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Japanese Ellipsis and Discourse Coherence: A Minimalist Reanalysis under Free-Transfer

by

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“From here on out, I let my dissertation enjoy his trip alone in the world of linguistics. Sorry, I didn’t let go of you sooner.”

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Abstract

This dissertation investigates licensing mechanisms of ellipsis. To this end, I focus on null arguments and null adjuncts in Japanese, whose theoretical status has long been actively discussed in the generative literature on null anaphora. The first part of this dissertation is dedicated to the discussion on the *pro*-drop vs. Verb-Stranding VP-Ellipsis vs. Argument Ellipsis debate concerning the syntax of Japanese null arguments. I bring back to light the importance of more careful analyses of discourses where null anaphora occur, and propose a discourse condition within the Question Under Discussion framework (Roberts 1996/2012). Specifically, I argue that null anaphora in general requires the target phrase to be backgrounded in a coherent discourse. I then show that the seemingly mysterious interpretive properties of null arguments reported in the literature are actually explained by the proposed discourse condition. Additionally, a set of data examined from this novel perspective is shown to support the Argument Ellipsis analysis over the *pro*-drop and Verb-Stranding VP-Ellipsis analyses. Further, taking into account the discourse factors that may have been overlooked in previous studies reveals that the syntax of AE is maximally simple; it can apply freely to arguments in Japanese syntax. Extending the discourse-based analysis, I examine data on null adjuncts. Although null adjuncts have recently been known to exhibit even more puzzling behaviors in Japanese, I demonstrate that licensing of null adjuncts is also accounted for by the current Question Under Discussion-based analysis. Given this, I also discuss in detail the syntactic mechanisms behind the derivation of null arguments. I first present arguments for the structural approach over the non-structural “purely pragmatic” approach to null adjuncts (Landau 2023). I then disprove the syntactic Verb-Stranding VP-Ellipsis analysis of null adjuncts (Funakoshi 2016, among others) and show that the alternative Adjunct Ellipsis analysis (Oku 2016; Tanabe and Kobayashi to appear, among others) is correct. Finally, I explore in more detail the syntactic mechanisms involved in Argument Ellipsis and Adjunct Ellipsis in Japanese. I put forth a unified PF-deletion analysis of them,

in which deletion operation applies to the units of Transfer. The proposed “Transfer-based” account of Japanese ellipsis has an implication to possible parametrizations concerning the role of syntax in ellipsis-licensing in the Japanese-type vs. English-type languages. Overall, the present study sheds new light on the syntax-semantics/pragmatics interface in ellipsis-licensing. Most importantly, the study reminds ourselves the importance of studying syntax by carefully examining the interactions of syntax with other modules.

List of abbreviations

ACC	accusative
AE	Argument Ellipsis
AdjE	Adjunct Ellipsis
ASP	aspect
CL	classifier
CONT	contrastive marker
COP	copula
DAT	dative
GEN	genitive
LF	Logical Form
NEG	negation
NML	nominalizer
NOM	nominative
PF	Phonetic Form
Q	question particle
POL	polarity
PRS	present tense
PST	past tense
SFP	sentence final particle
TOP	topic marker
VSVPE	Verb-Stranding VP-Ellipsis

Chapter 1

INTRODUCTION

When people use a language to communicate, their utterances are full of seemingly incomplete expressions such as (1a)-(1c). In each sentence, certain linguistic materials are omitted in the second clause, as indicated by *e*. Nonetheless, it allows the speaker to convey the intended meaning to their interlocutor.¹

- (1) a. Jim studies pragmatics but Tim doesn't *e*.
- b. Jim studies pragmatics and Tim *e* syntax.
- c. Someone taught pragmatics to Jim but I don't know who *e*.

Astonishingly, using such incomplete forms normally does not impede our communication. On the contrary, it seems to enable us to communicate in more efficient and economical ways; the hearer straightforwardly understands that (1a)-(1c) are intended to communicate the meaning of (2a)-(2c), respectively.

- (2) a. Jim studies pragmatics but Tim doesn't study pragmatics.
- b. Jim studies pragmatics and Tim studies syntax.
- c. Someone taught pragmatics to Jim but I don't know who taught pragmatics to him.

Ellipsis—from the Ancient Greek *élleipsis*, meaning “to leave out”—is a cover term for a wide range of linguistic phenomena where meanings seem to exist without form, as in (1).

On a daily basis, ellipsis phenomena may seem trivial for many “competent” language users. However, it turns out that the question of why we are able to understand more than what is actually said

¹In this dissertation, *e* indicates an empty position where unexpressed linguistic materials are potentially interpreted. Note that *e* does not presume the presence of phonetically null syntactic structure in the empty position.

deserves a serious scientific inquiry. The primary concern of contemporary linguistics has been to construct an explanatory theory for the mapping relation between linguistic forms (typically sounds) and their meanings, which is commonly said to be ascribed to Aristotle. Thus, ellipsis raises a number of linguistically significant questions such as the followings: How can meaning exist without form?, How do two or more distinct forms (e.g., (1a) and (2a)) map onto a single meaning?, What are the actual cognitive processes involved in *ellipsis resolution*, or the inference procedure responsible for understanding elliptical sentences?, etc. Approaches to these issues greatly vary across the field of linguistics depending on the theoretical framework one adopts. Yet, one consensus may be that ellipsis is a multi-dimensional phenomenon, which results from complex interactions between different linguistic modules. Accordingly, the central role that ellipsis plays in recent linguistics is to uncover the workings of each module and its relation to the other modules as well as its relation to the overall architecture of the grammar.

This dissertation presents investigations into licensing mechanisms of ellipsis in Japanese within the framework of generative grammar initiated by Chomsky (1955, 1957) and developed in subsequent works (Chomsky 1995b, 2000, 2004, *inter alia*).²

1.1 Main Issues

In studying Japanese ellipsis, I focus on constructions in which arguments of a predicate as well as adjuncts such as adverbials are phonetically null. First, (3b) exhibits a null argument (indicated by *e*). The object argument of the verb *araw* ‘wash’ is not expressed but it is semantically present; (3b) is naturally interpreted as Mary did not wash a car.

- (3) a. John-wa kuruma-o arat-ta.
 John-TOP car-ACC wash-PST
 ‘John washed a car.’
 b. Mary-wa *e* araw-anakat-ta.
 Mary-TOP wash-NEG-PST
 lit. ‘Mary did not wash.’

Since the early years of generative grammar, a large amount of research has studied the syntax of null

²Readers who are interested in further developments and recent updates in generative grammar are referred to Chomsky et al. (2019), Chomsky (2020), Chomsky (2021), Chomsky (2023), among others.

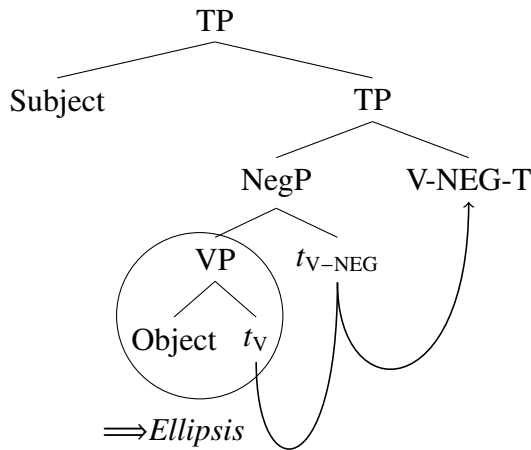
arguments in Japanese (see Takahashi 2016; Saito 2017; Sakamoto 2017, for a review).

In the last three decades or so, central to the discussion on Japanese null arguments has been the issue of how null object constructions such as (3b) is derived in syntax. One traditional analysis is the *pro*-drop analysis in (4), where a phonetically empty proform called *pro* fills in the object position (Kuroda 1965; Ohso 1976; Hoji 1985, 1998; Kurafuji 1999, 2019; Tomioka 2003, 2014; Kasai 2014).

(4) [TP Subject [TP [NegP [VP *pro* V] NEG] T]]

Others argue that null arguments in Japanese are better analyzed by an ellipsis analysis. In particular, there are mainly two analyses of Japanese null objects. One is the so-called Verb-Stranding VP-Ellipsis (VSVPE) analysis submitted by Otani and Whitman (1991). They propose that the null object in (3b) is actually a “null VP in disguise” and has the structure in (5). The null object is derived via VP-ellipsis which takes place after V head escapes from the ellipsis site by head raising to T (see also Huang 1987, 1991, for this line of analysis in Chinese).

(5)



In this way, VSVPE derives the surface form in (3b) where the object is null but the amalgam of the predicative heads, V-NEG-T is pronounced. Proponents of this analysis include Funakoshi (2012, 2013, 2014, 2016), Hayashi (2015), Hayashi and Fujii (2015), Abe (2019), among others.³

An alternative analysis to the VSVPE analysis is the Argument Ellipsis (AE) analysis put forth by Oku (1998) (see Kim 1999, who independently proposed the AE analysis in Korean). The AE analysis

³For critical discussions of the VSVPE analysis in Japanese, see Kobayashi (2020), Tanaka (2023), Tanabe and Kobayashi (2024a), and Tanabe and Kobayashi (to appear).

posits that in cases such as (3b), ellipsis applies to the object argument itself rather than to the VP which contains it, as depicted in (6).⁴

(6) [TP Subject [TP [NegP [VP ~~Object~~ V] NEG] T]]

Up until now, scholars have actively debated whether one of these three analyses is empirically and conceptually superior to the others, and yet the results of relevant studies are often mixed and inconclusive. In fact, not a few scholars have made empirical arguments that support the AE analysis over the *pro*-drop and/or VSVPE analysis (Takahashi 2006, 2008b, 2020; Saito 2007, 2017; Oku 2016; Takita 2018; Sakamoto 2016b,a, 2019; Maeda 2019; Sato 2020b; Tanabe and Kobayashi 2023, 2024b, among others). Nevertheless, others have brought to light the existence of null arguments that have peculiar interpretive properties which seems to be unexplained by the AE analysis (Hoji 1998; Funakoshi 2012, 2013; Tomioka 2014; Sato and Hayashi 2018; Sato and Maeda 2021, *inter alia*). Given the state of affairs, uncovering the syntax of null arguments in Japanese remains as a central concern of generativists studying Japanese ellipsis.

In Japanese, not only arguments of a predicate but also adjuncts such as adverbials can be null (Kuno 1995; Kamio and Takami 1998; Oku 2016; Funakoshi 2016; Hayashi and Fujii 2015; Sato and Hayashi 2018). For example, in (7b), not only the unpronounced object but also the unpronounced adjunct *teineini* ‘carefully’ is included in the interpretation. (7b) has the interpretation that Mary did not wash a car in a careful manner (see Funakoshi 2016).

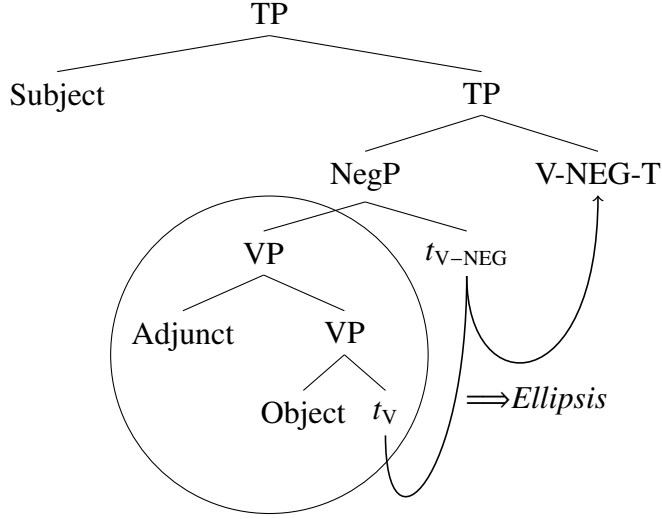
- (7) a. John-wa *teineini* kuruma-o arat-ta.
 John-TOP carefully car-ACC wash-PST
 ‘John washed a car carefully.’
 b. Mary-wa *e e* araw-anak-atta.
 Mary-TOP wash-NEG-PST
 lit. ‘Mary didn’t wash.’

Since null adjuncts exhibit even more perplex behaviors than null arguments, recent years have seen a growing body of interests in the licensing mechanisms of Japanese null adjuncts (see Tanabe and Kobayashi 2024a, for a review). As is also the case with null arguments, one analysis of null adjuncts

⁴Throughout, a strikethrough indicates non-pronunciation at PF. It does not presume a particular analysis of ellipsis such as the LF-copy or PF-deletion analysis.

is the VSVPE analysis in (8) (Hayashi 2015; Hayashi and Fujii 2015; Funakoshi 2016; Sato 2024a). By applying VP-ellipsis after V-raising, the adjunct can be elided along with the object, successfully deriving the surface form in (7b) (see also Sato and Hayashi 2018; Sato and Maeda 2021, for a Verb-Stranding TP-ellipsis analysis of null adjuncts).

(8)



However, others argue that just like null arguments are derived via AE as in (6), null adjuncts in Japanese are derived via an application of ellipsis to adjuncts (Oku 2016; Kobayashi 2020, 2024b; Tanabe and Kobayashi 2023, to appear). The *Adjunct Ellipsis* (AdjE) analysis of a VP-adjunct is depicted in (9), in which the adjunct and the object are elided via AdjE and AE, respectively.⁵

(9) [TP Subject [TP [VP ~~Adjunct~~ [VP ~~Object~~ V]] T]]

To this day, studies on the syntax of null arguments and adjuncts in Japanese have contributed a great deal to developing the theories of ellipsis as well as the theories of syntax itself. Against this backdrop, this dissertation investigates licensing mechanisms of null arguments and adjuncts in Japanese. I propose a unified account of them both in terms of discourse-pragmatics and syntax. To be more specific, in the first half of this dissertation, I put forward an analysis where AE and AdjE are pragmatically licensed under the condition in (10i) within the Question Under Discussion (QUD) framework of Roberts (1996/2012). In the second half of this dissertation, I submit an ellipsis analysis within the phase theory

⁵Collins (2015, 2017) and Kobayashi (2024a) propose the AdjE analysis of null adjuncts in English and Woo Park and Kwan Park (2018); Park (2022, 2023) propose the AdjE analysis in Korean.

(Chomsky 2000, 2001, 2004, 2008) and argue that AE and AdjE are both syntactically licensed under (10ii), which dictates that XP-ellipsis is possible if Transfer of XP does not cause any problem of interpretability at the interfaces.

(10) *Licensing Conditions on Ellipsis in Japanese*

In Japanese, ellipsis is licensed iff

- (i) **Condition at Conceptual-Intentional Interface:** XP is in the background of a coherent discourse.
- (ii) **Condition in Narrow Syntax:** Transfer of XP is legitimate.

The present study sheds new light on the intricate interfaces between syntax and semantic-pragmatics in ellipsis-licensing. Further, it also contributes to simplifying syntactic theories of ellipsis in ways that strictly conforms to the *Strong Minimalist Thesis* (SMT) (Chomsky 2010, 2015), which states that narrow syntax consists only of *Merge* and nothing else (see also Chomsky 2020, 2021, 2023; Narita and Fukui 2022).

1.2 Organization of the Dissertation

This dissertation is organized as follows. In Chapter 2, I emphasize the importance of considering discourse factors more carefully. I then propose a discourse condition on ellipsis, which requires that the target of ellipsis be backgrounded in a coherent discourse. I implement the discourse-based analysis within the QUD framework of Roberts (1996/2012).

In Chapter 3, I discuss data on null object constructions against the backdrop of the heated *pro*-drop vs. VSPVE vs. AE debate. I disprove the alleged evidence against the AE analysis. More specifically, I show that the AE analysis based on (10i) accounts for the apparently mysterious scopal interactions between two logical operators in a null object constructions. I also briefly discuss Maeda's (2019) syntactic analysis based on Scope Economy and Parallelism (Fox 2000) in relation to the present discourse-based analysis, touching on a possible implication to the syntax-pragmatics interface in ellipsis-licensing.

Chapter 4 and 5 are devoted to discussions on null adjuncts in Japanese. In Chapter 4, I take up the issue of whether the distributions of null adjuncts is better explained by a syntactic VSVPE analysis (Fu-

nakoshi 2016, among others) or a discourse-pragmatic analysis (Oku 2016; Landau 2023). I pursue the discourse-based analysis and argue that licensing of null adjuncts is also accounted for by the condition in (10i). Chapter 5 then goes on to discussing the syntax of null adjuncts in Japanese. I first present arguments for the structural approach over the recently proposed non-structural approach. I then provide pieces of evidence that null adjuncts are derived even when VSVPE is syntactically not an available option, and conclude that null adjuncts are derived via AdjE, which directly applies to adjuncts (just like AE applies to arguments) (Oku 2016; Tanabe and Kobayashi to appear, among others).

Chapter 6 then presents a more detailed analysis of the syntax of AE and AdjE. I submit that AE and AdjE can be given a unified account under a PF-deletion analysis, where deletion operation applies to the units of Transfer. For this purpose, I adopt a strictly minimalist view on the phase theory and assume that Transfer itself is unconstrained in narrow syntax (see Narita and Fukui 2022). Building on this assumption, I slightly revise the system of Transfer in Kobayashi (2022a) and argue that in Japanese, arguments and adjuncts can always be the Transfer-domain due to the lack of $[u\phi]$ in its lexicon; hence AE and AdjE are available in the language. The proposed analysis also accounts for the correlation between the unavailability of AE and the presence of ϕ -feature agreement in English (cf. Saito 2007; Takahashi 2020). The chapter concludes by briefly discussing remaining issues concerning the PF-deletion account of AdjE.

In Chapter 7, I summarize the dissertation with some concluding remarks. On the basis of the Transfer-based account of AE and AdjE, I provide a wider perspective on the syntax of ellipsis in Japanese, a “Transfer-Free” language, and give a speculation on possible parametrizations concerning the role of syntax in ellipsis-licensing in the Japanese-type vs. English-type languages.

Chapter 2

DISCOURSE CONDITION ON ELLIPSIS

In much of the syntactic literature on ellipsis, a large number of studies have focused on the syntactic processes in which ellipsis is licensed by referencing the immediately preceding antecedent clause (Sag 1976; Williams 1977; Fiengo and May 1994; Chung et al. 1995; Fox 2000; Chung 2006, 2013; Merchant 2013b, among others). On the other hand, it has been suggested that ellipsis-licensing also references semantic-pragmatic information (Sag and Hankamer 1984; Rooth 1992a; Tancredi 1992; Merchant 2001; Kehler 2002; Chung 2006, 2013; Merchant 2013b). Most prominently, recent studies have argued that ellipsis-licensing makes reference to a Question Under Discussion (QUD) in the sense of Roberts (1996/2012) (Barros 2014; Weir 2014; Kehler 2015, 2019; Kotek and Barros 2018; Park 2016; Bîlbîie 2019; Griffiths 2019, Tanabe and Hara 2021, Tanabe and Kobayashi 2023, 2024b; Kobayashi et al., 2024; Kobayashi et al., to appear, among others; but see Barros and Kotek 2019, for critical discussion on this view).⁶ Following this recent trend, I adopt the QUD framework in developing a discourse-based analysis.

This chapter proceeds as follows. In Section 2.1, I bring back to light the importance of a more careful consideration of discourse conditions on ellipsis. I argue that the discourse structure in which ellipsis occurs must always be characterized in an explicit way. Given this, Section 2.2 introduces the QUD framework and describes how discourse structures are characterized within this framework. In Section 2.3, I propose a discourse condition on ellipsis, which dictates that ellipsis generally requires the

⁶See also AnderBois (2011, 2014), Kertz (2013), and Thoms (2015) for similar semantic-pragmatic approaches to ellipsis that do not adopt the QUD framework.

target phrase to be included in the background of a coherent discourse.

2.1 Fundamental Discourse Conditions Reconsidered

In studying the licensing mechanisms of ellipsis, much attention has been paid to the ways in which syntactic principles govern licensing of null arguments (see Otani and Whitman 1991; Oku 1998; Takahashi 2006, 2020; Saito 2007, 2017; Sakamoto 2017; Funakoshi 2012, 2016; Sakamoto 2016a, 2019; Takita 2018; Abe 2019; Maeda 2019; Sato 2020b; Sato and Hayashi 2018; Sato and Maeda 2021, among many others). Not so much to our surprise, studies on null adjuncts also focused on syntactic licensing of null adjuncts (Oku 1998; Hayashi 2015; Hayashi and Fujii 2015; Funakoshi 2016; Sato and Hayashi 2018; Sato and Maeda 2021; Tanabe and Kobayashi 2024a). On the other hand, it has occasionally been suggested that discourse-pragmatic factors also play crucial roles in Japanese ellipsis (Kuno 1978, 1982; Kamio and Takami 1998; Oku 2016; Tanabe and Hara 2021; Tanabe and Kobayashi 2023, 2024b; Kobayashi et al. 2024; Tanabe 2024; Kobayashi et al. to appear). However, these authors are not alone in recognizing the roles of discourse factors in ellipsis-licensing. Importantly, while discourse-pragmatic aspects have attracted relatively little attention in discussing ellipsis-licensing in Japanese, previous studies must have presumed that in addition to syntactic licensing conditions, more general conditions on null anaphora (i.e., ellipsis and null proform replacement) also have to be satisfied as a prerequisite for a given constituent to be elided.

On the minimum assumption, null anaphora can be seen as the ultimate form of prosodic reduction, which expresses given or backgrounded information in the discourse (see Rooth 1992a; Tancredi 1992; Chomsky and Lasnik 1993). On this view, some kind of backgrounding requirement is always assumed as a necessary condition on null anaphora (see Oku 2016; Tanabe 2024, who bring up this point concerning licensing of Japanese null arguments and adjuncts). In addition, using null anaphora is an effective communicative strategy only when the conversation participants share common knowledge about what they are talking about; otherwise, ellipsis resolution is hard or impossible. Put another way, hearers' inferences on the intended meaning of unpronounced materials is dependent on the presumption that their interlocutors make coherent discourse moves (see Kehler 1995, 2000, 2015, 2019; Frazier and Clifton 2006; Clifton and Frazier 2018; Tanabe and Hara 2021; Tanabe 2024, among others). In this respect, it

may also be presumed (though often tacitly) that discourses where null anaphora are licensed are coherent ones. Accordingly, most (if not all) studies on ellipsis probably assume the fundamental condition on null anaphora in (1) as a prerequisite.

- (1) XP can be null iff it is in the background of a coherent discourse.

However, in the previous studies on Japanese null arguments and adjuncts, such a condition as (1) has often been assumed only tacitly when the focus of the study is on the syntax of ellipsis. For example, in discussing data such as (2), we usually do not discuss discourse conditions such as (1) in detail. Rather, such data are dealt with on a tacit agreement that researchers share an unwritten discourse context where the null object is licensed under (1).

- (2) a. John-wa kuruma-o arat-ta.
John-TOP car-ACC wash-PST
'John washed a car.'
- b. Mary-wa *e* araw-anakat-ta.
Mary-TOP wash-NEG-PST
lit. 'Mary did not wash.'

Put differently, when we read a narrative sequence in (2a)-(2b) and judge that the null object sentence is acceptable, we have in mind an implicit context in which the necessary discourse condition in (1) is satisfied (see Fodor 2002a,b, who convincingly clarifies this point). Indeed, when such an implicit context is not likely to be shared by everyone, contextual information is provided so that the readers are invited to share the context that the authors have in mind.

Naturally, a serious problem arises when no contextual information is provided. In such cases, in what context one understands the sentences is left to the happenstance of what context may or may not come to the readers' mind. Consequently, judgements significantly vary among speakers according to the context one has in mind. What is worse, there could be cases where unacceptability of elided sentences are blamed on the failure of syntactic licensing alone before we consider such discourse factors as backgrounding requirement and discourse coherence (see Kitagawa and Fodor 2003, 2006; Kitagawa 2017, for discussions on the effects of such implicit contexts on acceptability judgements). In order to overcome this methodological problem, it is necessary to make the discourse context explicit and make

sure that the discourse condition in (1) is satisfied in the first place before we explore often complicated syntactic factors.⁷ To ensure the satisfaction of the condition in (1), I propose to explicitly characterize the discourses for ellipsis data within the Question Under Discussion (QUD) framework (Roberts 1996/2012).

At first glance, ensuring the necessary discourse condition in (1) may seem trivial, since such conditions have always been presumed anyway. Nevertheless, later in Chapter 3 and 4, it turns out that reconsidering the condition in (1) in an explicit manner is no less important than considering syntactic factors. Reconsidering (1) reveals that the syntax of null arguments as well as adjuncts in Japanese is much simpler than it has been proposed in the literature.

2.2 QUD-based Characterization of Discourse Structure

2.2.1 QUD-framework

QUDs are questions that conversation participants cooperatively address in information sharing and communal inquiry. A growing body of research in recent years has adopted the notion of QUD in analyses of information structure of sentences and their relation to the overall discourse structure (see Velleman and Beaver 2016; Onea 2016; Beaver et al. 2017, for an overview). The QUD model of Roberts (2012) stems from the frameworks of dialogue and commitment (Hamblin 1957, 1970; Stalnaker 1978), in which discourses are seen as organized around strategies of inquiry that conversation participants employ in an attempt to achieve conversational goals (see also Carlson 1982; van Kuppevelt 1995; Ginzburg 1996, 2012; Büring 1997, 2003). Roberts follows Stalnaker (1978) and posits that the primary goal of a discourse is to resolve what Roberts calls the *Big Question*, namely *What is the way things are in our world?* In addition, a reasonable strategy of inquiry to achieve this goal is to develop a plan to address a series of

⁷In this connection, it is worth acknowledging that the importance of a more careful examination of discourse factors in studying ellipsis phenomena has been rightly pointed out by Kuno (1978), who states that

Much of conventional linguistic research on syntax seems to be confusing phenomena that are actually controlled by discourse factors with phenomena that are controlled by syntactic factors and erroneously giving syntactic analyses to the former. Before formulating syntactic rules, it is necessary to first study the whole linguistic phenomenon deeply and abstract away the discourse factors that are relevant to it. It is only then that one can give a syntactic analysis to the phenomena that cannot be explained by discourse factors.

(Kuno 1978, p. 307; translated by the author)

subquestions, which help answering the *Big Question*. Accordingly, a discourse proceeds by raising and answering questions as follows. First, a question is raised by a conversation participant. Once the question is accepted by the interlocutors, it becomes the immediate topic of discussion and the interlocutors commit themselves to resolving it. Further, if the question is resolved, the answer enters into the *common ground* (i.e., a set of propositions confirmed by the interlocutors), leading to an increase in their shared knowledge. In this framework, the central question that interlocutors attempt to resolve at a particular stage of a discourse is called a QUD.⁸

In general, a sentence is uttered as an answer to the immediate QUD. For instance, consider the conversation in (3). First, A asks an explicit question, which once accepted by B, becomes the immediate QUD. Subsequently, B's first utterance provides an answer to this QUD.

(3) A: So, how is Matthew doing these days?

B: Well, he is so depressed. The *Giants* have lost the last ten games.

Notice that there is no explicit question that B's second utterance answers. Nonetheless, it is understood as a coherent discourse move. This is because the sentence answers an implicit QUD. Specifically, when the proposition that Matthew is depressed these days is accepted, a new question arises as to why he is depressed, and this becomes the immediate QUD. B's second utterance then gives an answer to this QUD. In this way, we are able to characterize the overall discourse in (3) formed by the three utterances as coherent.

As seen in (3), sentences often answer an implicit QUD that is raised by the preceding sentence. In other cases, two or more utterances are understood as partial answers to a single overall QUD. For instance, the two sentences in (4) are understood as discursively related to one another because they both provide partial answers to a common QUD, e.g., *What did Anne and Marilla do last night?*

(4) a. Anne went to the wedding party last night.

b. Marilla stayed home and made strawberry jam.

More precisely, each sentence is analyzed as an answer to a sub-QUD as in (5), where all the QUDs are

⁸Concepts similar to QUDs have been proposed elsewhere using different terms, namely *controlling questions* (van Kuppevelt 1995) and *D-topics* (Büring 1997).

explicitly shown in italics. (5a) and (5b) each provide an answer to their sub-QUD, thereby resolving the overall QUD which sits on top.

(5) *QUD: What did Anne and Marilla do last night?*

Sub-QUD1: What did Anne do last night?

a. Anne went to a wedding party last night.

Sub-QUD2: What did Marilla do last night?

b. Marilla stayed home and made strawberry jam.

To recapitulate, in order to understand a discourse, we need to know not only the meaning of individual sentences but also what QUDs they answer. As seen in (3) and (5), postulating the existence of implicit QUDs enables us to capture how apparently unrelated sentences form a coherent discourse structure. A pair of sentences form a coherent discourse iff they both provide answers to the QUD.

2.2.2 Formal definition of questions and answers

We have seen that discourse coherence can be defined by the question-answer (Q-A) congruence between a given sentence and the QUD it addresses. To formally define Q-A congruence, I adopt the structured meaning approach to question meanings and focus meanings (von Stechow 1990; Krifka 2001).⁹

First, question meanings can be generalized within the structured meaning approach as follows:

(6) Question meanings are functions that, when applied to the meaning of the answer, yield a proposition.

(Krifka 2001, p. 288)

For example, the meaning of the question ‘Who sings?’ is seen as a function in (7a). By supplying an answer ‘John’ (7b), the function returns a proposition ‘John sings’ (7c).

(7)	a. Who sings?	$\lambda x.\text{sing}(x)$
	b. John	J

⁹This approach is often discussed in comparison to the Alternative Semantics approach (Rooth 1985, 1992b). The question of whether adopting one approach or the other has different empirical consequences is left for future research.

c. Question applied to answer:

sing(J)

In addition, the question meaning requires the domain part of the function in its representation. Thus, the question meaning of (8a) is represented as a pair in (8b), where B (Background) refers to the function part of the question meaning and R (Restriction) refers to the domain part.

(8) a. Who sings?

b. $\langle B, R \rangle = \langle \lambda x. \mathbf{sing}(x), \text{PERSON} \rangle$

Based on this approach to question meanings, a focus meaning of an answer is also represented as a pair $\langle B', F \rangle$, where F (Focus) refers to the focused element. For example, in (9b), B' corresponds to the function $\lambda x. \mathbf{sing}(x)$ and F corresponds to 'John', which is focused.

(9) a. Who sings?

$\langle B, R \rangle = \langle \lambda x. \mathbf{sing}(x), \text{PERSON} \rangle$

b. [_F John] sings.

$\langle B', F \rangle = \langle \lambda x. \mathbf{sing}(x), J \rangle$

Given these definitions of question meanings and focus meanings, a criterion for a congruent Q-A pair can be expressed as in (10).

(10) Criterion for congruent question-answer pair Q-A,

where $[[Q]] = \langle B, R \rangle$ and $[[A]] = \langle B', F \rangle$:

$B = B'$ and $F \in R$

(Krifka 2001, p. 296)

According to (10), (9b) is a congruent answer to (9a) because the answer and the question share an identical background (i.e., $B = B'$) and the focused element 'John' is a member of the restriction, PERSON (i.e., $F \in R$).

2.3 Proposal

As mentioned above, null anaphora can be seen as a radical form of prosodic reduction, which expresses redundancy of given information in the ongoing discourse. Given this, I suggested that the condition in

(1), repeated here as (11), is generally required for null anaphora to be licensed.

(11) XP can be null iff it is in the background of a coherent discourse.

As we have seen above, discourse coherence is defined by the Q-A congruence between the sentences and their corresponding QUDs, and the focus-background information is defined by referring to the semantic representations of the QUD and the sentence which answers it.

To see how the QUD-based approach works in analyzing ellipsis examples, consider (2), repeated below as (12).

- (12) a. John-wa kuruma-o arat-ta.
John-TOP car-ACC wash-PST
'John washed a car.'
- b. Mary-wa *e* araw-anakat-ta.
Mary-TOP wash-NEG-PST
lit. 'Mary did not wash.'

Under the present approach, it can be posited that the null object in (12b) is licensed in the context specified in (13), in which (13a) and (13b) are intended as answers to (13Q). The null object sentence in (13b) is indeed acceptable in this context and naturally interpreted as Mary did not wash a car.

- (13) Q: John-to-Mary-wa kuruma-o arai-mashi-ta-ka?
John-and-Mary-TOP car-ACC wash-POL-PST-Q
'Did John and Mary wash a car?'
- a. John-wa kuruma-o arat-ta.
John-TOP car-ACC wash-PST
'John washed a car.'
- b. Mary-wa *e* araw-anakat-ta.
Mary-TOP wash-NEG-PST
lit. 'Mary did not wash.'

The object NP *kuruma* 'car' can be null in (13b) because (11) is satisfied in this context. Within the QUD framework, (13) is a context where (13Q) represents the QUD: *Did John and Mary wash a car?* The discourse is coherent in that (13a) and (13b) provide a positive and negative answers, respectively, thereby resolving the QUD. In addition, as answers to the QUD, which is a polar question, the sentences are polarity-focus; hence the object in (13b) is not in focus but in the background.

Discourse coherence and the satisfaction of the backgrounding requirement are formally captured within the structured meaning approach as follows. The QUD which (13b) answers has the semantic representation in (14a), where POLARITY is a set of an identity function Id and a negative operator $\neg$. In addition, the focus meaning of (13b) is represented as in (14b).¹⁰

- (14) a. $\langle B, R \rangle = \langle \lambda f. f(\text{Mary washed a car}), \text{POLARITY} \rangle$
 $\text{POLARITY} = \{Id, \neg\}$
 b. $\langle B', F \rangle = \langle \lambda f. f(\text{Mary washed a car}), \neg \rangle$

According to the criterion in (10), (13b) is a congruent answer to (13Q); that is, (14a) and (14b) share an identical background (i.e., $B=B'$) and the negative operator $\neg$ in focus is a member of the restriction (i.e., $F \in R$). Additionally, the object NP *kuruma* ‘car’ is in the background (i.e., the function part) rather than in focus, as shown in (14b).

Since the condition in (11) is presumably a condition on null anaphora in general, I propose, as a working hypothesis, that ellipsis licensing in Japanese also requires (15) as a necessary condition.

(15) *Discourse Condition on Ellipsis*

Ellipsis of XP is licensed iff it is in the background of a coherent discourse.

To see whether ellipsis licensing is constrained by (15), let us discuss the famous strict-sloppy ambiguity in null object constructions. It is well known that the null object in (16b) allows both the strict identity interpretation that Mary did not wash John’s car and the sloppy identity interpretation that Mary did not wash her own car. If (16b) had only the strict reading, (17) could not be an acceptable continuation of (16b).¹¹¹²

¹⁰Some notes on the formalization in this dissertation are in order. First, the function parts are only informally represented using English sentences. Second, strictly speaking, (13a) and (13b) each answer their sub-QUDs, namely *Did John wash a car?* and *Did Mary wash a car?*, providing a full answer to the overall QUD shown at the top of (13). However, in this dissertation, I only present a formal analysis of the Q-A congruence between the elliptical clause and the sub-QUD it answers. I do not formalize the meaning of the antecedent clause and its sub-QUD. The Q-A congruence between them is described only informally at an intuitive level for the sake of readability.

¹¹In this dissertation, OK indicates that the interpretation is available in the elided clause and NOT indicates that the interpretation is unavailable.

¹²See also Saito (2007), for arguments against the indefinite *pro* analysis of (16b) by Hoji (1998). If (16b) had only the indefinite interpretation that Mary did not wash a car (to begin with), (17) could not be an acceptable continuation.

- (16) a. John-wa zibun-no kuruma-o arat-ta.
 John-TOP self-GEN car-ACC wash-PST
 ‘John washed his own car.’
- b. Mary-wa *e* araw-anakat-ta.
 Mary-TOP wash-NEG-PST
 lit. ‘Mary did not wash.’ (^{OK}strict; ^{OK}sloppy)
- (17) John-no kuruma-wa arat-ta kedo-ne.
 John-GEN kuruma-CONT wash-PST though-SFP
 ‘Mary washed John’s car, though.’

The sloppy reading of (16b) has been taken to indicate that ellipsis of the object NP *zibun-no kuruma* ‘self’s car’ is syntactically licensed via e.g., Verb-Stranding VP-ellipsis (Otani and Whitman 1991) or Argument Ellipsis via LF-copy (Oku 1998). If only *pro*-drop were available in (16b) only the strict reading would be obtained since the overt pronoun in (18) allows only the strict reading.¹³

- (18) Mary-wa sore-o araw-anakat-ta. (with (16a) as the antecedent)
 Mary-TOP it-ACC wash-NEG-PST
 ‘Mary did not wash it.’ (^{OK}strict; ^{NOT}sloppy)

Now, since the sloppy reading of (16b) is salient to many, in what discourse context(s) the interpretation is obtained has not been considered in studying the syntax of (16b). However, given the discussion so far, syntactic licensing alone is not sufficient for the sloppy reading to be obtained. Rather, it is predicted that the sloppy reading is available iff (15) is satisfied because ellipsis of the object NP *zibun-no kuruma* ‘self’s car’ should be licensed under the condition in (15). The data below show that this prediction is correct.

Consider (19). As an answer to (19Q), (19b) has only the sloppy reading. The follow-up sentence in (19c), which contradicts the sloppy reading of (19b), is unacceptable.

- (19) Q: John-to-Mary-wa zibun-no kuruma-o arai-mashi-ta-ka?
 John-and-Mary-TOP self-GEN car-ACC wash-POL-PST-Q
 ‘Did John and Mary each wash their own car?’
- a. John-wa zibun-no kuruma-o arat-ta.
 John-TOP self-GEN car-ACC wash-PST
 ‘John washed his own car.’

¹³See, however, Tomioka (2014) and Kurafuji (2019), who argue that the sloppy reading can be derived by *pro*-drop.

- b. Mary-wa *e* araw-anakat-ta.
 Mary-TOP wash-NEG-PST
 lit. ‘Mary did not wash.’ (^{NOT}strict; ^{OK}sloppy)
- c. #Zibun-no kuruma-wa arat-ta kedo-ne.
 self-GEN kuruma-CONT wash-PST though-SFP
 ‘Mary washed her own car, though.’

In (19), discourse coherence is satisfied in that (19a) and the sloppy reading of (19b) resolves the QUD which asks whether John and Mary each washed their own car. In addition, since (19b) is an answer to a polar question in (19Q), the object is not in focus but in the background. Formally speaking, the question meaning of the QUD, *Did Mary wash her own car?* is semantically represented as in (20a) and the elided sentence in (19b) with the sloppy reading is represented as in (20b). (19b) and its QUD form a congruent Q-A pair in that the backgrounds are identical (i.e., $B=B'$) and the focused element, namely the negative operator $\neg$ is a member of the restriction (i.e., $F \in R$).

- (20) a. $\langle B, R \rangle = \langle \lambda f. f(\text{Mary washed her own car}), \text{POLARITY} \rangle$
 $\text{POLARITY} = \{\text{Id}, \neg\}$
- b. $\langle B', F \rangle = \langle \lambda f. f(\text{Mary washed her own car}), \neg \rangle$

Further, the object NP *zibun-no kuruma* ‘self’s car’ (which is expressed as *her own car* in (20b) for ease of exposition) is in the background. The sloppy reading is available in (19b) because ellipsis of the object NP *zibun-no kuruma* ‘self’s car’ is licensed under the condition in (15).

(21) shows that the sloppy reading is not obtained in a different context. (21b), which answers (21Q), has only the strict reading, as indicated by the unacceptability of (21c).

- (21) Q: John-to-Mary-wa John-no kuruma-o arai-mashi-ta-ka?
 John-and-Mary-TOP John-GEN car-ACC wash-POL-PST-Q
 ‘Did John and Mary wash John’s car?’
- a. John-wa zibun-no kuruma-o arat-ta.
 John-TOP self-GEN car-ACC wash-PST
 ‘John washed his own car.’
- b. Mary-wa *e* araw-anakat-ta.
 Mary-TOP wash-NEG-PST
 lit. ‘Mary did not wash.’ (^{OK}strict; ^{NOT}sloppy)

- c. #John-no kuruma-wa arat-ta kedo-ne.
 John-GEN kuruma-CONT wash-PST though-SFP
 ‘Mary washed John’s car, though.’

In (21), the QUD asks whether John and Mary washed John’s car. The sloppy reading of (21b) that Mary did not wash her own car does not help resolving the QUD which asks whether Mary washed John’s car; hence the discourse is incoherent. The question meaning of the QUD has the semantic representation in (22a) and the elided sentence in (21b) with the sloppy reading has the representation in (22b). (21b) with the sloppy reading and the QUD do not form a congruent Q-A pair in that (22a) and (22b) do not share an identical background (i.e., $B \neq B'$).

- (22) a. $\langle B, R \rangle = \langle \lambda f. f(\text{Mary washed John’s car}), \text{POLARITY} \rangle$
 $\text{POLARITY} = \{\text{Id}, \neg\}$
 b. $\langle B', F \rangle = \langle \lambda f. f(\text{Mary washed her own car}), \neg \rangle$

The sloppy reading is not obtained in (21b) since the object *zibun-no kuruma* ‘self’s car’ cannot be elided due to the violation of (15).

The availability of the strict reading in (21b) is also compatible with the QUD-based analysis. That is, the strict reading of (21b) provides an appropriate negative answer to the QUD, and thus the discourse coherence is ensured. The strict reading of (21b) is represented as in (23). (23) shares an identical background with the QUD represented in (22a). Additionally, the focused element, the negative operator $\neg$ is a member of the restriction (i.e., $F \in R$). Therefore, (21b) with the strict reading forms a congruent Q-A pair with the QUD.

- (23) $\langle B', F \rangle = \langle \lambda f. f(\text{Mary washed John’s car}), \neg \rangle$

Since the object NP *John-no kuruma* ‘John’s car’ is in the background of a coherent discourse, *pro* which refers to John’s car is licensed under the same condition, which generally holds for null anaphora. As a result, the strict reading is derived in (21b).¹⁴

¹⁴One may argue that the sloppy reading of (19b) can be explained by assuming that *pro* which refers to Mary’s own car contained in the background of the QUD is somehow licensed (see Kurafuji 2019). If such an analysis is possible, the sloppy reading of (19b) itself may not support the claim that (15) is a licensing condition on ellipsis. However, the purpose in this section is not to argue that (15) is an ellipsis-specific condition. Rather, (15) holds for null anaphora in general, and thus it is also required for ellipsis to be licensed. Chapter 3 provides further evidence that (15) is required not only in *pro*-dropping but also in ellipsis-licensing.

We have seen that in addition to some syntactic licensing condition, ellipsis must satisfy the discourse condition in (15), which requires that the target of ellipsis be backgrounded in a coherent discourse. As mentioned earlier, this is perhaps a more or less standardly presumed prerequisite for ellipsis licensing. The current QUD-based approach allows us to make often implicit contexts explicit and discuss ellipsis possibility by fully taking into account the necessary discourse condition in (15). In Chapter 3 and 4, I present investigations into Japanese ellipsis using this more valid methodology.

Chapter 3

SCOPAL INTERACTIONS IN NULL OBJECT CONSTRUCTIONS

In discussing the syntax of Japanese null arguments, not a few scholars have paid attention to some mysterious ways in which two logical operators interact in ellipsis constructions (Takahashi 2008b; Funakoshi 2012, 2013; Tomioka 2014; Oku 2016; Sakamoto 2016b; Saito 2017; Sato and Hayashi 2018; Maeda 2019; Otani 2021; Sato and Maeda 2021; Tanabe and Hara 2021; Tanabe and Kobayashi 2023, 2024b; Kobayashi et al. to appear). Most prominently, it has been argued that some of the scopal interactions in null object constructions are unaccounted for by the Argument Ellipsis (AE) analysis. In this Chapter, I show that the relevant data are actually explained under the AE analysis which takes into account the discourse condition on ellipsis in (1).¹⁵

(1) *Discourse Condition on Ellipsis*

Ellipsis of XP is licensed iff it is in the background of a coherent discourse.

The organization of this chapter is as follows. In Section 3.1, I discuss the scopal interactions between disjunction and negation, which have been discussed in the AE vs. Verb-Stranding VP-ellipsis (VSVPE) debate. I present novel pieces of data which support the AE analysis over the VSVPE analysis. In Section 3.2, I extend the analysis to data involving focus particles such as *-mo* ‘also’ and *-dake* ‘only’ and show that ellipsis possibility of arguments suffixed by these particles is also compatible with the AE analysis if we assume that ellipsis generally requires the condition in (1). In Section 3.3, I briefly discuss Maeda’s (2019) AE analysis based on Scope Economy and Parallelism, whose empirical coverage largely overlaps

¹⁵This chapter is a radically revised and extended version of Tanabe and Hara (2021).

with that of the current QUD-based analysis. I present data which challenge Maeda's (2019) analysis. Section 3.4 is a summary of this chapter.

3.1 Disjunction and Negation

3.1.1 Puzzle and previous approaches

Scopal interactions between disjunction and negation in null object constructions have caught great attention of researchers (Funakoshi 2013; Oku 2016; Sakamoto 2016b; Saito 2017; Maeda 2019; Otani 2021; Tanabe and Hara 2021). In (2), which does not involve ellipsis, the most salient interpretation is the wide scope reading of the disjunction with respect to negation: '(Misaki doesn't speak Spanish) OR (Misaki doesn't speak French)' (i.e., $OR > NEG$) (Goro 2007).

- (2) Misaki-wa supeingo-ka-furansugo-o hanas-anai. ($OK_{OR > NEG}$, $?_{NEG > OR}$)
 Misaki-TOP Spanish-or-French-ACC speak-NEG
 lit. 'Misaki doesn't speak Spanish or French.'

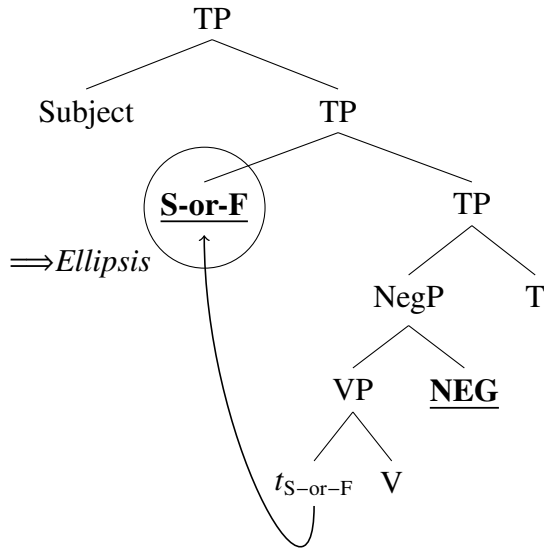
Mysteriously, as pointed by Funakoshi (2013) and Tomioka (2014), the $OR > NEG$ reading becomes difficult for many speakers when the disjunctive phrase is unexpressed as in (3b). Instead, the $NEG > OR$ becomes more salient. The $OR > NEG$ reading only entails that there is at least one language among Spanish and French that she does not speak; hence if (3b) had the $OR > NEG$ reading, (3c), which asserts that she speaks one of the languages, namely French would be an acceptable continuation.

- (3) a. Ken-wa supeingo-ka-furansugo-o hanasu.
 Ken-TOP Spanish-or-French-ACC speak
 'Ken speaks Spanish or French.'
- b. Misaki-wa *e* hanas-anai. ($??_{OR > NEG}$, $OK_{NEG > OR}$)
 Misaki-TOP speak-NEG
 lit. 'Misaki doesn't speak.'
- c. #Furansugo nara hanasu rasii kedo.
 French if speak seem though
 'I heard that she speaks French, though.'

The unavailability of the $OR > NEG$ reading in (3b) (if real) is puzzling under the AE analysis. That is, since the non-elliptical counterpart in (2) has the $OR > NEG$ reading, the disjunctive object can, in principle, move

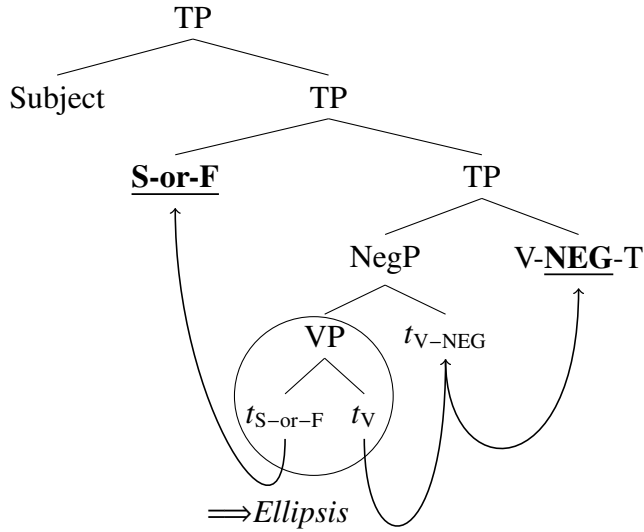
to a position above negation in syntax. Then, the OR>NEG reading should be derived in (3b) via applying AE to the disjunctive object after movement, as illustrated in (4).

(4)



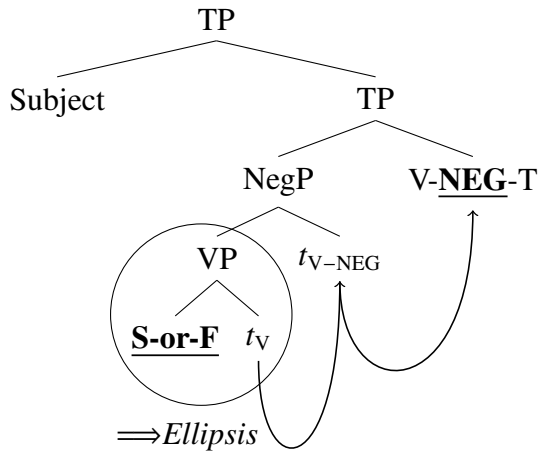
In order to accommodate this observation, Funakoshi (2013) proposes that the unavailability of the OR>NEG reading in (3b) is explained if we assume that null objects in Japanese are derived via VSVPE. Funakoshi's (2013) point is illustrated in (5) and (6). Funakoshi assumes that negation in Japanese occurs higher than VP, and thus it is only when the disjunctive phrase moves out of VP that the disjunction takes scope over negation. On the assumption that null objects in Japanese are derived via VSVPE, and crucially not by AE, there is no way to elide the disjunctive object above negation. In other words, even if VSVPE applies, the disjunctive object which takes scope over negation remains overt, as illustrated in (5).

(5)



This in turn means that (3b), where the object is null, must have the structure in (6) where the object is elided by VSVPE in the base-generated position below negation. It follows that the null object sentence in (3b) can have only the NEG>OR reading.¹⁶

(6)



Saito (2017), on the other hand, maintains that the unavailability of the OR>NEG reading in (3b) is explained by the AE analysis under the LF-copy theory (Oku 1998; Saito 2007; Sakamoto 2019). First, Saito (2017) assumes that the antecedent clause in (3a), which does not contain a negation, has either one of the LF representations in (7). In (7a), the disjunctive object stays in-situ. In (7b), the disjunction

¹⁶Since Funakoshi (2013) assumes that movement of the disjunctive object is obligatory, he assumes that VSVPE cannot apply in the configuration in (6). For this reason, he suggests that the NEG>OR reading in (3b) is not derived from the NEG>OR structure but it arises from a phonetically null *pro* of conjunction which corresponds to Spanish and French (but see Maeda 2019, who proposes that the NEG>OR reading is derived by ellipsis.).

undergoes movement and forms an operator-variable chain.

- (7) a. Ken speaks [Spanish or French]
 b. $[\exists x : x = \text{Spanish or } x = \text{French}]$ Ken speaks x

Further, Saito (2017) shares the assumption with Funakoshi (2013) that negation is higher than VP. Thus, if LF-copy applies to the LF in (7a), the LF of the elided clause looks like (8a), in which the disjunction falls within the scope of negation. On the other hand, if the disjunction forms an operator-variable chain in the antecedent as in (7b), LF-copy is able to copy either the operator part alone or the variable part alone onto the ellipsis site. As a result, LF-copy yields either the LF in (8b), in which there is no variable that the operator binds, or the LF in (8c), in which the variable is unbound.

- (8) a. Misaki doesn't speak [Spanish or French].
 b. Misaki doesn't speak $[\exists x : x = \text{Spanish or } x = \text{French}]$.
 c. Misaki doesn't speak x .

Since none of these appropriately represents the OR>NEG structure, the LF-copy analysis of AE predicts that the OR>NEG reading is unavailable in the null object sentence in (3b) (cf. Maeda 2019; Otani 2021). In short, the analyses by Funakoshi (2013) and Saito (2017) predict that the OR>NEG reading is never available when the disjunctive object is null.

However, Sakamoto (2016b) observes that when the antecedent sentence is also negated, the OR>NEG reading is available, as in (9b).

- (9) a. Ken-wa supeingo-ka-furansugo-o hanas-anai.
 Ken-TOP Spanish-or-French-ACC speak-NEG
 'Ken doesn't speak Spanish or French'
 b. Misaki-mo *e* hanas-anai. (^{OK}OR>NEG, ^{??}NEG>OR)
 Misaki-also speak-NEG
 lit. 'Misaki also doesn't speak.'

As Maeda (2019) points out, the analyses by Funakoshi (2013) and Saito (2017) both undergenerate. That is, both analyses predict that the OR>NEG reading cannot be derived in a null object construction, contrary to fact. Given this, the rest of this section shows that the seemingly problematic scope patterns are accounted for by the AE analysis which takes into account the discourse condition on ellipsis in (1).

It is revealed that as long as (1) is met, AE of disjunctive objects is licensed regardless of whether the target object stays inside the scope of negation within VP or moves out of it.

3.1.2 Proposal: A QUD-based analysis of AE-licensing

When we judge that the NEG>OR reading is salient in (3b), we read or parse the sentences in an implicit discourse context of some kind. Importantly, the sentences are never interpreted out of context. Despite this, data such as (3) has been discussed without carefully considering the contexts in which ellipsis may or may not be licensed. Without specifying a context, however, we do not even know whether the necessary condition in (1) is satisfied. As mentioned in Chapter 2, it is only after discourse factors are carefully controlled that we can study the syntax of ellipsis. To be more specific, the unavailability of the OR>NEG reading in (3b) can be attributed to syntactic factors if the interpretation is not obtained even in a context where (1) is satisfied. However, if the interpretation is obtained when (1) is satisfied, it is suggested that narrow syntax in principle allows AE to apply in the configuration in (4), in which the disjunctive object is higher than negation.

To see this, let us first consider (10), which exemplifies one possible context in which the NEG>OR reading is salient. What is under discussion is whether there is a language among Spanish and French that Ken and Misaki speak.

- (10) Context: The company is looking for an interpreter who speaks Spanish or French. Ken and Misaki, who are known to be competent polyglots, are the candidates, but A is not sure what languages they speak and asks:

A: Ken-to-Misaki-wa supeingo-ka-furansugo-o hanasu-no?
 Ken-and-Misaki-top Spanish-or-French-acc speak-Q
 ‘Do Ken and Misaki speak Spanish or French?’

B1: Ken-wa supeingo-ka-furansugo-o hanasu-yo.
 Ken-top Spanish-or-French-acc speak-SFP
 ‘Ken speaks Spanish or French.’

B2: Misaki-wa *e* hanas-anai kedo, #furansugo nara hanasu rasii-yo. (^{NOT}OR>NEG, ^{OK}NEG>OR)
 Misaki-top speak-NEG but French if speak seem-SFP
 lit. ‘Misaki doesn’t speak, but I heard that she speaks French.’

The most likely interpretation of (11B2) is the NEG>OR reading. It is most naturally understood as as-

serting that as for Misaki, she speaks neither languages. Indeed, the second clause in (11B2), which contradicts the NEG>OR reading, sounds contradictory. In this context, the immediate goal of the discourse is to resolve the QUD, *Do Ken and Misaki speak Spanish or French?* Thus, A asks the question, which B answers in order to achieve this goal. The discourse is coherent in that (10B1) and (10B2) both provide answers to A's question. (10B1) gives a positive answer and the NEG>OR reading of (10B2), which entails that Misaki speaks neither languages, provides a negative answer to A's question. The Q-A congruence between the elided clause in (10B2) and its QUD is formally captured within the structured meaning approach. The question meaning of the QUD is semantically represented as in (11a). In addition, the focus meaning of the NEG>OR reading has the representation in (11b). According to (12), the null object clause with the NEG>OR reading is a congruent answer to the QUD because (11a) and (11b) share an identical background (i.e., $B = B'$) and the focused element, $\neg$ is a member of the restriction, POLARITY (i.e., $F \in R$).

- (11) a. $\langle B, R \rangle = \langle \lambda f. f(\text{Misaki speaks Spanish or French}), \text{POLARITY} \rangle$
 POLARITY = {Id, $\neg$ }
- b. $\langle B', F \rangle = \langle \lambda f. f(\text{Misaki speaks Spanish or French}), \neg \rangle$ (NEG>OR)
- (12) Criterion for congruent question-answer pair Q-A,
 where $[[Q]] = \langle B, R \rangle$ and $[[A]] = \langle B', F \rangle$:
 $B = B'$ and $F \in R$

(Krifka 2001, p. 296)

This line of QUD-based analysis reveals that in contexts such as (10) where the NEG>OR reading is obtained, the OR>NEG reading is ruled out due to a violation of (1). Specifically, the OR>NEG reading of (10B2) does not provide an appropriate answer to the QUD expressed by A's question, which makes the overall discourse incoherent. To see this, look at the table in (13), where $p = \text{Misaki speaks Spanish}$ and $q = \text{Misaki speaks French}$. Appropriate answers to the question, *Does Misaki speak Spanish or French?* include 'Yes, she speaks Spanish or French' and 'No, she speaks neither.' The former corresponds to $p \vee q$ and the latter corresponds to $\neg(p \vee q)$ (i.e., NEG>OR) in the table. Since the OR>NEG corresponds to neither of these, it provides neither a positive nor negative answer to A's question.

(13)

$p \vee q$	p	q	$\neg p$	$\neg q$	$\neg(p \vee q)$ NEG>OR	$\neg p \vee \neg q$ OR>NEG
T	T	T	F	F	F	F
T	T	F	F	T	F	T
T	F	T	T	F	F	T
F	F	F	T	T	T	T

The QUD is semantically represented as in (14a) and the OR>NEG reading of (10B2) is represented as in (14b). (14a) and (14b) do not share an identical background (i.e., $B \neq B'$); hence (10B2) with the OR>NEG reading is not a congruent answer to the QUD.

(14) a. $\langle B, R \rangle = \langle \lambda f.f(\text{Misaki speaks Spanish or French}), \text{POLARITY} \rangle$

POLARITY = {Id, $\neg$ }

b. $\langle B', F \rangle = \langle \lambda f.f(\text{Misaki does not speak either Spanish or French}), \text{Id} \rangle$ (OR>NEG)

In this regard, even though the disjunctive phrase is in the background, the OR>NEG reading of (10B2) makes the overall discourse incoherent. It is then suggested that when researchers claim that only the NEG>OR reading is available in (3b), they parse the sentences in an implicit context exemplified in (10), in which even the necessary condition in (1) is not satisfied for the OR>NEG reading to be obtained.

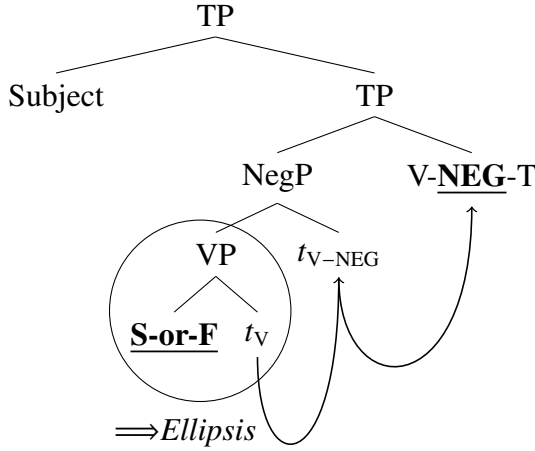
On the one hand, the current analysis based on (1) correctly predicts that the disjunctive object *supeingo-ka-furansugo* ‘Spanish or French’ below negation can be elided. However, on the other hand, the data in (10) does not tell us much about the syntactic mechanisms behind the null object construction in (10B2). As a matter of fact, the NEG>OR reading may be neutral between the *pro*-drop analysis, the VSVPE analysis, and the AE analysis. Funakoshi (2013) suggests that the relevant reading is derived via *pro* of conjunction which is interpreted as Spanish and French, as depicted in (15).

(15) [TP Subject [TP [NegP [VP *pro* and *pro* V] NEG] T]]

Yet, the NEG>OR reading can also be syntactically derived via VSVPE as in (6), reproduced below as (16); the disjunctive object is elided in the base-generated, object position, which is below negation.¹⁷

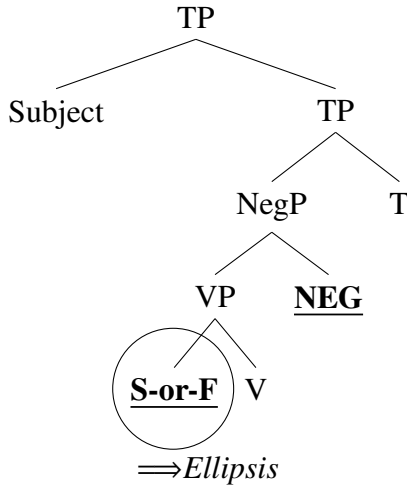
¹⁷The VSVPE analysis cannot be maintained if the object obligatorily moves out of VP because VSVPE cannot elide the higher copy; hence it must be pronounced (see Goro 2007, 2024; Shibata 2015, for obligatory movement analyses).

(16)



Finally, the AE analysis in (17) explains the NEG>OR reading as well. AE applies to the disjunction object below negation.¹⁸

(17)



Since (1) is a discourse condition on null anaphora in general, the NEG>OR reading in (10B2) only shows that all the three null anaphora in (15)-(17) are potentially licensed in the discourse in (10). Importantly, the question of whether ellipsis of the disjunctive object above negation is in principle available is, at this point, an entirely open question. That is to say, it is possible that the OR>NEG reading is not obtained even if (1) is satisfied. If this is the case, it is not unreasonable to ascribe the unavailability of the OR>NEG

¹⁸Unlike the VSVPE analysis, the AE analysis can be maintained even if movement of the object is obligatory as long as we assume that the lower copy left behind by movement is available at the semantic interface for scope interpretation (see Tanabe et al. 2024, who show that this is the case). Under the AE analysis, non-pronunciation of the object can be ensured by applying AE to the object in the derived position. Alternatively, one may assume that the object undergoes movement after non-pronunciation of the object is licensed in the original position (see Maeda 2019, for such an AE analysis).

reading to some syntactic factors that block ellipsis of the disjunctive object above negation.

The example in (18) shows that the OR>NEG reading is obtained in a context where the overall discourse is coherent. In (18), the context ensures that A's question is interpreted as OR>NEG. (18B2) is naturally interpreted under the OR>NEG reading: 'You are right. As for Misaki, she does not speak either Spanish or French.' The presence of the OR>NEG is supported by the observation that (18B3) which is compatible only with the OR>NEG reading is an acceptable continuation.

(18) Context: Ken and Misaki applied to a position which requires the employees to speak Spanish and French. Since A knew that they were both competent polyglots, A was sure that they would be hired. However, the company somehow hired neither of them. A inferred that the reason they were not hired was that they didn't speak either one of the languages among Spanish and French.

A: Ken-to-Misaki-wa supeingo-ka-furansugo-o hanas-anai-no? (OR>NEG)
Ken-and-Misaki-TOP Spanish-or-French-ACC speak-NEG-Q
lit. 'Do Ken and Misaki not speak Spanish or French'

B1: Ken-wa supeingo-mo-furansugo-mo hanasu kedo,
Ken-TOP Spanish-also-French-also speak but
'Ken speaks both Spanish and French, but'

B2: Misaki-wa e hanas-anai-yo. (^{OK}OR>NEG, ^{??}NEG>OR)
Misaki-also speak-NEG-SFP
lit. 'Misaki doesn't speak.'

B3: Misaki-mo furansugo-wa hanasu rasii kedo.
Misaki-also French-CONT speak seem though
'I heard that Misaki also speaks French, though.'

Notice that unlike in (10), the OR>NEG reading of the elided sentence in (18B2) provides an appropriate answer to A's question. More precisely, the context in (18) is such that the QUD is about whether there is at least one language among Spanish and French that Ken and Misaki do not speak. (18B1) provides an appropriate negative answer to this QUD, whereas (18B2) with the OR>NEG reading provides an affirmative answer to the QUD, which ensures the overall discourse coherence.¹⁹²⁰ The congruence

¹⁹Unlike languages like English, *hai* 'yes' in Japanese is an affirmative answer to a negative question. Thus, the question-answer pair that corresponds to the QUD-(18B2) is literally translated as 'Does Misaki not speak either Spanish or French? Yes, she doesn't speak either Spanish or French', which is unacceptable in English.

²⁰Informally speaking, by asserting that Ken speaks both Spanish and French, (18B1) also provides an appropriate negative answer to the QUD, which asks whether Ken does not speak at least either one of the languages. However, as shown in (i), (18B1) does not count as a congruent answer to its QUD according to (12); (ia) and (ib) do not share an identical background.

between (18B2) and the QUD is formally captured as in (19), where the QUD and its answer share an identical background and the focused element *Id* is a member of the restriction.

- (19) a. $\langle B, F \rangle = \langle \lambda f.f(\text{Misaki does not speak either Spanish or French}), \text{POLARITY} \rangle$ (OR>NEG)
 POLARITY = {*Id*, $\neg$ }
 b. $\langle B', F \rangle = \langle \lambda f.f(\text{Misaki does not speak either Spanish or French}), \text{Id} \rangle$ (OR>NEG)

Since the disjunctive object constitutes a part of the background in a coherent discourse, (1) is satisfied in (18B2).²¹ In light of this, it is also suggested that the OR>NEG reading in cases like (9) is dependent on an implicit context such as (18), where the pair of sentences are understood as appropriate answers to the QUD.²²

Now, the OR>NEG reading in a null object sentence supports the AE analysis over the other two analyses. First, the null objects in question cannot be *pro*, which generally does not derive interpretations involving logical operators (see also Tomioka 2014, p. 258). Second, although disjunctive objects in the scope of negation can be elided via VSVPE, disjunctive objects that are outside the scope of negation cannot be, as (5), reproduced below as (20) illustrates.

-
- (i) a. $\langle B, F \rangle = \langle \lambda f.f(\text{Ken does not speak either Spanish or French}), \text{POLARITY} \rangle$ (OR>NEG)
 b. $\langle B', F \rangle = \langle \lambda f.f(\text{Ken speaks Spanish and French}), \text{Id} \rangle$

However, I leave a more precise formal analysis of the Q-A congruence between the antecedent clause and its QUD for future research (see also footnote 10 in Chapter 2).

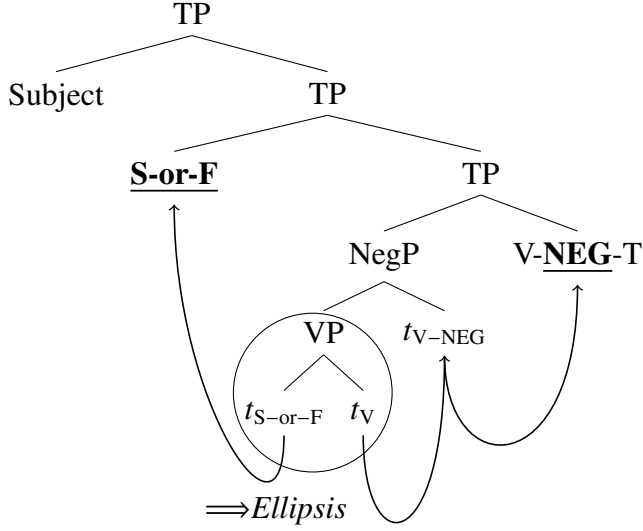
²¹Note in passing that logically speaking, the NEG>OR reading of (18B2) also provides an affirmative answer to the sub-QUD. This may be the reason why the interpretation is not impossible to get in (18B2). However, according to the criterion for a congruent Q-A pair in (12), (18B2) under the NEG>OR is not a congruent answer to the QUD it answers; the backgrounds of (19a) and (i) are not identical (i.e., $B \neq B'$).

- (i) $\langle B'', F \rangle = \langle \lambda f.f(\text{Misaki speaks Spanish or French}), \neg \rangle$ (NEG>OR)

This suggests that in implementing the QUD-based analysis, the criterion in (12), which defines discourse coherence, needs to be somewhat loosened. Note that the important point to make in (18) is that the OR>NEG reading is in principle available in a null object sentence, and not whether the NEG>OR reading is also available. Thus, I leave further discussions on this issue for future research (see Agha and Warstadt 2020, for updated discussions on how acceptable responses to a polar question should be more precisely defined within the QUD framework).

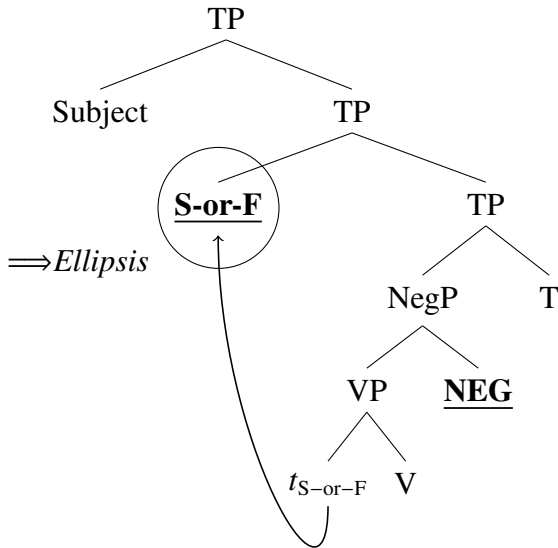
²²See also Maeda (2019) who proposes an analysis based on Scope Economy and Parallelism. I briefly discuss her analysis in Section 3.3.

(20)



The OR>NEG reading is explained if we assume that AE of the disjunctive object is syntactically licensed even after it undergoes movement above negation, as in (21) (see also Sakamoto 2016b; Maeda 2019; Otani 2021).

(21)



Proposals have been made that AE cannot derive the OR>NEG reading in null object sentences for a principled reason (Saito 2017) or that it is derived in narrowly limited syntactic contexts (Maeda 2019; Otani 2021). However, the observations in (10) and (18) reveal that if we assume (1) as a necessary condition, the scopal interactions between disjunction *ka* ‘or’ and negation is accounted for under the AE analysis with no recourse to syntactic analyses. The overall discussion in this section reveals that once

discourse factors are taken into account, the syntax of AE turns out to be simpler than it has been proposed in the literature. AE is licensed insofar as the target argument is in the background of a coherent discourse (see also Gualmini et al. 2008, whose experimental results suggest that a preference for a certain scope reading is significantly affected by the QUD).

3.2 Scopal Interactions between Focus Particles and Negation

Like disjunction, focus particles such as *-dake* ‘only’ and *-mo* ‘also’ in Japanese have been observed to exhibit puzzling behaviors in ellipsis constructions. Given this, a body of studies have proposed to explain the puzzling scope facts by exploring syntactic mechanisms behind ellipsis licensing (Funakoshi 2012; Akiyama 2014; Moriyama 2017; Yamashita 2019; Maeda 2019; Sato 2020a; Park 2021; Sato and Maeda 2021). In this section, I discuss scope relations between focus particles and negation in null object constructions, taking into account the discourse coherence and the backgrounding requirement stated in (1). The set of data presented in this section demonstrates that the scopal interactions between the focus particles and negation can also be explained by the AE analysis coupled with the line of QUD-based analysis of ellipsis. However, some of the scope patterns observed with the focus particles seem to require further refinement of the present analysis, which suggests possible directions for future research.

3.2.1 Ellipsis of *NP-dake* ‘NP-only’

It has been observed that a focus particle *-dake* ‘only’ in Japanese elided constructions exhibits intriguing behaviors that seem to be unpredictable under the AE analysis (Funakoshi 2012; Akiyama 2014; Moriyama 2017; Yamashita 2019; Sato 2020a; Park 2021; Sato and Maeda 2021, among others).

First, when *-dake* ‘only’ attaches to an object NP in a negative sentence, the most salient interpretation of the sentence is said to be the wide scope reading of the focus particle (see Hasegawa 1994; Aoyagi 1999). For instance, the most likely interpretation of (22) is that it is only vegetables that Erina did not eat (i.e., ONLY>NEG). The other interpretation that it is not the case that Erina ate only vegetables (i.e., NEG>ONLY) is not impossible to get, but it is not as salient as the ONLY>NEG reading (see Tanabe et al. 2024, for detailed discussion on this issue).

- (22) Erina-wa yasai-dake tabe-nakat-ta. (^{OK}ONLY>NEG, ^{??}NEG>ONLY)
 Erina-TOP vegetable-only eat-NEG-PST
 lit. ‘Erina didn’t eat only vegetables.’

Keeping this in mind, let us see how ellipsis affects the relevant scope patterns. To start with, consider the example in (23). When an object NP suffixed by *-dake* ‘only’ (henceforth referred to as NP-*dake*) is null, judgements greatly vary as to what interpretations are available in the elliptical clause. For example, it was observed that the meaning of *dake* ‘only’ seems to be absent in (23b). In particular, some scholars report that it has a non-focal interpretation that Erina did not eat vegetables (see Akiyama 2014; Moriyama 2017; Yamashita 2019) or that Erina did not eat anything to begin with (Tanabe and Hara 2021). Still, for some speakers, the ONLY>NEG reading is obtained in (23b), whereas the NEG>ONLY reading is hard to get (see Sato 2020a; Park 2021).

- (23) a. Takuya-wa yasai-dake tabe-ta.
 Takuya-TOP vegetable-only eat-PST
 ‘Takuya ate only vegetables but’
 b. Erina-wa *e* tabe-nakat-ta. ([?]ONLY>NEG, ^{??}NEG>ONLY)
 Erina-TOP eat-NEG-PST
 lit. ‘Erina didn’t eat.’

The variable and unstable judgements themselves suggest that the availability of certain interpretations in cases like (23b) is not constrained by “hard-wired” syntactic principles, which should not be subject to inter-speaker variations. Rather, it is more likely that such inter-speaker variations exist because each speaker has a different implicit context in mind when they make their own judgements. In light of this, relevant judgements are expected to become more stable if implicit contexts are made explicit. Based on the QUD-based analysis developed in the preceding sections, I argue that ellipsis of NP-*dake* is licensed if it is in the background of a coherent discourse. The data presented below further support the view that null objects in Japanese are derived via AE, whose licensing is pragmatically constrained by the condition in (1).

As mentioned above, it has been observed that the focal-reading seems to disappear when NP-*dake* is unexpressed (Akiyama 2014; Moriyama 2017). Such a non-focal reading arises in a context instantiated in (24). In this context, what is under discussion is whether Takuya and Erina ate vegetables for their health, and Yumi’s utterances are intended to give answers to Ren’s question. The most salient interpre-

tation of the elided sentence (i.e., Yumi's second utterance) is the non-focal reading that Erina did not eat vegetables(, which may come as a surprise to Ren).

- (24) Context: Takuya and Erina are trying to stay healthy. For this reason, Ren was surprised to hear that they went to a BBQ restaurant, and wondered if they made sure to eat vegetables for their health. Thus, Ren asks the following question to their friend, Yumi, who was eating with them:

Ren: Takuya-to-Erina-wa kinoo yakinikuya-de yasai tabe-ta?
 Takuya-and-Erina-top yesterday BBQ.restaurant-in vegetable eat-PST
 'Did Takuya and Erina eat vegetables in the BBQ restaurant yesterday?'

Yumi: Takuya-wa yasai-dake tabe-ta-yo.
 Takuya-top vegetable-only eat-PST-SFP
 'Takuya ate only vegetables.'

Yumi: Erina-wa *e* tabe-nakat-ta kedo. (^{NOT}ONLY>NEG, ^{NOT}NEG>ONLY)
 Erina-top eat-NEG-PST though
 lit. 'Erina didn't eat, though.'

In QUD terms, this is a context where Ren and Yumi are addressing the QUD, *Did Erina eat vegetables?* asked by Ren. The discourse is coherent when the null object sentence is understood under the non-focal reading in that it negatively answers the QUD.²³ As shown in (25), B is identical to B' (i.e., B=B') and the negative operator is a member of POLARITY (i.e., F ∈ R). It follows that the null object sentence with the non-focal reading is a congruent answer to the QUD.

- (25) a. <B,R>=<λf.f(Erina ate vegetables),POLARITY>
 POLARITY={Id, ¬}
 b. <B',F>=<λf.f(Erina ate vegetables),¬>

Notice that what is in the background is the NP *yasai* 'vegetable'. Accordingly, AE of the object *yasai* 'vegetable' is licensed under (1), as depicted in (26), resulting in the non-focal reading of the null object sentence in (24).

- (26) [TP Erina [TP [NegP [VP [~~NP-vegetable~~] V] NEG] T]]

This in turn means that the focal reading is unavailable in the context specified in (24) because ellipsis of

²³Yumi's first utterance entails that Takuya ate vegetables, which provides a positive answer to the QUD(, though this may also be surprising to Ren).

the object *yasai-dake* ‘only vegetable’, which is not in the background, is not licensed to begin with.

Along this line of analysis, I show that NP-*dake* can undergo ellipsis when it is in the background of a coherent discourse. Consider (27). As expressed by Ren’s question, the QUD addressed by the conversation participants is about whether it was only vegetables that Takuya and Erina ate. When Yumi’s utterances are understood as answers to this QUD, the null object sentence has the NEG>ONLY reading, though judgements may still vary to some extent.²⁴

- (27) Context: Ren saw Takuya and Erina eating vegetables in a BBQ restaurant. He was surprised that they were not eating any meat, so the next day, Ren asks the following question to their friend, Yumi, who was eating with them:

Ren: Takuya-to-Erina-wa kinoo yakinikuya-de yasai-dake tabe-ta-no?
 Takuya-and-Erina-top yesterday BBQ.restaurant-in vegetable-only eat-PST-Q
 lit. ‘Did Takuya and Erina eat only vegetables in the BBQ restaurant yesterday?’

Yumi: Takuya-wa yasai-dake tabe-ta kedo,
 Takuya-top vegetable-only eat-PST but
 ‘Takuya ate only vegetables but’

Yumi: Erina-wa *e* tabe-nakat-ta-yo. (NOT ONLY>NEG, ? NEG>ONLY)
 Erina-top eat-NEG-PST-SFP
 lit. ‘Erina didn’t eat.’

Yumi: ?Niku-mo gohan-mo tabe-ta-yo.
 meat-also rice-also eat-PST-SFP
 ‘She ate some meat and rice as well.’

The elided clause with the NEG>ONLY reading provides a negative answer to the QUD, *Did Erina eat only vegetables?*: ‘No, it is not the case that she ate only vegetables’, which makes the discourse coherent. The Q-A congruence between the QUD and the elided clause is formally captured as follows. The question meaning of the QUD and the NEG>ONLY reading are represented as in (28). The QUD and the answer share an identical background ($B = B'$) and the focused element $\neg$ is a member of the restriction (i.e., F

²⁴Judgements may vary to a lesser extent when additional focal stress is added to the verb and the negation, as in (i), where capital letters indicate stress.

- (i) Erina-wa *e* TABE-NAKAt-ta-yo. (NOT ONLY>NEG, OK NEG>ONLY) (with Yumi’s first utterance as the antecedent)
 Erina-top eat-NEG-PST-SFP
 lit. ‘Erina didn’t eat.’

A question remains as to why the NEG>ONLY reading becomes easier to get in (i), but I refer the readers to Tanabe et al. (2024) for discussions on this issue.

∈ R).

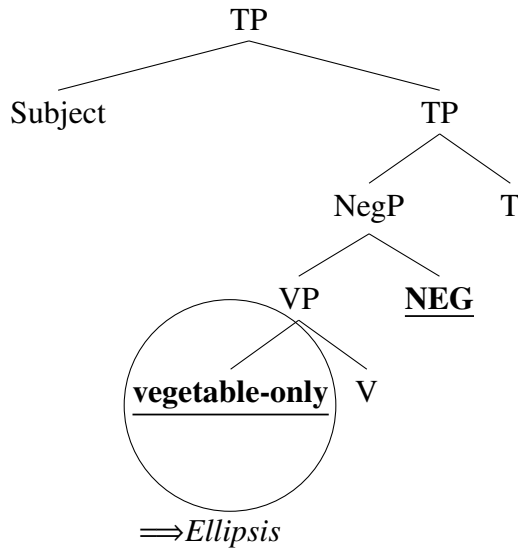
(28) a. $\langle B, R \rangle = \langle \lambda f.f(\text{Erina ate only vegetables}), \text{POLARITY} \rangle$

$\text{POLARITY} = \{\text{Id}, \neg\}$

b. $\langle B', F \rangle = \langle \lambda f.f(\text{Erina ate only vegetables}), \neg \rangle$ (NEG > ONLY)

Additionally, since the object *yasai-dake* ‘vegetable-only’ is in the background in (28b), (1) is satisfied for the object NP to be elided in this discourse. Specifically, AE is licensed in the structure in (29), in which NP-*dake* occurs inside the scope of negation.

(29)



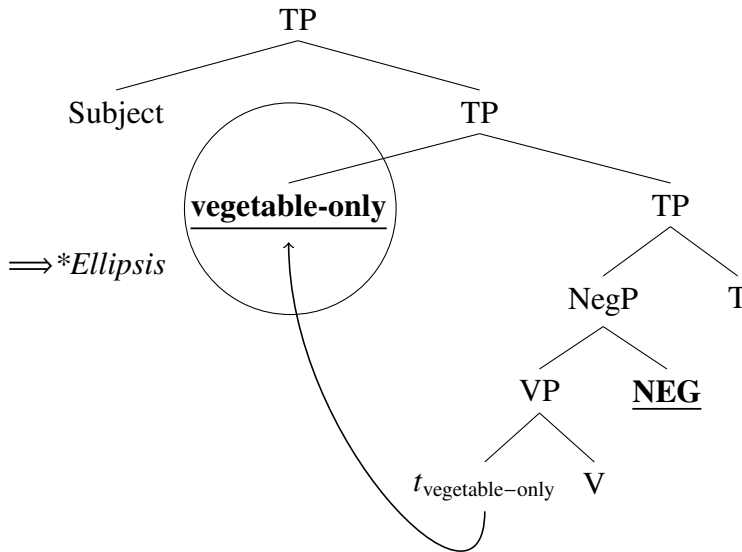
The unavailability of the ONLY > NEG reading in the null object sentence in (27) is also accounted for by considering the discourse coherence. That is, the QUD, *Did Erina eat only vegetables?* presupposes that Erina ate vegetables and asks whether it is the case that she did not eat anything else. However, the ONLY > NEG reading (i.e., it is only vegetables that she did not eat) entails that Erina did not eat vegetables, and thus it causes a presupposition failure, making the discourse incoherent (see Tanabe and Hara 2021). Formally speaking, the ONLY > NEG reading represented in (30) and the QUD represented in (28a) do not share an identical background (i.e., $B \neq B'$), and thus the Q-A pair does not count as a congruent Q-A pair.

(30) $\langle B', F \rangle = \langle \lambda f.f(\text{It is only vegetables that Erina did not eat}), \text{Id} \rangle$ (ONLY > NEG)

Consequently, AE of the NP *yasai-dake* ‘only vegetables’ that takes scope over negation is not licensed

due to the violation of (1), as depicted in (31).

(31)



The next question to address then is whether AE in (31) is licensed when (1) is satisfied. Consider (32). The context in (32) is such that the QUD raised by Ren asks whether it is only the TOEIC test that Takuya and Erina did not take (i.e., ONLY>NEG). As an answer to this QUD, the null object sentence uttered by Yumi can be interpreted as follows: ‘You are right. It is only the TOEIC test that Erina did not take’ (i.e., ONLY>NEG); hence the follow-up sentence may sound contradictory, though judgements vary.

(32) Context: Takuya and Erina were planning to take English tests including the TOEIC test, the TOEFL test, and the IELTS test for their job hunting. However, after a year, when their seminar teacher Ren was looking over their resumes, he didn’t find their TOEIC score on them. He then asks Yumi, who takes care of students’ TOEIC scores:

Ren: Takuya-to-Erina-wa TOEIC-dake uke-nak-atta-no? (ONLY>NEG)
 Takuya-and-Erina-top TOEIC-only take-NEG-PST-Q
 lit. ‘Did Takuya and Erina not take only the TOEIC test?’

Yumi: Takuya-wa TOEIC uke-ta kedo,
 Takuya-top TOEIC take-PST but
 lit. ‘Takuya took the TOEIC test, but’

Yumi: Erina-wa *e* uke-nakat-ta-yo. (? ONLY>NEG, NOT NEG>ONLY)
 Erina-top take-NEG-PST-SFP
 lit. ‘Erina didn’t eat take.’

Yumi: ?TOEFL-mo uke-nak-atta kedo.
 TOEFL-also take-NEG-PST though
 ‘She did not take the TOEFL test, either though.’

The discourse coherence is ensured in that the ONLY>NEG reading gives an appropriate answer to the QUD, *Is it only the TOEIC test that Erina did not take?* Formally speaking, the QUD and its answer are represented as in (33a) and (33b), respectively. The Q-A pair is a congruent one given that they share an identical background ($B = B'$) and the element in focus is a member of the restriction (i.e., $F \in R$).

- (33) a. $\langle B, R \rangle = \langle \lambda f.f(\text{It is only the TOEIC test that Erina did not take}), \text{POLARITY} \rangle$ (ONLY>NEG)
 POLARITY = {Id, $\neg$ }
- b. $\langle B', F \rangle = \langle \lambda f.f(\text{It is only the TOEIC test that Erina did not take}), \text{Id} \rangle$ (ONLY>NEG)

As indicated in (33b), the NP *TOEIC-dake* ‘only the TOEIC test’ is backgrounded in the discourse. As a result, AE of the object is licensed in the structure in (31), deriving the ONLY>NEG reading in the null object sentence in (32).

Although the ONLY>NEG reading is available to some speakers, others find that the more likely interpretation is the non-focal reading that Erina did not take the TOEIC test, which does not provide any information about whether she did not take other tests. For those speakers, the follow-up sentence in (32) is not necessarily an unacceptable continuation. The relative difficulty of the ONLY>NEG reading in (32) (if real) is probably due to the fact that by default, the ONLY>NEG reading is expressed by an emphatic stress on the NP-*dake*, as in (34) (see Tanabe et al. 2024, for detailed discussions).²⁵

- (34) Erina-wa TOEIC-DAKE uke-nakat-ta-yo. (^{OK}ONLY>NEG, ^{NOT}NEG>ONLY)
 Erina-TOP TOEIC-only take-NEG-PST-SFP
 lit. ‘Erina didn’t eat take only the TOEIC test.’

That is to say, ellipsis of the otherwise stressed object *TOEIC-dake* ‘only the TOEIC test’ is penalized to some extent, though not to the extent that it makes ellipsis impossible. This line of analysis is supported by the observation in (35). The data shows that if the context is set up in such a way that the NP-*dake* in question is more naturally deaccented, the ONLY>NEG reading is readily available. In (35), the contrastively focused predicates *yaru* ‘do’ and *mottekuru* ‘bring’ are stressed, and the *dake*-marked NPs are relatively

²⁵Capital letters indicate stress.

deaccented. The elided clause in (35A') certainly allows the ONLY>NEG reading: 'As for Erina, she did not BRING only her English homework'. (35A'') that follows, thus sounds contradictory.

- (35) Context: It was only their English homework that Takuya and Erina did not submit. Their teacher wondered if they didn't DO only their English homework or they DID their homework but just didn't BRING it.

Q: Takuya-to-Erina-wa eigo-no syukudai-dake YARA-nakat-ta-no soretomoto
Takuya-and-Erina-TOP English-GEN homework-only do-NEG-PST-Q or
MOTTEKO-nakat-ta-no? (ONLY>NEG)
bring-NEG-PST-Q
'Did Takuya and Erina not DO only their English homework or did they not BRING only their English homework?'

A: Takuya-wa eigo-no syukudai-dake YARA-nakat-ta-yo.
Takuya-TOP English-GEN homework-only do-NEG-PST-SFP
lit. 'Takuya did not do only his English homework.'

A': Erina-wa *e* MOTTEKO-nakat-ta-yo. (^{OK}ONLY>NEG, ^{NOT}NEG>ONLY)
Erina-TOP bring-NEG-PST-SFP
'Erina did not bring only her English homework.'

A'': #Suugaku-no syukudai-mo motteko-nakat-ta kedo.
math-GEN homework-also bring-NEG-PST though
'She didn't bring her math homework either, though.'

Finally, the null object sentence in (23b) also has the interpretation that Erina did not eat anything. Tanabe and Hara (2021) suggest that the interpretation is obtained in such contexts as (36). Ren's question asks what Takuya and Erina ate in the restaurant. When the elided sentence is understood as an answer to Ren's question, the most salient interpretation of it is that Erina did not eat anything. Hence, the sentence that follows sounds contradictory.

- (36) Context: Ren heard that Takuya and Erina paid less than one thousand yen in a BBQ restaurant. He was surprised that they paid so little for a BBQ, so the next day, Ren asks the following question to their friend, Yumi, who was eating with them:

Ren: Takuya-to-Erina-wa kinoo yakinikuya-de nani-o tabe-ta-no?
Takuya-and-Erina-top yesterday BBQ.restaurant-in what-ACC eat-PST-Q
lit. 'What did Takuya and Erina eat in the BBQ restaurant yesterday?'

- Yumi: Takuya-wa yasai-dake tabe-ta-yo.
 Takuya-TOP vegetable-only eat-PST-SFP
 ‘Takuya ate only vegetables.’
- Yumi: Erina-wa *e* tabe-nakat-ta-yo. (^{NOT}ONLY>NEG, ^{NOT}NEG>ONLY)
 Erina-TOP eat-NEG-PST-SFP
 lit. ‘She didn’t eat.’
- Yumi: #Niku-mo tabe-ta-yo.
 meat-also eat-PST-SFP
 ‘She also ate some meat.’

The interpretation in the null object sentence can be explained by a discourse-based analysis. First, neither the ONLY>NEG nor NEG>ONLY reading gives an appropriate answer to the QUD, *What did Erina eat in the BBQ restaurant?* Neither of them provides information about what she ate. For this reason, these readings make the overall discourse incoherent. The question is why the elided clause has the interpretation that Erina did not eat anything. To see this, the meaning of the QUD and the answer are shown in (37). Since they do not share an identical background, the Q-A pair does not count as congruent according to the criterion in (12).

- (37) a. $\langle B, F \rangle = \langle \lambda x. (\text{Erina ate } x \text{ in the BBQ restaurant}), \text{FOOD} \rangle$
 b. $\langle B', F \rangle = \langle \lambda f. f(\text{Erina ate in the BBQ restaurant}), \neg \rangle$

Yet, as Tanabe and Hara (2021) point out, the QUD may be resolved in that it is understood as a response which rejects the presupposition carried by the QUD, namely {there is x such that Erina ate x }. Accordingly, asserting that there is no x such that Erina ate x leads to the interpretation that Erina didn’t eat anything. Admittedly, however, the observation in (36) is not explained solely by assuming that AE is pragmatically licensed by the condition in (1). This is because the interpretation requires that AE be applied in the structure in (38).

- (38) [TP Subject [TP [_{NEG}P [_{VP} [_{NP} anything] V] NEG] T]]

The current analysis predicts that AE of the Negative Polarity Item (NPI) *nani-mo* ‘anything’ is not licensed because it is not in the background in (37b). Thus, a question remains as to how the interpretation is syntactically derived. I leave this question for future research (see Kobayashi et al. to appear, for relevant discussions and possible analyses).

To recapitulate, recall that judgements on ellipsis possibility of NP-*dake* in (23), repeated here as (39), are unstable and greatly vary among speakers.

- (39) a. Takuya-wa yasai-dake tabe-ta.
Takuya-TOP vegetable-only eat-PST but
'Takuya ate only vegetables but'
- b. Erina-wa *e* tabe-nakat-ta. (?_{ONLY>NEG}, ??_{NEG>ONLY})
Erina-TOP eat-NEG-PST
lit. 'Erina didn't eat.'

The data I have presented above (i.e., (24), (27), (32), and (35)) reveal that the null object sentence in (39b) is certainly ambiguous between multiple interpretations depending on the QUD in the discourse. Under the current QUD-based analysis, I showed that the relevant interpretations are disambiguated once the context is specified. To be more specific, the interpretation of the null object sentence depends on ellipsis possibility of NP-*dake* which is constrained by the discourse condition in (1). Further, the data in (32) and (35) support the AE analysis of null objects; that is, the ONLY>NEG reading in the null object sentences cannot be derived by VSVPE since NP-*dake* is outside the VP, as can be seen in (31). The remaining option is to apply AE to NP-*dake* which is above negation. The overall discussion in this section therefore, again supports the present proposal that Japanese null objects are derived via AE, which is pragmatically conditioned by (1).

3.2.2 Ellipsis of NP-*mo* 'NP-also'

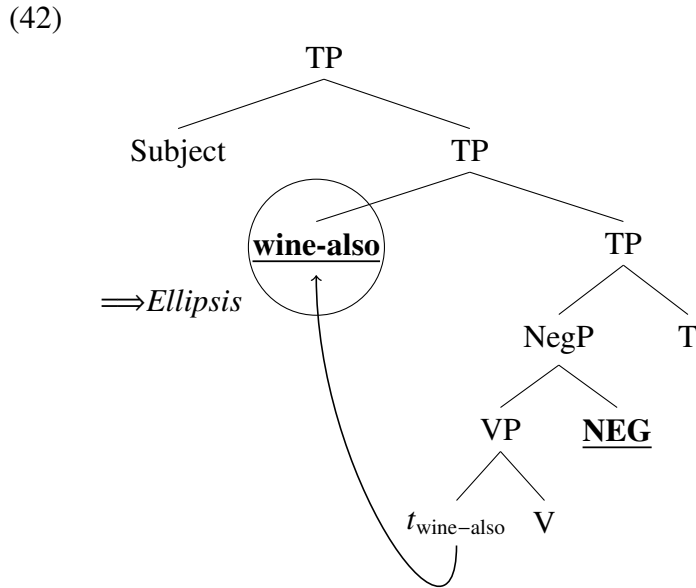
Similarly to the focus particle -*dake* 'only', a focus particle -*mo* 'also' attached to object NPs takes the wide scope with respect to their clause-mate negation (Hasegawa 1994). In (40), the most likely interpretation is that it is also wine that Naoya does not drink (i.e., ALSO>NEG). The narrow scope reading of the additive particle (i.e., NEG>ALSO) may not be completely unavailable but it is certainly less salient (see Tanabe et al. 2024, for detailed discussion on this issue).

- (40) Naoya-wa wain-mo noma-nai. (^{OK}_{ALSO>NEG}, ?_{NEG>ALSO})
Naoya-TOP wine-also drink-NEG
lit. 'Naoya also does not drink wine.'

However, Maeda (2019) observes that the scope relation is reversed when additive objects in question are elided (see example (18) in Maeda (2019, p. 12) for her original observation). Consider (41). Indeed, the ALSO>NEG reading, which is predominant in (40) seems to not be obtained in (41b), and the NEG>ALSO reading is relatively easy to get.

- (41) a. Rina-wa wain-mo nomu.
 Rina-TOP wine-also drink
 ‘Rina also drinks wine.’
 b. Naoya-wa *e* noma-nai. (??_{ALSO>NEG}, ^{OK}_{NEG>ALSO})
 Naoya-TOP drink-NEG
 lit. ‘Naoya does not drink.’

The observation may pose a problem for the AE analysis. That is, provided that the non-elliptical counterpart in (40) has the ALSO>NEG reading, syntax is expected to allow (41b) to have an underlying structure in (42), in which the object *wain-mo* ‘wine-also’ is above negation. Accordingly, if AE simply applies to the object as illustrated in (42), the ALSO>NEG reading should be derived in (41b).



Below, I discuss whether the seemingly problematic scopal interactions between *-mo* ‘also’ and negation in null object constructions can be accounted for under the AE analysis which assumes that ellipsis generally requires the discourse condition in (1).

First of all, whether an elided NP suffixed by *-mo* ‘also’ (henceforth NP-*mo*) allows the NEG>ALSO reading is not so obvious. In (43), for instance, the follow-up sentence in (43c) should be a perfectly

acceptable continuation if (43b) has the NEG>ALSO reading. However, (43c), does not sound perfectly natural, suggesting that the most likely interpretation of (43b) is that Naoya does not drink wine, which contradicts (43c).

- (43) a. Rina-wa wain-mo nomu.
 Rina-TOP wine-also drink
 ‘Rina also drinks wine.’
- b. Naoya-wa *e* noma-nai. (??_{ALSO>NEG}, ?_{NEG>ALSO})
 Naoya-TOP drink-NEG
 lit. ‘Naoya does not drink.’
- c. ??Kare-wa wain-dake nomun-da.
 he-TOP wine-only drink-COP
 ‘He drinks only wine.’

As repeatedly argued above, our judgement on (43) (whatever it is) is never out of context. Rather, the acceptability of the null object sentence (43b) itself as well as the availability of the relevant scope interpretation are dependent on a particular context. Given this, I present (43) in a specific context in (44). In this context, what is under discussion among Yumi and Ken is whether Rina and Naoya drink wine, and not whether they drink only wine. The null object clause uttered by Ken is most naturally understood as ‘Naoya does not drink wine’, where the meaning of *-mo* ‘also’ is excluded. Indeed, the sentence that follows sounds contradictory.²⁶

- (44) Context: Yumi and Ken invited Rina and Naoya to their house to have a drinking party that evening. However, all they had in their house was a bottle of wine, and they did not have time to go shopping. Since only Ken knows what Rina and Naoya can drink. Yumi asks Ken:

Yumi: Rina-to-Naoya-wa wain nomu-no?
 Rina-and-Naoya-TOP wine drink-PST-Q
 ‘Do Rina and Naoya drink wine?’

Ken: Rina-wa wain-mo nomu kedo, Naoya-wa *e* noma-nai. (^{NOT}_{ALSO>NEG}, ^{NOT}_{NEG>ALSO})
 Rina-TOP wine-also drink but Naoya-TOP drink-NEG
 lit. ‘Rina also drinks wine, but Ken does not drink.’

Ken: #Kare-wa wain-dake nomun-da-yo.
 he-TOP wine-only drink-COP-SFP

²⁶It is perfectly natural for Ken to say ‘Rina “also” drinks wine as his first utterance provided that Ken knows she drinks other kinds of alcohol as well.

‘He drinks only wine.’

The absence of the meaning of *-mo* ‘also’ in the null object clause in (44) is accounted for under the QUD-based analysis. In (44), the QUD is *Do Rina and Naoya drink wine?*, which has the semantic representation in (45a), and the null object clause with the *-mo*-exclusive interpretation is represented as in (45b). The null object clause with this interpretation counts as a congruent answer to the QUD in that (45a) and (45b) share an identical background and the focused element is a member of the restriction (i.e., $B = B'$ and $F \in R$).

- (45) a. $\langle B, R \rangle = \langle \lambda f.f(\text{Naoya drinks wine}), \text{POLARITY} \rangle$
POLARITY = {Id, $\neg$ }
- b. $\langle B', F \rangle = \langle \lambda f.f(\text{Naoya drinks wine}), \neg \rangle$

Since what is backgrounded in this discourse is the NP *wain* ‘wine’ without the focus particle, AE is licensed with this NP but not with NP-*mo*, which is not included in the background of (45b). It follows that the null object clause in (44) has the structure in (46), and this derives the interpretation that Naoya does not drink wine.

- (46) [TP Subject [TP [NegP [VP [NP-wine] V] NEG] T]]

Now the question is whether the NEG>ALSO reading is obtained in a null object sentence, as reported in Maeda (2019). If the line of AE analysis supplemented with the QUD-based analysis is correct, it is predicted that the NEG>ALSO reading is obtained when AE is licensed under the condition in (1). Consider (47). In this context, it is suspected that Rina and Naoya bought a bag in addition to shoes, and (47Q) asks whether it is the case. Although judgements greatly vary among speakers, the null object clause in (47A) could be understood as ‘It is not the case that Naoya also bought a bag’ (i.e., NEG>ALSO), which rejects their mother’s conjecture that he bought a bag in addition to shoes. Likewise, (47A’), which is compatible with the NEG>ALSO reading, might felicitously follow.

- (47) Context: Rina and Naoya are twins. On their birthday, their parents were too busy, so they borrowed their father’s credit card and went shopping to buy their own birthday gifts. The next day, their mother saw two pairs of shoes and two bags on the table. She had heard that they were

going to buy shoes but she did not expect them to buy anything else, so asks their older brother:

Q: Rina-to-Naoya-wa kaban-mo kat-ta-no?

Rina-and-Naoya-TOP bag-also buy-PST-Q

‘Did Rina and Naoya also buy a bag?’

A: Rina-wa kaban-mo kat-ta kedo, Naoya-wa *e* kawa-nakat-ta-yo. (??_{NEG>ALSO})

Rina-TOP bag-also buy-PST but Naoya-TOP buy-NEG-PST-SFP

lit. ‘Rina also bought a bag, but Naoya did not buy.’

A’: ??Naoya-wa kaban-dake kat-tan-da-yo. Rina-ga kutu ni-soku kat-tan-da-yo.

Naoya-TOP bag-only buy-PST-COP-SFP Rina-NOM shoe two-CL buy-PST-COP-SFP

‘Naoya bought only a bag. Rina bought two pairs of shoes.’

The _{NEG>ALSO} reading, if real, is accounted for by the QUD-based analysis. In (47), (47Q) is the QUD and (47A) is intended to answer it. The null object clause with the _{NEG>ALSO} reading provides an appropriate negative answer to the QUD as follows: ‘As for Naoya, it is not the case that he bought a bag in addition to shoes’; hence the discourse is coherent. Formally speaking, the QUD and the _{NEG>ALSO} reading have the representations in (48a) and (48b), respectively. The Q-A pair satisfies the criterion for congruent Q-A pairs (i.e., $B = B'$ and $F \in R$). Thus, the _{NEG>ALSO} reading is a congruent answer to the QUD, *Did Naoya also buy a bag?*

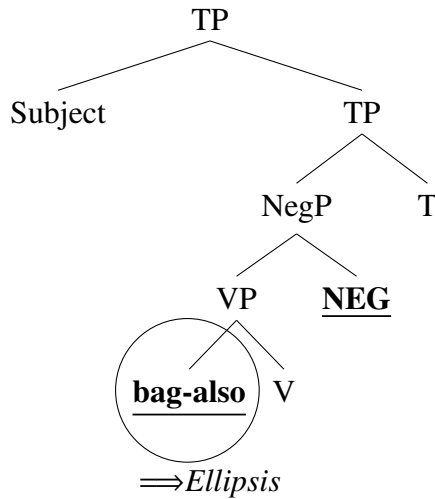
(48) a. $\langle B, R \rangle = \langle \lambda f. f(\text{Naoya also bought a bag}), \text{POLARITY} \rangle$

$\text{POLARITY} = \{\text{Id}, \neg\}$

b. $\langle B', F \rangle = \langle \lambda f. f(\text{Naoya also bought a bag}), \neg \rangle$ (_{NEG>ALSO})

Notice that in such a discourse, the object *wain-mo* ‘wine-also’ is backgrounded rather than focused. Therefore, the discourse condition in (1) is met (i.e., object NP suffixed by *-mo* is in the background of a coherent discourse). It follows that AE of NP-*mo* in the scope of negation is licensed as in (49), deriving the the _{NEG>ALSO} reading in the null object clause in (47).

(49)



Yet, for some speakers, the meaning of *-mo* is not included in the null object clause in (47A); it has only the interpretation that Naoya did not buy a bag. Accordingly, the sentence in (47A') sounds contradictory. The relative difficulty of the NEG>ALSO reading may be ascribed to the fact that the non-elliptical counterpart in (50A) is to some extent unacceptable to begin with. The second clause in (50A) can have the NEG>ALSO reading, but it is unnatural. In this context, it is more natural to use the expression in (50'), in which the object is marked by a contrastive marker *-wa* rather than *-mo*.²⁷

- (50) Context: Rina and Naoya are twins. On their birthday, their parents were too busy, so they borrowed their father's credit card and went shopping to buy their own birthday gifts. The next day, their mother saw two pairs of shoes and two bags on the table. She had heard that they were going to buy shoes but she did not expect them to buy anything else, so asks their older brother:

Q: Rina-to-Naoya-wa kaban-mo kat-ta-no?
Rina-and-Naoya-TOP bag-also buy-PST-Q
'Did Rina and Naoya also buy a bag?'

A: #Rina-wa kaban-mo kat-ta kedo, Naoya-wa kaban-mo kawa-nakat-ta-yo. (NEG>ALSO)
Rina-TOP bag-also buy-PST but Naoya-TOP bag-also buy-NEG-PST-SFP
lit. 'Rina also bought a bag, but Naoya also did not buy a bag.'

A': Rina-wa kaban-mo kat-ta kedo, Naoya-wa kaban-wa kawa-nakat-ta-yo.
Rina-TOP bag-also buy-PST but Naoya-TOP bag-CONT buy-NEG-PST-SFP
lit. 'Rina also bought a bag, but Naoya did not buy a bag.'

Let us next address the question of whether the ALSO>NEG reading is obtained with null objects. Con-

²⁷I thank Satoshi Oku for suggesting this line of analysis.

sider (51). The most likely interpretation of the null object sentence uttered by Yumi is the $\text{ALSO} > \text{NEG}$ reading that it is also wine that Naoya does not drink. The follow-up sentence, which is compatible with the $\text{NEG} > \text{ALSO}$ reading but contradicts the $\text{ALSO} > \text{NEG}$ reading, sounds contradictory.

(51) Context: Ken invited Rina, Naoya, and Yumi to the dinner at his house. Ken prepared beer and wine for his guests, but Yumi, who arrived first told Ken that Naoya and Yumi do not drink beer. Since all he had in his house was beer and wine, he asked Yumi:

Ken: Rina-to-Naoya-wa wain-mo noma-nai-no? ($\text{ALSO} > \text{NEG}$)
 Rina-and-Naoya-TOP wine-also drink-NEG-Q
 lit. ‘Do Rina and Naoya also not drink wine?’

Yumi: Rina-wa wain-nara nomu kedo, Naoya-wa *e* noma-nai-yo. ($\text{OK}_{\text{ALSO} > \text{NEG}}$, $\text{NOT}_{\text{NEG} > \text{ALSO}}$)
 Rina-TOP wine-if drink but Naoya-TOP drink-NEG-SFP
 ‘Rina drinks wine, but Naoya dose not drink.’

Yumi: #Naoya-wa wain-dake nomun-da-yo.
 Naoya-TOP wine-only drink-COP-SFP
 ‘Naoya drinks only wine.’

In this context, Ken’s question represents the QUD, which asks whether it is the case that in addition to beer that Rina and Naoya do not drink, they also do not drink wine. The first sentence uttered by Yumi resolves this QUD. Focusing on the null object clause, the $\text{ALSO} > \text{NEG}$ reading provides an affirmative answer to the QUD, *Is it also wine that Naoya does not drink?* The QUD and the null object clause that answers it are represented as in (52a) and (52b), respectively. An identical background is shared by the Q-A pair (i.e., $B = B'$) and Id is a member of POLARITY ($F \in R$). The discourse coherence is satisfied in that the null object clause with the $\text{ALSO} > \text{NEG}$ reading is a congruent answer to its QUD.

- (52) a. $\langle B, R \rangle = \langle \lambda f. f(\text{It is also wine that Naoya does not drink}), \text{POLARITY} \rangle$ ($\text{ALSO} > \text{NEG}$)
 $\text{POLARITY} = \{\text{Id}, \neg\}$
 b. $\langle B', F \rangle = \langle \lambda f. f(\text{It is also wine that Naoya does not drink}), \text{Id} \rangle$ ($\text{ALSO} > \text{NEG}$)

Additionally, the object *wain-mo* ‘wine-also’ is in the background, as (52b) indicates. Since (1) is satisfied, AE is licensed in the structure in (42), where the object takes scope over negation. As a result, the $\text{ALSO} > \text{NEG}$ reading is obtained in the null object clause in (51).

Admittedly, however, the argument based on (51) is not convincing enough in that there seems to

be no situation where ‘Naoya also does not drink wine’ contradicts ‘Naoya does not drink wine.’ The follow-up sentence in (51) contradicts the ALSO>NEG reading but it also contradicts the interpretation that Naoya simply does not drink wine, where the meaning of *-mo* is absent. Given this, further confirmation of the AE analysis in (42) must be left for future research.

In summary, data in (47) and (51) suggest that the scopal interactions between *-mo* ‘also’ and negation in null object constructions are also compatible with the current QUD-based analysis. Furthermore, the ALSO>NEG reading in (51) supports the AE analysis over the VSVPE analysis. The object NP with *-mo* above negation is outside the VP-domain, as illustrated in (42). Such objects can be elided via AE but not via VSVPE. If we assume that ellipsis in Japanese requires the discourse condition in (1) as a necessary condition, the AE analysis accounts for the data in (51) but the VSVPE analysis does not even if we assume (1).

3.3 Notes on Scope Economy and Parallelism

Before I conclude this chapter, I discuss Maeda’s (2019) AE analysis based on Scope Economy and Parallelism because the empirical coverage of Maeda’s analysis largely overlaps with that of the current QUD-based analysis.

First, Fox (2000) proposes that syntactic derivation involving scope bearing elements is constrained by Scope Economy as follows:

(53) Scope Economy

Covert optional operations [...] cannot be scopally vacuous (i.e., they must reverse the relative scope of two noncommutative quantificational expressions).

(Fox 2000, p. 75)

(53) disallows movement of scope bearing elements that does not affect scope possibilities. In addition to this, Fox (2000) argues that an elided clause (β_E) and its antecedent clause (β_A) must adhere to Scope Parallelism stated in (54).

(54) Scope Parallelism

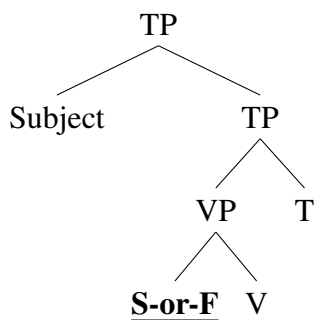
In an ellipsis/phonological reduction construction[,] the scopal relationship among the elements in β_A must be identical to the scopal relationship among the parallel elements in β_E .

(Fox 2000, p. 32)

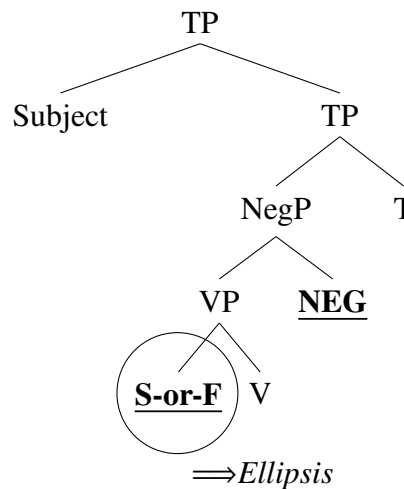
Maeda (2019) adopts Fox's (2000) idea and proposes that the scopal interactions between two logical operators in Japanese ellipsis constructions is explained by Scope Economy and Parallelism. To illustrate the analysis, let us take (3), repeated here as (55), for instance. In (55a), the disjunction is the only logical operator, hence a covert movement of the disjunction does not change scope possibilities. In this respect, (55a) is regarded as "scopally uninformative" in Fox's (2000) terms. Scope Economy in (53) prohibits a covert movement of the disjunction in the scopally uninformative sentence in (55a). Accordingly, the antecedent clause in (55a) has to have the structure in (56a), where the object stays in-situ. Further, Scope Parallelism requires that (55a) and (55b) are in a parallel structural relation, which disallows movement of the disjunction in (55b). Consequently, (55b) can have only the structure in (56b), in which AE applies to the disjunctive phrase below negation, resulting in the obligatory NEG>OR reading.

- (55) a. Ken-wa supeingo-ka-furansugo-o hanasu.
 Ken-TOP Spanish-or-French-ACC speak
 'Ken speaks Spanish or French.'
- b. Misaki-wa *e* hanas-anai. (^{NOT}OR>NEG, ^{OK}NEG>OR)
 Misaki-TOP speak-NEG
 lit. 'Misaki doesn't speak.'

(56) a.



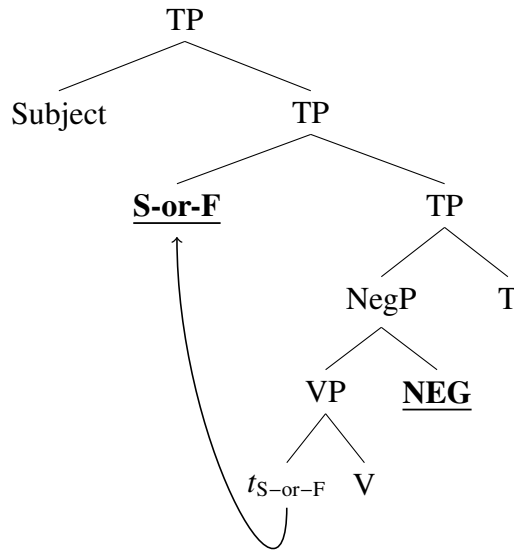
b.



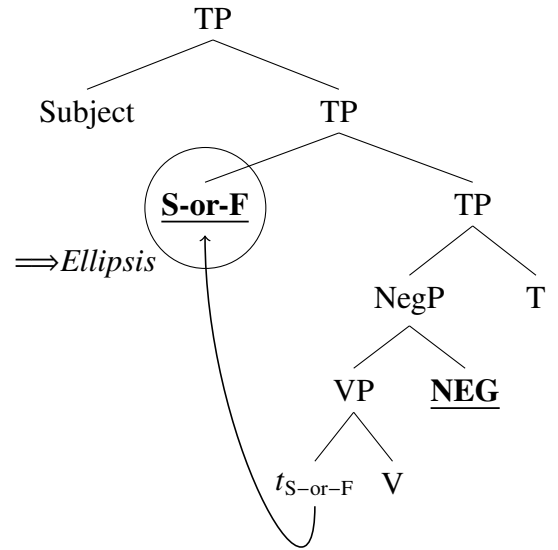
Further, Maeda (2019) claims that the analysis correctly predicts the OR>NEG reading to be available in the elided sentence in (9), repeated below as (57). The OR>NEG reading in (57a) is derived via a movement of the disjunction above the negation as in (58a). Scope Parallelism requires that the disjunction in (57b) also undergo movement above negation, as illustrated in (58b). As a result, AE applies to the disjunctive object above negation and derives the OR>NEG reading in (57b).

- (57) a. Ken-wa supeingo-ka-furansugo-o hanas-anai. (OR>NEG)
 Ken-TOP Spanish-or-French-ACC speak-NEG
 'Ken doesn't speak Spanish or French'
- b. Misaki-mo *e* hanas-anai. (^{OK}OR>NEG, ^{NOT}NEG>OR)
 Misaki-also speak-NEG
 lit. 'Misaki doesn't speak, either.'

(58) a.



b.



Although the analysis based on Scope Economy and Parallelism may make a correct prediction concerning (55) and (57), the fact is that there are cases where the effects of discourse factors appear to override Scope Economy and Parallelism, which are constraints on syntactic derivations. The example in (59) is a case in point (see also (18)). In (59), Taro's question is the QUD. The mother's first utterance then serves as the antecedent for the following null object sentence. The OR>NEG reading is available in the null object sentence, which is read with the indicated prosody in this specific context.

- (59) Context: Taro was told by his mother about the languages Ken and Misaki do or do not speak.
 However, the next day, he could not remember what he was told accurately, and asks the follow-

ing question to his mother.

Taro: Ken to Misaki-wa supeingo-ka-furansugo-o HANASun-da-kke, soretomo dotti-ka-o
Ken and Misaki-TOP Spanish-or-French-ACC speak-COP-Q or which-Q-ACC
HANAS-ANAIN-da-kke?
speak-NEG-COP-Q
'As for Ken and Misaki, do they SPEAK Spanish or French or do they NOT speak either
one of the languages? (OR>NEG)'

Mother: Ken-wa supeingo-ka-furansugo-o HANASu-yo.
Ken-TOP Spanish-or-French-ACC speak-SFP
'Ken speaks Spanish or French.'

Mother: Misaki-wa e HANAS-ANAI-yo. (^{OK}OR>NEG, ^{NOT}NEG>OR)
Misaki-TOP speak-NEG-SFP
lit. 'Misaki doesn't speak.'

Mother: Furansugo-wa hanasu rasii kedo.
French-CONT speak seem though
'I heard that Misaki speaks French, though.'

The QUD-based account correctly predicts the OR>NEG reading to be available in this context. In (59), what is under discussion is whether Ken and Misaki SPEAK Spanish or French or they do NOT speak at least one of the two languages (OR>NEG). The elliptical sentence uttered by the mother with the OR>NEG provides an answer to the QUD, *Does Misaki SPEAK Spanish or French or she does NOT speak Spanish or French (OR>NEG)?* Accordingly, the discourse is coherent and the disjunctive object is in the background.²⁸ Maeda's (2019) analysis, on the other hand, does not explain the availability of the OR>NEG reading. That is to say, the antecedent does not contain a negation, hence covert movement of the disjunction does not change scope possibility. Scope Parallelism thus prohibits covert movement of the disjunction. It follows that Scope Economy and Parallelism wrongly predict the OR>NEG reading to be unavailable in the elided sentence regardless of discourse factors.

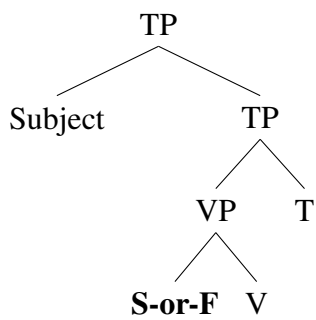
A question remains as to why the OR>NEG reading in (55b) has been reported to be unavailable in the literature. The answer lies in the fact that some contexts come to our minds more easily (or naturally) than others when we read or parse linguistic data if no specific context is provided (see Kitagawa and Fodor 2003, 2006; Kobayashi et al. 2024, for relevant discussions). That is to say, while the contexts such as

²⁸Funakoshi (2013) suggests that the OR>NEG reading in cases such as (57b) is only apparent and it obtains due the strong parallelism requirement induced by the additive particle *mo* 'also'. The OR>NEG reading in the null object sentence in (59) provides a piece of evidence that the OR>NEG reading is obtained in a null object sentence in the absence of an additive particle.

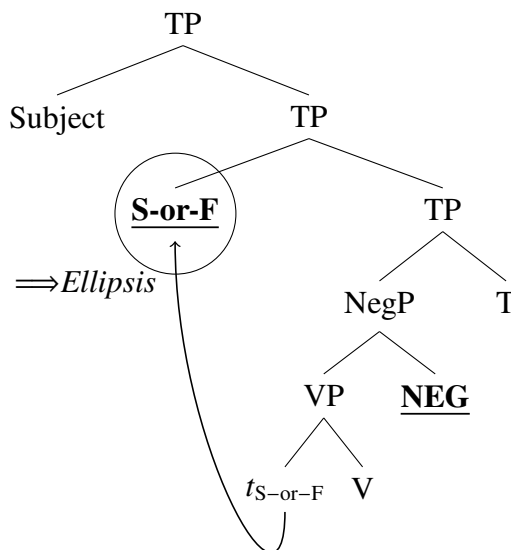
(10) and (18) (discussed Section 3.1) are easy for everyone to come up with, it takes a person of creativity to come up with a natural context that makes the OR>NEG reading natural when Scope Parallelism is not satisfied. This may be the reason why the potential OR>NEG (55b) was overlooked in the literature. What is important here is that it is not some syntactic principle but it is a more general requirement of discourse coherence that makes the OR>NEG reading difficult in (55b).

The observation not only supports the discourse-based analysis over the analysis based on Scope Economy and Parallelism but also has a significant implication to the syntax of AE. The data in (59) points to the possibility that a Parallelism requirement on AE is somewhat looser than Maeda (2019) argues. To be specific, AE is licensed in the configuration in (60). While Maeda seems to postulate that AE requires a structural parallelism at the TP-level, (59) suggests that AE is licensed as long as the identity between the arguments are satisfied. As a matter of fact, it is not at all surprising to find that AE does not need to satisfy structural parallelism between some larger XPs that contain the arguments. In (60b), movement of the disjunctive object is free (i.e., nothing prohibits it in narrow syntax). After movement, non-pronunciation of the lower copy (which I show as a trace for ease of exposition) is due to the existence of its higher copy just as in usual cases of movement. AE then applies to the higher copy by referencing the identity between the moved argument in (60b) and the argument in the antecedent (60a). Notice that there does not seem to be any motivation for postulating structural parallelism between the TPs in any of these processes involved in AE application in (60b). Although Scope Economy may be at work in syntactic derivation, Scope Parallelism is irrelevant unless the target of ellipsis is a big phrase (e.g., TP and CP) which itself contains two or more logical operators.

(60) a.



b.



Consider another example in (61) (see also (32)). In this peculiar context, the null object sentence in (61A') has the ONLY>NEG reading. The sentence in (61A''), which contradicts the ONLY>NEG reading, is infelicitous. If (61A') had the NEG>ONLY reading, (61A'') would not necessarily sound contradictory.

(61) Context: We are talking about four languages, namely Japanese, English, Spanish, and French, which Yuki or Mamoru may or may not speak. We know that among the four languages, either Yuki or Mamoru is a polyglot who speaks English, Spanish, and French, but not Japanese. On the other hand, the other person is a monolingual who speaks only Japanese, but we don't know which one is which.

Q: Yuki-to-Mamoru-wa nihongo-dake HANASun-da-kke, soretomo nihongo-dake
 Yuki-and-Mamoru-TOP Japanese-only speak-COP-Q or Japanese-only
 HANAS-ANAIN-da-kke?
 speak-NEG-COP-Q
 lit. 'As for Yuki and Mamoru, do they SPEAK only Japanese or do they NOT speak only
 Japanese? (ONLY>NEG)

A: Yuki-wa nihongo-dake HANAsun-da-yo.
 Yuki-TOP Japanese-only speak-COP-SFP
 'Yuki speaks only Japanese.'

A': Mamoru-wa *e* HANAS-ANAIN-da-yo. (^{OK}ONLY>NEG, ^{NOT}NEG>ONLY)
 Mamoru-TOP speak-NEG-COP-SFP
 lit. 'Mamoru doesn't speak.'

A'': #Nihongo-wa hanasu kedo-ne.
 Japanese-CONT speak though-SFP
 'He speaks Japanese, though.'

Now, (61) also supports the view that the effect of discourse contexts surpasses Scope Economy and Scope Parallelism. The antecedent in (61A) has only one logical operator, namely 'only', thus Scope Economy disallows a covert movement of 'only' in the scopally uninformative sentence. It follows that Scope Parallelism requires that (61A') has only the surface scope reading (i.e., the NEG>ONLY), contrary to fact.

On a final note, Scope Parallelism seems to be at work in a number of cases of ellipsis. However, this is not due to the alleged structural parallelism in AE applications. Scopally parallel sentences are often observed in ellipsis because the sentences in question are easily interpreted as appropriate partial answers

to a common overall QUD. To provide just one example, (62) is such a case.

- (62) Context: Ken and Misaki applied to a position which requires the employee to speak Spanish and French. Since A knew that they were both competent polyglots, A was sure that they would be hired. However, the company somehow hired neither of them. A inferred that the reason they were not hired was that they didn't speak either one of the languages among Spanish and French.

- A: Ken-wa supeingo-ka-furansugo-o hanas-anai-no? (OR>NEG)
Ken-TOP Spanish-or-French-ACC speak-NEG-Q
lit. 'Do Ken and Misaki not speak Spanish or French'
- B1: Ken-wa supeingo-ka-furansugo-o hanas-anai-yo. (^{OK}OR>NEG, ^{NOT}NEG>OR)
Ken-TOP Spanish-or-French-ACC speak-NEG-SFP
'Ken doesn't speak Spanish or French'
- B2: Misaki-mo e hanas-anai-yo. (^{OK}OR>NEG, ??^{NEG}>OR)
Misaki-also speak-NEG-SFP
lit. 'Misaki also doesn't speak.'
- B3: Hutaritomo furansugo-wa hanasu rasii kedo.
both.of.them French-CONT speak seem though
'I heard that both of them speak French, though.'

By contrast, in order to understand Scopally unparallel sentences in a coherent discourse, we must come up with unnatural contexts such as the ones in (59) and (61). This is arguably the reason why ellipsis data discussed in the literature mostly satisfy Scope Parallelism.

3.4 Chapter Summary

I have discussed how ellipsis affects the relative scope relations between logical operators such as disjunction and focus particles *-dake/mo* 'only/also' and their clause-mate negation. The observations reported in the previous studies seemed so complex that scholars have proposed that ellipsis-licensing in Japanese is restricted by some syntactic mechanisms involved in ellipsis in interesting ways. However, the novel observations in this chapter show that the seemingly problematic interpretive patterns observed in null object constructions are attributed to discourse factors rather than some syntactic mechanisms which restrict ellipsis-licensing in certain syntactic contexts. Specifically, I showed that AE of objects is licensed as long as the targeted object is in the background of a coherent discourse. Moreover, some of the data

presented in this chapter support the AE analysis of null objects over the VSVPE analysis and the *pro*-drop analysis. The former wrongly predicts that the OR/ONLY/ALSO>NEG structure is not derived in null object constructions because the NP-*ka*-NP and NP-*dake/mo* outside VP cannot be elided via VP-ellipsis. Additionally, the *pro*-drop analysis does not explain the interpretations where the meaning of the logical operators are present. Overall, it was shown that once the discourse-pragmatic licensing condition in (1), which has been tacitly presumed in ellipsis studies, is seriously considered, the AE analysis turns out to be empirically superior to the the VSVPE analysis and the *pro*-drop analysis. Finally, I briefly discussed a potential alternative analysis based on Scope Economy and Parallelism (Maeda 2019). I argued that the effects of discourse contexts on ellipsis possibility actually override the syntactic principles of Scope Economy and Parallelism. Admittedly, however, data on focus particles such as (32) suggest that ellipsis possibility requires more than just backgrounding requirement and discourse coherence. Hopefully, future research deepens our understanding of the interactions of multiple factors including syntactic, semantic/pragmatic, as well as prosodic factors (see Kobayashi et al. 2024, who have taken a step forward in this direction).

Chapter 4

DISCOURSE CONDITION ON NULL ADJUNCTS IN JAPANESE

In Japanese, not only arguments of a predicate but also adjuncts of a wide range of types can be null in a variety of constructions (Kuno 1995; Kamio and Takami 1998; Oku 2016; Funakoshi 2016; Hayashi and Fujii 2015; Sato and Hayashi 2018; Tanabe and Kobayashi 2024a). However, null adjuncts in Japanese exhibit even more bewildering behaviors than null arguments. Indeed, it may take a fair amount of time and effort to find environments where null arguments are NOT licensed in Japanese. As for null adjuncts, by contrast, it actually took a fair amount of effort for researchers to find environments where they ARE licensed. Naturally, the syntax and semantics of null adjuncts have recently started to attract great attention of researchers studying Japanese ellipsis (Oku 2016; Funakoshi 2016; Hayashi and Fujii 2015; Sato and Hayashi 2018; Kobayashi 2020; Sato and Maeda 2021; Tanabe and Kobayashi 2023, 2024a,b, to appear; Kobayashi et al. 2024; Kobayashi 2024b). In Chapter 3, we have seen that once we take into account the discourse condition in (1), the Argument Ellipsis (AE) analysis explains licensing of null arguments, which seems to be more complicated than the AE analysis would predict.

(1) *Discourse Condition on Ellipsis*

Ellipsis of XP is licensed iff it is in the background of a coherent discourse.

Applying this novel perspective, this chapter discusses licensing of null adjuncts in Japanese. I show that null adjuncts are also licensed when (1) is satisfied.

The organization of this chapter is as follows. In Section 4.1, I review two previous analyses of null adjuncts in Japanese, namely the Verb-Stranding VP-Ellipsis (VSVPE) analysis (Funakoshi 2016) and

a pragmatic analysis based on the *Ban Against Partial Discourse Deletion* of Kuno (1982) (Oku 2016; Landau 2023). I clarify the limitation of these analyses. In Section 4.2, I extend the QUD-based analysis proposed in Chapter 3 to null adjuncts, and demonstrate that licensing of null adjuncts is also basically constrained by (1). In Section 4.3, I discuss some remaining problems of the current analysis and suggest avenues for future research. Section 4.4 is a summary of this chapter.

4.1 Background

The currently heated discussion on the theoretical status of Japanese null adjuncts was provoked by Oku's (1998) observation in (2). Oku (1998, p. 174) reports that with (2a) as its antecedent, (2b) has only the adjunct-exclusive reading (EX-reading) that Mamoru did not wash a car at all, and it does not have the adjunct-inclusive reading (AI-reading) that Mamoru did not wash a car in a careful manner.

- (2) a. Yuki-wa teineini kuruma-o arat-ta.
 Yuki-TOP carefully car-ACC wash-PST
 'Yuki washed a car carefully.'
- b. Mamoru-wa *e* kuruma-o araw-anak-atta. (^{OK}EX-reading, ^{??}AI-reading)
 Mamoru-TOP car-ACC wash-NEG-PST
 lit. 'Mamoru didn't wash a car.'

Oku (1998) also reports that the adjunct cannot be included in the interpretation of (3b), where the object is also null. Oku (1998, p. 172) states that "it is hard (or impossible, for some speakers) to get the interpretation in which the adverb is understood in the elliptic site."

- (3) a. Yuki-wa teineini kuruma-o arat-ta.
 Yuki-TOP carefully car-ACC wash-PST
 'Yuki washed a car carefully.'
- b. Mamoru-wa *e e* araw-anak-atta. (^{OK}EX-reading, [?]AI-reading)
 Mamoru-TOP wash-NEG-PST
 lit. 'Mamoru didn't wash.'

However, it later turned out that whether the AI-reading is available in (3b) is not so obvious, as pointed out by Takahashi (2008a) and Funakoshi (2014, 2016).²⁹ To this day, different scholars have

²⁹In fact, antecedent sentences in Oku's (1998) original data are presented in the object-adjunct order, which may make the AI-reading even less salient in the elided sentence. However, throughout this dissertation, I follow Funakoshi (2016) and

reported a variety of cases in which null adjuncts may or may not be licensed (Takahashi 2008a; Abe 2013; Funakoshi 2016; Oku 2016; Tanaka 2023, among others). Importantly, the judgements reported in the previous studies are in many cases unstable and greatly vary among speakers. For this reason, studies on the distribution of null adjuncts have often deepened the mystery of the syntax of Japanese ellipsis rather than unveiled it. In this chapter, I discuss whether the limited contexts in which null adjuncts are licensed are better explained by a syntactic analysis or a discourse-pragmatic analysis.

4.1.1 VSVPE analysis of null adjuncts

Funakoshi (2016) points out that the AI-reading is more readily available in (4), in which the two clauses are connected by a conjunctive particle *kedo* ‘but’ (see Kobayashi et al. 2024, for a pragmatic analysis for this observation).

- (4) Yuki-wa teineini kuruma-o arat-ta kedo, Mamoru-wa *e e* araw-anak-atta. (^{OK}AI-reading)
 Yuki-TOP carefully car-ACC wash-PST but Mamoru-TOP wash-NEG-PST
 lit ‘Yuki washed a car carefully, but Mamoru didn’t wash.’

In another study, Takahashi (2008a) observes that the AI-reading is easier to get in (5b) whose antecedent sentence is also negated.

- (5) a. Yuki-wa teineini kuruma-o araw-anak-atta.
 Yuki-TOP carefully car-ACC wash-NEG-PST
 ‘Yuki didn’t wash a car carefully.’
 b. Mamoru-mo *e e* araw-anak-atta. (?EX-reading, ^{OK}AI-reading)
 Mamoru-also wash-NEG-PST
 lit. ‘Mamoru also didn’t wash.’

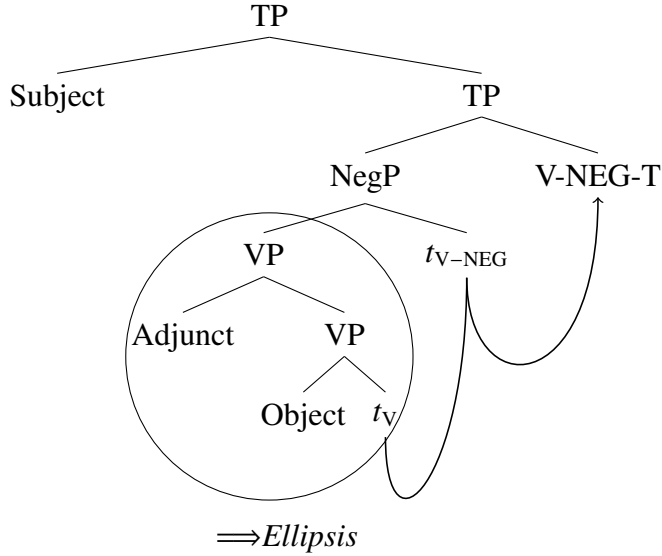
Based on these observations and some other novel observations of his own, Funakoshi (2016) concludes that null object constructions allow the AI-reading if an appropriate context is provided. Funakoshi then goes on to suggest that AI-readings obtained in null object constructions are real ones, which call for a syntactic mechanism that is responsible for deriving null adjuncts in Japanese.

It is against this backdrop that Funakoshi (2016) proposes his VSVPE analysis of null adjuncts. Funakoshi claims that the AI-readings in null object constructions are accounted for if we assume Otani

provide example sentences with the adjunct-object order. This point does not affect the discussions and proposals in this chapter in any substantial ways. See Oku (2009) for discussion on the effects of relative word order on ellipsis possibility.

and Whitman’s VSVPE analysis of Japanese null objects (see Section 1.1). That is, (3b) permits the AI-reading because the null object is derived via VSVPE, as illustrated in (6). Since the ellipsis site contains the adjunct, the analysis explains why the AI-reading is obtained in null object constructions.

(6)



This line of analysis of null adjuncts has been supported in other studies, in which the so-called head-stranding XP-ellipsis analysis is extended to other elliptical constructions in Japanese (Hayashi 2015; Hayashi and Fujii 2015; Sato and Hayashi 2018; Sato and Maeda 2021).³⁰

Yet, it is not the case that null adjuncts always co-occur with null objects. Rather, observations are wide that an adjunct alone can be null with an overt object (Funakoshi 2016; Oku 2016; Kobayashi 2020; Tanabe and Kobayashi 2024a, to appear). Funakoshi (2016), for example, provides the example in (7). In the context specified in (7), (7b), which answers the question in (7a), has the AI-reading: ‘Your are wrong. It is THAT car that I did not wash in a careful manner.’

(7) Context: Taro ordered Ziro to wash his two cars clean. But Ziro washed one car sloppily and the other carefully.

- a. Taroo: Kimi-wa teineini kotti-no kuruma-o araw-anak-atta daro?
you-TOP carefully this-GEN car-ACC wash-NEG-PST did.you
‘You didn’t wash this car carefully, did you?’

³⁰See Simpson et al. (2013), Simpson (2023), and Sato (2024b,a) for cross-linguistic views on the validity of the VSVPE analysis of null adjuncts. But see Landau (2023), for counter-arguments.

- b. Ziro: *Iya, boku-wa e ATTI-NO kuruma-o araw-anak-attan-da.* (^{OK}AI-reading)
 no I-TOP that-GEN car-ACC wash-NEG-PST-COP
 lit. ‘No, I didn’t wash that car.’

(Funakoshi 2016, p. 134)

On the other hand, the following example indicates that the AI-reading is not always available even if an appropriate context is set up. Funakoshi (2016) reports that (8b) has only the EX-reading and it is an unacceptable response to (8a). That is to say, the EX-reading asserts that the speaker did not wash the car, which rejects the presupposition carried by the question that Ziro washed the car. Thus, it is more appropriate to say something like *iya* ‘no’ rather than *un* ‘yes’ at the beginning of the sentence. If (8b) had the AI-reading, the sentence would imply that the speaker washed the car (but not carefully), and therefore, the sentence beginning with *un* ‘yes’ should be understood as an appropriate response that affirms the questioner’s presupposition.

- (8) Context: Taro ordered Ziro to wash his two cars clean. But Ziro washed one car sloppily and the other carefully.

- a. Taro: *Kimi-wa teineini kotti-no kuruma-o araw-anak-atta daro?*
 you-TOP carefully this-GEN car-ACC wash-NEG-PST did.you
 ‘You didn’t wash this car carefully, did you?’
- b. Ziro: *#Un, boku-wa e kotti-no kuruma-o araw-anak-atta-yo.* (^{??}AI-reading)
 yes I-TOP this-GEN car-ACC wash-NEG-PST-PRT
 lit. ‘Yes, I didn’t wash this car.’

(Funakoshi 2016, p. 135)

These observations may suggest that the availability of the AI-reading is more complex than the VSVPE analysis in (6) would predict.

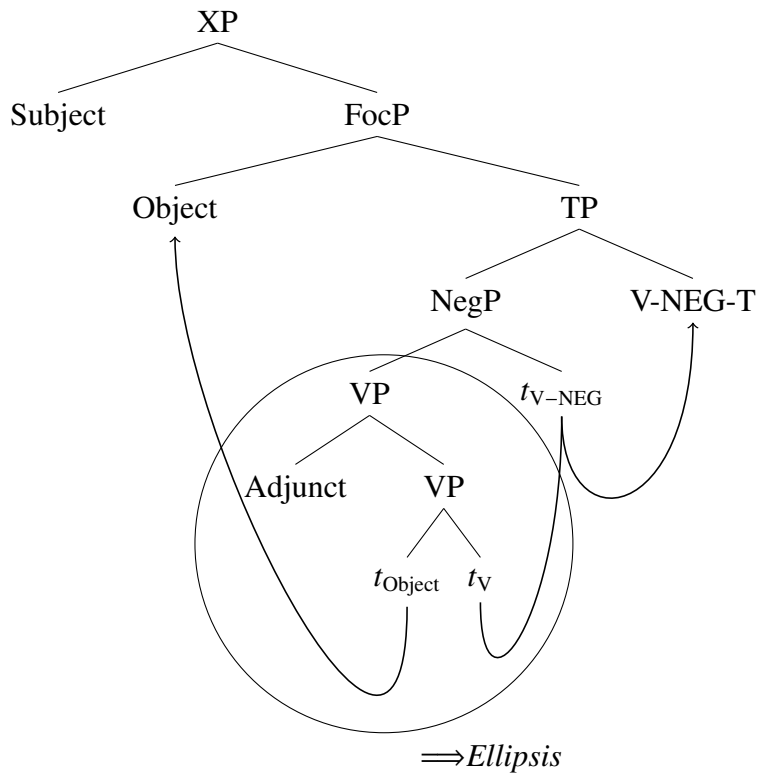
Nevertheless, Funakoshi (2016) maintains that the somewhat complicated distribution of null adjuncts can be generalized as in (9). Indeed, the object in (7b) is contrastively focused in the discourse, but the object in (8b) is not (but see Tanabe and Kobayashi 2024a, for observations which refute this generalization).

- (9) An object can be overt in a null adjunct sentence only if it is contrastively focused.

(Funakoshi 2016, p. 136)

Funakoshi (2016) then argues that (9) speaks for his VSVPE analysis. That is, the contrast between (7b) and (8b) is accounted for if we assume that only the former is derived via VSVPE. Under Funakoshi's analysis, (7b) involves VSVPE in (10), where the contrastively focused object moves out of VP to a focus position.

(10)



By contrast, (8b) cannot be a case of VSVPE; hence it does not have the AI-reading. If (8b) were derived via VSVPE, the nonfocused object which stays in the VP would be elided along with the adjunct (as in (6)).³¹

To recapitulate, the VSVPE analysis posits that an elliptical sentence allows the AI-reading if VSVPE is syntactically an available option to derive it; otherwise the AI-reading is not obtained because there is no other way to derive null adjuncts by ellipsis (see Oku 1998, who claims that ellipsis cannot apply to adjuncts themselves).

³¹Funakoshi suggests that VSVPE in (10) can be assimilated to English pseudogapping in (ia), which also involves focus movement of the contrasted object and subsequent VP ellipsis, as depicted in (ib) (see studies cited in Funakoshi 2016, p. 136; for discussions and analyses of English data).

- (i) a. John hasn't played baseball, but he has SOCCER.
- b. but he has soccer_i {~~VP played~~ _{*t_i*}}

4.1.2 Ban against partial discourse deletion?

To the author’s knowledge, the VSVPE analysis of null adjuncts in Japanese was first challenged by Oku (2016) and later by scholars such as Kobayashi (2020), and Tanabe and Kobayashi (2024a, to appear).³² Notably, Tanabe and Kobayashi (2024a) have revealed that null adjuncts are observed in syntactic contexts where VSVPE is not an available option to derive them. Based on the finding, Tanabe and Kobayashi (2024a) point to the possibility that an alternative pragmatic analysis (Oku 2016; Ahn and Cho 2021; Landau 2023) can explain all the data on null adjuncts including those explained under the VSVPE analysis, and thus the VSVPE analysis is not required. Below, I introduce Landau’s (2023) analysis and clarifies a limitation of such a pragmatic analysis, which had also been pointed out by Funakoshi (2016).

The VSVPE analysis crucially rests on the contrast between (2) and (3) regarding the availability of the AI-reading. The examples are repeated below as (11) and (12), respectively.

- (11) a. Yuki-wa teineini kuruma-o arat-ta.
Yuki-TOP carefully car-ACC wash-PST
‘Yuki washed a car carefully.’
b. Mamoru-wa *e* kuruma-o araw-anak-atta. (^{OK}EX-reading, ^{??}AI-reading)
Mamoru-TOP car-ACC wash-NEG-PST
lit. ‘Mamoru didn’t wash a car.’
- (12) a. Yuki-wa teineini kuruma-o arat-ta.
Yuki-TOP carefully car-ACC wash-PST
‘Yuki washed a car carefully.’
b. Mamoru-wa *e e* araw-anak-atta. (^{OK}EX-reading, ^{OK}AI-reading)
Mamoru-TOP wash-NEG-PST
lit. ‘Mamoru didn’t wash.’

In a critical reply to Simpson’s (2023) argument for the existence of VSVPE, Landau (2023) proposes that the contrast between (11) and (12) is explained by a discourse-pragmatic analysis. In particular, Landau (2023) adopts the basic idea of Oku’s (2016) analysis, which is based on Kuno’s (1982) discourse principle in (13) (cf. Landau 2018).

³²See also Tanabe and Kobayashi (2023, 2024b) for arguments against the verb-stranding TP-ellipsis analysis and Kobayashi et al. (2024), who casts doubt on the diagnostic validity of the “adjunct test” itself.

(13) *Ban Against Partial Discourse Deletion*

If discourse deletion of recoverable constituents is to apply, apply it across the board to nonfocus constituents. Nonfocus constituents which are left behind by partial discourse deletion will be reinterpreted, if possible, as representing contrastive foci.

(Kuno 1982, p. 84–85)

(13) states that the default option of ellipsis is to apply it to all nonfocused constituents. In this respect, (13) is violated in both (11b) and (12b) in that there is one or two nonfocused materials that are not elided (i.e., the object and V *araw*- ‘wash’ in (11b) and V in (12b)). This means that technically speaking, Oku’s (2016) analysis predicts that neither (11b) nor (12b) allows the AI-reading.

To resolve this problem, Landau (2023) suggests that in addition to (13), we need to take (14) into account in discussing whether ellipsis violates (13).

(14) *Active and Passive Discourse-Rule Violations*

Sentences that involve active avoidable (or intentional) violation of discourse principles are unacceptable. In contrast, sentences that involve passive unavoidable (or unintentional) violation of discourse principles go unpenalized and are acceptable.

(Kuno 1982, p. 65)

According to Landau’s reinterpretation of (14), retention of a nonfocused phrase, say XP counts as an active avoidable violation of (13) if XP can be deleted by “syntactic” XP-ellipsis. On the other hand, retention of a material is a passive unavoidable violation if there is no syntactic mechanism dedicated to XP-ellipsis. From this view point, retention of the nonfocused V in (12b) is a violation of (13), and yet it is a passive unavoidable violation because there is no syntactic operation of *verb deletion* (i.e., V is syntactically undeletable). Accordingly, retention of V in (12b) is unpenalized. By contrast, retention of the nonfocused object in (11b) is an active avoidable violation of (13) since the object is deletable by a syntactic ellipsis mechanism, namely AE. It follows that (11b) violates the *Ban Against Partial Discourse Deletion*, but (12b) does not.

Landau (2023) then suggests that since adjuncts are optional elements both syntactically and semanti-

cally, semantic recovery of null adjuncts is sensitive to violations of discourse principles such as (13) and (14). Accordingly, the meaning of an unexpressed adjunct is recovered only when there is no violation of discourse principles in (13) and (14). To be more specific, Landau proposes that the meaning of an unexpressed adjunct is recovered via *Pragmatic Enrichment* in the sense of Recanati (2010), and argues that the recovery process is subject to the following condition.

(15) Condition on Pragmatic Enrichment

XP can be construed as [_{XP} XP [Adjunct_C]] iff:

- a. Uniform: Adjunct_C is recoverable from the immediate context, AND
- b. Variable: Any nonfocused material in XP is syntactically required.

(Landau 2023, p. 33)

The condition in (15a) is met in both (11b) and (12b), whereas (15b) is satisfied only in the latter. In (11b), (15b) is violated in that the nonfocused overt object is “syntactically dispensable”; AE could have deleted it. On the other hand, (12b) satisfies (15b) because the only nonfocused material overtly expressed in the VP, namely V is syntactically required (i.e., it is undeletable due to the non-existence of V-deletion). Consequently, the VP is construed as [_{VP} VP [Adjunct_C]] via pragmatic enrichment, resulting in the AI-reading.

Furthermore, Funakoshi’s (2016) observations concerning the contrastiveness requirement of the overt objects, which are generalized as in (9), naturally follows from the pragmatic enrichment analysis. That is, expressing a contrastively focused object in the elided clause does not violate (15b); hence the AI-reading is obtained in (7b). Overall, the contrast between (11) and (12) as well as the contrast between (7) and (8) are successfully analyzed with no recourse to VSVPE in Japanese.

However, Funakoshi (2016) has already denied the possibility that observations on null adjuncts are better accounted for by the line of discourse-pragmatic analysis based on the discourse principle in (13) (see also Funakoshi 2014, Chapter 6, for relevant discussions). In particular, Funakoshi (2016) rebuts that the line of pragmatic analysis does not explain a series of examples instantiated by (16) (see examples (26) and (27) in Funakoshi (2016, p. 122–123)). With (16a) as its antecedent, (16b) does not seem to have the AI-reading that Mamoru wiped dishes, but not in a careful manner. The most natural interpretation

of (16b) may be the EX-reading that Mamoru did not wipe dishes to begin with.

- (16) a. Yuki-wa teineini kuruma-o arat-ta.
Yuki-TOP carefully car-ACC wash-PST
'Yuki washed a car carefully.'
- b. Mamoru-wa *e* sara-o huk-anak-atta. (^{OK}EX-reading, ^{??}AI-reading)
Mamoru-TOP dish-ACC wipe-NEG-PST
lit. 'Mamoru didn't wipe the dishes.'

Notice that (16b) does not violate the condition in (15). Unlike in (11), the predicate in the elided clause is different from that in the antecedent (i.e., *arat-* 'wash' vs. *huk-* 'wipe'). In addition, the object in (16b) is also different from the one in (16a). For this reason, none of the materials in (16b) are candidates for ellipsis. In this respect, Ban Against Partial Discourse Deletion is irrelevant to the materials expressed in (16b). In other words, what can be elided is nothing but the adjunct. Still, the meaning of the adjunct does not seem to be recovered via pragmatic enrichment. The example in (16) therefore poses problems for the pragmatic enrichment analysis. On the other hand, the absence of the AI-reading may be explained under Funakoshi's (2016) VSVPE analysis. The object in (16b) is not contrastively focused. Rather, it is the whole VP *sara-o huk-* 'wipe dishes' that is contrasted with the VP *kuruma-o arat-* 'wash a car' in the antecedent. For this reason, the object itself cannot have undergone focus-movement out of VP in the VP-focus sentence. Thus, it cannot involve the derivation of VSVPE illustrated in (10).³³

Nevertheless, I maintain that a discourse-pragmatic analysis is worth pursuing. In the following section, I show that a more careful examination of the overall discourse coherence in the example reveals that the argument for the VSVPE analysis that is based on examples like (16) is indecisive at best.

4.2 QUD-based Analysis of Null Adjuncts

In Chapter 2 and 3, I have brought back to light a tacit presumption that ellipsis is possible if the target phrase is in the background of a coherent discourse. Bearing this in mind, let us first consider cases in which the AI-reading is available.

³³It is known that whether the non-identity between the two verbs, *arat-* 'wash' vs. *huk-* 'wipe' is tolerated in applying VSVPE is a difficult question and relevant discussions would take us too far afield. I refer the reader to Goldberg (2005), Funakoshi (2014, Chapter 6), and Tanabe and Kobayashi (2023) for discussions.

As mentioned above, different judgements have been reported as to whether the elided clause in (12b) allows the AI-reading (Oku 1998; Takahashi 2008a; Abe 2013; Funakoshi 2016; Tanaka 2023, among others). However, providing a context disambiguates the interpretations. In (17), the question sets up a context, and the elided clause in (17A') is most naturally interpreted as a negative answer to (17Q): 'As for Mamoru, he did not wash a car in a careful manner.'³⁴

- (17) Q: Yuki-to-Mamoru-wa teineini kuruma-o arat-ta-no?
 Yuki-and-Mamoru-TOP carefully car-ACC wash-PST-Q
 'Did Yuki and Mamoru wash a car carefully?'
 A: Yuki-wa teineini kuruma-o arat-ta-yo.
 Yuki-TOP carefully car-ACC wash-PST-SFP
 'Yuki washed a car carefully.'
 A': Mamoru-wa *e e* araw-anak-atta kedo. (?EX-reading, ^{OK}AI-reading)
 Mamoru-TOP wash-NEG-PST though
 lit. 'Mamoru didn't wash, though.'

The AI-reading indicates that ellipsis of the adjunct *teineini* 'carefully' is licensed in (17A'), and this is what the current QUD-based analysis predicts.³⁵ In the context in (17), (17A') is intended to answer the QUD, *Did Mamoru wash a car carefully?*, which helps resolve (17Q). The AI-reading gives an appropriate negative answer to (17Q); hence the discourse is coherent. The QUD and the AI-reading of (17A') have the semantic representations in (18a) and (18b), respectively. The Q-A pair counts as a congruent Q-A pair according to the criterion in (19). The background of the QUD and the answer share an identical background ($B = B'$) and $\neg$ in focus is contained in the restriction, POLARITY (i.e., $F \in R$).

- (18) a. $\langle B, R \rangle = \langle \lambda f. f(\text{Mamoru washed a car carefully}), \text{POLARITY} \rangle$
 POLARITY = {Id, $\neg$ }
 b. $\langle B', F \rangle = \langle \lambda f. f(\text{Mamoru washed a car carefully}), \neg \rangle$

³⁴Some speakers still find the EX-reading more salient even in this context. I discuss possible reasons why such inter-speaker variations exist in Section 4.3.

³⁵Note that "ellipsis of the adjunct is licensed" does not mean that "Adjunct Ellipsis" is licensed. The data in (17) is neutral between the VSVPE analysis and the Adjunct Ellipsis analysis. Uncovering the syntactic mechanisms behind null adjunct sentences in Japanese requires further investigations, which I postpone until Chapter 5. Let me reemphasize that throughout, I argue that the necessary condition in (1) is required for Japanese ellipsis in general regardless of what syntactic mechanisms are involved.

(19) Criterion for congruent question-answer pair Q-A,

where $[[Q]] = \langle B, R \rangle$ and $[[A]] = \langle B', F \rangle$:

$B = B'$ and $F \in R$

(Krifka 2001, p. 296)

Additionally, as indicated by (18b), the adjunct is in the background rather than in focus. The AI-reading is obtained in (17A') because the adjunct that is in the background of a coherent discourse can undergo ellipsis.

The QUD-based analysis also captures Funakoshi's (2016) observation in (7), repeated below as (20). In this context, the QUD is about which one of the two cars Ziro did not wash carefully. In addressing this QUD, Taro suspects that it is "this car" that Ziro did not wash carefully, but Ziro corrects him by stating that it is "that car" that he did not wash carefully, thereby the QUD is resolved.

(20) Context: Taro ordered Ziro to wash his two cars clean. But Ziro washed one car sloppily and the other carefully.

a. Taro: Kimi-wa teineini kotti-no kuruma-o araw-anak-atta daro?
 you-TOP carefully this-GEN car-ACC wash-NEG-PST did.you
 'You didn't wash this car carefully, did you?'

b. Ziro: Iya, boku-wa *e* ATTI-NO kuruma-o araw-anak-attan-da. (^{OK}AI-reading)
 no I-TOP that-GEN car-ACC wash-NEG-PST-COP
 lit. 'No, I didn't wash that car.'

(Funakoshi 2016, p. 134)

The QUD and the answer given by Ziro are semantically represented as in (21a) and (21b), respectively. (20b) is a congruent answer to the QUD in that (21a) and (21b) share an identical background ($B = B'$) and the focused element is a member of the restriction (i.e., $F \in R$).

(21) a. $\langle B, R \rangle = \langle \lambda x. \text{Ziro did not wash } x \text{ carefully}, \text{CAR} \rangle$
 $\text{CAR} = \{\text{this car, that car}\}$

b. $\langle B', R \rangle = \langle \lambda x. \text{Ziro did not wash } x \text{ carefully}, \text{that car} \rangle$

Since the adjunct constitutes a part of the background in a coherent discourse, the QUD-based analysis correctly predicts the AI-reading to be derived by ellipsis of the adjunct in (20b).

So far, I have shown that adjuncts can be elided if they are contained in the background of a coherent discourse. Based on the analysis, let us discuss Funakoshi's (2016) counter examples instantiated by (16), repeated here as (22).

- (22) a. Yuki-wa teineini kuruma-o arat-ta.
 Yuki-TOP carefully car-ACC wash-PST
 'Yuki washed a car carefully.'
- b. Mamoru-wa *e* sara-o huk-anak-atta. (^{OK}EX-reading, ??AI-reading)
 Mamoru-TOP dish-ACC wipe-NEG-PST
 lit. 'Mamoru didn't wipe the dishes.'

As mentioned above, Funakoshi (2016) claims that the AI-reading is syntactically blocked in (22a) due to the unavailability of VSVPE. On the other hand, the QUD-based analysis predicts that the AI-reading is obtained if the sentences are interpreted in a coherent discourse where the adjunct is in the background. Keeping this in mind, let us take a moment to stop here and ask ourselves the following questions: In what context(s), do the sentences in (22a-b) form a coherent discourse? Is there any discourse context where the sentences provide appropriate answers to a common overall QUD as in e.g., (17) and (20). In fact, it may be difficult to set up a natural context where the two sentences are interpreted in a coherent discourse.

Yet, it may not be impossible to come up with such a context. (23) is one possible context where the example under investigation can be interpreted in a coherent discourse. With this context in mind, it is actually not impossible to get the AI-reading in (23A'). If (23A') had only the EX-reading, there would not be dishes that Mamoru wiped. Thus, the follow-up sentence in (23A''), which refers to the dishes that Mamoru wiped, should sound completely unacceptable, contrary to fact.

- (23) Context: Yuki and Mamoru are six-year old elementary school students. Yuki was supposed to wash a car and Mamoru was supposed to wipe dishes on that day. After school, their homeroom teacher reports how they were doing to their parents.

Q: Yuk-to-Mamoru-wa teineini surubeki koto-o site-masi-ta-ka?
 Yuki-and-Mamoru-TOP carefully should.do thing-ACC do-POL-PST-Q
 'Did Yuki and Mamoru do what they were supposed to do in a careful manner?'

A: Yuki-wa teineini kuruma-o arai-masi-ta.
 Yuki-TOP carefully car-ACC wash-POL-PST

‘Yuki washed a car carefully.’

A': Mamoru-wa *e* sara-o huk-anak-atta desu ga. (^{OK}EX-reading, ?AI-reading)
 Mamoru-TOP dish-ACC wipe-NEG-PST COP but
 ‘Mamoru didn’t wipe the dishes, though.’

A'':?Mamoru-ga hui-ta ato-no sara-wa nurete-masi-ta.
 Mamoru-NOM wipe-PST after-GEN dish-TOP wet-POL-PST
 ‘The dishes that Mamoru wiped were wet.’

Formally speaking, the meaning of the AI-reading and the QUD, *Did Mamoru do what he was supposed to do in a careful manner?* are semantically represented as in (24a) and (24b), respectively. Since (24a) and (24b) do not share an identical background, the AI-reading of (23A') and the QUD do not count as a congruent Q-A pair in the strict sense.

- (24) a. $\langle B, R \rangle = \langle \lambda f. (f(\text{Mamoru carefully did what he was supposed to do}), \text{POLARITY}) \rangle$
 POLARITY = {Id, $\neg$ }
- b. $\langle B', F \rangle = \langle \lambda f. (f(\text{Mamoru wiped the dishes carefully}), \neg) \rangle$

Nonetheless, provided that wiping the dishes is understood as what he was supposed to do, which is most likely in the context specified in (23), the AI-reading of (23A') can be seen as a negative answer to the QUD. In this sense, the discourse coherence may be ensured and the background in the discourse set up by the QUD contains the adjunct. Accordingly, ellipsis of the adjunct may be licensed in (23A'), yielding the AI-reading. The data thus reveals that the AI-reading is not impossible in the apparent counter example. However, at the same time, it turns out that in order to get the AI-reading in examples such as (16), one must be creative enough to come up with a context where the pair of sentences are naturally interpreted in a coherent discourse.

In contrast, we do not face such a methodological hurdle if the antecedent clause is changed to a negative one as in the following example (cf. Takahashi 2008a). In (25), what is under discussion is what Yuki and Mamoru did not do in a careful manner. As an answer to (25Q), (25A') has the AI-reading that it is wiping the dishes that he did not do carefully. (25A''), which refers to the dishes that Mamoru wiped, naturally follows. It would not be an acceptable continuation if (25A') had only the EX-reading since it negates the existence of the dishes that he wiped.

- (25) Q: Yuki-to-Mamoru-ga teineini si-nak-atta koto-wa nani?
 Yuki-and-Mamoru-NOM carefully do-NEG-PST thing-TOP what
 ‘What is it that Yuki and Mamoru did not do in a careful manner?’
- A: Yuki-wa teineini kuruma-o araw-anak-atta.
 Yuki-TOP carefully car-ACC wash-NEG-PST
 ‘Yuki didn’t wash a car carefully.’
- A’: Mamoru-wa *e* sara-o huk-anak-atta. (??EX-reading, ^{OK}AI-reading)
 Mamoru-TOP dish-ACC wipe-NEG-PST
 lit. ‘Mamoru didn’t wipe dishes.’
- A’’: Mamoru-ga hui-ta ato-no sara-wa nurete-ta.
 Mamoru-NOM wipe-PST after-GEN dish-TOP wet-PST
 ‘The dishes that Mamoru wiped were wet.’

The AI-reading of (25A’) and the QUD, *What is it that Mamoru did not do carefully?* can be semantically represented in (26a) and (26b), respectively. Since they share an identical background and the focused element belongs to the set of action, (25A’) is a congruent answer to the QUD.

- (26) a. $\langle B, R \rangle = \langle \lambda x. \text{Mamoru did not do } x \text{ carefully, ACTION} \rangle$
 b. $\langle B', R \rangle = \langle \lambda x. \text{Mamoru did not do } x \text{ carefully, wiping dishes} \rangle$

The AI-reading is available in (25A’) because the adjunct can be elided in the coherent discourse in which the adjunct is backgrounded.

The observation in (25) poses a serious problem for the VSVPE analysis. Notice that the sentences in (25A’) is a VP-focus sentence in that what is under discussion is what each person did not do carefully. Crucially, the objects themselves are not contrastively focused. It follows that these sentences cannot be cases of VSVPE accompanied by focus movement of the objects. The data, therefore, support the QUD-based analysis over the VSVPE analysis. All in all, the discussion so far suggests that ellipsis possibility of adjuncts is better explained by the QUD-based analysis.

One remaining question is whether the QUD-based analysis is sufficient to account for ellipsis possibility of adjuncts or we still need to supplement it with Ban Against Partial Discourse Deletion. (27) satisfies discourse coherence and backgrounding requirement on the one hand, and violates Ban Against Partial Discourse Deletion on the other due to the nonfocused overt object. Yurie Hara (p.c.) points out to me that if the sentences are understood as answers to (27Q), (27A’) can have the AI-reading, and I

personally agree with her judgement.

- (27) Q: Yuki-to-Mamoru-wa teineini kuruma-o arat-ta-no?
 Yuki-and-Mamoru-TOP carefully car-ACC wash-PST-Q
 ‘Did Yuki and Mamoru wash a car carefully?’
- A: Yuki-wa teineini kuruma-o arat-ta-yo.
 Yuki-TOP carefully car-ACC wash-PST-SFP
 ‘Yuki washed a car carefully.’
- A’: Mamoru-wa *e* kuruma-o araw-anak-atta kedo. (^{OK}EX-reading, [?]AI-reading)
 Mamoru-TOP car-ACC wash-NEG-PST though
 lit. ‘Mamoru didn’t wash a car, though.’
- A’’:?Mamoru-ga arat-ta ato-no kuruma-wa kitanak-atta.
 Mamoru-NOM wash-PST after-GEN car-TOP dirty-PST
 ‘The car that Mamoru washed were dirty.’

The availability of the AI-reading is not surprising since the discourse condition in (1) is satisfied for the adjunct to be elided. As formally expressed in (28), the adjunct in question is in the background and the AI-reading is a congruent answer to the QUD.

- (28) a. $\langle B, R \rangle = \langle \lambda f. (f(\text{Mamoru washed a car carefully}), \text{POLARITY}) \rangle$
 $\text{POLARITY} = \{\text{Id}, \neg\}$
- b. $\langle B', F \rangle = \langle \lambda f. (f(\text{Mamoru washed a car carefully}), \neg) \rangle$

In fact, Landau (2023, p. 28) also reports that some Japanese speakers can actually get the AI-reading with an overt nonfocused object.³⁶ Landau (2023, p. 34) then states that “because [the condition on pragmatic enrichment] is not a hard-wired principle, but holds to different degrees across speakers, pragmatic enrichment can sometimes ignore it even in the presence of nonfocused objects [...] at least for some speakers.” In Landau’s view then, Ban Against Partial Discourse Deletion is responsible for the difficulty of the AI-reading in (27A’), but importantly, it does not in principle prohibit the AI-reading. If so, the current QUD-based analysis makes a correct prediction that ellipsis of the adjunct is in principle licensed in (27A’). Conversely, the applicability of VSVPE must be constrained by “hard-wired” syntactic principles, and thus it makes a wrong prediction that the AI-reading is never available in (27A’) and that it is not subject to inter-speaker variations. Nevertheless, it is true that there are speakers who do not accept

³⁶Landau (2023, p. 28) credits the observation to Yuta Sakamoto (p.c.).

the AI-reading in (27A') even if an appropriate context is set up by the QUD. Thus, in the next section, I explore possible reasons for such inter-speaker variations.

4.3 Remaining Issues: The Interactions of Prosody and Context

So far we have seen that the AI-reading is obtained in a null adjunct sentence iff the target adjunct is in the background in a coherent discourse. Yet, it is known that for some speakers, the AI-reading may still be hard to get in an appropriate context. As a matter of fact, such speaker variations may exist even in cases like (17), repeated below as (29), in which the object and adjunct are both null in the elliptical sentence (cf. Oku 1998).

- (29) Q: Yuki-to-Mamoru-wa teineini kuruma-o arat-ta-no?
 Yuki-and-Mamoru-TOP carefully car-ACC wash-PST-Q
 'Did Yuki and Mamoru wash their parents' carefully?'
 A: Yuki-wa teineini kuruma-o arat-ta-yo.
 Yuki-TOP carefully car-ACC wash-PST-SFP
 'Yuki washed a car carefully.'
 A': Mamoru-wa *e e* araw-anak-atta kedo. (?EX-reading, ^{OK}AI-reading)
 Mamoru-TOP wash-NEG-PST though
 lit. 'Mamoru didn't wash, though.'

The thorny issue concerning the inter-speaker variations has recently been addressed by Kobayashi et al. (2024). They conducted an informal experiment and showed that such inter-speaker variations can be ascribed to the interactions between context and prosody.

First, in the context where the AI-reading is available, the elided clause in (29A') is understood as a negative answer to the polar question which asks whether Mamoru washed a car carefully. In this respect, it must express *verum focus*, a type of focus which either affirms or negates the truthhood of a discursively salient proposition (Höhle 1992; Lohnstein 2016). Since *verum focus* is morphophonologically carried by an inflected verb in Japanese (Vermeulen 2012; Ishihara 2019), (29A') is naturally understood as expressing the meaning in (18b) when it is read or parsed with the prosody in (30A').³⁷³⁸

³⁷Capital letters indicate stress.

³⁸In languages such as English and German, *verum focus* is normally expressed by the stress realized on an auxiliary. For instance, in the following example in English, *verum focus* is expressed by the stress on the auxiliary *did*.

- (30) Q: Yuki-to-Mamoru-wa teineini kuruma-o arat-ta-no?
 Yuki-and-Mamoru-TOP carefully car-ACC wash-PST-Q
 ‘Did Yuki and Mamoru wash a carefully?’
- A: Yuki-wa teineini kuruma-o arat-ta-yo.
 Yuki-TOP carefully car-ACC wash-PST-SFP
 ‘Yuki washed a car carefully.’
- A’: Mamoru-wa *e e* ARaw-anak-atta kedo. (??EX-reading, ^{OK}AI-reading)
 Mamoru-TOP wash-NEG-PST though
 lit. ‘Mamoru didn’t wash, though.’

Kobayashi et al. (2024) then suggest that those speakers who find the EX-reading salient in (29A’) may read or parse the sentence with the prosodic contour in (31A’), where the emphatic stress extends to the negative head. At the beginning of the discourse in (31), the interlocutors start addressing the QUD, *Did Yuki and Mamoru wash their parents’ car carefully?*, and (31A) provides a partial, positive answer. However, since the prosody in (31A’) is distinct from the one in (30A’), which expresses verum focus, we infer that the interlocutor is not addressing the QUD, *Did Mamoru wash his parents’ car carefully?* in a straightforward way. Rather, the prosodic contour in (31A’) negates the event of washing itself. In other words, it indicates that the presupposition carried by the QUD, ‘Mamoru washed his parents’ car’ is rejected, and this may lead to the EX-reading.

- (31) Q: Yuki-to-Mamoru-wa teineini kuruma-o arat-ta-no?
 Yuki-and-Mamoru-TOP carefully car-ACC wash-PST-Q
 ‘Did Yuki and Mamoru wash a car carefully?’
- A: Yuki-wa teineini kuruma-o arat-ta-yo.
 Yuki-TOP carefully car-ACC wash-PST-SFP
 ‘Yuki washed a car carefully.’
- A’: Mamoru-wa *e e* ARAW-ANAK-atta kedo. (^{OK}EX-reading, ??AI-reading)
 Mamoru-TOP wash-NEG-PST though
 lit. ‘Mamoru didn’t wash, though.’

Form this new perspective, let us discuss the data in (27), in which the AI-reading is relatively more difficult to get for many speakers. While judgements may still vary to a great extent, controlling the

-
- (i) Q: Did Mike wash a car carefully?
 A: Yes, he DID.

However, since auxiliaries in Japanese are affixes attached to a verbal stem, verum focus is expressed by an emphatic stress on the inflected verb.

prosody may help us get the AI-reading more easily. To me, the AI-reading is obtained when the whole sentence is read without a pause and no appreciable lexical accent is placed on any of the materials except the verb, as in (32A). By contrast, the EX-reading is obtained when the object bears a lexical accent and the focal stress extends to negation as in (32A').

- (32) Q: Mamoru-wa teineini kuruma-o arat-ta-no?
Mamoru-TOP carefully car-ACC wash-PST-Q
'Did Mamoru wash a carefully?'
- A: Mamoru-wa *e* kuruma-o ARAw-anak-atta-yo. (??EX-reading, ?AI-reading)
Mamoru-TOP car-ACC wash-NEG-PST-SFP
lit. 'Mamoru didn't wash a car.'
- A': Mamoru-wa *e* KURUma-o ARAW-ANAk-atta-yo. (^{OK}EX-reading, ??AI-reading)
Mamoru-TOP car-ACC wash-NEG-PST-SFP
lit. 'Mamoru didn't wash a car.'

As mentioned above, the prosodic contour in (32A) expresses that the answer to the QUD, *Did Mamoru wash a car carefully?* is negative, which is why the AI-reading is obtained with this prosody. On the other hand, since the VP-internal materials plus the negative head are stressed in (32A'), it may indicate that the VP *kuruma-o araw-* 'wash a car' is negated, leading to the EX-reading. Additionally, when no specific context is provided, we are more likely to adopt the prosody in (32A'), which obeys prosodic constraints such as *Stress-XP* (within {NP, V}) in the sense of Truckenbrodt (2007). Indeed, *Stress-XP* can be ignored when the object NP is elided, as in (33A). As a result, the sentence is naturally read with the prosody that is most appropriate to express a negative answer to (33Q), yielding the AI-reading.

- (33) Q: Mamoru-wa teineini kuruma-o arat-ta-no?
Mamoru-TOP carefully car-ACC wash-PST-Q
'Did Mamoru wash a carefully?'
- A: Mamoru-wa *e e* ARAw-anak-atta-yo. (??EX-reading, ^{OK}AI-reading)
Mamoru-TOP wash-NEG-PST-SFP
lit. 'Mamoru didn't wash a car.'

Based on these observations, I suggest that ellipsis possibility of adjuncts is basically constrained by the condition in (1), which requires the target adjunct to be backgrounded in a coherent discourse. The AI-reading in question becomes more readily available when the elided sentence is read with an appropriate prosody that matches the meaning of the intended AI-reading in relation to the QUD it answers.

Whether this line of reasoning is on the right track is not so obvious, but cases of AE below may support it. Consider (34). In (34A), the accusative object *kuruma* ‘car’ is elided, while the dative object *titioya* ‘father’ is retained. The elided accusative object is naturally included in the interpretation; hence, (34A’), which entails that he gave his father at least one thing, is an acceptable continuation.

(34) Q: Mamoru-wa kuruma-o titioya-ni age-ta-no?
 Mamoru-TOP car-ACC father-DAT give-PST-Q
 ‘Did Mamoru give a car to his father?’

A: Mamoru-wa *e* titioya-ni AGE-nak-atta-yo.
 Mamoru-TOP father-DAT give-NEG-PST-SFP
 lit. ‘Mamoru didn’t give his father.’

A’: Titioya-ni tokei-o age-tan-da-yo.
 father-DAT-DAT watch-ACC give-PST-COP-SFP
 ‘He gave his father a watch.’

This is not surprising, since (35A) read with stress on the verb is naturally interpreted as a negative answer to (35Q): ‘No, Mamoru did not give a car to his father.’ The meaning of such a Q-A pair is provided in (35). Since the object *kuruma* ‘car’ is in the background in a coherent discourse plus the prosody in (34A) matches the verum focus meaning in (35b), ellipsis of the object is licensed.

- (35) a. $\langle B, R \rangle = \langle \lambda f. (f(\text{Mamoru gave a car to his father}), \text{POLARITY}) \rangle$
 $\text{POLARITY} = \{\text{Id}, \neg\}$
 b. $\langle B', F \rangle = \langle \lambda f. (f(\text{Mamoru gave a car to his father}), \neg) \rangle$

Now, consider (36), where the elided clause is read with a different prosody. In fact, the most likely interpretation of (36A) is that Mamoru did not give his father anything, in which the meaning of the accusative object *kuruma* ‘car’ is excluded. For this reason, the follow-up sentence in (36A’) sounds contradictory.

(36) Q: Mamoru-wa kuruma-o titioya-ni age-ta-no?
 Mamoru-TOP car-ACC father-DAT give-PST-Q
 ‘Did Mamoru give a car to his father?’

A: Mamoru-wa *e* TITIOYA-NI AGE-NAK-atta-yo.
 Mamoru-TOP father-DAT give-NEG-PST-SFP
 lit. ‘Mamoru didn’t give his father.’

A'??Titioya-ni tokei-o age-tan-da-yo.
father-DAT-DAT watch-ACC give-PST-COP-SFP
'He gave his father a watch.'

These observations suggest that the prosody-context mismatch is relevant not only to licensing of null adjuncts but also to licensing of null arguments.

In summary, it can be said that ellipsis of arguments and adjuncts is basically licensed under the condition in (1), which requires the target phrase to be in the background in a coherent discourse. In addition to this condition, however, the intended meaning of ellipsis is more easily accessible when the elided sentence is read with an appropriate prosody that matches the intended reading with regard to the QUD it answers (but see Tanabe 2024; Tanabe and Kobayashi 2024a, who point to the possibility that the argument-adjunct asymmetry in ellipsis is real, which requires an explanation).

4.4 Chapter Summary

The environments in which adjuncts can be null in Japanese have been known to be limited. While some argue that licensing of null adjuncts are restricted by syntactic conditions, others argue that it is better explained by a discourse-pragmatic analysis. In this chapter, I proposed that ellipsis possibility of adjuncts is accounted for by a QUD-based analysis which assumes the general necessary condition in (1), which requires the ellipsis-target to be in the background of a coherent discourse. Further, the set of data discussed in this chapter shows that the present account is empirically superior to the alternative syntactic analysis, namely the VSVPE analysis. Admittedly, however, the possibility of the AI-readings in the examples may not be fully accounted for by the QUD-based analysis alone. Rather, to explain the inter-speaker variations concerning the AI-readings, we must also consider the interplay of prosody of the elided sentence with the discourse context in which it is read. In any case, the discussions in this chapter reveal that licensing of Japanese null adjuncts is far more complex than the VSVPE analysis would predict. Arguably, such a complex distribution of null adjuncts cannot be explained by syntactic factors alone. Future research on the syntax of ellipsis needs to fully taken into account the complex interactions between syntax with semantic/pragmatic and prosodic factors before one concludes on the possibility/impossibility of ellipsis of certain phrases.

Chapter 5

THE SYNTAX OF NULL ADJUNCTS IN JAPANESE

In Chapter 3 and 4, we have seen that licensing of null arguments and adjuncts in Japanese is explained by assuming that ellipsis in Japanese requires (1) as a necessary condition.

(1) *Discourse Condition on Ellipsis*

Ellipsis of XP is licensed iff it is in the background of a coherent discourse.

As repeatedly mentioned in the preceding chapters, (1) is a discourse condition that generally holds for ellipsis. Accordingly, that null arguments and adjuncts are licensed under (1) may not tell us much about the syntactic mechanisms behind them. As for the syntax of null arguments, the data discussed in Chapter 3 show that Japanese null arguments are derived via Argument Ellipsis (AE). On the other hand, the question of how null adjuncts are derived in syntax is still left open at this point. This chapter thus discusses the syntax of null adjuncts.³⁹

This chapter is structured as follows. In Section 5.1, I first discuss whether syntactically represented null adjuncts exist in Japanese or they exist only at the level of semantic interpretation. I present arguments for the existence of syntactic null adjuncts derived by ellipsis. In Section 5.2, I consider two previous approaches to the syntax of null adjuncts and show that the Adjunct Ellipsis (AdjE) analysis is superior to the Verb-Stranding VP-Ellipsis (VSVPE) analysis. In 5.3, I take up some remaining issues surrounding Japanese null adjuncts. In 5.4, I summarize and conclude the chapter.

³⁹This chapter is a radically revised and extended version of Tanabe and Kobayashi (2024a, to appear).

5.1 The Structural vs. Non-Structural Approach to Null Adjuncts

Before we go onto detailed discussions on the syntax of Japanese null adjuncts, I take up a recently debated issue regarding the structural vs. non-structural approaches to null adjuncts and argues for the former.

Recent years have seen both structural and non-structural approaches to null adjuncts in Japanese. As is widely assumed in generative literature on ellipsis, structural approaches posit that the meaning of unexpressed adjuncts is recovered through the mapping of phonetically null syntactic structure of adjuncts onto their semantic representations (Funakoshi 2016; Oku 2016; Sato and Hayashi 2018; Kobayashi 2020, 2024b; Sato and Maeda 2021; Tanabe and Kobayashi 2023, to appear). For instance, the meaning of the AI-reading in (2b) is recovered via mapping the syntactic structure in (3a) onto its semantic representation in (3b). The phonetic contents of the adjunct and object are, however, not realized at PF in (3c) (for whatever reasons).

- (2) a. Yuki-wa teineini kuruma-o arat-ta.
Yuki-TOP carefully car-ACC wash-PST
'Yuki washed a car carefully.'
- b. Mamoru-wa *e e* araw-anak-atta. (^{OK}EX-reading, ^{OK}AI-reading)
Mamoru-TOP wash-NEG-PST
lit. 'Mamoru didn't wash.'
- (3) a. Syntax: [_{TP} Subject [_{VP} Adjunct Object V] T]
b. LF: [_{TP} Subject [_{VP} Adjunct Object V] T]
c. PF: [_{TP} Subject [_{VP} ~~Adjunct Object~~ V] T]

The structural approach to null adjuncts, however, has recently been challenged by Ahn and Cho (2021) and Landau (2023), who propose that the meaning of unexpressed adjuncts is recovered via *Pragmatic Enrichment* in the sense of Recanati (2010) (see also Landau 2020). In Chapter 4, I introduced the condition in (4) as a possible recoverability condition on null adjunct meanings.

- (4) Condition on Pragmatic Enrichment
- XP can be construed as [_{XP} XP [_{Adjunct_C}]] iff:
- a. Uniform: Adjunct_C is recoverable from the immediate context, AND

- b. Variable: Any nonfocused material in XP is syntactically required.

(Landau 2023, p. 33)

The proponents of the non-structural analysis do not simply adopt the condition as a semantic recoverability condition but go so far as to assume that the recoverability process is purely pragmatic and it does not require syntactic structure that corresponds to adjuncts. Under the non-structural analysis, (2b) has the syntactic structure in (5a), in which the adjunct is not represented. In PF, the object alone is subject to nonpronunciation (5c) and derives the surface form in (2b).

- (5) a. Syntax: [_{TP} Subject [_{VP} Object V] T]
b. LF: [_{TP} Subject [_{VP} Adjunct Object V] T]
c. PF: [_{TP} Subject [_{VP} Øbject V] T]

Such a non-structural, purely pragmatic approach, however, faces a crucial problem pointed out by Simpson (2023) as follows:

- (6) The pragmatic-enrichment approach to null-adverbial interpretations has no plausible way to account for the cross-linguistic variation found with such interpretations, since general processes of pragmatic enrichment can be assumed to be equally available to speakers of all languages and are not parametrizable in the way that specific syntactic phenomena such as verb movement may be.

(Simpson 2023, p. 445–446)

Simpson's (2023) point is that while syntactic licensing of ellipsis can exhibit cross-linguistic variations, the availability of pragmatic enrichment cannot be subject to cross-linguistic variations since it is based on discourse principles that should be universally at work in human communication. Sato (2024b,a) concurs with Simpson (2023) and presents cross-linguistic investigations into the availability of AI-readings in null object constructions and VP-ellipsis constructions (see also Simpson et al. 2013). The results were that in Japanese and Korean, the AI-reading is obtained in null object sentences satisfying (4), but in other languages including Mandarin Chinese, Singlish, Javanese, Persian, Hindi, Bangla, and Malayalam, null objects sentences do not allow the AI-reading even if (4) is met. Based on the results, Sato argues that the cross-linguistic variations concerning the availability of AI-readings are better explained by parametric

differences in syntactic principles involved in ellipsis across languages. Indeed, if pragmatic enrichment is available universally across all languages, the results in Sato (2024b,a) are not explained.

In addition, the cross-linguistic difference between Japanese and English also supports the line of counterarguments by Simpson (2023) and Sato (2024b,a). The Japanese example in (7) is a case where the pragmatic enrichment condition is satisfied; there is no partial discourse deletion (see Section 4.1.2) and the AI-reading is obtained.

- (7) Harii-wa teineini hon-o yon-da kedo, Ron-wa *e* sinbun-o yon-da.
 Harry-TOP carefully book-ACC read-PST but Ron-TOP newspaper- read-PST
 lit. ‘Harry read a book carefully, but Ron read a newspaper.’ (^{OK}EX-reading, ^{OK}AI-reading)

By contrast, the English counterpart in (8) suggests that the meaning of an elided adjunct is not recovered in English even if the pragmatic enrichment condition is satisfied.

- (8) Harry read a book carefully, but Ron read a newspaper *e*. (^{OK}EX-reading, ??AI-reading)

The pragmatic enrichment analysis postulates that the meaning of the unexpressed adjunct in (7) is recovered even if there is no syntactic mechanism to derive null adjuncts. If so, the AI-reading is also expected to be derived in (8) via pragmatic enrichment, which should also be available to English speakers.

The following examples further show that when the pragmatic condition is satisfied, the AI-reading is obtained in Japanese but not in English. In (9) and its corresponding English sentence, the VPs are contrasted (i.e., wiped the windows vs. washed the dishes). In (11) and its English counterpart, the predicates are contrasted (i.e., wiped vs. washed). In both cases, the AI-reading is available only in Japanese.

- (9) Harii-wa teineini mado-o hui-ta kedo, Ron-wa *e* sara-o arat-ta.
 Harry-TOP carefully window-ACC wipe-PST but Ron-TOP dish-ACC wash-PST
 lit. ‘Harry wiped the windows carefully, but Ron washed the dishes.’ (^{OK}EX-reading, ^{OK}AI-reading)
- (10) Harry wiped the windows carefully, but Ron washed the dishes *e*. (^{OK}EX-reading, ??AI-reading)
- (11) Harii-wa teineini mado-o hui-ta kedo, Ron-wa *e* mado-o arat-ta.
 Harry-TOP carefully window-ACC wipe-PST but Ron-TOP window- wash-PST
 lit. ‘Harry wiped the windows carefully, but Ron washed the windows.’ (^{OK}EX-reading, ^{OK}AI-reading)

reading)

- (12) Harry wiped the window carefully, but Ron washed the windows *e*. (^{OK}EX-reading, ??AI-reading)

As a matter of fact, the criticism by Simpson (2023) and Sato (2024b,a) can be more easily directed to the pragmatic enrichment analysis by considering the cross-linguistic differences concerning AE. The null object is not licensed in (13) even though the pragmatic enrichment condition is satisfied.

- (13) *Harry bought Dumbledore's book, and Ron BORROWED *e*.

Pragmatic enrichment should be universally available and it does not require a syntactically derived null argument. It follows that the null object should be licensed (just like null adjuncts) even if AE is syntactically unavailable in English. In this regard, (13) alone may be sufficient to reject the pragmatic enrichment analysis. More precisely, the impossibility of AE in languages like English provides evidence that semantic recovery of null elements require phonetically null syntactic structures derived via ellipsis or null proform replacement of some kind in syntax.

Overall, cross-linguistic variations regarding null adjuncts remain unexplained under the non-structural analysis based solely on discourse principles. In contrast, such variations can be accounted for under the structural ellipsis analysis by assuming that languages are parameterized as to what syntactic principles for ellipsis are available in deriving null adjuncts. To recapitulate, the overall discussion suggests that for the AI-reading to be obtained, satisfying conditions such as (4) and the one I propose in (1) is not sufficient. Rather, semantic recovery of unexpressed adjuncts require syntactic structure of null adjuncts, as is standardly assumed in the structural approaches to ellipsis. Provided that the structural approach is correct, the availability of the AI-reading indicates that a null adjunct is syntactically present. The question is how it is derived, which I address in the following three sections.

5.2 The VSVPE vs. Adjunct Ellipsis Analysis

5.2.1 Background

Recall that the observations and the analysis proposed in Chapter 3 provide a further support for the AE analysis of Japanese null arguments over the VSVPE and *pro*-drop analysis. The AE analysis is maximally simple: Null arguments are derived in syntax via applying an ellipsis operation (deletion or copying) to arguments, as depicted in (14).

(14) [TP Subject [TP [VP Object V] T]]

While a consensus prevails among many researchers that null arguments in Japanese are derived via AE (Oku 1998, 2016; Takahashi 2006, 2008b, 2016, 2020; Saito 2007, 2017; Takita 2018; Sakamoto 2016a,b, 2017, 2019; Maeda 2019; Sato 2020b; Ohtaka 2021, among others), recent years have seen a heated discussion on the syntax of null adjuncts in Japanese (see Tanabe and Kobayashi 2024a, for an overview).

To this day, accumulated studies have revealed that a variety types of adjuncts can be null in Japanese in a number of different constructions (Kuno 1995; Kamio and Takami 1998; Oku 2016; Funakoshi 2016; Hayashi and Fujii 2015; Sato and Hayashi 2018; Kobayashi 2020; Sato and Maeda 2021; Tanabe and Kobayashi 2023, 2024a, to appear; Kobayashi 2024b). Naturally, some researchers propose that just like null arguments are derived via AE in (14), null adjuncts in Japanese are derived via an application of ellipsis to adjuncts (Oku 2016; Kobayashi 2020, 2024b; Tanabe and Kobayashi 2023, to appear). The *Adjunct Ellipsis* (AdjE) analysis of a VP-adjunct is depicted in (15).⁴⁰

(15) [TP Subject [TP [VP Adjunct [VP Object V]] T]]

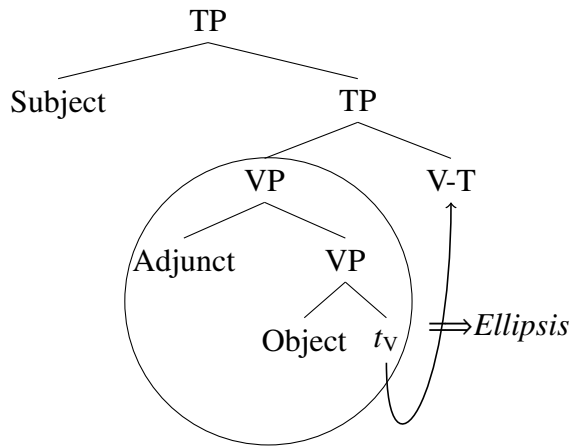
However, until very recently, the prevailing assumption since Oku (1998) was that an ellipsis operation can target arguments but it cannot target adjuncts (Takita 2011; Sugisaki 2013; Hayashi and Fujii 2015; Funakoshi 2016; Sakamoto 2017; Sato and Hayashi 2018; Abe 2019; Takahashi 2020; Sato and Maeda 2021, among others).⁴¹ It is perhaps for this reason that a number of researchers have argued that null

⁴⁰Cross-linguistically, Collins (2015, 2017) and Kobayashi (2024a) propose the AdjE analysis of null adjuncts in English and Woo Park and Kwan Park (2018); Park (2022, 2023) propose the AdjE analysis in Korean.

⁴¹In fact, observations regarding the impossibility of AdjE are robust. To the author's knowledge, it has been observed to

adjuncts in Japanese are derived via ellipsis of larger phrases that contain them rather than by applying ellipsis to the adjuncts themselves (Funakoshi 2016; Hayashi and Fujii 2015; Sato and Hayashi 2018; Sato and Maeda 2021). One of the most prominent approaches, which I have already mentioned in the preceding Chapter 4, is the VSVPE analysis of null adjuncts in (16) (Funakoshi 2016). By applying VP-ellipsis after V-raising, the adjunct can be elided along with the object as in (16).

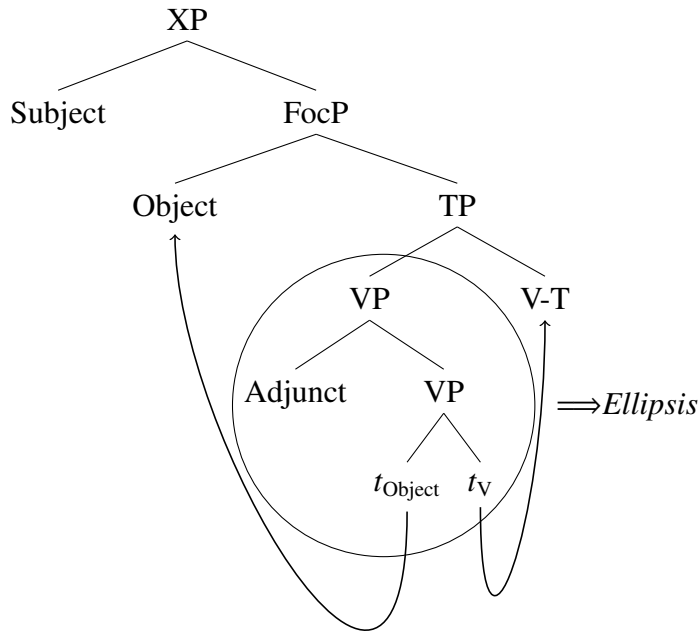
(16)



If object movement additionally applies as in (17), VP-ellipsis elides the adjunct alone (see also Sato and Hayashi 2018; Sato and Maeda 2021, for a V-stranding TP-ellipsis analysis of null adjuncts).

be disallowed in English (Panitz 2018), Chinese (Li 2008), Hindi, Bangla, and Malayalam (Simpson et al. 2013), Turkish (Takahashi 2014), Persian (Sato and Karimi 2016), Italian (Duguine 2017), and Brazilian Portuguese (Panitz 2018).

(17)



In this context, the first half of this chapter is devoted to the AdjE vs. VSVPE debate concerning the syntax of null adjuncts. I present empirical arguments for the AdjE analysis.

Before we proceed, a note is in order regarding the widely held assumption on the unavailability of AdjE in Japanese. Needless to say, whether an ellipsis operation (whatever it is) can target adjuncts is an entirely empirical question. Yet, to the author's knowledge, the long-standing claim that AdjE is impossible is actually based (nearly solely) on the example in (18). As Tanabe and Kobayashi (2024a) point out, although the distribution of null adjuncts was once thought to be narrowly limited in Japanese, given the accumulated observations on null adjuncts of a wide range of types, the overall picture has somehow changed; null adjuncts are widely observed, whereas cases in which the AI-reading is hard to obtain are limited to cases instantiated by (18). In this respect, the alleged impossibility of AdjE turns out to be based on a "fairly rare" exception, which happened to have been found before the majority of cases, in which null adjuncts can be interpreted.

- (18) a. Yuki-wa teineini kuruma-o arat-ta.
Yuki-TOP carefully car-ACC wash-PST
'Yuki washed a car carefully.'
- b. Mamoru-wa *e* kuruma-o araw-anak-atta. (^{OK}EX-reading, ^{??}AI-reading)
Mamoru-TOP car-ACC wash-NEG-PST
lit. 'Mamoru didn't wash a car.'

In any case, as we already discussed in detail in Chapter 4, the impossibility of the AI-reading itself is dubious at best when we consider contextual as well as prosodic factors (Kobayashi et al. 2024). Moreover, the difficulty of the AI-reading in (18b) and relevant inter-speaker variations are not due to syntactic principles but due to discourse principles (Oku 2016; Landau 2023; Tanabe and Kobayashi 2024a; Tanabe 2024). Given this, the empirical ground for the claim that AdjE is syntactically banned in Japanese is very weak. Furthermore, Saito (2007, p. 224; 2017, p. 741) and Takahashi (2006, p. 22; 2014, p. 112) correctly point out that if ellipsis can apply to arguments but not to adjuncts, it raises a non-trivial question of why ellipsis in the form of deletion or copying is constrained in such a way.⁴² On the other hand, if AdjE is available in Japanese, the question turns out to be a pseudo problem; there is no question of why AdjE is impossible. The rest of this section shows this to be the case.

5.2.2 A case against VSVPE I: Null adjuncts and overt NPI objects

Recall from Section 4.1 that Funakoshi's (2016) VSVPE analysis makes the following prediction:

- (19) An object can be overt in a null adjunct sentence only if it is contrastively focused.

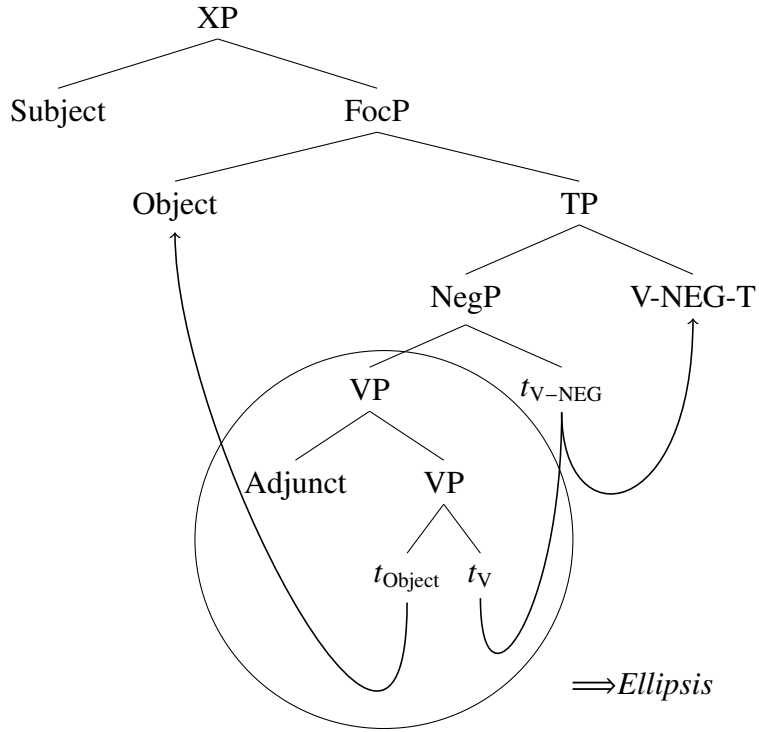
(Funakoshi 2016, p. 136)

The prediction is born out in (20b), and the sentence is analyzed as in (21).

- (20) a. Yuki-wa teineini OYAN-NO kuruma-o ara-ta.
 Yuki-TOP carefully parant-GEN car-ACC wash-PST
 ‘Yuki didn’t wash her parents’ car carefully.’
 b. Mamoru-wa *e* ZIBUN-NO kuruma-o araw-anak-atta. (^{OK}AI-reading)
 Mamoru-TOP self-GEN car-ACC wash-NEG-PST
 lit. ‘Mamoru didn’t wash his own car.’ (cf. Oku 2016)

⁴²It has been suggested that a syntactic mechanism that is responsible for ellipsis is not available to adjuncts in general. In particular, Oku (1998, Chapter 5) suggests that AE via LF-copy applies to arguments as a last resort to satisfy the θ -feature requirement. Since adjuncts do not have θ -roles, they cannot be targeted by LF-copy. Takahashi (2020, p. 62), on the other hand, suggests that while PF-deletion of arguments is syntactically licensed by a θ -marking head, PF-deletion of adjuncts cannot be because they do not have θ -roles. However, Oku (2016) suggests that assuming the availability of AdjE is theoretically more desirable in the minimalist model of syntax.

(21)



Funakoshi suggests that (21) is an instance of *verb-stranding pseudogapping* analogous to English pseudogapping in (22a), which also involves focus movement of the contrasted object and subsequent VP ellipsis, as depicted in (22b).

- (22) a. Forrest hasn't played baseball, but he has FOOTBALL.
b. but he has football_i [_{VP} played t_i]

With this in mind, consider (23). The adjunct *oya-no tame-ni* 'for his parents' is unexpressed in (23b), but it naturally allows the AI-reading. (23c) is compatible with the AI-reading but contradicts the EX-reading that he did not spend even one yen. Hence, if (23b) did not have the AI-reading, (23c) would sound contradictory, as the unacceptability of the English sentence in (24) also indicates.

- (23) a. Kazuya-wa kotosi [oya-no tame-ni] iti-en-mo tukaw-anak-atta.
Kazuya-TOP this.year parents-GEN sake-DAT one-yen-even spend-NEG-PST
'Kazuya did not spend even one yen for his parents this year.'
b. Ooganemoti-ni nat-ta ato-demo *e* iti-en-mo tukaw-anak-atta. (^{OK}AI-reading)
super.rich-DAT become-PST after-even one-yen-even spend-NEG-PST
lit. 'Even after he became super rich, he did not spend even one yen.'
c. Zibun-no tame-nara hyakuman-en demo tameraw-azu tukat-ta kedo.
self-GEN sake-if one.million-yen even hesitate-NEG spend-PST though

‘He spent even a million yen for himself without hesitation, though.’

(24) #Kazuya did not spend even one yen this year, though he spent even a million yen for himself.

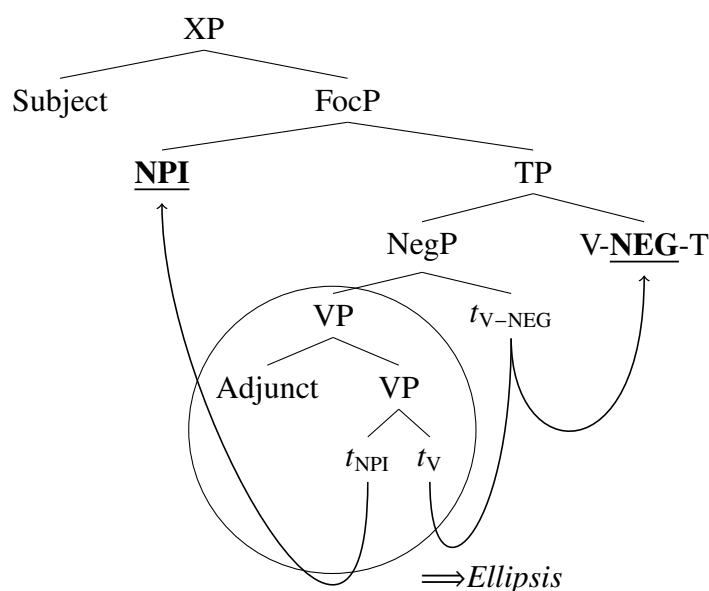
The AI-reading in (23b) poses a serious problem for the verb-stranding pseudogapping analysis in (21). The object *iti-en-mo* ‘even one yen’ is not contrasted with the one in the antecedent (23a). Rather, it is repeated. For this reason, (23b) cannot be analyzed analogously to English pseudogapping. As the unacceptability of (25a) indicates, pseudogapping is possible only if the contrastive requirement is satisfied. In short, the data in (23) reveals that the generalization in (19) is not true.

(25) a. *Mary didn’t drink any wine, and Bob didn’t any, either.

b. Mary didn’t drink much wine, and Bob didn’t ANY.

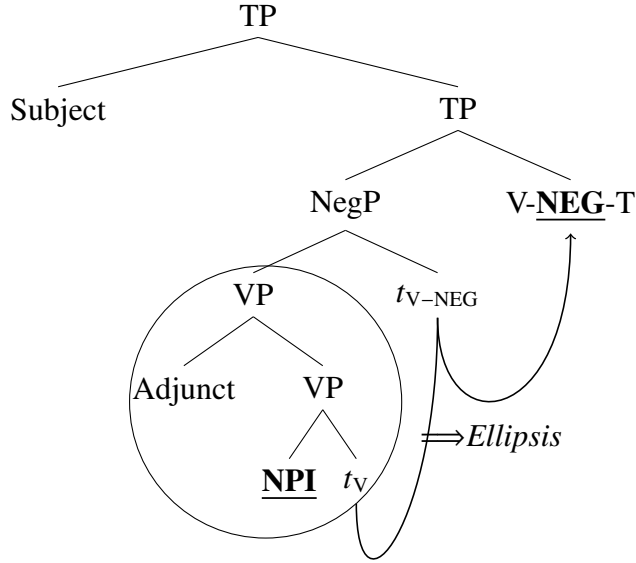
Moreover, the VSVPE analysis cannot explain the AI-reading in (23b) even if the minimizer *iti-en-mo* ‘even one yen’ is focused in some sense and moves out of the VP to a focus position as in (26). This is because such an analysis makes a wrong prediction with respect to NPI licensing. If the NPI undergoes focus movement out of the scope of negation, it should not be licensed by NEG which does not c-command it.

(26)



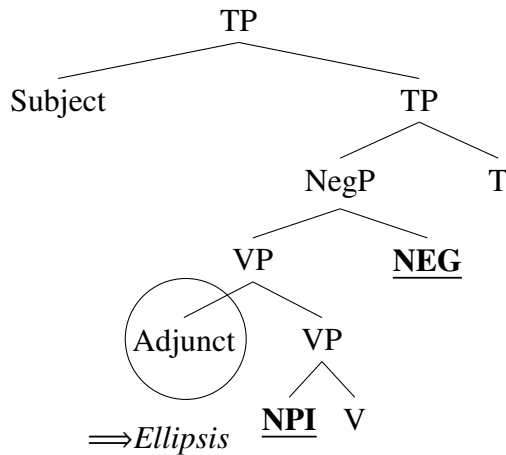
That is to say, if the AI-reading in (23b) were derived via VSVPE, the NPI object, which must stay inside the scope of negation, would also be null as (27) illustrates. The null adjunct in (23b) thus cannot be derived via VSVPE.

(27)



Given this, I propose that the null adjunct in (23b) is derived by applying ellipsis to the adjunct, as depicted in (28).

(28)



Let us consider another example in (29) to make the same point.⁴³ (29a) contains an adjunct *zibun-kara susunde* ‘voluntarily’, and it is unexpressed in (29b). Additionally, the NPI object *is-satu-mo* ‘even

⁴³Note that the NPIs used in (23) and (29) are *minimizers*. I avoid using more common NPIs such as *daremo* ‘anyone’ or *nanimo* ‘anything’ because they could be wide-scope universals which require negation within their scope (Shimoyama 2011).

one book’ is overtly expressed in (29b). Hence, as discussed above, the sentence cannot be derived via VSVPE accompanied by an object movement out of VP. Nevertheless, (29b) naturally allows the AI-reading that even if she were dying from boredom, she did not read any books voluntarily. If (29b) has only the EX-reading, (24c) does not felicitously follow, contrary to fact.

- (29) a. Kyonen, Miyu-wa [zibun-kara susunde] hon-o is-satu-mo yom-anak-atta.
 last.year Miyu-TOP self-from volunteer book-ACC one-CL-even read-NEG-PST
 ‘Last year, Miyu did not read even one book voluntarily.’
- b. Tatoe taikutu-de sinisoona-toki-de-mo *e* is-satu-mo yom-anak-atta. (^{OK}AI-reading)
 even.if boredom-with dying-when-be-even one-CL-even read-NEG-PST
 lit. ‘Even if she were dying from boredom, she did not read any books.’ (adjunct-inclusive)
- c. Yon-da no-wa syukudai-de yoma-nakerebaikenak-atta toki-dake-da-tta.
 read-PST NML-TOP homework-with read-must-PST when-only-COP-PST
 ‘She read one only when she had to read it for her homework assignment.’

The point we make is again supported by the observation that the English sentence in (30) is unacceptable.

- (30) #Last year, Miyu did not read any books, but she read one when she had to read it for her homework assignment.

The data discussed above demonstrate that null adjuncts are generated when VSVPE is syntactically unavailable. The data, therefore, suggests that null adjuncts in Japanese are derived via AdjE, which directly applies to adjuncts.

Yet, one may still maintain that if the NPIs in question are licensed via reconstruction, the VSVPE analysis is compatible with the AI-readings obtained with an over NPI. For example, the scrambled NPI in (31) does not affect the possibility of NPI licensing, suggesting that movement of NPIs out of the negative scope may not lead to any problems.⁴⁴

- (31) Iti-en-mo_i [_{TP} Taro-wa [_{NegP} [_{VP} zibun-no tame-ni *t*_{Iti-en-mo} tukaw]-anak]-atta].
 one-yen-even Taro-TOP self-GEN sake-DAT USE-NEG-PST
 ‘Taro did not spend even one yen for himself’

However, first of all, whether scrambling is an instance of syntactic movement is not so conclusive. Fukui and Kasai (2004) propose that scrambling in Japanese is a PF-phenomenon. If so, (31) does not

⁴⁴I thank Mamoru Saito for bringing my attention to this possibility.

necessarily indicate that NPIs are licensed via reconstruction because the underlying syntactic structure of (31) is actually (32), in which NPI is syntactically licensed by NEG in the base-generated position.

(32) [TP Subject [NegP [VP Adj NPI V] NEG] T].

Further, a possible verb-stranding pseudogapping analysis in (26) supplemented by reconstruction of NPIs would posit that the NPIs undergo focus movement. The question is whether focus movement in Japanese is an instance of A-movement, which in general does not reconstruct (Chomsky 1995a; Lasnik 1998, among others) or A'-movement which is known to undergo reconstruction in Japanese (Saito 1989).⁴⁵ In general, sentence-internal (also known as short-distance) NP-movement in Japanese has been assumed to be A-movement since Saito (1985, 1989). In this respect, the movement of the NPI in (26) can also be regarded as A-movement. (33a) shows that if a minimizer NPI undergoes A-movement out of the negative scope, it does not reconstruct. The sentence-initial minimizer NPI *ichi-en-mo* 'one-yen-even' precedes the sentential adverb *zannnennakotoni* 'unfortunately', which indicates that the NPI is higher than TP above NegP. (33a) is severely degraded as compared to (33b), in which the minimizer NPI stays in-situ below negation. If an NPI that undergoes A-movement can reconstruct, the contrast is unexplained.

- (33) a. **Ichi-en-mo_i zannnennakotoni Sayaka-wa oya-no tame-ni t_i tukaw-anai.*
 one-yen-even unfortunately Sayaka-TOP parents-GEN sake-DAT spend-NEG
 Intended. 'Unfortunately, Sayaka would not spend even one yen for her parents.'
- b. *Zannnennakotoni Sayaka-wa oya-no tame-ni ichi-en-mo tukaw-anai.*
 unfortunately Sayaka-TOP parents-GEN sake-DAT one-yen-even spend-NEG
 'Unfortunately, Sayaka would not spend even one yen for her parents.'

Yet, we cannot deny the possibility that focus movement to [Spec, FocP] in (26) is an instance of A'-scrambling, which undergoes reconstruction. However, Hiraiwa and Ishihara (2012) scrutinize Japanese focus constructions and demonstrate that focus movement in Japanese does not reconstruct, albeit it can be seen as a special kind of A'-movement. All in all, regardless of whether the relevant movement of the

⁴⁵For example, long-distance A'-scrambling allows reconstruction, as in (i).

- (i) [*Ichi-en-mo_i [Kazuya-ga [Miyu-wa oya-no tame-ni t_i tukaw-anai] to sinziteiru.*
 one-yen-even Kazuya-NOM Miyu-TOP parents-GEN sake-DAT spend-NEG that believe
 'Kazuya believes that Miyu does not spend even one yen for her parents.'

NPI is A-movement or an instance of A'-movement, it is reasonable to assume that the NPI cannot be licensed via reconstruction.⁴⁶ Given this, the AI-readings in (23b) and (29b) support the AdjE analysis over the VSVPE analysis.

5.2.3 A case against VSVPE II: Null adjuncts escape the scope of negation

To start with, let us introduce Funakoshi's (2016) argument for his VSVPE analysis based on reason adverbials. (34) shows that reason adverbials in Japanese do not take scope below negation (Kuno 1980). (34) has the interpretation that Eri is not crying and the reason she is not crying is that Hiroya scolded her (i.e., Adjunct>NEG), whereas it does not have the interpretation that Eri is crying but the reason is not that Hiroya scolded her (i.e., NEG>Adjunct).⁴⁷

- (34) Eri-wa [_{AdvP} Hiroya-ga sikat-ta kara] naitei-nai. (Adjunct>NEG; *NEG>Adjunct)
 Eri-TOP Hiroya-NOM scold-PST because be.crying-NEG
 lit. 'Eri is not crying because Hiroya scolded her.'

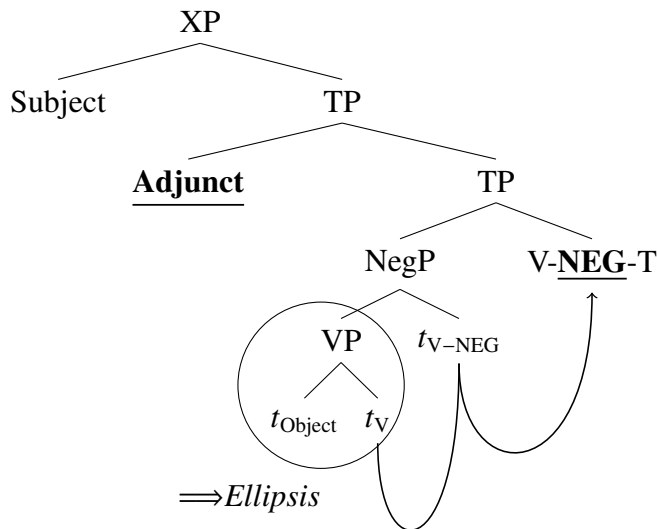
Given this, reason adverbials are assumed to be higher than NegP which is higher than VP. Accordingly, reason adverbials that are out side of the VP-domain cannot be elided via VSVPE. This is illustrated in (35).⁴⁸

⁴⁶Note that the argument made here is significantly affected by the exact position of FocP. The overt NPI that is derived via focus movement would end up in a position below NEG if there is a functional head above FocP to which V-NEG-T amalgam raises. However, I refer the reader to Tanabe and Kobayashi (2024a, Section 2.1) for arguments against this line of analysis.

⁴⁷Notice that the Adjunct>NEG reading which asserts that she is not crying and the reason is that she was scolded is pragmatically unnatural, but it still obtains. In contrast, the NEG>Adjunct reading that she is crying but the reason is not that she was scolded is pragmatically more natural, and still the interpretation is unavailable. The observation then should be ascribed the the syntactic position of the adverb.

⁴⁸If the complex head raises to C, and V-stranding TP-ellipsis applies, the adjunct can be elided. Yet, the derivation would yield a structure where NEG in C is higher than the Adjunct in [Spec, TP]. Such an analysis thus overgenerates the NEG>Adjunct reading of null reason adverbials. We come back to this point shortly.

(35)



Building on this assumption, Funakoshi (2016) then argues that the VSVPE analysis correctly predicts that the reason adverbial is not included in the interpretation of (36b) (= (32b) in Funakoshi (2016)). Funakoshi (2016) reports that (36b) does not allow the AI-reading, and thus (36c), which asserts that the speaker thinks that Hanako quit the company, sounds contradictory (see also Saito 2007).

- (36) a. Boku-wa [Taroo-wa [_{AdvP} baka-da kara] kaisya-o yame-ta to] omotteiru.
I-TOP Taro-TOP fool-COP because company-ACC quit-PST that think
'I think that Taroo quit the company because he was a fool.'
- b. Ippou [Hanako-wa *e* yame-ta to] omottei-nai. (^{OK}EX-reading, ^{NOT}AI-reading)
on.the.other.hand Hanako-TOP quit-PST that think-NEG
lit. 'On the other hand, I don't think that Hanako quit the company.'
- c. #Kanozzyo-wa kazoku-no tameni yame-tan-da to omou.
she-TOP family-GEN for quit-PST-COP that think
'I think that she quit the company for her family.'

(Funakoshi 2016, p. 124–125)

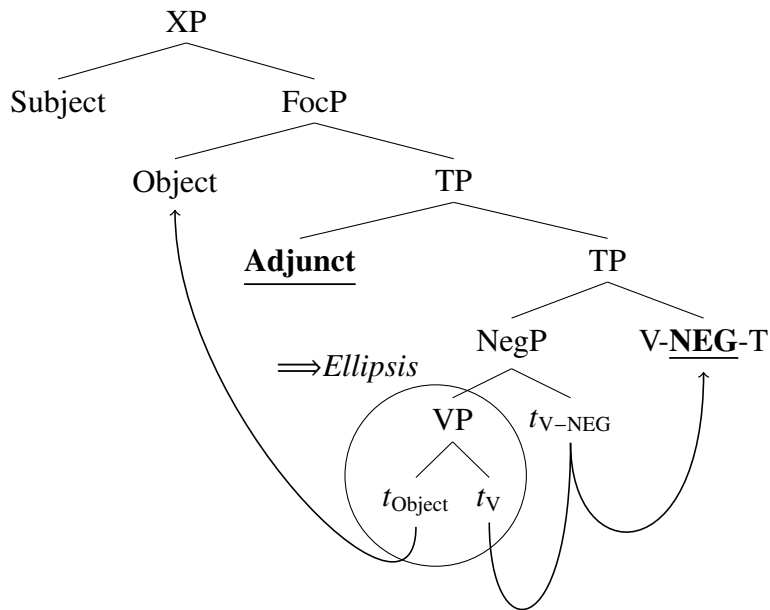
However, it is not the case that reason adverbials in general cannot be null. Consider the following example. The most salient interpretation of (37b) is the AI-reading that Hiroya couldn't take the science exam because she caught a cold, where the adverbial phrase is interpreted outside the scope of negation (cf. Tanabe and Kobayashi to appear).

- (37) a. Eri-wa [_{AdvP} kaze-o hii-ta node] suugaku-no tesuto-o uke-rare-nak-atta.
Eri-TOP cold-ACC catch-PST because math-GEN test-ACC take-can-NEG-PST
'Eri couldn't take the math test because he caught a cold.'

- b. Hiroya-wa *e* rika-no tesuto-o uke-rare-nak-atta. (^{??}EX-reading, ^{OK}AI-reading)
 Hiroya-TOP science-GEN test-ACC take-can-NEG-PST
 lit. 'Hiroya was able to take the science exam, but the reason is not that she caught a cold.'

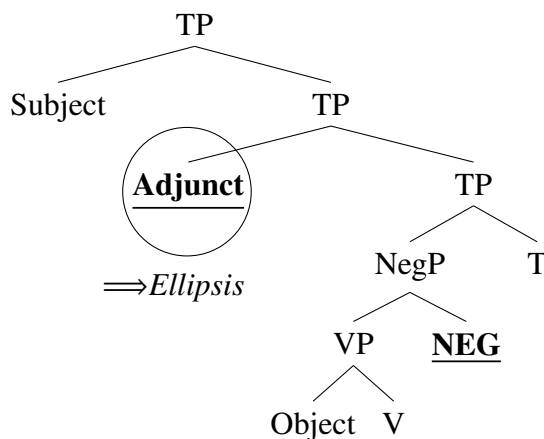
The AI-reading of (37b) cannot be explained by the VSVPE analysis because if (37b) were a case of VSVPE, the adjunct above NEG should remain overt, as (38) illustrates.

(38)



Given this, I propose to analyze (37b) as in (39), in which the adjunct above NEG is elided via AdjE. The applicability of AdjE is not affected by the position of the adjunct relative to NEG. It follows that the AI-reading of (37b) under the Adjunct>NEG reading is naturally accounted for.

(39)



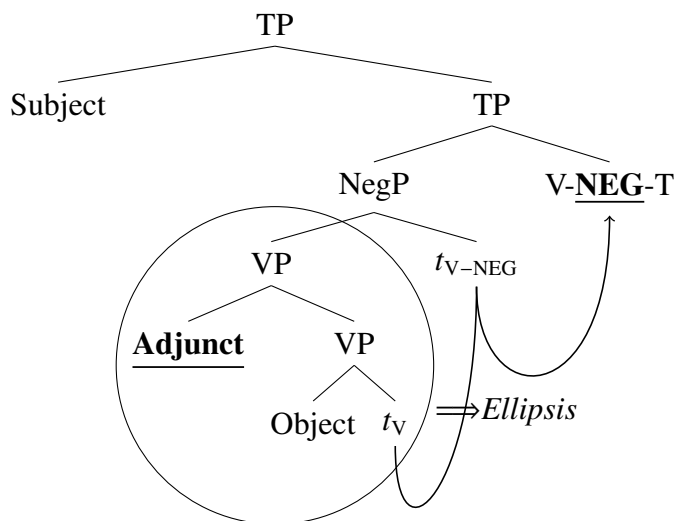
A question remains, however, as to why the AI-reading is hard to get in Funakoshi's (2016) example

in (36), though (37) indicates that elidability of adjuncts is not determined by whether they are higher than negation or not. Additionally, data like (37) does not provide strong evidence for the possibility of ellipsis with reason adverbials. This is because unlike in (36) we cannot add a follow-up sentence that is compatible with the AI-reading and contradicts the EX-reading. Given this, I leave further investigations into ellipsis possibility of reason adverbs for future research. Nevertheless, it turns out that investigations into the scope relation between null adjuncts and negation are revealing in the VSVPE vs. AdjE debate, as I show below.

(41) illustrates in detail how VSVPE derives a null VP-adjunct in cases such as (2b), repeated below as (40b). Since NEG is higher than the adjunct contained in the VP, the analysis is compatible with the AI-reading of (40b), in which the VP adverb is semantically inside the scope of negation.

- (40) a. Yuki-wa teineini kuruma-o arat-ta.
 Yuki-TOP carefully car-ACC wash-PST
 ‘Yuki washed a car carefully.’
 b. Mamoru-wa *e e* araw-anak-atta. (^{OK}EX-reading, ^{OK}AI-reading)
 Mamoru-TOP wash-NEG-PST
 lit. ‘Mamoru didn’t wash.’

(41)



Notice that when V-stranding ellipsis of any kind is applied to a negative sentence, NEG always ends up in a position higher than the elements contained in the elided phrase. For this reason, V-stranding ellipsis analyses generally predict that null adjuncts take scope below negation, as in (40b). Indeed, Sato

and Maeda (2021) argue that the raised NEG involved in V-stranding TP-ellipsis obligatorily takes scope over the elements inside the ellipsis site (see also Roberts 2010, for arguments that NEG raising has semantic effects).

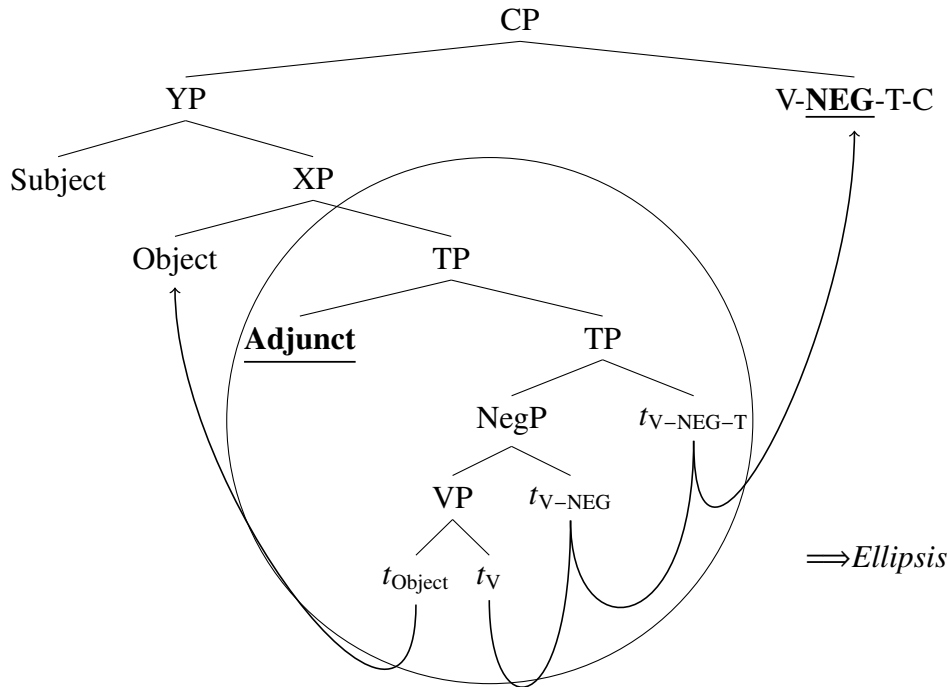
Bearing this in mind, consider (42). With (42b) as its antecedent, the most likely interpretation of (42b) is the AI-reading, in which the conditional adverbial *Kyozin-ga kat-ta ra* ‘if the Giants win’ is semantically present. If the conditional adverb were not interpreted in (42b), it would entail that Masaharu does not drink beer under any conditions. Therefore, (42c) would not be a felicitous continuation of (42b), contrary to fact.

(42) Context: Tomoya is a *Giants* fan and Manabu is a *Tigers* fan as well as an anti-*Giants*.

- a. Tomoya-wa [_{AdvP} Kyozin-ga katta ra] biiru-o nomu.
Tomoya-TOP the.Giants-NOM win if beer-ACC drink
‘Tomoya drinks beer if the Giants win the game.’
- b. Masaharu-wa *e* sinde-mo (biiru-o) nom-anai. (^{OK}EX-reading, ^{OK}AI-reading)
Masaharu-TOP die-even beer-ACC drink-NEG
lit. ‘Masaharu does not drink beer even if it costs him his life.’
- c. Demo, Hansin-ga katta ra nomu.
but the.Tigers-NOM win if drink
‘But if the Tigers win, he drinks beer.’

Notice that the adverbial in (42b) is semantically outside the scope of negation. Crucially, the NEG>Adjunct reading is unavailable. This indicates that the null adjunct is not derived via V-stranding ellipsis because it requires NEG to raise above the elided phrase containing the null adjunct. In fact, there is one possible way to elide the adverbial via V-stranding ellipsis, as illustrated in (43); prior to TP-ellipsis, V undergoes V-to-NEG-to-T-to-C movement, and the object may somehow raise out of the elided domain (see Sato and Hayashi 2018; Sato and Maeda 2021, who propose a verb-stranding TP-ellipsis analysis). Notice that regardless of what constituent is elided and where the landing site of NEG is, NEG should take scope over the adjunct contained within the elided constituent. It follows that V-stranding ellipsis analyses in general cannot explain the observation that the null adjunct in (42b) does not fall within the scope of negation.

(43)



One may wonder whether the syntactically complex adverbial clause used in (42) behaves in the same way as a typical adverbs. Nonetheless, the following example demonstrates that the same result is obtained with a simplex adverbial *ame-nara* ‘if it rains’. (44b) naturally allows the AI-reading in which the adverb is outside the scope of negation. The follow-up sentence in (44c) contradicts the EX-reading, and yet it is a perfectly acceptable continuation of (44b).

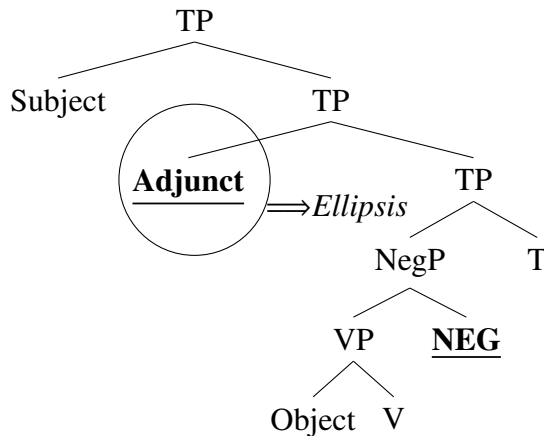
(44) Context: Saya usually goes outside and plays sports when it’s sunny but goes to the library when it’s rainy. In contrast, Yuzuki always goes to the library but not when it’s raining because she hates to walk in the rain.

- a. Saya-wa [_{AdvP} ame-nara] tosyokan-ni iku.
 Saya-TOP rain-if library-DAT go
 ‘Saya goes to the library if it rains.’
- b. Yuzuki-wa *e* tosyokan-ni ika-nai. (^{OK}EX-reading, ^{OK}AI-reading)
 Yuzuki-TOP library-DAT go-NEG
 lit. ‘Yuzuki does not go to the library.’
- A’: Haredat-tara hobo mainiti ikun-da kedo-ne.
 be.sunny-if almost every.day go-COP though-SFP
 ‘Though, he goes to the library almost every day if it’s sunny.’

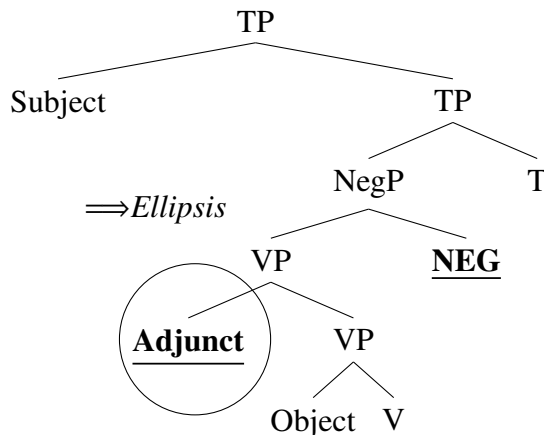
The observations reveal that adjuncts outside the scope of negation can be elided. The AdjE analysis

in (45) correctly predicts that the elidability of adjuncts is not affected by the position of the adjuncts in relation to the position of NEG. Adjuncts can be elided via applying AdjE to adjuncts above negation as in (45), and they can also be elided by applying AdjE to adjuncts below negation as in (46).

(45)



(46)



By contrast, the V-stranding XP-ellipsis analysis of any sort wrongly predicts that null adjuncts can always be interpreted inside the scope of negation. The data in (42) and (44), therefore, support the AdjE analysis over the V-stranding ellipsis analysis.

5.3 Chapter Summary

The prevailing assumption in Japanese has been that an ellipsis operation can target arguments but not adjuncts for an unknown reason. However, in this section, I discussed the syntax of null adjuncts and

proposed that null adjuncts are derived by applying AdjE to adjuncts themselves. In the course of arguing for the analysis, I first discussed the non-structural approach based on pragmatic enrichment. I rejected the analysis on the grounds that it wrongly predicts null arguments and adjuncts to be universally licensed as long as discourse conditions are satisfied. Provided that the structural approach is correct, I discussed how null adjuncts are derived in syntax. I excluded the possibility that null adjuncts in Japanese are actually null VP (or null XP containing adjuncts) in disguise. I demonstrated that null adjuncts are generated when VSVPE or V-stranding ellipsis is generally not an option. The overall discussion in this section therefore reveals that null adjuncts in Japanese are derived via applying ellipsis to adjuncts.

Chapter 6

A MINIMALIST REANALYSIS OF ELLIPSIS UNDER FREE-TRANSFER

The observations and the analyses proposed in Chapter 3 support the Argument Ellipsis (AE) analysis of Japanese null arguments in (1).

- (1) [TP Subject [TP [VP Object V] T]]

Additionally, in Chapter 4, I have proposed that null adjuncts are derived via an application of Adjunct Ellipsis (AdjE) to adjuncts as depicted in (2).

- (2) [TP Subject [TP [VP Adjunct [VP Object V]] T]]

In this chapter, I discuss in more detail the syntactic mechanisms behind ellipsis licensing involved in AE and AdjE. I put forth a unified approach to the syntax of null arguments and adjuncts. More specifically, I propose that null arguments and adjuncts in Japanese are derived via ellipsis that is licensed in the PF component after *Transfer*.

This chapter proceeds as follows. In Section 6.1, I briefly touch on empirical evidence for the PF-deletion analysis of AE, which I assume thereafter. In Section, 6.2, I present arguments against the claim that ellipsis is syntactically licensed by a specific set of heads. In Section, 6.3, I describe a conceptually more desirable analysis of ellipsis licensing within the phase theory. I then further the phase-based analysis to an even more minimalist analysis of ellipsis by incorporating the view that Transfer can apply freely in narrow syntax (just like Merge). Based on the Transfer-based analysis, Section 6.4 proposes to analyze AE as PF-deletion that applies to transferred arguments in the post-syntactic component. The

Transfer-based analysis can explain why AE is possible in Japanese-type languages but not in English-type languages. In Section 6.5, I suggest that the existence of AdjE in Japanese naturally follows from the Transfer-based analysis of ellipsis, and argue that AE and AdjE can be unified as ellipsis (i.e., PF-deletion) which is always applicable to the units of Transfer. In section 6.6, I acknowledge two main issues to be addressed in future studies. Namely, the question of whether AdjE is universally available across languages, and the question of whether null adjuncts in Japanese have internal structure in syntax and allow extraction out of them.

6.1 Basic Assumption: AE via PF-deletion

In discussing syntactic licensing of AE in Japanese, I assume that AE involves PF-deletion (Moriyama 2017; Maeda 2019; Takahashi 2020; Ohtaka 2021; Fujiwara 2022, among others). The PF-deletion analysis posits that elided arguments are present in syntax and their phonetic contents are subsequently deleted in PF.

A piece of empirical evidence for the PF-deletion analysis of AE has been presented by Takahashi (2020), who demonstrates that null clausal arguments allow overt extraction in cleft constructions. Takahashi (2020) follows Hiraiwa and Ishihara (2012) and assumes that the cleft construction in (3a) is derived via movement of the focused PP from the embedded CP. In (3b), the embedded CP is elided. Yet, the sentence allows the interpretation where the focused PP *ano biru kara* ‘from that building’ is associated with the lower verb *detekuru* ‘come out’ in the elided CP, which indicates that the PP is extracted from the null CP.

- (3) a. [Harry-ga [CP Ginny-ga t_{PP} detekuru no]-o mokugekisi-ta no]-wa [PP kono biru
Harry-NOM Ginny-NOM come.out that-ACC witness-PST that-TOP this building
kara] da.
from cop
‘It was from this building that Harry witnessed Ginny coming out.’
- b. [Ron-ga [CP e t_{PP}] mokugekisi-ta no]-wa [PP ano biru kara] da.
Ron-NOM witness-PST that-TOP that building from cop
OK: ‘It was from that building that Ron witnessed Ginny coming out.’

(Takahashi 2020, p. 55)

In addition, Ohtaka (2021) has recently demonstrated that possessor raising is possible out of an elided argument. Kishimoto (2013) proposes that (4b) is derived from (4a) via raising of the possessor NP *Bill-no* ‘Bill’s’ contained within the complex NP.

- (4) a. Mary-no koto-ga [_{NP} Bill-no atama]-ni nakat-ta.
 Mary-GEN thing-NOM Bill-GEN head-in NEG-PST
 lit. ‘For Bill, Mary was something not in mind.’
 b. Bill_i-ni-wa Mary-no koto-ga [_{NP} *t_i* atama]-ni nakat-ta.
 Bill-DAT-TOP Mary-GEN thing-NOM head-in NEG-PST
 lit. ‘For Bill, Mary was something not in mind.’

(Ohtaka 2021, p. 180)

Building on this analysis, Ohtaka shows that possessor raising is possible out of the null complex NP in (5b).

- (5) a. Bill_i-ni-wa Mary-no koto-ga [_{NP} *t_i* atama]-ni nakat-ta.
 Bill-DAT-TOP Mary-GEN thing-NOM head-in NEG-PST
 lit. ‘For Bill, Mary was something not in mind.’
 b. John_j-ni-mo *e* [_{NP} *e t_j*] nakat-ta.
 John-DAT-also NEG-PST
 lit. ‘For John, too, was not.’

(Ohtaka 2021, pp. 182–183)

The result in (5b) is accounted for by the deletion analysis in (6).⁴⁹ Since the deleted NPs have full-fledged structure in syntax, the possessor NP can be extracted from within the complex NP.

- (6) John_j [_{NP} ~~Mary’s thing~~] [_{NP} ~~*t_j* head~~] NEG-T.

Overall, the above observations reveal that overt extraction is allowed out of null arguments in Japanese, which suggests that null arguments in Japanese are derived via PF-deletion.⁵⁰ Assuming the

⁴⁹Ohtaka (2021) suggests that the dative argument in (5b) cannot be *pro*-dropped; that is, *anama-ni nai* ‘... is not in one’s head’ is an idiomatic expression and the dative argument cannot be replaced by an overt pronoun *soko-ni* ‘there’, as (i) shows.

- (i) (With (5a) as the antecedent)
 *John_j-ni-mo Mary-no koto-ga [_{NP} *t_j* soko]-ni nakat-ta.
 John-DAT-also Mary-GEN thing-NOM there-in NEG-PST
 lit. ‘For John, too, Mary was something not there.’

⁵⁰A question remains as to why extraction out of null arguments is sometimes impossible as reported in a body of studies (Shinohara 2006; Saito 2007; Tanaka 2008; Takita 2010; Kasai 2014; Sakamoto 2019). In the literature on Japanese AE, one

PF-deletion analysis of AE, I turn to the question of how exactly ellipsis in the form of PF-deletion is licensed. Below, I first discuss problems of previous approaches.

6.2 Against Ellipsis-Licensing Heads

In the syntactic literature on ellipsis, one of the most prominent approaches to ellipsis licensing originates in Lobeck's (1990; 1995) proposal that ellipsis is licensed in the complement position of a functional head such as *v*, *T* and *C* (see also Saito and Murasugi 1990).⁵¹ The approach has been elaborated by Merchant (2001, 2004), who proposes that ellipsis is licensed by an [E](llipsis)-feature on the licensing head which instructs "the PF system to skip its complement for purposes of parsing and production" (Merchant 2001, p. 60; see also Johnson 2001; Richards 2003). The basic idea of this license-based deletion approach is illustrated below using English examples. (7a) is an instance of sluicing. The availability of sluicing in English is explained by assuming that sluicing involves TP-ellipsis licensed by the [E]-feature on *C*, which takes the TP as its complement, as depicted in (7b).

of the core arguments for the LF-copy analysis (Oku 1998) is based on the impossibility of extraction in cases such as (ic) (Shinohara 2006; Tanaka 2008; Sakamoto 2019).

- (i) a. Fugu_i-o Hanako-wa [_{CP} Taro-ga *t_i* tabe-ta to] omotteiru kedo,
 blowfish-ACC Hanako-TOP Taro-NOM eat-PST that think but
 'Although Hanako thinks that Taro ate a blowfish but'
 b. Dokuturutake_j-o Sachiko-wa [_{CP} Taro-ga *t_j* tabe-ta to] omotteiru.
 destroying.angel-ACC Sachiko-TOP Taro-NOM eat-PST that think
 'Sachiko thinks that Taro ate a destroying angel.'
 c. Dokuturutake_j-o Sachiko-wa [_{CP} *e*] omotteiru.
 destroying.angel-ACC Sachiko-TOP think
 lit. 'A destroying angel, Sachiko thinks.'

(Sakamoto 2019, p. 110)

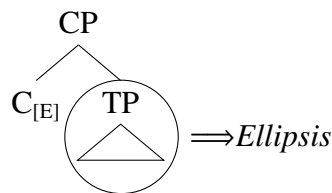
Although the core data has been taken as evidence that AE in Japanese involves LF-copy rather than PF-deletion, Daiki Matsumoto (p.c.) points out that data like (i) does not constitute strong evidence for the LF-copy analysis. One primary reason for this is that as extensively discussed in Matsumoto (2023), languages in general do not allow a contrastive focus (CF) to precede a contrastive topic (CT). Notice that the non-elliptical sentence in (ib) violates this restriction. The alleged CF object *dokuturutake* 'destroying angel', which is contrasted with *fugu* 'blowfish' in the antecedent precedes the CT subject *Sachiko*, which is contrasted with *Hanako*. Indeed, (ib) is actually unnatural to some extent. It is often observed that the elided sentence is unacceptable when its unelided counterpart is unacceptable (see Kroll 2019, among others). In this regard, data like (i) may not provide a strong empirical ground. Nonetheless, Since the non-elliptical sentence in (ib) is not completely ungrammatical, it is a real mystery why ellipsis affects extraction possibility to such a significant extent. Given this, I leave further investigations into null CP constructions instantiated by (ic) for future research.

⁵¹Lobeck (1990, 1995) analyzes the empty position as involving proform rather than deletion, and suggests that ellipsis is governed by the *Empty Category Principle (ECP)* (Lasnik and Saito 1992), which constrains the distribution of empty categories in general.

(7) TP-ellipsis (i.e., *sluicing*)

- a. I heard Caledon shot someone, but I don't know who_i [_{CP} C [_{TP} Caledon shot *t*_{who_i}]].

b.

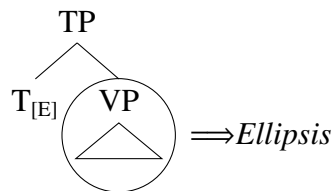


Likewise, (8a) is a permissible ellipsis construction because the VP is licensed as an ellipsis site by T (or perhaps *v*), which bears an [E]-feature.

(8) VP-ellipsis

- a. Rose did not like the largest ship in the world, but Jack [_T did] [_{VP} like the largest ship in the world].

b.

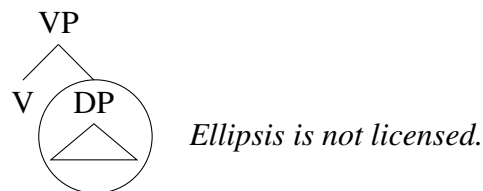


In contrast, eliding the object argument in (9a) is not licensed because the predicative head V is not a functional head and does not have an [E]-feature. It follows that DP-ellipsis is not licensed. This may account for the unavailability of object drop in English-type languages.

(9) DP-ellipsis

- a. *Rose did not like the largest ship in the world, but Jack [_V liked] [_{DP} the largest ship in the world]

b.



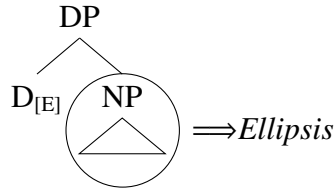
At first glance, the impossibility of DP-ellipsis may seem to simply show the nonexistence of null nominal phrases in finite clauses in English. Interestingly, however, in (10a), eliding the NP while leaving behind

the possessive 's yields a grammatical ellipsis construction. This can also be analyzed by the license-based analysis if we assume that the possessive 's is an exponent of a functional D head with an [E]-feature, as depicted in (10b).

(10) NP-ellipsis

a. Although I saw Diana's father at the party, I didn't see Steve [_D -'s] [_{NP} father].

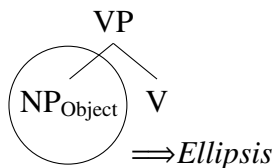
b.



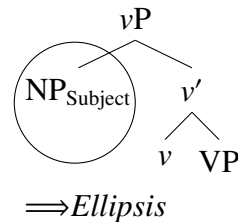
Along this line of analysis, a number of studies have proposed different conditions on ellipsis which explain why ellipsis is licensed in some morphosyntactic environments but not in others (see Craenenbroeck and Lipták 2006; Aelbrecht 2010; Arregi 2010; Temmerman 2013, among others).

Takahashi (2020) adopts this line of analysis and put forth the idea that AE in Japanese is also syntactically licensed by heads (see also Maeda 2019; Ohtaka 2021). Building on Aelbrecht's (2010) system of *derivational ellipsis*, Takahashi (2020) proposes that AE is licensed by heads that θ -mark arguments. Specifically, he assumes that deletion of an object argument is licensed when it is θ -marked by V (11a) and deletion of a subject argument is licensed when it is θ -marked by v (11b).⁵²

(11) a.



b.



Takahashi (2020, p. 62) suggests that while ellipsis of arguments is syntactically licensed by a θ -marking head, ellipsis of adjuncts cannot be because they do not have θ -roles. However, given the finding in Chapter 5, the analysis is not empirically correct, though a possibility remains that ellipsis of adjuncts is

⁵²Takahashi (2020) puts forth the view that V and v do not license AE in English-type languages due to the failure of ϕ -feature agreement (see also Saito 2007; Sener and Takahashi 2010; Takahashi 2014; Sato and Karimi 2016). Under his analysis, DPs become syntactically inert once they are marked as ellipsis sites, hence the ϕ -features cannot be located by the heads with their corresponding unvalued ϕ -features.

licensed by heads other than V and *v* (see Woo Park and Kwan Park 2018, for a licensing head analysis of null adjuncts in Korean). Beyond this empirical problem, I argue below that the license-based deletion analysis of AE has conceptual problems.

It has occasionally been pointed out that postulating a set of ellipsis-licensing heads in a language faces serious conceptual problems. For example, concerning [E]-feature proposed in Merchant (2001), Murphy (2016, pp. 3–4) counters that “there is no deeper reason why only particular functional heads license ellipsis other than the fact that they bear the [E]-feature” and such a formal feature “is only postulated in those environments where ellipsis appears to be license.” Further, Murphy points out a parallel between the criticism of [E]-feature and the criticism of *EPP* (*Extended Projection Principle*)-feature by Richards (2016, p. 1). The gist of Murphy’s point is that postulation of [E]-features does not provide a principled explanation but simply restates the descriptive facts that ellipsis happens in natural languages (see also Chao 1987; Thoms 2010; Matsumoto 2020, for similar criticisms). Given this, the license-based ellipsis theory raises a serious question of why only a particular set of heads bear an [E]-feature and not others. The same criticism can be directed towards Takahashi’s (2020) system, which raises a serious question of why θ -role assignment, which appears to have no relation to ellipsis, licenses ellipsis. After all, other non- θ -marking heads such as T and C function in the same way in licensing ellipsis.

The problem is more serious in analyzing Japanese ellipsis. In Japanese, phrases of a wide range of syntactic categories can be elided. In addition to argument NPs and CPs, the types of phrases that can undergo ellipsis include (though is not limited to) adjuncts such as PPs (12) (Kamio and Takami 1998; Oku 2016),⁵³ AdvPs (13) (Oku 2016; Tanabe and Kobayashi 2024a), predicates like APs (14) (Takahashi 2006; Bošković 2018), and TPs (15) (Takahashi 1994; Takita 2012).⁵⁴ In (12)–(15), the omitted phrase in (b) is naturally included in the interpretation (for further justifications of the ellipsis analysis of each phrase, see the studies cited above).⁵⁵

⁵³Some types of PPs selected by V are arguments in the broad sense (see Murasugi 1991; Saito 2007, 2017), which can be ellipsis-marked by V under Takahashi’s (2020) analysis. However, the PP adjunct in (12) is not assigned a θ -role by V.

⁵⁴Hiraiwa and Ishihara (2012) argues that the target of ellipsis in (15) is Fin(ite)P.

⁵⁵It has not been settled whether VP-ellipsis exists in Japanese. As mentioned above, arguments have been made that VSVPE exists (Otani and Whitman 1991; Funakoshi 2014; Hayashi and Fujii 2015). However, researchers such as Hoji (1998), Oku (1998, 2016), and Tanabe and Kobayashi (2024a) counter that the arguments made earlier are inconclusive.

- (12) Keiji-ga [_{PP} kyoositu-de] rika-o benkyoo-si-ta toki Yuzuki-wa *e* suugaku-o
 Keiji-NOM classroom-in science-ACC study-do-PST when Yuzuki-TOP math-ACC
 benkyoo-si-ta.
 study-do-PST
 lit. ‘When Keiji studied science in the classroom, Yuzuki studied math.’
- (13) Tsubasa-wa [_{AdvP} teineini] sono-kuruma-o arat-ta kedo, Yusuke-wa *e* kono-kuruma-o
 Tsubasa-TOP carefully that-car-ACC wash-PST but Yusuke-TOP this-car-ACC
 ara-ta.
 wash-PST
 ‘Tsubasa washed that car carefully, but Yusuke washed this car.’

(cf. Oku 2016, p. 61)

- (14) Siai-ni make-ta ato, Yosiki-wa [_{AP} zibun-ni kibisiku] nat-ta kedo, Taiki-wa *e*
 game-DAT lose-PST after Yosiki-TOP self-DAT strict become-PST but Taiki-TOP
 nar-anak-atta.
 become-NEG-PST
 lit. ‘After losing the game, Yosiki became strict with himself, but Taiki didn’t become.’

(cf. Takahashi 2006, p. 18)

- (15) Kinoo [_{TP} Manami-ga dareka-ni zyuusyo-o osie-ta] rasii kedo, boku-wa dare-ni_i [_{TP}
 yesterday Manami-NOM someone-DAT address-ACC tell-PST seem but I-TOP who-DAT
e *t*_i] ka sira-nai.
 C know-NEG
 lit. ‘I heard that Manami told someone her home address yesterday, but I don’t know who.’

Although it is not impossible to postulate a licensing head for each phrasal category, the resulting analysis would certainly suffer the conceptual problem mentioned above. That is, the analysis would be merely postulating ellipsis-licensing heads in the morphosyntactic environments in which ellipsis can occur in Japanese.⁵⁶

⁵⁶Studies have reported interesting observations which support Lobeck’s (1995) generalization on NP-ellipsis (previously referred to as $\bar{N}$ -deletion) in Japanese (Saito and Murasugi 1990; Maeda and Takahashi 2016, 2017). Yet, Matsumoto (2020) convincingly demonstrates that the relevant observations are explained in a principled way without assuming [E]-bearing heads.

6.3 From Phase-based Approach to “Transfer-based” Approach

6.3.1 Phase-based approach to ellipsis

The conceptual problem of ellipsis licensing heads just mentioned may be obviated by adopting a phase-based approach to ellipsis licensing. According to the phase theory (Chomsky 2000, 2001, 2004, 2008), syntactic derivations proceed in small chunks, or *phases* for efficiency of computation (see also Epstein et al. 1998; Uriagereka 1999). At each phase of a derivation, the derived syntactic object is subject to Transfer, which sends it to the interfaces of syntax with sensorimotor and Conceptual-Intentional systems, providing an input to the syntax-to-PF/LF mappings.

Within the phase theory, PF-deletion can be seen as an epiphenomenon of Spell-Out (i.e., part of Transfer); that is, a deletion operation naturally applies to the units of Transfer, since these are exactly the units that are interpreted at PF. In this view, phase-based analyses normally posit that the domain of Transfer corresponds to the ellipsis domain. Since Chomsky (2000), a variety of different proposals have been made regarding what count as phases (see Chomsky 2004, 2008; Quicoli 2008; Bošković 2014, 2016, among others). For illustration, let us adopt the more or less standard assumption that phases correspond to the thematic domain (i.e., ν P) and the propositional domain (i.e., CP) (Chomsky 2000, 2001) and that ν and C are phase heads. On this assumption, complements of these heads, namely VP and TP are phasal complements, which are the domains of Transfer. Such a phase-based analysis explains why deletion of VP and TP are licensed in English, as illustrated in (16).



An important advantage of a phase-based approach is that it is free from the conceptual problems of ellipsis-specific licensing heads. Given that Transfer is a syntactic mechanism that is independent of ellipsis phenomena, a phase-based approach allows us to provide a principled explanation of ellipsis-licensing without assuming ellipsis-specific heads bearing an [E]-feature. In the above analysis in (16), for instance, the status of T/C as phase heads and VP/TP as transferred domains are independently mo-

tivated by a syntactic theory. Therefore, we do not need to stipulate any ellipsis-specific principle in assuming that VP and TP are the units that are interpreted at PF. Such an analysis correctly predicts that the deletion operation applies to these units rather than to some internal elements inside it (e.g., DP, and ν P).

The last two decades have seen a surge of interest in this direction. Like the Lobeck-type licensing-head analyses, phase-based analyses attempt to account for complicated restrictions on the environments in which ellipsis can take place. One prominent way to achieve this is to assume a specific timing of Transfer, whereby the ellipsis-licensing domain is shipped off to PF. The timing of Transfer can be defined in terms of morphosyntactic environments within a language, and it could differ in terms of some typological characteristics across languages (see Quicoli 2008; Bošković 2014, *inter alia*). Accordingly, phase-based approaches have been successful in analyzing a variety of ellipsis constructions in different languages (Craenenbroeck 2004, 2010; Gengel 2009; Gallego 2010; Rouveret 2012; Bošković 2014; Harwood 2015; Aelbrecht 2016; Takagi 2020, among many others).

6.3.2 An even more minimalist view on Transfer

As mentioned above, the more or less standard assumption within the phase theory is that a particular set of heads have the status of phase heads and their projections are phases. Additionally, it has been assumed that the transferred domain corresponds to a phase itself or a complement of a phase head. As a natural consequence of these assumptions, transferred domains, which are subject to PF-deletion, are postulated according to a particular assumption concerning what count as phases/phase heads.

However, as Epstein and Seely (2002, p. 78–79) extensively discuss, postulating phrases of particular categories (e.g., ν P and CP) as phases is not only theoretically undesirable but also empirically dubious. Epstein and Seely (2002) criticize Chomsky’s (2000; 2001; 2004) justifications of the phasehood of ν P and CP by arguing that the specification of those categories as phases is stipulative in several respects. For one thing, Chomsky relates their phasehood to the fact that ν P and CP are “relatively independent” at the interface. However, the timing of Transfer is determined in narrow syntax before the interface is reached, and thus whether they are independent at the interface should not be referred to unless the computation is allowed to look ahead. Similarly, although Chomsky motivates ν P and CP as phases based

on their propositionhood, Epstein and Seely (2002) question whether propositionhood determines phasehood in syntax before the interface is reached given that propositionhood is a semantic notion evaluated at the Conceptual-Intentional interface. Furthermore, they point out that not all ν Ps are propositional. Conversely, there are propositions that are neither ν Ps nor CPs (e.g., small clauses). Because of these problems, it is not conceptually favorable to assume particular categories as phases. At the same time, it is also conceptually undesirable to assume that the timing of Transfer is constrained in terms of the phases/phase heads.

In light of these issues, constraints on the timing of Transfer within the phase theory need to be reinterpreted in ways that are free from the aforementioned problems. As mentioned above, the notion of phases originally played a role of ensuring efficiency of computation. In this connection, Narita and Fukui (2022) consider the possibility that the timing of Transfer is constrained for economy reasons. Suppose that economy principle requires syntactic computation to minimize the memory load for syntactic operations. It is then expected that Transfer should apply every time Merge applies (see Epstein and Seely 2002, 2005, for this line of proposal). However, on the other hand, another economy consideration, namely economy of derivation seems to favor as small a number of derivational steps as possible (Chomsky 1995b; Fukui 2006); hence the number of applications of Transfer should be minimal. It then seems, as Narita and Fukui (2022) suggest, that economy reasons alone cannot determine how Transfer is constrained. For this reason, Narita and Fukui (2022) endorse the view that the application of Transfer—just like Merge—is not constrained in narrow syntax, a view brought up earlier by Chomsky (1993). Rather, Transfer can apply freely at any point in derivation, but the application of Transfer causes the derivation to crash when the syntactic object targeted by Transfer is not ready to be properly interpreted at the interfaces. For example, it has been suggested that an unvalued feature is uninterpretable at the interfaces. For this reason, the derivation crashes if the feature remain unchecked in narrow syntax (Chomsky 1993, 1995b).⁵⁷ On this assumption, Transfer of XP which contains an unvalued feature is illegitimate in that the transferred XP is not legible at the interfaces. In this regard, the timing of Transfer is indirectly conditioned by whether its target is “interface-interpretable”, though importantly, Transfer itself can in

⁵⁷The principle of *full interpretation*: every element in the transferred object must be “LF-interpretable” (Chomsky 1995b, Chapter 2) may play a role. However, some LF-uninterpretable features (e.g., Case features like [NOM], [ACC], etc.) do not cause derivations to crash, and thus the condition on applications of Transfer cannot be defined solely in terms of the principle of full interpretation. For related discussions on this issue, see Pesetsky and Torrego (2006).

principle apply freely.⁵⁸

To recapitulate, the “Free-Transfer” analysis posits that the timing of Transfer is constrained by whether the target of Transfer is interface-interpretable. Importantly, it does not postulate a particular set of heads as phase heads. From this strictly minimalist perspective on the phase theory, simply postulating what is sent to PF under one analysis of phases or another no longer provides a principled explanation of ellipsis. Any phase-based account must consider a principled reason why Transfer in a given language is constrained in the ways as it is. Otherwise, a phase-based account would easily end up in postulating phase heads as well as the domain and timing of Transfer rather arbitrarily for the sake of a wider descriptive coverage. Clearly, the explanatory power of such phase-based accounts is no more stronger than the licensing-based accounts with the notion of [E]-feature on heads (see also Aelbrecht 2016, fn. 24, for relevant discussion).

6.4 Proposal: Argument Ellipsis as PF-deletion of Transferred NPs

I adopt the more minimalist Free-Transfer view and propose to update the phase-based account of ellipsis to a purely interface-driven, “Transfer-based” account of ellipsis, which stipulates neither phases nor phase heads. As discussed in the preceding section, application of Transfer itself is not syntactically constrained by phase heads. Rather, Transfer of XP at a certain point in derivation is ruled out when XP is not ready to be properly interpretable at the interfaces. In addition, as is standard within the phase-based approach to ellipsis, I assume that ellipsis is the result of PF-deletion that optionally applies to the transferred domain. Importantly, PF-deletion is a postsyntactic operation that does not require any ellipsis-specific licensing features in narrow syntax (cf. Hartmann 2000, 2003; Féry and Hartmann 2005; Murphy 2016).⁵⁹ Building on these assumptions, I submit the following syntactic condition on ellipsis.

⁵⁸Let us postpone more detailed descriptions of this *Free-Transfer* analysis until Section 6.4. I discuss particular cases in which the timing of Transfer is restricted due to the unvalued ϕ -features on heads.

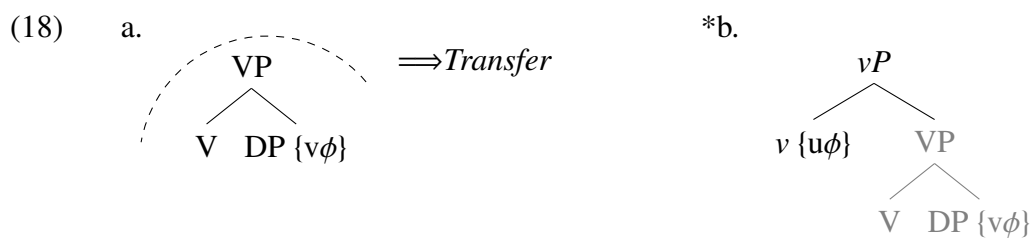
⁵⁹Exactly how phonetically unrealized syntactic structures are derived depends on the version of the PF-deletion analysis one adopts. PF-non-realization may be due to an operation that deletes the phonetic features, an operation that somehow blocks *Vocabulary Insertion* in the *Distributed Morphology* framework (see Wilder 1997; Aelbrecht 2010; Murphy 2016, among others), etc. Such differences in implementation do not affect discussions and proposals in this dissertation in any substantial ways. Additionally, since I do not address questions regarding a detailed identity condition on deletion, I simply assume that PF-deletion applies under a strict morphosyntactic identity between the elided phrase and its antecedent.

(17) *Syntactic Licensing Condition on Ellipsis*

Ellipsis (i.e., PF-deletion) of XP is licensed in a given language L iff Transfer of XP is legitimate (i.e., it does not cause any problems of interpretability at the interfaces) in L.

Under the Transfer-based analysis based on the condition in (17), it can be posited that AE is licensed in Japanese-type languages because argument NPs in general can be the transferred domain, whereas AE is not licensed in English-type languages, since Transfer of argument DPs is illegitimate. Below, I implement the idea under the system of Transfer proposed in Richards (2007) and Kobayashi (2022a,b).

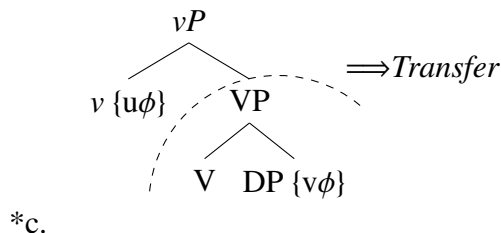
To see how languages could differ in the applicability of Transfer to arguments, let us first see the ways in which the timing of Transfer is restricted in English based on Richards (2007). Chomsky (2000, 2001) suggests that the timing of Transfer is associated with the process of ϕ -feature agreement. For instance, consider the derivation in (18). Suppose that VP is transferred as soon as V is merged with its object DP as in (18a). The next step is to introduce v into the structure as in (18b).⁶⁰ In a convergent derivation, the $[u\phi]$ on v is valued through ϕ -feature agreement with the DP, which has $[v\phi]$. In (18b), however, the derivation crashes because the already transferred DP is syntactically inaccessible, and hence the $[u\phi]$ on v cannot be valued. The timing of Transfer in (18a) is thus ruled out for a principled reason; that is, rather than simply postulating v as a phase head, the analysis posits that Transfer of VP cannot precede Merge of v because it yields a syntactic object with unvalued $[u\phi]$, which is uninterpretable at the interfaces.



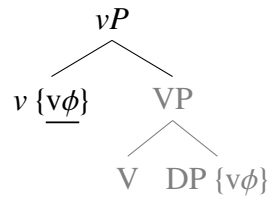
Let us next consider the derivation in (19), where VP is transferred when v is merged with VP. Upon Merge of v , the $[u\phi]$ is valued through agreement and becomes $[v\phi]$ (19b). Transfer of VP at this point does not cause a failure in feature valuation, and the derivation proceeds. (19c) illustrates that the v with $[v\phi]$ is subject to Transfer at the next phase level.

⁶⁰Gray letters indicate that the syntactic object has already been transferred and has become syntactically inaccessible.

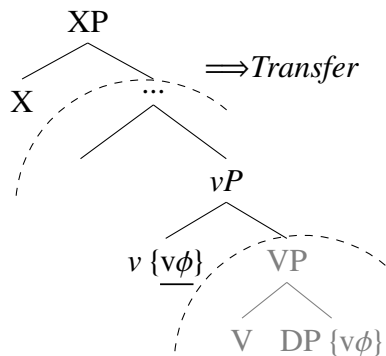
(19) a.



b.



*c.

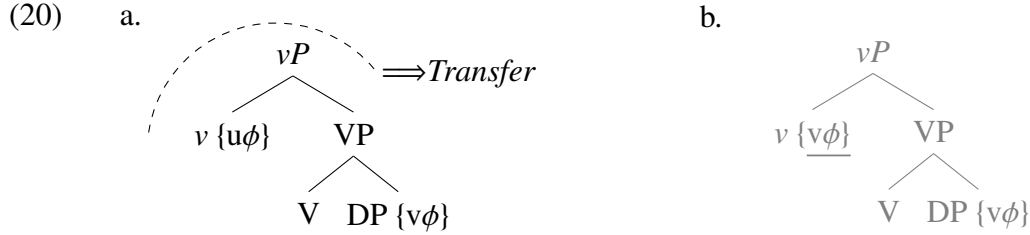


As Richards (2007) points out, the timing of Transfer in (19c) leads to another problem, which is restated within the current minimalist framework by Kobayashi (2022a, p. 30) as follows. First, once an uninterpretable feature such as $[u\phi]$ is valued, it becomes indistinguishable from an inherently valued feature, which bears a lexical value in the lexicon (see Chomsky 2001, p. 5). Thus, after Transfer of vP in (19c), the derived $[\underline{v\phi}]$ on v cannot be distinguished from the inherently valued $[v\phi]$ on the DP, which had already been transferred at the previous phase level in (19a). Kobayashi then suggests that this potential problem does not arise insofar as the two features are transferred simultaneously (i.e., at the same phase level). Assuming that memory of syntactic derivation is retained within a single phase level (see Chomsky 2015; Chomsky et al. 2019, pp. 246–247, for discussion), $[v\phi]$ on v can be interpreted as a derived valued feature by looking at the history of derivation within the vP phase.⁶¹ However, in (19) above, the $[\underline{v\phi}]$ on v and the $[v\phi]$ on the DP are interpreted at two different phase levels, namely (19b) and (19c), respectively. Thus, the relevant derivational history cannot be referred to. It follows that the derivation crashes in (19c) because the interface cannot tell whether the $[\underline{v\phi}]$ on v is an inherently valued feature or a derived valued feature.

Along this line of analysis, Kobayashi (2022a) builds on Richards (2007) and proposes that in English, Transfer must apply as soon as $[u\phi]$ is valued, as illustrated in (20). In addition, the $[\underline{v\phi}]$ on v and the

⁶¹Narita and Fukui (2022, fn 2 in Chapter 2) states that we must be careful not to confuse the concept of memory in performance systems with an abstract concept assumed in the computation system of language. “Memory” here refers to the latter.

[$v\phi$] on the DP must be transferred at the same timing within a single phase level so that the interface is able to distinguish the derived [$v\phi$] on v from a inherently valued ϕ -feature.⁶² The derivation converges in (20) because both of these conditions are met.⁶³



As seen above, the existence of [$u\phi$] restricts the legitimate timing of Transfer in English. Given this, scholars such as Fukui and Sakai (2003), Fukui and Kasai (2004), and Kobayashi (2022a,b) points out that in Japanese, Transfer should be able to apply in a much more liberal fashion because the language lacks [$u\phi$] in its lexicon (Fukui 1986, 1988; Saito 2007, 2016). Applying this view to the current Transfer-based analysis of ellipsis, I propose that arguments can be subject to PF-deletion in Japanese because NPs can be the transferred domain in the language. In other words, AE is syntactically licensed in Japanese because it satisfies the condition in (17). (21a) and (21b) illustrate the analysis for AE of object and subject arguments, respectively.⁶⁴ Due to the absence of [$u\phi$] in Japanese, there is nothing that prohibits Transfer of argument NPs at any point in derivation (see Kobayashi 2022a).



The analysis straightforwardly explains the fact that ellipsis can apply freely to arguments in Japanese disregarding their syntactic positions. That is, since Japanese lacks [$u\phi$], argument NPs in any syntactic positions can be the transferred domain. The following examples illustrate that the environments in which

⁶²Epstein and Seely (2002, p. 82) argues that even “within-phase-lookback” is problematic.

⁶³If the analysis is correct, VP-ellipsis in the traditional sense may be seen as vP -ellipsis as has been proposed in the literature (see Aelbrecht and Harwood 2015, and studies cited therein).

⁶⁴Note that Transfer and extraction/movement out of the transferred domain can occur simultaneously (Richards 2007); hence the current analysis is compatible with extraction possibility out of null arguments.

arguments can be elided does not seem to be constrained by any syntactic positions. Suppose that the first sentence in (22) is uttered by someone, and each sentence in (22a)-(22f) is uttered by the interlocutor as a response. All of the sentences in (22a)-(22f), in which one or more arguments are missing, are perfectly acceptable under the intended interpretations. First, (22a) shows that subject arguments can be null in finite clauses. In addition, (22b) and (22c) indicate that direct objects as well as indirect objects can be null. Moreover, (22d)-(22f) reveal that Japanese tolerates omission of multiple arguments within a clause in any grammatical positions.

- (22) Kazuya-ga ani-ni tanzyoobi-puresento-o age-ta-rasii-yo.
 Kazuya-NOM brother-DAT birthday-present-ACC give-PST-seem-SFP
 ‘I heard that Kazuya gave a birthday present to his brother.’
- a. *e* hahaoya-ni-mo tanzyoobi-puresento-o age-ta-rasii-ne.
 mother-DAT-also birthday-present-ACC give-PST-seem-SFP
 ‘I heard that Kazuya also gave a birthday present to his mother.’
- b. Siori-wa hahaoya-ni *e* age-ta-rasii-ne.
 Shiori-TOP mother-DAT give-PST-seem-SFP
 ‘I heard that Shiori gave a birthday present to her mother.’
- c. Siori-wa *e* kurisumasu-puresento-mo age-ta-rasii-ne.
 Shiori-TOP Christmas-present-also give-PST-seem-SFP
 ‘I heard that Shiori gave a Christmas present to her mother.’
- d. *e e* kurisumasu-puresento-mo age-ta-rasii-ne.
 Christmas-present-also give-PST-seem-SFP
 ‘I heard that Kazuya also gave a Christmas present to his brother.’
- e. *e* ane-ni-mo *e* age-ta-rasii-ne.
 sister-DAT-also give-PST-seem-SFP
 ‘I heard that Kazuya also gave a birthday present to his sister.’
- f. Hontooni *e e e* age-ta-no?
 really give-PST-Q
 ‘Did Kazuya really give a birthday present to his brother?’

Now, the current analysis can account for the impossibility of AE in English-type languages. (23) shows that AE of the object *Snape’s book* is not licensed.

- (23) *Harry bought Snape’s book, but Ron didn’t buy *e*.

Under the Transfer-based analysis based on Kobayashi (2022a), it is predicted that in English, argument

DPs cannot be the target of Transfer, since DPs bearing $[v\phi]$ and heads such as v and T with their corresponding $[u\phi]$ must always be in the same transferred domain. Put another way, if a DP alone is transferred (at whatever phase level), the derivation crashes because the $[u\phi]$ on v/T is inevitably left unvalued. In this respect, the Transfer-based account of AE is compatible with the so called *Anti-agreement Hypothesis* of AE: the parametric difference regarding the availability of AE in Japanese and English is ascribed to the presence/absence of ϕ -feature agreement (Saito 2007; Takahashi 2020). In English, an argument with $[v\phi]$ must be transferred with v or T with $[u\phi]$ at the same phase level, and therefore DP arguments cannot be the transferred domain. On the other hand, such is not the case in Japanese, which is why AE is possible (but see Simpson et al. 2013; Duguine 2014; Panitz 2018; Sato 2019, for arguments that AE is not dependent on the presence or absence of ϕ -feature agreement). The analysis also accommodates the fact that NP complement of D can be targeted by ellipsis in English. Since D has $[v\phi]$, and not the NP, Transfer of the NP does not bleed ϕ -feature valuation of $[u\phi]$ on v .

6.5 A Unified account of Argument Ellipsis and Adjunct Ellipsis

In this section, I argue that AdjE also involves PF-deletion which applies to adjuncts via Transfer. The proposed analysis suggests that AE and AdjE can actually be unified in that both can be seen as PF-deletion which is licensed at the timing of Transfer.

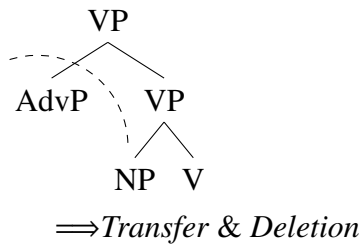
In Chapter 5, I argued that the null adjunct in (24b) is derived via AdjE on the grounds that VSVPE is unavailable in this syntactic context.

- (24) a. Kyonen, Miyu-wa [zibun-kara susunde] hon-o is-satu-mo yom-anak-atta.
last.year Miyu-TOP self-from volunteer book-ACC one-CL-even read-NEG-PST
‘Last year, Miyu did not read even one book voluntarily.’
- b. Tatoe taikutu-de sinisoona-toki-de-mo *e* is-satu-mo yom-anak-atta. (^{OK}AI-reading)
even.if boredom-with dying-when-be-even one-CL-even read-NEG-PST
lit. ‘Even if she were dying from boredom, she did not read any books.’ (adjunct-inclusive)
- c. Yon-da no-wa syukudai-de yoma-nakerebaikenak-atta toki-dake-da-tta.
read-PST NML-TOP homework-with read-must-PST when-only-COP-PST
‘She read one only when she had to read it for her homework assignment.’

The AdjE analysis can be implemented under the Transfer-based analysis, as illustrated in (25). Since

adjuncts generally do not participate in ϕ -agreement, Transfer of adjuncts does not cause the derivation to crash.

(25)



Generally speaking, AdjE is syntactically possible in Japanese because it meets the condition in (17); adjuncts sent off to the interfaces via Transfer are interpretable without any problems concerning ϕ -feature valuation.⁶⁵⁶⁶

While the Transfer-based analysis of AdjE is so simple, it sheds new light on the interesting connection between the syntax of AE and AdjE in Japanese. First, under the current analysis, it is suggested that AE and AdjE actually share the same syntactic mechanisms behind them. In particular, they both involve PF-deletion that is licensed because of the legitimacy of the Transfer of the target arguments/adjuncts. In light of this, the argument-adjunct asymmetry of Japanese ellipsis, which has occasionally been argued for in the literature, calls for a serious consideration.

In the Japanese literature, AE has often been treated as one type of syntactic ellipsis mechanism that should be distinguished from the others (e.g., VP-ellipsis and TP-ellipsis, or sluicing). Naturally, it has been claimed that the status of being arguments is a determinate factor which licenses ellipsis (see Oku 1998; Saito 2017; Sakamoto 2019; Takahashi 2020, among others). Related to this issue, it has been argued that while “true adjuncts” instantiated by manner and reason adverbials cannot undergo ellipsis, “quasi-adjuncts” such as temporal PPs and locative PPs can undergo ellipsis because they are arguments in a broader sense (Takahashi 2006; Saito 2007, 2017). (26b), in which a temporal PP *kanasii tokini* ‘when one is sad’ is elided, has the AI-reading that Hanako does not drink beer when she is sad. If the

⁶⁵Kobayashi (2022a) maintains that Transfer is licensed by a phase head. In this sense, whether or not Transfer of AdvPs in the specifier position is licensed is not so obvious (see Woo Park and Kwan Park 2018, who argue that ellipsis of adjuncts is licensed by a polarity head in Korean). However, I depart from Kobayashi (2022a) in that I assume that Transfer itself is unconstrained in its literal sense and it does not require the head-complement configuration. The assumption does not seem to face any conceptual problem given the discussion in Section 6.3.2.

⁶⁶The analysis predicts that AdjE is available in all languages including English-type languages because adjuncts normally do not participate in ϕ -agreement in natural languages. I briefly consider this possibility in Section 6.6.1.

sentence had only the EX-reading, it entails that she does not drink beer at all, and thus (26c) would not felicitously follow.

- (26) a. Taro-wa kanasii tokini biiru-o nomu.
Taro-TOP sad when beer-ACC drink
'Taro drinks beer when he is sad.'
- b. Hanako-wa *e* (biiru-o) noma-nai. (^{OK}EX-reading, ^{OK}AI-reading)
Hanako-TOP beer-ACC drink-NEG
lit. 'Hanako does not drink beer.'
- c. Uresii tokini-dake nomu.
happy when-only drink
'She drinks beer when she is happy.'

(27) shows that locative PPs can also be elided. (27b) allows the AI-reading that Hanako did not study science in the classroom. Hence, (27c), which asserts that she studied science in another place is acceptable.

- (27) a. Taro-wa kyoositu-de rika-o benkyoosi-ta.
Taro-TOP classroom-in science-ACC study-PST
'Taro studied science in the classroom.'
- b. Hanako-wa *e* (rika-o) benkyoosi-nakat-ta. (^{OK}EX-reading, ^{OK}AI-reading)
Hanako-TOP science-ACC study-NEG-PST
lit. 'Hanako did not study science.'
- c. Hanako-wa (rika-o) ie-de benkyoosi-ta.
Hanako-TOP science-ACC home-at study-PST
'Hanako studied science at home.'

Saito (2007; 2017) suggests that the fact follows from the argument-adjunct asymmetry in ellipsis. That is to say, while AE can apply to temporal and locative PPs, which can be regarded as arguments of the event predicate, AE cannot apply to manner and reason adverbials, which are not arguments even in the broad sense (see Murasugi 1991; Murasugi and Saito 1992, for relevant discussion). Put differently, Saito (2017) submits that being an argument is a crucial factor which determines ellipsis possibility.

From a somewhat different perspective, Bošković (2018) proposes to treat AE as one instance of predicate-ellipsis, which applies not only to argument NPs but also to phrases of type <e,t> in general. Bošković (2018) then argues that the predicate-ellipsis analysis is supported by the observation that AP predicates can be elided as in (28). The elided clause has the sloppy identity interpretation that Taiki did

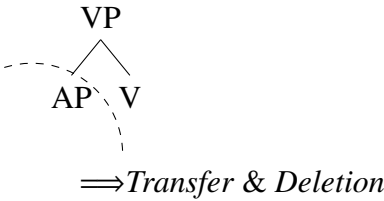
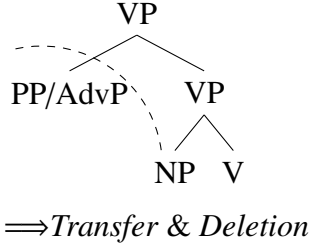
not become strict with himself (rather than with Yosiki).

- (28) Siai-ni make-ta ato, Yosiki-wa [_{AP} zibun-ni kibisiku] nat-ta kedo, Taiki-wa *e*
 game-DAT lose-PST after Yosiki-TOP self-DAT strict become-PST but Taiki-TOP
 nar-anak-atta.
 become-NEG-PST
 lit. ‘After losing the game, Yosiki became strict with himself, but Taiki didn’t become.’

(cf. Takahashi 2006, p. 18)

In short, Bošković (2018) assumes that the status of being predicates, which are of semantic type $\langle e, t \rangle$ determines ellipsis possibility (i.e., the applicability of LF-copy in his analysis).

However, in Chapter 5, I demonstrated that adjuncts, typically AdvPs can be targeted by ellipsis. Adverbs are neither arguments in the broadest sense nor are they predicates of type $\langle e, t \rangle$. Thus, the finding already casts doubt on the widely shared view that AE (or predicate-ellipsis) exists as an independent ellipsis mechanism that is connected to some syntactic machinery (e.g., LF-copy). Under the present proposal, on the other hand, the applicability of ellipsis to PPs, APs, and AdvPs in addition to NPs and CPs naturally follows from the legitimacy of Transfer of these types of phrases in Japanese. Ellipsis of PPs, APs, and AdvPs is derived from applying PF-deletion to those phrases after Transfer, as illustrated below in (29a-b).

- (29) a.  b. 

As we have seen above, Japanese lacks $[u\phi]$ in its lexicon. This means that Transfer can apply at any point (cf. Kobayashi 2022a). In other words, nothing prohibits Transfer of PPs, APs, and AdvPs, and therefore they are licensed as ellipsis sites.

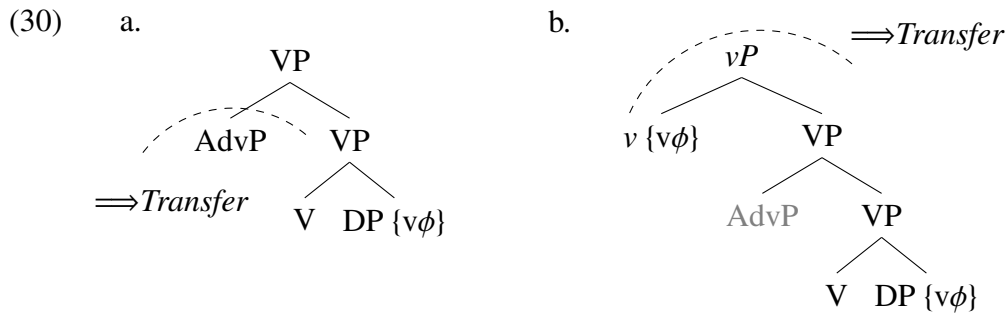
All in all, it is suggested that in Japanese, AE and AdjE can be unified as ellipsis via PF-deletion of transferred arguments/adjuncts. The argument-adjunct asymmetry in ellipsis (if exists) is not due to

the availability/unavailability of some syntactic machinery responsible for ellipsis. As we have seen in Chapter 3 and 4, licensing of AE and AdjE are both constrained by a discourse condition, which requires that the target phrase be in the background of a coherent discourse (see also Oku 2016, who points to the possibility that ellipsis via LF-copy applies to both arguments and adjuncts in Japanese but ellipsis possibility of them is pragmatically constrained). Admittedly, the environments in which AdjE is licensed may still seem to be somewhat narrow relative to AE, as I discussed in Section 4.3. Nevertheless, such a difference may not necessarily be attributed solely to syntactic principles in narrow syntax. Rather, it may be accounted for by considering the intricate interfaces between syntax, semantic-pragmatics, and prosody.

6.6 Further Issues and Suggestions for Future Research

6.6.1 Notes on Adjunct Ellipsis in English

I have proposed that ellipsis licensing is governed by the timing of Transfer, which is constrained by the process of ϕ -feature agreement. I suggested that the impossibility of AE in English is attributed to the failure of ϕ -feature agreement between arguments with $[v\phi]$ and the functional heads with $[u\phi]$. A natural question to ask is whether ellipsis of adjuncts, which do not participate in ϕ -feature agreement, is licensed in English. (30) illustrates that Transfer of a VP-adverb is unproblematic in English. In (30a), the adverb alone gets transferred as soon as it merges to the VP. In (30b), v is merged and it locates the $[v\phi]$ on the object DP, whereby the $[u\phi]$ on v is valued. If the vP is transferred at this timing, the derivation converges since the derived $[v\phi]$ on v can be distinguished from the inherently $[v\phi]$ on the DP. Obviously, Transfer of adjuncts in general do not seem to cause any problems of ϕ -feature valuation in the course of derivation. If so, unlike AE, AdjE is expected to be licensed in English.



Collins (2015, 2017) propose that AdjE exists in English (see also Kobayashi 2024a). Collins (2015) observes that the second clause of (31) has the sloppy reading that Julie talked to two students at each conference that she attended. Collins argues that the ellipsis site cannot be analyzed as a null proform of *there* since (32) with an overt *there* has only the strict reading that Julie talked to two students at the same set of conferences mentioned in the first clause.

- (31) John talked to one student at each conference that he attended, and Julie talked to two *e*.
(^{OK}sloppy)

(Collins 2015, p. 5)

- (32) John talked to one student at each conference that he attended, and Julie talked to two students there. (^{NOT}sloppy)

(Collins 2015, p. 5)

Similarly, the second clause of (33) has the quantificational reading that it is probably snowing somewhere on every continent. This interpretation is not obtained in (34), in which an overt *there* is expressed.

- (33) It is raining somewhere on every continent, and probably snowing *e* too. (^{OK}quantificational)

(Collins 2015, p. 6)

- (34) It is raining somewhere on every continent, and probably snowing there too. (^{NOT}quantificational)

(Collins 2015, p. 6)

Based on these observations, Collins (2015) proposes that adjuncts can be elided in English. (31) and

(33) are analyzed as in (35a) and (35b), respectively. (31) is derived by applying ellipsis to the NP and the PP adjunct.⁶⁷ Likewise, (33) is derived by applying ellipsis to the AdvP as depicted in (35b).

- (35) a. [XP ... and Julie talked to two [_{NP} students] [_{PP} ~~at each conference that she attended~~]]
 b. [XP ... and probably snowing [_{AdvP} ~~somewhere on every continent~~]]

In addition, ellipsis of adjuncts is licensed in comparative clauses as in the following examples (Collins 2017). (36) is a case where an unexpressed adjunct *as Mary* is semantically present in the second clause.

- (36) John has as many pencils as Mary, but not as many pens *e*. (^{OK}AI-reading)

(Collins 2017, p. 3)

In the second clause of (37), a comparative phrase *than many of the girls* is elided and the clause allows the quantificational reading, which is not obtained with an overt pronoun in (38).

- (37) John is taller than many of the girls, and Bill is shorter *e*. (^{OK}quantificational)

(Collins 2017, p. 3)

- (38) John is taller than many of the girls, and Bill is shorter than them. (^{NOT}quantificational)

(Collins 2017, p. 4)

Additionally, temporal adverbials may also be elidable in English. The adverbial can be naturally included in the second clause.

- (39) Mary drinks beer [on most days when she is tired], but Tom drinks wine *e*. (^{OK}quantificational)

Importantly, the set of days mentioned in the first clause can be interpreted as different from the set of days when Tom drinks wine.⁶⁸ Hence, the null adjunct cannot be analyzed as a null proform of *then* because (40), in which overt *then* is used cannot have the quantificational reading.

- (40) Mary drinks beer [on most days when she is tired], but Tom drinks wine then. (^{NOT}quantificational)

⁶⁷As mentioned above, NP-ellipsis is possible in English (see Lobeck 1995).

⁶⁸I consulted three native speakers of English, all of whom agree with the judgement.

These observations suggest that ellipsis of adjuncts is licensed in English, and this is compatible with the present proposal that ellipsis licensing is constrained by the legitimacy of Transfer, which is governed by the process of ϕ -feature agreement.

However, the types of adjuncts that can undergo ellipsis in English may be more limited than in Japanese. As we have seen in Section 5.1, ellipsis of manner adverbs does not seem to be licensed even if appropriate discourse contexts are set up. The relevant examples are repeated below. In all of these cases, the AI-reading is difficult to get.

- (41) Harry read a book carefully, but Ron read a newspaper *e*. (^{OK}EX-reading, ??AI-reading)
- (42) Harry wiped the windows carefully, but Ron washed the dishes *e*. (^{OK}EX-reading, ??AI-reading)
- (43) Harry wiped the window carefully, but Ron washed the windows *e*. (^{OK}EX-reading, ??AI-reading)

While the above observations suggest that adjuncts of a wide range of types can be elided in English, a question remains as to why the AI-reading is particularly difficult to get with manner adverbs.

Additionally, cross-linguistic observations are wide that AdjE is not available. To the author's knowledge, AdjE has been claimed to be impossible in English (Panitz 2018), Chinese (Li 2008), Hindi, Bangla, and Malayalam (Simpson et al. 2013), Turkish (Takahashi 2014), Persian (Sato and Karimi 2016), Italian (Duguine 2017), Brazilian Portuguese (Panitz 2018), Singlish, and Javanese (Sato 2024b,a). On the other hand, proposals have been made that AdjE exists in Korean Woo Park and Kwan Park (2018); Park (2022, 2023). If AdjE is available in Japanese-type languages but unavailable in many other languages, it may have significant implications to the parametric differences regarding ellipsis-licensing beyond what the current Transfer-based analysis would predict. Hopefully, future research conducts cross-linguistic investigations into AdjE and uncover some novel aspects of the workings of the grammar involved in ellipsis (see Sato 2024b,a, who has taken the first step toward this direction).

6.6.2 Extraction from null adjuncts

The discussions in Chapter 5 strongly suggest that null adjuncts are derived by applying ellipsis to adjuncts. Further, I argued in the preceding section that AdjE involves PF-deletion. If so, null adjuncts in

Japanese should have internal structure in syntax. As discussed in Merchant (2013a), in order to confirm the presence of null syntactic structure, it must be shown that extraction is possible from the ellipsis site. Indeed, it has been shown that null arguments allow extraction (Takahashi 2020; Ohtaka 2021), which indicates that they are derived by PF-deletion and have internal structure (see Section 6.1). Below, I briefly discuss extraction possibility out of null adjuncts (see also Collins 2015, 2017, for relevant discussions on English data).⁶⁹

Extraction from adjuncts often results in ungrammaticality or lower acceptability in many languages. To account for such observations, conditions which generally prohibit extraction from adjuncts have been proposed (Huang 1982; Chomsky 1986). Yet, it is not the case that adjuncts in Japanese never allow extraction (see Ishii 2003; Miyamoto 2012; Agbayani et al. 2015, for discussions). For example, scrambling out of reason adverbials may be possible. In (44), the scrambled object *keeki* ‘cake’ is interpreted as an argument of the embedded verb *tabe* ‘eat’. This indicates that the object is base-generated in the reason adverbial and then moves out of it.

- (44) Keeki-o_i Taro-wa [Hanako-ga t_i katteni tabe-ta kara] naiteiru.
 cake-ACC Taro-TOP Hanako-NOM without.permission eat-PST because be.crying
 ‘Taro is crying because Hanako ate cakes without his permission.’

(45b) shows that the reason adverbial in question can be elided. (45b) naturally allows the AI-reading that Ken is angry because Hanako ate cakes without his permission.

- (45) a. Taro-wa [Hanako-ga Keeki-o katteni tabe-ta kara] naiteiru.
 Taro-TOP Hanako-NOM cake-ACC without.permission eat-PST because be.crying
 ‘Taro is crying because Hanako ate cakes without his permission.’
 b. Ken-wa *e* okotteiru. (^{OK}EX-reading, ^{OK}AI-reading)
 Ken-TOP be.angry
 lit. ‘Ken is angry.’

However, (46b) reveals that extraction of the object is impossible when the adverbial is null. (46b) does not have the intended interpretation that Ken is angry because Hanako ate cakes without his permission; it has only the interpretation that Ken is scolding cakes, where the scrambled object is interpreted as an argument of the verb *okuru* ‘scold’. Since this interpretation is pragmatically odd, the sentence is

⁶⁹I thank Ryoichiro Kobayashi, with whom I extensively discussed extraction possibility from null adjuncts.

unacceptable.

- (46) a. Keeki-o_i Taro-wa [Hanako-ga *t_i* katteni tabe-ta kara] naiteiru.
 cake-ACC Taro-TOP Hanako-NOM without.permission eat-PST because be.crying
 ‘Taro is crying because Hanako ate cakes without permission.’
- b. #Keeki-o_j Ken-wa [*e t_j*] okotteiru.
 cake-ACC Ken-TOP be.angry
 lit. ‘Cakes, Ken is angry.’

Another example in (47) suggests that manner adverbials may also allow extraction, though the sentence is degraded to some extent. Again, the scrambled object *sara* ‘dish’ can be interpreted as an argument of the embedded verb *arat* ‘wash’ rather than the same verb in the matrix clause.

- (47) ?Sara-o_k Taro-wa [*t_k* arat-ta suponzi-de] kuruma-o arat-ta.
 dish-ACC Taro-TOP wash-PST sponge-with car-ACC wash-PST
 ‘Taro washed a car with the sponge that he used for washing dishes.’

(48b) shows that the adverbial can undergo ellipsis. (48b) has the AI-reading that Ken washed a bathtub with the sponge that he used for washing dishes.

- (48) a. Taro-wa [sara-o arat-ta suponzi-de] kuruma-o arat-ta.
 Taro-TOP dish-ACC wash-PST sponge-with car-ACC wash-PST
 ‘Taro washed a car with the sponge that he used for washing dishes.’
- b. Ken-wa *e* huro-o arat-ta. (^{OK}EX-reading, ^{OK}AI-reading)
 Ken-TOP bathtub-ACC wash-PST
 lit. ‘Ken washed a bathtub.’

Again, when the adverbial is null, scrambling of the object is not possible as (49b) shows. The sentence is interpreted as though the verb *arat* ‘wash’ has two accusative objects. In other words, the sentence seems to be ungrammatical due to the Double-*O* constraint (Harada 1973), on a par with (50), which has two accusative objects for a single verb.

- (49) a. ?Sara-o_k Taro-wa [*t_k* arat-ta suponzi-de] kuruma-o arat-ta.
 dish-ACC Taro-TOP wash-PST sponge-with car-ACC wash-PST
 ‘Taro washed a car with the sponge that he used for washing dishes.’
- b. *Sara-o_i Ken-wa [*t_i* *e*] huro-o arat-ta.
 dish-ACC Ken-TOP bathtub-ACC wash-PST
 intended. ‘Ken washed a bathtub with the sponge that he used for washing dishes.’

- (50) *Ken-wa sara-o huro-o arat-ta.
 Ken-TOP dish-ACC bathtub-ACC wash-PST
 intended. ‘Ken washed dishes and a bathtub.’

These observations suggest that null adjuncts in Japanese do not allow extraction.

If null adjuncts in Japanese are derived via PF-deletion, it remains to be seen why they do not allow extraction. Collins (2015, 2017) observe that extraction out of null adjuncts is impossible in English and suggest that null adjuncts are islands for extraction. Yet, as shown above, extraction is possible from overt adverbials. Hence, a question remains as to why extraction out of the adjuncts becomes impossible only when they are null. One possibility is that null adjuncts in Japanese are derived via LF-copy (Oku 2016), and allows only covert extraction. However, I do not pursue the issue here, and hopes that future research further studies the theoretical status of null adjuncts in Japanese.

6.7 Chapter Summary

In this chapter, I discussed the syntax of AE as well as AdjE in details. In Section 6.1, I laid out the basic assumption that AE involves PF-deletion, referring to cases where null arguments allow overt extraction. In Section 6.2, I considered the PF-deletion of AE in which AE is syntactically licensed by θ -marking heads, namely V and v . I pointed out a general conceptual problem of postulating ellipsis-licensing heads in narrow syntax, and argued that the problem may be even more serious when AdjE is taken into account. In Section 6.3, I introduced a more promising phase-based approach to ellipsis-licensing. I then proposed to revise the phase-based approach to a more minimalist Transfer-based approach. Specifically, I incorporated the Free-Transfer view into the common phase-based approach. The proposed analysis allows us to avoid stipulating a set of phase heads, whose theoretical status are dubious.

Within this Transfer-based approach, Section 6.4 put forth a novel AE analysis, where AE-licensing in Japanese is correlated with the absence of unvalued ϕ -features in its lexicon. To be more specific, I submitted that AE is licensed in Japanese-type languages lacking $[u\phi]$ because Transfer of arguments is legitimate, whereas AE is impossible in English-type languages because Transfer of argument DPs results in failure in ϕ -feature valuation.

In Section 6.5, I extended the analysis to AdjE and suggested that the availability of AdjE is a natural

consequence of the Transfer-based analysis. That is, AdjE is licensed since Transfer of adjuncts, which do not participate in ϕ -feature agreement, is in principle always applicable. Further, I argued that the proposed analysis implies that AE and AdjE can actually be unified as ellipsis via PF-deletion that applies to the transferred syntactic objects that are interface-interpretable. In this regard, the alleged argument-adjunct asymmetry in ellipsis is not ascribed to syntactic licensing mechanisms, but to some extra-syntactic factors.

In Section 6.6, I brought up two remaining issues to be addressed in future research. One is the issue of whether AdjE exists universally across languages. Provided that adjuncts are generally not concerned with ϕ -feature agreement in any languages, it is predicted that AdjE is an available ellipsis operation in all languages. In particular, I pointed out that AdjE is indeed available in English, and opened up avenues for a more thorough cross-linguistic research on AdjE. The other issue to be tackled concerns extraction possibility of null adjuncts. Unfortunately, the data at hand seem to indicate that extraction from null adjuncts is impossible. Still, since extraction out of adjuncts in general is problematic, providing more convincing evidence for the AdjE analysis of null adjuncts in Japanese is left for future research.

Chapter 7

CONCLUDING REMARKS AND FURTHER IMPLICATIONS

7.1 Summary

In this dissertation, I investigated licensing mechanisms of null arguments as well as null adjuncts in Japanese. I offered a unified ellipsis account of them both in terms of discourse-pragmatics and syntax. To this end, I first brought back to light the necessity of reconsidering discourse conditions on ellipsis in a more explicit way. In Chapter 2, I proposed a Question Under Discussion(QUD)-based analysis of ellipsis, which enables us to ensure that fundamental discourse conditions on ellipsis are satisfied in the examples under investigations. To be specific, I pointed out that satisfying the backgrounding requirement and discourse coherence in (1) is a prerequisite for ellipsis-licensing (or null anaphora generally).

(1) *Discourse Condition on Ellipsis*

Ellipsis of XP is licensed iff it is in the background of a coherent discourse.

While (1) may have always been presumed in the literature as a necessary condition, taking (1) into account revealed several hitherto unnoticed facts about ellipsis-licensing in Japanese. In particular, I demonstrated in Chapter 3 that the allegedly problematic scope patterns in null object constructions are actually accounted for by the Argument Ellipsis (AE) analysis. Moreover, the proposed analysis is not only compatible with the AE analysis but also supports it over the *pro*-drop and the Verb-Stranding VP-Ellipsis (VSVPE) analysis of null objects. Additionally, I showed in Chapter 4 that licensing of null adjuncts, which has been known to be even more puzzling, is also explained by the QUD-based

discourse-pragmatic account based on (1).

Chapter 5-6 are dedicated to discussions on the syntactic mechanisms behind Japanese null arguments and adjuncts. In Chapter 5, I first argued for a structural ellipsis analysis of null adjuncts over a non-structural purely pragmatic account. I then provided novel pieces of data which reveal that null adjuncts in Japanese are derived via Adjunct Ellipsis (AdjE). Given this, I proposed a unified analysis of AE and AdjE, which posits that AE and AdjE involve PF-deletion of transferred arguments/adjuncts. I argued that both ellipsis operations are available in Japanese because neither Transfer of arguments nor that of adjuncts causes problems of interpretability at the interfaces.

Based on the discussions and findings in Chapter 2-6, a unified ellipsis analysis of null arguments and adjuncts in Japanese can be summarized as an analysis which posits that AE/AdjE (i.e., PF-deletion) is licensed under the condition in (2).

(2) *Licensing Conditions on ellipsis in Japanese*

In Japanese, ellipsis is licensed iff

- (i) **Condition at Conceptual-Intentional Interface:** XP is in the background of a coherent discourse.
- (ii) **Condition in Narrow Syntax:** Transfer of XP is legitimate.

In this regard, the alleged argument-adjunct asymmetry in the syntax of Japanese ellipsis may not be real. Apparent asymmetry can be accounted for by carefully examining the interactions between syntax, semantics, pragmatics, and phonology.

7.2 Further Implications of the Minimalist Syntax of Ellipsis

In this dissertation, I have argued that the availability of AE and AdjE in Japanese naturally follows from the Transfer-based analysis of ellipsis. Both can be attributed to the fact that Transfer of arguments/adjuncts is possible in the language. The proposed analysis, however, may have an even broader cross-linguistic perspective on the role of syntax in ellipsis-licensing. In the course of proposing his system of Transfer, Kobayashi (2022a, p. 30) proposes that “in Japanese, Transfer *may* apply at any point, due to its lack of [u ϕ].” If this is the case, the Transfer-based analysis of ellipsis goes so far as to predict

that in Japanese, not only arguments and adjuncts, but also other types of phrases can undergo ellipsis. As a matter of fact, the analysis might predict that virtually any independent constituents can be the target of ellipsis, or PF-deletion as long as narrow syntax is concerned.

While we must await for future research to see whether this is the case in its literal sense, studies accumulated to this day point toward such a possibility. As already mentioned in Section 6.2, previous studies have proposed that the types of phrases that are licensed as ellipsis sites in Japanese include not only arguments such as NPs and CPs, but also adjuncts such as PPs (12) (Kamio and Takami 1998; Oku 2016), AdvPs (13) (Oku 2016; Tanabe and Kobayashi 2024a), predicates like APs (14) (Takahashi 2006; Bošković 2018), as well as TPs/FinPs (15) (Takahashi 1994; Hiraiwa and Ishihara 2012; Takita 2012). This is not surprising under the Transfer-based analysis. As Kobayashi (2022a) suggests, the timing of Transfer is basically free in Japanese due the absence of $[u\phi]$ in the language.⁷⁰ If so, it is not so unlikely that ellipsis of any independent constituent XP is syntactically licensed because Transfer of XP normally does not cause the derivation to crash at the interfaces.

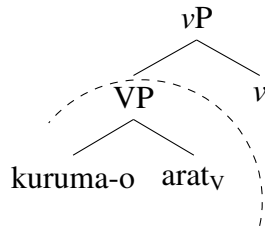
Needless to say, this does not mean that ellipsis in Japanese is unconstrained. Most prominently, VP-ellipsis is not licensed in cases such as (3).

- (3) a. Makoto-wa [_{VP} kuruma-o arat]-ta.
 Makoto-TOP wash-PST
 Makoto washed a car.’
 b. *Riko-mo *e* -ta.
 Riko-also -PST
 intended. ‘Riko did, too.’

Unlike in English-type languages, Transfer of VP at any point in derivation should be unproblematic in Japanese due to its ϕ -free syntax. Thus, VP-ellipsis in Japanese satisfies the syntactic licensing condition on ellipsis in (2ii). The ungrammaticality of (3b) is thus not due to syntactic constraints. Syntactic condition (2ii) licenses deletion of the VP since Transfer of VP illustrated in (4a) is legitimate. However, after Transfer applies to the CP level as in (4b), the resulting PF representation is (3b), in which the past tense affix *-ta* is stranded. Hence, VP ellipsis in (3b) is ruled out by the *stranded affix filter* (Lasnik 1995) at the sensorimotor interface.

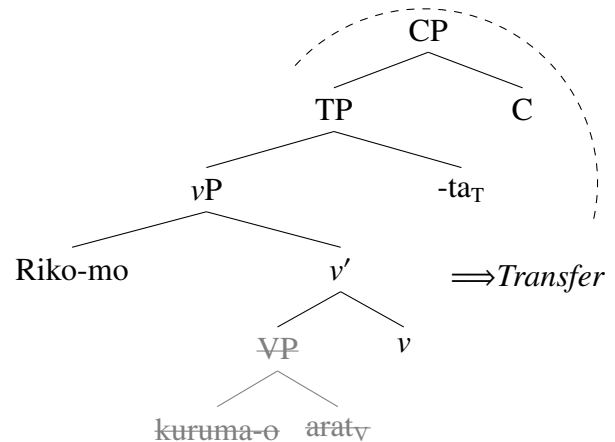
⁷⁰Note again that Kobayashi (2022a) assumes that Transfer requires a phase head which licenses it. See also footnote 65.

(4) a.



$\Rightarrow$ Transfer & Deletion

b.



Such a PF constraint on ellipsis is a general one in an agglutinative language like Japanese. That is, XP-ellipsis is normally ruled out by the stranded affix filter if the head X is a bound morpheme that forms a verbal complex with Y that is adjacent to it. Accordingly, VP-ellipsis is possible in Japanese if the stranded affix is rescued by *su* ‘do’, as in (5). This is not surprising because Transfer of VP is syntactically licensed in Japanese.

(5) a. Makoto-wa [_{VP} kuruma-o arai-sae] si-ta.
 Makoto-TOP wash-even do-PST
 Makoto even washed a car.’

b. Riko-mo *e* si-ta.
 Riko-also do-PST
 ‘Riko did, too.’

Given the overall discussion I suggest that ellipsis-licensing conditions in Japanese can be summarized as follows.

(6) *Ellipsis Licensing Conditions in Japanese (Final Version)*

In Japanese, ellipsis of XP is licensed iff

- (i) **Condition at Conceptual-Intentional Interface:** XP is in the background of a coherent discourse.

- (ii) **Condition in Narrow Syntax:** Transfer of XP is legitimate.
- (iii) **Condition at Sensorimotor Interface:** Deletion of XP does not yield a stranded affix.

In any case, the current Transfer-based ellipsis analysis within the strictly minimalist view on Transfer implies that ellipsis is minimally constrained in narrow syntax in a “free-Transfer language” such as Japanese because of its ϕ -free syntax. That is, as long as narrow syntax is concerned, phrases of any syntactic types can be the target of ellipsis insofar as they can be licensed as a Transfer domain. It is then suggested that the undoubtedly limited restrictions on ellipsis in Japanese should be attributed to extra-syntactic factors or the interactions between syntax and other modules. Indeed, I demonstrated in Chapter 3 and 4 that the seemingly complex patterns of ellipsis-licensing of arguments and adjuncts are in fact explained by considering discourse factors along with their interactions with some prosodic factors. Such a perspective on Japanese ellipsis may have been foreseen by Kuno (1978) in his pioneering work (see also Kuno 1976, 1982, 1995). Kuno states:

In Japanese, any independent constituents can be elided in a sentence. Therefore, not many significant generalizations can be made by studying licensing conditions on ellipsis in terms of syntax. “Ellipsis” is fundamentally an issue to be addressed in terms of discourse pragmatics.

(Kuno 1978, p. 7; translated by the author)

Succinctly put, the insight may be that ellipsis in Japanese is minimally restricted in narrow syntax, and restrictions, when exist, are mostly due to discourse-pragmatic factors.

Furthermore, the discussions and proposals in this chapter hint at possible parametric differences regarding ellipsis across languages. As opposed to English-type, “sentence-oriented” languages, Japanese has occasionally been classified as a “discourse-oriented” language, in which the majority of its typological characteristics are derived from discourse principles rather than syntactic principles (see Tsao 1977; Huang 1984). Related to these typologies, it can be speculated that ellipsis processes in English-type languages are constrained by the set of functional categories with formal features such as [$u\phi$], which induce syntactic processes such as movement and agreement. This is in line with the traditional syntactic licensing theories of ellipsis *a la* Lobeck (1990, 1995), Merchant (2001), and Aelbrecht (2010), *inter alia*. By contrast, ellipsis in Japanese is minimally constrained in narrow syntax, since the absence of [$u\phi$]

contributes to the free application of Transfer in Japanese, and therefore PF-deletion applies in a liberal fashion. If so, the fundamental nature of ellipsis phenomena in Japanese also instantiates a discourse-orientation property in the language. In this respect, the present study provides further support for the hypothesis that the absence of $[u\phi]$ is correlated with discourse orientation (Fukui 1986, 1988; Fukui and Sakai 2003; Kobayashi 2022a)

Finally, it is notable that the updated Transfer-based approach to ellipsis assumes nothing but *Free-Merge* and *Free-Transfer* in narrow syntax. Crucially, it neither stipulates ellipsis-specific [E]-features nor phase heads; hence it strictly conforms to the *Strong Minimalist Thesis* (SMT) stated in (7) (Chomsky 2010, 2015).⁷¹

(7) *The Strong Minimalist Thesis*

The faculty of language, or narrow syntax consists only of *Merge*, and it is an optimal solution to legibility conditions imposed by language-external cognitive systems that interface with language.

(cf. Narita and Fukui 2022, p. 12)

In minimalist inquiries, the SMT has played a major role in distinguishing principled, “genuine explanations” of some linguistic phenomena from mere descriptions of them (see Chomsky 2020, 2021, 2023).⁷² In this regard, the updated Transfer-based approach to ellipsis has a potential to provide genuine explanations of ellipsis phenomena in natural languages. Provided that we need to assume the minimum in narrow syntax, future research must look closely into the interfaces between, syntax, semantics, and pragmatics, and find extra-syntactic factors from which the phenomenon at hand is derived. It is only then we achieve a “genuine” explanation of ellipsis phenomena.

⁷¹It is worth mentioning that even Transfer may be eliminable. For example, Chomsky (2021, p. 7) states:

It is conventional to speak of two interfaces, the SM [(sensorimotor)] and CI [(Conceptual-Intentional)] interfaces. While the device is convenient for exposition (and I’ll adopt it here), there is no need to postulate the interface levels; access can in principle take place at any stage of the computation.

Strictly speaking, there is no operation of Transfer in narrow syntax but sensorimotor and Conceptual-Intentional systems just access syntactic objects at some point in derivation. On this view, we do not need to assume Transfer. However, I adopted the notions of interface levels and Transfer for ease of exposition.

⁷²The SMT, however, is not a precisely defined notion; rather, it is a notion that has been (and perhaps will be) sharpened in the course of inquiry (Chomsky 2021, fn 21, p. 15). Indeed, the SMT has occasionally been brought up by Chomsky in the last two decades, but it has often been stated in somewhat different ways. Due to this flexible nature of the SMT, it may take a few steps to fully understand what counts as a genuine explanation under the SMT (see Freidin’s 2021 excellent review, for a more elaborate and detailed discussion on the SMT). See also Berwick and Chomsky (2016) and Berwick and Chomsky (2019), for discussions within the biolinguistics framework of generative enterprise, on which SMT is based.

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