ Ken$_1$-wa [boku$_1$-wa kinoo toshokann-ni iki-mashi-ta to]
Ken-TOP I-TOP yesterday library-DAT go-UH-PAST COMP
ii-mashi-ta.
say-UH-PAST
'Ken said (honorific) "I went (honorific) to the library yesterday." '

(12) Bare Quotative *to*-clause

a. ✓ [Rainen mata ai-mash-ou to] akshu-shite wakare-ta.
Next.year again meet-UH-EXH COMP shake.hand-do part-PAST
'(We) shook hands and parted (honorific), (saying), 'let's see each other again next year'.'

b. ✓ [Rainen mata ai-mash-ou to] akshu-shite wakare-mashi-ta.
Next.year again meet-UH-EXH COMP shake.hand-do part-UH-PAST
'(We) shook hands and parted (honorific), (saying), 'let's see each other again next year'.'

In addition, the embedded UH marker and the matrix UH marker are directed to different addressees in (11b) and (12b). The matrix one shows the utterance speaker's respect for the addressee in the utterance context, while the embedded one shows the reported sepaker's respect for the addressee in the embedded/reported speech context. Suppose that Ken's teacher utters (11b) addressing Ken's mother to tell her what Ken said yesterday. In this context, the matrix *mas* shows the respect from Ken's teacher to his mother, while the embedded *mas* shows the respect from Ken to his teacher. In this respect, the embedded UHs in (9) are different as they encode the respect for the same addressee who the matrix UH is addressing to, namely, the hearer in the utterance context. In the following section, we will focus on the embedded UHs that follow the consistency requirement as they are the main target of this thesis.

## 2.3 Basic Distribution of Embedded UH Markers

This section shows the basic distribution of embedded UHs in Japanese reported in the literature. The examples that will be reported in this section are largely adopted from Yamada (2019) and Tomioka and Ishii (2022). Before we start the observations, it should be reminded that UH embedding is completely optional in the examples that follows the consistency requirement (see (9c)).

### 2.3.1 Indirect Speech *To*-Clause

The first case is an indirect speech *to*-clause selected by verbs-of-thinking. Yamada (2019) observed that indirect speech *to*-clauses in the complement of verbs-of-thinking cannot host *mas* as shown in (13a). Same as *mas*, the other two UH markers cannot be embedded in an indirect speech *to*-clause, as shown in (13b) and (13c).

(13) Indirect Speech *to*-clause

a. [Isogashiku sugoshi-te {$^{\checkmark}$irasshar-u / *irasshai-**mas**-u} to]
busy spend-CV {PROG.SH-PRES / PROG.SH-UH-PRES} COMP
zonji-te-ori-mas-u.
know.SH-UH-CV-be.OH-UH-PRES
'I know that you are doing busy.' (Yamada, 2019 Chapter 4: (56) modified)

b. [Mana-wa totemo yuushuu-na gakusei-{$^{\checkmark}$da / ***des**-u} to]
Mana-TOP very excellent student-{COP / UH-COP-PRES} COMP
omoi-masu.
think-UH
'I think that Mana is an excellent student.'

c. [Konshuu-wa isogashi-i {$^{\checkmark}$ ∅ / ***desu**} to] omoi-masu.
this.week-TOP busy-PRES { / UH} COMP think-UH
'I think that I will be busy this week.'

This observation contrasts with direct speech *to*-clauses in the complement of verbs-of-saying. As shown in (14), the direct speech *to*-clause may embed all the UH markers. Note that the following exmaples do not follow the consistency requirement as we saw in the previous section.

(14) a. Mari$_1$-wa [watashi$_1$-ga iki-mas-u to] it-ta.
Mari-TOP [I-NOM go-UH COMP] say-PAST
'Mari said, "I will go".'

b. Mari$_1$-wa [watashi$_1$-wa UD-no gakusee-des-u to] it-ta.
Mari-TOP [I-TOP UD-GEN student-UH-PRES COMP] say-PAST
'Mari said, "I am a student of UD".'

c. Mari$_1$-wa [watashi$_1$-wa isogashi-i-desu to] it-ta.
Mari-TOP [I-TOP busy-PRES-UH COMP] say-PAST
'Mari said, "I am busy now".'

### 2.3.2 *Koto*-Complement Clause

The *koto*-complement clause is another type of indirect speech context that can be selected by a wide variety of predicates such as verbs-of-knowing, performative verbs, or bouletic predicates. Yamada (2019) showed that *koto*-complement clauses can host *mas* regardless of the type of verbs which select them, as shown in (15). In contrast to *mas*, the other two UHs, $des^N$ and $des^A$, cannot be embedded in *koto*-complement clauses as shown in (16) and (17).

(15) *mas* in *koto*-clause

a. Verbs-of-knowing

[Go-meiwaku-o o-kake-itashi-mashi-ta koto]-wa
[HON-trouble-ACC HON-giving-do.OH-UH-PAST COMP]-TOP
zonji-te-ori-mas-u.
know.SH-UH-CV-be.OH-UH-PRES

'I know that I gave (you) trouble.'

b. Explicit Performative

[Go-meiwaku-o o-kake-itashi-mashi-ta koto]-o
[HON-trouble-ACC HON-giving-do.OH-UH-PAST COMP]-ACC
owabi-itashi-mas-u.
apologize-do.OH-UH-PRES

'I apologize for giving (you) trouble.' (Yamada, 2019 Chapter 4: (58))

c. Bouletic Predicate

[Hayaku gokaifuku-nasai-**mas**-u koto]-o o-inori-shite-ori-mas-u.
quickly recover-do.SH-UH-PRES COMP-ACC HON-pray-do-be.OH-UH-PRES
'I pray for your speedy recovery.' (Tomioka and Ishii, 2022: (8))

(16) $des^N$ in *koto*-clause

a. ?* [Kaigi-no junbi-ga fujuubun-**des**-u koto]-wa
[meeting-GEN preparation-NOM inappropreate-COP.UH-PRES COMP]-TOP
zonji-te-ori-mas-u.
know.SH-UH-CV-be.OH-UH-PRES

'I know that my preparation for the meeting was inappropreate.'

b. * [Kaigi-no junbi-ga fujuubun-**des**-u koto]-o
[meeting-GEN preparation-NOM inappropreate-COP.UH-PRES COMP]-ACC
owabi-itashi-mas-u.
apologize-do.OH-UH-PRES
'I apologize for my preparation for the meeting being inappropriate.'

c. * [Shinseihin-ga daiseikou-**desu** koto]-o
new.product-TOP big.success-COP.UH COMP-ACC
o-inori-shite-ori-mas-u.
HON-pray-do-be.OH-UH-PRES
'I sincerely hope that your new product will be a big success.'

(Tomioka and Ishii, 2022: (19a))

(17) *des*$^{A}$ in *koto*-clause

a. * [Raishuu-wa o-isogashi-i-**desu** koto]-wa zonji-te ori-mas-u.
next.week-TOP HON-busy-PRES-UH COMP-TOP know-CV be.OH-UH-PRES
'I know that you will be busy next week.'

b. * [Kare-ga senshuu isogashikat-ta-**desu** koto]-o
he-NOM last.week-TOP busy-PRES-UH COMP-ACC
shoogenshi-mas-u.
testify-UH-PRES
'I testify that he was busy last week.'

c. * [Ryokoo-ga tanoshi-i-**desu** koto]-o o-inori-shite-ori-mas-u.
travel fun-PRES-UH COMP-TOP HON-pray-do-be.OH-UH-PRES
'I wish that your travel will be enjoyable.'

### 2.3.3 Relative Clauses and Temporal Adjuncts

Same as *koto*-complement clauses, relative clauses can host *mas* while they cannot embed the other two UH markers, as shown in (18). The temporal adjuncts in (19) also show the same pattern. It should be noted that temporal adjuncts in Japanese are syntactically a relative clause, which is why they show the same pattern.

(18) Relative Clause

a. [Senjitsu okutte-itadaki-**mashi**-ta] meron, totemo oishiku
the.other.day sent-receive.OH-UH-PAST melon very.much delicious
itadaki-mashi-ta.
consume.OH-UH-PAST
'We truly enjoyed the melons that you sent us the other day.'

(Tomioka and Ishii, 2022: (10))

b. * [Tanaka-san-o gozonji-**desu**]-kata-ni
Tanaka-Mr.-ACC acquainted-COP.UH-person-DAT
go-shoukai-itada-ke-mase-n-ka?
HON-introduction-receive.OH-can-UH-NEG-Q?
'Could you introduce (me/us) to someone who knows Mr. Tanaka?'

(Tomioka and Ishii, 2022: (19c))

c. * [Raishuu-wa o-isogashii-desu baai]-wa o-tsutae-kudasai-mas-e.
next.week-TOP HON-busy-UH case-TOP HON-tell-please-UH-IMP
'If you are busy next week, please let us know.'

(19) Temporal Adjuncts

a. [Go-touchaku-nasai-**mas**-u mae]-ni o-denwa-o itada-ke-masu-ka?
HON-arrival-do.SH-UH-PRES before-DAT HON-phone-ACC receive-can-UH-Q
'Would you give us a call before you arrive?'

(Tomioka and Ishii, 2022: (9) modified)

b. * [Kuruma-ga ojama-**desu**]-toki-wa sugu
car-NOM nuisance-COP.UH-when-TOP immediately
o-moushituke-kudasai-mas-e.
HON-inform.HON-please-UH-IMP.
When the car is in your way, please tell us immediately.

(Tomioka and Ishii, 2022: (19b) modified)

c. * [o-isogashi-i-desu toki]-wa otetsudai-ni ukagai-mas-u.
HON-busy-PRES-UH when-TOP help-DAT come.OH-UH-PRES
'When you are busy, I will come to help you.'

### 2.3.4 Conditionals and Gerundive Clauses

In Japanese, there are three types of conditional clauses: *ba*-conditionals, *tara*-conditionals, and *to*-conditionals. In this thesis, I will focus on the latter two types of conditionals. [2] As shown in (20) to (21), *mas* and $des^N$ can be embedded in *tara*-conditionals and *to*-conitionals while $des^A$ cannot be embedded.

(20) Conditional with *tara*

a. [Go-kaifuku-nasai-**mashi**-tara] zehi mata o-koshi-kudasai-mas-e.
HON-recover-do.SH-UH-if definitely again HON-come-please-UH-IMP
'Please do come back when you have made a recovery.'

(Tomioka and Ishii, 2022: (12a))

b. [Raishuu-wa suiyoubi-**deshi**-tara] ai-te-ori-mas-u.
Next.week-TOP Wednesday-COP.UH-PAST-if open-CV-be.OH-UH-PRES
'About next week, if it's Wednesday, I will be free.'

(Tomioka and Ishii, 2022: (18b))

c. * [Raishuu o-isogashii-**deshi**-tara] o-tetsudai-ni ukaga-e-mas-u.
Next.week HON-busy-COP.UH-if HON-assist-DAT go.OH-can-UH-PRES
'If you are busy next week, I can come to help you.'

(Tomioka and Ishii, 2022: (20b))

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[2] The observation of UH embedding in *ba*-conditionals is unclear. Tomioka and Ishii (2022) noted that *masure*, a specific form of *mas*, can appear in *ba*-conditional. However, it is a very archaic speech style, which is rarely observed in a daily life conversation.

(1) Socchokuni moushi-masure-ba, ...
frankly say.OH-UH-if, ...
'If I may express my humble opinions frankly, ...'

The use of $des^N$ or $des^A$ counterpart of *masure-(ba)*, *desure-(ba)*, was not found in the literature or on the internet to the best of my knowlege. Since this use sounds too archaic for me, I will stay ignorant about the grmmaticality judgement on embedded UHs in *ba*-conditionals.

(21) Conditional with *to*

a. [Kore-wa mizu-o kuwae-**mas**-u-to] bouchou-itashi-mas-u.
this-TOP water-acc add-UH-PRES-and.then expand-do.OH-UH-PRES
'If you add water to this, it will swell up.'

(Tomioka and Ishii, 2022: (12b))

b. [Kokuseki-ga amerika-**desu**-to,] biza-ga iri-mas-u-ne.
citizenship-NOM America-COP.UH-if, visa-NOM necessary-UH-PRES-SFP
'If you are an American citizen, you need a visa.'

(Tomioka and Ishii, 2022: (18c))

c. ??? [Nedan-ga takai-**desu**-to,] koushou-shi-naosu-koto-ni
Price high-COP.UH-if negotiation-do-repear-fact-DAT
nari-mas-u.
become-UH-PRES
'If the price is high, we will have to re-negotiate.'

(Tomioka and Ishii, 2022: (20c))

Similarly, *te*-gerundive clauses can embed *mas* and *des*$^N$, but cannot host *des*$^A$ as shown in (22).

(22) Gerundive clause with *te*

a. [Go-renraku-ga okure-**mashi**-te], moushiwake-gozai-mas-en-deshi-ta.
HON-report-NOM delay-UH-GERUND, excuse-exist.OH-UH-NEG-UH-PAST
'I sincerely apologize for the delayed communication. '

(Tomioka and Ishii, 2022: (11))

b. [Tsuma-ga amerikajin-**deshi**-te,] ie-de-mo eigo-o
wife-NOM American-COP.UH-GERUND, home-LOC-also English-ACC
tsukatte-ori-mas-u.
use-be.OH-UH-PRES
'My wife being American, we use English at home.'

(Tomioka and Ishii, 2022: (18a))

c. * [Kyou-wa isogashi-i-**deshi**-te], sochira-ni-wa
Today-TOP busy-PRES-UH-CV, there-LOC-TOP
o-ukagai-deki-mas-en.
HON-visit.OH-can-UH-NEG
'It is such a busy day today, regrettably, so I cannot go over there.'

(Tomioka and Ishii, 2022: (20a))

### 2.3.5 Although-Clauses and Because-Clauses

Although-clauses with *kedo*/*ga* and because-clauses with *kara* are very permissive about UH embedding. As shown in (23) and (24), they can host all variants of UH marking.

(23) Although-clause with *kedo*/*ga*

a. [Ame-ga futte-ki-**mashi-ta**-ga / -kedo,] konomama tsuzuke-mash-ou.
rain-NOM fall-come-UH-PAST-but / -but as.is continue-UH-EXH
Although it started raining, let us keep going.'

(Tomioka and Ishii, 2022: (14))

b. [Tokyo-wa daitokai-**des**-u {-ga / -kedo},] sonowarini
Tokyo-TOP big.city-COP.UH-PRES but / but, rather.unexpectedly
anzen-des-u.
safe-COP.UH-PRES
'Tokyo is a big city, but it is safe (rather surprisingly).'

(Tomioka and Ishii, 2022: (18e))

c. [Raishuu-wa isogashii-**desu** {-ga / -kedo},] kanarazu ai-ni iki-mas-u.
Next.week-TOP busy-COP.UH but / but, certainly see-DAT go-UH-PRES
'Although I will be busy next week, I will definitely come see you.'

(Tomioka and Ishii, 2022: (21b))

(24) Because-clause with *kara*

a. [Watashi-ga yatte-oki-**masu**-kara,] mou kaette-mo ii-desu-yo.
I-NOM do-complete-UH-because already return-even good-UH-SFP
'You may go home because I can finish it (for you).'

(Tomioka and Ishii, 2022: (13))

b. [Raishuu-no suiyoubi-wa hima-**des**-u kara,] zehi
Next.week-GEN Wednesday-TOP leisure-COP.UH-PRES because definitely
kite-kudasai.
come-please.
'Because I will be free on Wednesday next week, please come (to see me).'

(Tomioka and Ishii, 2022: (18d))

c. [Raishuu-wa isogashii-**desu** kara,] saraishuu-ni
Next.week-TOP busy-COP.UH because the.week.after.next-DAT
shite-kudasai.
make-please
'Because I will be busy next week, please make it to the following week.'

(Tomioka and Ishii, 2022: (21a))

### 2.3.6 *Tsutsu/Nagara*-Clauses

In contrast to although-clauses with *kedo* / *ga* and because-clauses with *kara*, *tsutsu/nagara*-clauses 'while' cannot host any of the UH makers as shown in (25). Even the most embeddable *mas* cannot be embedded in *tsutsu/nagara*-clauses. It should be noted that only *nagara*-clause example is given for *des*$^{A}$ in (25c) because *tsutsu* is incompatible with the canonical adjectives in the first place (i.e., *isogashii tsutsu 'busy-tsutsu'* is not grammatical).

(25) a. Sono-jikan-wa ofisu-de koohii-o nomi-(***mashi**)-{nagara/tsutsu},
that-time-TOP office-at coffee-ACC drink-UH-while
shigoto-o shite-ori-mashi-ta.
work-ACC do-be.OH-UH-PAST
'Regarding that time, I was working in my office drinking a cup of coffee.'

(Tomioka and Ishii, 2022: (15b))

b. Kare-wa kokosee {de-ari / ***deshi**}-{nagara/tsutsu}, geemu
he-TOP high.school.student {COP-be / COP.UH}-while game
kurieitaa-toshite shigoto-mo shite-ori-mashi-ta.
creator-as work-also do-be.OH-UH-PAST
'While/Though he is a high school student, he is working as a game creator.'

c. Kare-wa isogashii (***desu**)-nagara-(mo), kazoku-no jikan-o
he-TOP busy UH-while-even family-GEN time-ACC
daiji-ni shite-ori-mashi-ta.
important-DAT do-be.OH-UH-PAST
'While/though he is busy, he prioritize the time which he spends with his family.'

| | *mas* | $des^N$ | $des^A$ |
|---|---|---|---|
| Indirect Speech *to*-clause | * | * | * |
| *Koto*-complement clause | ✓ | (*) | * |
| Relative clause / Temporal Adjunct | ✓ | (*) | * |
| Conditionals with *tara/to* | ✓ | ✓ | * |
| Gerundive clause with *te* | ✓ | ✓ | * |
| Although-clause with *-ga/-kedo* | ✓ | ✓ | ✓ |
| Because-clause with *-kara* | ✓ | ✓ | ✓ |
| *Tsutsu* / *Nagara*-clause | * | * | * |

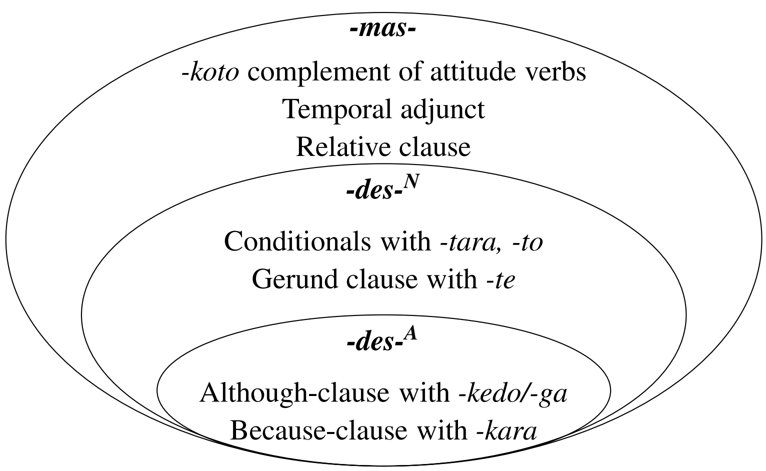
Table 2.1: Summary of Japanese UH embedding patterns

(*) means that the past tense form of $des^N$ can be embedded.

### 2.3.7 Summary of the Embedding Patterns of Japanese UHs

The patterns of Japanese UH embedding are summarized in Table 2.1; *mas* is the most embeddable among the three, $des^A$ is the least embeddable, and $des^N$ falls in between them. To put differently, the embedding patterns of the three UH markers in Table 2.1 have a subset-superset relationship in (26) as Tomioka and Ishii (2022) showed. That is, the subordinators that may host $des^A$ can also embed the other two; the subordinators that may embed $des^N$ can also embed *mas*; and the subordinators that may host only *mas* cannot embed the other two.

(26) Embedding patterns of *mas*, $des^N$ and $des^A$ (Tomioka and Ishii, 2022; (22))



This embedding pattern of the three UH markers will be a key when we discuss whether the embeddability of Japanese UHs is due to the embeddability of cP in Chapter 2.

Before we move on, the embeddability of the past tense form of $des^N$ should be noted. Tomioka and Ishii (2022) reported that the past tense form of $des^N$, *deshi-ta*, can be embedded in *koto*-complement clauses, relative clauses, and temporal adjuncts in contrast to its present tense counterpart *des-u*. This is why the *koto*-complement clause and relative clause/temporal adjunct rows in the $des^N$ column have brackets in Table 2.1. The relevant examples are shown in (27).

(27) a. *Koto*-complement clause

[Kaigi-no junbi-ga fujuubun-deshi-ta koto]-o fukaku
meeting-GEN preparation-NOM inadequate-COP.UH-PAST COMP-ACC deeply
owabi-moushiage-mas-u.
apology-say.OH-UH-PRES

'We sincerely apologize for the fact that our preparation for the meeting was inadequate.'

b. Relative Clause

(?) Sono atsumari-ni-wa [Tanaka-sensei-o gozonsji-deshi-ta
that gathering-DAT-TOP Tanaka-teacher-ACC know.SH-COP.UH-PAST
kata]-ga takusan irasshai-mashi-ta.
person.HON-NOM many be.present.SH-UH-PAST

'At th gathering, there were many prople who knew Prof. Tanaka.'

c. Temporal Adjunct

[Senjitsu sensei-ga go-byooki-deshi-ta sai]-ni omimai-ni
the.other.day teacher-NOM HON-sick-COP.UH-PAST occasion-at visit.OH-DAT
ukagai-mashi-ta.
go.OH-UH-PAST

'When the professor fell sick the other day, I visited her.'

(Tomioka and Ishii, 2022: (42))

In short, the past tense form of $des^N$ shows the same embedding pattern as *mas*. This complication in $des^N$ will be addressed in Chapter 5.

## 2.4 Previous Analyses of Japanese UHs and their Embedding

In this section, I will review the recent studies on Japanese UHs and their embedding. The literature generally assume that Japanese UHs are an instance of addressee agreement, but they differ in whether the specific layers containing the speaker/addreessee arguments are embeddable or not. Miyagawa (2012; 2017; 2022) and Tomioka and Ishii (2022) retained the assumption that such layers are generally restricted to root clauses, while Yamada (2019) claims that such layers are actually embeddedable in Japanese, which has some support from the literature on embedded allocutivity in other languages (see also Chapter 3 and 5). I will call the former "non-embeddable cP approach" and the latter "embeddable cP approach".

### 2.4.1 Miyagawa (2012, 2017, 2022)

Miyagawa (2012; 2017; 2022) proposed (28), which served as a blueprint for the recent formal syntactic theory of Japanese UHs, treating Japanese UHs on a par with the allocutive agreement in Souletin, a Northeastern dialect of Basque.[3]

(28) a. UHs are $\phi$-feature agreement with the addressee in the left clause periphery.

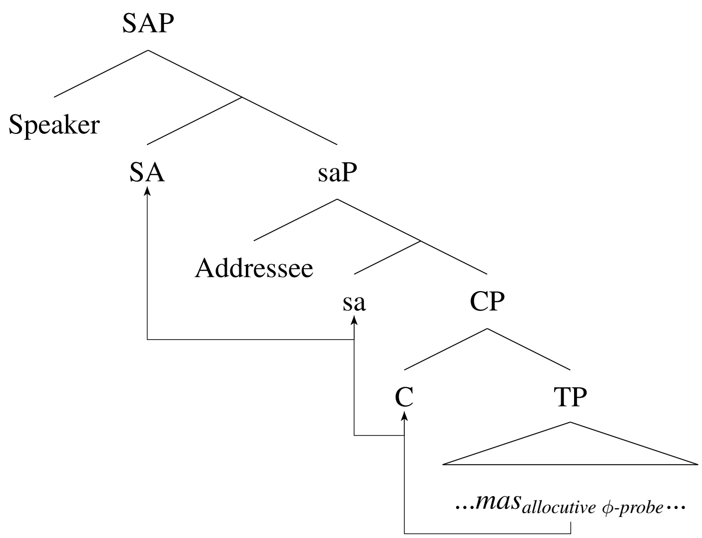
b. The specific layers for UHs, which take the speaker and addressee as its argument, are restricted to root clauses.

His insight stems from the idea of Strong Uniformity, which states that all languages share the same set of grammatical features. Given this theoretical intuition, he considered that there should be some form of $\phi$-feature agreement in Japanese even though it is superficially an agreement-less language, and proposed that UHs are the instance of $\phi$-agreeement in Japanese. Specifically, Miyagawa (2012; 2017; 2022) proposed the structure in (29) for *mas* in a root clause, assuming that the SAP and the saP — the equivalents of Portner et al.'s

[3] Though Miyagawa (2012; 2017; 2022) assumed that the allocutive marking in Basque to be a form of addressee agreement based on Oyharçabal's (1993) work, some researchers (e.g., Arregi and Nevins, 2012; Preminger, 2009; Rezac et al., 2014 among others) argue that Basque allocutive makers are clitics. In this thesis, I will stay agnostic about the syntactic category of allocutive marking in Basque, but they exhibit different properties from Japanese UHs as I discuss in Chapter 5.

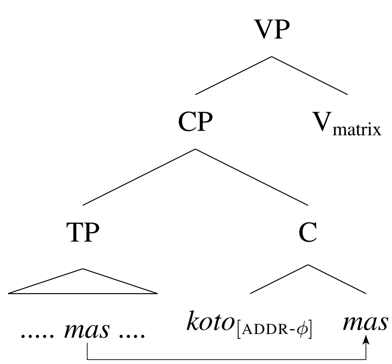
(2019) cP — are restricted to root clauses. He argued that *mas* (or more precisely, the allocutive $\phi$-probe) undergoes the LF movement to the SA-head to agree with the $\phi$-feature of the addressee argument in the saP as indicated in (29).

(29)




Regarding the embedding of *mas*, Miyagawa (2022) proposed that some complementizers (e.g., *koto*-clauses) are addressee-oriented, and may be associated with the [ADDR] $\phi$-feature which locally licenses the embedded *mas*, while retaining the assumption that the SAP and the saP are generally restricted to root clauses. However, other complementizers (e.g., indirect speech *to*-clauses) may not be associated with the [ADDR] $\phi$-feature, ending up with the unembeddability of UHs. This idea is schematized in (30).

(30)

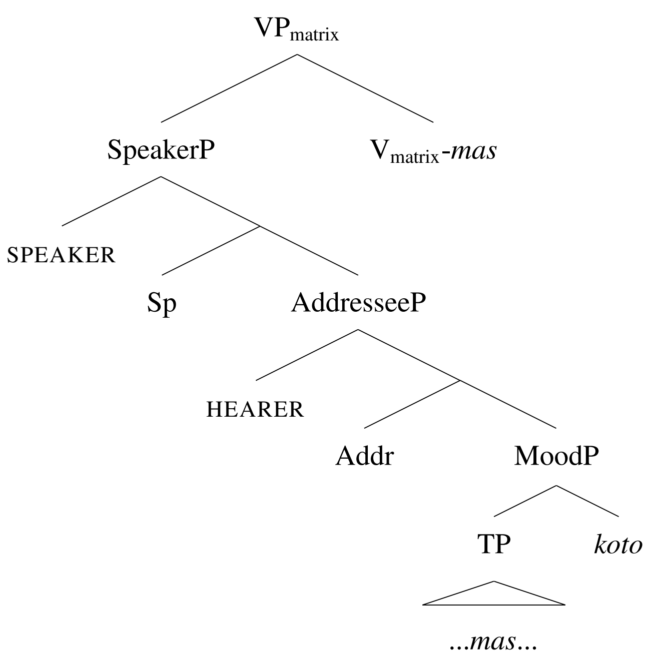



In (30), the [ADDR] $\phi$-feature on the complmentizer *koto* works as a proxy for the addressee argument in the matrix saP, agreeing with the embedded *mas*. He assumed that this association of the [ADDR] $\phi$-feature with C-head is optional and not in the formal registry as the use of embedded UHs is optional. However, he was unclear about what property of complementizers allows or disallows the [ADDR] $\phi$-feature to be associated with it. In addition, his analysis was not clear about the embedding of the other two UH markers and the embedding patterns observed in Section 2.3. That is, he was unclear why $des^N$ and $des^A$ cannot be hosted by a *koto*-clause even though it may be associated with the [ADDR] $\phi$-feature according to his theory.

### 2.4.2 Yamada (2019)

Following Miyagawa's (2012; 2017; 2022) analysis, Yamada (2019) also assumed that Japanese UHs are an instnace of addressee agreement. However, he disagrees with the idea that the layers licensing UHs are restricted to root clauses. Instead, he proposed that SpeakerP and AddresseeP — another equivalents of cP by Portner et al. (2019) — are actually embeddable in Japanese, arguing for the structure in (31). He suggested that embedded UHs are always licensed via a local agreement with the embedded addressee argument in (31), while a matrix UH marker is licensed by the addressee argument in the matrix cP.

(31)




(Yamada, 2019: (71) in Chapter 5 )

Yamada (2019) opted for this embeddable cP analysis based on the two effects of embedded UHs: (i) the enhancement effect and (ii) the commitment effect. We will see these two effects of embedded UHs in the following subsection.

#### 2.4.2.1 Enhancement Effect and Commitment Effect of Embedded UHs

The enhancement effect can be observed in (32). Yamada (2019) reported that the use of embedded UHs enhances the politeness level of the entire sentence. Thus, (32a) sounds a little politer than (32b).

(32) a. [Hayaku go-kaifuku-nasai-**mas**-u koto]-o o-inori-shite-ori-masu.
quickly HON-recover-do.SH-UH-PRES COMP-UH HON-pray-do-be.OH-UH

b. [Hayaku go-kaifuku-nasa-ru koto]-o o-inori-shite-ori-masu.
quickly HON-recover-do.SH-PRES COMP-UH HON-pray-do-beOH-UH
'I pray for your speedy recovery.'

According to him, the embedded UH marking and the matrix UH marking are computed cumulatively, elevating the politeness level of the entire utterance. Based on the assumption that utterance honorific meaning is computed at the cP-level, Yamada (2019) took the enhancement effect as an indication of the presence of embedded AddresseeP.

The commitment effect can be observed in (33) and (34). Yamada (2019) reported that, when an embedded UH marker is used, the speaker has to be committing to the proposition expressed by the embedded clause in a particular way (e.g., the speaker believes that the embedded proposition to be true). Take a look at (33b). Yamada (2019) reported that (33b) is infelicitous because the use of the embedded UH signals that the speaker (i.e., Alice) also wants Mr. C to be the president, which contradicts the context. In contrast, Alice can use the embedded UH when her husband also wants Mr. A to be the president as in (34) because she does not have to worry about committing to the embedded proposition. [4]

(33) Context 1: *A presidential election is about to take place and two candidates are competing, Ms. A from Party X and Ms. B from Party Y. Alice is supporting Party X*

[4] His observation of the commitment effect is also not clear to me. To my ear, (33b) does not sound as if Alice is also wanting Mr.C to be a president.

*and takes an interview to become a member of the political campaign staff. At the interview, the campaign manager has asked her some questions and the last one is 'is your husband supporting Ms. A?' Unfortunately, her husband has a different political stance. Alice is now making a response choosing the hyper-polite speech register.*

a. ✓ Zannennagara, [kare-wa C-shi-ga daitooryoo-ni naru koto]-o
Unfortunately, he-TOP C-Mr-NOM president-DAT become COMP-ACC
nozonde-ori-masu.
hope-be.OH-UH
'Unfortunately, he desires that Mr. C becomes the president. '

b. # Zannennagara, [kare-wa C-shi-ga daitooryoo-ni nari-**masu**
Unfortunately, he-TOP C-Mr-NOM president-DAT become-UH
koto]-o nozonde-ori-masu.
COMP-ACC hope-be.OH-UH
'Unfortunately, he desires that Mr. C becomes the president. '

(34) Context 2: *The same context as before, except for the fact that her husband also likes Ms. A. So, she does not have to be worried about giving a negative impression to the interviewer.*

✓ Mochiron, [kare-wa A-shi-ga daitooryoo-ni {naru/nari-masu}
Of.course, he-TOP A-Ms-NOM president-DAT become/become-UH
koto]-o nozonde-ori-masu.
COMP-ACC hope-be.OH-UH
'Of course, he desires that Ms. A becomes the president.'

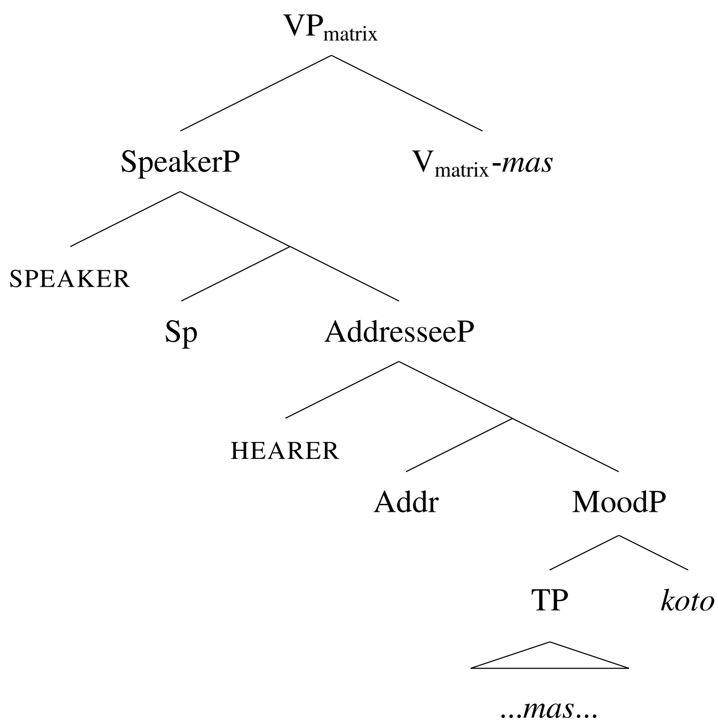
Yamada (2019) argued that the function of SpeakerP in general is to make the speaker commit to the proposition expressed by the TP. Thus, he took the infelicity of (33) as evidence for the presence of embedded SpeakerP.

#### 2.4.2.2 Difference Between *Koto* and *To*

Based on the assumption that SpeakerP and AddresseeP are embeddable, Yamada (2019) addressed the question why *mas* cannot be embedded in an indirect speech *to*-clause while it can be embedded in a *koto*-complement clause. He attiributed the unembeddability of *mas* in an indirect speech *to*-clause to a semantic type mismatch between the *to*-comlementizer and the embedded SpeakerP. I will show his analysis in step by step.

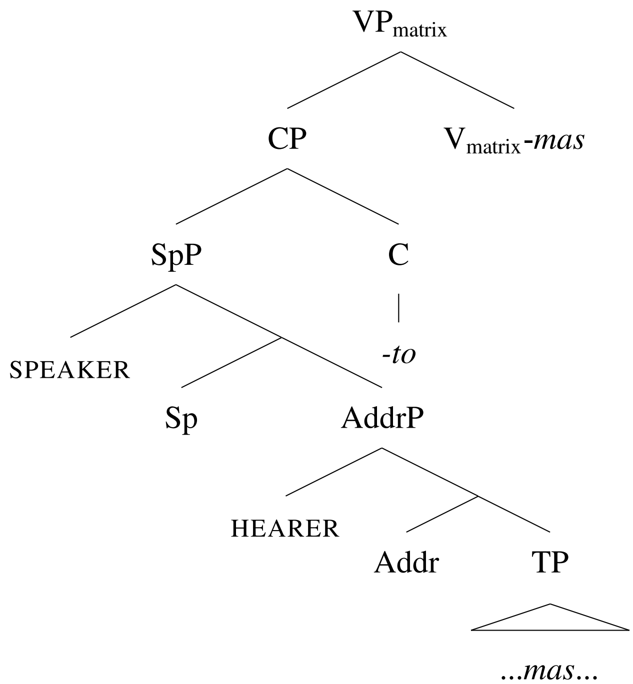
First, he proposed that *koto* is the head of MoodP which is projected right above TP as in (35), while the indirect speech *to* is a genuine complementizer which projects on the top of SpeakerP as in (36).

(35)




(Yamada, 2019: (71) in Chapter 5 )

(36)




(Yamada, 2019: (146) in Chapter 5 )

This hierarchical difference between *koto* and *to* was based on the fact that they may be stacked in some limited cases shown in (37). Notice that the order has to be *koto-to* as in (37a), but not *to-koto* as in (37b).

(37) a. [[Minasan genki-de irasshai-mas-u koto] to] zonji-masu.
everyone healthy-COP be.SH-UH-PRES COMP COMP know.SH-UH-PRES
'I think that everyone is in good health.'

b. * [[Minasan genki-de irasshai-mas-u to] koto] zonji-masu.
everyone healthy-COP be.SH-UH-PRES COMP COMP know.SH-UH-PRES
'I think that everyone is in good health.'

(Yamada, 2019: (11) in Chapter 5 )

Second, Yamada (2019) proposed the denotations of *koto* and *to* in (38). He assumed that *koto* and *to* relate the embedded proposition (= $p$) with an appropriate modal background (= $M$) of a certain perspective holder (= $x$) with inheriting the event semantics from the embedding predicate.

(38) a. $[\![\textit{koto}]\!] = \lambda p_{wt}.\lambda M_{\langle e,\langle v,wt\rangle\rangle\bullet\langle e,wt\rangle\rangle}.\lambda x_e.\lambda w_w.$
$$\begin{bmatrix} \lambda e_v.M_1(x)(e)(w) : \text{(event)} \ \wedge \\ \text{BEST}(M_2(x)(w)) \subseteq \{u : p(u)\} : \text{(modal background)} \end{bmatrix}$$
(Yamada, 2019: (86) in Chapter 5 )

b. $[\![\textit{to}]\!] = \lambda p_{wt}.\lambda M_{\langle e,\langle v,wt\rangle\rangle\bullet\langle e,wt\rangle\rangle}.\lambda x_e.\lambda w_w.$
$$\begin{bmatrix} \lambda e_v.M_1(x)(e)(w) : \text{(event)} \ \wedge \\ \text{BEST}(Dox(x)(w)) \subseteq \{u : p(u)\} : \text{(modal background)} \end{bmatrix}$$
(Yamada, 2019: (87) in Chapter 5 )

This idea follows Mari and Portner's (2021) formal semantic analysis of subjunctive and indicative mood in attitude verb complements of Italian and French. In contrast to the traditional assumption that attitude verbs provide a modal background for the embedded proposition, they assumed that complementizers are the functions which provide a modal background for the attitude verbs, and attitude verbs semantically serve as an argument of the complementizers. Yamada (2019) adoped Mari and Portner's (2021) idea and suggested that *koto* and *to* provide a modal backgound for the attitude verb.

In addition to the denotations of the two complementizers, he proposed the denotation of HEARER in (39a) and the denotation of SPEAKER in (39b), incoporating the enhancement effect and the commitment effect of embedded UHs shown in Section 2.4.2.1. Essentially, the HEARER, which he considers to be the source of the enhacenement effect, works as a function that takes a proposition and adds the respect object as a secondary meaning, as indicated in the second row of (39a). In the same vein, the SPEAKER, which he considers to be the source of the commitment effect, works as a function that takes a proposition and adds the speaker's commitment to the proposition as another secondary meaning, as indicated in the third row of (39b). Though I will not show the detailed semantic computations of a subordinate clause with SpeakerP and AddresseeP here for the sake of simplicity in the discussion, the final product of the semantic computation of an embedded clause with SpeakerP and AddresseeP will look like (40). It should be noted that the subscripts attached to *X* in (39b) refers to the rows in (39a).

(39) a. $[\![\text{HEARER}_{[\text{HON: +}]}]\!] = \lambda X. \begin{bmatrix} X\text{: (at-issue)} \\ \bullet \\ \lambda x.\langle x, 1, addr(c)\rangle\text{: (respect)} \end{bmatrix}$

(Yamada, 2019: (123) in Chapter 5 )

b. $[\![\text{SPEAKER}]\!]^c$

$= \lambda X_{\langle\langle e,\langle v,wt\rangle\rangle\bullet\langle e,wt\rangle,\langle e,\langle v,\langle w,t\bullet t\rangle\rangle\rangle\rangle\bullet e\varepsilon\rangle}.$

$$\lambda M_{\langle e,\langle v,wt\rangle\rangle\bullet\langle e,wt\rangle\rangle}. \begin{bmatrix} X_{[1]}(M)\text{: (at-issue)} \\ \bullet \\ X_{[2]}(sp(c))\text{: (respect)} \\ \bullet \\ X_{[1]}(M)(sp(c))(w_{@})\text{: (Commitment)} \end{bmatrix}$$

(Yamada, 2019: (127) in Chapter 5 )

(40) $[\![\text{SpeakerP}]\!]^c = \lambda M_{\langle e,\langle v,wt\rangle\rangle\bullet\langle e,wt\rangle\rangle}. \begin{bmatrix} [\![\text{MoodP}]\!]^c(M)\text{: (at-issue)} \\ \bullet \\ \langle sp(c), 1, addr(c)\rangle\text{: (respect)} \\ \bullet \\ [\![\text{MoodP}]\!]^c(M)(sp(c))(w_{@})\text{: (Commitment)} \end{bmatrix}$

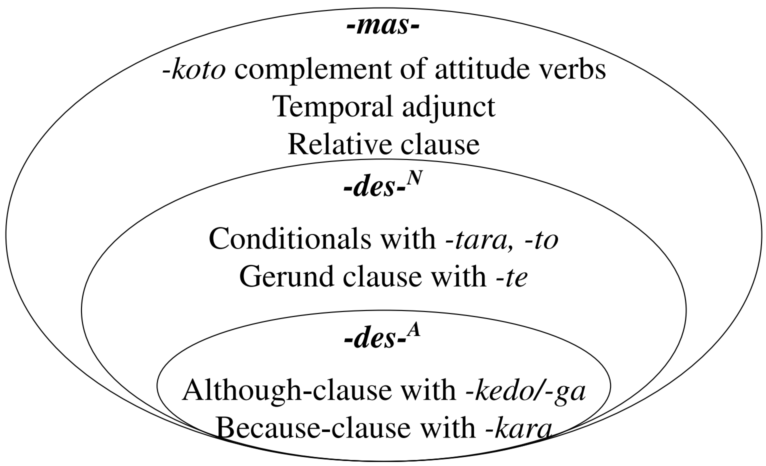
(Yamada, 2019: (128) in Chapter 5 )

Yamada (2019) assumed that the *to*-complementizer selects SpeakerP in syntax as in (36) and that the semantic prejacent of *to* has to be a proposition of type $wt$ as in (38b). However, the denotation of SpeakerP in (40) is not of type $wt$, which causes a type mismatch between SpeakerP and *to*-complementizer. In contrast, he assumed that the *koto*-complementizer selects a TP in syntax as in (35). Though he assumed that the *koto*-complementizer also requires the prejacent to be of type $wt$ as in (38a), it does not cause a type mismatch because *koto* syntactically selects TP, which is an element of type $wt$. Yamada (2019) argued that this type mismatch is the reason why *mas* cannot be embedded in an indirect speech *to*-clause, while *mas* may be embedded in a *koto*-clause.

### 2.4.3 Tomioka and Ishii (2022)

Though Yamada's (2019) analysis nicely explains the unembeddability of UHs in indirect speech *to*-clauses, his analysis was not clear about why the three morphological variants of UH markers show different patterns of embeddability observaed in Section 2.3. Recall that the embedding patterns of the three UH markers show a (proper) subset-superset relationship repeated in (41). Based on this distributional patterns of embedded UHs, Tomioka and Ishii (2022) argued against the embeddable cP analysis.

(41) Embedding patterns of *mas*, $des^N$ and $des^A$ (Tomioka and Ishii, 2022; (22))




Tomioka and Ishii (2022) argued that this distributional patterns of embedded UH markers cannot be easily accommodated by the assumption that cP (or its equivalent) is embeddable because if a UH hosting subordinate clause may embed the special layer for UHs, that subordinator should be able to host all the variants of UHs. For instance, if relative clauses or *koto*-clauses, in which only *mas* can be embedded, are equipped with their own cP, it is hard to explain why they cannot host $des^N$ and $des^A$.

They also pointed out that the lack of a shared 'root-like' property among the subordinators in (41) is also problematic for the embeddable cP analysis. In general, the embeddable cP analysis assumes that UH embedding is an instance of embedded root clause phenomena. If it is the case, there should be a shared root-like property among the UH hosting subordinate clauses, given the previous literature on embeded root clause phenomena (e.g., Emonds, 1970; Hooper and Thompson, 1973; Haegeman, 2006; 2012; Heycock, 2017). However, such a shared ‘root-like’ property cannot be found among the subordinators in (41). For instance, relative clauses are not known to have strong root-like characteristics even though they can embed *mas*.

Hence, Tomioka and Ishii (2022) considered that the embedded UHs are licensed by a different way from local agreement with the embedded addressee, retaining the assumption that cP is generally unembeddable. In the following subsections, I will review their account for the distributional patterns of embedded UHs and their proposal for the licensing of embedded UHs without embedded cP.

#### 2.4.3.1 The Structure-Embeddability Corresponding Scheme

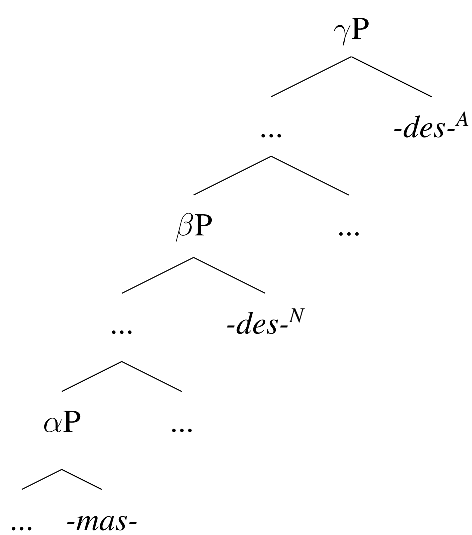
To account for the distributional patterns of embedded UHs, Tomioka and Ishii (2022) proposed the structure–embeddabiltiy correspondence scheme in (42).

(42) The structure-embeddability correspondence scheme

a. Different embedders target clauses of different sizes.

b. The three UH markers occupy different syntactic positions at the Spell-Out: *des*$^A$ is in the highest position, followed by *des*$^N$ and *mas*.

c.




Their analysis suggests that the subordinators which select $\alpha$P in (42) can host *mas* but not the other two. On the other hand, the subordinators which select $\beta$P in (42) can host *mas* and *des*$^N$ but not *des*$^A$. The subordinators which select $\gamma$P in (42) can host all variants of UHs.

| | *mas* | $des^N$ | $des^A$ | *kak-* 'to write' |
|---|---|---|---|---|
| Mizen-kei (pre-negation form) | *mase* | ∅ | ∅ | *kaka* |
| Ren'yoo-kei (continuous form) | *mashi* | *deshi* | ∅ | *kaki* |
| Rentai-kei (adnominal form) | *masu* | *desu* | *desu* | *kaku* |
| Shuushi-kei (conclusive form) | *masu* | ∅ | ∅ | *kaku* |
| Katei-kei (*ba*-conditional form) | ∅ (*masure*) | ∅ | ∅ | *kake* |
| Meirei-kei (imperative form) | *mase, mashi* | ∅ | ∅ | *kake* |

Table 2.2: Conjugational Paradigms of Japanese UHs

Furthermore, Tomioka and Ishii (2022) suggested that *mas* is generated around *v*P-region, $des^N$ is realized around TP-region and $des^A$ is instantiated at cP, associating the richness of their conjugational forms with the difference of their syntactic positions.[5] Predicative elements in Japanese, including UHs, change their morphological forms depending on the following syntactic element, which is called *katsuyoo-kei* 'conjugational forms' in the traditional Japanese grammar. The conjugational paradigms of the three UH markers are summarized in Table 2.2. The conjugation of a lexical verb *kak-* 'to write' is included as a reference point.[6] As seen in Table 2.2, *mas* retains almost all the conjugational patterns, while $des^N$ and $des^A$ are very limited in their conjugations. Tomioka and Ishii (2022) took this observation to mean that *mas* is closer to a lexical category while $des^N$ and $des^A$ are closer to a functional category, suggesting three different syntactic positions for *mas*, $des^N$ and $des^A$.

[5] A similar type of approach to associate the conjugational patterns to syntactic size of a phrase has been pursued to explore the morphosyntax of Japanese predicates by Nishiyama (1999; 2016), Mihara (2015), or Tagawa (2009).

[6] It might sound weird for the readers who know conjugations in Romance languages to call the morphological changes in Table 2.2 a conjugation because Japanese conjugation is not reflecting the person, number, or gender of the subject. Rather, the triggers of the morphological change are a mixture of different grammatical functions. Though this question is also debated by traditional Japanese grammarians, I will stick on to the conjugational paradigm of Japanese school grammar in this thesis for the sake of discussion.

#### 2.4.3.2 Long Distance Agreement Approach to Embedded UH

As an account for the licensing of embedded UHs without an embedded cP, Tomioka and Ishii (2022) proposed a long distance agreement analysis using the Interaction-Satisfaction model of Agree by Deal (2015; 2020; 2021; 2022). Under the Interaction-Satisfaction model of Agree, the probe has two feature specifications; one is [int: ] determining which feature is the goal for the probe and the other is [sat: ] determining which feature stops the probing operation. They assumed that Japanese c-head is an insatiable probe which does not halt the probing process until it searches the whole structure, and agrees with all the instances of UHs in the structure. Their proposal is schematized in (43).

(43) $[_{cP}$ Spkr, Addr $[_{CP_{matrix}}$ ... $[_{CP_{embedded}}$ ...[UH]... ] ...[UH]... ] $c_{[\text{INT: UH, SAT:-}]}$ ]

Licensing via Agree

This proposal was aiming to capture the lack of minimality in the licensing of embedded UHs shown in (44), which contains two *koto*-clauses. Example (44) is acceptable even though the innermost one is UH-marked (bold faced) while the intermediate one is not (italicized). Note that the most deeply embedded *mas* still encodes the deferential attitude of the speaker in the utterance context toward the addressee in the utterance context along with the matrix UH marking.

(44) Watakushi-wa [ [ sensei-ga okaerininari-**mashi**-ta koto]-ni musuko-ga
I-TOP teacher-NOM return.SH-UH-PAST COMP-DAT son-NOM
kizuka-zu-ni *i-ta* koto]-o zan'nen-ni omot-te-ori-mas-u.
notice-NEG-DAT be-PAST COMP-ACC regretful-DAT think-CV-PROG-UH-PAST
'I regret (polite) that my son didn't realize (plain) that the professor left (polite)'

(Tomioka and Ishii, 2022; (35))

For this type of examples, they assumed that the intermediate *koto*-clause simply lacks the UH feature to agree with the matrix cP. Since traditional model of Agree cannot handle this lack of minimality, they adopted Deal's model of Agree. Under the Interaction-Satisfaction Model of Agree, the lack of UH feature in the intermediate clause will not stop the probing process.

#### 2.4.3.3 Embedded UH as a Honorific Concord

Tomioka and Ishii's (2022) hunch behind their long distance agreement analysis was that UH embedding is a kind of concord phenomena similar to negative concord (Zeijlstra, 2004; Deal, 2022) or modal concord (Geurts and Huitink, 2006; Zeijlstra, 2007). This idea is couched in their observation that the enhancement effect of the embedded UH is not as clear as Yamada (2019) observed. For instance, in the case like (45) which has two subordinate clauses, the speaker can choose to use a UH marker for both of the embedded verbs, either one of them, or neither of them. If the enhancement effect of embedded UHs is obtained by the cummulative calculation of each UH marker (i.e., by counting how many times the speaker uses UHs) as Yamada (2019) suggested, it is expected that the politeness level of the utterance will be elevated in the order of "neither $<$ either $<$ both". However, Tomioka and Ishii (2022) reported that they do not see such a difference among these combinations. To my ear, there is no big difference of the poliness level between either and both.

(45) [$_{CP}$ [$_{RC}$ Sensei-ga okaki-ni {nat-ta / nari-mashi-ta} ]
Teacher-NOM write.SH-DAT {become-PAST / become-UH-PAST}
go-hon-ga shuppan-no hakobi-ni {nat-ta / nari-mashi-ta}
HON-book-NOM publish-GEN plan-DAT {become-PAST / become-UH-PAST}
koto]-no kinen-ni, oiwai-no kai-o hiraki-taku
COMP-GEN commemoration-DAT celebration-GEN party-ACC hold-want
zonji-mas-u.
think.SH-UH-PRES
' For the commemoration of the occasion that the book that the professor wrote will now be published, we would like to host a celebration.'

(Tomioka and Ishii, 2022; (54))

They further suggested that the use of embedded UHs may be derived from the speaker's desire to express the polite attitude to the addressee in the early stage of the speech. Given the fact that Japanese is a verb final language, the crucial UH marking always comes at the end of a sentence. However, when a sentence has embedded clauses, it will take long to reach the end. Thus, the speaker may choose to use UHs at the embedded predicate to avoid

| | Miyagawa (2022) | Yamada (2019) | Tomioka and Ishii (2022) |
|---|---|---|---|
| What is UH? | Addressee agreement | Addressee agreement | Feature on predicates which agrees with the c-head |
| Is cP embeddable? | No | Yes | No |
| How is an embedded UH marker licensed? | By agreement with [ADDR] feature associated with C | By agreement with the embedded addressee | By long distance agreement with the matrix c-head |

Table 2.3: Summary of the Previous Analyses of Japanse UHs and their Embedding

the risk to harm the social relationship with the addressee. In this thesis, I will adopt this view to build the theory of UHs in Chapter 5.

### 2.4.4 Section Summary and Research Questions

To summarize, the theories of Japanese UH embedding proposed in the previous literature all assumed that UHs are some instances of agreement with an element in cP, but they differ in the following two aspects: (i) whether cP can be freely embedded in Japanese and (ii) how embedded UHs are licensed. Miyagawa (2022) proposed that cP is generally unembeddable, but some subordinators can be associated with [ADDR] $\phi$-feature which locally agrees with the embedded UH maker. In contrast, Yamada (2019) assumed that cP can be embedded in Japanese and embedded UHs are licensed via local agreement with the embedded addressee argument. Tomioka and Ishii (2022) retained the assumption that cP is generally unembeddable, and proposed that embedded UHs are licensed via long distance agreement with the matrix cP. The main points of the previous analyses are summarized in Table 2.3.

Yet, each proposal faces different issues. For instance, Yamada's (2019) analysis nicely explains the contrast of UH embeddability in *koto*-clauses and indirect speech *to*-clauses, however, it was not clear about the embedding patterns of the three UH markers as Tomioka and Ishii (2022) claimed. If the subordinators that can host *mas* is equipped with its own cP, it is expected that all the morphological variants of UHs can be hosted by the subordinator in contrast to the fact. The same argument applies to Miyagawa's (2022) analysis; if *koto*-clause can be associated with the [ADDR] $\phi$-feature, it is unclear why $des^N$ and $des^A$ cannot be embedded in a *koto*-clause. In addition, Miyagawa (2022) was not clear about what property of complemetizers allows or disallows the [ADDR] $\phi$-feature to be associated with a subordinator. In contrast, Tomioka and Ishii's (2022) analysis can capture the difference of embeddability in the three UH markers, however, their long distance agreement system looks peculiar given the fact that agreement usually has a locality restriction.

Based on the discrepancies in the previous literature and the embedding patterns of the three UH markers, the central question of this thesis — why Japanese UHs can be embedded relatively freely — will be broken down into the four subquestions in (46).

(46) Research Questions

RQ1: Is the embeddability of UHs due to the embeddability of cP in Japanese?

RQ2: How are embedded UHs licensed?

RQ3: How is the consistency requirement satisfied?

RQ4: Why does the three UH markers show different embedding patterns?

In the following chapters, I will address these subquestions. Chapter 3 answers to RQ1 by presenting two empitical issues of the embeddable cP analysis, arguing for the traditional assumption that cP is generally unembeddable in Japanese. Chapter 4 offers partial answers to RQ2 and RQ3 based on the results of two psycholinguistic experiments which showed no positive evidence for the long ditstance agreement to license embedded UH marking. For RQ4, I largely adopt the structure–embeddability correspondence scheme by Tomioka and Ishii (2022) and build a theory of Japanese UH marking in Chapter 5.

# Chapter 3

# ISSUES WITH EMBEDDABLE cP APPROACH

This chapter focuses on RQ1 whether the embeddability of Japanese UHs is due to the embeddability of cP or not. I argue that cP is generally unembeddable in Japanese by pointing out two major empirical issues of the embeddable cP analysis. In section 3.1, I will compare the embedding patterns of the three UH markers with the embedding patterns of three other typical root clause phenomena in Japanese, aiming to show that Japanese UH marking is not a root clause phenomenon. In section 3.2, I will compare Japanese UH embedding to embedded allocutive agreement in Magahi with a special focus on the shift of embedded allocutivity and indexicals. This comparison builds on the series of influential works on embedded allocutivity in Magahi by Deepak Alok and Mark Baker.

## 3.1 Comparison to Embedding of Other Root Clause Phenomena in Japanese

This comparison builds on the theoretical intuition behind the embeddable cP analysis that Japanese UH embedding constitutes an instance of embedded root clause phenomena. This idea stems from Miyagawa's (2012; 2017; 2022) claim that UH marking in Japanese is a root clause phenomenon.

In the previous literature on embedded root clause phenomena (Emonds, 1970; Hooper and Thompson, 1973; Haegeman, 2006; 2012; Heycock, 2017 among others), it has been argued that subordinators that may host root clause phenomena share some root-like properties. For instance, Hooper and Thompson (1973) catagorized complement clauses of attitude verbs according to the semantics of the selecting predicate, and examined which complement clauses may host root clause phenomena. They concluded that the crucial factor for embedded root clause phenomena is whether the complement clause is being "asserted" or not (i.e., whether the complement clause is the core meaning of the sentence or not), though they admitted that they cannot provide a fixed definition of an assertion. As another example, Haegeman (2012) proposed a distinction between central and peripheral adverbial clauses based on her examination of conditionals, arguing that the latter but not the former may host root clause phenomena. According to her, the peripheral adverbials have a root-like property in the sense that they express a speech act independent of the matrix clause, while the central adverbials lack such a property.

Thus, within the tradition of research on embedded root clause phenomena, the embeddable cP analysis predicts that the embedding pattern of UH markers should show a similar pattern to the embedding of other root clause phenomena because the subordinators that may host root clause phenomena should have a shared root-like property. To test this prediction of the embeddable cP analysis, this section examines the embedding patters of three other root clause phenomena in Japanese: a sentence final particle *-yo*, the epistemic modal marker *-daroo*, and the thematic topic marker *-wa*.

### 3.1.1 Embedding of Sentence Final Particle *-yo*

Let us start our observation with the embeddability of sentence final particles that are associated with the local discourse participants. Though there are several types of sentence final particles in Japanese such as *-yo, -ne, -na*, which give different discourse effects to the attached sentence, this section will focus on the embedding of *-yo*-marked declaratives with a falling tone, which is one of the most extensively studied in the literature (e.g., McCready, 2005; 2009; Davis, 2009; 2011; McCready and Davis, 2020). According to Davis (2011), a *yo*-marked declarative sentence with propositional content $p$ is used when the speaker attempts to get the addressee to drop a commitment to $\neg p$ and replace it with a commitment to $p$. This property of *-yo* can be observed in (1).

(1) A: Sakki John-ga kaet-ta.
just.now John-NOM went.home
'John just went home.'

B: Uso!
lie
'No way!'

A: kaet-ta yo↓.
went.home SFP
'He went home, man.'

(Davis, 2009: (49) in Chapter 2, modified)

Regarding the syntax of sentence final particles in Japanese, Tenny (2006) associated them with the Speech Act Projection by Speas and Tenny (2003), and suggested that they are sitting in the Speech Act head.

The distribution of *-yo* (and other sentence final particles, actually) is strictly restricted to root clauses. As shown in the examples below, it can only be embedded in a direct speech *to*-clause, and other embedders which can host UHs reject it. This distributional pattern of Japanese sentence final particle *-yo* is similar to Korean speech style particles analyzed by Portner et al. (2019). It should be noted that the embedded *-yo* in a direct speech *to*-clause expresses that the speaker in the *reported* speech context attempts to get the addressee in the *reported* speech context to drop his/her commitment to the embedded proposition.

(2) *to*-clause of verbs-of-saying (direct speech context)

Mari-wa [Ken-wa moo kaet-ta **yo** to] it-ta.
Mari-TOP Ken-TOP already go.home-PAST SFP COMP think-PAST

'Mari said "Ken has gone home already". '

(3) *to*-clause of verbs-of-thinking (indirect speech context)

Mari-wa [Ken-ga moo kaet-ta **(*yo)** to] omotte-iru.
Mari-TOP Ken-NOM already go.home-PAST SFP COMP think-PROG

'Mari thinks that Ken has gone home already.'

(4) *koto*-clause

Mari-wa Ken-ni [Nanako-ga moo kaet-ta **(*yo)** koto]-o tsutae-ta.
Mari-TOP Ken-DAT Nanako-NOM already go.home-PAST SFP COMP tell-PAST

'Mari told Ken that Nanako has gone home already.'

(5) Relative Clause

[Yoko-ga kari-ta (***yo)** ] kuruma
Yoko-NOM borrow-PAST SFP car

'a/the car that Yoko rented. '

(6) Temporal Adjunct

[Nanako-ga sotsugyoo-shi-ta **(*yo)** toki], ryooshin-wa totemo yorokon-da.
Nanako-NOM graduate-do-PAST SFP when parents-TOP very please-PAST

'When Nanako graduated, her parents were very happy.'

(7) Conditional

[Erika-ga kesseki-sur-u **(*yo)** to], minna gakkari-suru-daroo.
Erika-NOM absence-do-PRES SFP if, all dissapoint-do-EVID

'If Erika does not show up, everyone will be disappointed.'

(8) Because-clause

[Mari-wa ryoori-ga suki-da **(*yo)** kara] Kei-wa furaipan-o
Mari-TOP cooking-NOM fond-COP SFP because Kei-TOP frying.pan-ACC
okut-ta.
send-PAST

'Because Mari likes cooking, Kei send (her) a frying pan.'

As seen in the examples above, the embeddability of the sentence final particle *-yo* is drastically different from the embeddability of UHs. If we assume that the sentence final particles are an instantiation of the c-head by Portner et al. (2019) extending Tenny's (2006) suggestion, the embeddable cP analysis will face a difficulty to explain this distributional pattern of sentence final particles in Japanese.

### 3.1.2 Embedding of Evidential *daroo*

Another root clause phenomenon related to the speaker of the local speech act is the epistemic modal *daroo*, which is extensively discussed by Hara (2006; 2018) and Hara and Davis (2013). For the purpose of this section, I will focus on the embedding of *daroo*-declaratives with a falling tone. When *daroo* with a falling tone is attached to a declarative sentence with propositional content $p$, it encodes the speaker's bias that $p$ is more likely than $\neg p$, as shown in (9).

(9) John-ga ku-ru daroo.
John-NOM come-PRES DAROO
'John is coming, I bet. $\approx$ Probably, John is coming.' (Hara and Davis, 2013: (1))

In (9), *daroo* indicates that the speaker in the utterance context has a positive bias toward the proposition that John is coming.

*Daroo* can be embedded in both direct speech and indirect speech *to*-clauses as shown in (10). When it is embedded in a *to*-clause, it indicates that the agent of the matrix verb (= the speaker of the reported speech) has a positive bias towards the embedded proposition.

(10) *to*-clause

a. Direct speech context

Mari-wa [Ken-wa moo kaet-te-i-ru daroo to] it-ta.
Mari-TOP Ken-TOP already go.home-CV-be-PRES DAROO COMP say-PAST
'Mari said "Ken has probably gone home already".'

b. Indirect speech context

Mari-wa [Ken-wa moo kaet-ta daroo to]
Mari-TOP Ken-TOP already go.home-PAST DAROO COMP
omot-te-ir-u.
think-CV-PROG-PRES
'Mari thinks that Ken has probably gone home already.'

In both (10a) and (10b), the embedded *daroo* indicates that Mari has the bias that Ken is likely to have already returned to home.

In contrast to *to*-clauses, *daroo* in a *koto*-clause is generally unacceptable as shown in (11). To my ear, it sounds slightly better if the matrix predicate does not strongly require its *koto*-complement clause to be factive as in (11b). However, compared with the sentence without the embedded *daroo*, (11b) sounds worse.

(11) *koto*-clause

a. Mari-wa [Ken-ga moo kono jikan-ni-wa kaet-te-i-ru
Mari-TOP Ken-NOM already this time-DAT-TOP go.home-CV-be-PRES
(*daroo) koto]-o shit-te-i-ta.
DAROO COMP know-CV-be-PAST
'Mari knew that Ken has probably gone home already by this time.'

b. Mari-wa [Ken-ga moo kono jikan-ni-wa kaet-te-i-ru
Mari-TOP Ken-NOM already this time-DAT-TOP go.home-CV-be-PRES
(??daroo) koto]-o kitaishi/wasure-te-i-ta.
DAROO COMP expect/forget-CV-be-PAST
'Mari expects Ken to come home by this time. / Mari has forgotten that Ken should probably be home by this time.'

Same as *koto*-clauses, relative clauses and temporal adjuncts cannot host *daroo* as shown in (12) to (13), which contrasts with the embeddability of *mas*. In addition, *daroo* cannot be embedded in conditional clauses with *to* as shown in (14), which contrasts with the embeddability of *mas* and $des^N$.

(12) Relative Clause

[Mari-ga kau (*daroo)] kuruma
Mari-NOM buy DAROO car

Intended: 'The car that Mari would probably buy.'

(13) Temporal Adjunct

[Mari-ga ku-ru (*daroo) koro]-ni kaet-te ki-mas-u.
Mari-NOM come-PRES DAROO when-DAT return-CV come-UH-PRES

Intended: 'I will be back when Mari will probably come.'

(14) Conditional with *to*

[Erika-ga kesseki-suru (*daroo) to], minna gakkari-suru.
Erika-NOM absence-do DAROO if, all dissapoint-do

'If Erika probably does not show up, everyone will be disappointed.'

The embedding of *daroo* in because-clauses is sensitive to the semantic type of the because-clause. A because-clause expressing a causal explanation in the sense of Davidson (1963) can host *daroo* as in (15a), while a because-clause that corresponds to Davidson's singular causal statement (15b) cannot embed *daroo*. The former works as an explanation of what causes the event denoted by the main clause, while the latter expresses a natural course of events which does not involve any decision making process.[1]

(15) Because-clause

a. [Mari-wa ryoori-ga suki daroo kara] watashi-wa furaipan-o
Mari-TOP cooking-NOM fond DAROO because I-TOP frying.pan-ACC
okut-ta.
send-PAST
'Because Mari probably likes cooking (I bet), I send (her) a frying pan.'

b. * [Mari-ga koron-da daroo kara] mae-o arui-te-i-ta
Mari-NOM fall-PAST DAROO because front-ACC walk-CV-PROG-PAST
Ken-mo koron-da.
Ken-also fall-PAST
'Because Mari propably fell (I bet), Ken, who was walking in front of her, also fell.'

UH embedding does not show this kind of sensitivity to the semantic differences in embedding contexts. As shown in (16), both cases can embed UH as long as the consistency

[1] Another interesting observation of *daroo* in because-clauses is the non-shiftability of the agent of bias. Hara (2006) reported that the agent of the bias encoded by *daroo* under *kara*-clauses is obligatorily the speaker in the utterance context, and it never shifts. In other words, (i) cannot mean that John's assessment of the likelihood of rain causes him to bring an umbrella. It only means that John took his umbrella because of the utterance speaker's assessment of the likelihood of rain. This observation contrasts with *daroo* under *to*-clauses which encodes the bias of the speaker in the reported speech context.

(i) ?? John-wa [ame-ga furu daroo kara] kasa-o mot-te it-ta.
John-NOM rain-NOM fall DAROO because unmbrella-ACC bring-CV go-PAST
'Because it will rain (I bet), John took an umbrella with him.'

(Hara, 2006: (18) in Chapter 5)

requirement is satisfied.

(16) a. [Mari-wa ryoori-ga suki desu kara] watashi-wa furaipan-o
Mari-TOP cooking-NOM fond UH because I-TOP frying.pan-ACC
okuri-mashi-ta.
send-UH-PAST
'Because Mari likes cooking (honorific), I send (her) a frying pan (honorific).'

b. [Mari-ga korobi-mashi-ta kara] mae-o arui-tei-ta
Mari-NOM fall-UH-PAST because front-ACC walk-CV-PROG-PAST
Ken-mo korobi-mashi-ta.
Ken-also fall-UH-PAST
'Because Mari fell (honorific), Ken, who was walking in front of her, also fell (honorific).'

### 3.1.3 Embedding of Thematic Topic *-wa*

Lastly, I would like to show one more root clause phenomenon in Japanese, the thematic topic *-wa*. In the literature, it has been reported that the thematic topic *-wa* exhibits the 'half-full/half-empty' dilemma: it is generally restricted to a root clause, but can be hosted by a limited number of embedded clauses being sensitive to its type (e.g., Ueyama, 2007; Heycock, 2008; Tomioka, 2015 among others). Thus, it should be a good candidate to be compared with the embedding patterns of UHs.[2]

As shown in (17) and (18), both *to*-clause and *koto*-clause can host the thematic topic *-wa*. Unlike UHs, indirect speech *to*-clauses can also embed thematic *-wa* as well as direct speech *to*-clauses and *koto*-clauses.

[2] Some might think that the comparison between embedding patterns of thematic *-wa* and UH will be a direct evidence to dismiss the embeddable cP analysis as the thematic topic *-wa* is not necessarily associated with the Speaker/Addressee arguments in the left clause periphery in the previous literature. My intention here is to show that how the distribution of UH embedding is different from the other canonical embedded root clause phenomena in Japanese.

(17) *to*-clause

a. Direct Speech context (complement of verbs-of-saying)

Mari-wa [Ken-**wa** moo kaet-ta to] it-ta.
Mari-TOP Ken-TOP already go.home-PAST COMP say-PAST

'Mari said "Ken has gone home already".'

b. Indirect Speech context (complement of verbs-of-thinking)

Mari-wa [Ken-**wa** moo kaet-ta to] omot-te-i-ru.
Mari-TOP Ken-TOP already go.home-PAST COMP think-CV-PROG-PRES

'Mari thinks that Ken has gone home already.' (Tomioka, 2015: (2a))

(18) *koto*-clause

Kana-wa [Nanako-**wa** moo kaet-ta koto]-o shitte-iru.
Kana-TOP Nanako-TOP already go.home-PAST COMP think-PROG

'Kana knows that Nanako has gone home already.' (Tomioka, 2015: (2c))

In contrast to the complement clauses of attitude verbs, relative clauses and temporal adjuncts cannot host thematic *-wa*, as shown in (19) and (20). Recall that these contexts can host *mas* and the past tense form of *des*$^N$. Similarly, thematic *-wa* cannot be embedded in conditionals and gerundive clauses as shown in (21) and (22).[3] Recall that *mas* and *des*$^N$ can

[3] Tomioka (2015) noted that *noda*-based conditional in (i) may host thematic *-wa*. The crucial difference between *noda*-based conditional and the plain conditionals in (19) is that *noda*-based conditional is presented from the addressee's point of view. Based on this observation, Tomioka (2015) suggested that conditionals may host thematic *-wa* if a point-of-view holder is explicitly mentioned or clear in the discourse.

(i) Context: Someone just told you that in Northern Europe, it is bright almostall day in summer

Chotto soozoo-deki-nai-naa. [Moshi, hontoo-ni kimi-ga iu-yooni
A.little imagine-can-NEG-SFP. If indeed you-NOM say-way-DAT
hokuoo-no natsu-**wa** yoru-ga mijikai-n-dat-tara],
Nothern.Europe-GEN summer-TOP night-NOM short-NML-COP-if,
hokuoo-no hito-wa fuminshoo-ni naru-n-ja-nai?
Nothern.Europe-GEN people-TOP insomnia-DAT become-NML-COP-NEG

'It is hard to imagine! If a summer night in Nothern Europe is indeed so short, the people there suffere from insomnia, don't they?' (Tomioka, 2015: (8))

be hosted by these subordinators.

(19) Relative Clause

[Yoko-{ga / ***wa**} kari-ta] kuruma
Yoko-NOM / TOP borrow-PAST car

'a/the car that Yoko rented. ' (Tomioka, 2015: (9a))

(20) Temporal Adjunct

[Nanako-{ga / ***wa**} sotsugyoo-shi-ta-toki], ryooshin-wa totemo yorokon-da.
Nanako-NOM / TOP graduate-do-PAST-when parents-TOP very please-PAST

'When Nanako graduated, her parents were very happy.' (Tomioka, 2015: (4a))

(21) Conditional

a. [Erika-{ga / ***wa**} kesseki-suru to], minna gakkari-suru-daroo.
Erika-NOM / TOP absence-do if, all dissapoint-do-EVID
'If Erika does not show up, everyone will be disappointed.'

(Tomioka, 2015: (4c))

b. [Erika-{ga / ***wa**} kesseki-shi-tara], minna gakkari-suru-daroo.
Erika-NOM / TOP absence-do-if, all dissapoint-do-EVID
'If Erika does not show up, everyone will be disappointed.'

(22) Gerundive clause

a. [Yoshida-sensei-{ga / ***wa**} kaikai-no aisatsu-o shi-te] sono
Yoshida-professor-NOM / TOP start-GEN greeting-ACC do-GERUND that
gakkai-wa hajimat-ta.
conference-NOM start-PAST
'The conference started after Prof. Yoshida made opening remarks. '

b. [Tsuma-{ga / **?wa**} Amerikajin de] sorede, ie-de-mo
wife-NOM / TOP American GERUND that.is.why home-LOC-also
eigo-o tsukat-te i-ru.
English-ACC use-CV be-PRES
'My wife being American, I speak Englsih at home.'

---

For the purpose of this section, an important take-away from this observation is that embedded UHs are not sensitive to this type of semantic difference in conditionals.

Finally, the embedding of thematic *-wa* in because-clauses is sensitive to the difference of causal explanations and singular causal statements by Davidson (1963), just as the embedding of *daroo* is. Tomioka (2015) reported that because-clause with the former interpretation in (23a) can host *-wa* while because-clause with the latter interpretation in (23b) cannot.

(23) Because-clause

a. [Mari-**wa** ryoori-ga suki-da kara] Kei-wa<br>
Mari-TOP cooking-NOM fond-be-because Kei-TOP frying.pan-ACC<br>
furaipan-o okut-ta.<br>
send-PAST<br>
'Because Mari likes cooking, Kei send (her) a frying pan.'

(Tomioka, 2015: (3a) modified)

b. [Mari-{ga / ***wa**} koron-da kara] mae-o arui-tei-ta<br>
Mari-NOM / TOP fall-PAST because front-ACC walk-CV-PROG-PAST<br>
Ken-mo koron-da.<br>
Ken-also fall-PAST<br>
'Because Mari fell, Ken, who was walking in front of her, also fell.'

(Tomioka, 2015: (3b) modified)

As I mentioned in Section 3.1.2, this semantic difference of because-clause does not affect the embeddability of UHs. As long as the consistency requirement is satisfied, UHs can be embedded as we saw in (16).

### 3.1.4 Section Summary

In this section, I have shown how the embedding patterns of other root clause phenomena in Japanese are different from the embedding patterns of UHs, which is summarized in Table 3.1. The sentence final particle *-yo* shows the most restricted distribution which is similar to Korean speech style particles. The epistemic modal *daroo* and the thematic topic *-wa* exhibit a "half-full/half-empty" pattern, but their embedding patterns are radically different from the embeddability of *mas* and $des^N$. Especially, *daroo* and *-wa* cannot be embedded in relative clauses, *to*-conditional clauses, and gerundive *te*-clauses, while *mas* and

| | *-yo* | *daroo* | *-wa* | *mas* | *des*$^N$ | *des*$^A$ |
|---|---|---|---|---|---|---|
| Direct Speech *to*-clause | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Indirect Speech *to*-clause | * | ✓ | ✓ | * | * | * |
| *Koto*-complement clause | * | * | ✓ | ✓ | (*) | * |
| Relative clause / Temporal Adjuncts | * | * | * | ✓ | (*) | * |
| Conditional with *to* | * | * | * | ✓ | ✓ | * |
| Gerundive clause with *te* | * | – | * | ✓ | ✓ | * |
| Because-clause with *-kara* | * | (✓) | (✓) | ✓ | ✓ | ✓ |

Table 3.1: Summary of Embedded Root Clause Phenomena in Japanese

(*) means that the present tense form cannot be embedded but the past tense form can be embedded. (✓) means that the embeddability depends on the semantic type of the subordinate clause.

the past tense form of *des*$^N$ can be embedded in these contexts. This observation contradicts with the prediction of the embeddable cP analysis that the embedding patterns of UHs should show a similar pattern to embedding of other root clause phenomena; rather, this drastic difference in the embedding patters suggests that Japanese UH embedding is not a root clause phenomenon.

Among the three UH markers, only *des*$^A$ shows a similar pattern to the other embedded root clause phenomena. I consider that this supports Tomioka and Ishii's (2022) idea that *des*$^A$ occupies the highest position among the three UH markers, and the direct speech *to*-clause and because-clause embed a relatively large phrase structure including cP. To explain the unembeddability of the sentence final particle *-yo*, I assume that the sentence final particles are generated at the higher position than cP, like UtteranceP, following Tomioka and Ishii's (2022) analysis of the difference between *des*$^A$ and Korean speech style particles.

### 3.2 Comparison to Embedded Allocutive Agreement in Magahi

In this section, I will compare Japanese UH embedding to embedded allocutive agreement in Magahi with a special focus on the shift of embedded allocutivity and indexicals. To begin with, I would like to provide the background for this comparison between Japanese UHs and allocutive agreement in Magahi.

Recent crosslinguistic studies on allocutivity have reported that some languages allow the embedding of allocutive marking (e.g., Magahi (Alok and Baker, 2018; Alok, 2020; 2021; Baker, submitted), Tamil (McFadden, 2020; McFadden and Sundaresan, 2021), Punjabi (Kaur and Yamada, 2019; Kaur, 2020), a Southern dialect of Basque (Haddican and Etxeberria, 2022) among others). The studies listed above consistently argue that, in these languages, the speaker/addressee arguments are embedded when an allocutive marking is embedded, similarly to Yamada (2019). Thus, the embeddable cP analysis predicts that embedded UHs in Japanese should show a similar behavior to the embedded allocutive marking in other languages.

In this section, I will take the series of influential works on embedded allocutivity in Magahi by Deepak Alok and Mark Baker as a reference point and compare the behavior of embedded allocutivity in Magahi to embedded UHs in Japanese, aiming to show that the embeddable speaker/addressee assumption does not work well with embedded UHs in Japanese. In section 3.2.1, I will introduce the the basics of allocutive marking in Magahi. Section 3.2.2 will show the behavior of embedded UHs with respect to its shift in embedding contexts.

### 3.2.1 Setting a Stage

#### 3.2.1.1 Basics of Allocutive Marking in Magahi

Magahi is an Indo-Aryan language of Northeastern India. It has been reported that Magahi has three types of allocutive marking depending on the honorific status of the addressee (see Alok and Baker, 2018; Alok, 2020; 2021; Alok and Haddican, 2022) as in (24). (24a) is the baseline sentence, which does not have any allocutive marking. The morpheme *-au* in (24b) indicates that the listener is non-honorific to the speaker. The morpheme *-o* in (24c) is used when the addressee is honorific, and the morpheme *-ain* in (24d) is used when the addressee is high honorific to the speaker. According to Alok (2021), the use of allocutive marking is basically optional same as Japanese.[4]

[4] This contrasts with the addressee agreement in Tamil which is obligatory in any root clause. (see McFadden, 2020).

(24) a. Ham jaa-it h-i-∅.
I go-PROG be-1SG
'I am going.' (not allocutive, sayable to anyone)

b. Ham jaa-it h-i-**au**.
I go-PROG be-1SG-NH.AL
'I am going.' (addressee non-honorific, a peer)

c. Ham jaa-it h-i-**o**.
I go-PROG be-1SG-H.AL
'I am going.' (addressee honorific,.e.g. a parent, grandparent)

d. Ham jaa-it h-i-**ain**.
I go-PROG be-1SG-HH.AL
'I am going.' (addressee high honorific: a king, priest, professor)

Alok (2020) also reported that allocutive marking in Magahi is not a root clause phenomenon as they may occur in an embedded clause as long as the clause is finite. Thus, allocutive marking in Magahi can be observed in various types of subordinate clauses such as *ki*-complement clauses of attitude verbs (25), relative clauses (26), or temporal adjuncts (27). In the following examples, the embedded verb and the matrix verb bear the same allocutive marking which reflects the status of the addressee in the utterance context. In contrast, allocutive marking cannot occur in an infinitival clause as shown in (28).

(25) *ki*-complement clause

Santee-aa {kaahl / sochl / jaanl / sunlai / chilal }-au [ki
Santee-FM {said / thought / knew / heard / shouted }-3.NH.S-NH.AL that
Bantee-aa bhag gel-**au**].
Bantee-FM escape went-3.NH.S-NH.AL

'Santee said/thought/knew/heard/shouted that Bantee ran away.'

(Alok, 2020: (27-31) in Chapter 3)

(26) Relative clause

Laikwaa [je uhan khaRaa h-**au**] hamar bhaai h-au.
boy REL there stand be.3.NH.S-NH.AL my.GEN brother be-3.NH.S-NH.AL

'The boy who is standing there is my brother.' (spoken to a peer)

(Alok, 2020: (33) in Chapter 3)

(27) Temporal Adjunct

[Santee-aa ai-l-**au** jab] Bantee-aa chal
Santee-FM come-PERF.3.NH.S-NH.AL when Bantee-FM walk
ge-l-au.
go-PERF.3.NH.S-NH.AL

'Santee came when Bantee left.' (Alok, 2020: (32a) in Chapter 3)

(28) Infinitival clause

a. Santee-aa {jaayel / *jaael-au} chah-l-au.
Santee–FM go.INF wanted-3-NH.S-NH.AL
'Santee wants to go. '

b. Ham okaraa {dhekhe-se / *dhekhe-au-se} bachl-i-au.
I him.DAT seeing-INST avoided-1-3-NH.S-NH.AL
'I avoided seeing him.' (Alok, 2020: (35) in Chapter 3)

In the series of their works, Alok and Baker (Alok and Baker, 2018; Alok, 2020; Baker, submitted) considered that allocutive marking in Magahi is an instance of agreement with the addressee argument in the left clause periphery, same as the majority of previous literature on allocutive marking. Given the fact that allocutive agreement occurs in any finite clause in Magahi, they assumed that null speaker and addressee arguments reside in Spec FinP in Magahi, but not in a specific layer like cP (Portner et al., 2019) or SAP (Miyagawa, 2012; 2017; 2022). They also assumed that the null speaker/addressee DPs are embedded if a subordinate clause embeds FinP, and the embedded addressee agrees with the embedded verb. Their idea is schematized in (29).

(29) [$_{\text{FinP}}$ Spkr, $\overset{\text{Agree}}{\text{Addr [}_{\text{TP}}\text{ Santee said}}$ [$_{\text{CP}}$ ki [$_{\text{Fin}}$ Spkr, $\overset{\text{Agree}}{\text{Addr [}_{\text{TP}}\text{ Bantee ran}}$ away ]]]]

Essentially, thier idea is similar to Yamada's (2019) claim that Japanese embedded UHs are licensed by the presence of the embedded addressee argument. The only difference between them is the position of the speaker/addressee arguments.

#### 3.2.1.2 Shift of Embedded Allocutivity and Indexicals in Magahi

An interesting fact observed in Magahi is the interaction between embedded allocutive marking and indexicals. Alok and Baker (2018) observed that, in a complement clause of verbs-of-telling, the target of allocutive marking may shift from the addressee in the utterance context to the goal argument of "tell". In addition to this, when the shift of embedded allocutivity occurs, the embedded 1st/2nd person pronouns obligatorily shift from the speaker/addressee in the *utterance context* to the ones in the *reported speech context*. Compare the base sentence (30) with the shifted example in (31). Henceforth, I will use a subscript *u* to indicate the speaker/addressee in the utterance context.

(30) Santee-aa Bantee-ke kah-kai [ki ham toraa dekh-l-i ha-l].
Santee-FM Bantee-ACC told-3.NH.S that I.NOM you.ACC saw-1.SG be-PERF
'Santee told Bantee that I (=Santee or speaker$_u$) saw you (=Bantee or addressee$_u$)'

(Alok and Baker, 2018: (1b))

(31) Santee-aa Bantee-ke kah-kai [ki ham toraa dekh-l-i-**au**
Santee-FM Bantee-ACC told-3.NH.S that I.NOM you.ACC saw-1.SG.-NH.AL
ha-l].
be-PERF
'Santee told Bantee that I (=Santee, not speaker$_u$) saw you (=Bantee, not addressee$_u$)'

(Alok and Baker, 2018: (5a))

In (30), the embedded verb does not bear any allocutive marking. In this case, the embedded 1st/2nd person pronouns can refer to either the speaker/addressee in the utterance context or the speaker/addressee in the reported speech context, namely, Santee and Bantee. In contrast, in (31), the embedded allocutive marking reflects the honorificity status of Bantee, not the addressee in the utterance context. In short, the referent of allocutive marking is different between the matrix verb and the embedded verb in (31). When this occurs, the embedded pronouns also obligatorily shifts. That is, they can only refer to Santee and Bantee in (31). [5]

[5] Alok and Baker (2018) reported that this indexical shift obeys the *Shift Together Restriction* by Anand and Nevins (2004), which bans only one of the indexicals to get the shifted interpretation.

It should be noted that the embedded clauses in (30) and (31) are not introducing a direct speech context. Alok and Baker (2018) used scope reading of wh-elements in (32) and NPI licensing in (33) as a test to show their syntactic transparency from the matrix clause. In (32), the wh-element associated with the embedded clause takes scope over the matrix clause forming a direct question, which is impossible in a direct speech context. In (33), an NPI in the *ki*-complement clause can be licensed by the matrix negation, which is also impossible in a direct speech context.

(32) Kab$_1$ Santeeaa Raam-ke kah-l-ai [ki tu $t_1$ mar-b-a]?
when Santee Ram-DAT tell-PERF-3.NH.S that you.(N)H die-IRR-2.S.
'When did Santee tell Ram that you will die?' (time of dying Qed)

(Alok and Bake 2018: (34b))

(33) Santeeaa Banteeaa-ke **na** kah-kai [ki toraa **koi** kitaab paRhe-ke chah-ai].
Santee Bantee-DAT NEG tell-3.S that you.DAT any book read-ACC should-3.S
'Santee didn't tell Bantee that you should read any book.'

(Alok and Bake 2018: (35b))

To account for the observation in (31), Alok and Baker (2018) proposed that (i) the embedded speaker/addressee arguments can be controlled by the arguments of the main verb and (ii) the embedded speaker/addressee arguments bind the embedded 1st/2nd person pronouns. Their proposal is schematized in (34).[6]

[6] As far as I know, a shifty-operator (aka. a monster operator) analysis is popular in the literature of indexical shift (e.g., Anand and Nevins, 2004; Sudo, 2012; Saito, 2018; Deal, 2020). However, Alok and Baker (2018) did not assume a shifty-operator, and explained it with control and binding between embedded speaker/addressee arguments and embedded indexical items. They argued that the null speaker DP and the null addressee DP in Spec FinP of the embedded clause are controlled by the matrix arguments and bind the embedded indexicals, producing the shifted readings observed in (31). For the purpose of this subsection, the readers should know that, based on Alok and Baker (2018), if there are null embedded speaker/addressee arguments in the left periphery of a subordinate clause, the shifted readings of embedded indexicals and embedded allocutive marking should be possible.

Control Agreement

(34) [Spkr, Addr [$_{TP}$ Santee T [Bantee tell [$_{CP}$ ki [$_{Fin}$ Spkr, Addr [$_{TP}$ I T [you see]]]]

Binding

In his subsequent work, Baker (submitted) proposed that the controllability of embedded speaker/addressee arguments is constraint by *Generalized Obligatory Control Signature* in (35) based on Landau (2013), and the thematic matching condition of controller in (36).

(35) *The Generalized Obligatory Control Signature: (GOCS)*
If a clause with an intrinsically null DP (PRO, Speaker, Addressee,...) at its edge is generated within the XP headed by lexical head X, then the null DP is controlled by an argument of X. Which argument of the X is the controller is determined by the thematic roles of the controller and the controlee.

(Baker, submitted: (37) in Chapter 3 )

(36) *Thematic Matching Condition on the Obligatory Controller*
The obligatory controller of X in a CP inside VP is the argument of the verb such that its thematic role (best) matches the thematic role of X.

(Baker, submitted: (38) in Chapter 3 )

In short, the GOCS states that the embedded speaker/addressee arguments will be obligatorily controlled by the arguments of the matrix verb, only when the embedded speaker/addressee arguments are at the edge of the complement clause of attitude verbs. The thematic matching condition restricts the embedded speaker to be controlled by a non-subject argument of the matrix clause and the embedded addressee to be controlled by a non-object argument of the matrix verb.

The idea of GOCS comes from the fact that the allocutivity shift in Magahi is not allowed in temporal adjuncts and relative clauses, as shown in (37) and (38). In these contexts, the matrix verb and the embedded verb need to bear the same allocutive marking, reflecting the honorificity status of the addressee in the utterance context. This observation contrasts with the *ki*-complement clause (31) which is repeated in (39).

(37) Temporal Adjunct

Santee-aa ai-l-au jab Bantee-aa chal
Santee-FM come-PERF.3.NH.S-NH.AL when Bantee-FM walk
ge-l-au.
go-PERF.3.NH.S-NH.AL

'Santee came when Bantee left.'[7] (Alok, 2020: (97))

(38) Relative Clause

Santee-aa ii khabar [$_{RC}$ je Ram okraa kahk-**{au / *o}**] baabaa-ke
Santee-FM this news REL Ram him.ACC tell-NH.AL/H.AL grandfather-DAT
kahk-au.
tell.PERF.3.NH.S.-NH.AL

'Santee$_1$ told grandfather the message that Ram told him$_1$.

(Baker, submitted: (56) in Chapter 3)

(39) *ki*-complement clause of verbs-of-telling

Santee-aa Bantee-ke kah-kai [ki ham toraa dekh-l-i-**au**
Santee-FM Bantee-ACC told-3.NH.S that I.NOM you.ACC saw-1.SG.-NH.AL
ha-l].
be-PERF

'Santee told Bantee that I (=Santee, not speaker$_u$) saw you (=Bantee or addressee$_u$)'

In the same vein, the indexical shift of embedded 1st/2nd person pronouns is impossible in relative clauses (40) and temporal adjuncts (41).

(40) Relative clause

Saantee-aa kitabi-aa bhulaa del-ai je (ham) kharid-l-i ha-l.
Santee-FM book-FM lost gave-3.NH.S REL I buy-PERF-1.S be-PERF

'Santee lost the book that I(=speaker$_u$, not Santee) bought.'

[7] I was not able to find an ungrammatical example for this.

(41) Temporal Adjunct

Jab Santee-aa hamar beijjattii karl-ai ta Bantee-aa okra
When Santee-FM my.GEN insult did-3.NH.S PART Bantee-FM his.GEN
baRaalii kar-ti ha-l-ai
praisedo-PROG be-PERF-3.NH.S.

'When Santee insulted me (=speaker$_u$, not Bantee), Banteei was praising him.'

Baker (submitted) suggested that the embedded speaker/addressee arguments in temporal adjuncts cannot be controlled by the arguments of the matrix verb in (37), because the temporal adjunct adjoins to outside of VP, which does not satisfy the GOCS. The relative clause modifying the matrix object in (38) also cannot satisfy the GOCS as the relative clause CP does not directly adjoin to the matrix VP, but adjoins to the object NP of the matrix VP. Baker (submitted) considered that speaker/addressee arguments are still embedded in these cases, but cannot be controlled by the arguments of the matrix verb, leading the unshiftability of embedded allocutivity and embedded indexical items.

### 3.2.2 Shift of Embedded UHs and Indexicals in Japanese

#### 3.2.2.1 *To*-Complement Clauses of Verbs-of-Telling

Now, let us look at how embedded UHs and embeded idexical items in Japanese behave with respect to the shifting. I will start with a *to*-complement clause of verbs-of-telling to make the observation parallel to Magahi. Since the genuine indirect speech *to*-clause appearing at the complement of verbs-of-thinking cannot host UHs (see Section 2.3.1), the *to*-clause mainly discussed in this subsection is the blended discourse *to*-clause (aka. quasi-direct speech context), which exhibits mixed properties of indirect speech context and direct speech context (see Kuno, 1988; Oshima, 2006; Sudo, 2012; Sauerland and Yatsushiro, 2014; Saito, 2018; Shimamura, 2018 among others). A poster-child example of a blended discourse context is shown in (42).

(42) a. Original Utterance: Boss to A

Assate made-ni sono shigoto-o yar-e!
day.after.tomorrow until-by work-ACC do-IMP

'Finish that work by the day after tomorrow!'

b. The speaker (= A) reports the original utterance the next day of (a)

[Ashita made-ni sono shigoto-o yar-e to] jooshi-ni
tomorrow until-by that wirk-ACC do-IMP COMP boss-DAT
iw-are-mashi-ta.
say-PASS-UH-PAST

'I was told by the boss that I should finish that work by tomorrow.'

(Saito, 2018: (2) and (3))

Though the reported speech in (42b) contains an imperative form, the reported speech is not a direct quote of (42a) as the embedded indexical item *ashita* 'tomorrow' in (42b) is evaluated with respect to the utterance context of (42b). In other words, *ashita* in (42b) refers to the next day of the utterance, but not the next day of the boss's order. This type of *to*-clause will be the target of this section.

Now, let us look at the behavior of 1st and 2nd person pronouns under a *to*-clause at the complement of verbs-of-telling. Take a look at (43). Same as Magahi, without embedded UH marking, the embedded 1st/2nd person pronouns can refer to either the speaker/addressee in utterance context (i.e., the non-shifted reading) or the speaker/addressee in the reported speech context, which are the arguments of the matrix verb (i.e., the shifted reading; *watashi* = Kengo and *anata* = Reiko).

(43) Kengo-wa Reiko-ni [$_{CP}$ watashi-ga anata-ni denwa-shi-ta to]
Kengo-TOP Reiko-DAT I-NOM you-DAT call-do-PAST COMP
tsutae-mashi-ta.
tell-UH-PAST

Lit 'Kengo told Reiko that I called you.'

a. Shifted reading: Kengo told Reiko that he called her.

b. Non-shifted reading: Kengo told Reiko that the speaker$_u$ called the addressee$_u$.

The shifted reading is constrained by the *Shift Together Restriction* (Anand and Nevins, 2004) which prevents only one of the pronouns from receiving the shifted interpretation. [8]

It should be noted that the *to*-clause in (43) is different from a direct speech context in terms of its syntactic transparency. For instance, a wh-element embedded in the *to*-clause of (43) can take matrix scope as shown in (44a), which is impossible in a direct speech context (44b).[9] In (44b), the sentence final particle *-yo* forces the direct speech interpretation of the *to*-clause (see Fujita, 2000).

(44) a. Kengo-wa Reiko-ni [$_{CP}$ watashi-ga dare-ni denwa-shi-ta to]
Kengo-TOP Reiko-DAT I-NOM who-DAT call-do-PAST COMP
tsutae-mashi-ta-ka?
tell-UH-PAST-Q
'Lit. Who$_1$ did Kengo tell Reiko that I (= Speaker, not Kengo) called __$_1$?'

b. * Kengo-wa Reiko-ni [$_{CP}$ watashi-ga dare-ni denwa-shi-ta-yo to]
Kengo-TOP Reiko-DAT I-NOM who-DAT call-do-PAST-SFP COMP
ii-mashi-ta-ka?
tell-UH-PAST-Q
Intended: 'Who$_1$ did Kengo say to Reiko "I (=Kengo) called __$_1$" ?'

When a UH marker is embedded, it triggers the shifted readings of the embedded pronouns and the embedded UH marker. Similarly to the embedding of the sentence final particle *-yo* in (44b), embedding of *mas* in (45) sounds as if it forces a direct speech-like interpretation of the *to*-clause. There seems to be some native speakers of Japanese who accept the non-shifted reading in (45), however, it is not clear how robust this observation is. To my ear, the non-shifted reading still sounds possible, but it is very weak.

(45) Kengo-wa Reiko-ni [$_{CP}$ watashi-ga anata-ni denwa-shi-**mashi**-ta to]
Kengo-TOP Reiko-DAT I-NOM you-DAT call-do-UH-PAST COMP
tsutae-mashi-ta.
tell-UH-PAST

[8] When the embedded indexicals gets the shifted reading, it sounds more like a direct speech context to me.

[9] It should be noted that the non-shifted reading of the embedded 1st person pronoun *watashi* is obligatory in (44) due to the *Shift Together Restriction*.

Lit 'Kengo told (polite) Reiko that I called (polite) you.'

a. ✓ Shifted reading:

(i) Kengo told Reiko that he called her.

(ii) embedded *mas* = respect from Kengo to Reiko

b. ?? Non-shifted reading:

(i) Kengo told Reiko that the speaker called the addressee.

(ii) embedded *mas* = respect from the utterance speaker to the utterance addressee

Regarding this observation, Uchibori (2008) also noted that UH embedding under *to* forces a direct speech-like interpretation, showing (46). She observed that the embedded first person pronoun in (46) can only refer to Mary, but not the speaker in the utterance context.[10]

(46) Mary-wa [(kuruma-de) watasi-ga Tokyo-ni iki-masu to] itta.
Mary-TOP car-by I-NOM Tokyo-to go-UH COMP said
'Mary said that I (=Mary, not speaker) goes to Tokyo (by car).'

In this respect, Japanese *to*-clause show a similar pattern to Magahi *ki*-complement clause in terms of the shifted readings of embedded indexicals and embedded UHs. I take this the shiftability of embedded indexicals and embedded UHs in *to*-complement clauses of verbs-of-telling as a piece of evidence showing that *to*-clauses embed a relatively large phrase like cP and that the speaker/addressee arguments at the edge of the embedded cP are controlled by the arguments of the matrix verb in parallel to Alok and Baker's (2018) analysis of Magahi.

It should be noted that the shiftability of indexicals under *to*-clauses is not necessarily analyzed in the same way as Magahi, given previous literature on the reportative *to* in

[10] The *to*-clauses in (46) is still syntactically transparent from the matrix clause unlike canonical direct speech context. As shown in (i), embedded wh-element can take matrix scope even with embedded *mas*.

(i) Mary-wa [(kuruma-de) dare-ga Tokyo-ni iki-masu to] ii-mashi-ta ka?
Mary-TOP car-by who-NOM Tokyo-to go-UH COMP say-UH-PAST Q
Lit. 'Who$_1$ did Mary say that __$_1$ goes to Tokyo (by car).'

Japanese. For example, Saito (2018) proposed that a monster operator resides at *to* and is responsible for the shifted readings of embedded indexicals. On the other hand, Shimamura (2018) assumed that *to* is an adjunct clitic, and argued that the difference between the direct speech context (i.e., the shifted reading of embedded indexicals) and the blended speech context (i.e., non-shifted reading of embedded indexicals) comes from the difference of where the *to*-complementizer adjoins to. He argued that the blended discourse *to* is a kind of sub-clausal quotation, whereas the direct speech *to*-clause is the subordination of a full utterance. I will stay agnostic about the validity of any specific analysis of *to* in this thesis, however, what is notable is that they all agree on the idea that *to* embeds relatively large structure in narrow syntax when the shifted reading of indexicals is obtained.

To highlight the crucial observation in this subsection, the shifted readings of embedded indexicals and embedded UHs become prominent when a UH marker is embedded in a *to*-clause. This contrasts with the behavior of embedded indexicals and embedded UHs under *koto*-complement clauses as we will see in the next subsection.

#### 3.2.2.2 *Koto*-Complement Clauses

Now, let us turn our attention to *koto*-complement clauses of attitude verbs. In contrast to *to*-clauses, the embedded 1st/2nd person pronouns under *koto*-clauses consistently refer to the speaker/addressee in the utterance context irrespective of the presence of embedded *mas*, as shown in (47). (47a) is the baseline for (47b). In addition, the embedded *mas* does not allow the shifting of allocutive meaning. The embedded *mas* in (47b) encodes the respect from the speaker in the utterance context to the addressee in the utterance context.

(47) a. Kengo-wa Reiko-ni [$_{\text{CP}}$ watashi-ga anata-ni denwa-shi-ta koto]-o
Kengo-TOP Reiko-DAT I-NOM you-DAT call-do-PAST COMP-ACC
tsutae-mashi-ta.
tell-UH-PAST
'Kengo told Reiko that I (=speaker$_u$, not Kengo) called you (=addressee$_u$, not Reiko).'

b. Kengo-wa Reiko-ni [$_{CP}$ watashi-ga anata-ni denwa-shi-**mashi**-ta
Kengo-TOP Reiko-DAT I-NOM you-DAT call-do-UH-PAST
koto]-o tsutae-mashi-ta.
COMP-ACC tell-UH-PAST

(i) 'Kengo told Reiko that I (=speaker$_u$, not Kengo) called you (=addressee$_u$, not Reiko).'

(ii) Embedded *mas*: the speaker$_u$ respects the addressee$_u$.

This is not a general ban on embedded indexicals and embedded UHs under *koto*-clauses to receive shifted readings. If a *koto*-clause occurs inside a direct speech context, the embedded indexicals and the embedded UH in the *koto*-clause will be shifted from the speaker and the addressee in the utterance context to those in the reported speech context, as shown in (48).[11]

(48) Kengo$_1$-wa Reiko$_2$-ni [[anata$_2$-ga watashi$_1$-o tasuke-te-kudasai-mashi-ta
Kengo-TOP Reiko-DAT [[you-NOM me-ACC help-CV-BEN.HON-UH-PAST
koto]-wa isshoo wasure-mase-n to] it-ta.
COMP]-TOP forever forget-UH-NEG COMP] say-PAST

(i)'Kengo said to Reiko, "I will never forget that you (=Reiko, not addressee$_u$) helped me (=Kengo, not speaker$_u$)" '

(ii) Embedded *mas* in *koto*-clause: The speaker of the reported speech context (=Kengo ) respects the addressee in the reported speech context (= Reiko)

---

[11] I assume that the direct speech *to*-clause can embed cP and it enables the embedded indexicals in (48) to receive the shifted reading. As schematized in (i), I consider that the speaker/addressee arguments introduced by the cP embedded in a *to*-clause may be controlled by the matrix arguments and they bind the indexicals inside *koto*-clause.

Control

(i) [$_{cP}$ Sp$_u$, Ad$_u$ [$_{TP}$ Kengo said to Reiko [$_{CP}$ to [$_{cP}$ Sp$_1$, Ad$_2$

[$_{TP}$ (I) never forget [$_{CP}$ koto [$_{TP}$ you$_2$ helped me$_1$ ]]]]]]]

This idea holds even if we assume a monstrous operator for the indexical shifts. For example, Saito (2018) associated the monstrous operator on the complementizer *to* itself. Based on his analysis, it is not a mystery for the embedded indexical in (48) to obtain shifted readings.

Since *koto*-clauses only introduce an indirect speech context, it is syntactically transparent from the matrix clause, same as the blended discourse *to*-clause . Observe that an embedded wh-element can take the matrix scope in (49).

(49) Kengo-wa Reiko-ni [$_{CP}$ watashi-ga dare-ni denwa-shi-ta
Kengo-TOP Reiko-DAT I-NOM who.HON-DAT call-do-UH-PAST
koto]-o tsutae-ta-no?
COMP-ACC tell-PAST-Q
'Lit. Who$_1$ did Kengo tell Reiko that I (=Spkr, not Kengo) called ___$_1$.'

The embeddable cP approach will face difficulty in explaining the fact that *koto*-clauses lack the shifted readings of embedded indexicals and embedded UHs. If we adopt Yamada's (2019) anlaysis of *koto*-clauses, the structure of (47b) should look like (50). Expanding the proposals by Alok and Baker (2018) and Baker (submitted) to Japanese, I consider that the embedded speaker/addressee arguments in this configuration will be obligatorily controlled by the arguments of the matrix verb as in (50), because they satisfy the GOCS in (35). If this is the case, it is expected that *koto*-clauses also allow the shifted readings of embedded indexicals and embedded UHs, in contrast to the fact.

Control Agree

(50) [$_{cP}$ Sp, Ad [$_{TP}$ Kengo tell Reiko [$_{cP}$ Sp, Ad [$_{MoodP}$ koto [$_{TP}$ I call-UH you]]]]]

Binding

Therefore, I would like to take the observation in (47) as evidence indicating that *koto*-clauses do not embed cP.

Here, some might wonder whether this unshiftability of enbedded UHs in *koto*-clauses is be due to a nominal property of *koto*. In the literature, *koto*-clauses are known as a factive nominal complementizer, coming from a noun *koto* meaning 'thing/fact' (see Kuno, 1973). So, it might be the case that this nominal property of *koto* prevents the embedded speaker/addressee arguments from being controlled by the arguments of the matrix verb. For instance, if *koto*-clauses actually take a structure akin to relative clauses as in (51), the lack of shifted readings of embedded indexicals and embedded UHs does not seem to be an issue for the embeddable cP analysis, because such a control relation should not be possible given the GOCS.

*Control (banned by the GOCS) Agree

(51) [$_{\text{cP}}$ Sp, Ad [$_{\text{TP}}$ Kengo tell Reiko [$_{\text{NP}}$ koto [$_{\text{CP}}$ REL [$_{\text{cP}}$ Sp, Ad [$_{\text{TP}}$ I call-UH you]]]]]]

Binding

However, if one tries to pursue this possibility, they will face the difficulty in explaining the distributional patterns of the three morphological variants of UH marking. As we saw in Section 2.3, only *mas* can be embedded in *koto*-clauses, while *des*$^N$ and *des*$^A$ cannot be embedded. If the structure in (51) is true for *koto*-clauses, then it should be able to host the other two UH markers. Thus, I suggest that *koto*-clauses do not embed cP unlike *to*-complement clauses.

#### 3.2.2.3 Relative Clauses and Temporal Adjuncts

Same as Magahi, relative clauses and temporal adjuncts lack the shifted readings of embedded 1st/2nd person pronouns regardless of the presence of embedded UHs.[12] In addition, they do not allow the shifted readings of embedded UHs. Recall that all the embedded UHs except for the ones in *to*-clauses obey the consistency requirement (see Section 2.2). The relevant observations are shown in (52) and (53).

(52) Relative clause

Yuri$_1$-wa sensee$_2$-ni [$_{\text{RC}}$ watashi$_{*1}$-ga anata$_{*2}$-ni hanashi-(mashi)-ta himitsu]-o
Yuri-TOP teacher-DAT I-NOM you-DAT talk-UH-PAST secret-ACC
barashi-mashi-ta.
disclose-UH-PAST

'Yuri disclosed the secret that I (=speaker$_u$, not Yuri) told you (=addressee$_u$, not the teacher) to the teacher.'

[12] Other adjunct clauses such as because-clause or if-clause also do not allow the shifted readings of embedded UHs. I'm not showing those because (i) both approach expect them not to allow the shifted readings and (ii) it is not possible to construct a parallel examples to *to*-clause or *koto*-clause.

(53) Temporal Adjunct

a. Kyoko-san$_1$-wa Ryo-kun-ni [watashi$_{*1}$-ga daigakusee
Kyoko-HON.FEM-TOP Ryo-HON.MASC-DAT I-NOM undergraduate
{dat-ta / deshi-ta} koro]-ni hajimete deai-mashi-ta.
{COP-PAST / UH.COP-PAST} when-DAT first.time meet-UH-PAST
'Kyoko met Ryo for the first time when I (=speaker$_u$, not Kyoko) was an undergraduate student.'

b. Watashi-wa Hiroki$_1$-kun-to [anata$_{*1}$-ga kodomo {dat-ta / deshi-ta}
I-TOP Hiroki-Mr-with you-NOM child {be-PAST / UH.COP-PAST}
toki]-kara ii tomodachi-des-u.
when-from good friend-UH.COP-PRES
'I have been a good friend with Hiroki since you (=addressee$_u$, not Hiroki) were a child.

Both the embeddable cP analysis and the non-embeddable cP analysis predict this observation in relative clauses and temporal adjuncts. For the former approach, this behavior should be attributed to not satisfying the GOCS. For the latter approach, this observation should be due to the lack of embedded speaker/addressee arguments at the edge of the embedded clause. Thus, these will not be direct evidence to dismiss the embeddable cP approach. However, as I discussed earlier, the embeddable cP approach faces issues with the embedding patterns of the three UH markers. Therefore, I consider that the lack of shifted readings of embedded indexicals and embedded UHs in relative clauses and temporal adjuncts is due to the fact that these subordinators are not furnished with their own cP.

### 3.2.3 Section Summary

In this section, I have shown that *to*-clauses of verbs-of-telling can have the shifted readings of embedded UHs and embedded indexicals while *koto*-clauses do not allow the shifted readings of them. Assuming that the analysis of Magahi by Alok and Baker (2018) and Baker (submitted) is also applicable to Japanese, I have argued that the non-shiftability of embedded UHs and embedded indexicals in *koto*-clauses cannot be captured by the embeddable cP analysis. This is because, if *koto*-clause embeds null speaker/addressee arguments, the arguments of the matrix verb should be able to control them giving rise to the shifted reading, in contrast to the fact. Therefore, I consider that *koto*-clauses are not equipped with cP, while *to*-clauses are.

### 3.3 Chapter Summary

In this chapter, I have pointed out two empirical issues of the embeddable cP analysis: (i) the embedding patterns of the three UH markers are drastically different from the embedding patterns of other root clause phenomena in Japanese and (ii) the embeddable cP analysis yields a wrong prediction for the shiftability of embedded UHs and embeddded indexicals in *koto*-clauses. Given these empirical issues of the embeddable cP analysis, I argue that cP is restricted to root clauses in general. Hence, I consider that the embeddability of Japanese UHs is not due to the embeddability of cP, which is the answer to RQ1.

## Chapter 4

## QUANTITATIVELY EVALUATING THE THEORIES OF UH EMBEDDING

In Chapter 2, we have reviewed the theories of embedded UHs proposed in the previous literature. On one hand, Yamada (2019) proposed that SpeakerP and AddresseeP are embeddable in Japanese and that the embedded UHs are obtained via local agreement with the embedded addressee argument. On the other hand, Tomioka and Ishii (2022) claimed that cP cannot be embedded in Japanese based on the observation that the embedding patterns of the three Japanese UH markers are determined by their morphosyntactic properties. Thus, Tomioka and Ishii (2022) argued that embedded UHs are licensed via long distance agreement with the matrix cP. [1]

Though Yamada (2019) and Tomioka and Ishii (2022) disagree on whether Japanese can embed cP and how embedded UHs are licensed, they both agree on the observation that the use of embedded UHs follows the consistency requirement that the matrix predicate needs to register at least the same level of honorificity to the addressee if a UH marker is embedded. Moreover, Yamada (2019) and Tomioka and Ishii (2022) offered different explanations for the consistency requirement building on their respective analyses of embedded UH licensing. Therefore, examining the mechanisms of the consistency requirement should be helpful in evaluating their analyses of how embedded UHs are obtained in Japanese.

To quantitatively assess their analyses of Japanese UH embedding, I conducted two experiments investigating how native speakers of Japanese judge the violation of the consistency requirement of embedded UHs. In Experiment 1, I ran an acceptability judgment study to examine whether the penalty of violating the consistency requirement differs depending

[1] In Chapter 2, I have also reviewed Miyagawa (2022). However, I will not discuss his analysis in this chapter because he was not clear about how the consistency requirement is drawn under his analysis.

on the subordinate clause type. Experiment 2 exmamined the same question using a speeded two-choice sentence completion task. Both experiments showed no significant difference in penalty for violating the consistency requirement between clause types, which suggests that no positive evidence for Tomioka and Ishii's (2022) analysis was found in the present experiments. The results of the experiments provides partial answers to RQ2 and RQ3, repeated in (1).

(1) Research Questions

RQ2: How are embedded UHs licensed?

RQ3: How is the consistency requirement satisfied?

## 4.1 Previous Analyses of the Consistency Requirement of Embedded UH

### 4.1.1 Recap of the Consistency Requirement

As we saw in Chapter 2, UH embedding in Japanese must follow the consistency requirement; if one uses a UH marker in an embedded clause, the matrix clause needs to register the higher or at least the same level of honorificity to the addressee as shown in (2). (2a) satisfies the consistency requirement as it has *mas* in the matrix clause along with the embedded *mas*. *Itas* (the humble/object honorific form of *do*) in front of the matrix *mas* is an addressee honorific upgrader which raises the honorificity level of the following UH marker. The embedding of *mas* is more natural with an addressee honorific upgrader on the matrix UH marking because it indicates that the speaker tries to be super polite toward the addressee. In contrast, the sentence will be degraded if the matrix clause lacks its UH marking despite the fact that the embedded clause has one as in (2b).

(2) a. [$_{CP}$ Densha-ga okurete-ori-**mas**-u koto]-o owabi-itashi-**mas**-u.
train-NOM delay-be-UH-PRES COMP-ACC apologize-do.OH-UH-PRES
'I apologize (honorific) that the train is being delayed (honorific).'

b. * [$_{CP}$ Densha-ga okurete-ori-**masu** koto]-o owabi-(itas)-∅-u.
train-NOM delay-be-PRES COMP-ACC apologize-do.OH-∅-PRES
'I apologize (honorific) that the train is being delayed (non-honorific).'

c. [$_{\text{CP}}$ Densha-ga okurete-*iru* koto]-o owabi-itashi-**mas**-u.
train-NOM delay-be-PRES COMP-ACC apologize-do.OH-UH-PRES
'I apologize (non-honorific) that the train is being delayed (honorific).'

It should be noted that the presence or absence of the UH upgrader *itas* in (2b) does not affect the judgment. It should also be reminded that the lack of UHs in the embedded clause does not affect the judgment as the use of embedded UHs is completely optional (see (2c)). As long as the matrix predicate is properly utterance honorified, the sentence will be understood as polite. Hence, UH embedding is not obligatory.

In the previous literature, Yamada (2019) and Tomioka and Ishii (2022) offered different explanations for the consistency requirement based on their respective analyses of embedded UHs. Yamada (2019) presented a view that the consistency requirement is a constraint on the update of pragmatic storage, while Tomioka and Ishii (2022) considered that it is a byproduct of multiple agreement to license the embedded UH marking. The following subsections review their explanations for the consistency requirement in detail.

### 4.1.2 Pragmatic Account by Yamada (2019)

Yamada (2019) formalized the consistency requirement as (3), arguing that it is a pragmatic constraint to match the politeness level between the embedded clause and the matrix clause. He assumes that the respect meaning denoted by a UH marker is a non-at-issue meaning in the respect dimension, which is represented by a tuple of ⟨ *speaker, honorific level, addressee* ⟩. Thus, $a$ and $b$ in (3) refer to the relevant speaker and addressee in the context, respectively, and the $z$s in (3) refer to discrete values representing the honorific level encoded by each UH marking.

(3) Consistency Requirement by Yamada (2019)
We cannot newly incorporate a respect object $\langle a, z_2, b\rangle$ into the storage iff there is a triple $\langle a, z_1, b\rangle$ already in the storage and $z_1 > z_2$.

(Yamada, 2019: (143) in Chapter 5)

Under this view, (2b) will be counted inappropriate because the embedded clause yields the respect object of $\langle a, 1, b\rangle$, while the matrix clause yields $\langle a, 0, b\rangle$ causing a mismatch in the pragmatic storage. In other words, a single sentence cannot have an update of the pragmatic storage in the way that the honorific level goes down. In contrast, in (2c), the respect object expressed by the embedded clause $\langle a, 0, b\rangle$ will be updated to $\langle a, 1, b\rangle$ by the matrix UH marking, which is a licit and possible update under the constraint in (3).

This kind of pragmatic constraint was necessary for Yamada's (2019) analysis because he assumed that embedded UHs are obtained via local agreement with the embedded addressee as illustrated in (4) (see also section 2.4.2).

(4) $[_{\text{SpP}}$ Sp $[_{\text{AddrP}}$ Ad $[_{\text{TP}}$ ..... V-*mas* $[_{\text{SpP}}$ Sp $[_{\text{AddrP}}$ Ad $[_{\text{MoodP}}$ koto $[_{\text{TP}}$ ..... V-*mas* ]]]]]

Agree Agree

Under his system, the embedded UH marking and the matrix UH marking emerge independently of each other. Thus, narrow syntax can generate a mismatching case like (2b). To filter out such derivations, he proposed the constraint in (3) on the update of pragmatic storage.

### 4.1.3 Syntactic Account by Tomioka and Ishii (2022)

On the other hand, Tomioka and Ishii (2022) suggested that the consistency requirement is a byproduct of multiple agreement between the matrix c-head and each UH marking in a sentence. Recall that they proposed both embedded and matrix UH markings are licensed via multiple Agree with the matrix c-head as in (5).

(5) $[_{\text{cP}}$ Spkr, Addr $[_{\text{CP}_{\text{matrix}}}$ ... $[_{\text{CP}_{\text{embedded}}}$ ...[UH]... ] ...[UH]... ] $c_{[\text{INT: UH, SAT:-}]}$ ]

Licensing via Multiple Agree

Under their analysis, the mismatching case like (2b) is a failure of agreement between the matrix c-head and the matrix predicate. Therefore, based on Tomioka and Ishii's (2022) analysis, the inconsistent use of UHs should be counted as an error in narrow syntax, in contrast to Yamada (2019).

One exceptional case for Tomioka and Ishii's (2022) analysis was the embedders that can host *des*$^A$. They suggested that the complementizers that can host *des*$^A$ such as *-ga / -keredo(mo)* 'although' or *-kara* 'because' have their own cP which locally licenses embedded UHs. This claim stems from the observation by Tagashira (1973) that embedders like *-ga / -keredo(mo)* prefer to have embedded UHs if the matrix predicate is UH-marked. The relevant example is shown in (6). Importantly, this observation contrasts with the fact that the use of embedded UHs is completely optional in other subordinate clauses.

(6) Chiisai kuni {?da / desu }-ga hitobito-wa yutakani kurashi-o
samll country {COP / UH.COP }-but people-TOP rich like-ACC
shite-i-masu.
do-PROG-UH.PRES
Though (this) is a small country, people there live in confort.

In this respect, Tomioka and Ishii (2022) considered that embedded UHs under subordinators that can host *des*$^A$ is less dependent on UH making in the matrix clause, and that the relation between them should be mediated by a different mechanism from the long distance agreement. More specifically, they suggested that these subordinators have their own cP which locally licenses embedded UHs, and the speech styles of the two clauses are matched by some pragmatic constraints just as in the case of two consecutive root clauses carrying matching UH marking. Though they were not clear about what kind of the pragmatic constraint is at play here, I assume that a similar system to McCready's (2019) or Yamada's (2019) should be taking place to mediate the politeness levels between the cP-embedding subordinators and the matrix clause.

### 4.1.4 Predictions of the Two Analyses

To summarize, Yamada (2019) considered the consistency requirement of UH embedding to be a pragmatic constraint to mediate the politeness levels of any two clauses. In contrast, Tomioka and Ishii (2022) assumed that it is a byproduct of multiple agreement between the matrix c-head and an embedded UH marker in the case of non-cP-embedding subordinate clauses, though they admit the possibility of a pragmatic system to match the politeness level of two clauses as they need it for cP-embedding subordinate clauses.

These two analyses yield different predictions for violations of the consistency requirement. If Yamada's (2019) analysis is true, the pragmatic constraint should always be at play to mediate the politeness level of any two clauses. In other words, violations of the consistency requirement should always be an error in pragmatics. Therefore, the penalty for violating the consistency requirement should not be different depending on the subordinate clause types. On the other hand, the analysis by Tomioka and Ishii (2022) expects that a violation of the consistency requirement in non-cP-embedding subordinate clauses should be an agreement error in narrow syntax, while a violation of the consistency requirement with cP-embedding subordinate clauses should be a pragmatic error. Thus, assuming that syntactic errors should be judged worse than pragmatic errors (i.e., people are more tolerant about pragmatic errors), the penalty for violating the consistency requirement should differ between cP-embedding and non-cP-embedding clauses. Experiment 1 and 2 test these predictions with an acceptability judgment task and a speeded two-choice sentence completion task.

## 4.2 Experiment 1

### 4.2.1 Design

Experiment 1 investigated the penalty for violating the consistency requirement using an acceptability judgment task. In this experiment, two levels of consistency in honorificity (consistent vs. inconsistent) were crossed with three levels of clause type (baseline, cP-embedding subordinate clause, and non-cP-embedding subordinate clause), creating a 2×3 factorial design. The distinction between cP-embedding and non-cP-embedding subordinate clauses follows to Tomioka and Ishii (2022); the former can host *des*$^{\mathrm{A}}$ while the latter cannot. The sample item set of the experiment is shown in (7) to (9). (7) is the baseline condition that contains two consecutive root clauses. (8) is the cP-embedding condition, and (9) is the non-cP embedding condition. The consistency in honorificity is manipulated by the presence of UH marking at the second/matrix clause. Examples in (a) are the consistent cases, while (b) examples are the inconsistent cases.

(7) Baseline (Two independent sentences with independent cPs)

a. Izen, kyooju-no otaku-ni ukagai-mashi-ta. sono toki-ni
before professor-GEN house-DAT come.OH-UH-PAST that time-DAT
okusama-ni-mo o-ai-shi-mashi-ta-yo.
his.wife-DAT-also HON-meet-do-UH-PAST-SFP
'I went to the professor's house before (Honorific). I also met his wife at that time (Honorific).'

b. Izen, kyooju-no otaku-ni ukagai-mashi-ta. sono toki-ni
before professor-GEN house-DAT come.OH-UH-PAST that time-DAT
okusama-ni-mo o-ai-shi-ta-yo.
his.wife-DAT-also HON-meet-do-PAST-SFP
'I went to the professor's house before (Honorific). I also met his wife at that time (Non-honorific).'

(8) cP-embedding subordinate clause

a. Izen, kyooju-no otaku-ni ukagai-mashi-ta-ga, sono toki-ni
before professor-GEN house-DAT come.OH-UH-PAST-but that time-DAT
okusama-ni-mo o-ai-shi-mashi-ta-yo.
his.wife-DAT-also HON-meet-do-UH-PAST-SFP
'I went to the professor's house before (Honorific) and I also met his wife at that time (Honorific).'

b. Izen, kyooju-no otaku-ni ukagai-mashi-ta-ga, sono toki-ni
before professor-GEN house-DAT come.OH-UH-PAST-but that time-DAT
okusama-ni-mo o-ai-shi-ta-yo.
his.wife-DAT-also HON-meet-do-PAST-SFP
'I went to the professor's house before (Honorific) and I also met his wife at that time (Non-honorific).'

(9) Non-cP-embedding subordinate clause

a. [$_{RC}$ Izen, kyooju-no otaku-ni ukagai-mashi-ta sai]-ni,
before professor-GEN house-DAT come.OH-UH-PAST time-DAT
okusama-ni-mo o-ai-shi-mashi-ta-yo.
his.wife-DAT-also HON-meet-do-UH-PAST-SFP
'When I went to the professor's house before (Honorific), I also met his wife (Honorific).'

b. [$_{RC}$ Izen, kyooju-no otaku-ni ukagai-mashi-ta sai]-ni,
before professor-GEN house-DAT come.OH-UH-PAST time-DAT
okusama-ni-mo o-ai-shi-ta-yo.
his.wife-DAT-also HON-meet-do-PAST-SFP
'When I went to the professor's house before (Honorific), I also met his wife (Non-honorific).'

The crucial assumption in this experiment is that participants rate syntactic errors lower than pragmatic infelicities (i.e., native speakers are more tolerant of pragmatic infelicities than syntactic errors). The validity of this assumption was checked using a subset of the filler items (see Section 4.2.2).

Both analyses predict a main effect of UH consistency. However, the pragmatic analysis by Yamada (2019) and the syntactic analysis by Tomioka and Ishii (2022) yield different predictions for the main effect of clause type and their interactions with the UH consistency, as I briefly discussed in section 4.1.4. If the pragmatic account is correct, there should be no main effect of clause type between the cP-embedding condition and the non-cP-embedding condition, and no interaction between UH consistency and clause type. This is because the UH inconsistency in both (8) and (9) should be a speech style mismatch, which will be ruled out by the pragmatic principle to match the speech style. On the other hand, the syntactic analysis predicts that the penalty for the inconsistency should be greater in the non-cP-embedding condition than in the cP-embedding condition because the former involves an syntactic error, while the latter is a speech style mismatch which should be counted as a pragmatic error. Thus, there should be a significant interaction between UH consistency and clause type such that the penalty of UH inconsistency is larger in the non-cP-embedding condition compared to the cP-embedding condition.

### 4.2.2 Materials

The structure of the experiment was a 2×3 factorial design; two levels of consistency are crossed with three levels of clause type. 24 items were constructed and automatically pseudo-randomized with 48 fillers by PCIbex (Zehr and Schwarz, 2018). All the target trials of this experiment involve adjunct clauses with an embedded UH marker; no complement clause of attitude verbs was included. The items were presented in six lists following a Latin Square design.

A subset of the fillers (12 items) was used to check the validity of the assumption that participants rate syntactic anomalies worse than pragmatic infelicities. The sanity check items were constructed with three types of anomalies: baseline, syntactic error (a mismatch between Negative Concord Items and the clause-mate negation), and speech style mismatch (a mismatch in the gender associated with a specific first person pronoun and the gender associated with a specific sentence final particle) as shown in (10). In the syntactic error example (10b), a clause-mate negation for the NCI is missing, resulting in an ungrammatical sentence. In the speech style mismatch condition (10c), the gender associated to the first person *ore* mismatches with the gender associated to the sentence final particle *wayo*, ending up with a pragmatically anomalous sentence. The first person pronoun *ore* is typically used by a young male person, while *wayo* is a sentence final particle associated with female speech. If the assumption that participants rate syntactic anomaly worse than pragmatic infelicity is correct, the syntactic error will be rated significantly worse than the speech style mismatch.

(10) a. Baseline

| | | | | | |
|---|---|---|---|---|---|
| [Ano | bando-ga | happyo-shi-ta | shin-kyoku-wa | kesshite | jidaiokure-ja-nai |
| that | band-NOM | release-do-PAST | new-song-TOP | NCI | outdated-COP-NEG |

| | | |
|---|---|---|
| to] | ore-wa | omot-ta-ze. |
| COMP | I.MASC-TOP | think-PAST-SFP.MASC |

'I thought that the new song which the band released is not outdated.'

b. Syntactic Error (mismatch in NCI and negation)

| | | | | | |
|---|---|---|---|---|---|
| *[Ano | bando-ga | happyo-shi-ta | shin-kyoku-wa | kesshite | jidaiokure-da |
| that | band-NOM | release-do-PAST | new-song-TOP | NCI | outdated-COP |

| | | |
|---|---|---|
| to] | ore-wa | omot-ta-ze. |
| COMP | I.MASC-TOP | think-PAST-SFP.MASC |

Intended 'I thought that new song which the band released is not outdated.'

c. Speech Style Mismatch (gender mismatch)

# [Ano bando-ga happyo-shi-ta shin-kyoku-wa kesshite
that band-NOM release-do-PAST new-song-TOP NCI
jidaiokure-ja-nai to] ore-wa omot-ta-wayo.
outdated-COP-NEG COMP I.MASC-TOP think-PAST-SFP.FEM

'I thought that new song which the band released is not outdated.'

In the sanity check items, the mismatch of NCI and clause-mate negation was selected as a representative of syntactic errors based on Deal's (2022) analysis of NCI licensing using the Interaction-Satisfaction model of Agree. Since Tomioka and Ishii's (2022) multiple Agree analysis of UH embedding was proposed in parallel to her analysis of NCI licensing building on their view that UH embedding is an instance of concord in politeness, I consider that it is reasonable to have a look at the behavior of mismatches in NCI [2]. The mismatch of gender between the first person pronoun and sentence final particles was selected as a representative of pragmatic errors based on the fact that they are used as role language in Japanese which portrays the character of the speaker (see Kinsui, 1990; Kinsui and Yamakido, 2015). Since a mismatch in role languages does not lead ungrammaticality, I assume that their matching is checked in pragmatics.

### 4.2.3 Participants and Procedure

Sixty self-reported native speakers of Japanese, recruited via an online crowdsourcing platform called Lancers, participated in the experiment. They were paid 480 yen (3.2 USD) for 30 minutes of participation. Each sentence was presented on a computer screen with a 1–7 point Likert scale using PCIbex (Zehr and Schwarz, 2018). Participants were asked to read each text carefully and rate how appropriate the sentence was as an utterance by a native Japanese speaker, on a scale from 1 ('very inappropriate') to 7 ('very appropriate'). In the labels, the word 'natural' was intentionally avoided to prevent participants from focusing too much on the semantic naturalness of the materials. Before starting the experiment, a training session was conducted to attune participants to ignore semantic unnaturalness. This session aimed to guide participants to judge sentences based on their intuition about whether

[2] It should be noted that negative sensitive items in Japanese all exhibit the property of NCI but not NPI. See Watanabe (2004) for the detailed discussion on this.

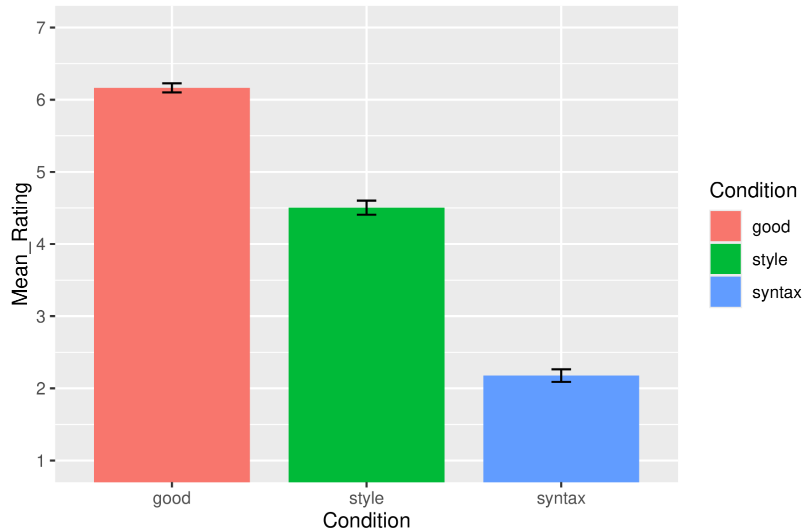



**Figure 4.1.** Mean Ratings of Sanity Check Items

The error bars indicate the SE of each condition.

the sentence follows Japanese grammar. After the training session, five screening trials were conducted to ensure that participants understood the task correctly. They indicated their responses by pressing the number keys on their keyboard.

### 4.2.4 Results

Two participants who failed to answer the screening trials correctly were excluded from the analysis. Following Taylor et al. (2022), the rating data were analyzed with a cumulative link mixed effects model using the ordinal package (Christensen, 2023) in R 4.3.3. The response time data were analyzed using a linear mixed effects model using the lme4 package (Bates et al., 2015).

#### 4.2.4.1 Results for the Sanity Check Items

The mean ratings of the sanity check items are shown in Figure 4.1. The results were analyzed by a CLMM model with crossed random effects for participants and items (Baayen et al., 2008). I used the model with maximal random effect structure following Barr et al. (2013). The Helmert contrast coding scheme was used for the contrast coding. The good condition is coded as 2/3 and other conditions are coded as -1/3 as the first predictor

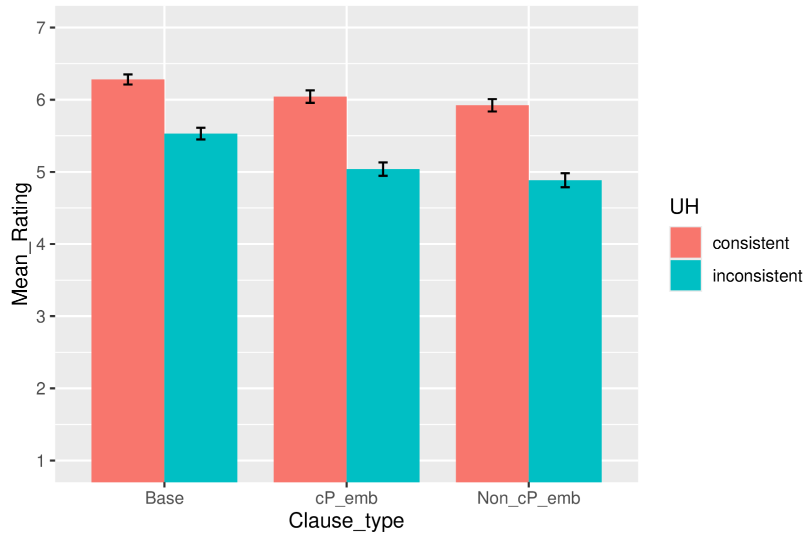



**Figure 4.2.** Mean Ratings of Target Items

The error bars indicate the SE of each condition.

GOODvsOTHER. The style condition was coded as 1/2 and the syntax condition was coded as -1/2 as the second predictor STYLEvsSYNTAX, which compares the effect of the speech style mismatch condition and the syntactic error condition. The CLMM model showed a significant difference between the baseline condition and the other two conditions ($\beta$ = -6.4325, SE = .540, z = -11.92, $p$ <.001). It also showed that the syntactic error was rated significantly worse than the stylistic mismatch ($\beta$ = -4.613, SE = .450, z =-10.26, $p$ <.001). These results suggest that the assumption that participants are more tolerant about pragmatic infelicity than syntactic anomalies is valid.

#### 4.2.4.2 Results for the Target Items

The mean ratings of the target trials are shown in Figure 4.2. Same as the sanity check items, the results were analyzed by a CLMM model with crossed random effects for participants and items, using Helmert contrast coding scheme. The first predictor for the clause type was BASEvsOTHER in which the baseline condition was coded as 2/3 and other conditions were coded as -1/3, respectively. The second predictor for the clause type was cPvsNon-cP, where the baseline condition was coded as 0, cP-embedding conditions as 1/2, and Non-cP-embedding condition as -1/2. For the conditions in UH consistency, the

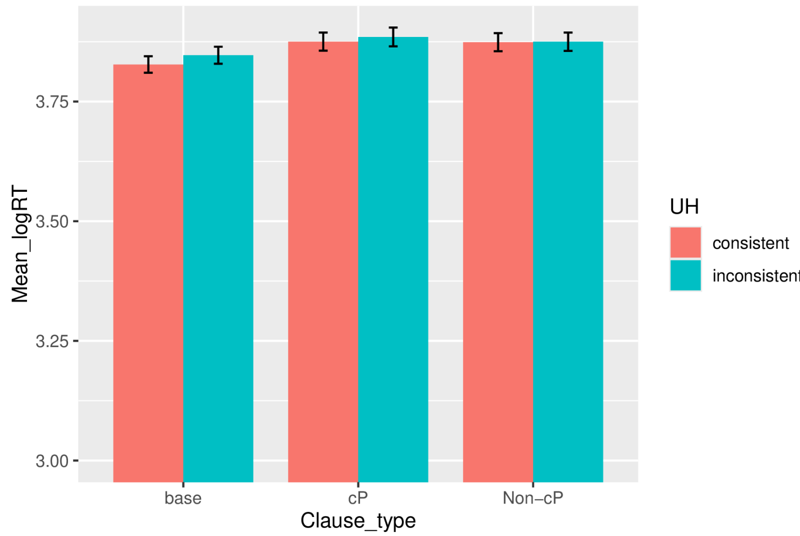



**Figure 4.3.** Mean Log-transformed Response Times for the Items Rated Over 4

The error bars indicate the SE of each condition. The response times that were over the mean ±2SD were excluded from the analysis.

consistent condition was coded as 1/2 and the inconsistent condition was coded as -1/2. The CLMM model showed a significant main effect of UH consistency ($\beta$ = -2.258, SE = .259, z = -8.734, $p < .001$), which suggests that the inconsistent items were rated significantly worse than the consistent items. The first predictor BASEvsOTHER was also significant ($\beta$ = .893, SE = .288, z = 3.103, $p$ = .0019). However, the second predictor cPvsNon-cP did not show any significance ($\beta$ = .303, SE = .344, z = .883, $p$ = .377). Both predictors did not show any significant interactions with UH consistency ($p > .617$).

Since no significant interaction was observed in the mean ratings, the mean log-transformed response times of the target trials that were accepted by the participants were also checked (see Figure 4.3). Here, I take the ratings over 4 to mean that the participants accepted the sentence. The linear mixed effects model with crossed random effects for participants and items showed that the response times for the baseline condition was significantly faster than the UH embedding conditions ($\beta$ = -0.045, SE = .0156, z = -2.879, $p$ = .008). However, other predictors did not reach significance. ($p > .278$)

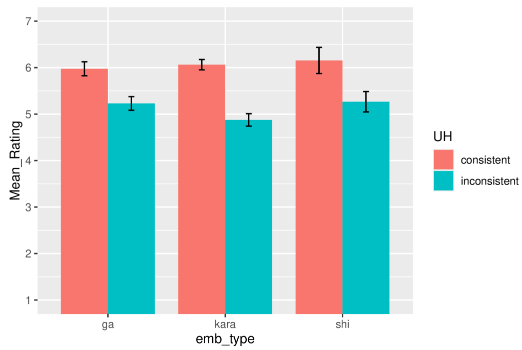



**Figure 4.4.** Mean Ratings of the Subordinators in cP-embedding Condition.

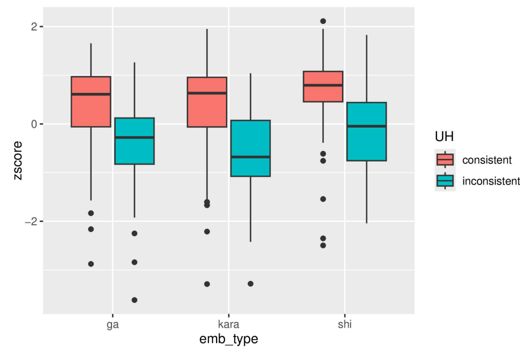



**Figure 4.5.** The z-score Distributions of the Subordinators in cP-embedding Condition

#### 4.2.4.3 Scrutinizing the Subordinators in cP-embedding Condition

To check whether the subordinate clauses in the target trials were rated in the same way, the mean ratings of the items in the cP-embedding condition and their z-score distributions were scrutinized. Three instances of cP-embedding subordinators were used in Experiment 1; 12 items with *kara* ‘because’, 8 items with *-ga* ‘although’, and 3 items with *-shi* ‘and’. The mean ratings of each cP-embedding subordinator are shown in Figure 4.4 and the z-score distributions for each subordinator type are summarized in Figure 4.5. The pairwise comparison of these subordinators using a CLMM with crossed random effects for participants and items showed no significant effect of subordinator type and no interactions between UH consistency and subordinator type (all $ps > .377$), which suggests that the items in the cP-embedding condition were rated in the same way.

#### 4.2.4.4 Scrutinizing the Subordinators in Non-cP-embedding Condition

The mean ratings of the items in the non-cP-embedding condition and their z-score distributions were also scrutinized. In this condition, I had four types of non-cP-embedding constructions; relative clauses, temporal adjuncts, *te*-gerundive clauses, and *tara*-conditionals, and there were 6 items for each construction. The mean ratings of each non-cP-embedding subordinator are shown in Figure 4.6 and the z-score distributions for each subordinator type are summarized in Figure 4.7.

The visual inspection of Figure 4.6 suggests that the mean ratings of the consistent

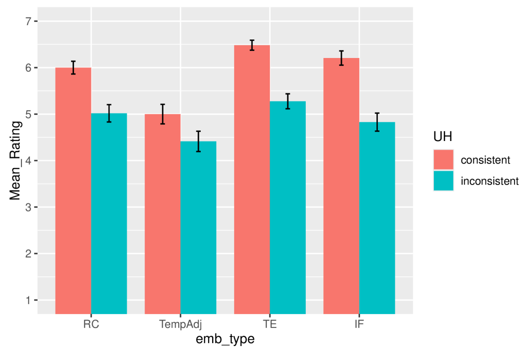



**Figure 4.6.** Mean Ratings of the Subordinators in Non-cP-embedding Condition

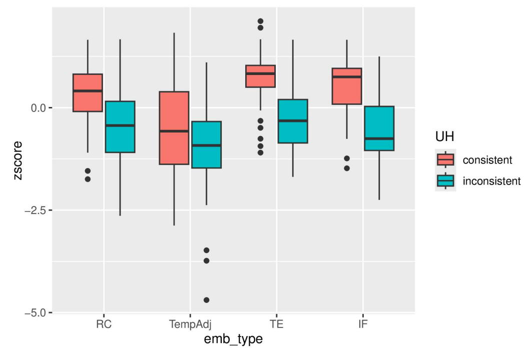



**Figure 4.7.** The z-score Distributions of the Subordinators in Non-cP-embedding Condition

items with temporal adjuncts are lower than those of other three non-cP-embedding subordinators. This pattern can be observed with the z-score distribution in Figure 4.7 as the median of the consistent temporal adjunct items is below 0. In addition, the interquartile ranges of the consistent items and the inconsistent items are overlapping in the temporal adjunct items. This overlap in the interquartile ranges is also observed with the relative clause items as opposed to the *te*-gerundive items and if-clause items.

These patterns of the z-score distributions seem to be aligned with the morphosyntactic properties of each subordinators. Relative clauses and temporal adjuncts require the embedded verb, which linearly precedes the complementizer, to be in *rentai-kei* (adnominal) form[3], while *te*-gerundives and *tara*-conditionals require the embedded verb to be *renyoo-kei* (adverbial) form (see also Section 2.4.3). Thus, I conducted another CLMM analysis with crossed random effects for participants and items by grouping relative clauses and temporal adjuncts as one predictor RENTAI and *te*-gerundives and if-clause as another predictor RENYOO. The RENTAI-group was coded as -1 and the RENYOO-group was coded as 1 using the sum coding scheme. The model showed a significant main effect of UH consistency ($\beta$ = -1.125, SE = .152, z = -7.400, $p$ <.001). It also showed the significant main effect of group ($\beta$ = .644, SE = .239, z = 2.697, $p$ = .007), which implies that the two groups of subordinators were rated differently. The model also indicated a significant interaction

[3] Note that Japanese temporal adjuncts are syntactically relative clauses which take the form of “the time when”.

between UH consistency and group ($\beta$ = -0.345, SE = .130, z = 2.647, $p$ = .008), which also suggests that the two groups of subordinators were rated differently. The comparisons of subordinators within each group showed no significant differences (all $p$s $>$ .145).

### 4.2.5 Discussion

The results of the sanity check items showed that participants rated syntactic errors (a mismatch between NCI and its clause-mate negation) worse than pragmatic errors (a mismatch of gender between a first person pronoun and a sentence final particle). This result confirms the validity of the assumption in this experiment.

The significant main effect of UH consistency observed in the rating results indicates that the consistency requirement of UH embedding is reflected in the acceptability judgment by the native speakers of Japanese. No significant main effect of clauses types and no significant interactions between UH consistency and clause type in the rating results suggest that the participants rated UH (in)consistency in cP-embedding and non-cP-embedding items in the same manner. These results seem to be a support for the pragmatic account of the consistency requirement by Yamada (2019).

However, the sub-analysis for the non-cP-embedding items suggest that there are various factors at play. The statistical analysis in Section 4.2.4.4 showed that the RENTAI-type non-cP-embedding subordinators (i.e., relative clause items and temporal adjuncts) were rated differently from the RENYOO-type non-cP-embedding subordinators (i.e., *te*-gerundives and *tara*-conditionals). One potential reason for this difference between RENTAI and RENYOO subordinators could be the markedness of UH embedding under RENTAI-subordinators. To my ear, UH embedding under RENTAI subordinators sounds slightly more marked than UH embedding under RENYOO subordinators, because the former is less frequent to encounter in a daily life conversation than the latter. UH embedding under RENYOO subordinators is more natural in a context where a speaker is being extremely polite toward an addressee (e.g., in a context where a shop clerk apologizes to a customer who makes a complaint about their product in an extremely polite way to show his/her sincerity), compared to UH embedding under RENTAI-subordinators. This difference of markedness or frequency in UH embedding under RENTAI-subordinators and RENYOO-subordinators might have affected the result. Thus, Experiment 2 used only RENYOO-subordinators aiming to sharpen the result of the non-cP-embedding condition.[4]

In addition, the use of subject honorifics in the experimental items might have affected the results as well. A fair amount of RENTAI-subordinate clause items contained a honorable subject like teacher/professor and subject honorifics at the main verb like (11).

(11) Sample item with temporal adjunct

| | | | | | |
|---|---|---|---|---|---|
| Sato sensei-wa | [kare-ga | kokosei-deshi-ta | | koro-ni] | yoku |
| Sato teacher-TOP | he-NOM | high.school.student-UH.COP-PAST | | when-DAT | often |
| kochira-no | jazu kissa-ni | kayow-**are**-te | i-(mashi)-ta. | | |
| this-GEN | jazz cafe-DAT | go-SUBJ.HON-CV | be-UH-PAST. | | |

'Professor Sato often went to this Jazz cafe when he was a high school student. '

In contrast, less subject honorifics were used in RENYOO-subordinate clause items. Thus, some native speakers of Japanese may have counted the subject honorifics as the politeness toward the addressee, and rated the inconsistent items in the non-cP-embedding condition higher than expected. In other words, the presence of subject honorifics at the matrix clause may have ameliorated the violation of the consistency requirement in the inconsistent condition, ending up with a smaller rating difference in the RENTAI-subordinator items. Experiment 2 addresses these concerns by excluding all the honorific items other than UHs to avoid the effect of honorific expressions other than UHs.

Another potential concern is the relevance of the acceptability judgment task as a method for examining a discourse-level phenomena like UH marking. For instance, Branigan and Pickering (2017) pointed out that the acceptability judgment task is not always optimal to test linguistic representations because it can be easily influenced by non-linguistic factors like sentences' probability of occurrence (see also Bresnan, 2007). Since the use of embedded UHs is a marked construction in general, the less probability of such a sentence

[4] I conducted another acceptability judgment experiment with only RENYOO-subordinate clause items. It basically replicated the result of Experiment 1, which is why I do not show it in the main text. See Appendix A for the result.

to occur might have affected the judgments of acceptability. In addition, as the acceptability judgment is an offline judgment, it might not be sensitive enough to capture the difference (if any) in how embedded UHs are licensed depending on the subordinate clause type. Though the result of the sanity check items suggests that the participants rate syntactic anomalies (i.e., mismatch in NCI) worse than pragmatic infelicities (i.e., mismatch in gender of the first person pronoun and the sentence final particle), it is not guaranteed that the mismatch in the politeness level between an embedded clause and a matrix clause are judged in the same way, showing a similar response pattern in the ratings. Thus, Experiment 2 uses an online measurement, a speeded two-choice sentence completion task, to check whether the finding in Experiment 1 can be replicated.

## 4.3 Experiment 2

### 4.3.1 Design

Experiment 2 uses a speeded two-choice sentence completion task. In this task, the participants first look at a preamble whose main verb position is a blank, as in screen 1. Then, they move on to the second screen by pressing the spacebar. On screen 2, the participants will be asked to pick one answer which they think fits the best to the blank in the preamble within 3 seconds.

Screen 1

| | | | | | |
|---|---|---|---|---|---|
| Shigoto-ga | hayaku | owari-mashi-tara, | kyoo-wa | nomi-ni | _______. |
| work-NOM | early | finish-UH-if | today-TOP | drink-DAT | |

'If I finish my work early, I will ___ for a drink today. '

Screen 2

| | |
|---|---|
| 1. ik-u. | 2. iki-mas-u. |
| go-PRES | go-UH-PRES |

Experiment 2 was constructed as 3×1 design manipulating three levels of subordinate clause type (baseline, cP-embedding, and non-cP-embedding) because UH consistency works as a dependent variable in this experiment. The sample item set is shown in (12).

(12) a. Baseline

Shigoto-ga hayaku owari-mashi-ta. Kyoo-wa nomi-ni {ik / iki-mas}-u.
work-NOM early finish-UH-PAST. today-TOP drink-DAT {go / go-UH}-PRES

'I finished my work early. I will go for a drink today.

b. cP-embedding

Shigoto-ga hayaku owari-mashi-ta kara kyoo-wa nomi-ni {ik / iki-mas}-u.
work-NOM early finish-UH-PAST because today-TOP drink-DAT {go / go-UH}-PRES

'Since I finished my work early, I will go for a drink today.

c. Non-cP-embedding

Shigoto-ga hayaku owari-mashi-tara kyoo-wa nomi-ni {ik / iki-mas}-u.
work-NOM early finish-UH-if today-TOP drink-DAT {go / go-UH}-PRES

'If I finish my work early, I will go for a drink today.

The prediction of Experiment 2 is as follows: if the syntactic approach is true, the proportion to pick the polite one in the two-choice task should be significantly larger in the non-cP-embedding condition than in the cP-embedding condition. This is because the presence of an embedded UH marker under a non-cP-embedding subordinator signals that there should be a matrix UH that is licensed by the matrix cP along with the embedded one. Assuming that the longer distance between licensor (i.e., cP) and licensee (i.e., UH markers) imposes more processing cost, the reaction time should be slower in the non-cP-embedding condition if the syntactic account is correct. On the other hand, if the pragmatic account is correct, the proportion to pick the polite one in the two-choice task will not be significantly different between the cP-embedding condition and the non-cP-embedding condition as the update in pragmatic storage should be ignorant of the types of a subordinate clause. The reaction times should also look the same between the cP-embedding condition and the non-cP-embedding condition, as the update in pragmatic storage must be done in the same way regardless of the subordinate clause type.

### 4.3.2 Materials

The total of 18 target items with RENYOO-subordinators (9 items with *tara*-conditionals and 9 items with *te*-gerundive clauses) were prepared. Honorific expressions other than UHs were excluded from the items. The target items were pseudo-randomized with 34 fillers and presented in three lists following a Latin Square design.

The subset of the fillers (8 items) were used as sanity check items to see the general pattern of response and reaction times to the syntactic matching condition and the pragmatic matching condition in the speeded two-choice sentence completion task. The sanity check items were constructed as 2×1 factorial design manipulating matching in syntax and pragmatics as shown in (13). In these items, the predicate which needs to be matched with a preceding element was made to be blank in the preamble. More specifically, the embedded predicate position was a blank in the syntactic matching condition while the matrix predicate position was a blank in the pragmatic matching condition as shown in (13). In (13), the relevant preceding element is italicized and the critical predicate is bold-faced. The bold-faced predicates were the options appearing on the second screen.

(13) a. Syntactic Matching (Matching between NCI and negation)

[Ano bando-ga happyo-shi-ta shin-kyoku-wa *kesshite*
that band-NOM release-do-PAST new-song-TOP NCI
{**jidaiokure-ja-nai** / ***jidaiokure-da**} to] ore-wa
{outdated-COP-NEG / outdated-COP} COMP I.MASC-TOP
omot-ta-ze.
think-PAST-SFP.MASC

Intended 'I thought that new song which the band released is not outdated.'

b. Pragmatic/Stylistic Matching (Matching in gender of the first person pronoun and the sentence final particle)

# [Ano bando-ga happyo-shi-ta shin-kyoku-wa kesshite
that band-NOM release-do-PAST new-song-TOP NCI
jidaiokure-ja-nai to] *ore*-wa {**omot-ta-ze** /
outdated-COP-NEG COMP I.MASC-TOP think-PAST-SFP.MASC /
#**omot-ta-wa**}.
think-PAST-SFP.FEM

'I thought that new song which the band released is not outdated.'

Since the syntactic matching condition always have a blank in the middle of the sentence, half of the remaining fillers were made to have a blank in the middle so that participants will not identify the patterns. In addition, 2/3 of the reaming fillers used two consecutive root sentences so that the participants will not always see a sentence with a subordinate clause throughout the entire experiment. In all the trials, the positions of matching and mismatching options on screen 2 were counter-balanced so that participants do not click on the answer on one side all the time.

### 4.3.3 Participants and Procedure

Sixty self-reported native speakers of Japanese were newly recruited via Lancers. They were paid 480 yen (3.2 USD) for 30 minutes of participation. The data was gathered with PCIbex (Zehr and Schwarz 2018) same as Experiment 1. The participants were instructed to read the preamble closely and press the spacebar to proceed. Once they pressed the spacebar, two options to fill the blank in the preamble was presented. The participant were told to pick the one that they think fits the best to the blank in the preamble within 3 seconds. If they exceed the time limit, they got a feedback that encourages them to answer more quickly in the next trial. Before they start the experiment, there was a training session to attune the participants to the task. After the training session, there were 3 screening trials to see whether the participants understand the task correctly.

### 4.3.4 Results

No participant was excluded from the analysis. The reaction time data were log-transformed and the outliers (mean $\pm$ 2SD of the log-transformed reaction time) were removed from the analysis. The response data were analyzed with a logistic mixed effects

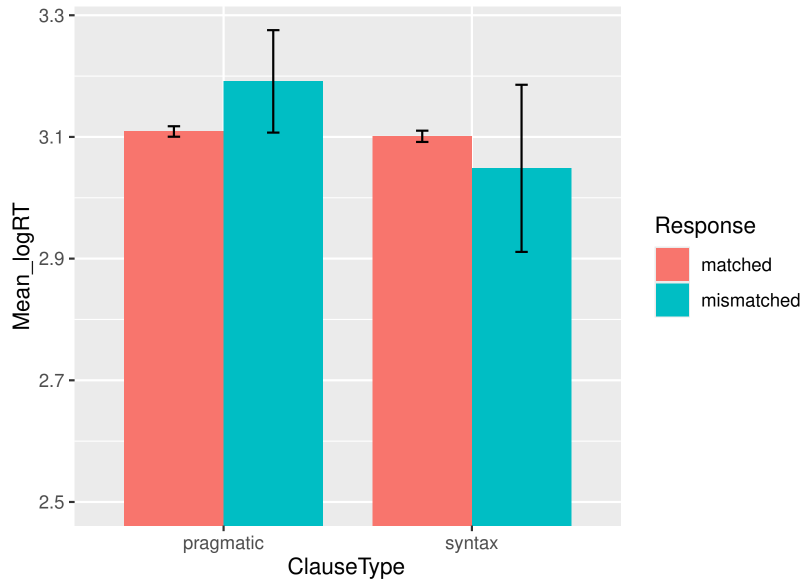



**Figure 4.8.** Mean Log-transformed Reaction Times of the Sanity Check Trials

The error bars indicate the SE of each condition. The response times that were over the mean ±2SD were excluded from the analysis.

model, and the response time data were analyzed with a linear mixed effects model using the lme4 package (Bates et al., 2015) in R 4.3.3.

#### 4.3.4.1 Results for the Sanity Check Items

The propotion of the responses to matching predicates was 96.6% in the syntactic matching condition while it was 95.4% in the pragmatic matching condition. The response results were analyzed by a logistic mixed effects model with crossed random effects for participants and items. The predictor for this logistic regression was SYNvsPRAG where the syntactic matching condition was coded as 1/2 and the pragmatic matching condition was coded as -1/2, using Helmert contrast coding scheme. The statistical analysis showed no significant difference of the syntactic matching condition and the pragmatic matching condition ($\beta$ = 7.241, SE = 4.778, z = 1.515, $p$ = .130).

The means of log-transformed reaction times in each condition are summarized in Figure 4.8. The visual inspection of Figure 4.8 suggests that there is no significant difference of reaction times between the pragmatic matching condition and the syntactic matching condition when the participant picked the predicate that matches with the preceding element. The reaction time results of the trials where the participants picked the matched answer was analyzed with the linear mixed effects model with crossed random effects for participants and items (Barr et al., 2013) by setting the SYNvsPRAG as the predictor. It did not show any significant difference of reaction times between the syntactic vs pragmatic matching condition ($\beta$ = -0.013., SE = .034, t = -0.379, $p$ = .715).

The reaction time results of the sanity check trials were also analyzed with a linear mixed effects model with crossed random effects for items and random effects for participants[5]. In the linear regression, the ANSWER-TYPE was added as the secondary predictor of the reaction time, along with the SYNvsPRAG predictor. The matching answers were coded as 1/2 and the mismatching answers were coded as -1/2. The model showed that neither ANSWER-TYPE nor SYNvsPRAG was significant ($p$s $>$ .099), however, it showed a significant interaction of ANSWER-TYPE and SYNvsPRAG ($\beta$ = .28, SE = .100, t = 2.829, $p$ = .016). Though I think that the reliability of the significance in the interaction is fragile as the number of the mismatching responses is relatively small, this statistical result suggests that the participants took more time when they picked a mismatching answer in the pragmatic matching condition while they were faster to pick a mismatching answer in the syntactic matching condition.

#### 4.3.4.2 Results for the Target Items

The propotions of the responses to UH-marked predicates were 92.4% in the baseline condition, 91.6% in the cP-embedding condition, and 91.5% in the Non-cP-embedding condition. The response results were analyzed with a logistic mixed effects model with random intercepts for participants and items, since the models with more complex random effect structure failed to converge. The first predictor for this model was BASEvsOTHER in which the baseline condition was coded as 2/3 and other two conditions were coded as -1/3, respectively. The second predictor was cPvsNon-cP, where the baseline condition was coded

[5] The maximally complex model with crossed random effects for participants and items failed to converge

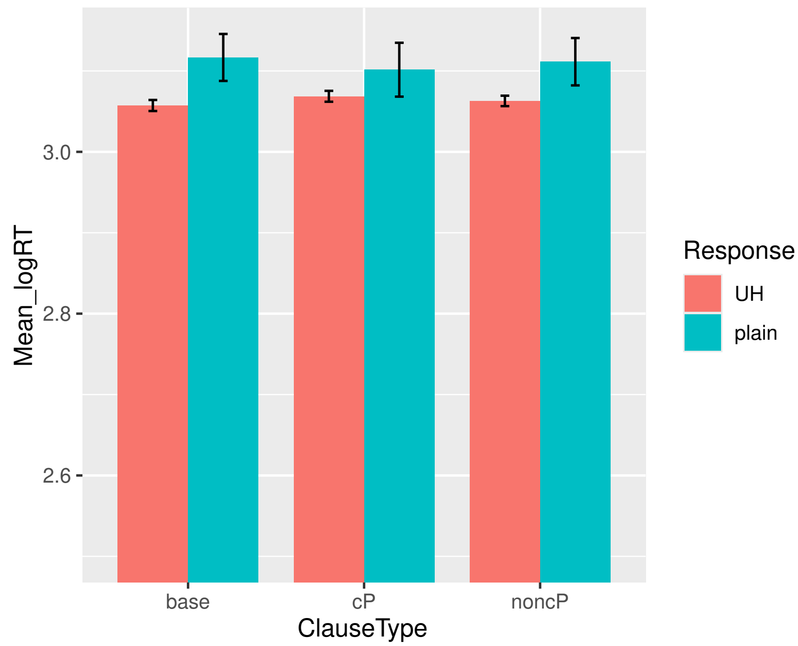



**Figure 4.9.** Mean Log-transformed Reaction Times of the Target Trials.

The error bars indicate the SE of each condition. The response times that were over the mean ±2SD were excluded from the analysis.

as 0, the cP-embedding condition as 1/2, and the Non-cP-embedding condition as -1/2. The statistical analysis showed no significant difference of clause types (BASEvsOTHER $\beta$ = .089, SE = .279, z = .31, $p$ = .75; cPvsNoncP $\beta$ = .058, SE = .312, z = .187, $p$ = .852).

The means of log-transformed reaction times of each subordinate clause condition are summarized in Figure 4.9. The visual inspection of Figure 4.9 shows that each clause type condition has the same distributional pattern such that the participant picked UH-marked predicates faster than plain predicates. This pattern is the same as the pragmatic matching condition of the sanity check items. The reaction time results of the trials where the participants picked a UH-marked option were analyzed with a linear mixed effects model with random intercepts for participants and items. The models with more complex random effect structure were failed to converge. The model showed no significant difference of clause types (BASEvsOTHER $\beta$ = -0.004, SE = .006, t = -.0663, $p$ = .508; cPvsNoncP $\beta$ = .006, SE = .007, t = .832, $p$ = .406).

The linear mixed effects regression of the reactions times for all the target trials was also conducted by adding ANSWER-TYPE as another predictor for the reaction times. For the ANSWER-TYPE predictor, UH-marked answers were coded as 1/2 and plain answers were coded as -1/2. The best complex model that converged was the one with random effects for participants and crossed random effects for items. The models showed neither clause type nor ANSWER-TYPE was significant ($p$s $> .07$). The interactions between clause type and ANSWER-TYPE were not significant as well ($p$s $> .41$).

### 4.3.5 Discussion

Overall, the results of Experiment 2 were not entirely conclusive, due to the response results being close to the ceiling effect in both the sanity check items and the target items. Given the small number of incorrect responses, I need to say that the reliability of the statistical analysis is limited. I suspect that the task was too simple for the participants to engage in, which leads the low proportion of incorrect answers. To avoid this issue in the future research, it might be better to add distractors to the options on screen 2 or to have a shorter time limit to make the task slightly more difficult.

That being said, the pattern of the reaction time results is worth seeing, I believe. The reaction time result of the sanity check items showed that the participants took more time when they pick an mismatching answer in the pragmatic condition than the syntactic condition, as the linear regression showed the significant interactions of SYNvsPRAG and the ANSWER-TYPE. This result appears to be pointing that the participants were slightly less confident about which sentence final particle (masculine or feminine) matches with the gender of the first person pronoun in the preamble when they made a decision, compared with when they make a decision on whether the predicate matches with the preceding NCI in the preamble.

The reaction times for the target items followed the same pattern as those observed in the pragmatic matching condition of the sanity check items, across the different subordinate clause conditions. Recall that the statistical analyses indicated no significant difference in clause type and no significant interaction between clause type and answer type. This pattern seems to be suggesting that the consistency requirement of UH embedding is judged in a similar way to the matching in gender of a first person pronoun and a sentence final particle, rather than the matching between an NCI and negation. Though a definitive conclusion cannot be drawn as Experiment 2 only found a null result, this pattern of the reading time results for the target items seems to be pointing that the consistency of UH marking between an embedded clause and a matrix clause is maintained pragmatically but not syntactically, which could be a partial support for Yamada's (2019) analysis.

### 4.4 General Discussion

In this Chapter, I have explored the consistency requirement of Japanese UH embedding with psycholinguistic methods, aiming to quantitatively evaluate the previous theories of Japanese UH embedding. In Experiment 1, I conducted an acceptability judgment study to examine whether the penalty for violating the consistency requirement differs depending on the subordinate clause types. Experiment 1 showed a null result that there were no significant differences of the clause type, which suggests that the consistency requirement of UH embedding is judged in the same way across the different types of subordinate clauses. In Experiment 2, I conducted a speeded two-choice sentence completion task to see whether there is a difference in reaction times when the participants check the consistency requirement of UH embedding across the different types of subordinate clauses. Experiment 2 showed that there were no significant differences in the propotions of responses and in the reaction times across the different subordinate clause types, which again weakly suggests that the consistency requirement of embedded UH is checked in the same way across the different subordinate clause types.

Overall, the null results in Experiment 1 and 2 suggest that no positive evidence for the syntactic account by Tomioka and Ishii (2022) was found in the experiments. Rather, the results appeared to be more aligned with the pragmatic account of the consistency requirement by Yamada (2019), as it does not expect any difference between of the clause types in satisfying the consistency requirement of embedded UHs. These conclusions are essentially the partial answers to RQ2 and RQ3, as summarized in (14).

(14) RQ2: How are embedded UHs licensed?

A. Licensing of embedded UHs does not involve a long distance agreement.

RQ3: How is the consistency requirement satisfied?

A. The consistency in honorificity is checked pragmatically, but not syntactically.

Though a strong conclusion cannot be drawn out of the null results, I would like to pursue a theory of embedded UH without assuming the agreement to license embedded UHs in the following chapter, based on the results of the present experiments.

# Chapter 5

## THEORY OF EMBEDDED ALLOCUTIVITY IN JAPANESE

In the previous chapters, I have addressed the first three of the four research questions, repeated in (1).

(1) Research Questions

RQ1: Is the embeddability of UHs due to the embeddability of cP in Japanese?

RQ2: How are embedded UHs licensed?

RQ3: How is the consistency requirement satisfied?

RQ4: Why does the three UH markers show different embedding patterns?

Chapter 3 answered RQ1 by pointing out two empirical issues of embeddable cP analysis: (i) the embedding patterns of UHs differ from the embedding patterns of other root clause phenomena in Japanese, and (ii) it cannot explain why embedded UHs and embedded indexicals in a *koto*-clause cannot be shifted. Based on these facts, I argued that cP is generally restricted to root clauses. In Chapter 4, I provided partial answers to RQ2 and RQ3 by conducting two psycholinguistic experiments. The results of the experiments suggested that (i) the licensing of embedded UHs do not involve a long distance agreement and (ii) the consistency requirement is checked pragmatically as Yamada (2019) proposed.

Given the discussion in the previous chapters, a theory of Japanese UH marking must satisfy the following three desiderata.

(2) Desiderata for a Theory of Embedded Allocutivity in Japanese

a. An account for the embedding patterns of the three UH markers. (= RQ4)

b. Mechanisms to embed UHs without embeddable cP. (see Chapter 3)

c. System to link (embedded) UHs to the matrix c-head without agreement (see Chapter 4)

To satisfy these requirements, I propose the analyses summarized in (3).

(3) Proposals

a. Japanese UHs are embeddable because they occupy a relatively low position in syntax. The embeddability of the three UH markers is largely determined by their morphosyntactic properties, as Tomioka and Ishii (2022) argued.

b. Japanese UHs are expressive honorific particles anaphoric to the speaker/addressee arguments in the local cP. Due to their expressive properties, they can be used anywhere as long as they satisfy their morpho-syntactic requirement.

c. As the majority of subordinators cannot embed cP, the closest cP to embedded UHs is usually the matrix cP. As a result, embedded UH markers encode the respect from the speaker in the utterance context to the addressee in the utterance context.

It should be noted that, in (3b), the term 'anaphoric' is used in semantic sense but not in syntactic sense. That is, 'being anaphoric' in this thesis only means that the referents of UHs are dependent on the preceding elements (i.e., the speaker/addressee in the local cP). Hence, I do not assume that UHs obey the regular Binding Condition A such that UHs must be bound within the same clause.

The theoretical hunch behind the proposal (3a) and (3b) is largely the same as Tomioka and Ishii (2022). I consider that the use of embedded UHs comes from the speaker's desire or a social pressure to express his/her deferential attitude toward the addressee in the early stage of an utterance. Given the expressive properties of UHs (see section 5.1.1), I assume that UHs are expressive honorific particles that a speaker can use as many times as (s)he wants, as long as each UH marker satisfies its morphosyntactic requirement such that *mas* follows a verb, $des^N$ attaches to a nominal predicate, and $des^A$ comes after canonical adjectives. In this sense, I argue that the use of embedded UHs is fundamentally the same as the repeated use of epithets like (4).

(4) a. **Damn**, I left my keys in the car.

b. **Damn**, I left my **damn** keys in the car.

c. **Damn**, I left my **damn** keys in the **damn** car. (Potts, 2007b)

The proposal in (3c) comes from the fact that the assumption of embeddable cP does not work well with Japanese UHs as we saw in Chapter 3. In particular, I think that the shiftability of the embedded allocutivity is correlated with the embeddability of speaker/addressee arguments (or more specifically, the embeddability of cP in Japanese) in line with Alok and Baker (2018) and Baker (submitted). Given the fact that embedded UHs in Japanese do not shift except for a direct or blended speech *to*-clause, I assume that the subordinators other than *to*-clause generally select a phrase smaller than cP, which makes embedded UHs only encode the respect from the speaker in the utterance context to the addressee in the utterance context.

This chapter is organized as follows. Section 5.1 shows the expressive properties of UHs. In Section 5.2, I will show some evidence why I believe that Japanese UHs do not involve an Agree operation. In Section 5.3, I will analyze the syntactic positions of each UH marker. Section 5.4 analyzes how embedded UHs are linked to cP and how they are computed. Based on the analysis in Section 5.3 and Section 5.4, I will address the effects and puzzles of embedded UHs presented in the previous literature in Section 5.5. In sSction 5.6, I will briefly discuss the doubling of UHs in negaitve past sentences. Section 5.7 concludes this chapter.

## 5.1 UHs as Expressives

In the literature, Japanese UHs are considered to be expressives, whose meaning is computed in a different dimension from the at-issue/propositional meaning (Potts and Kawahara, 2004; Potts, 2007b; McCready, 2014; Watanabe et al., 2014; McCready, 2019; Portner et al., 2019; Yamada, 2019 among others). This is because Japanese UHs exhibit the properties of expressives in (5).

(5) a. Nondisplaceability / Independence: expressive content does not interact with other semantic operators like negation or quantifiers.[1]

b. Immediacy: expressive content acts on the context, but does not impact the propositional content.

c. Descriptive Ineffability: speakers were never satisfied with a propositional paraphrase of expressive meaning.

d. Repeatability : expressives can be repeated.

The property of nondisplaceability / independence can be observed in (6). Although *mas* comes before the negative marker *-n*, (6) still means that the speaker respects the addressee. Thus, the honorific meaning of *mas* is not interacting with semantic operators of at-issue meaning.

(6) Kochira-no seehin-wa arukooru-o hukun-de-ori-mase-n.
This-GEN product-TOP alcohol-ACC contain-CV-be.HON-UH-NEG
At-issue: This product does not contain alcohol.'
Non-at-issue: The speaker respects the addressee.

Immediacy can be observed with the conversation between the boss A and the employee B, shown in (7). The boss A starts his question using *mas* to keep the formality between A and B in a working situation, and B answers it with *mas* showing the respect for the boss. In the second utterance of the boss, he does not use *mas* to indicate a closer and more intimate personal relationship. This could be done because the boss may be aiming to make an inappropriate level of intimacy, or because they have been working together for a long time and being good friends such that the boss wants to use less formal speech style to ask the personal schedule of B. In this sense, *mas* is used performatively to establish a certain relationship between the speaker and the addressee.

[1] Potts and Kawahara (2004) and Potts (2007b) used nondisplaceability and independence as different terms: the former refers to the behavior that expressives projects out of the presupposition holes like *know* (Karttunen, 1973) while the latter refer to the behavior that expressives do not interact with other semantic operators. However, McCready (2019) claimed that nondisplaceability follows from independence. Following her lead, I will treat them as a single criterion for the expressivity.

(7) A: Kyoo-no sukejuuru-wa doo nat-te i-**mas**-u-ka?
today-GEN schedule how become-CV be-UH-PRES-Q
'What is today's schedule?'

B: Kyoo-wa san-ji-ni kaigi-ga ari-mas-u.
today-TOP 3-o'clock-at meeting-NOM exist-UH-PRES
'You have a meeting at 3pm, today.'

A: Wakari-**mashi**-ta. Tokorode, konya-wa aite-i-ru?
understand-UH-PAST By.the.way tonight-TOP available-be-PRES
Nomi-ni ik-oo-yo.
drinking-DAT go-EXH-SFP
'Okay. By the way, are you available tonight? Let's go for a drink.'

(Yamada, 2019 :(48) in Chapter 5 modified)

The descriptive ineffability can be observed with the contrast between (8a) and (8b). The at-issue meaning of (8a) is that the speaker does not respect the addressee. However, *mas* can be used without causing a contradiction. It encodes the speaker's polite attitude toward the addressee. In contrast, if the honorific meaning is expressed as an at-issue meaning as in (8b), it will be a contradiction.

(8) a. Watashi-wa anata-o sonkei shi-mase-n.
I-TOP you-ACC respect do-UH-NEG
At-issue: I do not respect you.
Non-at-issue meaning by *mas* : The speaker is being polite to the addressee.

b. * Watashi-wa anata-o sonkei shi-nai ga, anata-o sonkei su-ru.
I-TOP you-ACC respect do-NEG but you-ACC respect do-PRES
At-issue meaning: I do not respect you, but I respect you.

(Yamada, 2019 :(50), (51) in Chapter 5)

Following the previous semantic research on Japanese UHs (Potts and Kawahara, 2004; Potts, 2007b; McCready, 2014; Watanabe et al., 2014; McCready, 2019; Portner et al., 2019; Yamada, 2019 among others), I will deal the meaning of UHs with the multidimensional semantic system. As I presented earlier in this chapter, I consider that the use of embedded UHs is fundamentally the same as the repetitive use of other expressive elements like epithets, but not an instance of local addressee agreement reported in Magahi or Tamil. In the following section, I will show some justifications for the assumption that Japanese UHs are not an instance of addressee agreement.

## 5.2 Japanese UHs Do Not Involve Agree

### 5.2.1 Difference Between Allocutive Agreement and UHs

The idea that Japanese UHs are expressive honorific particles but not an instance of addressee agreement is derived from the fact that the morphological forms of Japanese UHs are not sensitive to the features of addressee, compared to allocutive markings in other languages. Though Miyagawa (2012; 2017; 2022) treated Japanese UHs on a par with allocutive agreement in Basque,[2] the morphological forms of Japanese UHs do not behave like the addressee agreement in Basque or Magahi if we take a closer look. Recall the paradigms of allocutive marking in Basque and Magahi, which are repeated in (9) and (10) respectively. In these languages, the form of allocutive marking changes depending on the gender or honorific status of the addressee, similarly to the subject-verb agreement which changes its form depending on the $\phi$-feature of the subject NP.

(9) Basque

a. To a male friend
Pettek lan egin di**k**.
Peter.ERG work do.PRF AUX-3.S.ERG-2.S.COLLOQ.MASC.AL

b. To a female friend
Pettek lan egin di**n**.
Peter.ERG work do.PRF AUX-3.S.ERG-2.S.COLLOQ.FEM.AL

c. To someone higher in status (formal)
Pettek lan egin di**zü**.
Peter.ERG work do.PRF AUX-3.S.ERG-2.S.FORMAL.AL

[2] In the later work, it has been argued that allocutive marking in Basque is a clitic, but not an addressee agreement (e.g., Arregi and Nevins, 2012; Preminger, 2009; Rezac et al., 2014 among others). In either analysis, the main point of this section will not be damaged as Japanese UHs do not behave like the allocutive marking in Basque.

d. Plural addressee

Pettek lan egin du.
Peter.ERG work do.PRF AUX-3.S.ERG

'Peter worked.'

(10) Magahi

a. To a peer

Ham jaa-it h-i-**au**.
I go-PROG be-1SG-NH.AL

b. To a parent or grandparent

Ham jaa-it h-i-**o**.
I go-PROG be-1SG-H.AL

c. To a king, priest, or professor

Ham jaa-it h-i-**ain**.
I go-PROG be-1SG-HH.AL

d. Non-allocutive

Ham jaa-it h-i-∅.
I go-PROG be-1SG

'I am going.'

In contrast, Japanese UHs do not change their forms depending on the honorific status or $\phi$-feature of the addressee. Rather, the forms of UHs are determined by the syntactic category of a preceding element as in (13): *mas* attaches to verbs, *des*$^N$ attaches to nominal predicates, and *des*$^A$ attaches to canonical adjectives. If the addressee is high honorific, one may use the UH upgrader *itas*- which raises the level of politeness expressed by the following UH marker as in (14), however, this is just a humble form of *sur*- 'do' and it does not change the form of a UH marker itself.

(11) Japanese

a. Mari-wa gakko-ni iki-**mashi**-ta.
Mari-TOP school-LOC go-UH-PAST

Mari went to school.

b. Mari-wa UD-no gakusee-**deshi**-ta.
Mari-TOP UD-GEN student-UH.COP-PAST

Mari was a UD student.

c. Kaigai ryokoo-wa totemo tanoshi-i-**desu**.
abroad travel-TOP very fun-PRES-UH
'It is very fun to travel abroad.'

(12) Kaigi-no shiryoo-wa kochira-de junbi-**itashi**-mas-u.
meeting-GEN materials-TOP we-at prepare-do.OH-UH-PRES
'We will prepare the materials for the meeting.' (high honorific addressee)

In this respect, the allocutive markings in Basque and Magahi behave like a canonical exponence of agreement reflecting some featural properties of the addressee such as gender or honorific status. On the other hand, the behavior of Japanese UHs looks more particle-like, as their form never changes depending on such properties of the addressee.

### 5.2.2 Difference Between Content Honorifics and UHs

In addition to the morphological difference, the interaction between second person pronouns and allocutive markers also suggests that Japanese UHs do not involve an agreement. Alok (2020) has reported that, in Magahi, the honorificity level of allocutive marking and that of second person pronouns have to be matched if they co-occur. If the high honorific allocutive marker is used as in (13a), the overt second person pronoun in the sentence also has to be the high honorific one. It is not acceptable to use the non-honorific second person pronoun with the high honorific allocutive marker. Similarly, if the speaker uses the non-honorific allocutive marking, then the second person pronoun in the sentence must be the non-honorific one as in (13b).

(13) a. **Aplne**-ke kaupii chah-{✓**ain** / ***au**}?
you.HH-DAT coffee want-HH.AL / NH.AL
'Do you want coffee?' (asked to a teacher)

b. **Toraa**-ke kaupii chah-{***ain** / ✓**au**}?
you.NH-DAT coffee want-HH.AL / NH.AL
'Do you want coffee?' (asked to a friend) (Alok, 2020: (23) in Chapter 3)

In contrast, a mismatch in the honorificity level of UHs and second person pronouns is more tolerable in Japanese (see Kaur and Yamada, 2021). As shown in (14a), the non-honorific second person pronoun *omae* may be used even if the sentence is utterance honorific marked. Though it is marked compared to the case where the honorificity level of second person pronouns matches that of UHs, the mismatch does not lead to ungrammaticality. Especially, (14a) with *omae* sound felicitous in a context where a stereotypical elegant upper middle class lady from Taisho to Showa era offers a cup of coffee to her son. Even the anti-honorific second person pronoun *kisama* can co-occur with *mas* as shown in (14b), which is often interpreted as an irony.

(14) a. {Anata / Omae}-mo kohii iri-masu-ka?
you.HON / you.NH-also coffee need-UH-Q
'Do you want coffee?'

b. Kisama-nanka-ni wakari-mase-n yo!
you.ANTIHON-something-DAT understand-UH-NEG SFP
'Someone like you wouldn't understand (me/it)!'

This behavior of UHs even contrasts with content honorifics in Japanese. As shown in (15), *omae* is infelicitous if it appears with subject honorifics or object honorifics.[3]

[3] Ikawa (2022) noted that content honorifics in Magahi are also sensitive to the honorific feature of argument DPs based on personal communication with Deepak Alok. The following examples all mean 'you ran', but the honorificity level of the pronoun mismatches with the honorificity level of the subject-verb agreement, which makes them ungrammatical.

(i) a. * Tu dauR-la-thi(n).
you.NH run-PERF-2.HH.SUBJ

b. * apne dauR-l-eN.
you.HH run-PERF-2.NH.SUBJ

c. * Apne dauR-l-a.
you.HH run-PERF-2.H.SUBJ
'You ran' (Ikawa 2022; (84) in Chapter 2)

(15) a. Subject Honorifics *irasshar-* 'to come'

{Anata / *Omae}-wa irashai-masu-ka?
{you.HON / you.NH}-TOP come.HON-UH-Q

'Are you coming?'

b. Object Honorifics *o-watashi-suru* 'to hand'

Kochira-o {anata / *omae}-ni o-watashi-shi-masu.
this-ACC {you.HON / you.NH}-DAT hand.OH-UH

'I will give this to you.'

In the literature, content honorifics in Japanese are argued to involve an Agree operation (e.g., Toribio, 1990; Niinuma, 2003; Hasegawa, 2006; Oseki and Tagawa, 2019; Ikawa, 2022). For instance, Toribio (1990) claimed that these content honorifics are obtained via Spec-head agreement with a honorific DP. Similarly, Niinuma (2003) claimed that Japanese content honorifics are the products of probing process from $v$ and T for the honorific feature on DPs.

More recently, Ikawa (2022) proposed a fine-grained syntactic analysis of object honorifics, arguing that it is obtained via agreement with index features on DPs. Her analysis was built on Kaur and Yamada's (2021) suggestion that the honorific meaning in Japanese second person pronouns is a descriptive content, but not an honorific feature on DP which interacts with other syntactic heads. Though Ikawa (2022) did not opt for the honorific feature agreement analysis, she showed some pieces of evidence that object honorifics still involve an Agree operation. For example, she pointed out that object honorifics are sensitive to a phase boundary as shown in (16). In (16a), the matrix predicate cannot be object-honorified because the NP *sensei* 'professor', which is the goal of the object-honorific agreement, is not in the same clause (i.e., the same phase) as the matrix verb. In contrast, she reported that the judgment is ameliorated in the raising-to-object construction in (16b). Notice that the NP *sensei* 'professor' is nominative case marked in (16a) while it is accusative case marked in (16b).[4]

[4] Ikawa (2022) speculated that the question mark on (16b) is due to the low frequency of object honorified use of *omo-u* 'to think'. As a native speaker, I personally agree with her judgments in (16) and her conjecture about the frequency.

(16) a. # Taroo-wa [sensei-ga o-kirei-da-to] **o-omoi-si**-ta.
Taroo-TOP teacher-NOM beautiful.HON-COP think.OH-do-PAST
'Taroo thought (object.honorific) the professor was beautiful.'

(Ikawa 2022: (18a) in Chapter 2)

b. ? Watashi-wa [sensei-o o-kirei-da-to] **o-omoi-si**-ta.
Taroo-TOP teacher-ACC beautiful.HON-COP think.OH-do-PAST
'Taroo thought (object.honorific) the professor to be beautiful.'

(Ikawa 2022: (20) in Chapter 2)

This observation shows that agreement in object honorifics is quite local. In the same vein, embedded object honorifics never show a respect from the matrix subject to the matrix indirect object, as shown in (17).

(17) Kengo$_1$-wa Tanaka-sensei-ni [kare$_1$-ga Reiko-o party-ni
Kengo-TOP Tanaka-professor-DAT he-NOM Reiko-ACC party-DAT
o-sasoi-shi-ta koto]-o houkokushi-ta.
invite.OH-do-PAST COMP-ACC report-PAST
At-issue: 'Kengo$_1$ told Prof. Tanaka that he$_1$ invited Reiko to the party.'
Embedded Object Honorifics:

a. ✓ Kengo respects Reiko.

b. # Kengo respects Prof.Tanaka.

In (17), the embedded object honorific predicate *o-sasoi-shi* 'to invite' can only mean that Kengo respects Reiko, but it does not mean that Kengo respects Prof.Tanaka.

As Tomioka and Ishii (2022) reported, this kind of sensitivity to phases cannot be observed in UHs. Rather, they are almost free from locality conditions as embedded UHs always refer to the speaker and the addressee in the utterance context except for a direct speech context. The relevant example is repeated in (18). Recall that the most deeply embedded *mas* in (18) shows the respect from the utterance speaker to the addressee in the utterance context along with the matrix *mas*.

(18) Watakushi-wa [ [ sensei-ga okaerininari-**mashi**-ta koto]-ni musuko-ga
I-TOP teacher-NOM return.HON-UH-PAST COMP-DAT son-NOM
kizuka-zu-ni *i-ta* koto]-o zan'nen-ni omot-te-ori-mas-u.
notice-NEG-DAT be-PAST COMP-ACC regretful-DAT think-CV-PROG-UH-PAST
'I regret (polite) that my son didn't realize (plain) that the professor left (polite)'

(Tomioka and Ishii, 2022; (35))

Thus, given the observation that Japanese UHs are less sensitive to the honorific status of the second person pronoun unlike allocutive agreement in Magahi and the contrast between content honorifics and UHs, I conclude that Japanese UHs are not licensed via Agree operation with the addressee argument in the left clause periphery.

### 5.2.3 What the UH Markers Really Are

So far, I have shown that Japanese UH marking is not an instance of addressee agreement. However, it is still unclear what they actually are. In the proposal (3b), I intentionally defined them in a blurry way by calling them 'particles' following the typological classification of allocutive markers by Alok and Haddican (2022) (see Chapter 6). This is because Japanese UH marking is a set of bound morphemes that are semantically identical but have morphosyntacitally different properties. To fully understand this nature of Japanese UHs, we need to look at the treatment of UHs in the traditional Japanese grammar and the historical facts about the development of the three UH markers in this section.

In the traditional Japanese grammar, the three UH markers are treated equally as *jodooshi* 'auxiliary verbs' as they satisfy the following two criteria: (i) they are bound morphemes which semantically work as a helping verb and (ii) they have *katsuyoo-kei* 'conjugational forms' shown in Table 5.1 (see also section 2.3.2.1). In Table 5.1, the conjugational pattern of the causative morpheme *-(s)as-*, which is also categorized as *jodooshi*, is given as a reference point. Even though the conjugational paradigms of *des*$^N$ and *des*$^A$ are much more impoverished than *mas*, they are still considered to be a part of *jodooshi* category. Thus, following the traditional Japanese grammarians' view, one could argue that the three UH markers belong to the single category of auxiliary verbs. Intuitively, this classification makes sense. However, given the difference in the richness of conjugation among the three

| | *mas* | $des^N$ | $des^A$ | *-(s)as-* |
|---|---|---|---|---|
| Mizen-kei (pre-negation form) | *mase* | ∅ | ∅ | *-(s)ase-* |
| Ren'yoo-kei (continuous form) | *mashi* | *deshi* | ∅ | *-(s)ase-* |
| Rentai-kei (adnominal form) | *masu* | *desu* | *desu* | *-(s)aseru* |
| Shuushi-kei (conclusive form) | *masu* | ∅ | ∅ | *-(s)aseru* |
| Katei-kei (*ba*-conditional form) | ∅ (*masure*) | ∅ | ∅ | *-(s)asere-* |
| Meirei-kei (imperative form) | *mase, mashi* | ∅ | ∅ | *-(s)asero* |

Table 5.1: Conjugational Paradigms of Japanese UHs

UH markers, it is awkward to classify them as a single category 'auxiliary verbs' from the generative grammarians' perspective.

The difference in the richness of conjugation among the three UH markers stems from historical factors. Historically, *mas* is originated from *-mair-as(u)-*, which is the combination of *-mair-* the object honoric form of 'go/come' and the causative morpheme *-(s)as-*. It has been reported that the lexical meaning of *-mair-as(u)-* bleached out and it developed into a UH marker in the 14th-15th century, though the phonological change from *-mair-as(u)-* to *mas* continues in the 16th century[5]. Hence, the rich conjugational pattern of *mas* in Contemporary Japanese is considered to be the remnant of a lexical verb property of *-mair-as(u)-*.

In contrast, the origin of *des* is unclear and there are several hypotheses about it (Odani, 2012). For instance, some researchers think that *des* was originally a contraction of *de-ari-masu* 'COP-exist-*mas*', while others believe that it is derived from *de-saburaw(sooraw)*, which is the combination of the copula *de* and the object honorific form of 'be' *-saburaw/-sooraw*. Though it has been reported that *des* was observed as early as in the 17th century, it did not spread to the general population untill the early to mid 19th century (Yuzawa, 1954). Accoding to the literature, *des* was used only with nouns at the beginning, and started to be paired with canonical adjectives in the late 19th century. The trace of this development is actually observable in the difference of morphological orders in the two types of *des* as we saw in Chapter 2: $Des^N$ appears in the same position as the regular copula *da* (i.e., in

[5] See Yamada (2019; section 2.4) for the detailed history of grammaticalization of *mas* as a UH marker.

between a noun and a tense morpheme), while *des*$^{A}$ shows up after the tense marker. As we will see in section 5.3.4, the use of *des*$^{A}$ further spreads to non-adjectival predicates recently, which suggests that it is getting more similar to Korean speech style particles.

Given the difference in their origins and their morphological ordering, I consider that Japanese UH marking is a set of bound morphemes that are semantically identical but morphosyntactically different. As *mas* is much closer to lexical category while the two types of *des* are closer to functional category, I think it is impossible to group Japanese UH makers into a single sytnactic category. Hence, I loosely define Japanese UH markers as 'expressive honorific particles' in this thesis following the typological classification of allocutive markers by Alok and Haddican (2022).[6]

### 5.3 Morpho-syntax Determines the Embeddability of UHs

In this subsection, I will spell out the syntactic analysis of each UH marker building on the discussion in the previous sections. I generally concur with the structure-embeddability correspondence scheme by Tomioka and Ishii (2022) to account for the embedding patterns of the three UH markers. Recall that *mas* is the most embeddable among the three, followed by *des*$^{N}$, and *des*$^{A}$ is the least embeddable among the three as summarized in Table 5.2. It should also be reminded that the embedding pattern of *des*$^{N}$ is complex, as the past tense version *deshi-ta* shows the same embedding pattern as *mas* while the non-past/present counterpart *des-u* cannot be hosted by *koto*-complement clauses, relative clauses, and temporal adjuncts. This is indicated by (*) in the *des*$^{N}$ column in Table 5.2.

To put differently, the embedding patterns of the three UH markers show a proper subset-superset relation in (19) as Tomioka and Ishii (2022) showed. Recall that Tomioka and Ishii (2022) proposed the structure-embeddability correspondence scheme in (20) to account for these embedding patterns (see Section 2.4.3).

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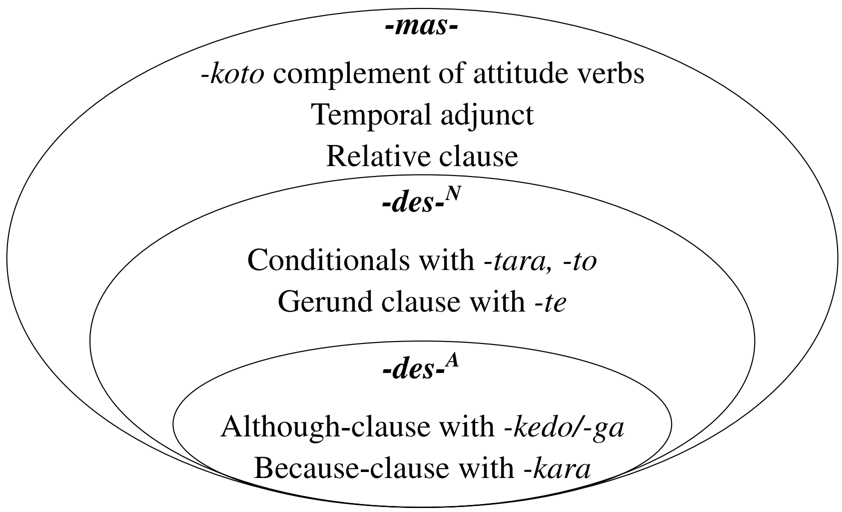
[6] It should be noted that I believe Japanese UH markers are different from allocutive clitics in Galician (see Alok and Haddican, 2022), as Japanese UHs are derived from predicative elements. See Chapter 6 for the details of Galician allocutive clitics.

| | *mas* | *des*$^N$ | *des*$^A$ |
|---|---|---|---|
| Indirect Speech *to*-clause | * | * | * |
| *Koto*-complement clause | ✓ | (*) | * |
| Relative clause / Temporal Adjuncts | ✓ | (*) | * |
| Conditionals with *tara/to* | ✓ | ✓ | * |
| Genrundive clause with *te* | ✓ | ✓ | * |
| Although-clause with *-ga/-kedo* | ✓ | ✓ | ✓ |
| Because-clause with *-kara* | ✓ | ✓ | ✓ |
| *Tsutsu* / *Nagara*-clause | * | * | * |

Table 5.2: Summary of Japanese UH Embedding Patterns

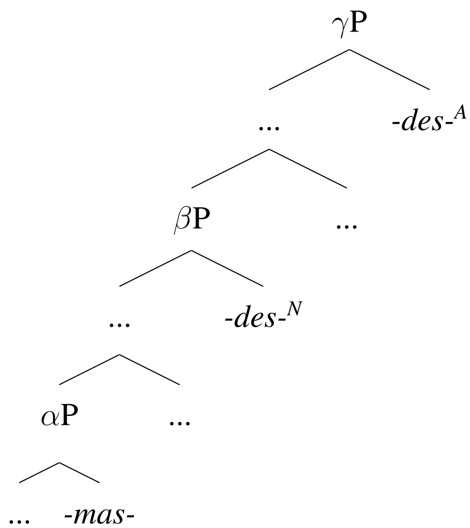
(19) Embedding patterns of *mas*, *des*$^N$ and *des*$^A$ (Tomioka and Ishii, 2022; (22))




(20) The Structure-Embeddability Correspondence Scheme

a. Different embedders target clauses of different sizes.

b. The three UH markers occupy different syntactic positions at the Spell-Out: *des*$^A$ is in the highest position, followed by *des*$^N$ and *mas* c.




Under their proposal, a subordinator which selects $\alpha$P in (20) can only host *mas*, a subordinator which selects $\beta$P can host *mas* and *des*$^N$, and a subordinator which selects $\gamma$P can host all the UH markers.

Adopting and updating their proposal, I assume that (i) each UH marker is a head that can be merged to a head of extended verbal projections in the sense of Grimshaw (2000; 2005) as long as they satisfy their morphological requirement and (ii) their embeddability is determined by the size of the phrase structure that each complementizer selects. More specifically, I suggest (21). The assumption in (21a) is schematized in (22). It should be noted that I do not assume a post-syntactic operation like Distributed Morphology (Halle and Marantz, 1993) to obtain a specific morphological order in this thesis. [7]

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[7] I thank Mark Baker for suggesting the "one morpheme / three allomorphs" view of Japanese UH markers, as opposed to the "three morphemes" account adopted in this work (see the PF restrictions in (21c)). The "one morpheme / three allomorphs" view is particularly appealing given the fact that *mas*, *des*$^N$ and *des*$^A$ are in complementary distribution such that *mas* follows a verb, *des*$^N$ follows nouns, and *des*$^A$ follows adjectives. For instance, one could argue that they are the allomorphs of the same UH-feature adjoining to the extended verbal projections, assuming the Vocabulary Insertion Rules like (i) using Distributed Morphology framework. This seems to be on the right track given the fact that *des* appears in a nominal periphery like (ii).

(i) a. [UH] $\leftrightarrow$ *mas* / [$_{\text{Pol}}$ ___ Pol ]
b. [UH] $\leftrightarrow$ *des* / elsewhere

(21) a. Each UH marker is a head that can be merged to a head of extended verbal projections in the sense of Grimshaw (2000; 2005). Specifically,

i. *Mas* merges with Polarity-head in the base generation.

ii. $Des^N$ merges with T-head in the base generation, but the non-past tense version *des-u* obligatorily moves to Fin-head.

iii. $Des^A$ merges with c-head in the base generation.

b. Given these positions of the UH markers, the embeddability of the UHs is determined by the size of the phrase that each subordinator selects.

c. If the merger of UH-head yields a morphological order that does not obey the following morphological requirements, the derivation will be filtered out at PF.

i. *Mas* must follow a lexical verb in linear order.

ii. $Des^N$ must follow a non-inflectional category in linear order.

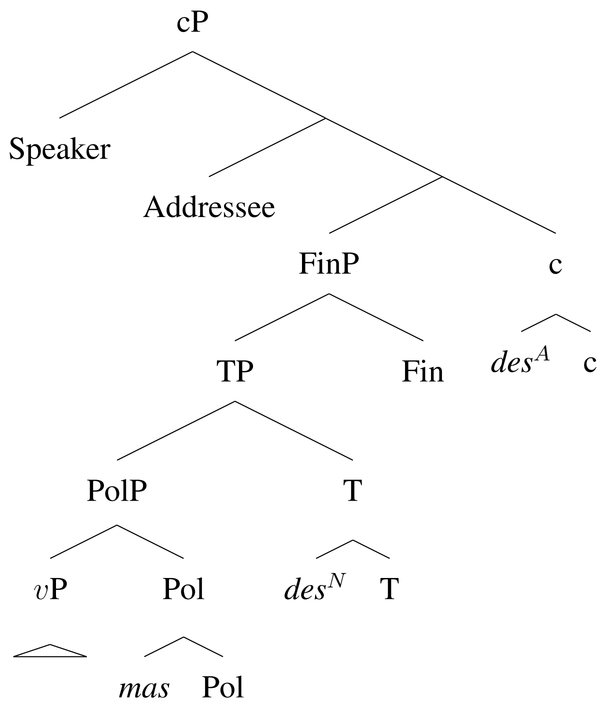
iii. $Des^A$ must follow a non-UH marked predicate in linear order.

---

(ii) Watashi-wa-**desu**-ne, gakko-ni-**desu**-ne, it-ta-n **desu**-yo.
I-TOP-UH-SFP, school-to-UH-SFP go-PAST-NMLZ UH-SFP
'I went to school' (Yamada, 2019; footnote 23 in Chapter 5 modified)

However, the simple allomorphy expressed in (i) cannot capture the differences in the morpheme ordering of the three UH markers and the embedding patterns of the three UH markers. If one argues for this line of approach, they need to assume some other operations so that the UH-head can see the syntactic category of the linearly preceding element. Hence, I will stick on to the "three morphemes" view as the main focus of this thesis is to capture the difference of embeddability among the three UH markers (see also the discussion in section 5.2.3).

(22)




The assumptions in (21a) and (21b) are modifications of the ideas proposed by Tomioka and Ishii (2022). The assumption in (21c) is added to their proposal to exclude an ungrammatical pairing of predicates and UHs such as *isogashi-mas* ‘busy-*mas*’ (a combination of canonical adjective + *mas*) or *yomu-deshi-ta* ‘read-*des*$^N$-PAST’ (a combination of verb + *des*$^N$). In the following subsections, I will show the justifications and detailed discussions of these assumptions in (21).

### 5.3.1 The Position of *mas*

Let us start with the position of *mas*. In the previous literature, it has been widely assumed that *mas* is sitting around the outer-most edge of $v$P. For instance, Miyagawa (1987; 2022) assumed that *mas* is a head of AgrP which merges on the top of $v$P. Similarly, Tomioka and Ishii (2022) assumed that *mas* merges at the outer-most edge of $v$P and moves to T-head afterwards to inflect for tense. These assumptions for the base position of *mas* comes from the fact that it appears after other verbal suffixes such as causative (23), passive (24), or applicatives (25), while it comes before the negative marker as in (26). Note that the negative marker has to be in a special form *-n* instead of the regular form *-nai* when it occurs with *mas* (see also Chapter 2).

(23) Causative

a. Saori-ga Marina-o hashi-rase-**mashi**-ta.
Saori-NOM Marina-ACC run-CAUS-UH-PAST
'Saori made Marina run.'

b. * Saori-ga Marina-o hashiri-**mas**-ase-ta.
Saori-NOM Marina-ACC run-UH-CAUS-PAST
'Saori made Marina run.'

(24) Passive

a. Kono kyoku-wa ooku-no hito-ni ai-sare-**mashi**-ta.
this song-TOP many-GEN people-DAT love-PASS-UH-PAST
'This song was loved by many people.'

b. * Kono kyoku-wa ooku-no hito-ni ai-**mashi**-sare-ta.
This song-TOP many-GEN people-DAT love-UH-PASS-PAST
'This song was loved by many people.'

(25) Applicative

a. Haha-ga watashi-ni keeki-o yai-te-kure-**mashi**-ta.
mother-NOM me-DAT cake-ACC bake-CV-APPL-UH-PAST
'My mother baked me a cake.'

b. * Haha-ga watashi-ni keeki-o yaki-**mashi**-te-kure-ta.
mother-NOM me-DAT cake-ACC bake-UH-CV-APPL-PAST
'My mother baked me a cake.'

(26) Negation

a. Mai-wa ki-**mase**-n.
Mai-TOP come-UH-NEG
'Mai is not coming.'

b. * Mai-wa ko-nai-**masu**.
Mai-TOP come-NEG-UH
'Mai is not coming.'

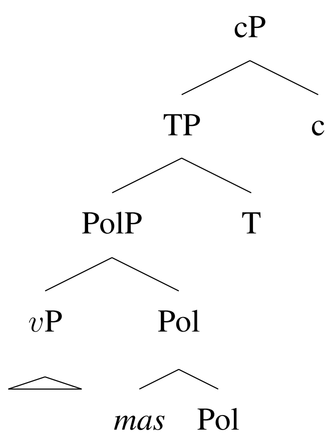
In contrast to Miyagawa (1987; 2022) and Tomioka and Ishii (2022), Yamada (2019) dismissed the idea to treat *mas* as a head merging on the top of $v$P because of the impossibility of VP preposing with *mas* in (27). Compare (27a) with the ungrammatical example in (27b). Yamada (2019) argued that, if *mas* is a head merging with $v$P, the preposing like (27b) should be possible in contrast to the fact.

(27) a. Kare-wa ason-de i-mase-n.
he-TOP play-CV PROG-UH-NEG
'He is not playing.'

b. * Kare-wa [ason-de i-mase]-wa -n.
he-TOP play-CV PROG-UH-FOC NEG
'He is not playing.' (Yamada 2019: (85) in Chapter 3)

Based on this observation, Yamada (2019) proposed that *mas* is obtained via Node Sprouting (Embick, 1997; Oseki and Tagawa, 2019) at Neg-head and licensed by the local agreement with the addressee argument. Incorporating Yamada's (2019) argument, I assume that *mas* merges with the head of Polarity Phrase (PolP) as shown in (28). This assumption also captures the widest distribution of embedded *mas* among the three UH markers (recall the pattern in Table 5.2). Since *mas* merges to a relatively low position in narrow syntax, the subordinators which select a phrase larger than PolP can embed *mas*.

(28)




Under this assumption, the remaining question for *mas* is why *tsutsu/nagara* 'during cannot embed *mas* despite the fact that a wide variety of subordinators can host it. The relevant example is repeated in (29).

(29) Sono-jikan-wa ofisu-de koohii-o nomi-(***mashi**)-{nagara/tsutsu}, shigoto-o
that-time-TOP office-at coffee-ACC drink-UH-while work-ACC
shite-ori-mashi-ta.
do-be.OH-UH-PAST
'Regarding that time, I was working in my office drinking a cup of coffee.'

(Tomioka and Ishii, 2022: (15b))

To explain this observation, I suggest that *tsutsu/nagara* 'during' cannot embed *mas* because it selects $v$P as its complement. This idea is supported by the fact that an overt nominative case marked subject inside a *tsutsu/nagara*-clause sounds unacceptable. Compare (30a) with (30b).

(30) a. ✓ Naomi-wa [koohii-o nomi nagara/tsutsu] hon-o
Naomi-TOP cofee-ACC drink during book-ACC
yon-de-i-ta.
read-CV-PROG-PAST
Naomi was reading a book while drinking a cup of coffee.

b. * Naomi$_1$-wa [kanojo$_1$-ga koohii-o nomi nagara/tsutsu] hon-o
Naomi-TOP she-NOM cofee-ACC drink during book-ACC
yon-de-i-ta.
read-CV-PROG-PAST
Naomi was reading a book while she was drinking a cup of coffee.

This observation holds even if the matrix subject and the embedded subject differ as shown in (31).

(31) ?* Naomi-wa [Keita-ga koohii-o nomi nagara/tsutsu] hon-o
Naomi-TOP Keita-NOM cofee-ACC drink during book-ACC
yon-de-i-ta.
read-CV-PROG-PAST
Naomi was reading a book while Keita was drinking a cup of coffee.

In the literature, it has been assumed that the nominative case marking is licensed by T-head in Japanese (see Takezawa, 1987). Thus, the lack of a nominative case-marked argument in *tsutsu/nagara*-clauses suggests that *tsutsu/nagara*-clauses do not embed a TP. In addition, the negative marker *-nai* cannot occur inside *tsutsu/nagara*-clauses as shown in (32).

(32) * Naomi-wa [koohii-o noma-nai nagara/tsutsu] hon-o yonde-i-ta.
Naomi-TOP cofee-ACC drink-NEG during book-ACC read-PROG-PAST
Intended: Naomi was reading a book without drinking a cup of coffee.

This example also suggests that the *tsutsu/nagara*-clause embeds a phrase smaller than PolP. Given these observations, I suggest that *tsutsu/nagara*-clauses select $v$P as its complement.

### 5.3.2 The Position of *des*$^N$

Compared to *mas*, the position of *des*$^N$ is complicated. Let us start our observation with the morphological order of *des*$^N$. As we saw in Chapter 2, *des*$^N$ comes before the tense marker as shown in (33). Unlike *mas*, *des*$^N$ cannot come before the negative marker as in (34a). To make (34a) grammatical, (34b) or (34c) will be used. These examples suggest that *des*$^N$ should be sitting somewhere above PolP and around TP-region.

(33) a. Mari-wa UD-no gakusee des-u.
Mari-TOP UD-GEN student COP.UH-PRES
'Mari is a student of UD.'

b. Mari-wa UD-no gakusee deshi-ta.
Mari-TOP UD-GEN student COP.UH-PAST
'Mari was a student of UD.'

(34) a. * Mari-wa UD-no gakusee des-en.
Mari-TOP UD-GEN student COP.UH-NEG
Intended: 'Mari is not a student of UD.'

b. Mari-wa UD-no gakusee de-wa ari-mas-en.
Mari-TOP UD-GEN student COP-TOP be-UH-NEG
'Mari is not a student of UD.'

c. Mari-wa UD-no gakusee ja ari-mas-en.
Mari-TOP UD-GEN student COP be-UH-NEG
'Mari is not a student of UD.'

Based on these observations, I assume that *des*$^N$ is base-generated at T-head. This assumption captures the fact that *des*$^N$ can be embedded in *te*-gerundive clauses and conditional clauses, assuming that these subordinators select a TP or larger as its complement. The relevant examples are repeated in (35). Notice that a nominative case marked subject may appear in these embedding contexts unlike *tsutsu/nagara*-clauses, which suggests that they embed at least TP given the analysis by Takezawa (1987).[8]

(35) a. Gerundive clause with *te*

[Tsuma-ga amerikajin-**deshi**-te,] ie-de-mo eigo-o
wife-NOM American-COP.UH-GERUND, home-LOC-also English-ACC
tsukatte-ori-mas-u.
use-be.OH-UH-PRES

'My wife being American, we use English at home.'

b. Conditional with *tara*

[Raishuu-wa suiyoubi-**deshi**-tara] aite-ori-mas-u.
Next.week-TOP Wednesday-COP.UH-PAST-if open-be.OH-UH-PRES

'About next week, if it's Wednesday, I will be free.'

c. Conditional with *to*

[Kokuseki-ga amerika-**desu**-to,] biza-ga iri-mas-u-ne.
citizenship-NOM America-COP.UH-if, visa-NOM necessary-UH-PRES-SFP

'If you are an American citizen, you need a visa.'

(Tomioka and Ishii, 2022: (18))

However, this assumption is not good enough to capture all the embedding patterns of *des*$^{N}$. Recall that the past tense form *deshi-ta* exhibits the same embedding pattern as *mas*, while the embedding of the non-past form *des-u* is more restricted. The relevant examples are repeated in (36).

(36) a. *Koto*-complement clause

[Kaigi-no junbi-ga fujuubun { $^{\checkmark}$deshi-ta / *des-u }
meeting-GEN preparation-NOM inadequate COP.UH-PAST / COP.UH-PRES
koto]-o fukaku owabi-moushiage-mas-u.
COMP-ACC deeply apology-say.OH-UH-PRES

[8] In relation to the discussion below, it should be noted that *des*$^{N}$ in (35c) is in conclusive form. Hence, I assume that it moves to Fin-head. This leads the assumption that conditional *to* selects a non-past FinP, as the past tense counterpart *deshi-ta* is incompatible with a *to*-conditional clause.

‘We sincerely apologize for the fact that our preparation for the meeting was inadequate.’

b. Relative Clause

Sono atsumari-ni-wa [Tanaka-sensei-o gozonsji { $^{?}$deshi-ta /
that gathering-DAT-TOP Tanaka-teacher-ACC know.SH COP.UH-PAST /
*des-u } kata]-ga takusan irasshai-mashi-ta.
COP.UH-PRES person.HON-NOM many be.present.SH-UH-PAST

‘At th gathering, there were many prople who knew Prof. Tanaka.’

c. Temporal Adjunct

[Senjitsu sensei-ga gobyooki { $^{\checkmark}$deshi-ta / *des-u }
the.other.day teacher-NOM sick.HON COP.UH-PAST / COP.UH-PRES
sai]-ni omimai-ni ukagai-mashi-ta.
occasion-at visit.HON-DAT go.OH-UH-PAST

‘When the professor fell sick the other day, I visited her.’

Following Tomioka and Ishii (2022), I think that the difference of embeddability between *deshi-ta* and *des-u* attributes to the availability of *rentai-kei* (adnominal form). That is, *deshi-ta* is embeddable under these subordinators as it has adnominal form, while *des-u* cannot be embedded as it does not have adnominal form.

This idea comes from the fact that the embedding contexts in (36) all require the linearly preceding predicate to be in *rentai-kei* (adnominal form), but not in *shuushi-kei* (conclusive form). In Contemporary Japanese, the morphological distinction between adnominal form and conclusive form can only be observed with the non-honorific copula *-da* because verbs and adjectives have lost the morphological distinctions between them. The copula has to be *-da* at the end of a root clause, as shown in (37a) to (39a), while it needs to be *-na* when the clause is embedded, as shown in (37b) to (39b).

(37) *Koto*-complement clause

a. Kaigi-no junbi-ga fujuubun { *na / $^{\checkmark}$da}.
meeting-GEN preparation-NOM inadequate $\text{be}_{adnominal}$ / $\text{be}_{conclusive}$

‘Our preparation for the meeting is inadequate.’

b. [Kaigi-no junbi-ga fujuubun {✓na / *da }
meeting-GEN preparation-NOM inadequate $\text{be}_{adnominal}$ / $\text{be}_{conclusive}$
koto]-o fukaku owabi-shi-mas-u.
COMP-ACC deeply apology-do-UH-PRES
'We sincerely apologize for the fact that our preparation for the meeting is inadequate.'

(38) Relative Clause

a. Kono ryokan-wa teien-ga yuumei { *na / ✓da}.
this inn-TOP garden-NOM famous $\text{be}_{adnominal}$ / $\text{be}_{conclusive}$
'Lit. Speaking of this inn, its garden is famous.'

b. [teien-ga yuumei { *na / ✓da}] ryokan-ni iki-tai.
teien-NOM famous $\text{be}_{adnominal}$ / $\text{be}_{conclusive}$ inn-LOC go-want
'(I) want to go to an inn which is famous for its garden.'

(Tomioka and Ishii, 2022: (50) modified)

(39) Temporal Adjunct

a. Kono hon-ga hitsuyoo { *na / ✓da}.
this book-NOM necessary $\text{be}_{adnominal}$ / $\text{be}_{conclusive}$
'(I) need this book.'

b. [Kono hon-ga hitsuyoo { ✓na / *da} toki]-wa
this book-NOM necessary $\text{be}_{adnominal}$ / $\text{be}_{conclusive}$ time-TOP
shirase-te-kudasai.
know-CV-please
'Let me know when you need this book.'

It should be noted that this morphological distinction goes away in the case of past. The copula stays in the form of *dat-ta* both in root clauses and in embedded clauses as shown in (40) and (41).

(40) a. Kaigi-no junbi-ga fujuubun dat-ta.
meeting-GEN preparation-NOM inadequate be-$\text{PAST}_{conclusive}$
'Our preparation for the meeting is inadequate.'

b. [Kaigi-no junbi-ga fujuubun dat-ta koto]-o
meeting-GEN preparation-NOM inadequate be-PAST$_{adnominal}$ COMP-ACC
fukaku owabi-shi-mas-u.
deeply apology-do-UH-PRES
'We sincerely apologize for the fact that our preparation for the meeting was inadequate.'

(41) Relative Clause / Temporal Adjunct

a. Mari-ga UD-no gakusee dat-ta.
Mari-NOM UD-GEN student be-PAST$_{conclusive}$
'Mari was a student of UD.'

b. [Mari-ga UD-no gakusee dat-ta toki] .....
Mari-NOM UD-GEN student be-PAST$_{adnominal}$ time
'Lit. For the time when Mari was a student of UD, ....'

Based on these observations, I assume that the past tense forms of copula (both plain *dat-ta* and UH-marked *deshi-ta*) could be counted as either adnominal or conclusive. Hence, it can be selected by adnominal-selecting subordinators like *koto*-clauses, relative clauses, or temporal adjuncts. The plain non-past copula *-da* can also be embedded in these contexts as it has the adnominal form *-na*. However, the non-past UH marked copula *-desu* cannot be embedded as it could only be the conclusive form.

As Tomioka and Ishii (2022) discussed, this idea seems to have some support from the historical fact. In Classical Japanese, the adnominal form and the conclusive form were morphologically distinct in verbs (42), in adjectives (43), and even in the two past tense morphemes and the three perfect morphemes (44). According to Teramura (1984), this distinction has been lost by the end of the mid-late 16th Century.

(42) Shuushi-kei & Rentai-kei of Adjectives in Old Japanese

| Root | Shuushi-kei (Conclusive) | Rentai-kei (Adnominal) |
|---|---|---|
| *waka-* 'young' | *waka-shi* | *waka-ki*, *waka-karu* |
| *utsuku-* 'beautiful' | *utsuku-shi* | *utsuku–shiki*, *utsuku–shikaru* |

(43) Shuushi-kei & Rentai-kei of Verbs in Old Japanese

| Root | Shuushi-kei (Conclusive) | Rentai-kei (Adnominal) |
|---|---|---|
| *uram-* 'resent' | *uram-u* | *uram-uru* |
| *oy-* 'grow old' | *oy-u* | *oy-uru* |
| *uk-* 'receive' | *uk-u* | *uk-uru* |
| *in-* 'leave' | *in-u* | *in-uru* |
| *ar-* 'exist' | *ar-i* | *a-ru* |
| *s-* 'do' | *s-u* | *s-uru* |
| *k-* 'come' | *k-u* | *k-uru* |
| *sak-* 'bloom' | *sak-u* | *sak-u* |
| *ker-* 'kick' | *ker-u* | *ker-u* |

(44) Shuushi-kei & Rentai-kei of Past Tense and Perfect Morphemes in Old Japanese

| Root | Shuushi-kei (Conclusive) | Rentai-kei (Adnominal) |
|---|---|---|
| *-ki* Past | *-ki* | *-shi* |
| *-keri* Past | *-keri* | *-keru* |
| *-tari* Perfect | *-tari* | *-taru* |
| *-tsu* Perfect | *-tsu* | *-tsuru* |
| *-nu* Perfect | *-nu* | *-nuru* |

An example of a sentence with elements in adnominal form and conclusive form in Old Japanese is given in (45). Same as Contemporary Japanese, the adnominal form was used when the linearly preceding predicate modifies a noun,[9] while the conclusive form appeared at the end of a sentence unless other special rules like *kakari-musubi* ('bound ending') is at play. The position for the adnominal form is bold faced and the position for the conclusive

[9] More precisely, the predicate at the end of relative clause which linearly precedes the modifying noun has to be in adnominal form.

form is italicized in (45). It should be noted that the use of wrong forms sounds unacceptable as an Old Japanese sentence, even to my Contemporary Japanese ear.

(45) Tatematsuri-atsume-{**taru / *tari**} mono, chisage-bakari
present-gather-PERF$_{adn}$/PERF$_{concl}$ thing, thousand.present-about
{*ari / *aru*}.
exist$_{concl}$/exist$_{adn}$
'There were about a thousand of offerings gathered for the Anjooji temple.'
from *The Tales of Ise, Vol.77, Anjooji-no Miwaza*, 9-10th Century

Historically, the past tense morpheme *-ta* is derived from the *-tari* perfect in (44). Thus, the assumption that the past tense *-ta*, which is included in *deshi-ta*, could be either adnominal or conclusive seems to be supported from the historical linguistic perspective, even though the morphological distinction has been lost in Contemporary Japanese.

To incorporate the difference between the adnominal form and the conclusive form into the generative syntactic theory, Tomioka and Ishii (2022) associated the conclusive form with FinP and the adnominal form with TP. They hypothesized that conclusive forms are an indication of a clause being 'finite' while adnominal forms are an indication of a clause being 'non-finite' but 'tensed', assuming that the notion of being 'finite' was separated from the notion of being 'tensed' in Classical Japanese and it survives in Contemporary Japanese despite the fact that the morphological distinction has been almost lost. Following their hypothesis, I suggest (46) to account for the embedding patterns of *des*$^N$. The assumptions for the position of *des*$^N$ is schematized in (47).

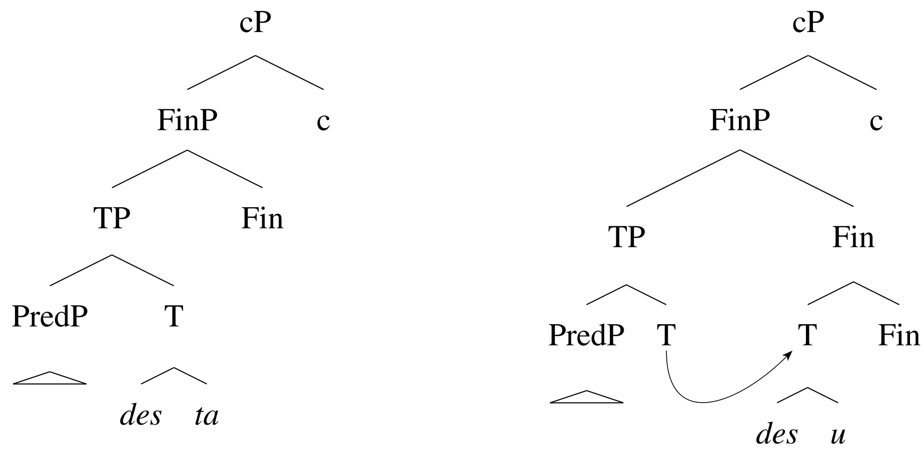
(46) a. *Des*$^N$ is base-generated at T-head to support the tense morpheme. Hence, the subordinators that select a phrase smaller than TP cannot embed it.

b. The past tense form *deshi-ta* can be embedded in adnominal-selecting subordinators because it may stay in the T-head.

c. The non-past tense form *des-u* cannot be embedded in adnominal-selecting subordinators as it obligatorily moves to Fin-head (= the conclusive form).

d. The adnominal-selecting subordinators (e.g., *koto*-clauses, relative clauses, and temporal adjuncts) select a TP as its complement. Thus, *deshi-ta* can be embedded in the adnominal-selecting subordinators while *des-u* cannot be embedded in them.

(47) a. The position of adnominal *deshi-ta* b. The position of (conclusive) *des-u*




The movement of the non-past tense form *des-u* is idiosyncratic, but based on the fact that it only has the conclusive form. I assume that even the past tense version *deshi-ta* moves to Fin-head in a root clause to indicate the finiteness of the clause.

### 5.3.3 The Position of *des*$^{A}$

The position of *des*$^{A}$ is most straightforward among the three UH makers. *Des*$^{A}$ comes after the tense marker as shown in (48a), and never inflects for other neighboring syntactic elements as shown in (48b).

(48) a. Taiwan ryokoo-wa totemo tanoshikat-ta-**desu**.
Taiwan travel-TOP very fun-PAST-UH
'It was so fun to travel Taiwan.'

b. * Taiwan ryokoo-wa totemo tanoshi-**deshi-ta**.
Taiwan travel-TOP very fun-UH-PAST

In addition, as we saw in Chapter 2, *des*$^{A}$ can only be hosted by although/because-clauses and direct speech *to*-clauses. As discussed in Chapter 4, these embedding contexts are more independent of the matrix clause as instantiated by the observation of Tagashira (1973). Recall her observation that UH-marked predicates are preferred under although/because-clauses if the matrix predicate is UH-marked, as repeated in (49). This contrasts with the fact that UH embedding is completely optional in other embedding contexts.

(49) Chiisai kuni {?da / desu }-ga hitobito-wa yutaka-na kurashi-o
samll country {COP / UH.COP }-but people-TOP rich-COP life-ACC
shite-i-masu.
do-PROG-UH.PRES
Though (this) is a small country, people live in comfort.

Based on these observations, I assume that (i) *des*$^{A}$ merges with c-head in the base generation and (ii) although/because-clauses and direct speech *to*-clauses can embed cP. The assumption (ii) also explains the fact that these subordinators may embed all the UH markers under the discussion.

### 5.3.4 The PF Restrictions on UH Marking

Before we move on to the analysis of how embedded UHs are semantically computed, I would like to make a note about the assumption in (21c), repeated in (50).

(50) If the merger of UH-head yield a morphological order that does not obey the following morphological requirements, the derivation will be filtered out at PF.

a. *Mas* must follow a lexical verb in linear order.

b. *Des*$^{N}$ must follow a non-inflectional category in linear order.

c. *Des*$^{A}$ must follow a non-UH marked predicate in linear order.

These restrictions are necessary to exclude an ungrammatical pairing of predicates and UHs such as *isogashi-mas* ‘busy-*mas*’ (a combination of canonical adjective + *mas*) or *yomu-deshi-ta* ‘read-*des*$^{N}$-PAST’ (a combination of verb + *des*$^{N}$). The restriction in (50a) straightforwardly prevent *mas* from being paired with nominal predicates or adjectives. Thus, the tricky cases are (50b) and (50c).

The intention of the restriction in (50b) is to prevent *des*$^{N}$ from being paired with verbs and adjectives. Since both inflect for tense in Japanese, this restriction can exclude the cases where $des^N$ is paired with them. The nominal predicates do not violate this condition, as a noun itself does not inflect for tense. Then, why do I need to say that the restriction applies to 'non-inflectional category' instead of simply stating that $des^N$ needs to follow nouns? This is because we have the doubling of UHs in a negative past sentence shown in (51a). Compare (51a) with the non-past counterpart in (51b).

(51) a. Mari-wa kyoo gakko-ni ki-mase-n deshi-ta.
Mari-TOP today school-DAT come-UH-NEG COP.UH-PAST
'Mari did not come to school today.'

b. Mari-wa kyoo gakko-ni ki-mase-n-∅.
Mari-TOP today school-DAT come-UH-NEG-PRES
'Mari does not come to school today.'

We will discuss how (51a) is obtained in Section 5.6. The point here is that the restriction on $des^N$ should be formulated as in (50b) not to exclude the case like (51a). The special negative form *-n* in (51) never inflects for tense, and thus, (51) will not be excluded by (50b).

In the same vein, the intention of the restriction in (51c) is to prevent $des^A$ from being paired with verbs and nouns. However, I formulated the restriction as in (51c) so that I can take the new use of $des^A$ into account. Recently, $des^A$ is started to be used like Korean speech style particles in the sense that it appears at the end of a sentence to encode the respect from the speaker to the addressee. Compare the new use in (52a) with the standard use of UH in a negative sentence in (52b).

(52) a. Mari-wa osake-o noma-na-i desu.
Mari-TOP alcohol drink-NEG-PRES UH

b. Mari-wa osake-o nomi-mase-n-∅.
Mari-TOP alcohol drink-UH-NEG-PRES
'Mari does not drink alcoholic beverage.'

(52b) was traditionally considered to be the'correct' form of UH-marked negative sentences, but the use of $des^A$ like (52a) is increasing and is considered acceptable among the young generation, including me (see Odani, 2012). This seems to be due to the same morphological properties between the regular negative morpheme *na-i* and the canonical adjectives ending with *-i* (e.g., *kawai-i* 'cute'; *isogashi-i* 'busy'). Given the fact that both end with *-i*, the negative morpheme seems to be misanalyzed as a canonical adjective, and the use of $des^A$ like (52a) started to be accepted. Interestingly, in these days, a sentence like (53a) is observed in a spontaneous speech. Compare it with the 'correct' version in (53b).

(53) *Context: A play-by-play commentary on a baseball game reacts to a good throw from a third-base player to the first-base player.*

a. ? Ima-no-wa ii-sookyuu dat-ta desu-ne!
now-NMLZ-TOP good-throw COP-PAST UH-SFP

b. Ima-no-wa ii-sookyuu deshi-ta ne!
now-NMLZ-TOP good-throw COP.UH-PAST SFP
'That was a good throw!'

In (53a), $des^A$ is used even though there is a copula that can be UH-marked as in (54b). To my ear, (53a) still sounds odd, but people sometimes produce a sentence like this, especially when they are excited. This may be a slip of tongue, however, I would like to be less strict with the restriction on $des^A$ so that I could take the examples like (52a) and (53a) into account.

### 5.4 UHs as Particles Anaphoric to the Speaker/Addressee in the Local cP

Now, we are clear about the syntactic positions of each UH marker. Based on the syntax, this section provides a semantic analysis of how (embedded) UHs are linked to the utterance speaker/addressee, and encode its respect meaning. Specifically, I propose that (i) Japanese UHs markers are honorific particles whose denotation contains two indexical arguments that are anaphoric to the speaker and the addressee, and (ii) the indexical arguments are identified as the speaker and the addressee at the local cP-level. Under this analysis, the majority of embedded UHs will be evaluated with respect to the matrix cP as the majority of complementizers do not embed cP, ending up with encoding the respect from the speaker in the utterance context to the addressee in the utterance context. Before we move on, it should be noted that we will use the following semantic types as the basic types in this section.

(54) a. $D_e$ : the domain of entity

b. $D_t$ : the domain of truth values

c. $D_w$ : the domain of possible worlds

d. $D_v$ : the domain of events

e. $D_\varepsilon$ : the domain of expressives

### 5.4.1 Semantics of the UH markers and the c-head

As the first step of the analysis, I propose (55) for the denotation of the UH markers. Based on the fact that UH markers give an honorific character to a proposition, I assume that each UH marker is a function that takes a proposition and returns the same proposition by adding the honorific meaning to it as shown in (55). Given the fact that UH markers immediately bring the discourse effect that a speaker respects an addressee in a relevant context, I assume that each UH marker denotes this honorific meaning at the position where it is used, the same as the proposal by Potts and Kawahara (2004). Following the previous work by Portner et al. (2019) and Yamada (2019), the honorific meaning of UHs is expressed as a tuple of speaker, honorific meaning with a discrete value (either 1 or 0), and addressee in (55). Since the speaker and the addressee must be the first person and the second person, respectively, I describe the anaphoric indexical arguments as [1st] and [2nd] in the denotation of UH markers.

(55) $[\![$*mas* / *des*$^N$ / *des*$^A]\!] \in D_{\langle wt,\langle wt\bullet\varepsilon\rangle\rangle} = \lambda p_{wt}.\lambda w.p(w) \bullet \langle[\text{1st}], 1, [\text{2nd}]\rangle$

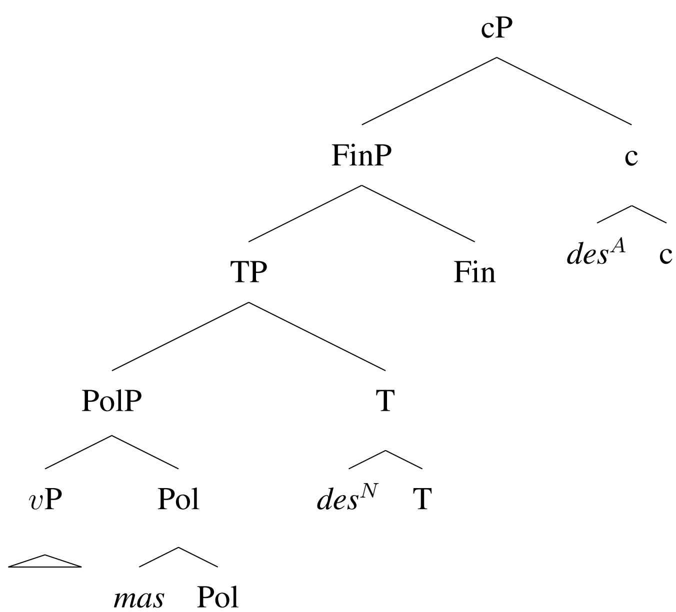
I assume that the indexical arguments in the denotation of UH are anaphora, and thus, they do not have their referents at the position where the UH marker is used. The indexical arguments in UHs will get their referents when the semantic computation reaches the local cP-layer. To accomplish this, I propose the denotation in (56) for c-head.

(56) $[\![\text{c}]\!] \in D_{\langle\langle wt\bullet\varepsilon\rangle,\langle wt\bullet\langle e,e,\varepsilon\rangle\rangle\rangle} = \lambda p_{wt}.\lambda w.p(w)\bullet\lambda R_\varepsilon.\lambda y_e.\lambda x_e.x = [\text{1st}]\wedge y = [\text{2nd}]\wedge R$

With this treatment of c-head, the anaphoric indexical arguments in the denotation of UHs are identified as the $\lambda$-bound variables at cP-region. These variables will be replaced by the addressee argument and the speaker argument in Spec cP in order, ending up with UHs in the c-commanding domain of the c-head encoding the respect from the speaker to the addressee in the relevant context. Essentially, this denotation of c-head aligns with the proposals in the previous literature that c-head introduces the speaker and the addressee to the structure. (Speas and Tenny, 2003; Miyagawa, 2012; 2022; Portner et al., 2019; Yamada, 2019 among others).

Here, some might think that the denotation in (55) is problematic under the syntactic positions of the UH markers proposed in Section 5.3. Recall that I assume that *mas* merges with Pol-head, *des*$^N$ merges with T-head, and *des*$^A$ merges with c-head, as schematized in (57).

(57)




The issue here is the type mismatch between a UH marker and the head which it merges with. For instance, Pol-head should be a function that takes $wt$ as its input and returns $wt$ by determining the polarity of the proposition. Hence, Pol-head should be of type $\langle wt, wt\rangle$, which is not a good input for *mas*. In addition, *mas* cannot be the argument of Pol-head because *mas* is of type $\langle wt, \langle wt \bullet \varepsilon\rangle\rangle$. In the same vein, the merger of *des*$^N$ with T-head and the merger of *des*$^A$ with c-head cause a type mismatch. To avoid this issue, I assume that the UH maker and the head undergo Function Composition (Keine and Bhatt, 2016) in (58) which combines two functions and produces a single complex function.

(58) a. Simple Function Composition

$(B \to C) \circ (A \to B) := (A \to C)$

b. Generalized Function Composition

$(C \to D) \circ (A \to (B \to C)) := (A \to (B \to D))$

(Keine and Bhatt, 2016 : (16))

The simple Function Composition in (58a) means that a function from $B$ to $C$ and a function from $A$ to $B$ can be combined into a single function from $A$ to $C$. I will apply this operation to the complex heads that contain a UH marker.

Let us see how Function Composition is applied to the complex head containing Pol and *mas*. For illustration purposes, I will use *mase-n*, the combination of *mas* and negative Pol-head. Suppose that the boxed parts in (59c) correspond to $B$ in the simple function composition in (58a).

(59) The Function Composition in *mase-n* (*mas* + Neg)

a. $[\![mas]\!] \in D_{\langle wt,\langle wt \bullet \varepsilon\rangle\rangle} = \lambda p_{wt}.\lambda w.p(w) \bullet \langle [1st], 1, [2nd]\rangle$

b. $[\![\text{Pol}_{[-]}]\!] \in D_{\langle wt,wt\rangle} = \lambda p_{wt}.\lambda w.\neg p(w)$

c. $[\![mase\text{-}n]\!] = [\![mas]\!] \circ [\![\text{Pol}_{[-]}]\!]$

$= (\boxed{wt} \to (wt \bullet \varepsilon)) \circ (wt \to \boxed{wt})$

$= (wt \to (wt \bullet \varepsilon))$

$= \lambda p_{wt}.\lambda w.\neg p(w) \bullet \langle [1st], 1, [2nd]\rangle$

As shown in (59a) and (59b), *mas* is a function from $\langle wt\rangle$ to $\langle wt \bullet \varepsilon\rangle$ and Pol-head is a function from $\langle wt\rangle$ to $\langle wt\rangle$. Thus, these two can be combined into a single composite function using Function Composition as in (59c). In the same vein, *des*$^N$ and T-head can be combined into a single function as in (60). For illustration purposes, I will use *deshi-ta* where *des*$^N$ and past T-head are merged. In (60b), $t_0$ refers to the utterance time and $t'$ refers to a time point before the utterance time. Again, suppose that the boxed parts in (60c) correspond to ***B*** in the simple function composition in (58a).

(60) The Function Composition in *deshi-ta* ($des^N$ + T-head)

a. $[\![des^N]\!] \in D_{\langle wt,\langle wt\bullet\varepsilon\rangle\rangle} = \lambda p_{wt}.\lambda w.p(w) \bullet \langle[1\text{st}], 1, [2\text{nd}]\rangle$

b. $[\![\text{PAST}]\!] \in D_{\langle wt,wt\rangle} = \lambda p_{wt}.\lambda w.\exists t'.\ t' < t_0 \wedge p(w) = 1 \text{ at } t'$.

c. $[\![deshi\text{-}ta]\!] = [\![des]\!] \circ [\![\text{PAST}]\!]$

$= (\boxed{wt} \rightarrow (wt \bullet \varepsilon)) \circ (wt \rightarrow \boxed{wt})$

$= (\ wt \rightarrow (wt \bullet \varepsilon))$

$= \lambda p_{wt}.\lambda w.\exists t'.\ t' < t_0 \wedge p(w) = 1 \text{ at } t' \bullet \langle[1\text{st}], 1, [2\text{nd}]\rangle$

Similarly, the complex head with $des^A$ and *c* can also be combined into a single function. Take a look at (61). Again, the boxed parts correspond to ***B*** in (58a).

(61) The Function Composition in $des^A$ and the c-head

a. $[\![des^A]\!] \in D_{\langle wt,\langle wt\bullet\varepsilon\rangle\rangle} = \lambda p_{wt}.\lambda w.p(w) \bullet \langle[1\text{st}], 1, [2\text{nd}]\rangle$

b. $[\![\text{c}]\!] \in D_{\langle\langle wt\bullet\varepsilon\rangle,\langle wt\bullet\langle e,e,\varepsilon\rangle\rangle}$

$= \lambda p_{wt}.\lambda w.p(w) \bullet \lambda R_{\varepsilon}.\lambda y_e.\lambda x_e.x = [1\text{st}] \wedge y = [2\text{nd}] \wedge R$

c. $[\![\text{c}]\!] \circ [\![des^A]\!]$

$= (\boxed{wt \bullet \varepsilon} \rightarrow (wt \bullet e, e\varepsilon)) \circ (wt \rightarrow \boxed{wt \bullet \varepsilon})$

$= (wt \rightarrow (wt \bullet e, e\varepsilon))$

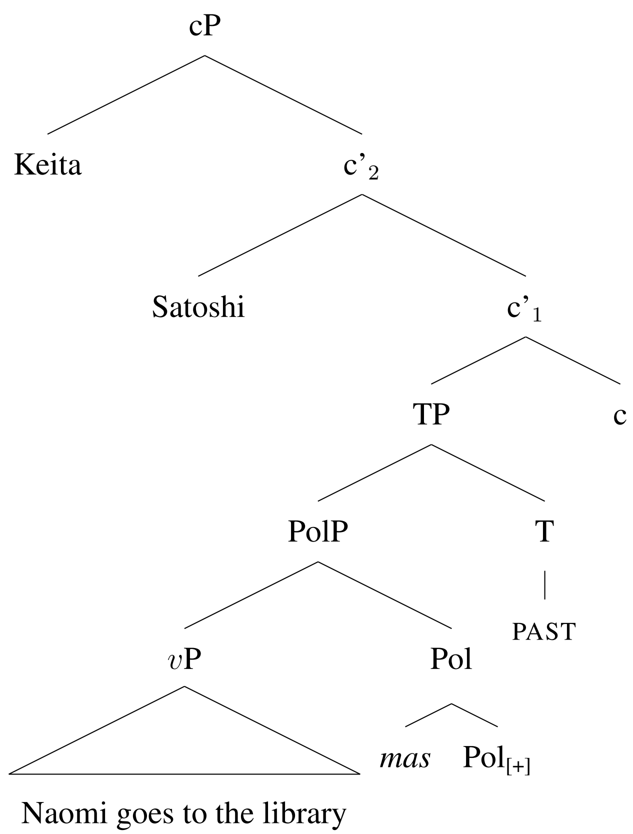
$= \lambda p_{wt}.\lambda w.p(w) \bullet \lambda y_e.\lambda x_e.\ x = [1\text{st}] \wedge y = [2\text{nd}] \wedge \langle[1\text{st}], 1, [2\text{nd}]\rangle$

With this treatment, the UH markers merging with a head of extended verbal projections can be computed properly. Alternatively, one could assume either (i) type flexibility of the UH markers or (ii) LF movement of UHs to prevent the issue of type mismatch. See Appendix B for these alternative analyses. I opted for the Function Composition analysis because (i) it enables us to interpret each UH marker in-situ and (ii) we can treat all the UH markers equally without messing their syntax and semantics.

Now, let us look at how the denotations in (55) and (56) work with a simple declarative root sentence using (62). For illustration purposes, I will use proper names in the argument positions of the speaker and the addressee, instead of $[\![\text{speaker}]\!]^c$ and $[\![\text{addressee}]\!]^c$. Suppose that Keita uttered (62) to Satoshi. The structure of (62) in this context is given in (63), and the calculation is provided in (64).

(62) Naomi-ga toshokan-ni iki-mashi-ta.
Naomi-NOM library-LOC go-UH-PAST
'Naomi went to the library.'

(63)




(64) a. $[\![v\text{P}]\!] = \lambda w$. Naomi goes to the library in $w$.

b. $[\![\textit{mas}]\!] = \lambda p_{wt}.\lambda w.p(w) \bullet \langle[\text{1st}], 1, [\text{2nd}]\rangle$

c. $[\![\text{Pol}_{[+]}]\!] = \lambda p_{wt}.\lambda w.p(w)$

d. $[\![\text{Pol}]\!] = [\![\textit{mas}]\!] \circ [\![\text{Pol}_{[+]}]\!]$ (Function Composition)

$= (wt \rightarrow (wt \bullet \varepsilon)) \circ (wt \rightarrow wt)$

$= (wt \to (wt \bullet \varepsilon))$

$= \lambda p_{wt}.\lambda w.p(w) \bullet \langle [1st], 1, [2nd] \rangle$

e. ⟦PolP⟧ = ⟦Pol⟧(⟦Naomi goes to the library⟧)

= $\lambda w$. Naomi goes to the library in $w$. $\bullet\langle [1st], 1, [2nd] \rangle$

f. $[\![\text{PAST}]\!] = \lambda p_{wt}.\lambda w.\exists t'.\ t' < t_0 \wedge p(w) = 1$ at $t'$.

g. ⟦TP⟧ = ⟦PAST⟧(⟦PolP⟧)

$= \lambda w.\ \exists t'.\ t' < t_0 \wedge$ Naomi goes to the library in $w$ = 1 at $t'$ $\bullet\langle [1st], 1, [2nd] \rangle$

h. ⟦c⟧ = $\lambda p_{wt}.p \bullet \lambda R_{\varepsilon}.\lambda y_e.\lambda x_e.x =$ [1st] $\wedge\ y =$ [2nd] $\wedge\ R$

i. ⟦c'$_1$⟧ = ⟦c⟧(⟦TP⟧)

$= \lambda w.\exists t'.t' < t_0 \wedge$ Naomi goes to the library in $w = 1$ at $t'$

$\bullet\ \lambda y_e.\lambda x_e.x =$ [1st] $\wedge\ y =$ [2nd] $\wedge\ \langle [1st], 1, [2nd] \rangle$

j. ⟦c'$_2$⟧ = ⟦c'$_1$⟧(⟦Satoshi⟧)

$= \lambda w.\exists t'.t' < t_0 \wedge$ Naomi goes to the library in $w = 1$ at $t'$

$\bullet\ \lambda x_e.x =$ [1st] $\wedge$ Satoshi = [2nd] $\wedge\ \langle [1st], 1, [2nd] \rangle$

k. ⟦cP⟧ = ⟦c'$_2$⟧(⟦Keita⟧)

$= \lambda w.\exists t'.t' < t_0 \wedge$ Naomi goes to the library in $w = 1$ at $t'$

$\bullet$ Keita = [1st] $\wedge$ Satoshi = [2nd] $\wedge\ \langle [1st], 1, [2nd] \rangle$

As shown in (64c), the referents of [1st] and [2nd] are not specified when *mas* enters into the computation. Once it reaches the c'-level, they are identified as $\lambda$-bound variables for the speaker and the addressee as shown in (64i), and the addressee argument and the speaker argument fill the variables in order as shown in (64j) and (64k). In the end, the entire cP denotes the honorific meaning that the speaker in the utterance context (= Keita) respects the addressee in the utterance context (= Satoshi), along with the propositional content that Naomi went to the library as in (64k).

### 5.4.2 Semantic Computation of Embedded UHs

Now, let us look at how the denotations work with embedded UHs using the *koto*-clause example in (65). Suppose that Keita uttered (65) to Satoshi.[10]

(65) [Hayaku gokaifuku-nasai-mas-u koto]-o oirnorishi-te-ori-mas-u.
Quickly recovery-do.SH-UH-NON.PAST COMP-ACC pray-CV-be.OH-UH-PRES
'I pray for your quick recovery.'

For the denotation of *koto*, I assume (66a) following Yamada's (2019) analysis that *koto* relates the embedded proposition (= $p$) with an appropriate modal background (= $M_2$) of a certain perspective holder (= $x$) with inheriting the event semantics from the embedding predicate (see also Mari and Portner, 2021). In his analysis, bouletic predicates like *want* or *pray* will be defined as (66b) which denotes an event meaning and a modal meaning. [11]

(66) a. $[\![\text{koto}]\!] = \lambda p_{wt}.\lambda M_{\langle e,\langle v,wt\rangle\rangle \bullet \langle e,wt\rangle\rangle}.\lambda x_e.\lambda w_w.$
$$\begin{bmatrix} \lambda e_v.M_1(x)(e)(w) : \text{(event)} \ \wedge \\ \text{BEST}(M_2(x)(w)) \subseteq \{w' : p(w')\} : \text{(modal background)} \end{bmatrix}$$

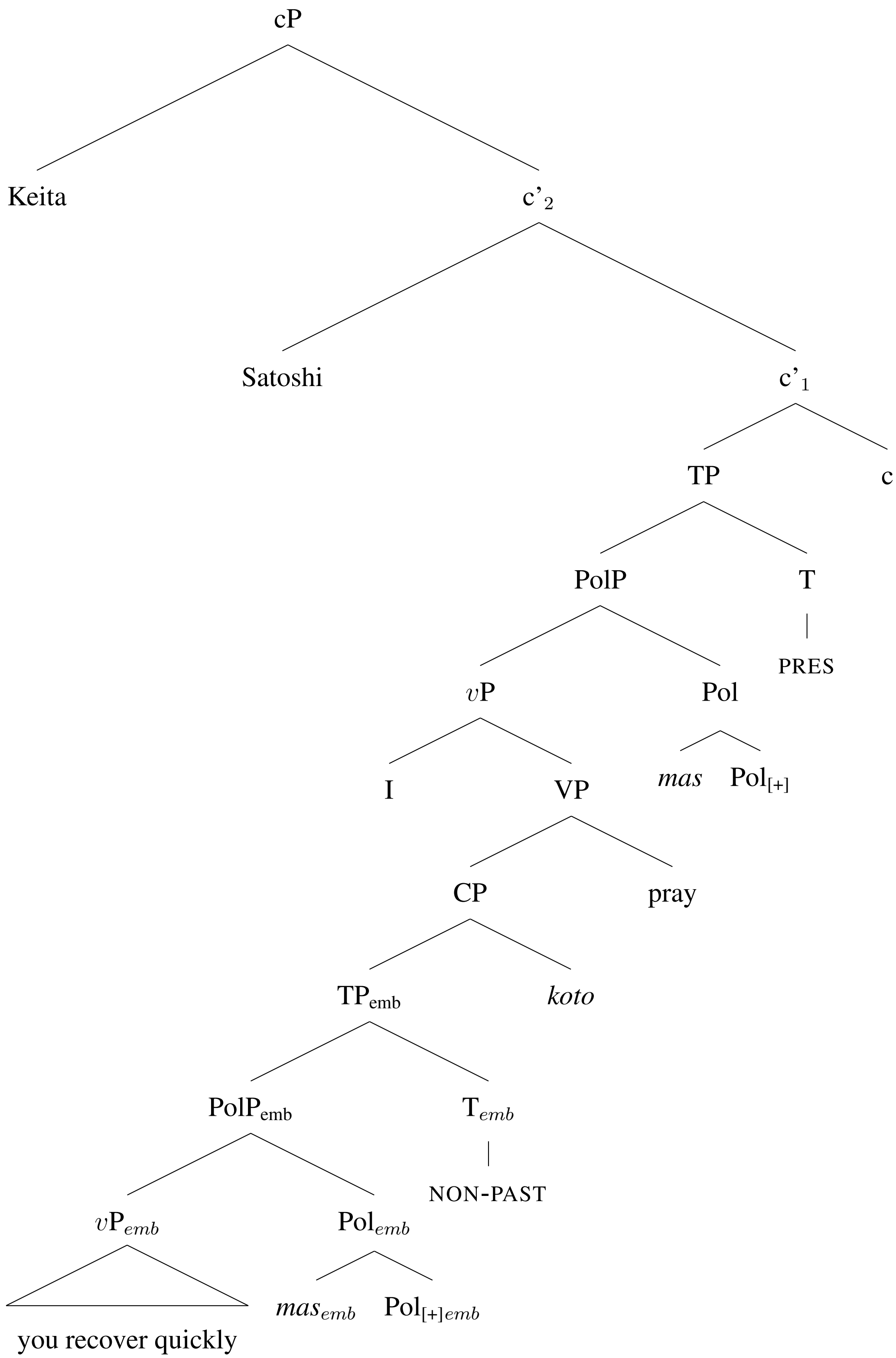
b. $$[\![\textit{pray}\,]\!] = \begin{bmatrix} \lambda x.\lambda e.\lambda w.pray(e,w) \wedge \text{EXP}(e,w,x) : \text{(event)} \ \wedge \\ \lambda x.\lambda w'.\langle Dox(x,w'), Bul(x,w')\rangle : \text{(modal background)} \end{bmatrix}$$

The structure of (65) is shown in (67) and the semantic computation is demonstrated in (68). For simplicity of illustration, I will ignore the meaning of tense and honorifics other than UHs in (68). The crucial point of the computation is that the indexical arguments in the denotation of embedded UHs are kept untouched until the computation reaches the matrix cP.

[10] I will not show how the proposal works with other adjunct clauses in this subsection because the computation will be long and daunting for the readers. Refer to Appendix B if the readers are interested in how the semantic computation of embedded UH in other adjunct clauses would look like.

[11] Here, I will not discuss the relevance of this treatment of *koto* and bouletic predicates since it will go beyond the scope of this thesis.

(67)


cP
Keita
c'₂
Satoshi
c'₁
TP
c
PolP
T
PRES
vP
Pol
I
VP
mas
Pol[+]
CP
pray
TPemb
koto
PolPemb
Temb
NON-PAST
vPemb
Polemb
you recover quickly
masemb
Pol[+]emb

(68) a. $[\![$you recover quickly$]\!]$ = $\lambda w.\exists e.recover(w)(e)([\![you]\!]^c) \wedge quick(w)(e)$

b. $[\![mas_{emb}]\!] = \lambda p_{wt}.\lambda w.p(w) \bullet \langle[1st], 1, [2nd]\rangle$

c. $[\![\text{Pol}_{[+]emb}]\!] = \lambda p_{wt}.\lambda w.p(w)$

d. $[\![\text{Pol}_{emb}]\!] = [\![mas_{emb}]\!] \circ [\![\text{Pol}_{[+]emb}]\!]$ (Function Composition)

$= \lambda p_{wt}.\lambda w.p(w) \bullet \langle[1st], 1, [2nd]\rangle$

e. $[\![\text{PolP}_{emb}]\!] = [\![\text{Pol}_{emb}]\!]([\![v\text{P}_{emb}]\!])$

$= \lambda w.\exists e.recover(w)(e)([\![you]\!]^c) \wedge quick(w)(e) \bullet \langle[1st], 1, [2nd]\rangle_{emb}$

f. $[\![\text{T}_{emb}]\!] = [\![\text{NON-PAST}]\!] = \lambda p_{wt}.\lambda w.p(w)$[12]

g. $[\![\text{TP}_{emb}]\!] = [\![\text{T}_{emb}]\!]([\![v\text{P}_{emb}]\!])$

$= \lambda w.\exists e.recover(w)(e)([\![you]\!]^c) \wedge quick(w)(e) \bullet \langle[1st], 1, [2nd]\rangle_{emb}$

h. $[\![koto\text{-}\ ]\!] = \lambda p_{wt}.\lambda M_{\langle e,\langle v,wt\rangle\rangle \bullet \langle e,wt\rangle\rangle}.\lambda x_e.\lambda w_w.$
$$\begin{bmatrix} \lambda e_v.M_1(x)(e)(w) : \text{(event)} \wedge \\ \text{BEST}(M_2(x)(w)) \subseteq \{w' : p(w')\} : \text{(modal background)} \end{bmatrix}$$

i. $[\![\text{CP}]\!] = [\![koto]\!]([\![\text{TP}_{emb}]\!])$

$$= \lambda M_{\langle e,\langle v,wt\rangle\rangle \bullet \langle e,wt\rangle\rangle}.\lambda x_e.\lambda w_w. \begin{bmatrix} \lambda e_v.M_1(x)(e)(w) \wedge \\ \text{BEST}(M_2(x)(w)) \subseteq \{w' : \text{you recover quickly in } w'.\} \end{bmatrix} \bullet \langle[1st], 1, [2nd]\rangle_{emb}$$

j. $$[\![pray\ ]\!] = \begin{bmatrix} \lambda x.\lambda e.\lambda w.pray(e,w) \wedge \text{EXP}(e,w,x) : \text{(event)} \wedge \\ \lambda x_e.\lambda w'_w.\langle Dox(x,w'), Bul(x,w')\rangle : \text{(modal background)} \end{bmatrix}$$

k. $[\![\text{VP}]\!] = [\![\text{CP}]\!]([\![\text{pray}]\!])$

$$= \lambda x_e.\lambda w_w. \begin{bmatrix} pray(e,w) \wedge \text{EXP}(e,w,x) \wedge \\ \text{BEST}(\langle Dox(x,w), Bul(x,w)\rangle) \\ \subseteq \{w' : \text{you recover quickly in } w'.\} \end{bmatrix} \bullet \langle[1st], 1, [2nd]\rangle_{emb}$$

[12] Here, I assume that non-past T in the embedded clause works as an identity function since the behavior of tense in embedding context is not the main focus of this thesis.

l. $[\![vP]\!] = [\![VP]\!]([\![I]\!]^c)$

$$= \lambda w_w. \begin{bmatrix} pray(e,w) \wedge \textsc{exp}(e,w,[\![I]\!]^c) \;\wedge \\ \textsc{best}(\langle Dox([\![I]\!]^c,w), Bul([\![I]\!]^c,w)\rangle) \\ \qquad\qquad \subseteq \{w' : \text{you recover quickly in } w'.\} \end{bmatrix} \bullet \langle [1st], 1, [2nd]\rangle_{emb}$$

m. $[\![\textit{mas}]\!] = \lambda p_{wt}.\lambda w.p(w) \bullet \langle [1st], 1, [2nd]\rangle$

n. $[\![\text{Pol}_{[+]}]\!] = \lambda p_{wt}.\lambda w.p(w)$

o. $[\![\text{Pol}]\!] = [\![\textit{mas}]\!] \circ [\![\text{Pol}_{[+]}]\!]$ (Function Composition)

$= \lambda p_{wt}.\lambda w.p(w) \bullet \langle [1st], 1, [2nd]\rangle$

p. $[\![\text{PolP}]\!] = [\![\text{Pol}]\!]([\![vP]\!])$

$$= \lambda w_w. \begin{bmatrix} pray(e,w) \wedge \textsc{exp}(e,w,[\![I]\!]^c) \;\wedge \\ \textsc{best}(\langle Dox([\![I]\!]^c,w), Bul([\![I]\!]^c,w)\rangle) \\ \qquad\qquad \subseteq \{w' : \text{you recover quickly in } w'.\} \end{bmatrix} \bullet \begin{bmatrix} \langle [1st], 1, [2nd]\rangle_{emb} \\ \langle [1st], 1, [2nd]\rangle_{main} \end{bmatrix}$$

q. $[\![\textsc{pres}]\!] = \lambda p_{wt}.\lambda w.p(w) = 1$ at $t_0$.

r. $[\![\text{TP}]\!] = [\![\textsc{pres}]\!]\ ([\![\text{PolP}]\!])$

$$= \lambda w_w. \begin{bmatrix} pray(e,w) \wedge \textsc{exp}(e,w,[\![I]\!]^c) \;\wedge \\ \textsc{best}(\langle Dox([\![I]\!]^c,w), Bul([\![I]\!]^c,w)\rangle) \\ \qquad\qquad \subseteq \{w' : \text{you recover quickly in } w'.\} \end{bmatrix} \text{at } t_0 \bullet \begin{bmatrix} \langle [1st], 1, [2nd]\rangle_{emb} \\ \langle [1st], 1, [2nd]\rangle_{main} \end{bmatrix}$$

s. $[\![c]\!] = \lambda p_{wt}.\lambda w.p(w) \bullet \lambda R_{\varepsilon}.\lambda y_e.\lambda x_e.x = [1st] \wedge y = [2nd] \wedge R$

t. $[\![c'_1]\!] = [\![c]\!]([\![\text{TP}]\!])$

$$= \lambda w_w. \begin{bmatrix} pray(e,w) \wedge \textsc{exp}(e,w,[\![I]\!]^c) \;\wedge \\ \textsc{best}(\langle Dox([\![I]\!]^c,w), Bul([\![I]\!]^c,w)\rangle) \\ \qquad\qquad \subseteq \{w' : \text{you recover quickly in } w'.\} \end{bmatrix} \text{at } t_0$$

$$\bullet \lambda y_e.\lambda x_e.x = [1st] \wedge y = [2nd] \wedge \begin{bmatrix} \langle [1st], 1, [2nd]\rangle_{emb} \\ \langle [1st], 1, [2nd]\rangle_{main} \end{bmatrix}$$

u. ⟦c'$_2$⟧ = ⟦c'$_1$⟧(Satoshi)

$$= \lambda w_w. \begin{bmatrix} pray(e,w) \wedge \text{EXP}(e,w,[\![I]\!]^c) \ \wedge \\ \text{BEST}(\langle Dox([\![I]\!]^c,w), Bul([\![I]\!]^c,w)\rangle) \\ \qquad\qquad \subseteq \{w' : \text{you recover quickly in } w'.\} \end{bmatrix} \text{at } t_0$$

$$\bullet \lambda x_e.x = \text{[1st]} \wedge \text{Satoshi} = \text{[2nd]} \wedge \begin{bmatrix} \langle \text{[1st]}, 1, \text{[2nd]}\rangle_{emb} \\ \langle \text{[1st]}, 1, \text{[2nd]}\rangle_{main} \end{bmatrix}$$

v. ⟦cP⟧ = ⟦c'$_2$⟧(Keita)

$$= \lambda w_w. \begin{bmatrix} pray(e,w) \wedge \text{EXP}(e,w,[\![I]\!]^c) \ \wedge \\ \text{BEST}(\langle Dox([\![I]\!]^c,w), Bul([\![I]\!]^c,w)\rangle) \\ \qquad\qquad \subseteq \{w' : \text{you recover quickly in } w'.\} \end{bmatrix} \text{at } t_0$$

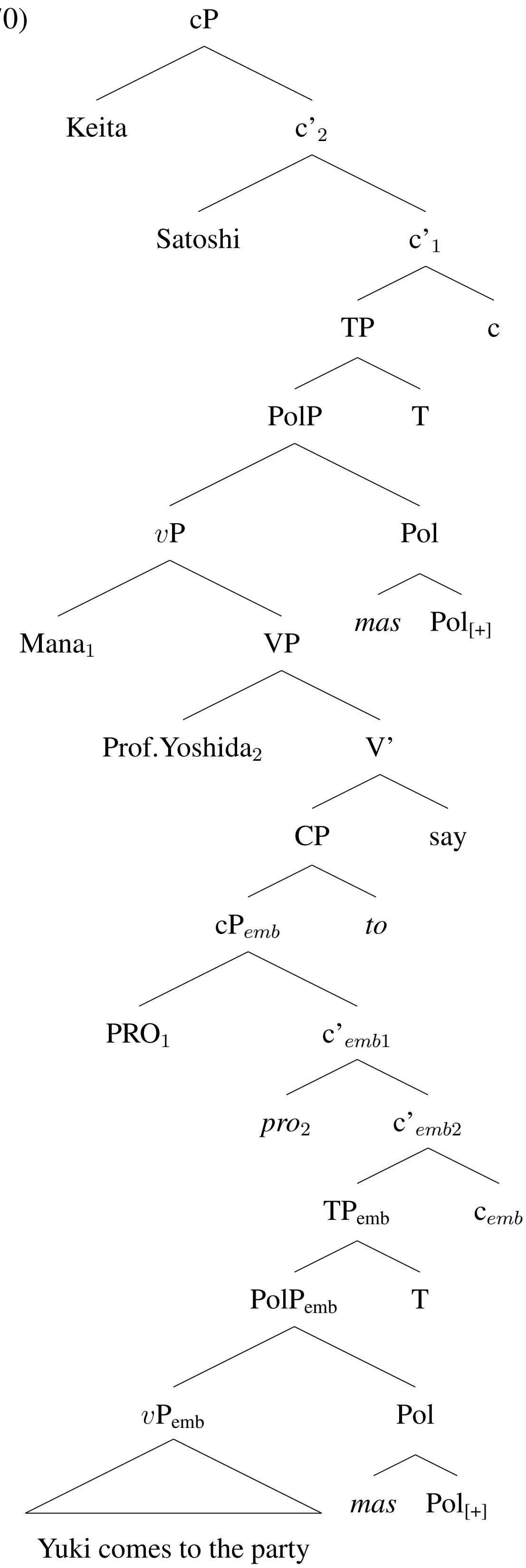
$$\bullet \text{ Keita} = \text{[1st]} \wedge \text{Satoshi} = \text{[2nd]} \wedge \begin{bmatrix} \langle \text{[1st]}, 1, \text{[2nd]}\rangle_{emb} \\ \langle \text{[1st]}, 1, \text{[2nd]}\rangle_{main} \end{bmatrix}$$

In (68e), the meaning of the embedded UH marking is simply added to the content meaning of the embedded proposition as a non-at-issue meaning. This meaning is untouched by the $\lambda$-calculus of the content meaning, and climbs up to the matrix clause as you can see in (68g) to (68l). When the matrix Pol-head with *mas* enters the computation, the respect meaning will be stacked and stored in the same respect meaning dimension as shown in (68p). Once the computation reaches the c-head, the indexicals [1st] and [2nd] in the denotations of UHs are identified as $\lambda$-bound variables $x$ and $y$ as in (68t). Lastly, the addressee and the speaker will be incorporated to the computation in order as in (68u) and (68v). In the end, both the embedded UH maker and the matrix UH marker encode the respect from Keita to Satoshi as in (68v). I argue that this is why the embedded UH cannot be shifted in *koto*-clause or other adjunct clauses.

The current analysis can also explain why the shift of embedded UHs occurs in direct speech *to*-clauses as repeated in (69). Suppose that Keita uttered (69) to Satoshi. In this case, the matrix *mas* shows Keita's respect for Satoshi, while the embedded *mas* shows Mana's respect for Prof. Yoshida. The structure of (69) in this context should look like (70). Adopting the analysis of bare quotative *to*-clauses by Tomioka and Kim (2024), I assume that the embedded speaker in *to*-clauses is PRO which is almost always controlled by the matrix subject, while the embedded addressee argument is *pro* which is coreferential to the dative case marked matrix object.

(69) Mana-wa Yoshida-sensei-ni [Yuki-wa party-ni ki-mas-u to]
Mana-TOP Yoshida-Professor-DAT Yuki-TOP party-DAT go-UH-PRES COMP
ii-mashi-ta.
say-UH-PAST
'Mana said to Prof. Yoshida, "Yuki is coming to the party". '

(70)


cP
Keita
c'₂
Satoshi
c'₁
TP
c
PolP
T
vP
Pol
Mana1
VP
mas
Pol[+]
Prof.Yoshida2
V'
CP
say
cPemb
to
PRO1
c'emb1
pro2
c'emb2
TPemb
cemb
PolPemb
T
vPemb
Pol
mas
Pol[+]
Yuki comes to the party

With this structure, the referents of the anaphoric indexical arguments in the denotation of the embedded *mas* will be fixed at the embedded cP-layer as in (71a). Since the meaning of embedded UHs will percolate up to the matrix clause with the fixed referents, it will not be touched by the matrix cP. The matrix *mas* will be interpreted with respect to the arguments of the matrix cP as in (71b). Since the semantics of direct speech is complex (see Partee, 1973; Potts, 2007a; Shimamura, 2018) and goes beyond the scope of this thesis, only the expressive dimension of (70) is shown in (71).

(71) a. Expressive dimension of $[\![\text{cP}_{emb}]\!]$

$\text{Mana} = [\text{1st}] \wedge \text{Prof.Yoshida} = [\text{2nd}] \wedge \langle[\text{1st}], 1, [\text{2nd}]\rangle_{emb}$

b. Expressive dimension of $[\![\text{cP}_{main}]\!]$

$$\begin{bmatrix} \textit{Emb} : \text{Mana} = [\text{1st}] \wedge \text{Prof.Yoshida} = [\text{2nd}] \wedge \langle[\text{1st}], 1, [\text{2nd}]\rangle \\ \textit{Main} : \text{Keita} = [\text{1st}] \wedge \text{Satoshi} = [\text{2nd}] \wedge \langle[\text{1st}], 1, [\text{2nd}]\rangle \end{bmatrix}$$

In the illustrations above, I have shown that the indexical arguments of UHs are bound to the speaker and the addressee in the closest cP as I proposed in (3b), which explains the difference in shiftability of UHs under *koto*-clauses and *to*-clauses. This locality condition reminds me of Baker's (submitted) Person Licensing Condition in (72), which is proposed as a part of an account for the indexical shift in Magahi. The core of (72) is that a property of indexical elements is not identical to either non-indexical pronouns, which obeys Binding ConditionB, or non-indexical anaphors, which obeys Binding Condition A. Rather, there is a special "Relativized Minimality" type locality condition on 1st and 2nd person elements.[13]

(72) Baker's (submitted) Person Licensing Condition

a. A first person pronoun must be locally bound by the closest Sp (or another 1st person pronoun).

b. A second person pronoun must be locally bound by the closest Ad (or another 2nd person pronoun).

[13] See also Baker and Ikawa (2024) for the behavior of the logophoric pronouns in Ibibo and logophoric anaphor *zibun* in Japanese to clarify the differecne between indexicals and other anaphoric elements.

I suggest that this locality condition naturally follows from the denotation of the c-head, at least in the expressive dimension. Under the current analysis, the c-head introduces $\lambda$-bound variables corresponding to [+1] and [+2] elements, and the variables are immediately saturated by type *e* elements sitting in the specifier of the cP. As a result, any indexical elements within the c-commanding domain of the c-head are compositionally bound to the speaker and the addressee at the Spec cP, respectively. Though it needs a careful discussion in the future research whether this semantic binding mechanism of indexical elements can be expanded to the dimension of propositional meaning, I generally consider that Baker's Person Licensing Condition could be reduced to the syntactic distirbution of cP (i.e., whether the subordinator embeds cP or not) given the compositional semantic property of c-head.

### 5.4.3 Referential Reading of UH?

Along with the locality condition of UHs, some might wonder whether the indexical arguments in UHs may get a referential reading instead of a bound-variable interpretation. Regarding this question, I suggest that the bound variable reading of indexicals in the denotation of UHs is preferred over the discourse-based referential reading due to the economy, building on the previous studies on binding vs. coreference of anaphora by Reinhart (1983a;b), Grodzinsky and Reinhart (1993) and Reuland (2001; 2011).

In the literature, it has been widely assumed that the bound variable reading of anaphora is more economical and preferable to the coreferential reading. This assumption comes from the fact that the sloppy identity reading of pronouns under VP ellipsis is easier than the strict identity reading. Observe (73).

(73) John called his mother. Bill did, too.

a. *Sloppy reading* : Bill called Bill's mother.

b. *Strict reading*: Bill called John's mother.

In the standard analysis, it has been suggested that sloppy readings result from a bound variable reading in (74), while strict identity readings arise from a coreferential reading of pronouns in the elided VP in (75) (e.g., Sag, 1976; Reinhart, 1983b; Heim and Kratzer, 1998).

(74) Sloppy Reading

a. John $\lambda$x. x called x's mother.

b. Bill $\lambda$x. x called x's mother.

(75) Strict Reading

a. John called his mother. (his = John)

b. Bill called his mother. (his = John)

Building on this line of analyses, several researches such as Reinhart (1983a;b), Grodzinsky and Reinhart (1993) and Reuland (2001; 2011) suggested that the bound variable reading of anaphora is more economical and optimal than the discourse-referential reading if the two readings yield the same semantic representation.

Following this line of studies on the difference between bound variable readings and referential readings of anaphora, I suggest that the bound variable interpretation of UHs, provided by the logical syntax, is the first option to go if it yields the same interpretation as the referential reading of UHs. However, it should be noted that I am not completely excluding the possibility of referential interpretations of UHs. Since we cannot test the difference between bound variable readings and referential readings of UHs using ellipsis or other means, I parsimoniously suggest that bound variable readings are preferred over referential readings due to economy.

Another potential reason for the preference for bound variable readings over referential readings of UHs is to avoid a conflict between the embedded UH marking and the matrix UH marking. If referential interpretations of UHs are freely available, it should be possible for embedded UHs to encode respect meaning from someone other than the utterance speaker to someone other than the addressee in the utterance context, independently of UHs in the matrix clause. Although such an interpretation is impossible with (76), suppose that the embedded UH in (76) is interpreted referentially showing respect from Kengo to

Reiko, while the matrix UH is interpreted as a bound anaphor encoding respect from Keita to Satoshi. In such a case, the denotation of the entire sentence should look like (77).

(76) [Hayaku gokaifuku-nasai-mas-u koto]-o oirnorishi-te-ori-mas-u.
Quickly recovery-do.SH-UH-PRES COMP-ACC pray-CV-be.OH-UH-PRES
'I pray for your quick recovery.'

(77) ⟦(76)⟧

$$= \lambda w_w. \begin{bmatrix} pray(e,w) \wedge \textsc{exp}(e,w,[\![I]\!]^c) \ \wedge \\ \textsc{best}(\langle Dox([\![I]\!]^c,w), Bul([\![I]\!]^c,w)\rangle) \\ \quad \subseteq \{w' : \text{you recover quickly in } w'.\} \end{bmatrix} \bullet \begin{bmatrix} \langle \textbf{Kengo}, 1, \textbf{Reiko}\rangle_{emb} \\ \langle \textbf{Keita}, 1, \textbf{Satoshi}\rangle_{main} \end{bmatrix}$$

The denotation in (77) means that there are two distinct speakers associated with the sentence, addressing two distinct interlocutors. However, it is very unlikely that two distinct speakers utter a single sentence addressing two different addressees at the same time. Thus, I consider that a bound variable reading of UHs is the optimal strategy to avoid this type of mismatch between an embedded UH marking and a matrix UH marking.

## 5.5 Addressing the Effects and Puzzles of Embedded UHs

### 5.5.1 The Lack of Minimality

The current approach can explain the lack of minimality in embedded UH licensing, reported by Tomioka and Ishii (2022). The relevant example is repeated in (78). In (78), the innermost verb (bold faced) is UH-marked, while the intermediate verb (italicized) is not. Although the intermediate verb lacks UH marking, the most deeply embedded *mas* still encodes the utterance speaker's deferential attitude toward the addressee in the utterance context, along with the matrix UH marker.

(78) Watakushi-wa [ [ sensei-ga okaerininari-**mashi**-ta koto]-ni musuko-ga
I-TOP teacher-NOM return.SH-UH-PAST COMP-DAT son-NOM
kizuka-zu-ni *i-ta* koto]-o zan'nen-ni omot-te-ori-mas-u.
notice-NEG-DAT be-PAST COMP-ACC regretful-DAT think-CV-PROG-UH-PAST
'I regret (polite) that my son didn't realize (plain) that the professor left (polite)'

(Tomioka and Ishii, 2022; (35))

As a reminder, Tomioka and Ishii (2022) took an advantage of the Interaction-Satisfaction model of Agree by Deal (2015; 2020; 2022) to account for this fact while keeping the assumption that Japanese UHs involve some form of agreement. However, their analysis is counter-intuitive under the traditional Agree operation such as the one proposed by Pesetsky and Torrego (2007).

In the current analysis, we do not have to assume the locality of agreement since this analysis assumes that UH markers are expressive particles that can be used anywhere as long as they satisfy their morphosyntactic requirements (i.e., *mas* should be following a verb, *des*$^N$ should be attached to nominal predicates, and *des*$^A$ needs to be attached to canonical adjectives). Thus, in (78), the speaker simply chooses not to use the expressive element in the intermediate clause. However, the honorific meaning of the most deeply embedded UH still projects and percolates up to the matrix clause, which ends up showing the respect from the utterance speaker to the addressee in the utterance context along with the matrix UH.

### 5.5.2 Consistency Requirement

For the consistency requirement of UH embedding, I would like to adopt Yamada's (2019) analysis shown in (79) based on the result of the experiments reported in Chapter 4. He suggested that the consistency requirement is a pragmatic constraint such that a respect object having a lower value cannot be added to the pragmatic storage if a respect object having a higher respect value already exists in the pragmatic storage.

(79) Consistency Requirement by Yamada (2019)

We cannot newly incorporate a respect object $\langle a, z_2, b\rangle$ into the storage iff there is a triple $\langle a, z_1, b\rangle$ already in the storage and $z_1 > z_2$.

(Yamada, 2019: (143) in Chapter 5)

I take the liberty to amend his proposal so that it fits the current analysis.[14] Assuming that

[14] Yamada (2019) assumed that the update of the pragmatic storage happens cP-wise manner. However, as I do not assume that cP is generally unembeddable, this modification is necessary.

non-UH-marked predicates add $\langle x_{[1st]}, 0, y_{[2nd]}\rangle$ to the respect dimension, I propose a new consistency requirement in (80).

(80) Consistency Requirement

If the respect objects in the honorific dimension of a single cP have a configuration $\begin{bmatrix}\langle a, z_1, b\rangle_{emb}\\ \langle a, z_2, b\rangle_{matrix}\end{bmatrix}$ where $z_1 > z_2$, it cannot be shipped to the pragmatic storage.

This formulation of the consistency requirement excludes the case like (81a) where a UH marker is used in an embedded clause but the matrix predicate is not UH-marked. The respect dimension of (81a) should look like (81b).

(81) a. * [$_{\text{CP}}$ Densha-ga okurete-ori-**masu** koto]-o owabi-itas-∅-u.
train-NOM delay-be-PRES fact-ACC apologize-do.OH-∅-PRES
'I apologize (honorific) that the train is being delayed (non-honorific).'

b. $\begin{bmatrix}\langle \text{Sp}, 1, \text{Ad}\rangle_{emb}\\ \langle \text{Sp}, 0, \text{Ad}\rangle_{matrix}\end{bmatrix}$

It should be noted that (80) does not exclude the case like (82a) where only the matrix predicate is UH-marked. The respect dimension of (82a) should be (82b).

(82) a. [$_{\text{CP}}$ Densha-ga okurete-*iru* koto]-o owabi-itashi-**mas**-u.
train-NOM delay-be-PRES fact-ACC apologize-do.OH-UH-PRES
'I apologize (non-honorific) that the train is being delayed (honorific).'

b. $\begin{bmatrix}\langle \text{Sp}, 0, \text{Ad}\rangle_{emb}\\ \langle \text{Sp}, 1, \text{Ad}\rangle_{matrix}\end{bmatrix}$

Since the respect value of the matrix clause is higher than the respect value of the embedded clause in (82b), it will not be excluded by (80).

It should also be noted that the comparison in (80) will take place only between embedded and matrix respect meanings, and not between two embedded respect meanings. Thus, an example like (79) repeated in (83a) will also not be excluded. The respect meaning dimension of (83a) is indicated in (83b).

(83) a. Watakushi-wa [$_{CP_2}$ [$_{CP_1}$ sensei-ga okaerininari-**mashi**-ta koto]-ni
I-TOP teacher-NOM return.SH-UH-PAST COMP-DAT
musuko-ga kizuka-zu-ni *i-ta* koto]-o zan'nen-ni
son-NOM notice-NEG-DAT be-PAST COMP-ACC regretful-DAT
omot-te-ori-mas-u.
think-CV-PROG-UH-PAST
'I regret (polite) that my son didn't realize (plain) that the professor left (polite)'

b. $\begin{bmatrix} \langle \text{Sp}, 1, \text{Ad} \rangle_{\text{CP}_1} \\ \langle \text{Sp}, 0, \text{Ad} \rangle_{\text{CP}_2} \\ \langle \text{Sp}, 1, \text{Ad} \rangle_{matrix} \end{bmatrix}$

In this case, the comparison of the respect meaning of $\text{CP}_1$ and that of the matrix clause does not violate (80), nor does the comparison between $\text{CP}_2$ and the matrix clause. As the respect meanings of $\text{CP}_1$ and $\text{CP}_2$ will not be compared, the case like (83a) will not be excluded by (80).

### 5.5.3 Enhancement Effect

As we saw in Chapter 2, Yamada (2019) reported that the use of embedded UHs elevates the politeness of entire speech, which he called the enhancement effect of embedded UHs. Although the enhancement effect is not as clear to me as he reported (see also the discussion by Tomioka and Ishii (2022)), the current analysis can derive the enhancement effect in the following way. Recall (65) and the result of its semantic computation in (68) repeated in (84) and (85).

(84) [Hayaku gokaifuku-nasai-mas-u koto]-o oirnorishi-te-ori-mas-u.
Quickly recovery-do.SH-UH-PRES COMP-ACC pray-CV-be.OH-UH-PRES
'I pray for your quick recovery.'

(85) $[\![(85)]\!] = \lambda w_w. \begin{bmatrix} pray(e, w) \wedge \text{EXP}(e, w, [\![I]\!]^c) \ \wedge \\ \text{BEST}(\langle Dox([\![I]\!]^c, w), Bul([\![I]\!]^c, w) \rangle) \\ \qquad \subseteq \{w' : \text{you recover quickly in } w'.\} \end{bmatrix} \bullet \begin{bmatrix} \langle \text{Keita}, 1, \text{Satoshi} \rangle_{emb} \\ \langle \text{Keita}, 1, \text{Satoshi} \rangle_{main} \end{bmatrix}$

In (85), the honorific meaning of the embedded UH marking and that of the matrix UH marking are stacked in the expressive dimension. I suggest that these honorific meanings are interpreted additively in the pragmatic storage, creating a respect object like $\langle \text{Keita}, 2, \text{Satoshi} \rangle$, when people feel the enhancement effect of embedded UHs. For those who do not strongly get the enhancement effect, I suspect that the two denotations are identified as $\langle \text{Keita}, 1, \text{Satoshi} \rangle$ in the pragmatic storage, as the respect object of the embedded clause is identical to that of the matrix clause.

As an alternative, I would like to point out the possibility that the enhancement effect may be derived by Gricean reasoning (Grice, 1975) like (86) given the fact that use of embedded UHs is completely optional.

(86) i. The speaker is a cooperative partner of conversation.

ii. The speaker used a UH marker in an embedded clause, even though (s)he does not have to.

iii. Thus, there should be a reason for the speaker to use a UH marker in an embedded clause.

iv. The speaker wants to be super-polite towards the addressee.

In this thesis, I will not go further than suggesting these two possibilities of how the enhancement effect is derived. In either way, the enhancement effect can be derived correctly with the current analysis.

### 5.5.4 Commitment Effect

In addition to the enhancement effect, Yamada (2019) also reported that the use of embedded UHs causes a commitment effect such that (i) the speaker believes or wants the embedded proposition to be true, which he calls 'Type I effect', or (ii) the speaker commits to what has been taken for granted by the discourse participants, which he calls 'Type II effect'. According to him, the Type I effect occurs when the embedded proposition is new to the addressee, while the Type II effect is observed when there is a shared background knowledge. The relevant examples showing the Type I effect are given in (87) and (88). He reported that the use of embedded *mas* in (87) is infelicitous as it implies that Alice also wants Ms. C to be the president, which contradicts the context. On the other hand, she can use an embedded UH marker in the context of (88) as she wants Ms. A to be the president as well as her husband does.

(87) Context 1: *A presidential election is about to take place and two candidates are competing, Ms. A from Party X and Ms. B from Party Y. Alice is supporting Party X and takes an interview to become a member of the political campaign staff. At the interview, the campaign manager has asked her some questions and the last one is 'is your husband supporting Ms. A?' Unfortunately, her husband has a different political stance. Alice is now making a response choosing the hyper-polite speech register.*

a. ✓ Zannennagara, [kare-wa C-shi-ga daitooryoo-ni naru koto]-o
Unfortunately, he-TOP C-Mr-NOM president-DAT become COMP-ACC
nozonde-ori-masu.
hope-be.OH-UH
'Unfortunately, he desires that Mr. C becomes the president. '

b. # Zannennagara, [kare-wa C-shi-ga daitooryoo-ni nari-**masu**
Unfortunately, he-TOP C-Mr-NOM president-DAT become-UH
koto]-o nozonde-ori-masu.
COMP-ACC hope-be.OH-UH
'Unfortunately, he desires that Mr. C becomes the president. '

(Yamada, 2019: (42))

(88) Context 2: *The same context as before, except for the fact that her husband also likes Ms. A. So, she does not have to be worried about giving a negative impression to the interviewer.*

✓ Mochiron, [kare-wa A-shi-ga daitooryoo-ni {naru/nari-masu}
Of.course, he-TOP A-Ms-NOM president-DAT become/become-UH
koto]-o nozonde-ori-masu.
COMP-ACC hope-be.OH-UH
'Of course, he desires that Ms. A becomes the president.'

(Yamada, 2019: (43))

Yamada (2019) showed (89) to indicate the Type II effect of embedded UHs. According to him, (89) is felicitous in context (a) because the retirement of the professor is taken for granted by the discourse participants. In contrast, (89) is odd in context (b) as his retirement is not taken for granted.

(89) [Sensei-ga intai sare-**mas**-u koto]-o gakusee-wa nozon-de
teacher-NOM retirement do.SH-UH-PRES COMP-ACC studnt-TOP desire-CV
ori-mas-en.
be.OH-UH-NEG
'The students do not desire that you go into retirement. ' (Yamada, 2019: (47))

*Contexts:*

a. *A professor at a university is well-known not only for his influential studies in the field of semantics but also for his warmhearted character and enthusiasm in teaching and guiding graduate students. But he is already over 70 and he has decided to retire from the university life. After making announcement of his retirement, he got an email from his young colleague at the same university, who personally wanted him to stay at the university (though she, of course, respects his decision).*

b. *A professor at a university is well-known not only for his influential studies in the field of semantics but also for his warmhearted character and enthusiasm in teaching and guiding graduate students. He is now his 40's, so nobody assumes that he is going to retire. One day, however, he received the results of the course evaluation on his class he had taught for freshmen and realized that there was one student who had a very negative comment on his lecture. This student wrote that he wanted this professor to retire from the university right now because, according to this student, his way of teaching was very confusing. The professor was very disappointed. One of his colleagues, who is younger than the professor, now tries to cheer him up by writing an email.*

According to Yamada (2019), the commitment effect is not restricted to *koto*-complement clauses of attitude verbs. He considers Harada's (1976) observation to be a variant of the speaker's commitment encoded by embedded UHs. Harada (1976) reported that an embedded *mas* in relative clauses makes the referent of the head noun specific, as shown in (90). In (90a), the speaker has to be looking for a specific box that has polka dots. In contrast, the speaker should be fine with any box with polka dots in (90b).

(90) a. Watashi-wa [$_{\text{RC}}$ mizutama moyoo-no ari-mas-u] hako-o sagashi-te
I-TOP polka.dot design-GEN be-UH-PRES box-ACC look.for-CV
ori-mas-u.
be.OH-UH-PRES
*Reading 1: 'I am looking for a box that has polka dots.'
Reading 2: 'I am looking for the box that has polka dots.'

b. Watashi-wa [$_{\text{RC}}$ mizutama moyoo-no ar-u] hako-o sagashi-te
I-TOP polka.dot design-GEN be-PRES box-ACC look.for-CV
ori-mas-u.
be.OH-UH-PRES
Reading 1: 'I am looking for a box that has polka dots.'
Reading 2: 'I am looking for the box that has polka dots.'

Yamada (2019) suggested this specificity effect in (90a) is due to the commitment effect of embedded UHs. That is, the presence of embedded UH marking implies that the speaker believes there should be a box with polka dots, while this is not the case in (90b). These were the reasons why Yamada (2019) assumed that SpeakerP is embedded when there is an embedded UH marker.

However, the commitment effect of embedded UHs is not as clear as he reported because *mas* may appear in relative clauses in a context where the speaker does not believe the embedded proposition to be true, as shown in (91).

(91) [$_{\text{RC}}$ Kono mondai-no kotae-ga owakarininari-masu] kata-wa
this question-GEN answer-NOM know.SH-UH person-TOP
irasshai-masu-ka?
be.SH-UH-Q
'Is there anyone who knows the answer to this question?'

In the context where a speaker utters (91), the speaker does not necessarily believe that there is a person who knows the answer to the question. However, the use of embedded *mas* is felicitous. It should be noted that the presence of such a person is not taken for granted between the speaker and the addressee, if the speaker asks (91).

Moreover, UHs can be used in conditionals in which the speaker neither believes the embedded proposition to be true nor to be taken for granted. The relevant example is shown in (92).

(92) *Context: A president of a screw company is having a business negotiation with a group of engineers from a medical supply company who are going to buy a small batch of screws to develop a new pacemaker. Due to the nature of pacemakers, engineers want the screws to be super precise and have no defective item. The screw company is well known for its strict product check, and the president promised them to get the batch go through the checking process three times. So, they reached an agreement. The other day, the president brought the box of screws that had gone through the inspection process three times to the medical supply company and says*

| | | | | |
|---|---|---|---|---|
| [Moshi, | mangaichi | furyoohin-ga | gozai-**mashi**-tara] | kochira-no |
| if | unlikely | defective.item-NOM | be.HON-UH-if | this-GEN |

| | |
|---|---|
| bangoo-ni | gorenraku-kudasai. |
| number-DAT | contact-please.polite |

'Just in case you find a defective item, please call this number.'

In this context, the president does not believe or want there to be a single defective item. In addition, the existence of defective items is not taken for granted between the president and the engineers. However, the president can use *mas* in the conditional clause felicitously. If the commitment effect of embedded UHs is as robust as Yamada (2019) reported, (92) should be unacceptable in contrast to the fact.

Given this frangibility of the alleged commitment effect, I do not think it is hardwired into the semantic system of embedded UH marking. Rather, I suspect that this is due to the speakers' early commitment to the social relationship between the speaker and the addressee by the use of embedded UHs. As I stated earlier in this chapter, I consider that the use of embedded UHs comes from the speaker's desire or a social pressure to express the respectful attitude toward the addressee in the early stage of utterance not to damage the social relationship with the honorific addressee. Thus, when an embedded UH marking appears, it encodes some commitment of the speaker to the discourse. I speculate that this early commitment to the discourse somehow processed or interpreted as the commitment to the proposition when people get the commitment effect.

### 5.5.5 Difference Between *Koto* and Indirect Speech *To*

The remaining puzzle of embedded UHs under the current analysis is the difference of UH embeddability between indirect speech *to*-clauses and *koto*-clauses. As we saw in Chapter 2, it has been reported that *mas* can be embedded in a *koto*-clause, while it cannot be embedded in an indirect speech *to*-clause. The relevant examples are repeated in (93) and (94).

(93) [Go-meiwaku-o o-kake-itashi-mashi-ta koto]-o
[HON-trouble-ACC HON-giving-do.OH-UH-PAST COMP]-ACC
owabi-itashi-mas-u.
apologize-do.OH-UH-PRES
'I apologize for giving (you) trouble.' (Yamada, 2019 Chapter 4: (58))

(94) [Isogashiku sugoshi-te {✓irasshar-u / *irasshai-**mas**-u} to]
busy spend-CV {PROG.SH-PRES / PROG.SH-UH-PRES} COMP
zonji-te-ori-mas-u.
know.SH-UH-CV-be-UH-PRES
'I know that you are doing busy.' (Yamada, 2019 Chapter 4: (56) modified)

Given the fact that indirect speech *to*-clauses do not allow indexical shift, it seems that indirect speech *to*-clauses do not embed cP. If the current approach is true, indirect speech *to*-clauses should also be able to embed *mas* same as *koto*-clauses, and its respect meaning should be able to climb up to the matrix cP. Then, why is it impossible to embed UH under indirect speech *to*-clauses?

My tentative answer for this question is that the use of embedded UHs in an indirect speech *to*-clause is not categorically banned by the syntactic or semantic mechanisms of UH marking, however, other factors may be at play that cause the infelicity of embedded UHs in an indirect speech *to*-clause. This is because the acceptability of embedded UHs in an indirect speech *to*-clause is ameliorated in some cases as shown in (95) to (97). In (95), the indirect speech *to*-clause undergoes scrambling to have some linear distance between the *to*-clause and the main verb. In (96), the indirect speech *to*-clause is in the locus of negation, which makes the embedded UH under the indirect speech *to*-clause much better. In (97), the liner distance between *to* and the verb is shorter than (95) and (96), but the matrix verb is passivized, which should have some structural distance between the *to*-clause and the matrix verb.

(95) (?) Shin saabisu-ni yotte [atrata-na kokyaku-no kakutoku-ni
new service-DAT by new-COP costomer-GEN aquisition-DAT
tsunagari-**masu** to] heisha-wa kangae-te-ori-mas-u.
connect-UH COMP our.company.OH-TOP think-CV-be.OH-UH-PRES
'Our company think that the new service will lead the acquisition of new customers.'

(96) [Konkai-no yoo-na jiken-ga hasseishi-**mas**-u to]-wa
this.time-GEN like-COP incident-NOM occur-UH-PRES COMP-TOP
watakushi-domo-mo mattaku yosooshi-te-ori-mas-en-deshi-ta.
I-PL.OH-also at.all expect-CV-be.OH-UH-NEG-UH-PAST
'We were not expecting at all that the incident like this would occur.'

(97) (?) [Konshuu-wa kanrei-zensen-no eikyoo-de zenkokuteki-ni
This.week-TOP cold-front-GEN effect-with nationwide-DAT
samuku-nari-masu to] yosoo-sare-tei-masu.
cold-be-UH COMP expect-PASS-PROG-UH-PRES
It is expected to be very cold nationwidely this week due to the effect of a strong cold front.

This observation even holds for embedded questions. It is well known that *mas* is not good with an embedded question as in (98a), but it will be ameliorated when the embedded clause is in the locus of negation or has some distance with the matrix verb as shown in (98b).

(98) a. * Watashi-ni-wa [kare-ga ima doko-ni ori-masu ka] wakari-mas-u.
I-DAT-TOP he-NOM now where-DAT be.OH-UH Q know-CV-UH-PRES
'I know where he is now.'

b. (?) [Kare-ga ima doko-ni ori-masu ka]-wa watashi-ni-mo
he-NOM now where-DAT be.OH-UH Q-TOP I-DAT-also
wakari-mase-n.
know-CV-UH-PRES
'Even I do not know where he is.'

As an alternative possibility, I suggest that embedded UHs in an indirect speech *to*-clause become infelicitous due to a mismatch between the listeners' expectation and the actual verb coming after *to*. As observed by Uchibori (2008), the use of UH marking before *to* induces a direct speech-like interpretation of the *to*-clause. Since Japanese is a verb final language, listeners are not sure whether the *to*-clause is indirect speech or direct speech until they reach the main verb. Thus, when they hear a UH marker before *to*, the listeners predict that the *to*-clause should be a direct speech. The verbs-of-thinking coming right after *to*-clause with *mas* causes a mismatch with the listeners' expectation, leading the unacceptability observed by Yamada (2019). Since the source of infelicity is not clear enough at this point, I would like to leave this question open for the future research.

### 5.6 Note on the Doubling of UHs in Negative Past Sentences

Before concluding this chapter, I would like to note about the doubling of UHs in a negative past sentence. As I showed in Section 5.3.4, *des*$^N$ occurs in a negative past sentence in (99a) unlike the non-past counterpart (99b). In the literature, this insertion of *des*$^N$ has been analyzed as *be*-support for the tense marker *-ta* (see Yamada, 2020; Tomioka and Ishii, 2022). It should be noted that the plain copula *da(t)-* or the light verb *ar-u* cannot be used in this case, as shown in (100).

(99) a. Mari-wa kyoo gakko-ni ki-mase-n deshi-ta.
Mari-TOP today school-DAT come-UH-NEG COP.UH-PAST
'Mari did not come to school today.'

b. Mari-wa kyoo gakko-ni ki-mase-n-∅.
Mari-TOP today school-DAT come-UH-NEG-PRES
'Mari does not come to school today.'

(100) a. * Mari-wa kyoo gakko-ni ki-mase-n dat-ta.
Mari-TOP today school-DAT come-UH-NEG COP-PAST

‘Mari did not come to school today.’

b. * Mari-wa kyoo gakko-ni ki-mase-n at-ta.
Mari-TOP today school-DAT come-UH do-PAST
‘Mari does not come to school today.’

In this thesis, I generally concur in the analysis of the previous literature that the insertion of *des*$^N$ in (99a) is a kind of *be*-support. I assume (101) to implement this idea into the current analysis without assuming a post-syntactic operation like Distributed Morphology (Halle and Marantz, 1993).

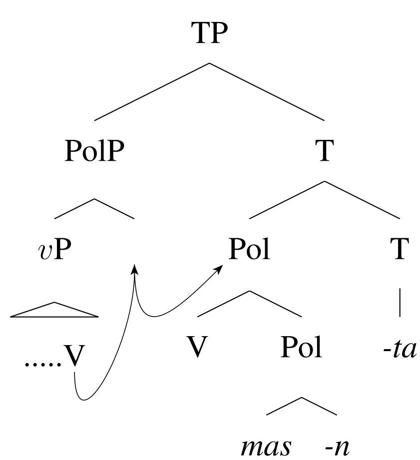
(101) a. Predicative elements in Japanese undergo a head movement to T (or above).

b. The past tense marker *-ta* must be merged with an inflectional category to be morphologically realized.

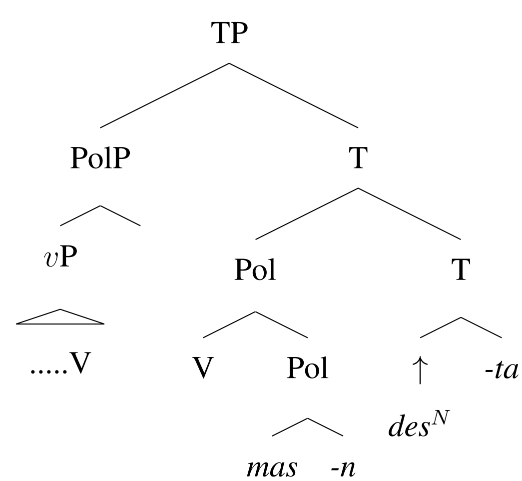
c. The regular negative morpheme *na-i* is counted as an inflectional category because it has the same inflectional ending as canonical adjectives, while the special form *-n* used with *mas* is counted as a non-inflectional category.

d. Hence, if a UH-marked non-inflectional predicate moves and adjoins to the past tense T-head, *des*$^N$ will be Late Merged to T to support the morphological realization of *-ta* as a Last Resort operation as schematized in (102).

(102) a.




b.




As indicated in (101d), I assume that *des*$^N$ will be Late Merged if the movement of the predicative element creates the configuration in (102a) where non-inflectional element *-n* precedes the past tense *-ta*. In this case, *des*$^N$ will be inserted into the T-head as in (102b) to support the tense morpheme.[15]

It should be noted that the doubling of UHs in (99a) does not cause the enhancement effect unlike the case of embedded UHs, which suggests that either (i) the insertion of *des*$^N$ in (102b) does not bring any semantic effect as the insertion is only for the morphological purpose, or (ii) both *mas* and *des*$^N$ is computed in (102b) but they are identified as a single respect object $\langle$Speaker, 1, Addressee$\rangle_{main}$ in the pragmatic storage. Since I assume that the use of UH marking is generally the same as the use of epithets, I suggest that they are semantically computed but identified as a single respect object in the pragmatic storage.

## 5.7 Chapter Summary

In this chapter, I have analyzed how embedded UHs are linked to the speaker and the addressee in the utterance context, while maintaining the assumption that cP is generally restricted to root clauses. (Miyagawa, 2012; 2022; Portner et al., 2019; Tomioka and Ishii, 2022). The main ideas are summarized in (103).

(103) Proposals

a. Japanese UHs are embeddable because they occupy a relatively low position in syntax. The embeddability of the UH markers are largely determined by their morphosyntactic properties.

b. Japanese UHs are expressive honorific particles anaphoric to the speaker argument and the addressee argument in the local cP. Due to their expressive property, they can be used anywhere as long as they satisfy their morpho-syntactic property.

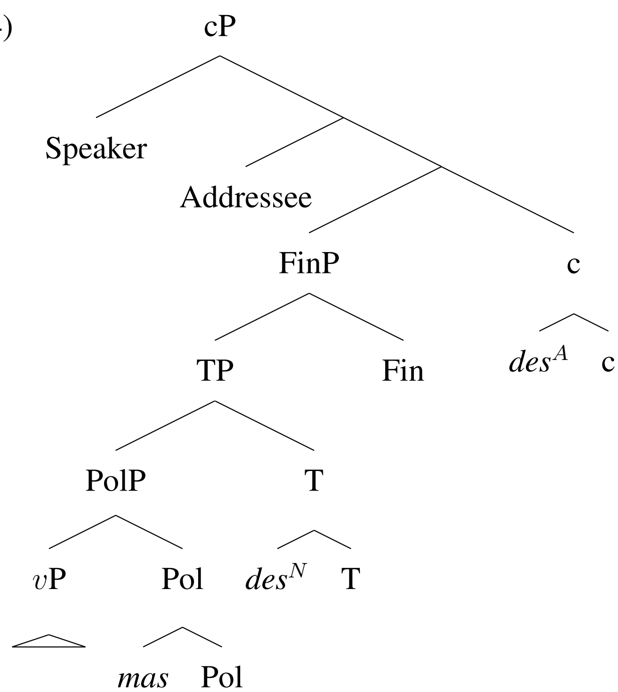
---

[15] I thank Satoshi Tomioka for sugesting me an alternative possibility. Historically, the speacial form of negation *-n* is coming from the adnominal form *-nu* of a negaitve auxliary verb *-zu*. Thus, it might be the case that there is a null nominal between the special negative morpheme *-n* and *des*$^N$ at T-head. If this is the case, we can treat the occurance of *des*$^N$ in (99) on a par with the combination of nominal predicate + *des*$^N$.

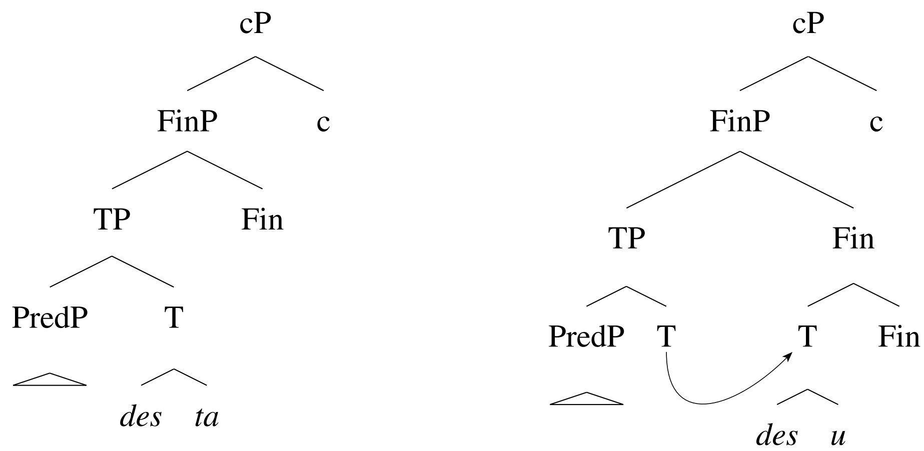
c. As the majority of subordinators cannot embed cP, the closest cP to the embedded UHs is usually the matrix cP. This is why the embedded UHs encode the respect from the speaker in the utterance context to the addressee in the utterance context.

The crucial assumption in my analysis was that Japanese UH markers are not an instance of addressee agreement, but expressive particles as I discussed in Section 5.2. For the base positions of the three UH markers, I suggested (104) expanding the structure-embeddability correspondence scheme by Tomioka and Ishii (2022). I further suggested that *desu*, the non-past version of *des*$^N$, obligatorily moves to Fin-head while the past tense counterpart *deshi-ta* may stay in the T-head to account for their embedding patterns. This suggestion is instantiated in (105).

(104)



(105) a. The position of adnominal *deshi-ta* b. The position of (conclusive) *des-u*




The most important claim of this chapter was that each UH marker contains indexical arguments anaphoric to the speaker / addressee arguments in the local cP. To implement this idea, I proposed the semantic denotations in (106) for the UH markers and the c-head. The theoretical hunch behind this proposal was that the use of embedded UH is basically the same as the repeated use of other expressive elements like epithets.

(106) a. $[\![\textit{mas / des}^{N} \textit{ / des}^{A}]\!] \in D_{\langle wt,\langle wt\bullet\varepsilon\rangle\rangle} = \lambda p_{wt}.\lambda w.p(w) \bullet \langle \text{[1st]}, 1, \text{[2nd]}\rangle$

b. $[\![\text{c}]\!] \in D_{\langle\langle wt\bullet\varepsilon\rangle,\langle wt\bullet\langle e,e,\varepsilon\rangle\rangle}$
$= \lambda p_{wt}.\lambda w.p(w) \bullet \lambda R_{\varepsilon}.\lambda y_{e}.\lambda x_{e}.x = \text{[1st]} \wedge y = \text{[2nd]} \wedge R$

With these denotations, I showed that embedded UHs in a non-cP-embedding subordinate clause will encode the respect from the speaker in the utterance context to the addressee in the utterance context because the most local cP for the embedded UH is the matrix cP in Section 5.4. In Section 5.5 and 5.6, I have addressed the effects and puzzles of embedded UHs such as the lack of minimality, the consistency requirement, the commitment effect, the enhancement effect, the difference of UH embeddability between *koto*-clauses and indirect speech *to*-clauses, and the doubling of UH in a negative past sentence.

# Chapter 6

# CASE STUDY OF ALLOCUTIVE MARKING IN BURMESE

In Chapter 5, I have argued that (i) Japanese UH markers are expressive honorific particles anaphoric to the speaker / addressee arguments in the local cP and (ii) the embeddability of UHs is determined by their positions in narrow syntax. The implication of my proposal in the context of cross-linguistic research of allocutivity is that the syntactic position of the allocutive marker is the determining factor of its embeddability for the languages whose allocutive marking behaves as a particle. In this chapter, I will examine Burmese allocutive marking based on my joint informant work with Juyeon Cho, aiming to show that it is one of the allocutive particle languages whose embedding pattern of allocutive marking is generally determined by the syntactic position.

## 6.1 Four Kinds of Variation in Allocutive Marking Across Languages

To put the implication of my proposal in a larger picture, I would like to start this chapter with the recent work by Alok and Haddican (2022). Alok and Haddican (2022) summarized the results of recent cross-linguistic studies on allocutive marking and described that there are four kinds of variation across languages: (i) root-sensitivity, (ii) allocutive morpheme placement, (iii) allocutive morpheme type, and (iv) interactions with complementizers and clause typing element. The result of their examination is summarized in Table 6.1. It should be noted that I rearranged the table because I would like to focus on the morpheme type, position, and root-sensitivity. It should also be noted that Alok and Haddican (2022) only looked at *mas* for Japanese based on Yamada (2019) and Miyagawa (2022).

According to Alok and Haddican (2022), Galician is a poster-child example of allocutive clitic language. In this language, allocutive morphemes are identical to the thematic dative clitics in (1) (see Uriagereka, 1995; Haddican, 2019; Huidobro, 2022 among others).

| Variety | Morph-Type | Position | Root-sensitivity | Interaction with C |
|---|---|---|---|---|
| Zuberoan | Clitic | C >ALLOC >T | Root only | Under C in declaratives but not in interrogatives |
| Cons.S.Basq | Clitic | C >ALLOC >T | Root only | None |
| Inn.S.Basq | Clitic | C >ALLOC >T | Root, embedded | None |
| Galician | Clitic | C >ALLOC >T >ALLOC | Root, embedded | None |
| Magahi | Agreement | C >ALLOC >T | Root, embedded | None |
| Tamil | Agreement | ALLOC >C >ALLOC | Root, embedded | None |
| Korean | Particle | ALLOC >C | Root only | Clause type and ALLOCutive features spellout together |
| Japanese | Particle | T >ALLOC | Root, embedded | Under certain Cs in embedded contexts |

Table 6.1: Crosslinguistic Variations in Allocutive Marking by Alok and Haddican (2022)

The *cha* in (2a) works as an allocutive marking, which is obtained via the portmanteau formation rule in (2b). In this type of language, allocutive marking is assumed to be behaving as a bound pronoun. Recent studies on Basque consider that allocutive marking in Basque is of this type (see Arregi and Nevins, 2012; Preminger, 2009; Rezac et al., 2014 among others).

(1) Dative clitics in Galician

| Person | Singular | Plural |
|---|---|---|
| 2nd familiar | che | vos |
| 2nd formal | lle | lles |

(2) Galician

a. Merqui-cha.
bought-1.SG-2.SG.FAM.DAT.3SG.ACC.F
'I bought you it.'

b. che (2.SG.FAM) + a (3SG.ACC.F) → cha (2.SG.FAM.DAT;3SG.ACC.F)

The second type of allocutive marking is allocutive agreement, exemplified by Tamil (see McFadden, 2020) and Magahi (see Alok and Baker, 2018; Alok, 2020). In Tamil, the allocutive marking *-ŋgæ* is isomorphic with the general plural marking on verbs. A sample sentence of Tamil with allocutive marking is shown in (3). Compare the verb form with the agreement morphology shown in (4).

(3) Naan dʒaangiri vaang-in-een-ŋgæ.
I Jangri buy-PAST-1SG.SUBJ-ALLOC
'I bough Jamgri. (polite)'

(4) Regular verb agreement in Tamil *ooɖŭ* 'run'

| Form | Singular | Plural |
|---|---|---|
| 1 | ooɖŭ-r-een | ooɖŭ-r-oom |
| 2 | ooɖŭ-r-ae | ooɖŭ-r-ii**ŋgæ** |
| 3 | ooɖŭ-r-aa | ooɖŭ-r-aa**ŋgæ** |
| 3.Fem | ooɖŭ-r-aan | ooɖŭ-r-aa**ŋgæ** |
| 3.Masc | ooɖŭ-r-aau | ooɖŭ-r-aa**ŋgæ** |
| 3.Polite | ooɖŭ-aarŭ | ooɖŭ-r-aa**ŋgæ** |
| 3.Neutral | ooɖŭ-dŭ | ooɖŭ-dŭ |
| Imperative | ooɖŭ | ooɖŭ**ŋgæ** |

As I showed in Chapter 5, allocutive marking in Magahi works like an exponence of agreement on a functional head as it reflects the honorific status of addressee. The relevant examples are repeated in (5).

(5) Magahi

a. To a peer
Ham jaa-it h-i-**au**.
I go-PROG be-1SG-NH.AL

b. To a parent or grandparent
Ham jaa-it h-i-**o**.
I go-PROG be-1SG-H.AL

c. To a king, priest, or professor
Ham jaa-it h-i-**ain**.
I go-PROG be-1SG-HH.AL

d. Non-allocutive
Ham jaa-it h-i-∅.
I go-PROG be-1SG
'I am going.'

Following Portner et al. (2019), Alok and Haddican (2022) considered that Korean and Japanese are the third type, allocutive particle languages, because both languages do not have $\phi$-feature agreement on verbs (i.e., the subject-verb agreement). The difference between Korean speech style particles and Japanese UHs is that Korean spells out the allocutive marking with the clause-typing element. According to Portner et al. (2019), there are six particles depending on the formality, familiarity, or intimacy to the addressee as shown in (6). Recall that Korean speech style particles can never be embedded, as repeated in (7). Portner et al. (2019) proposed that this unembeddability of speech style particles comes from the unembeddability of cP where the speech style particles are represented.

(6) a. Inho-ka choysen-ul ta ha-ess-**supnita**.
Inho-NOM best-ACC all do-PAST-DECL.FORMAL

b. Inho-ka choysen-ul ta ha-ess-**eyo**.
Inho-NOM best-ACC all do-PAST-DECL.POLITE

c. Inho-ka choysen-ul ta ha-ess-**o**.
Inho-NOM best-ACC all do-PAST-DECL.SEMIFORMAL

d. Inho-ka choysen-ul ta ha-ess-**ney**.
Inho-NOM best-ACC all do-PAST-DECL.FM

e. Inho-ka choysen-ul ta ha-ess-**e**.
Inho-NOM best-ACC all do-PAST-DECL.INTIMATE

f. Inho-ka choysen-ul ta ha-ess-ta.
Inho-NOM best-ACC all do-PAST-DECL.PLAIN
'Inho did his best.'

(7) a. * Inho-ka [ecey pi-ka o-ass-**supnita**-ko]
Inho-NOM [yesterday rain-NOM come-PAST-DECL.FORM-COMP]
malhayss-supnita.
said-DECL.FORM
'Inho said that it rained yesterday.' (Portner et, al 2019: (16a))

b. ✓ Inho-ka [ecey pi-ka o-ass-**ta**-ko]
Inho-NOM [yesterday rain-NOM come-PAST-DECL.PLN-COMP]
malhayss-supnita.
said-DECL.FORM
'Inho said that it rained yesterday.' (Portner et, al 2019: (16b))

Crucially, Korean speech style particles are assumed to be realized in a very high position in syntax, which disables the embedding of them. In contrast, as I have argued in Chapter 5, Japanese UHs are realized relatively low position in syntax (i.e., *mas* and $des^N$ below T and $des^A$ at c) as repeated in (8), which enables the embedding of them as repeated in (9).[1]

(8) Japanese

a. Mari-wa gakko-ni iki-**mashi**-ta.
Mari-TOP school-LOC go-UH-PAST
Mari went to school.

[1] Regarding the difference of embeddability of $des^A$ and Korean speech style particles, Tomioka and Ishii (2022) suggested that Korean speech style particles moves to Utt(erance)P sitting on the top of cP, while Japanese use UttP as a position of sentence final particles. This suggestion comes from the fact that a sentence with a sentence final particle can never be embedded even in although/because-clause in Japanese (see also Chapter 3). The relevant example is shown in (i).

(i) [Mari-wa ryoori-ga suki-da **(*yo)** kara] Kei-wa furaipan-o
Mari-TOP cooking-NOM fond-COP SFP because Kei-TOP frying.pan-ACC
okut-ta.
send-PAST
'Because Mari likes cooking, Kei send (her) a frying pan.'

This analysis seems to be on the right track given the fact that Korean speech style particles changes depending on the intimacy or familiarity. I consider that the difference between Japanese and Korean is that Japanese encodes the intimacy or familiarity by using sentence final particles separately from politeness expressed by UH, while Korean encodes them together as a single speech style particle.

b. Mari-wa UD-no gakusee-**deshi**-ta.
Mari-TOP UD-GEN student-UH.COP-PAST
Mari was a UD student.

c. Kaigai ryokoo-wa totemo tanoshi-i-**desu**.
abroad travel-TOP very fun-PRES-UH
'It is very fun to travel abroad.'

(9) a. [Go-meiwaku-o o-kake-itashi-mashi-ta koto]-wa
[HON-trouble-ACC HON-giving-do.OH-UH-PAST COMP]-TOP
zonji-te-ori-mas-u.
know.SH-CV-be.OH-UH-PRES
'I know that I gave (you) trouble.'

b. [Raishuu-wa suiyoubi-**deshi**-tara] aite-ori-mas-u.
Next.week-TOP Wednesday-COP.UH-PAST-if open-be.OH-UH-PRES
'About next week, if it's Wednesday, I will be free.'

c. [Raishuu-wa isogashii-**desu**-ga / -kedo,] kanarazu ai-ni iki-mas-u.
Next.week-TOP busy-COP.UH-but / -but, certainly see-DAT go-UH-PRES
'Although I will be busy next week, I will definitely come see you.'

Building on this typology of allocutive marking across languages, I suggest that the embeddability of allocutive marking in allocutive particle languages is determined by the syntactic position of allocutive marking. In this chapter, I will show the embedding pattern of Burmese allocutive marking *pa* aiming to argue that (i) Burmese is one of the allocutive particle languages, and (ii) the embeddability of *pa* is largely determined by its syntactic position and the size of the phase which each subordinator selects, similarly to Japanese.

### 6.2 Basics Properties of Burmese Syntax

Burmese is a Sino-Tibetan language spoken in Myanmar. The number of the native speakers is estimated to be 45-50 million (see Kato, 2018). The basic word order of Burmese is SOV, but a scrambled word order OSV is also possible. The modifiers of a noun such as demonstratives or relative clauses precede the noun. The grammatical relations are indicated by a set of morphological case markers: *-ka/-ga* marks agent / subject, *-ko/-go* marks patient, recipient, or goal, *-nɛ* marks instrument, *-hma* marks location, etc. The case marking system is nominative-accusative as shown in (10). Notice that the subjects of unergative verbs and unaccusative verbs are both marked with *ga*. It should be noted that Burmese does not have a $\phi$-feature agreement on verbs.

(10) a. Transitive

Susu-ga panti-go sa kɛ dɛ.
Susu-NOM apple-ACC eat JUNC RLS

Susu ate an apple.

b. Unergative

ʧema-ga ŋo kɛ dɛ.
I.FEM.-NOM cry JUNC RLS

'I cried.'

c. Unaccusative

temo-ga niʔ kɛ dɛ.
ship-NOM sink JUNC RLS

'The ship sank.'

Another important property of Burmese syntax is the sentence final marker which Allott (1965) calls "verb syntagma" . Root clauses in Burmese must have a special morpheme which encodes tense, aspect, and modality of the event at the end of a sentence, as shown in (11). The realis mood marker *-dɛ* in (11a) is used when the sentence concerns either a present event or a past event, while the irrealis mood marker *-mɛ* in (11b) is used when the sentence refers to a future event. In the case of negative sentences, a prefix *ma-* is attached to the verb and the sentence needs to end with *-bu*. The *bi*-marker in (11d) is observed when the event involves some change in the state of affairs (see Allott, 1965; Jenny and Hnin Tun, 2016). These are not a comprehensive list of verb syntagma, but the following four were the major ones observed in the elicitation.

(11) a. Susu-ga dine dʒawn-go twa **dɛ**.
Susu-NOM today school-ACC go RLS
'Susu goes to school today.'

b. Susu-ga dine dʒawn-go twa **mɛ**.
Susu-NOM dine school-ACC go IRR
'Susu will go to school today.'

c. Susu-ga dine dʒawn-go ma-twa **bu**.
Susu-NOM today school-ACC NEG-go NEG
'Susu does not go to school today.'

d. Ma-sa do **bu**. Wa **bi**.
NEG-eat CONTR NEG. full NSIT
'I'm not eating anymore. I'm full already.'

(Jenny and Hnin Tun, 2016 : 10.2.1)

Though the number of previous research is limited compared to other languages, it has been reported that Burmese has allocutive marking *pa/ba* (Okell and Allott, 2001; Jenny and Hnin Tun, 2016; Kato, 2018; Ishii and Cho, 2023a;b). A sample sentence with *pa* is shown in (12). Examples in (12) are the allocutive counterpart of (11a-c). It should be noted that *ba* is a voiced variant of *pa* due to the surrounding phonological environment. There is no difference in meaning between *pa* and *ba*.

(12) a. Susu-ga dine dʒawn-go twa **pa** dɛ.
Susu-NOM today school-ACC go UH RLS
'Susu goes to school today. (polite)'

b. Susu-ga dine dʒawn-go twa **pa** mɛ.
Susu-NOM dine school-ACC go UH IRR
'Susu will go to school today. (polite)'

c. Susu-ga dine dʒawn-go ma-twa **pa** bu.
Susu-NOM today school-ACC NEG-go UH NEG
'Susu does not go to school today. (polite)'

In root clauses, the allocutive marker *pa/ba* occurs right before the verb syntagma as seen in (12). Same as the case of Japanese UHs, it encodes the respectful attitude from the utterance speaker to the addressee in the utterance context. According to our informant, *pa/ba* is not frequently used in a daily conversation, but it is a preferred speech style used in a news report, writing, or when the addressee is really high in their social status (e.g., a monk or the King). As far as I know, this morpheme does not change its form depending on the honorific status or $\phi$-feature of the addressee. Along with the fact that Burmese does not have $\phi$-feature agreement on verbs, allocutive marking in Burmese seems to be an honorific particle rather than an addressee agreement.

The use of *pa/ba* is not restricted to declarative sentences. It can also be observed in interrogative sentences as shown in (13). It should also be noted that *pa/ba* comes after the junctive *kɛ*, which is often used when the sentence refers to a past event, if it is present.

(13) a. Yes/No Question

Susu-ga dine dʒawn-go twa kɛ **pa** da la?
Susu-NOM today school-ACC go JUNC UH NMLZ Q

'Did Susu go to school today? (polite)'

b. Wh-Question

Susu pa-ko sa kɛ **pa** da lɛ?
Susu what-ACC eat JUNC UH NMLZ Q

'What did Susu eat? (polite)'

According to Jenny and Hnin Tun (2016) and Kato (2018), the *da* in (13) is a nominalizer associated with the realis mood. Thus, the observation that *pa/ba* need to precede the verb syntagma seems to be true in the case of interrogative sentences as well as the declarative sentences.

### 6.3 Embedding of *pa/ba*

Now, let us look at the embedding pattern of *pa/ba*. The data reported in this section are largely from my joint elicitation work with Juyeon Cho (see also Ishii and Cho, 2023a;b). Though the data obtained from the elicitation work is not a comprehensive list of the subordinate clauses listed by Kato (2018), there was a general pattern that the subordinators which embed a verb syntagma may host *pa/ba*. It should be noted that embedding of *pa* is basically optional and it requires *pa*-marking on the matrix clause, same as Japanese UH embedding.

#### 6.3.1 Complement of Attitude Verbs

In Burmese, there are two types of complementizers for attitude verbs. One type is reportative complementizer *lo* and the other type is nominalized complementizer *-ta/da* and

*-hma*. According to Jenny and Hnin Tun (2016), the nominalized complementizer *-ta/da* is used when the embedded clause is in realis mood, while *-hma* is used when the embedded clause is in irrealis mood. In addition to these, Kato (2018) reported another instance of complementizer *shodɔ* which works similarly to *lo*, but bears a case marker.

Let us start with *lo*-complement clause. Though it is called a reportative complementizer, it can be used with verbs-of-knowing as in (14) as well as with verbs-of-saying in (15). As you can see in (14) and (15), the allocutive maker *pa* can be embedded in *lo*-complement clauses. Notice that this complementizer selects a clause with a verb syntagma. In these examples, the embedded *pa* encodes the respect from the utterance speaker to the addressee in the utterance context as well as the matrix *pa*.

(14) *lo*-complement clause with *know*

a. [Susu-ga dine dʒawn-go twa **pa** dɛ lo] ŋa-ga tiʔ **pa** dɛ.
Susu-NOM today school-ACC go UH RLS that I-NOM know UH RLS
'I know that Susu goes to school today.'

b. [Susu-ga dine dʒawn-go twa **pa** me lo] ŋa-ga tiʔ **pa** dɛ.
Susu-NOM dine school-ACC go UH IRR that I-NOM know UH RLS
'I know that Susu will go to school today.'

c. [Susu-ga dine dʒawn-go ma-twa **pa** bu lo] ŋa-ga tiʔ **pa** dɛ.
Susu-NOM today school-ACC NEG-go UH NEG that I-NOM know UH RLS
'I know that Susu does not go to school today.'

(15) *lo*-complement clause with *say/tell*

[$t^h$u dine la **pa** lejme lo] ŋa pjo ke **pa** dɛ.
he today come UH IRR that I say JUNC UH RLS

'I said/told that he will come today. '

According to the informant, the complementizer *lo* in (14) and (15) can be replaced with *shodɔ* as shown in (16). Kato (2018) noted that this complementizer is a combination of a verb *sho* 'say', which sometimes observed with conditionals, and an adverbial clause maker *dɔ*. The embedding of *pa* is allowed in *shodɔ*-complement clauses as shown in (16). Notice that a verb syntagma appears in this complement clause as well as *lo*-complement clauses.

(16) a. *shodɔ* complement clause with *know*

[Susu-ga dine dʒawn-go twa **pa** dɛ shodɔ]-go ŋa-ga tiʔ **pa** dɛ.
Susu-NOM today school-ACC go UH RLS COMP-ACC I-NOM know UH RLS

'I know that Susu goes to school today.'

b. *shodɔ* complement clause with *say/tell*

[thu dine la **pa** lejme shodɔ]-go ŋa pjo ke **pa** dɛ.
he today come UH IRR COMP-ACC I say JUNC UH RLS

'I said/told that he will come today. '

In contrast to *lo*-complement clauses and *shodɔ*-complement clauses, *ta/da*-complement clauses cannot embed *pa* as shown in (17). Notice that a verb syntagma cannot occur inside the nominalized complement clause. Interestingly, *shodɔ*-complement clause version of (17) may host *pa* as shown in (18).

(17) *ta/da*-complementizer

[Maneka t$^{h}$u la ke (***pa**) (***dɛ**) ta]-go ŋa mami **pa** dɛ.
yesterday he come JUNC UH RLS COMP-ACC I remember UH RLS

'I remember that he came yesterday.'

(18) *sho-da* complementizer version of (17)

[Maneka t$^{h}$u la ke **pa** dɛ shodɔ]-go ŋa mami **pa** dɛ.
yesterday he come JUNC UH RLS COMP-ACC I remember UH RLS

'I remember the fact that he came yesterday.'

I need to say that more elicitation work is necessary to determine whether *pa* is truly unembeddable under *-ta/-da*-complement clause because the informant preferred to use *lo* / *shodɔ*-complement clause most of the time, and (17) was the only example where a *ta*-complement clause was used. However, the general pattern we can observe here is that the subordinators which embed a clause with a verb syntagma can host *pa*. This pattern holds for the cases of adjunct clauses as we will see in the following subsections.

### 6.3.2 Temporal Adjuncts and Relative Clauses

Now, let us move on to the embedding of *pa* in adjunct clauses. The embedding of *pa* is not allowed in temporal adjuncts (19). Notice that these subordinators do not select a clause with a verb syntagma.

(19) Temporal Adjuncts

a. [ŋa ma-jaw (*pa) (*bu) kẽ], ŋa ape-ko ponsa pa dɛ.
I NEG-arrive UH NEG before, I father-ACC call UH RLS
'Before I arrive, I called my father.'

b. Susu [butajon-go jau ke (*pa) (*dɛ) pjinaw] sadaj-go twa ke pa dɛ.
Susu station-ACC arrive JUNC UH RLS after post.office-ACC go JUNC UH RLS
'Susu went to the postoffice after she arrived at the station.'

Relative clauses also cannot host *pa*. It should be noted that Burmese does not have relative pronouns corresponding *who* or *which* in English. According to Kato (2018), adnominal marker *tɛʔ/dɛʔ* is used to link a realis clause to a following nominal, and *mɛʔ* is used to link a irrealis clause to a nominals.[2] Same as temporal adjuncts, a verb syntagma cannot occur inside relative clauses as you can see in (20).

(20) Relative Clause

a. [Mjẽ pej ke (*pa) (*dɛ) dɛʔ] tajaʔ-go ŋa amandage tʃaj pa dɛ.
you give JUNC UH RLS RC mango-ACC I truly enjoy UH RLS
'I truly enjoyed the mango that you gave me.'

b. [Mjẽ dʒe ke (*pa) (*dɛ) dɛʔ] saoʔ-go ŋa $p^h$a ke pa dɛ.
you write JUNC UH RLS RC book-ACC I read JUNC UH RLS
'I read the book that you wrote.'

[2] Though the relative clause markers sound quite similar to the verb syntagma, there is a tonal difference between them according to Kato (2018). I indicated the tonal difference with the glottal stop here.

c. [Mandale-go twale (*__pa__) (*mɛ) doaka], pejadʒi-go twa teʔ pa dɛ.
Mandalay-ACC visit UH IRR RC.time, peyaji-ACC go should UH RLS
Lit: ‘For the time when you visit Mandalay, you should go to Peyaji-temple’

Another sidenote about (20c) is that, according to the informant, the *doaka* in (20c) is a fused form of the relative clause marker *deʔ* and *aka* ‘time’.

### 6.3.3 Conditionals

In contrast to relative clauses and temporal adjuncts, conditional clauses with *yin* can embed *pa* as shown in (21). As Jenny and Hnin Tun (2016) and Kato (2018) noted, this conditional marker is often paired with *sho*, a verb meaning ‘say’, similarly to the case of *shodɔ*-complement clause. Notice that conditional clauses with *shoyin* also embeds a verb syntagma.

(21) [Mandale-go twale **pa** mɛ shoyin], pejadʒi-go twa teʔ **pa** dɛ.
Mandalay-ACC visit UH IRR if, peyaji-ACC go should UH RLS
‘If/When you visit Mandalay, you should go to Peyaji-temple.’

The informant prefered to use another instance of conditional clause with *lɛyin* over *shoyin*. This conditional form can also host *pa* as indicated in (22). In contrast to *shoyin*, *lɛyin* does not select a clause with a verb syntagma. The occurence of verb syntagma inside *lɛyin*-clause leads ungrammaticality.

(22) a. [Manapa mojua pa (*mɛ) lɛyin], ŋa satidajʔ twa pa mɛ.
tomorrow rain UH IRR if, I library go UH IRR
‘If it rains tomorrow, I will go to the library.’

b. [Mjẽ di lẽ adaj twa pa (*mɛ) lɛyin], mjẽ sadaj-go twe pa mɛ.
you the street straight go UH IRR if, you post.office-ACC see UH IRR
‘If you go down the street, you will see the post office.’

Though the function of the *lɛ-* part in *lɛyin* was not clear in the elicitation, I suspect that it somehow encodes the irrealis mood of the embedded clause similarly to the realis nominalizer *ta/da*. Speculatively, I assume that these elements are competing for the same position as verb syntagma, prohibiting their occurrence inside the *lɛyin*-clause.

### 6.3.4 Because-Clauses

The last set of examples for *pa*-embedding is because-clause. In the elicitation, three types of because-clause were observed: *-mo*, *-lo*, and *da dʒawn*. Among the three types of because-clause, the observation with *mo*-clauses is the most straightforward. It selects a clause with a verb syntagma, and it can embed *pa* as shown in (23).

(23) *mo*-clause

a. [baj pje ne **pa** bi mo] taʔ ma-sa to **pa** bu.
stomach full PROG UH NSIT because more NEG-eat any UH NEG
'Because I'm full, I don't need anymore.'

b. [basan ej pjaw dwa pa bi mo] bama ma-we naj bu.
money bag lose go UH NSIT because anything NEG-buy can NEG
'Because I lose my wallet, I cannot buy anything.'

In contrast, because-clause with *lo* cannot embed *pa* as shown in (24). According to Jenny and Hnin Tun (2016), a verb syntagma cannot occur inside the because-clause with *lo* even though it is homophonous with the reportative complementizer (see Jenny and Hnin Tun, 2016 : p.260). This was also confirmed with the informant as indicated in (24).

(24) *lo* clause

a. [baj pje ne (***pa**) (*bi) lo] taʔ ma-sa to **pa** bu.
stomach full PROG UH NSIT because more NEG-eat any UH NEG
'Because I'm full, I don't need anymore.'

b. [basan ej pjaw dwa (*pa) lo] bama ma-we naj bu.
money bag lose go UH because something NEG-buy can NEG
'Because I lose my wallet, I cannot buy anything.'

The third type *da dʒawn* is a combination of the realis nominalizer *ta/da* and subordinator *dʒawn* which roughly corresponds to English *because of*, according to Jenny and Hnin Tun (2016) and Kato (2018). Because-clauses with *da dʒawn* can embed *pa* though it does not embed a verb syntagma.

(25) *da-dʒawn* clause

a. [baj pje ne **pa** da dʒawn] taʔ ma-sa to **pa** bu.
stomach full PROG UH NMLZ because more NEG-eat any UH NEG
'Because I'm full, I don't need anymore.'

b. [basan ej pjaw dwa **pa** da dʒawn] bama mo-we naj bu.
money bag lose go UH NMLZ because something NEG-buy can NEG
'Because I lose my wallet, I cannot buy anything.'

c. [Mojua ne **pa** da dʒawn] mje ti ju la teʔ **pa** dɛ.
rain stay UH NMLZ because you umbrella take come should UH RLS
'Because it is raining, you should take your umbrella. '

Based on the description by Jenny and Hnin Tun (2016) and Kato (2018) that the *da* part of *da dʒawn* is the nominalizer associated with realis mood, I consider that this nominalizer is occupying the same position as the verb syntagma, prohibiting the occurrence of it.

Another interesting observation in these three types of because-clause in Burmese differs in the degree of dependency to the matrix clause: *-mo* clause and *-lo* clause are more independent of the matrix clause, while *da dʒawn*-clause is more dependent on the matrix clause. As indicated in (26), the *mo*-clause and the *lo*-clause can stand alone as an answer to a *why*-question, while it is not good with *da dʒawn*-clause. The clause with *da dʒawn* requires the matrix clause to be present.

(26) As an aswer to the question: *Why don't you eat more?*

a. ✓ [baj pje ne **pa** bi mo].
stomach full PROG UH NSIT because

b. ✓ [baj pje ne (*pa) lo].
stomach full PROG UH because

c. # [baj pje ne (pa) da dʒawn].
stomach full PROG UH NMLZ because
'Because I'm full.'

This observation might be indicating that *mo*-clause is similar to Japanese *because*-clause which might embed cP. In contrast, *da dʒawn*-clause is more dependent on the matrix clause and does not embed cP to license the embedded *pa* by itself.

| | Embedding of *pa* | Verb Syntagma |
|---|---|---|
| *lo/shodɔ*-complement clause | ✓ | ✓ |
| *ta/da*-complement clause | * | * |
| Relative clause | * | * |
| Temporal adjuncts | * | * |
| Conditionals with *shoyin* | ✓ | ✓ |
| Conditionals with *lɛyin* | ✓ | * |
| Because-clause with *-mo* | ✓ | ✓ |
| Because-clause with *-lo* | * | * |
| Because-clause with *-da dʒawn* | ✓ | * |

Table 6.2: Summary of Embedding Patterns of *pa*

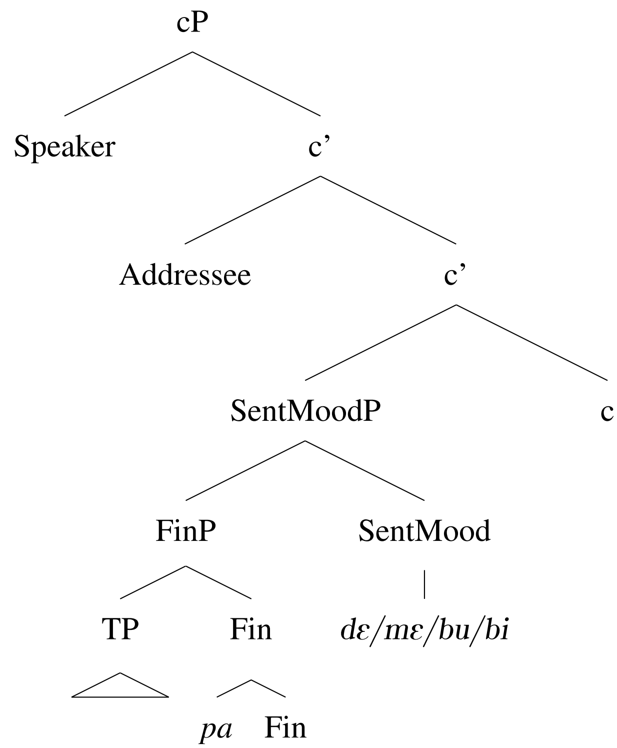
### 6.4 A Sketchy Analysis of UH Embedding in Burmese

The observed embedding patterns of *pa* are summarized in Table 6.2. Though the amount of elicited data is limited, the distribution of embedded *pa* is similar to Japanese $des^N$, and the pattern is largely correlated with whether the subordinator embeds a clause with a verb syntagma. But there were some exceptional subordinators which can embed *pa* but does not embed a verb syntagma. The generalization obtained from the embedding pattern of *pa* is summarized in (27).

(27) Generalization of Burmese UH Embedding
In Burmese, subordinators that select a clause with a verb syntagma may embed the UH marker *pa*, but not vice versa.

Building on the observations in Table 6.2 and the generalization in (27), I suggest that (i) the verb syntagma is a morphological realization of SentMood-head adopting the structure by Portner et al. (2019), (ii) *pa* is sitting at FinP-head following to Ishii and Cho (2023a;b), and (iii) the subordinators which embeds *pa* select FinP or larger, while those which cannot embed *pa* select TP or smaller. This analysis is schematized in (28).

(28)




The assumption that the verb syntagma is sitting right above FinP aligns with Jenny and Hnin Tun’s (2016) description that a clause with verb syntagma is always finite. In addition, I consider that the realis nominalizer *-ta/-da* cannot not embed a verb syntagma because they compete for the same position (see the unembeddability of verb syntagma in *-ta/-da*-complement clauses and because-clauses with *-da dʒawn*). That is, the realis nominalizer *-ta/-da* selects FinP, prohibiting the occurrence of a verb syntagma at Sent-MoodP inside it. I consider that this is also the case for the conditional clause with *lɛyin*.

The unembeddability of *pa* inside the *-ta/-da*-complement clause seems to be problematic under this sketchy analysis of Burmese *pa* and its embedding. The relevant example is repeated in (29).

(29) *ta/da*-complementizer

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [Maneka | $t^h$u | la | ke | (***pa**) | (***dɛ**) | ta]-go | ŋa | mami | **pa** | dɛ. |
| yesterday | he | come | JUNC | UH | RLS | COMP-ACC | I | remember | UH | RLS |

‘I remember that he came yesterday.’

One potential reason for the embeddability difference of *pa* between *lo* / *shodɔ*-complement clauses and *ta/da*-complement clauses would be the difference between direct speech and indirect speech; the former can embed *pa* because it works as a direct speech or a bare quotative, while the latter cannot because it can only work as an indirect speech context. Given the descriptions in the previous literature that *lo*-clauses are reportative and *shodɔ*-clauses involve a verb 'say', this hypothesis migh be correct. To test this hypothesis, I tried to elicit data of indexical shift and allocutive shift in these complement clause, however, it was not successful as the informant got confused with the interpretations. Thus, I do not have enough amount of data points to prove or dismiss this hypothesis. I will leave this question open for the future elicitation work.

Despite the complication of *-ta/-da* complement clause, I expect that the nominalizing complementizers encoding the realis/irrealis mood should be generally permissive about *pa* embedding because *pa* may occur under because-clause with *-da dʒawn* as repeated in (30). Recall that because-clause with *-da dʒawn* is most dependent on the matrix clause among the three types of because-clauses. In addition, the matrix question with the realis nominalizer is also compatible with *pa* as repeated in (31).

(30) [Mojua ne **pa** da dʒawn] mje ti ju la teʔ **pa** dɛ.
rain stay UH NMLZ because you umbrella take come should UH RLS
'Because it is raining, you should take your umbrella. '

(31) Susu pa-ko sa kɛ **pa** da lɛ?
Susu what-ACC eat JUNC UH NMLZ Q
'What did Susu eat? (polite)'

Based on these observations, I assume that the realis nominalizer selects FinP as its complement, generally permitting the embedding of *pa*.

To put the current idea back into the Alok and Haddican's (2022) table of cross-linguistic variations in allocutivity, it should look like Table 6.3. Though further investigation is necessary, I consider that the implication of my proposal that the syntactic position of allocutive marking is a determining factor for its embeddability generally holds for the languages whose allocutive marking behaves as a particle. That is, Korean speech style particles

| Variety | Morph-Type | Position | Root-sensitivity | Interaction with C |
|---|---|---|---|---|
| Zuberoan | Clitic | C >ALLOC >T | Root only | Under C in declaratives but not in interrogatives |
| Cons.S.Basq | Clitic | C >ALLOC >T | Root only | None |
| Inn.S.Basq | Clitic | C >ALLOC >T | Root, embedded | None |
| Galician | Clitic | C >ALLOC >T >ALLOC | Root, embedded | None |
| Magahi | Agreement | C >ALLOC >T | Root, embedded | None |
| Tamil | Agreement | ALLOC >C >ALLOC | Root, embedded | None |
| Korean | Particle | ALLOC >C | Root only | Clause type and ALLOCutive features spellout together |
| Japanese | Particle | T >ALLOC | Root, embedded | Under certain Cs in embedded contexts |
| Burmese | Particle | C >ALLOC >T | Root, embedded | None |

Table 6.3: Crosslinguistic Variations in Allocutive Marking

cannot be embedded because of its high position in syntax, while Japanese *mas* is radically embeddable because it sits below T. I suggest that Burmese sits in the middle of Korean and Japanese, as the position of *pa* is higher than TP but lower than cP. I will leave the further investigation of allocutive particle languages for the future research.

# Chapter 7

# CONCLUDING REMARKS

In this thesis, I have explored the theory of Japanese utterance honorifics (UHs) through the window of their embedding. This investigation aimed to answer the central question of this thesis why Japanese UH markers can be embedded relatively freely unlike the allocutive marking in other languages. In Chapter 2, we have broke down the central question into the four subquestions repeated in (1) based on the embedding patterns of the three UH markers and the discrepancies in the previous literature.

(1) Research Questions

RQ1: Is the embeddability of UHs due to the embeddability of cP in Japanese?

RQ2: How are embedded UHs licensed?

RQ3: How is the consistency requirement satisfied?

RQ4: Why does the three UH markers show different embedding patterns?

In this final chapter, I will summarize the main claims of this thesis and discuss potential future directions for a formal theory of allocutive marking.

## 7.1 Summary of the Main Claims

My analysis of Japanese UHs was built on the traditional assumption that the specific layers for UHs (cP) is generally restricted to root clauses (Miyagawa, 2012; 2017; 2022; Portner et al., 2019; Tomioka and Ishii, 2022 among others). The reasoning behind this assumption comes from the fact that the embeddable cP analysis by Yamada (2019) faces two issues, as we saw in Chapter 3; it cannot explain (i) the difference between the embedding patterns of Japanese UHs and that of other root clause phenomena, and (ii) the non-shiftability of embedded UHs under *koto*-clause. These comparisons leads the answer to RQ1 that cP is generally restricted to root clause.

RQ2 and RQ3 were answered in Chapter 4. The two psyhoclinguistic experiments investigating the penalties in violation of the consistency requirement showed no positive evidence for Tomioka and Ishii's (2022) long distance agreement analysis of embedded UH licensing. In addition, the results are more aligned with Yamada's (2019) analysis of the consistency requirement that the consistency in honorificity is maintained pragmatically.

Based on the discussions in Chapter 3 and 4, it turned out that the theory of Japanese UHs needs to fulfill the following desiderata repeated in (2). To satisfy these requirements, I proposed (3).

(2) Desiderata for a Theory of Embedded Allocutivity in Japanese

a. An account for the embedding patterns of the three UH markers. (= RQ4)

b. Mechanisms to embed UHs without embeddable cP. (based on the discussion in Chapter 3)

c. System to link (embedded) UHs to the matrix c-head without agreement (based on the discussion in Chapter 4)

(3) Proposals

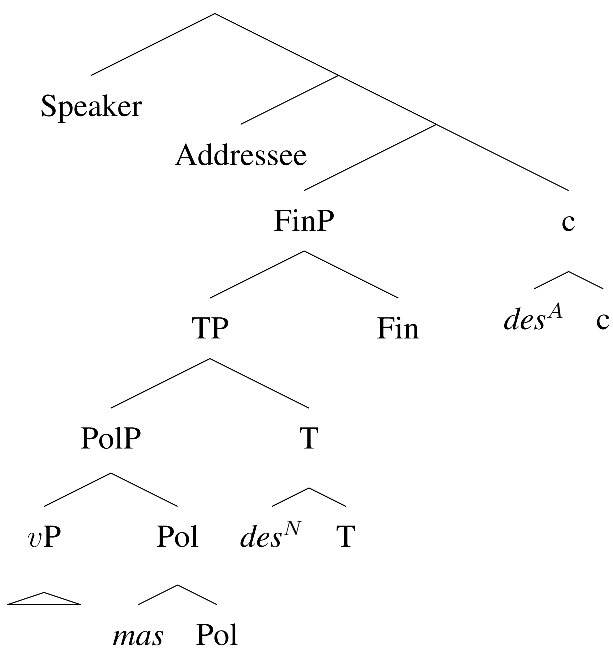
a. Japanese UHs are embeddable because they occupy a relatively low position in syntax. The embeddability of the three UH markers is largely determined by their morphosyntactic properties, as Tomioka and Ishii (2022) argued.

b. Japanese UHs are expressive honorific particles anaphoric to the speaker/addressee arguments in the local cP. Due to their expressive properties, they can be used anywhere as long as they satisfy their morpho-syntactic properties.

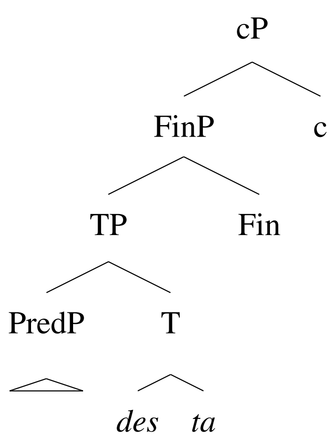
c. As the majority of subordinators cannot embed cP, the closest cP to embedded UHs is usually the matrix cP. As a result, embedded UH markers encode the respect from the speaker in the utterance context to the addressee in the utterance context.

Regarding (2a), which is RQ4, I claimed that high embeddability of Japanese UHs is derived from the fact that they occupy different positions in sytnax. Updating the structure–embeddability correspondence scheme by Tomioka and Ishii (2022), I suggested (4) as the location of each UH marker. I also proposed that the past tense form of $des^N$ and its present tense counterpart occupies the different positions in syntax as in (4) to account for the difference of embeddedabilty between *deshi-ta* and *des-u*.

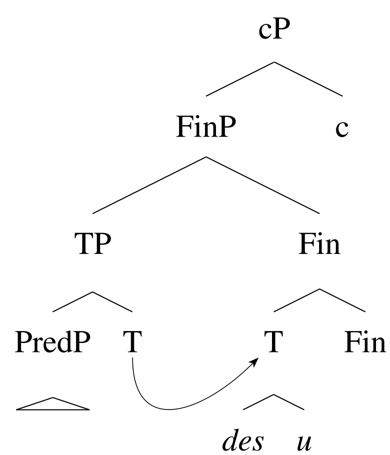
(4)




(5) a. The position of adnominal *deshi-ta*




b. The position of (conclusive) *des-u*



The most crucial claims of this thesis were (3b) and (3c). Based on the results of experiments in Chapter 4 and the fact that the licensing of embedded UH may cross more than two clause boundaries, I argued that the Japanese UHs are expressive particles that are anaphoric to the speaker and the addressee in the local cP.[1] To implement this idea, I proposed the following dentations of UHs and the c-head, repeated in (6) and (7).

(6) $[\![\textit{mas / des}^N \textit{ / des}^A]\!] \in D_{\langle wt,\langle wt\bullet\varepsilon\rangle\rangle} = \lambda p_{wt}.\lambda w.p(w) \bullet \langle[\text{1st}], 1, [\text{2nd}]\rangle$

(7) $[\![\text{c}]\!] \in D_{\langle\langle wt\bullet\varepsilon\rangle,\langle wt\bullet\langle e,e,\varepsilon\rangle\rangle} = \lambda p_{wt}.\lambda w.p(w) \bullet \lambda R_{\varepsilon}.\lambda y_e.\lambda x_e.x = [\text{1st}] \wedge y = [\text{2nd}] \wedge R$

This semantic binding-based analysis of Japanese UHs enables (embedded) UHs to be associated with the speaker and the addressee in the closest cP without relying on Agree operation in narrow syntax. Hence, the locality issue of addressee agreement was cleared. In addition, this proposal naturally explained why UHs under *koto*-clauses do not shift while those under *to*-clauses can, based on the syntactic distributions of cP.

In Chapter 6, I have tested the implicaiton of the current approach that, in allocutive particle languages, the embeddability of UH markers is largely determined by their morphosyntactic property by examining the data of Burmese UH embedding elicited through the informant work. The embedding patterns of Burmese UH *pa* also supports the implication of the current analysis.

To see how the present analysis differ from the previous studies, the main ideas of this thesis in comparison to the recent formal linguistic studeis on Japanese UHs are summarized in Table 7.1. The biggest difference of the present analysis is the idea that Japanese UHs are not an instnace of addressee agreement, but a set of morphemes that are anaphoric to the speaker and the addressee in the local cP. Importantly, this assumption made the licensing of embedded UHs free from the locality condition of Agree operation.

[1] Recall that I grouped them as ‘particles’ because they are semantically unified but morphosyntactically different elements.

| | Miyagawa (2022) | Yamada(2019) | Tomioka and Ishii (2022) | This dissertation |
|---|---|---|---|---|
| What are UHs? | Addressee agreement | Addressee agreement | Feature on predicates which agrees with the c-head | Expressive particles that are anaphoric to the speaker/addressee in the local cP |
| Is cP embeddable? | No | Yes | No | No |
| How is an embedded UH marker licensed? | By agreement with [addr] feature associated with C | By agreement with the embedded addressee | By long distance agreement with the matrix c-head | No necessity for syntactic licensing. The semantic binding of the indexical arguments links embedded UHs to the local cP |

Table 7.1: Summary of Analyses on Japanese UHs

## 7.2 Future Directions

Before concluding this dissertation, I would like to point out three remaining questions that needs to be addressed in the future research.

First, as I mentioned in section 5.3 footnote 7, there are some tension over the question whether Japanese UHs are three distinct morphemes or three allomorphs of a signle UH marking. Given the fact that *mas* and *des* are in complementary distribution, the one morpheme–threeallomorphs view on Japanaese UHs are very appealing. However, the simple allomophy such that *des* is an elsewhere form and the UH-head realizes as *mas* when it follows a verb cannot capture the difference of embeddability among the three UH markers, which was why the current analysis opted for the three morpheme view. These two views needs to be examined in the future research to clarify the mophological nature of each UH markers.

Second, I could not offer a clear explanation why UH embedding under indirect speech contexts is not as good as UHs under *koto*-clauses. Though I have shown that there are cases where UHs are embedded in indirect speech *to*-clause in section 5.5.5, UH embedding under indirect speech *to*-clause is considered to be ungrammatical in the previous literature. So, the factors that affecting the acceptability of UH embedding under indirect speech contexts are not entirely clear. Further investigations on the left clause periphery of indirect speech context is necessary to fully account for the embedding of Japanese UHs. I will leave this question for the future research.

Lastly, this disseration could not discuss the crosslinguistic variations in allocutive markings from a broader typological perspective, as Chapter 6 only showed that the embedding pattern of Burmese UH marking supports the implication that the embeddability of allocutive markers are determined by their morphosyntactic property in allocutive particle languages. Consequently, this dissertation offered limited insights into languages in which allocutive marking is realized as clitics (e.g., Galician, Basque), as a form of addressee agreement (e.g., Magahi, Punjabi, Tamil), or through the plural form of second-person pronoun (e.g., the *tu-vous* distinction in French or the *du-Sie* distinction in German). One highly speculative yet intriguing possibility about crosslinguistic variation in allocutivity based on the present analysis is as follows: the interpretive mechanism of allocutivity —semantic binding of allocutive elements by the speaker/addressee arugments at CP-periphery— may be universally the same across languages, while what varies crosslinguistically is where and how allocutivity is encoded in syntax (i.e., French and German encode it within the nominal domain; Galician and Basque use clitics; Magahi, Punjabi, and Tamil employ agreement morphology; and Japanese, Korean, and Burmese utilize verbal particles). Though close examinations of allocutive marking in each language is necessary, I believe that this implication is worth looking in the future research.

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# Appendix A

# NOTES ON THE EXPERIMENTS

## A.1 Experiment 1B

### A.1.1 Design

Experiment 1B was an acceptability judgement study same as Expeirment 1, but only RENYOO-subordinate clause items without subject honorifics (i.e., if-clause and *te*-gerundive clause) were used for the non-*c*P-embedding condition. This change aimed to avoid the potential confounding factors based on the results of Experiment 1. In addition, all the honorific expressions other than UHs were excluded from the target items so that UHs will be the unique politeness expression in the sentence. The structure was the same as Experiment 1: two levels of UH consistency were crossed with three levels of clause types. The sample materials are shown in (1) to (3).

(1) Baseline

Shigoto-ga hayaku owari-mashi-ta. Kyoo-wa nomi-ni {ik / iki-mas}-u.
work-NOM early finish-UH-PAST. today-TOP drink-DAT {go / go-UH}-PRES

'I finished my work early. I will go for a drink today.

(2) *c*P-embedding

Shigoto-ga hayaku owari-mashi-ta kara kyoo-wa nomi-ni {ik /
work-NOM early finish-UH-PAST because today-TOP drink-DAT {go /
iki-mas}-u.
go-UH}-PRES

'Since I finished my work early, I will go for a drink today.

(3) Non-*c*P-embedding

Shigoto-ga hayaku owari-mashi-tara kyoo-wa nomi-ni {ik / iki-mas}-u.
work-NOM early finish-UH-if today-TOP drink-DAT {go / go-UH}-PRES

'If I finish my work early, I will go for a drink today.

### A.1.2 Materials

The structure of the experiment is 2×3 factorial design; two levels of consistency are crossed with three levels of clause type. The total of 24 target items were prepared. The 12 items with RENYOO-subordinators (6 item with if-clause and 6 items with *te*-gerundive clause) were the same as Experiment 1, and 6 new items were added to if-clause and *te*-gerundive clause respectively, ending up with the total of 24 target items. They were psudo-randomized with 36 fillers. The items were presented in 6 lists following to the Latin Square design. The same subset of the fillers (12 items) as Experiment 1 was used to check whether the experiment works as expected.

### A.1.3 Participants and Procedure

60 self-reported native speakers of Japanese who did not participate in Experiment 1 was recruited via Lancers. They were paid 480 yen (3.2 USD) for 30 minutes participation. Same as Experiment 1, particiapants were asked to rate the sentence on the screen using 7-point Likert scale based on their intution of how the sentence is appropriate as the speech of a native speaker of Japanese. This time, the training session to attune the participants to ignore the semantic naturalness was replaced by three simple practice questions of acceptability judgement because the traning session might have biased the particiapants in Experiment 1. There were three screening trials at the beginning of the trials to see whether the particiapnts understand the task correctly.

### A.1.4 Results

In Experiment 1B, no participant was excluded from the analysis. Same as Experiment 1, the rating data were analyzed with the CLMM model using the ordinal package (Christensen, 2023) and the response times were analyzed with the liner mixed effects model using the lmer package (**?**).

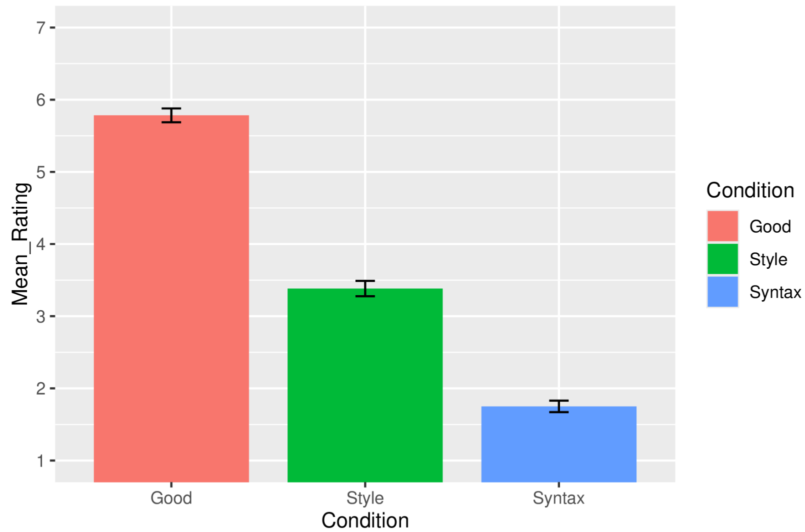



**Figure A.1.** Mean ratings of the sanity check items.

The error bars indicate the SE of each condition.

#### A.1.4.1 Results of the Sanity Check Items

The mean ratings of the sanity check items are summarized in Figure A.1, which replicates the result of Experiment 1. The CLMM model with maximal random effects structure showed a significant difference between the baseline condition and the other two conditions ($\beta$ = -5.704, SE = .520, z = -10.964, $p$ <.001). It also showed that the syntactic error was rated significantly worse than the stylistic mismatch ($\beta$ = -3.3263, SE = .404, z = -8.236, $p$ <.001). These results agian confirm that the assumption that participants are more tolerant about the speech style error than syntactic error.

#### A.1.4.2 Results of the Target Items

The mean ratings of the target items are shown in Figure A.2. The CLMM model showed a significant main effect of UH consistency ($\beta$ = -2.336, SE = .273, z = -8.551, $p$ < .001), which shows that the inconsistency in honorificity is rated significantly worse than the consistent cases same as Experiment 1. The first predictor BASEvsOTHER was also significant ($\beta$ = 1.454, SE = .226, z = 6.44, $p$ < .001). However, the second predictor *c*PvsNon-*c*P did not show any significance ($\beta$ = -0.280, SE = .223, z = -1.258, $p$ = .208).

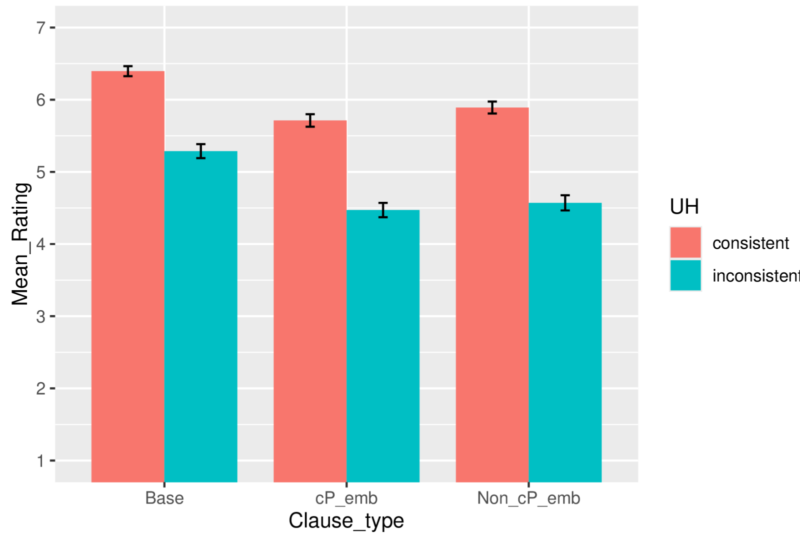



**Figure A.2.** Mean ratings of the target items.

The error bars indicate the SE of each condition.

Same as Experiment 1, both predictors did not show any significant interactions with UH consistency ($p > .154$).

The response times of the target items that were rated over 4 were also checked and summarized in Figure A.3. The linear mixed effects model with maximal random effects structure showed a significant main effect of UH consisitency ($\beta$ = .028, SE = .012, t = 2.259, $p$ = .031) and the significant difference between the baseline condition and the sum of the UH embedding conditions ($\beta$ =-0.032, SE = .0145, t = -2.172 , $p$ = .039), but other predictors did not show significance ($p > .152$).

#### A.1.4.3 Scrutinizing the cP-embedding Items

Same as Experiment 1, I checked whether the different subordinators in the cP-emebedding condition were rated in the same way. Figure A.4 and Figure A.5 show the mean ratings of the *c*P-embedding items and their z-score distributions, respectively. The CLMM model with maximal random effects structure showed the significant main effect of UH consisitency ($\beta$ = -2.567, SE = .381, z = -6.735, $p < .001$). However, it did not show any significant difference between the *c*P-subordinators (all $p$s $> .826$). No significant interactions between the UH consisitency and the suboridnator type were found (all $p$s $> .558$).

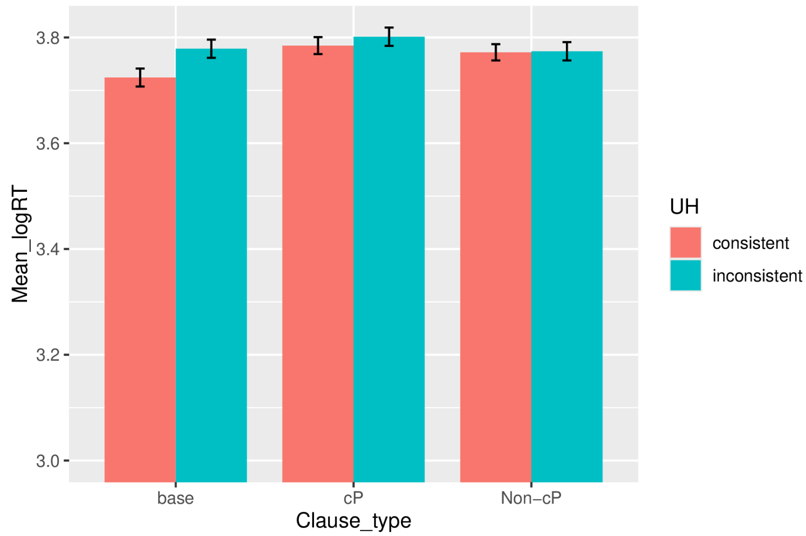



**Figure A.3.** Mean log-transformed response time for the items rated over 4.

The error bars indicate the SE of each condition. The response times that were over the mean ±2SD were excluded from the analysis.

This result suggests that the *c*P-embedding items were rated in the same way.

#### A.1.4.4 Scrutinizing the Non-cP-embedding Items

The mean ratings of the items in non-*c*P-embedding condition and their z-score distributions were also scrutinized. The mean rating of each non-*c*P-embedding subordinators are shown in Figure A.6 and the z-score distribuitons for each subordinator type are summarized in Figure A.7. The visual inspection of Figure A.6 shows that the mean of inconsistent items with if-clause is lower than that of *te*-clause. This pattern can be seen in A.7 as the interquatile ranges are not overlapping in the if-clause, while those of *te*-clause are. The CLMM analysis with the maximal random effects structure showed a significant main effect of UH consistency ($\beta$ = -2.608, SE = .430, z = -6.026, $p < .001$). It also showed a significant difference between *te*-clause and if-clause ($\beta$ = .670, SE = .285, z = 2.351, $p$ = .019), which was not observed in Experiment 1. The interaction between UH consistency and the non-*c*P-embedding type did not reach significance ($\beta$ = .791 , SE = .471, z = 1.677, $p >$ .093).

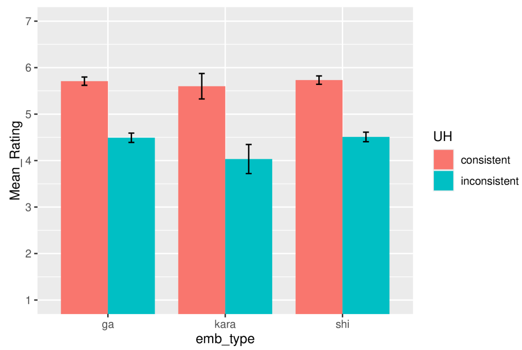



**Figure A.4.** Mean ratings of the subordinators in *c*P-embedding condition.

The error bars indicate the SE of each condition.

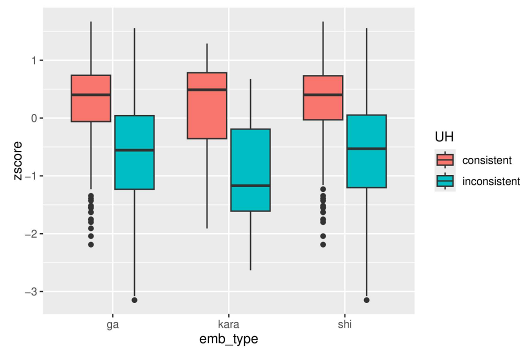



**Figure A.5.** The z-score distributions of the subordinators in *c*P-embedding condition.

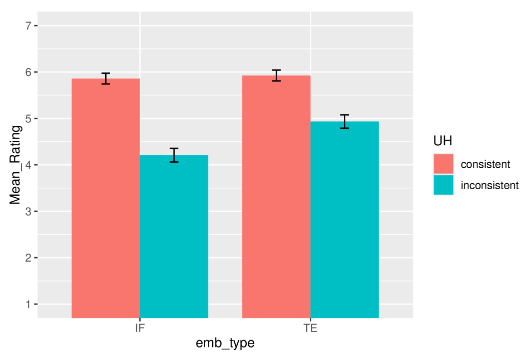



**Figure A.6.** Mean ratings of the subordinators in Non-*c*P-embedding condition.

The error bars indicate the SE of each condition.

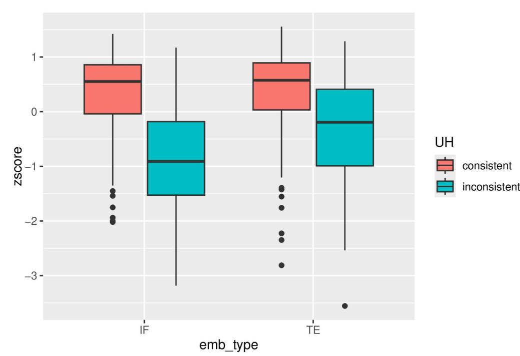



**Figure A.7.** The z-score distributions of the subordinators in Non-*c*P-embedding condition.

### A.1.5 Discussion

The result of Expeirment 1B basically replicated the result of Experiment 1. The result of the sanity check items confirmed the assumption that the particiants are more tolerant about a pragmatic infelicity than a syntactic error. The rating result of the target items showed that the UH consistency in *c*P-embedding and non-*c*P-embedding conditions were rated in the same way, which suggests that the licensing process of the embedded UH does not differ depending on the subordinate clause type. Though it is unclear why *te*-clause showed a slightly different pattern from if-clause in contrast to Experiment 1, the overall finding supports the pragmatic account of the UH consistency requirement same as Experiment 1.

## A.2 Materials of Experiments

### A.2.1 Target Items of Experiment 1

(4) a. Baseline

Ato-kara Tokyo-iki-no tokubetsu-kaisoku-ga mairi-masu. Sore-ni
later-from Tokyo-bound-DAT special-rapid.train-NOM come-UH. it-DAT
{o-nori-kudasai / notte-ne}.
take.SH-please (H) / take-SFP (NH)

'A special rapid train bound for Tokyo is coming. Please take it.'

b. cP-embedding

[Ato-kara Tokyo-iki-no tokubetsu-kaisoku-ga mairi-masu kara]
later-from Tokyo-bound-DAT special-rapid.train-NOM come-UH because
sore-ni {o-nori-kudasai / notte-ne}.
it-DAT take.HON-please (H) / take-SFP (NH)

'As a special rapid train bound for Tokyo is coming, please take it.'

c. Non-cP-embedding

[Ato-kara mairi-masu] Tokyo-iki-no tokubetsu-kaisoku-ni
later-from come-UH Tokyo-bound-DAT special-rapid.train-DAT
{o-nori-kudasai / notte-ne}.
take.SH-please (H) / take-SFP (NH)

'Please take the special rapid train bound for Tokyo that is arriving. '

(5) a. Baseline

Senjitsu, repooto-kadai-o dashi-mashi-ta. Sore-wa meeru-de
recently, report-assignment-ACC give-UH-PAST. that-TOP email-by
teishutsu-shite {kudasai / -ne}
submission-DO please / SFP.

'Recently, I have assigned you a report. Submit it via email.'

b. cP-embedding

Senjitsu, repooto-kadai-o dashi-mashi-ta-ga, sore-wa meeru-de
recently report-assignment-ACC give-UH-PAST-but that-TOP email-by
teishutsu-shite {kudasai / -ne}
submission-DO please / SFP.

'I assigned a report recently; please submit it by email.'

c. Non-cP-embedding

[Senjitsu dashi-mashi-ta] repooto-kadai-wa meeru-de
On.the.other.day, give-UH-PAST report-assignment-TOP email-by
teishutsu-shite {kudasai / -ne}
submission-DO please / SFP.

'Regarding the report that I assigned you recently, submit it via email.'

(6) a. Baseline

Sengetsu, anata-wa hon-o 3-satsu okarininari-mashi-ta. Shikashi,
Last.month you-TOP book-ACC 3-CL borrow.SH-UH-PAST. But
sorera-ga henkyaku-sare-te {ori-mase-n / i-nai}.
they-NOM return-PASS-CV be.OH-UH-NEG be-NEG

You have borrowed three books last month. However, they have not been returned yet.

b. cP-embedding

Sengetsu, anata-wa hon-o 3-satsu okarininari-mashi-ta-ga,
Last.month you-TOP book-ACC 3-CL borrow.SH-UH-PAST-although
sorera-ga henkyaku-sare-te {ori-mase-n / i-nai}.
they-NOM return-PASS-CV be.OH-UH-NEG be-NEG

Although You have borrowed three books last month, they have not been returned yet.

c. Non-cP-embedding

[Sengetsu, anata-ga okarininari-mashi-ta] hon 3-satsu-ga
Last.month you-NOM borrow.SH-UH-PAST book-ACC 3-CL-NOM
henkyaku-sare-te {ori-mase-n / i-nai}.
return-PASS-CV be.OH-UH-NEG be-NEG

The three books that you have borrowed last month have not been returned yet.

(7) a. Baseline

Watashi-wa naganen Suzuki-senshu-no koochi-o
I-TOP long.time Suzuki-player-GEN coarch-ACC
tsutome-te-ori-mashi-ta. Kare-wa kotoshi hatsu-yuushoo-o
serve-CV-be.OH-UH-PAST. He-TOP this.year first-victory-ACC
{hatashi-mashi-ta / hatashi-ta}
achive-UH-PAST achive-PAST

‘I have been Suzuki’s coach for many years. This year, he achieved his first tour victory.’

b. cP-embedding

Watashi-wa naganen Suzuki-senshu-no koochi-o
I-TOP long.time Suzuki-player-GEN coarch-ACC
tsutome-te-ori-mashi-ta-ga Kare-wa kotoshi hatsu-yuushoo-o
serve-CV-be.OH-UH-PAST-but he-TOP this.year first-victory-ACC
{hatashi-mashi-ta / hatashi-ta}
achive-UH-PAST achive-PAST

‘I have been Suzuki’s coach for many years and he achieved his first tour victory this year.’

c. Non-cP-embedding

[Watashi-ga naganen koochi-o tsutome-te-ori-mashi-ta]
I-NOM long.time coarch-ACC serve-CV-be.OH-UH-PAST
Suzuki-senshu-ga kotoshi hatsu-yuushoo-o {hatashi-mashi-ta /
Suzuki-player-NOM this.year first-victory-ACC achive-UH-PAST
hatashi-ta}
achive-PAST

‘Suzuki, who I have been served as a coach for many years, achieved his first tour victory this year.’

(8) a. Baseline

Ooku-no kashu-ga kono kyoku-o kabaa-shi-mashi-ta. Kono kyoku-wa
Many-GEN singer-NOM this song-ACC cover-do-UH-PAST. This song-TOP
imademo habahiroi sedai-ni ai-sare-te-i-{masu / ru}.
still wide.range generation-by love-PASS-CV-be-UH-PRES / PRES

‘Many singers have covered this song. It is still loved by all ages.’

b. cP-embedding

Ooku-no kashu-ga kono kyoku-o kabaa-shi-mashi-ta-ga, kono
Many-GEN singer-NOM this song-ACC cover-do-UH-PAST-but this
kyoku-wa imademo habahiroi sedai-ni ai-sare-te–{masu /
song-TOP still wide.range generation-by love-PASS-CV-be-UH-PRES /
ru}.
PRES

‘Many singers have covered this song and it is still loved by all ages.’

c. Non-cP-embedding

[Ooku-no kashu-ga kabaa-shi-mashi-ta] kono kyoku-wa imademo
Many-GEN singer-NOM cover-do-UH-PAST this song-TOP still
habahiroi sedai-ni ai-sare-te-i-{masu / ru}.
wide.range generation-by love-PASS-CV-be-UH-PRES / PRES

'This song, which many singers have covered, is still loved by all ages.'

(9) a. Baseline

Takahashi-sensei-wa 30-sai-no toki-ni kono sakuhin-o
Takahashi-professor-TOP 30-years.old-GEN time-at this work-ACC
okakininari-mashi-ta. Kore-wa sensei-no besuto-seraa-{desu /
write.SH-UH-PAST. This-TOP professor-GEN best-selling.book-COP.UH /
da}
COP

'Prof. Takahashi wrote this book when he was 30 years old. It is his best-selling book.'

b. cP-embedding

Takahashi-sensei-wa 30-sai-no toki-ni kono sakuhin-o
Takahashi-professor-TOP 30-years.old-GEN time-at this work-ACC
okakininari-mashi-ta-ga Kore-wa sensei-no besuto-seraa-{desu /
write.SH-UH-PAST-but This-TOP professor-GEN best-selling.book-COP.UH /
da}
COP

'Prof. Takahashi wrote this book when he was 30 years old and it is his best-selling book.'

c. Non-cP-embedding

[Takahashi-sensei-ga 30-sai-no toki-ni okakininari-mashi-ta]
Takahashi-professor-NOM 30-years.old-GEN time-at write.SH-UH-PAST
kono sakuhin-wa sensei-no besuto-seraa-{desu / da}
this book-TOP professor-GEN best-selling.book-COP.UH / COP

'This book that Prof. Takahashi wrote when he was 30 years old is his best-selling book.'

(10) a. Baseline

Tenkoo-ga akkashi-te mairi-mashi-ta. Shikashi, shiai-wa
weather-NOM worsen-CV com.OH-UH-PAST But match-TOP
zokkoo-{shi-mas-u / su-ru}
continue-{do-UH-PRES / do-PRES}

'The weather is getting worsend. However, the match will continue as scheduled.'

b. cP-embedding

Tenkoo-ga akkashi-te mairi-mashi-ta-ga shiai-wa
weather-NOM worsen-CV com.OH-UH-PAST-but match-TOP
zokkoo-{shi-mas-u / su-ru}
continue-{do-UH-PRES / do-PRES}

'Though the weather is getting worsend, the match will continue as scheduled.'

c. Non-cP-embedding

[Tenkoo-ga akkashi-te mairi-mashi-ta baai]-mo shiai-wa
weather-NOM worsen-CV com.OH-UH-PAST case-also match-TOP
zokkoo-{shi-mas-u / su-ru}
continue-{do-UH-PRES / do-PRES}

'In the case where the weather is getting worsend, the match will continue as scheduled. '

(11) a. Baseline

Ryokoo-de nagaku ie-o ake-masu. nanode, shinbun-no
travel-due.to long home-ACC vacant-UH. So newspaper-GEN
haitatsu-o tomete-{morai-masu / morau}
delivery-ACC stop-{BEN-UH / BEN}

'I'll be away from home for a long time due to a trip. So, I'll have the newspaper delivery suspended.'

b. cP-embedding

Ryokoo-de nagaku ie-o ake-masu-kara shinbun-no
travel-due.to long home-ACC vacant-UH-because newspaper-GEN
haitatsu-o tomete-{morai-masu / morau}
delivery-ACC stop-{BEN-UH / BEN}

'Since I'll be away from home for a long time due to a trip, I'll have the newspaper delivery suspended.'

c. Non-cP-embedding

[Ryokoo-de nagaku ie-o ake-masu sai]-wa shinbun-no
travel-due.to long home-ACC vacant-UH time-TOP newspaper-GEN
haitatsu-o tomete-{morai-masu / morau}
delivery-ACC stop-{BEN-UH / BEN}

'When I will be away from home for a long time due to a trip, I'll have the newspaper delivery suspended.'

(12) a. Baseline

Byooki-ga kanchishi-mashi-ta. Mata asobi-ni {iki-masu / iku}-ne
sickness-NOM recover-UH-PAST. Again visit-DAT {come-UH / come}-SFP

'I have fully recovered from my illness. I'll come visit again sometime.'

b. cP-embedding

Byooki-ga kanchishi-mashi-ta-kara mata asobi-ni {iki-masu /
sickness-NOM recover-UH-PAST-because again visit-DAT {come-UH /
iku}-ne
come}-SFP

'Since I have fully recovered from my illness now, I'll come visit again sometime.'

c. Non-cP-embedding

[Byooki-ga kanchishi-mashi-ta sai]-ni-wa mata asobi-ni {iki-masu /
sickness-NOM recover-UH-PAST time-DAT-TOP again visit-DAT {come-UH /
iku}-ne
come}-SFP

'When I have fully recovered from my illness, I'll come visit again sometime.'

(13) a. Baseline

Sato-sensei-wa tooji kokosei-deshi-ta. Sono
Sato-professor-TOP at.that.time high.school.student-COP.UH-PAST. That
koro-wa yoku kochira-no jazu-kissa-ni kayow-are-te-i-{mashi/∅}-ta.
time-TOP often this-GEN jazz-cafe-DAT come-SH-CV-be-UH-PAST

Prof. Sato was a high school student at that time. In those days, he often came to this jazz cafe.

b. cP-embedding

Sato-sensei-wa tooji kokosei-deshi-ta-ga, yoku
Sato-professor-TOP at.that.time high.school.student-COP.UH-PAST-but, often
kochira-no jazu-kissa-ni kayow-are-te-i-{mashi/∅}-ta.
this-GEN jazz-cafe-DAT come-SH-CV-be-UH-PAST

Though Prof. Sato was a high school student at that time, he often came to this jazz cafe.

c. Non-cP-embedding

Sato-sensei-wa [kare-ga kokosei-deshi-ta koro]-ni
Sato-professor-TOP he-NOM high.school.student-COP.UH-PAST when-DAT
yoku kochira-no jazu-kissa-ni kayow-are-te-i-{mashi/∅}-ta.
often this-GEN jazz-cafe-DAT come-SH-CV-be-UH-PAST

Prof. Sato often came to this jazz cafe when he was a high school student.

(14) a. Baseline

Kochira-de-no kaiyaku-tetsuzuki-ga kanryooshi-mashi-ta.
this.side-at-GEN cancellation-process-NOM complete-UH-PAST.
Henkin-no tetsuzuki-ni ikooshi-{mas/∅}-u
refund-GEN process-DAT move-UH-PRES

'The cancellation process on this side has completed. We will move on to the refund process now.'

b. cP-embedding

Kochira-de-no kaiyaku-tetsuzuki-ga kanryooshi-mashi-ta kara
this.side-at-GEN cancellation-process-NOM complete-UH-PAST as
Henkin-no tetsuzuki-ni ikooshi-{mas/∅}-u
refund-GEN process-DAT move-UH-PRES

'As the cancellation process on this side has completed, we will move on to the refund process now.'

c. Non-cP-embedding

[Kochira-de-no kaiyaku-tetsuzuki-ga kanryooshi-mashi-ta nochi]-ni
this.side-at-GEN cancellation-process-NOM complete-UH-PAST after-DAT
Henkin-no tetsuzuki-ni ikooshi-{mas/∅}-u
refund-GEN process-DAT move-UH-PRES

'After the cancellation process on this side has completed, we will move on to the refund process now.'

(15) a. Baseline

Izen, kyooju-no otaku-ni ukagai-mashi-ta. sono toki-ni
before professor house-DAT come.OH-UH-PAST that time-DAT
okusama-ni-mo o-ai-shi-{mashi/∅}-ta-yo.
his.wife-DAT-also HON-meet-do-UH-PAST-SFP

'I went to the professor's house before. I also met his wife at that time.'

b. cP-embedding

Izen, kyooju-no otaku-ni ukagai-mashi-ta-ga, sono toki-ni
before professor house-DAT come.OH-UH-PAST-but that time-DAT
okusama-ni-mo o-ai-shi-{mashi/∅}-ta-yo.
his.wife-DAT-also HON-meet-do-UH-PAST-SFP

'I went to the professor's house before and I also met his wife at that time.'

c. Non-cP-embedding

[Izen, kyooju-no otaku-ni ukagai-mashi-ta sai]-ni, okusama-ni-mo
before professor house-DAT come.OH-UH-PAST time-DAT his.wife-DAT-also
o-ai-shi-{mashi/∅}-ta-yo.
HON-meet-do-UH-PAST-SFP

'When I went to the professor's house before, I also met his wife.'

(16) a. Baseline

Odenwa-ga taihen komiat-te-ori-mas-u. Shitagatte,
phone.line-NOM very crowd-CV-be.OH-UH-PRES. Therefore,
sugu-ni-wa otoritsugi-deki-{mas-en/-nai}.
soon-DAT-TOP connect-can-UH-NEG.PRES/NEG

The line is busy now. So, I cannot connect you to the support now.

b. cP-embedding

Odenwa-ga taihen komiat-te-ori-mas-u kara, sugu-ni-wa
phone.line-NOM very crowd-CV-be.OH-UH-PRES because, soon-DAT-TOP
otoritsugi-deki-{mas-en/-nai}.
connect-can-UH-NEG.PRES/NEG

As the line is busy now, I cannot connect you to the relevant support now.

c. Non-cP-embedding

Odenwa-ga taihen komiat-te-ori-mashi-te, sugu-ni-wa
phone.line-NOM very crowd-CV-be.OH-UH-CV because,
otoritsugi-deki-{mas-en/-nai}.
soon-DAT-TOP connect-can-UH-NEG.PRES/NEG

As the line is busy now, I cannot connect you to the relevant support now.

(17) a. Baseline

Kodomo-mo hitoridachishi-mashi-ta. Ima-wa tsuma-to futari-de
kids-also become.independent-UH-PAST. Now-TOP wife-with two-with
seikatsushi-te-{ori-mas-u/i-ru} yo
live-CV-be.OH-UH-PRES/be-PRES SFP

'My kids have become independent of us. Now, I live only with my wife. '

b. cP-embedding

Kodomo-mo hitoridachishi-mashi-ta kara ima-wa tsuma-to
kids-also become.independent-UH-PAST because Now-TOP wife-with
futari-de seikatsushi-te-{ori-mas-u/i-ru} yo
two-with live-CV-be.OH-UH-PRES/be-PRES SFP

'As my kids have become independent of us, I live only with my wife, now. '

c. Non-cP-embedding

Kodomo-mo hitoridachishi-mashi-te ima-wa tsuma-to futari-de
kids-also become.independent-UH-CV Now-TOP wife-with two-with
seikatsushi-te-{ori-mas-u/i-ru} yo
live-CV-be.OH-UH-PRES/be-PRES SFP

'As my kids have become independent of us, I live only with my wife, now. '

(18) a. Baseline

Chiisai koro kara benkyoo-wa tokui-deshi-ta. Tesuto-de-wa itsumo
small time from study-TOP good.at-COP.UH-PAST. Exams-at-TOP always
ichiban-{deshi/dat}-ta yo
the.first-COP.UH/COP-PAST SFP

'I was good at studying from the time when I was a child. I aced the exams always. '

b. cP-embedding

Chiisai koro kara benkyoo-wa tokui-deshi-ta-shi, tesuto-de-wa
small time from study-TOP good.at-COP.UH-PAST-and exams-at-TOP
itsumo ichiban-{deshi/dat}-ta yo
always the.first-COP.UH/COP-PAST SFP

'I was good at studying from the time when I was a child, and I aced the exams always. '

c. Non-cP-embedding

Chiisai koro kara benkyoo-wa tokui-deshi-te, tesuto-de-wa itsumo
small time from study-TOP good.at-COP.UH-CV exams-at-TOP always
ichiban-{deshi/dat}-ta yo
the.first-COP.UH/COP-PAST SFP

'As I was good at studying from the time when I was a child, I aced the exams always. '

(19) a. Baseline

Chichi-ga Amerikajin-des-u. Sorede, ie-de-wa eigo-o
father-NOM american-COP.UH-PRES. Thus, home-at-TOP English
tsukat-te-i-{mas-u/ru}
use-CV-be-{UH-PRES/PRES}

My father is American. Thus, I use English at home.

b. cP-embedding

Chichi-ga Amerikajin-des-u kara, ie-de-wa eigo-o
father-NOM american-COP.UH-PRES as, home-at-TOP English
tsukat-te-i-{mas-u/ru}
use-CV-be-{UH-PRES/PRES}

As My father is American, I use English at home.

c. Non-cP-embedding

Chichi-ga Amerikajin-deshi-te, ie-de-wa eigo-o
father-NOM american-COP.UH-CV, home-at-TOP English
tsukat-te-i-{mas-u/ru}
use-CV-be-{UH-PRES/PRES}

My father being American, I use English at home.

(20) a. Baseline

Senjitsu, inu-o kai-hajime-mashi-ta. Mainichi tanoshiku
the.other.day dog-ACC have-start-UH-PAST. everyday fun
samposhi-te-i-{mas-u/ru} yo
walk-CV-be-{UH-PRES/PRES} SFP

'I started to have a dog in these days. I enjoy walking my dog everyday.'

b. cP-embedding

Senjitsu, inu-o kai-hajime-mashi-ta-shi, mainichi tanoshiku
the.other.day dog-ACC have-start-UH-PAST-and everyday fun
samposhi-te-i-{mas-u/ru} yo
walk-CV-be-{UH-PRES/PRES} SFP

'I started to have a dog in these days and I enjoy walking my dog everyday.'

c. Non-cP-embedding

Senjitsu, inu-o kai-hajime-mashi-te, mainichi tanoshiku
the.other.day dog-ACC have-start-UH-CV everyday fun
samposhi-te-i-{mas-u/ru} yo
walk-CV-be-{UH-PRES/PRES} SFP

'Having started to have a dog, I enjoy walking my dog everyday.'

(21) a. Baseline

Yatto ashi-no kega-ga naori-mashi-ta. Ima-wa tsue-nashi-de-mo
finally leg-GEN injury-NOM cure-UH-PAST . Now-TOP
aruk-e-{mas-u/ru} yo
cane-without-be-also walk-can-{UH-PRES/PRES} SFP

'My leg injury has cured finally. I can walk without a cane now.'

b. cP-embedding

| | | | | | |
|---|---|---|---|---|---|
| Yatto | ashi-no | kega-ga | naori-mashi-ta | kara, | Ima-wa |
| finally | leg-GEN | injury-NOM | cure-UH-PAST | as | Now-TOP |

| | | |
|---|---|---|
| tsue-nashi-de-mo | aruk-e-{mas-u/ru} | yo |
| cane-without-be-also | walk-can-{UH-PRES/PRES} | SFP |

‘As my leg injury has cured finally, I can walk without a cane now.’

c. Non-cP-embedding

Yatto ashi-no kega-ga naori-mashi-te, Ima-wa tsue-nashi-de-mo
finally leg-GEN injury-NOM cure-UH-CV now-TOP cane-without-be-also
aruk-e-{mas-u/ru} yo
walk-can-{UH-PRES/PRES} SFP

'My leg injury having cured, I can walk without a cane now.'

(22) a. Baseline

Tenki-yohou-ni yoru-to taifuu-ga sekkinshi-te-ori-masu.
weather-forecast-DAT according-to typhoon-NOM approach-CV-be.OH-UH.
Shitagatte, konsaato-wa chushi-{itashi-mas-u/su-ru}.
Therefore, concert-TOP cancel-{do.OH-UH-PRES/do-PRES}

'According to the weather forecast, a typhoon is approaching. Therefore, the concert will be canceled.

b. cP-embedding

Tenki-yohou-ni yoru-to taifuu-ga sekkinshi-te-ori-masu
weather-forecast-DAT according-to typhoon-NOM approach-CV-be.OH-UH
kara, konsaato-wa chushi-{itashi-mas-u/su-ru}.
as, concert-TOP cancel-{do.OH-UH-PRES/do-PRES}

'As a typhoon is approaching according to the weather forecast, the concert will be canceled.

c. Non-cP-embedding

Tenki-yohou-ni yoru-to taifuu-ga
weather-forecast-DAT according-to typhoon-NOM
sekkinshi-te-ori-mashi-tara, konsaato-wa chushi-{itashi-mas-u/su-ru}.
approach-CV-be.OH-UH-if, concert-TOP cancel-{do.OH-UH-PRES/do-PRES}

'If a typhoon is approaching according to the weather forecast, the concert will be canceled.

(23) a. Baseline

Shisakuhin-ga kanseishi-mashi-ta. Torihikisaki-e
prototype-NOM complete-UH-PAST. customer-to
o-todokee-{itashi-mas-u/su-ru} ne.
HON-deliver-do.OH-{UH-PRES/do-PRES} SFP

'The prototype is completed. I will send it to the customer. '

b. cP-embedding

Shisakuhin-ga kanseishi-mashi-ta kara Torihikisaki-e
prototype-NOM complete-UH-PAST as customer-to
o-todokee-{itashi-mas-u/su-ru} ne.
HON-deliver-do.OH-{UH-PRES/do-PRES} SFP

'As the prototype is completed, I will send it to the customer. '

c. Non-cP-embedding

Shisakuhin-ga kanseishi-mashi-tara Torihikisaki-e
prototype-NOM complete-UH-PAST-if customer-to
o-todokee-{itashi-mas-u/su-ru} ne.
HON-deliver-do.OH-{UH-PRES/do-PRES} SFP

'When the prototype is completed, I will send it to the customer. '

(24) a. Baseline

Kaigi-yoo-no shiryoo-no insatsu-wa owari-mashi-ta.
meeting-for-GEN materials-GEN printing-TOP finish-UH-PAST.
Kaijoo-setsuei-o otetsudai-{shi-mas-u/su-ru} ne.
Meeting.room-setting-ACC help-{do-UH-PRES/do-PRES} SFP

'I have finished printing the materials for the meeting. I will help you set the meeting room. '

b. cP-embedding

Kaigi-yoo-no shiryoo-no insatsu-wa owari-mashi-ta kara
meeting-for-GEN materials-GEN printing-TOP finish-UH-PAST because
kaijoo-setsuei-o otetsudai-{shi-mas-u/su-ru} ne.
meeting.room-setting-ACC help-{do-UH-PRES/do-PRES} SFP

'As I have finished printing the materials for the meeting, I will help you set the meeting room. '

c. Non-cP-embedding

Kaigi-yoo-no shiryoo-no insatsu-wa owari-mashi-tara
meeting-for-GEN materials-GEN printing-TOP finish-UH-PAST-if
Kaijoo-setsuei-o otetsudai-{shi-mas-u/su-ru} ne.
Meeting.room-setting-ACC help-{do-UH-PRES/do-PRES} SFP

'When I finish printing the materials for the meeting, I will help you set the meeting room. '

(25) a. Baseline

Ketsueki-kensa-no kekka-ga de-mashi-ta. Meeru-de
blood-test-GEN result-NOM come.out-UH-PAST. mail-with
o-tsutae-{shi-mas-u/su-ru} ne.
HON-tell-{do-UH-PRES/do-PRES} SFP

'The result of the blood test came out. I will send it via email. '

b. cP-embedding

Ketsueki-kensa-no kekka-ga de-mashi-ta kara meeru-de
blood-test-GEN result-NOM come.out-UH-PAST as mail-with
o-tsutae-{shi-mas-u/su-ru} ne.
HON-tell-{do-UH-PRES/do-PRES} SFP

'As the result of the blood test came out, I will send it via email. '

c. Non-cP-embedding

Ketsueki-kensa-no kekka-ga de-mashi-tara meeru-de
blood-test-GEN result-NOM come.out-UH-PAST as
o-tsutae-{shi-mas-u/su-ru} ne.
mail-with HON-tell-{do-UH-PRES/do-PRES} SFP

'When the result of the blood test comes out, I will send it via email. '

(26) a. Baseline

Tentoo-no zaiko-ga nakunari-mashi-ta. Honjitsu-no eigyou-wa
store-GEN stock-NOM run.our-UH-PAST. Today-GEN sales-TOP
shuuryou-{itashi-mas-u/su-ru}.
end-{do.OH-UH-PRES/do-PRES}

'The stock in the store ran out. We will close today.'

b. cP-embedding

Tentoo-no zaiko-ga nakunari-mashi-ta kara honjitsu-no eigyou-wa
store-GEN stock-NOM run.our-UH-PAST as today-GEN sales-TOP
shuuryou-{itashi-mas-u/su-ru}.
end-{do.OH-UH-PRES/do-PRES}

'As the stock in the store ran out, we will close today.'

c. Non-cP-embedding

Tentoo-no zaiko-ga nakunari-mashi-tara honjitsu-no eigyou-wa
store-GEN stock-NOM run.our-UH-PAST-if today-GEN sales-TOP
shuuryou-{itashi-mas-u/su-ru}.
end-{do.OH-UH-PRES/do-PRES}

'If the stock in the store runs out, we will close.'

(27) a. Baseline

Senjitsu, uwasa-no jinja-e omairi-ni it-te-ki-mashi-ta.
the.other.day rumor-GEN shrine-to visiting-DAT go-CV-come-UH-PAST.
Suruto isshuukan-go-ni shooshin-ga {kimari-mashi-ta/kimat-ta}
Then, one.week-later-DAT promotion-NOM {decide-UH-PAST/decide-PAST}
yo.
SFP

'On the other day, I visited the shrine that has been famous recently. Then, my promotion has decided in a week.'

b. cP-embedding

Senjitsu, uwasa-no jinja-e omairi-ni it-te-ki-mashi-ta-ga
the.other.day rumor-GEN shrine-to visiting-DAT go-CV-come-UH-PAST-but,
isshuukan-go-ni shooshin-ga {kimari-mashi-ta/kimat-ta} yo.
one.week-later-DAT promotion-NOM {decide-UH-PAST/decide-PAST} SFP

'On the other day, I visited the shrine that has been famous recently, and my promotion has decided in a week.'

c. Non-cP-embedding

Senjitsu, uwasa-no jinja-e omairi-ni
the.other.day rumor-GEN shrine-to visiting-DAT
it-te-ki-mashi-tara isshuukan-go-ni shooshin-ga
go-CV-come-UH-PAST-if/when, one.week-later-DAT promotion-NOM
{kimari-mashi-ta/kimat-ta} yo.
{decide-UH-PAST/decide-PAST} SFP

'Once I visited the shrine that has been famous recently, my promotion has decided in a week.'

### A.2.2 Target Items of Experiment 2

(28) a. Baseline

Ryokoo-no junbi-ga owari-mashi-ta. Kyoo-wa hayame-ni
travel-GEN preparation-NOM finish-UH-PAST. Today-TOP early-DAT
ne-{mas-u/ru}.
sleep-{UH-PRES/PRES}

'I have done my preparation for the travel. I will go to bed early today. '

b. cP-embedding

Ryokoo-no junbi-ga owari-mashi-ta-shi, kyoo-wa hayame-ni
travel-GEN preparation-NOM finish-UH-PAST-and Today-TOP early-DAT
ne-{mas-u/ru}.
sleep-{UH-PRES/PRES}

'As I have done my preparation for the travel, I will go to bed early today. '

c. Non-cP-embedding

Ryokoo-no junbi-ga owari-mashi-tara, kyoo-wa hayame-ni
travel-GEN preparation-NOM finish-UH-PAST-if Today-TOP early-DAT
ne-{mas-u/ru}.
sleep-{UH-PRES/PRES}

'When I'm done with my preparation for the travel, I will go to bed early today.'

(29) a. Baseline

Yuujin-tachi-ga kaeri-mashi-ta. Heya-o katazuke-{mas-u/ru}.
friend-PL-NOM return-UH-PAST. room-ACC clean-UH-PRES/PRES

'My friends have left. I will clean the room.'

b. cP-embedding

Yuujin-tachi-ga kaeri-mashi-ta kara heya-o katazuke-{mas-u/ru}.
friend-PL-NOM return-UH-PAST because room-ACC clean-UH-PRES/PRES

'As my friends have left, I will clean the room.'

c. Non-cP-embedding

Yuujin-tachi-ga kaeri-mashi-tara, heya-o katazuke-{mas-u/ru}.
friend-PL-NOM return-UH-PAST-if room-ACC clean-UH-PRES/PRES

'When my friends left, I will clean the room.'

(30) a. Baseline

Ano wadai-no shousetsu-ga nyuukashi-mashi-ta. Hanbai-sokushin-yoo-no
that topic-GEN novel-NOM arrive-UH-PAST. Sales-promotion-for-GEN
poppu-o tsukuri-{mas-u/ru}.
pop-ACC make-UH-PRES

'The novel in the news gets in stock now. I will make the ad for sales promotion.'

b. cP-embedding

Ano wadai-no shousetsu-ga nyuukashi-mashi-ta kara
that topic-GEN novel-NOM arrive-UH-PAST as
hanbai-sokushin-yoo-no poppu-o tsukuri-{mas-u/ru}.
sales-promotion-for-GEN pop-ACC make-UH-PRES

'As the novel in the news is in stock now, I will make the ad for sales promotion.'

c. Non-cP-embedding

Ano wadai-no shousetsu-ga nyuukashi-mashi-tara hanbai-sokushin-yoo-no
that topic-GEN novel-NOM arrive-UH-PAST-if sales-promotion-for-GEN
poppu-o tsukuri-{mas-u/ru}.
pop-ACC make-UH-PRES

'When the novel in the news gets in stock, I will make the ad for sales promotion.'

(31) a. Baseline

Shikkari suibun-hokyuu shi-mashi-ta. Sugu-ni yoku-naru-to
Well water-supply do-UH-PAST. Soon-DAT better-be-COMP
{omoi-mas-u/omo-u}.
{think-UH-PRES/think-PRES}

'You drank water enough. You will feel better soon.'

b. cP-embedding

Shikkari suibun-hokyuu shi-mashi-ta kara, sugu-ni yoku-naru-to
Well water-supply do-UH-PAST because soon-DAT better-be-COMP
{omoi-mas-u/omo-u}.
{think-UH-PRES/think-PRES}

'As you drank water enough, you will feel better soon.'

c. Non-cP-embedding

Shikkari suibun-hokyuu shi-mashi-tara, sugu-ni yoku-naru-to
Well water-supply do-UH-PAST-if soon-DAT better-be-COMP
{omoi-mas-u/omo-u}.
{think-UH-PRES/think-PRES}

'If you drank water enough, you will feel better soon.'

(32) a. Baseline

Tenkou-ga akkashi-te-ki-mashi-ta. Yotte shiai-wa
weather-NOM worsen-CV-come-UH-PAST. Thus game-TOP
chuushi-{shi-mas-u/su-ru}.
cancel-do-{UH-PRES/do-PRES}

'The weather gets worse. Therefore, the game will be canceled.'

b. cP-embedding

Tenkou-ga akkashi-te-ki-mashi-ta kara shiai-wa
weather-NOM worsen-CV-come-UH-PAST because game-TOP
chuushi-{shi-mas-u/su-ru}.
cancel-do-{UH-PRES/do-PRES}

'As The weather gets worse, the game will be canceled.'

c. Non-cP-embedding

Tenkou-ga akkashi-te-ki-mashi-tara shiai-wa
weather-NOM worsen-CV-come-UH-PAST-if game-TOP
chuushi-{shi-mas-u/su-ru}.
cancel-do-{UH-PRES/do-PRES}

'If the weather gets worse, the game will be canceled.'

(33) a. Baseline

Sanpuru-ga kansei-shi-mashi-ta. Sochira-e todoke-{mas-u/ru}.
sample-NOM complete-do-UH-PAST. Your.side-to send-UH-PRES/PRES

'We made a sample. I will send it to you.'

b. cP-embedding

Sanpuru-ga kansei-shi-mashi-ta kara sochira-e
sample-NOM complete-do-UH-PAST because your.side-to
todoke-{mas-u/ru}.
send-UH-PRES/PRES

‘As we made a sample, I will send it to you.’

c. Non-cP-embedding

Sanpuru-ga kansei-shi-mashi-tara sochira-e todoke-{mas-u/ru}.
sample-NOM complete-do-UH-PAST-if your.side-to send-UH-PRES/PRES

‘When we make a sample, I will send it to you.’

(34) a. Baseline

Shiryoo-no insatsu-ga owari-mashi-ta. Kaijoo-setsuei-o
Materials-GEN printing-NOM finish-UH-PAST. Meeting.room-setting-ACC
{tetsudai-mas-u/tetsuda-u}.
{help-UH-PRES/help-PRES}

‘I have finished printing the materials. I will help you set the meeting room. ’

b. cP-embedding

Shiryoo-no insatsu-ga owari-mashi-ta kara
Materials-GEN printing-NOM finish-UH-PAST because
kaijoo-setsuei-o{tetsudai-mas-u/tetsuda-u}.
meeting.room-setting-ACC {help-UH-PRES/help-PRES}

‘As I have finished printing the materials, I will help you set the meeting room.

c. Non-cP-embedding

Shiryoo-no insatsu-ga owari-mashi-tara kaijoo-setsuei-o
Materials-GEN printing-NOM finish-UH-PAST-if meeting.room-setting-ACC
{tetsudai-mas-u/tetsuda-u}.
{help-UH-PRES/help-PRES}

‘When I have finished printing the materials, I will help you set the meeting room. ’

(35) a. Baseline

Kyoo, shoohin-no zaiko-ga todoki-mashi-ta. Ashita-kara hambai-o
Today goods-GEN stock-NOM arrive-UH-PAST. Tomorrow-from sales-ACC
saikai-{shi-mas-u/su-ru}.
{restart-do-UH-PRES/do-PRES}

‘The stock of the goods arrived today. We will restart the sales tomorrow.’

b. cP-embedding

Kyoo, shoohin-no zaiko-ga todoki-mashi-ta kara ashita-kara
Today goods-GEN stock-NOM arrive-UH-PAST because Tomorrow-from
hambai-o saikai-{shi-mas-u/su-ru}.
sales-ACC {restart-do-UH-PRES/do-PRES}

'As the stock of the goods arrived today, we will restart the sales tomorrow.'

c. Non-cP-embedding

Kyoo, shoohin-no zaiko-ga todoki-mashi-tara ashita-kara hambai-o
Today goods-GEN stock-NOM arrive-UH-PAST-if because Tomorrow-from
saikai-{shi-mas-u/su-ru}.
sales-ACC {restart-do-UH-PRES/do-PRES}

'If the stock of the goods arrives today, we will restart the sales tomorrow.'

(36) a. Baseline

Ano jinja-e omairi-ni iki-mashi-ta. Sono-ato sugu-ni shoushin-ga
that shrine-to visit-DAT go-UH-PAST. that-after soon-DAT promotion
{kimari-mashi-ta/kimat-ta}.
{decide-UH-PAST/decide-PAST}

'I visited that shrine. Soon after that, my promosion has decided. '

b. cP-embedding

Ano jinja-e omairi-ni iki-mashi-ta-ga, ono-ato sugu-ni shoushin-ga
that shrine-to visit-DAT go-UH-PAST-but that-after soon-DAT promotion
{kimari-mashi-ta/kimat-ta}.
{decide-UH-PAST/decide-PAST}

'I visited that shrine and, soon after that, my promosion has decided. '

c. Non-cP-embedding

Ano jinja-e omairi-ni iki-mashi-tara, ono-ato sugu-ni shoushin-ga
that shrine-to visit-DAT go-UH-PAST-if that-after soon-DAT promotion
{kimari-mashi-ta/kimat-ta}.
{decide-UH-PAST/decide-PAST}

'When I visited that shrine, my promosion has decided soon after that. '

(37) a. Baseline

Koosokudooro-ga kon-de-i-mas-u. Koko-kara-wa ippandoo-de
highway-NOM congest-CV-be-UH-PRES. Here-from-TOP local.road-by
{mukai-mas-u/muka-u}.
{go-UH-PRES/go-PRES}

'The highway is congested. We'll take local roads from here.'

b. cP-embedding

Koosokudooro-ga kon-de-i-mas-u kara koko-kara-wa
highway-NOM congest-CV-be-UH-PRES because here-from-TOP
ippandoo-de {mukai-mas-u/muka-u}.
local.road-by {go-UH-PRES/go-PRES}

'Because the highway is congested, we'll take local roads from here.'

c. Non-cP-embedding

Koosokudooro-ga kon-de-i-mashi-te koko-kara-wa ippandoo-de
highway-NOM congest-CV-be-UH-CV here-from-TOP local.road-by
{mukai-mas-u/muka-u}.
{go-UH-PRES/go-PRES}

'The highway being congested, we'll take local roads from here.'

(38) a. Baseline

Terebi-ni muchuu-ni nat-te-i-mashi-ta. Sonoseide karee-o
TV-DAT caught.up-DAT be-CV-PROG-UH-PAST. Due.to.that curry-ACC
koboshi-{mashi/∅}-ta.
spill-UH-PAST

'I was caught up in the TV. Due to that, I spilled the curry.'

b. cP-embedding

Terebi-ni muchuu-ni nat-te-i-mashi-ta kara sonoseide
TV-DAT caught.up-DAT be-CV-PROG-UH-PAST because due.to.that
karee-o koboshi-{mashi/∅}-ta.
curry-ACC spill-UH-PAST

'As I was caught up in the TV, I spilled the curry.'

c. Non-cP-embedding

Terebi-ni muchuu-ni nat-te-i-mashi-te, sonoseide karee-o
TV-DAT caught.up-DAT be-CV-PROG-UH-CV because due.to.that
koboshi-{mashi/∅}-ta.
curry-ACC spill-UH-PAST

'Being caught up in the TV, I spilled the curry.'

(39) a. Baseline

Shuugou-basho-ni tsuku-no-ga haya-sugi-mashi-ta. Sorede
gathering-spot-LOC arrive-NMLZ-NOM early-excess-UH-PAST. so
kafe-de jikan-o tsubushi-{mashi/∅}-ta.
cafe-at time-ACC kill-UH-PAST

'I came to the gathering spot too early. So, I killed the time at the cafe. '

b. cP-embedding

Shuugou-basho-ni tsuku-no-ga haya-sugi-mashi-ta kara,
gathering-spot-LOC arrive-NMLZ-NOM early-excess-UH-PAST because
kafe-de jikan-o tsubushi-{mashi/∅}-ta.
cafe-at time-ACC kill-UH-PAST

'As I came to the gathering spot too early, I killed the time at the cafe. '

c. Non-cP-embedding

Shuugou-basho-ni tsuku-no-ga haya-sugi-mashi-te, kafe-de
gathering-spot-LOC arrive-NMLZ-NOM early-excess-UH-CV cafe-at
jikan-o tsubushi-{mashi/∅}-ta.
time-ACC kill-UH-PAST

'Having arrived at the gathering spot too early, I killed the time at the cafe. '

(40) a. Baseline

Yotei-ga henkou-ni nari-mashi-ta. Kyoo-wa itsumo-yori
schedule-NOM change-DAT become-UH-PAST. Today-TOP usual-than
kaeri-ga osoku-{nari-mas-u/na-ru}.
return-NOM late-{be-UH-PRES/be-PRES}

'The schedule has changed. My return will be later than usual today.'

b. cP-embedding

Yotei-ga henkou-ni nari-mashi-ta kara kyoo-wa
schedule-NOM change-DAT become-UH-PAST because today-TOP
itsumo-yori kaeri-ga osoku-{nari-mas-u/na-ru}.
usual-than return-NOM late-{be-UH-PRES/be-PRES}

'As the schedule has changed, my return will be later than usual today.'

c. Non-cP-embedding

Yotei-ga henkou-ni nari-mashi-te kyoo-wa itsumo-yori
schedule-NOM change-DAT become-UH-CV today-TOP usual-than
kaeri-ga osoku-{nari-mas-u/na-ru}.
return-NOM late-{be-UH-PRES/be-PRES}

'As the schedule has changed, my return will be later than usual today.'

(41) a. Baseline

Chiisai koro kara benkyoo-wa tokui-deshi-ta. Tesuto-de-wa itsumo
small time from study-TOP good.at-COP.UH-PAST. Exams-at-TOP always
ichiban-{deshi/dat}-ta.
the.first-COP.UH/COP-PAST

'I am good at studying from the time when I was a child. I always aced the exams. '

b. cP-embedding

Chiisai koro kara benkyoo-wa tokui-deshi-ta-shi, tesuto-de-wa
small time from study-TOP good.at-COP.UH-PAST-and exams-at-TOP
itsumo ichiban-{deshi/dat}-ta.
always the.first-COP.UH/COP-PAST

'I am good at studying from the time when I was a child, and I always aced the exams. '

c. Non-cP-embedding

Chiisai koro kara benkyoo-wa tokui-deshi-te, tesuto-de-wa itsumo
small time from study-TOP good.at-COP.UH-CV exams-at-TOP always
ichiban-{deshi/dat}-ta.
the.first-COP.UH/COP-PAST.

'As I am good at studying from the time when I was a child, I always aced the exams. '

(42) a. Baseline

Kodomo-ga hitoridachishi-mashi-ta. Ima-wa tsuma-to futari-de
kids-NOM become.independent-UH-PAST. Now-TOP wife-with two-with
kurashi-te-i-{mas-u/ru}.
live-CV-be-{UH-PRES/PRES}

'My kids have become independent of us. Now, I live only with my wife. '

b. cP-embedding

Kodomo-ga hitoridachishi-mashi-ta kara ima-wa tsuma-to
kids-NOM become.independent-UH-PAST because Now-TOP wife-with
futari-de kurashi-te-i-{mas-u/ru}
two-with live-CV-be-{UH-PRES/PRES}

'As my kids have become independent of us, I live only with my wife, now. '

c. Non-cP-embedding

Kodomo-ga hitoridachishi-mashi-te ima-wa tsuma-to futari-de
kids-NOM become.independent-UH-CV Now-TOP wife-with two-with
kurashi-te-i-{mas-u/ru}.
live-CV-be-{UH-PRES/PRES}

'As my kids have become independent of us, I live only with my wife, now. '

(43) a. Baseline

Chichi-ga Amerikajin-des-u. Sorede, ie-de-wa eigo-o
father-NOM american-COP.UH-PRES. Thus, home-at-TOP English
tsukat-te-i-{mas-u/ru}
use-CV-be-{UH-PRES/PRES}

My father is American. Thus, I use English at home.

b. cP-embedding

Chichi-ga Amerikajin-des-u kara, ie-de-wa eigo-o
father-NOM american-COP.UH-PRES as, home-at-TOP English
tsukat-te-i-{mas-u/ru}
use-CV-be-{UH-PRES/PRES}

As My father is American, I use English at home.

c. Non-cP-embedding

Chichi-ga Amerikajin-deshi-te, ie-de-wa eigo-o
father-NOM american-COP.UH-CV, home-at-TOP English
tsukat-te-i-{mas-u/ru}
use-CV-be-{UH-PRES/PRES}

My father being American, I use English at home.

(44) a. Baseline

Atarashii kutsu-ga todoki-mashi-ta. Sassoku hai-te
new shoe-NOM arrive-UH-PAST. right.away out-CV
dekake-{mashi/∅}-ta.
go.out-UH-PAST

'My new shoes arrrived. I put them right away and went out.'

b. cP-embedding

Atarashii kutsu-ga todoki-mashi-ta kara, sassoku hai-te
new shoe-NOM arrive-UH-PAST as right.away out-CV
dekake-{mashi/∅}-ta.
go.out-UH-PAST

'As my new shoes arrrived, I put them right away and went out.'

c. Non-cP-embedding

Atarashii kutsu-ga todoki-mashi-te, sassoku hai-te
new shoe-NOM arrive-UH-CV right.away out-CV
dekake-{mashi/∅}-ta.
go.out-UH-PAST

'As my new shoes arrrived, I put them right away and went out.'

(45) a. Baseline

Kyuu-ni taichou-ga waruku-nari-mashi-ta. Sorede, kyoo-wa
suddenly health.condition-NOM bad-be-UH-PAST. Then, today-TOP
yasumi-o {tori-mashi-ta/tot-ta}.
off-ACC {take-UH-PAST/take-PAST}

'I suddenly started feeling unwell, so I took the day off today.'

b. cP-embedding

Kyuu-ni taichou-ga waruku-nari-mashi-ta kara, kyoo-wa
suddenly health.condition-NOM bad-be-UH-PAST because, today-TOP
yasumi-o {tori-mashi-ta/tot-ta}.
off-ACC {take-UH-PAST/take-PAST}

‘As I suddenly started feeling unwell, I took the day off today.’

c. Non-cP-embedding

Kyuu-ni taichou-ga waruku-nari-mashi-te, kyoo-wa yasumi-o
suddenly health.condition-NOM bad-be-UH-CV today-TOP off-ACC
{tori-mashi-ta/tot-ta}.
{take-UH-PAST/take-PAST}

‘As I suddenly started feeling unwell, I took the day off today.’

# Appendix B

# NOTES ON THE SEMANTICS OF UH MARKERS

## B.1 Alternatives to the Function Composition

Though I have argued for the Function Composition analysis, there are alternative ways to deal with the semantic type mismatch between UH-head and the head of the extended verbal projection that it attaches to. In this section, I will show two possibilities as alternatives to the Function Composition.

One way to deal with the type mismatch is to shift the type of UH. If one assumes the type flexibity of UH-head, the type of the UH-head adjoining to Pol-head can be lifted as in (1). Compare (1) with the original version in (2).

(1) $[\![\textit{mas}]\!] \in D_{\langle\langle wt,wt\rangle,\langle\langle wt,wt\rangle \bullet \varepsilon\rangle\rangle} = \lambda f_{\langle wt,wt\rangle}.\lambda p_{wt}.\lambda w.f(p)(w) \bullet \langle[\text{1st}], 1, [\text{2nd}]\rangle$

(2) $[\![\textit{mas}]\!] \in D_{\langle wt,\langle wt \bullet \varepsilon\rangle\rangle} = \lambda p_{wt}.\lambda w.p(w) \bullet \langle[\text{1st}], 1, [\text{2nd}]\rangle$

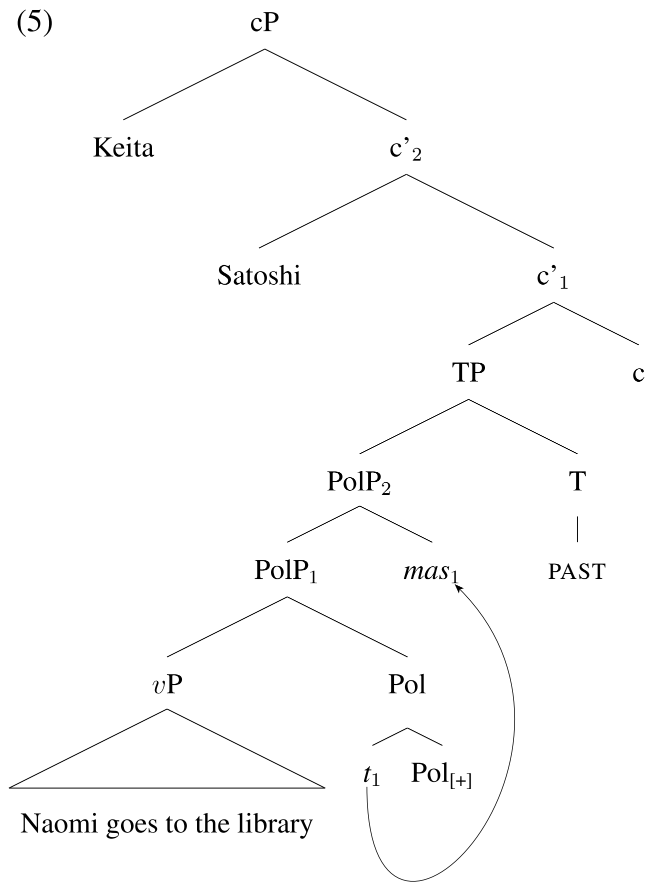
With the type shifted UH in (1), the denotation of *mase-n* '*mas*+NEG' will be (3). The result of the computation in (4) is the same as the result of the Function Composition in (59c) of Chapter 5.

(3) $[\![\text{Pol}_{[\text{-}]}]\!] \in D_{\langle wt,wt\rangle} = \lambda q_{wt}.\lambda w'.\neg q(w')$

(4) $[\![\text{mase-n}]\!] = [\![\text{mas}]\!]([\![\text{Pol}_{[\text{-}]}]\!])$
$= [\lambda f_{\langle wt,wt\rangle}.\lambda p_{wt}.\lambda w.f(p)(w) \bullet \langle[\text{1st}], 1, [\text{2nd}]\rangle](\lambda q_{wt}.\lambda w'.\neg q(w'))$
$= \lambda p_{wt}.\lambda w.[\lambda q_{wt}.\lambda w'.\neg q(w')](p)(w) \bullet \langle[\text{1st}], 1, [\text{2nd}]\rangle$
$= \lambda p_{wt}.\lambda w.[\lambda w'.\neg p(w')](w) \bullet \langle[\text{1st}], 1, [\text{2nd}]\rangle$
$= \lambda p_{wt}.\lambda w.\neg p(w) \bullet \langle[\text{1st}], 1, [\text{2nd}]\rangle$

Another way to avoid the type mismatch is to QR the UH-head to the node of type $\langle wt\rangle$. Since the UH-head is a function from $wt$ to $\langle wt \bullet \varepsilon\rangle$, the LF movement of UH can also avoid the type mismatch issue. For instnace, if *mas* is raised to the top of PolP as in (5), we will get the same truth condition as what we saw in (64e) of Chapter 5. Compare (6c) to (64e) of Chapter 5. It should be noted that the trace is treated as an identity function here.

(5)




(6) a. [[PolP$_1$]] = $\lambda w$. Naomi goes to the library in $w$.

b. [[*mas*]] = $\lambda p_{wt}.\lambda w.p(w) \bullet \langle$[1st], $1$, [2nd]$\rangle$

c. [[PolP$_2$]] = [[*mas*]]([[PolP$_1$]])

= $\lambda w$. Naomi goes to the library in $w$. $\bullet\langle$[1st], $1$, [2nd]$\rangle$

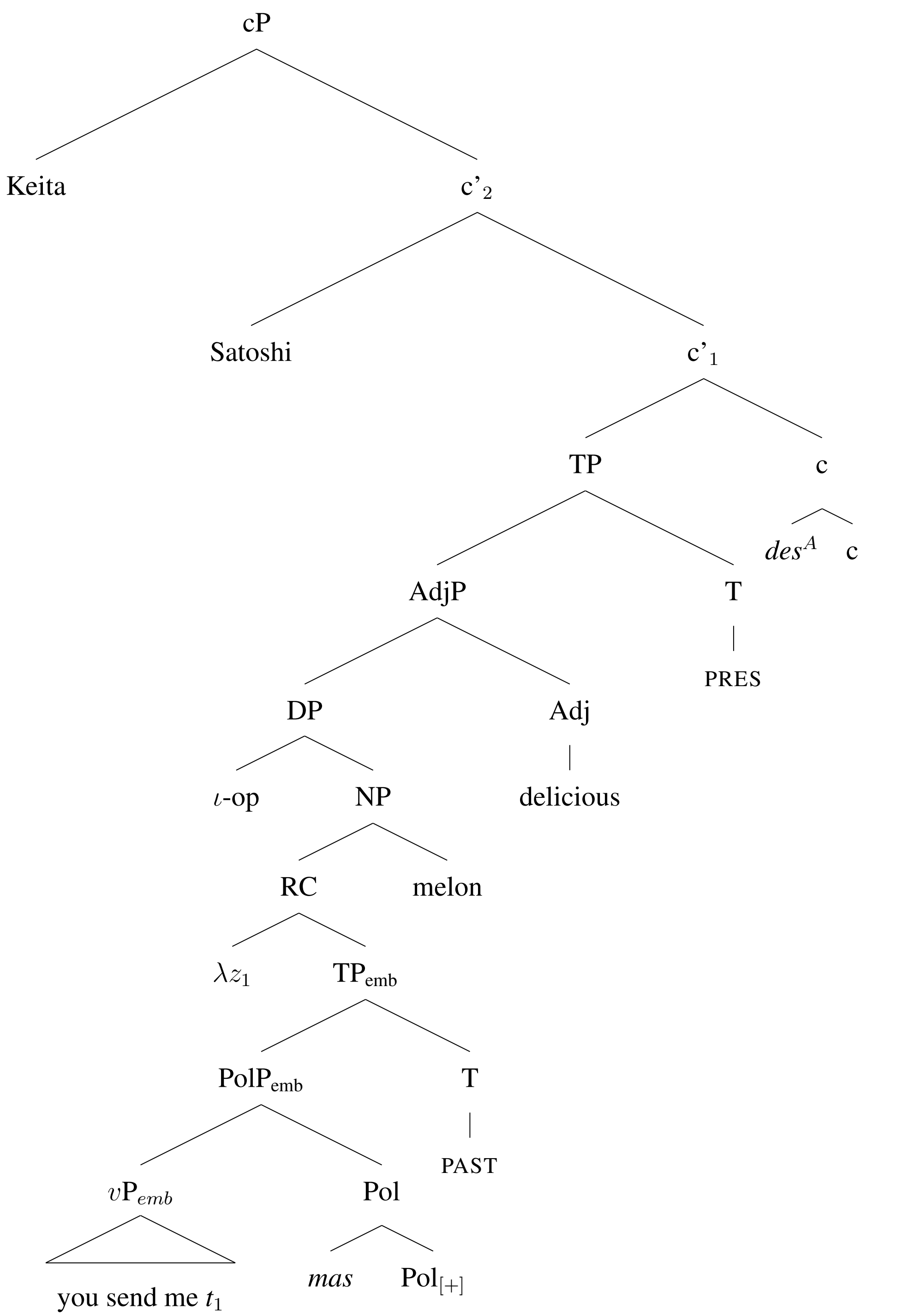
## B.2 Computation of Embedded UHs in Non-cP-Embedding Adjunct Clauses

This section provides sample computations of embedded UHs in non-cP-embedding adjunct clauses. Same as the case of *koto*-clauses, the present analysis of UHs works well with other non-cP-embedding contexts.

### B.2.1 Relative Clauses

(7) [$_{\text{RC}}$ Senjitsu itadaki-**mashi**-ta] meron, totemo oishi-i desu.
the.other.day receive.OH-UH-PAST melon very delicious-PRES UH
'The melon that you sent me the other day is very delicious.'

(8)



(9) a. $[\![v\text{P}_{emb}]\!] = \lambda w.send(g(1))([\![me]\!]^c)([\![you]\!]^c)$ in $w$.

b. $[\![\textit{mas}]\!] = \lambda p_{wt}.\lambda w.p(w) \bullet \langle[\text{1st}], 1, [\text{2nd}]\rangle$

c. $[\![\text{Pol}_{[+]}]\!] = \lambda p_{wt}.\lambda w.p(w)$

d. $[\![\text{Pol}]\!] = [\![\textit{mas}]\!] \circ [\![\text{Pol}_{[+]}]\!]$ (Function Composition)

$= \lambda p_{wt}.\lambda w.p(w) \bullet \langle[\text{1st}], 1, [\text{2nd}]\rangle$

e. $[\![\text{PolP}_{\text{emb}}]\!] = [\![\text{Pol}]\!]([\![v\text{P}]\!]_{emb})$

$= \lambda w.send(g(1))([\![me]\!]^c)([\![you]\!]^c)$ in $w$. $\bullet \langle x_{[\text{1st}]}, 1, y_{[\text{2nd}]}\rangle_{emb}$

f. $[\![\text{T}_{[\text{PAST}]}]\!] = \lambda p_{wt}.\lambda w.\exists t'.\ t' < t_0 \wedge p(w) = 1$ at $t'$.

$[\![\text{TP}_{emb}]\!] = [\![\text{T}_{[\text{PAST}]}]\!]([\![\text{PolP}_{emb}]\!])$

$= \lambda w.\exists t'.t' < t_0 \wedge send(g(i))([\![me]\!]^c)([\![you]\!]^c)$ in $w$ at $t'$. $\bullet \langle x_{[\text{1st}]}, 1, y_{[\text{2nd}]}\rangle_{emb}$

g. $[\![\text{RC}]\!]^{g[1 \to z]}$ (Predicate Abstraction by Heim and Kratzer (1998))

$= \lambda z.\lambda w.\exists t'.t' < t_0 \wedge send(z)([\![me]\!]^c)([\![you]\!]^c)$ in $w$ at $t'$. $\bullet \langle x_{[\text{1st}]}, 1, y_{[\text{2nd}]}\rangle_{emb}$

h. $[\![\text{melon}]\!] = \lambda z.melon(z)$

i. $[\![\text{NP}]\!] = \lambda z.\lambda w.\exists t'.t' < t_0 \wedge send(z)([\![me]\!]^c)([\![you]\!]^c) \wedge melon(z)$ in $w$ at $t'$.

$\bullet \langle x_{[\text{1st}]}, 1, y_{[\text{2nd}]}\rangle_{emb}$

j. $[\![\iota\text{-op}]\!] = \lambda P_{\langle e,wt\rangle}.\iota z_e.\lambda w.P(z)(w)$.

k. $[\![\text{DP}]\!] = [\![\iota\text{-op}]\!]([\![\text{NP}]\!])$

$= \iota z.\lambda w.\exists t'.t' < t_0 \wedge send(z)([\![me]\!]^c)([\![you]\!]^c) \wedge melon(z)$ in $w$ at $t'$.

$\bullet \langle x_{[\text{1st}]}, 1, y_{[\text{2nd}]}\rangle_{emb}$

l. $[\![\text{Adj}]\!] = \lambda x.\lambda w.delicious(x)$ in $w$. [1]

m. $[\![\text{AdjP}]\!] = [\![\text{Adj}]\!]([\![\text{DP}]\!])$

$= \lambda w.\iota z.delicious(z)$ in $w$ $\wedge$

$\exists t'.t' < t_0 \wedge send(z)([\![me]\!]^c)([\![you]\!]^c) \wedge melon(z)$ in $w$ at $t'$.$\bullet\langle x_{[\text{1st}]}, 1, y_{[\text{2nd}]}\rangle$

n. $[\![[\text{PRES}]]\!] = \lambda p_{wt}.\lambda w.p(w) = 1$ at $t_0$.

[1] For the simplicity of computation, I do not assume the degree semantics here. See Kennedy (2007) for the details of degree semantics.

o. $[\![\text{TP}]\!] = [\![\text{T}]\!]([\![\text{AdjP}]\!])$

$= \lambda w.\iota z.delicious(z)$ in $w$ at $t_0$ $\wedge$

$\exists t'.t' < t_0 \wedge send(z)([\![me]\!]^c)([\![you]\!]^c) \wedge melon(z)$ in $w$ at $t'.\bullet\langle x_{\text{[1st]}}, 1, y_{\text{[2nd]}}\rangle$

p. $[\![des^A]\!] \in D_{\langle wt,\langle wt\bullet\varepsilon\rangle\rangle} = \lambda p_{wt}.\lambda w.p(w) \bullet \langle\text{[1st]}, 1, \text{[2nd]}\rangle$

q. $[\![\text{c}]\!] \in D_{\langle\langle wt\bullet\varepsilon\rangle,\langle wt\bullet\langle e,e,\varepsilon\rangle\rangle}$

$= \lambda p_{wt}.\lambda w.p(w) \bullet \lambda R_\varepsilon.\lambda y_e.\lambda x_e.x = \text{[1st]} \wedge y = \text{[2nd]} \wedge R$

r. $[\![\text{c}]\!] \circ [\![des^A]\!]$ (Function Composition)

$= (\boxed{wt \bullet \varepsilon} \rightarrow (wt \bullet e, e\varepsilon)) \circ (wt \rightarrow \boxed{wt \bullet \varepsilon})$

$= (wt \rightarrow (wt \bullet e, e\varepsilon))$

$= \lambda p_{wt}.\lambda w.p(w) \bullet \lambda y_e.\lambda x_e.\ x = \text{[1st]} \wedge y = \text{[2nd]} \wedge \langle\text{[1st]}, 1, \text{[2nd]}\rangle_{matrix}$

s. $[\![\text{c'}_1]\!] = [\![\text{c}]\!]([\![\text{TP}]\!]))$

$= \lambda w.\iota z.delicious(z)$ in $w$ at $t_0$ $\wedge$

$\exists t'.t' < t_0 \ \wedge\ send(z)([\![me]\!]^c)([\![you]\!]^c) \ \wedge\ melon(z)$ in $w$ at $t'$.

$$\bullet\lambda y_e.\lambda x_e.x = \text{[1st]} \wedge y = \text{[2nd]} \wedge \begin{bmatrix} \langle\text{[1st]}, 1, \text{[2nd]}\rangle_{emb} \\ \langle\text{[1st]}, 1, \text{[2nd]}\rangle_{main} \end{bmatrix}$$

t. $[\![\text{c'}_2]\!] = [\![\text{c'}_1]\!](\text{Satoshi})$

$= \lambda w.\iota z.delicious(z)$ in $w$ at $t_0$ $\wedge$

$\exists t'.t' < t_0 \ \wedge\ send(z)([\![me]\!]^c)([\![you]\!]^c) \ \wedge\ melon(z)$ in $w$ at $t'$.

$$\bullet\lambda x_e.x = \text{[1st]} \wedge \text{Satoshi} = \text{[2nd]} \wedge \begin{bmatrix} \langle\text{[1st]}, 1, \text{[2nd]}\rangle_{emb} \\ \langle\text{[1st]}, 1, \text{[2nd]}\rangle_{main} \end{bmatrix}$$

u. $[\![\text{cP}]\!] = [\![\text{c'}_2]\!](\text{Keita})$

$= \lambda w.\iota z.delicious(z)$ in $w$ at $t_0$ $\wedge$

$\exists t'.t' < t_0 \ \wedge\ send(z)([\![me]\!]^c)([\![you]\!]^c) \ \wedge\ melon(z)$ in $w$ at $t'$.

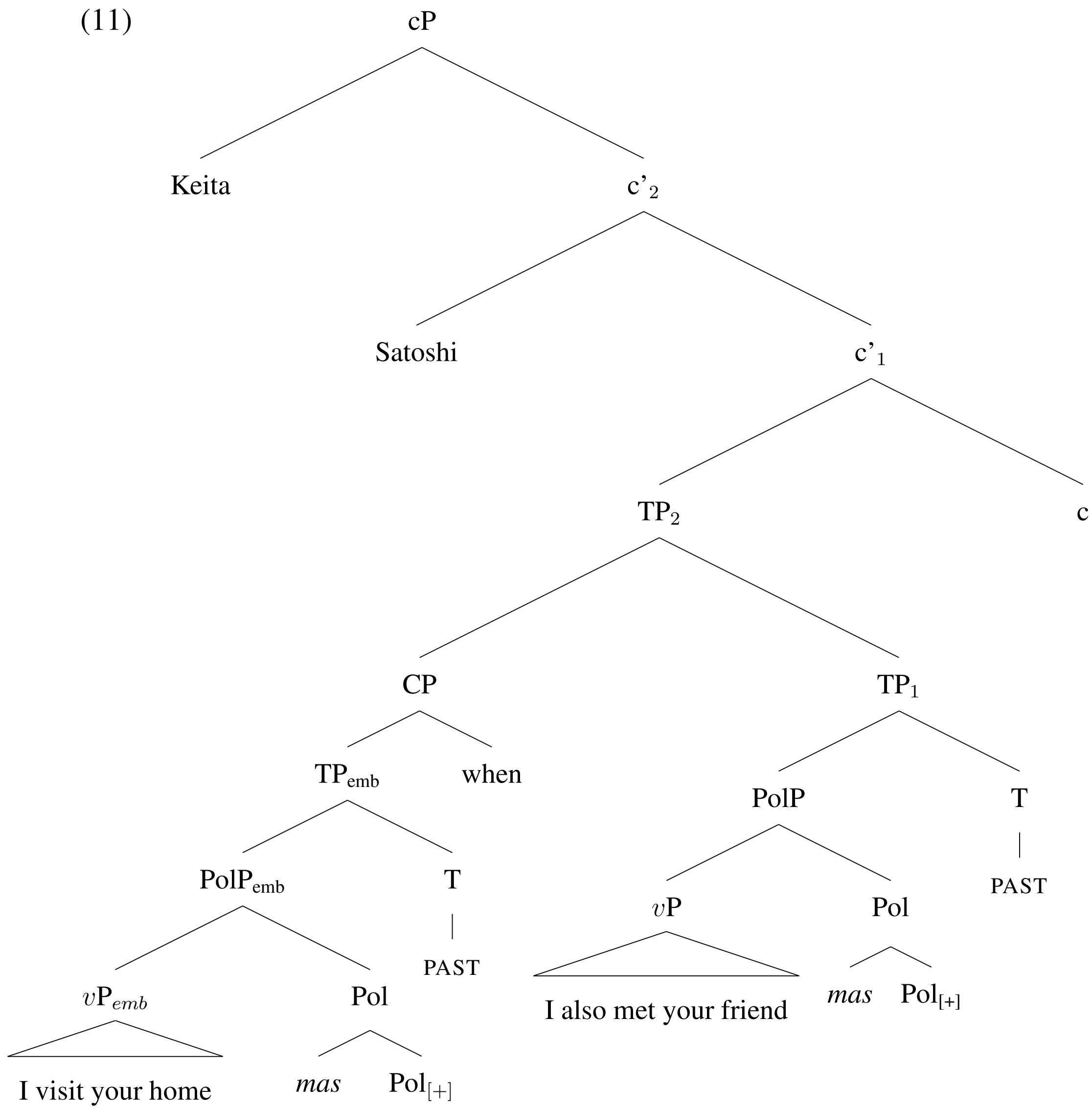
$$\bullet\text{Keita} = \text{[1st]} \wedge \text{Satoshi} = \text{[2nd]} \wedge \begin{bmatrix} \langle\text{[1st]}, 1, \text{[2nd]}\rangle_{emb} \\ \langle\text{[1st]}, 1, \text{[2nd]}\rangle_{main} \end{bmatrix}$$

### B.2.2 Temporal Adjuncts

(10) [Izen, otaku-ni ukagai-mashi-ta toki], otomodachi-ni-mo
before your.house-DAT come.OH-UH-PAST when your.friend-DAT-also
o-ai-shi-mashi-ta.
HON-meet-do-UH-PAST

'When I visited your home before, I met your friend, too.'[2]

(11)




[2] In this illustration, I ignore the meaning of the tense makers for the sake of simplicity.

(12) a. $[\![v\mathrm{P}_{emb}]\!] = \lambda w.$ I visit your home in $w$.

b. $[\![\textit{mas}]\!] = \lambda p_{wt}.\lambda w.p(w) \bullet \langle [1\mathrm{st}], 1, [2\mathrm{nd}] \rangle$

c. $[\![\mathrm{Pol}_{[+]}]\!] = \lambda p_{wt}.\lambda w.p(w)$

d. $[\![\mathrm{Pol}]\!] = [\![\textit{mas}]\!] \circ [\![\mathrm{Pol}_{[+]}]\!]$ (Function Composition)

$= (wt \rightarrow (wt \bullet \varepsilon)) \circ (wt \rightarrow wt)$

$= (wt \rightarrow (wt \bullet \varepsilon))$

$= \lambda p_{wt}.\lambda w.p(w) \bullet \langle [1\mathrm{st}], 1, [2\mathrm{nd}] \rangle$

e. $[\![\mathrm{PolP}_{emb}]\!] = [\![\mathrm{Pol}]\!]([\![v\mathrm{P}_{emb}]\!]) = [\![\mathrm{TP}_{emb}]\!]$

$= \lambda w.$ I visit your home in $w$. $\bullet \langle [1\mathrm{st}], 1, [2\mathrm{nd}] \rangle$

f. $[\![\mathrm{when}]\!] = \lambda p_{wt}.\lambda q_{wt}.\lambda w.\exists t.p(w)$ at $t \wedge q(w)$ at $t$.

g. $[\![\mathrm{CP}]\!] = [\![\mathrm{when}]\!]([\![\mathrm{TP}_{emb}]\!])$

$= \lambda q_{wt}.\lambda w.\exists t.$ I visit your home in $w$ at $t \wedge q(w)$ at $t$. $\bullet \langle [1\mathrm{st}], 1, [2\mathrm{nd}] \rangle_{emb}$

h. $[\![v\mathrm{P}]\!] = \lambda w.$ I met your friend in $w$.

i. $[\![\mathrm{PolP}]\!] = [\![\mathrm{Pol}]\!]([\![v\mathrm{P}]\!]) = [\![\mathrm{TP}_1]\!]$

$= \lambda w.$ I met your friend in $w \bullet \langle [1\mathrm{st}], 1, [2\mathrm{nd}] \rangle_{main}$.

j. $[\![\mathrm{TP}_2]\!] = [\![\mathrm{CP}]\!]([\![\mathrm{TP}_1]\!])$

$= \lambda w.\exists t.$ I visit your home in $w$ at $t \wedge$ I met your friend in $w$ at $t. \bullet \begin{bmatrix} \langle [1\mathrm{st}], 1, [2\mathrm{nd}] \rangle_{emb} \\ \langle [1\mathrm{st}], 1, [2\mathrm{nd}] \rangle_{main} \end{bmatrix}$

k. $[\![\mathrm{c}]\!] \in D_{\langle\langle wt \bullet \varepsilon\rangle, \langle wt \bullet \langle e,e,\varepsilon\rangle\rangle\rangle}$

$= \lambda p_{wt}.\lambda w.p(w) \bullet \lambda R_{\varepsilon}.\lambda y_e.\lambda x_e.x = [1\mathrm{st}] \wedge y = [2\mathrm{nd}] \wedge R$

l. $[\![\mathrm{c'}_1]\!] = [\![\mathrm{c}]\!]([\![\mathrm{TP}_2]\!])$

$= \lambda w.\exists t.$ I visit your home in $w$ at $t$ $\wedge$ I met your friend in $w$ at $t$.

$\bullet \lambda y_e.\lambda x_e.x = [1\mathrm{st}] \wedge y = [2\mathrm{nd}] \wedge \begin{bmatrix} \langle [1\mathrm{st}], 1, [2\mathrm{nd}] \rangle_{emb} \\ \langle [1\mathrm{st}], 1, [2\mathrm{nd}] \rangle_{main} \end{bmatrix}$

m. $[\![\mathrm{c'}_2]\!] = [\![\mathrm{c'}_1]\!](\mathrm{Satoshi})$

$= \lambda w.\exists t.$ I visit your home in $w$ at $t$ $\wedge$ I met your friend in $w$ at $t$.

$\bullet \lambda x_e.x = [1\mathrm{st}] \wedge \mathrm{Satoshi} = [2\mathrm{nd}] \wedge \begin{bmatrix} \langle [1\mathrm{st}], 1, [2\mathrm{nd}] \rangle_{emb} \\ \langle [1\mathrm{st}], 1, [2\mathrm{nd}] \rangle_{main} \end{bmatrix}$

n. $[\![\text{cP}]\!] = [\![\text{c'}_2]\!](\text{Keita})$

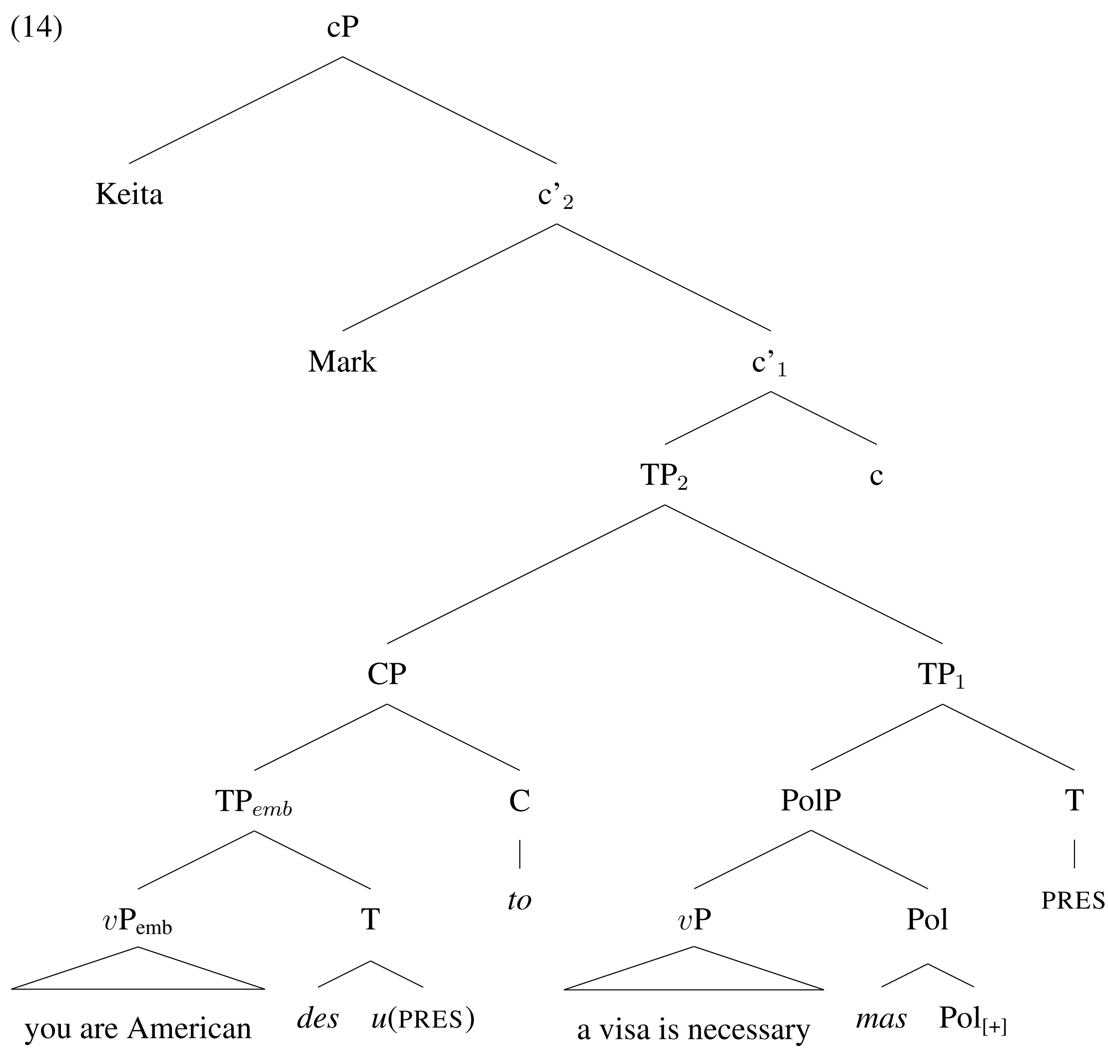
$= \lambda w.\exists t.$ I visit your home in $w$ at $t$ $\wedge$ I met your friend in $w$ at $t$.

$$\bullet \text{Keita} = \text{[1st]} \wedge \text{Satoshi} = \text{[2nd]} \wedge \begin{bmatrix} \langle \text{[1st]}, 1, \text{[2nd]} \rangle_{emb} \\ \langle \text{[1st]}, 1, \text{[2nd]} \rangle_{main} \end{bmatrix}$$

### B.2.3 If-clauses

(13) Kokuseki-ga Amerika-desu to biza-ga iri-mas-u
nationality-NOM America-UH.COP if visa-NOM need-UH-PRES
'If you are an Ametican, a visa is necessary. '

(14)



(15) a. $[\![v\text{P}_{emb}]\!] = \lambda w.American([\![you]\!]^c)$ in $w$

b. $[\![\textit{des}^N]\!] \in D_{\langle wt,\langle wt\bullet\varepsilon\rangle\rangle} = \lambda p_{wt}.\lambda w.p(w) \bullet \langle[\text{1st}], 1, [\text{2nd}]\rangle$

c. $[\![\text{PRES}]\!] \in D_{\langle wt,wt\rangle} = \lambda p_{wt}.\lambda w.p(w) = 1$ at $t_0$.

d. $[\![\textit{des-u}]\!] = [\![\textit{des}]\!] \circ [\![\text{PRES}]\!]$

$= (\boxed{wt} \rightarrow (wt \bullet \varepsilon)) \circ (wt \rightarrow \boxed{wt})$

$= (wt \rightarrow (wt \bullet \varepsilon))$

$= \lambda p_{wt}.\lambda w.p(w) = 1$ at $t_0 \bullet \langle[\text{1st}], 1, [\text{2nd}]\rangle$

e. $[\![\text{TP}_{emb}]\!] = [\![\text{T}]\!]([\![v\text{P}_{emb}]\!])$

$= \lambda w.American([\![you]\!]^c)$ in $w$ at $t_0 \bullet \langle[\text{1st}], 1, [\text{2nd}]\rangle_{emb}$

f. $[\![\text{to}]\!] = \lambda P_{wt}.\lambda Q_{wt}.\lambda w.P(w) \rightarrow Q(w)$.

g. $[\![\text{CP}]\!] = [\![\text{to}]\!]([\![\text{TP}_{emb}]\!])$

$= \lambda Q_{wt}.\lambda w.American([\![you]\!]^c)$ in $w$ at $t_0 \rightarrow Q(w). \bullet \langle[\text{1st}], 1, [\text{2nd}]\rangle_{emb}$

h. $[\![v\text{P}]\!] = \lambda w.necessary(visa)$ in $w$.

i. $[\![\textit{mas}]\!] = \lambda p_{wt}.\lambda w.p(w) \bullet \langle[\text{1st}], 1, [\text{2nd}]\rangle$

j. $[\![\text{Pol}_{[+]}]\!] = \lambda p_{wt}.\lambda w.p(w)$

k. $[\![\text{Pol}]\!] = [\![\textit{mas}]\!] \circ [\![\text{Pol}_{[+]}]\!]$ (Function Composition)

$= \lambda p_{wt}.\lambda w.p(w) \bullet \langle[\text{1st}], 1, [\text{2nd}]\rangle$

l. $[\![\text{PolP}]\!] = [\![\text{Pol}]\!]([\![v\text{P}]\!])$

$= \lambda w.necessary(visa)$ in $w. \bullet \langle[\text{1st}], 1, [\text{2nd}]\rangle_{matrix}$

m. $[\![\text{PRES}]\!] = \lambda p_{wt}.\lambda w.p(w) = 1$ at $t_0$.

n. $[\![\text{TP}_1]\!] = [\![\text{T}]\!]([\![\text{PolP}]\!])$

$= \lambda w.necessary(visa)$ in $w$ at $t_0. \bullet \langle[\text{1st}], 1, [\text{2nd}]\rangle_{matrix}$

o. $[\![\text{TP}_2]\!] = [\![\text{CP}]\!]([\![\text{TP}_1]\!])$

$= \lambda w.American([\![you]\!]^c)$ in $w$ at $t_0 \rightarrow necessary(visa)$ in $w$ at $t_0$.

$$\bullet \begin{bmatrix} \langle[\text{1st}], 1, [\text{2nd}]\rangle_{emb} \\ \langle[\text{1st}], 1, [\text{2nd}]\rangle_{main} \end{bmatrix}$$

p. $[\![\text{c}]\!] \in D_{\langle\langle wt\bullet\varepsilon\rangle,\langle wt\bullet\langle e,e,\varepsilon\rangle\rangle}$

$= \lambda p_{wt}.\lambda w.p(w) \bullet \lambda R_\varepsilon.\lambda y_e.\lambda x_e.x = [\text{1st}] \wedge y = [\text{2nd}] \wedge R$

q. $[\![c'_1]\!] = [\![c]\!]([\![TP_2]\!])$

$= \lambda w.American([\![you]\!]^c)$ in $w$ at $t_0 \rightarrow necessary(visa)$ in $w$ at $t_0$.

$$\bullet \lambda y_e.\lambda x_e.x = \text{[1st]} \wedge y = \text{[2nd]} \wedge \begin{bmatrix} \langle \text{[1st]}, 1, \text{[2nd]} \rangle_{emb} \\ \langle \text{[1st]}, 1, \text{[2nd]} \rangle_{main} \end{bmatrix}$$

r. $[\![c'_2]\!] = [\![c'_1]\!]$(Mark)

$= \lambda w.American([\![you]\!]^c)$ in $w$ at $t_0 \rightarrow necessary(visa)$ in $w$ at $t_0$.

$$\bullet \lambda x_e.x = \text{[1st]} \wedge \text{Mark} = \text{[2nd]} \wedge \begin{bmatrix} \langle \text{[1st]}, 1, \text{[2nd]} \rangle_{emb} \\ \langle \text{[1st]}, 1, \text{[2nd]} \rangle_{main} \end{bmatrix}$$

s. $[\![cP]\!] = [\![c'_2]\!]$(Keita)

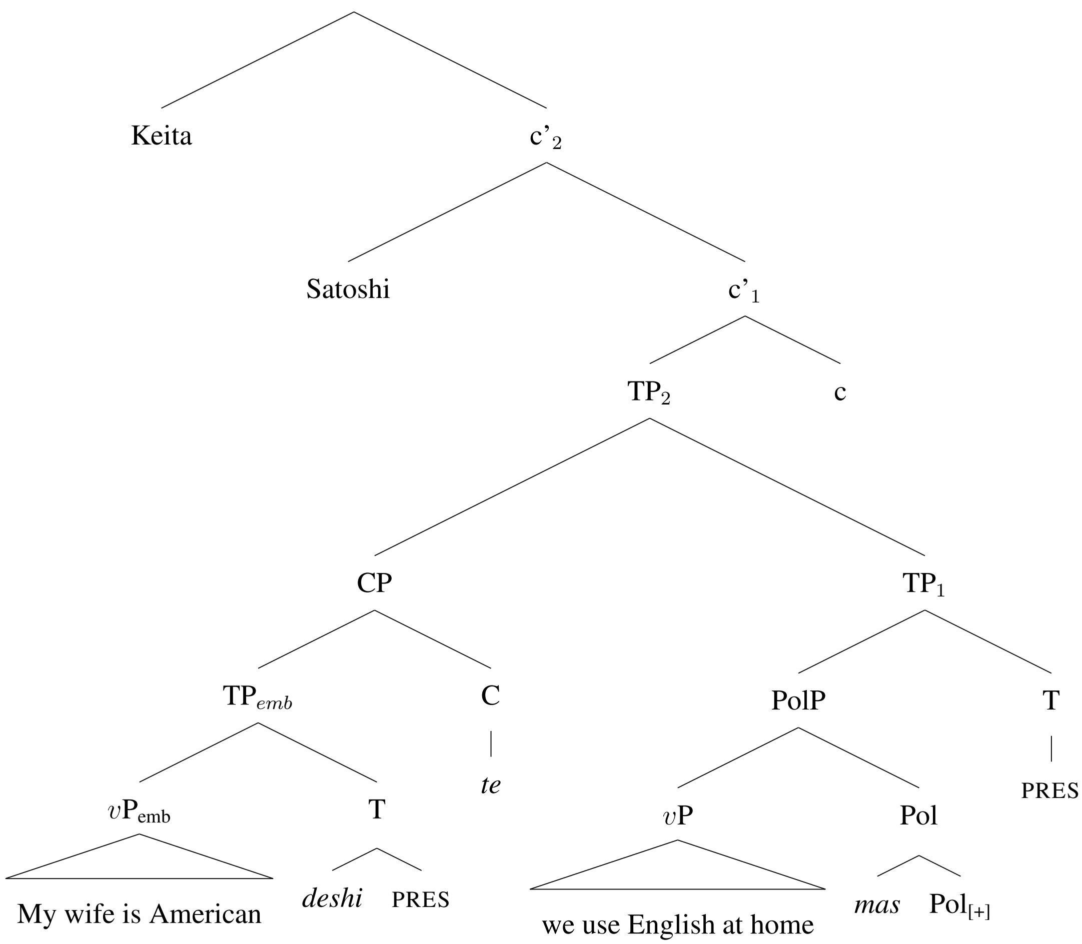
$= \lambda w.American([\![you]\!]^c)$ in $w$ at $t_0 \rightarrow necessary(visa)$ in $w$ at $t_0$.

$$\bullet \text{Keita} = \text{[1st]} \wedge \text{Mark} = \text{[2nd]} \wedge \begin{bmatrix} \langle \text{[1st]}, 1, \text{[2nd]} \rangle_{emb} \\ \langle \text{[1st]}, 1, \text{[2nd]} \rangle_{main} \end{bmatrix}$$

### B.2.4 *te*-Gerundives

(16) [Tsuma-ga amerikajin-**deshi**-te,] ie-de-mo eigo-o
wife-NOM American-COP.UH-GERUND, home-LOC-also English-ACC
tsukatte-ori-mas-u.
use-be.OH-UH-PRES
'My wife being American, we use English at home.'

(17)




(18) a. $[\![v\text{P}_{emb}]\!] = \lambda w.$ My wife is American in $w$.

b. $[\![des^N]\!] \in D_{\langle wt,\langle wt\bullet\varepsilon\rangle\rangle} = \lambda p_{wt}.\lambda w.p(w) \bullet \langle [\text{1st}], 1, [\text{2nd}] \rangle$

c. $[\![\text{PRES}]\!] \in D_{\langle wt,wt\rangle} = \lambda p_{wt}.\lambda w.p(w) = 1$ at $t_0$.

d. $[\![deshi\text{-}\varnothing]\!] = [\![des]\!] \circ [\![\text{PRES}]\!]$

$= (\boxed{wt} \to (wt \bullet \varepsilon)) \circ (wt \to \boxed{wt})$

$= (\ wt \rightarrow (wt \bullet \varepsilon))$

$= \lambda p_{wt}.\lambda w.p(w) = 1$ at $t_0 \bullet \langle$[1st]$, 1,$ [2nd]$\rangle$

e. $[\![\text{TP}_{emb}]\!] = [\![\text{T}]\!]([\![v\text{P}_{emb}]\!])$

$= \lambda w.$ My wife is American in $w$ at $t_0 \bullet \langle$[1st]$, 1,$ [2nd]$\rangle_{emb}$

f. $[\![te]\!] = \lambda P_{wt}.\lambda Q_{wt}.\lambda w.P(w) = 1 \wedge Q(w) = 1.$

g. $[\![\text{CP}]\!] = [\![\text{to}]\!]([\![\text{TP}_{emb}]\!])$

$= \lambda Q_{wt}.\lambda w.$ My wife is American in $w$ at $t_0 = 1 \wedge Q(w) = 1 \bullet \langle$[1st]$, 1,$ [2nd]$\rangle_{emb}$

h. $[\![v\text{P}]\!] = \lambda w.$ we use English at home in $w$.

i. $[\![mas]\!] = \lambda p_{wt}.\lambda w.p(w) \bullet \langle$[1st]$, 1,$ [2nd]$\rangle$

j. $[\![\text{Pol}_{[+]}]\!] = \lambda p_{wt}.\lambda w.p(w)$

k. $[\![\text{Pol}]\!] = [\![mas]\!] \circ [\![\text{Pol}_{[+]}]\!]$ (Function Composition)

$= \lambda p_{wt}.\lambda w.p(w) \bullet \langle$[1st]$, 1,$ [2nd]$\rangle$

l. $[\![\text{PolP}]\!] = [\![\text{Pol}]\!]([\![v\text{P}]\!])$

$= \lambda w.$ we use English at home in $w$. $\bullet \langle$[1st]$, 1,$ [2nd]$\rangle_{matrix}$

m. $[\![[\text{PRES}]]\!] = \lambda p_{wt}.\lambda w.p(w) = 1$ at $t_0$.

n. $[\![\text{TP}_1]\!] = [\![\text{T}]\!]([\![\text{PolP}]\!])$

$= \lambda w.$ we use English at home in $w$ at $t_0$. $\bullet \langle$[1st]$, 1,$ [2nd]$\rangle_{matrix}$

o. $[\![\text{TP}_2]\!] = [\![\text{CP}]\!]([\![\text{TP}_1]\!])$

$= \lambda w.[$ My wife is American in $w$ at $t_0 \ \wedge$ we use English at home in $w$ at $t_0]$.

$$\bullet \begin{bmatrix} \langle[\text{1st}], 1, [\text{2nd}]\rangle_{emb} \\ \langle[\text{1st}], 1, [\text{2nd}]\rangle_{main} \end{bmatrix}$$

p. $[\![\text{c}]\!] \in D_{\langle\langle wt \bullet \varepsilon\rangle, \langle wt \bullet \langle e,e,\varepsilon\rangle\rangle\rangle}$

$= \lambda p_{wt}.\lambda w.p(w) \bullet \lambda R_{\varepsilon}.\lambda y_e.\lambda x_e.x =$ [1st] $\wedge\ y =$ [2nd] $\wedge\ R$

q. $[\![\text{c'}_1]\!] = [\![\text{c}]\!]([\![\text{TP}_2]\!])$

$= \lambda w.[$ My wife is American in $w$ at $t_0 \ \wedge$ we use English at home in $w$ at $t_0]$.

$$\bullet \lambda y_e.\lambda x_e.x = [\text{1st}] \wedge y = [\text{2nd}] \wedge \begin{bmatrix} \langle[\text{1st}], 1, [\text{2nd}]\rangle_{emb} \\ \langle[\text{1st}], 1, [\text{2nd}]\rangle_{main} \end{bmatrix}$$

r. $[\![$c'$_2]\!]$ = $[\![$c'$_1]\!]$(Mark)

= $\lambda w.[$ My wife is American in $w$ at $t_0$ $\wedge$ we use English at home in $w$ at $t_0]$.

$$\bullet\lambda x_e.x = \text{[1st]} \wedge \text{Mark} = \text{[2nd]} \wedge \begin{bmatrix} \langle \text{[1st]}, 1, \text{[2nd]} \rangle_{emb} \\ \langle \text{[1st]}, 1, \text{[2nd]} \rangle_{main} \end{bmatrix}$$

s. $[\![$cP$]\!]$ = $[\![$c'$_2]\!]$(Keita)

= $\lambda w.[$ My wife is American in $w$ at $t_0$ $\wedge$ we use English at home in $w$ at $t_0]$.

$$\bullet\text{Keita} = \text{[1st]} \wedge \text{Mark} = \text{[2nd]} \wedge \begin{bmatrix} \langle \text{[1st]}, 1, \text{[2nd]} \rangle_{emb} \\ \langle \text{[1st]}, 1, \text{[2nd]} \rangle_{main} \end{bmatrix}$$