Movement Approach to Ellipsis

Yoshiki Fujiwara, PhD

University of Connecticut, 2022

This dissertation investigates the nature of ellipsis phenomena, focusing on Japanese. There have been many proposals regarding how elements get to be unpronounced. This dissertation argues that ellipsis phenomena in Japanese are uniformly generated by a single operation, PF-deletion. In particular, I propose a movement approach to ellipsis in Japanese, where elements to be elided move to the matrix SpecCP in overt syntax and then undergo PF-deletion. The ellipsis phenomena under investigation involve argument ellipsis, V-stranding VP-ellipsis, sluicing, and particle stranding ellipsis. I first establish the movement approach to ellipsis with argument ellipsis based on parallelisms between argument ellipsis and overt movement. Specifically, I show that argument ellipsis cannot occur within islands, exhibits signs of successive cyclic movement regarding binding and scope, and induces movement-blocking effects. The movement approach to ellipsis is also shown to favor the PF-deletion over the LF-copy approach to ellipsis, which I further support by showing that extraction is possible out of argument ellipsis sites and that argument ellipsis is sensitive to morpho-syntactic case constraints. I also extend the movement approach to ellipsis to V-stranding VP-ellipsis, sluicing, and particle stranding ellipsis, which have been analyzed differently from one another in the literature. In particular, I show that the movement approach to V-stranding VP-ellipsis captures the (im)possibility of null adjunct readings. Additionally, supporting the cleft approach to sluicing, I argue that sluicing is derived by ellipsis of the presuppositional clause of clefts that first undergoes movement. Furthermore, I show that the movement approach to ellipsis provides a natural account of the strange sentence-initial property of particle stranding ellipsis as well as other properties it shares with argument ellipsis. The four ellipsis phenomena (argument ellipsis, V-stranding VP-ellipsis, sluicing, and particle stranding ellipsis) are thus all unified under the movement approach to ellipsis in the sense that they all involve ellipsis that is licensed in the matrix SpecCP. I also suggest a unification between radical *pro*-drop and ellipsis phenomena discussed in this dissertation, extending the movement approach to ellipsis to radical *pro*-drop in Japanese, which trivially resolves the long-debated issue of how radical *pro*-drop is licensed.

Movement Approach to Ellipsis

Yoshiki Fujiwara

B.A., Meiji Gakuin University, 2013

M.A., Meiji Gakuin University, 2015

M.A., University of Connecticut, 2020

A Dissertation

Submitted in Partial Fulfillment of the

Requirements for the Degree of

Doctor of Philosophy

at the

University of Connecticut

2022

2022

Doctor of Philosophy Dissertation

Movement Approach to Ellipsis

Presented by

Yoshiki Fujiwara, B.A., M.A.

Approved by

Major Advisor: Željko Bošković

Associate Advisor: Jairo Nunes

Associate Advisor: Mamoru Saito

Associate Advisor: William Snyder

University of Connecticut

2022

Acknowledgements

If I stop what I am doing for a moment, I can think over the memories of my 6 years at UConn even within a short time like now. These memories are precious, invaluable, and will be irreplaceable in my life, but at the same time it is telling that they are things of the past, and my life at UConn is coming to the end. I would like here to appreciate every single moment at UConn and all the people involved with me, but my writing will never catch up with them. The acknowledgements here will be much fewer than what I actually owe, but I will do my best to express my gratitude as long as time permits.

First, I would like to express my deepest gratitude to my major advisor, Željko Bošković. He is the best professor I can ever imagine, and I think that he actually is the best in the world. He is Željko[1], very Željko, super-Željko, and Željko of Željko, but at the same time he is also Željko(considerate), Željko(thoughtful), Željko(sensitive) and Željko(attentive), which I hadn't noticed until he became my major advisor. He is now my highest goal and my mentor. I would like to thank all of him.

I would also like to thank William Snyder, who is one of my committee members but also was my major advisor until my 4th year. I first met him at the LSA summer institute in 2013 at the University of Michigan. His acquisition course there was my first class in the U.S, and without that experience, I wouldn't be here now. I was very lucky to meet him in the first place and glad that he was part of my dissertation committee.

I am also deeply grateful to Jairo Nunes and Mamoru Saito for their insightful and helpful comments. I was very glad that they were part of my committee as well. It was valuable to feel their perspectives on science through discussion with them.

[1] passionate, encouraging, full of spirit of inquiry, supportive, devoted, loud and clear, and more.

Besides my committee, I would also like to thank the various talented scholars I met at UConn linguistics: Jonathan Bobaljik, Andrea Calabrese, Vicki Carstens Norbert Corver, Guglielmo Cinque, Marie Coppola, Jon Gajewski, Corina Goodwin, Laula Kalin, Stefan Kaufmann, Diane Lillo-Martin, Keiko Murasugi, Letitia Naigles, Ian Roberts, Jon Sprouse, Adrian Stegovec, Nadine Theiler, and Harry van der Hulst. I am especially grateful to Magda Kaufmann, who was the overseer of my second generals paper, for her passionate and dedicated teaching. My special thanks also go to Tamara Cohen for her administrative help.

I am also grateful to people outside of UConn for their helpful comments and discussion: (on my acquisition work) Athulya Aravind, Steven Crain, Kamil Ud Deen, Mika Endo, Takuya Goro, Martin Hackl, Shimada Hiroyuki, Miwa Isobe, Howard Lasnik, Jeffrey Lidz, Barbara Catherine Lust, Motoki Nakajima, Miyuki Noji, Reiko Okabe, Tom Roeper Tetsuya Sano, Jill de Villiers, Kyoko Yamakoshi, and Maki Yamane; (on my work on ellipsis) Artemis Alexiadou, Boris Harizanov, Tim Hunter, Kyle Johnson, Idan Landau, Jason Merchant, Maria Polinsky, John Robert Ross, Yuta Sakamoto, Kensuke Takita, Gary Thoms, and Masaya Yoshida; (on my work on *wh*-scope marking) Veneeta Dayal, Chris Kennedy, and Florian Schwarz.

For help with judgments, I also thank Hyosik Kim, Jayeon Park, YongSuk Yoo, Akihiko Arano, Teruyuki Mizuno, Giulio Ciferri Muramatsu, Yuya Noguchi, Yusuke Yagi, Sarah Asinari, Si Kai Lee, Nic Schrum, and Chantale Yunt.

None of my achievements could have been done without what I learned from Takuya Goro, Ken Hiraiwa, and Tetsuya Sano during my graduate school days at Meiji Gakuin University. I would also like to express my deep gratitude to them.

There are also various people who enriched my life here at UConn. First of all, I was very lucky to be in the same cohort with Lily Kwok, Brendan Sugrue, Shuyan Wang, and Chantale Yunt. I really liked the moments with them e.g. sharing the first-year office and having lunch at Kathmandu. The greatest luck of my life at UConn is to have met Shuyan. After Brendan,

Chantale, and Lily left, only two of us were cohorts. We came here as students of William, took the same classes, shared the same office, and chatted over our purchase desires. We shared our joys, hopes, worries, angers, silly moments, and loneliness. Without you, my life here would have been so colorless. I truly appreciate her for being together with me and adding colors of friendship to my life at UConn. I sincerely wish her endless happiness with her family.

I also want to thank my former roommates: Lily Kwok, Paula Fenger (and Adrian too!), our lovely cat Stamppot, Zitoun Heytem, Yuta Tatsumi, Nicholas Denegre, and Yusuke Yagi (also Kyoka-san). Living with you guys was an invariable experience. I really enjoyed having dinner parties with them, especially with Lily, Paula, Adrian, and Yuta (also with Ivana Jovović, Christos Christopoulos, Hiroaki Saito, Sarah Asinari, Robin Jenkins, Rebecca Lewis, Teruyuki Mizuno, Muyi Yang, and Kaufmann's family). I also enjoyed Heytem's authentic crepes and playing frisbee with Nicholas and Yusuke. I also want to thank our neighbors, Tom Amill, Karen Amill, and their lovely dog, Herculy. Tom used to give me a ride to UConn at 6:25am a few times a week during my 1st - 3rd years (before I got Brendan's Toyota Prius 2007). Without him, it would have not been possible to go to the office most days before 7 am. Tom and Karen also would often come to rescue me when I was lost in Willimantic or when the battery of my car died. Without them, I truly would not be here. For me, their phone numbers were 911.

I also want to thank people who shared rooms with me in conferences: Hiroyuki Shimada (ICTEAP-1, Hong Kong), Akihiko Arano (JK 25, Honolulu), Yuta Tatsumi (LSA 2018, Salt Lake City; PLC 43, Pennsylvania), Shuyan Wang (BUCLD 43, Boston), Hiroaki Saito (JK 26, Los Angeles), Muyi Yang/Teruyuki Mizuno/Akari Ohba (CLS 55, Chicago), and Si Kai Lee (LSA 2020, New Orleans). I really enjoyed staying with them at conferences, which is an invaluable memory for me. Thank you also to Ken Hiraiwa, Yukiko Hiraiwa and their lovely dog, Kinako for letting me stay for two nights in their house in Cambridge in 2016.

Special thanks go to Japanese colleagues at UConn for comforting parties: Akihiko Arano, Ryosuke Hattori (and Xun-kun), Yasuhito Kido, Teruyuki Mizuno, Giulio Ciferri Muramatsu,

Yuya Noguchi, Hiromune Oda (Miyu-san and Kore-kun, too!), Hiroaki Saito, Yuta Sakamoto (and Manami-san as well!), Kensuke Takita, Yusuke Yagi, and Muyi Yang (Yohei Oseki and Kunio Kinjo, too!), and also to my office mates: Pietro Cerrone, Marcin Dadan, Kangzheng Gao, Sabine Laszakovits, Emma Nguyen (and Alex Göbel), Roberto Petrosino, Margaret Chui Yi Lee, Lacerda Renato, and Shuyan Wang (and occasionally Xuetong Yuan too!). I really had fun with you guys.

I am also thankful to people who enjoyed activities with me: (climbing) Jayeon Park, Zheng Shen, Aida Talić, YongSuk Yoo, Si Kai Lee, Penelope Daniel, Linghui 'Eva' Gan, Shengyun Gu, Nic Schrum, Yuta Tatsumi, Teruyuki Mizuno, Muyi Yang, Sabine Laszakovits, Roman Reitschmied, Roberto Petrosino, Brendan Sugrue, Lily Kwok, Laura Kalin, Alex Göbel, and Jonathan Bobaljik; (the Game of Thrones board game) Sabine Laszakovits, Roman Reitschmied, Zheng Shen, Brendan Sugrue, and Steven Manicastri; (kayaking/hiking) Si Kai Lee, Pasha Koval, Teruyuki Mizuno, Nic Schrum, and Linghui 'Eva' Gan; (video games) Nic Schrum, Teruyuki Mizuno, Muyi Yang, Margaret Chui Yi Lee; (chess) Nicholas Denegre and Qiushi Chen. Thank you also to many more graduate students: Marley Beaver, Karina Bertolino, James Canne, Mingjiang Chen, Ari Goertzel, Gísli Harðarson, Zixi Liu, Gabriel Martínez Vera, Troy Messick, Vanessa Petroj, Maryam Rezaasa, Walter Shaw, Laura Snider, Xintong Wu, and Ting Xu.

For encouragement from a distance, I thank Kazuki Hida, Yoshiaki Kobayashi, Chika Miyamoto, Yu Ōmi, Seiya Hasegawa, Yuki Haga, Tsukasa Kondo, Ryuji Sato, Takehiro Satoh, Saki Tomioka, and members of 09 Pokke, especially, Mao Aoki, Kenji Hatamoto, Tomoya Ichikawa, Momoko Kanda(Tanaami), Yumi Watanabe(Masuda), Nishio Shizuka, Satoshi Watanabe, and the late Haruka Takase.

Writing this dissertation could not have been done without forcing me to be awake and work. I would like to thank the following entertainments that helped keep me awake for a whole

day … or two: Mr.Children, Akino-Channel, “This is Me” by Keala Settle and The Greatest Showman ensemble.

Finally, for their love and support, I want to thank my parents Shigeki Fujiwara and Kyoko Fujiwara, my sister Ikuha Fujiwara, my brother-in-law Fraser Gould, our adorable pets, a dog Toneri and a cat Vivi, my brother Daiki Fujiwara, my sister-in-law Hikari Fujiwara, my nephews Sooma Fujiwara and Ryuuma Fujiwara, my grandfather Kiichi Toyota, my grandmothers Keeko Toyota and the late Mitsuko Fujiwara, and the late Kazumi Toyota. I am also grateful to my father-in-law Akira Yamaguchi, my mother-in-law Mieko Yamaguchi, my sister-in-laws Mayu Shindo and Nozomi Yamaguchi, and their irreplaceable pets, Kotaro and Hinako, for their support for Maria to come to the U.S with me in my last year at UConn. My greatest gratitude goes to my wife Maria Fujiwara, for her love, support, encouragement and patience. I cannot imagine how much she felt sorrow and loneliness for the 5 years we lived apart. She must have been looking for the moment we would live together much more than I have been. I hope our new journey of life from now on brings us endless happiness and smiles!!

March 29th, 2022

Storrs, Connecticut, USA

Contents

Chapter 1

Introduction

1.1. The Nature of Ellipsis

Ellipsis is a cover term used to refer to a variety of linguistic phenomena where a linguistic entity receives interpretation without an overt linguistic signal. Although theoretical linguistics investigates the system that links sound/sign and meaning building on the traditional Aristotelian conception of language as "sound with meaning," in elliptical phenomena, the correspondence between sound/sign and meaning collapses in that ellipsis involves meaning without sound/sign. The primary goal of the study of ellipsis is thus to determine the nature of the ellipsis system that allows meaning without phonological linguistic signals. The investigation of ellipsis in the literature has been done mainly focusing on the following three questions (see e.g. Aelbrecht 2015 and Merchant 2019 for reviews): what is the nature of the unpronounced site in elliptical constructions, what is the identity relation between elided material and its antecedent, and what licenses ellipsis under what conditions? These questions are often referred to as the structure question, the identity question, and the licensing question, respectively. This dissertation will focus on the structure question by examining the computational operation that underlies ellipsis in Japanese.

In the literature on ellipsis, there have been a number of proposals on how the unpronounced site is derived. They can be roughly grouped into four types of analyses. The first type is the non-structural analysis, which assumes that nothing occupies an ellipsis site (Ginzburg and Sag 2001; Culicover and Jackendoff 2005). This analysis is often called "what you see (or hear) is what you get (WYSIWYG)" analysis. The second line of analysis posits a phonologically null lexical item in an ellipsis site, such as a null pronoun (e.g. Hardt 1993; Lobeck 1995). The third type of analysis employs LF-copying, which recycles and copies an

LF-representation of the antecedent into the ellipsis site (Williams 1977; Fiengo and May 1994; Chung, Ladusaw, and McCloskey 1995; Oku 1998; Fortin 2007, a.o.). The fourth type of analysis is the traditional generative solution to ellipsis, where an elided element gets unpronounced as a result of a deletion operation (the timing of deletion varies in the literature such as in the syntax before Spell-Out, after Spell-Out in the derivation to PF, or in the phonology) (Ross 1969; Sag 1976; Tancredi 1992; Johnson 2001; Merchant 2001; Aelbrecht 2009, a.o.). The four types of analyses are schematically illustrated in (1).

(1) Ellipsis of Y
   a. WYSIWYG: X ∅ Z
   b. *Pro*: X *pro* Z
   c. LF-copy: overt syntax: X _ Z
      LF : X Y Z
   d. Deletion: X ~~Y~~ Z

In this connection, in the literature on Japanese ellipses, different types of ellipsis have been proposed for different elliptical phenomena. It has been reported that Japanese allows so-called radical *pro*-drop (radical *pro*-drop refers to *pro*-drop that is not licensed by rich verbal agreement, which is the case with *pro* in languages like Spanish and Italian), which enables a phonologically empty lexical pronoun to appear in argument positions relatively freely (Kuroda 1965; Ohso 1976; Hoji 1985; Nakamura 1987, a.o.). (2) illustrates this strategy applied to a null object.

(2) *John-wa pro ai-ni it-ta yo.*
   John-TOP meet-DAT go-PAST PRT
   lit. 'John went to see *pro*.'

Depending on the context (which need not involve an overt linguistic antecedent for the missing element in (2)), the null pronoun in (2) can be interpreted either as a definite pronoun which refers to the most salient referent in the discourse (Kuroda 1965) or as a contextually salient noun, e.g. 'a person/persons' (Hoji 1998; cf. Ishii 1991).

In addition to radical *pro*-drop, it has been argued that Japanese has other strategies to derive null elements (Saito and Murasugi 1990; Otani and Whitman 1991; Takahashi 1994; 2008a; Oku 1998; Saito 2007; Funakoshi 2013; 2016; Sakamoto 2015; 2020; to appear). This view has been supported by the fact that null elements behave differently from pronouns (see Chapters 2 and 3 in detail). In this regard, compare the null object sentence in (3b) and the overt pronoun counterpart in (3c). Taking (3a) as an antecedent, the former is ambiguous between strict and sloppy interpretations, whereas the latter has only a strict interpretation (cf. Sag 1976; Williams 1977).[1]

(3) *a. John-wa zibun-no kuruma-o untensi-ta kedo,*
John-TOP self-GEN car-ACC drive-PAST but
lit. 'John drove self's car, but'

b. Bill-wa Δ untensi-nak-atta.
Bill-TOP drive-NEG-PAST
lit. 'Bill did not drive Δ.' (strict/sloppy)
Strict: Bill did not drive it (=John's car).
Sloppy: Bill did not drive self's (=Bill's) car.

c. Bill-wa sore-o untensi-nak-atta.
Bill-TOP it-ACC drive-NEG-PAST
lit. 'Bill did not drive it.' (strict/*sloppy)

The impossibility of the sloppy interpretation in (3c) indicates that the sloppy interpretation in (3b) is not derived by *pro* (i.e. the null version of pronouns) but ellipsis of a full argument 'self's car' (i.e. argument ellipsis). Such contrasts between ellipsis and *pro* thus have been used in support of the existence of strategies other than *pro* (see also Chapter 2). In the literature on argument ellipsis, the LF-copy approach has been dominant (Oku 1998; Shinohara 2006; Saito 2007; Takita 2010; Sato 2014; Sakamoto 2017; 2019, a.o.). Given the recoverability condition

[1] Note that throughout this dissertation, I use Δ as a theory neutral symbol that indicates that something is null in comparison to the antecedent sentence.

on ellipsis, this approach can be taken when there is an overt linguistic antecedent for the relevant null element, as in (3a/3b) (Hankamer and Sag 1976). The derivation of (3b) under the LF-copy approach is illustrated in (4), where a missing object is generated only at LF by copying the relevant element from a linguistic context without its phonological features.

(4) LF-copy:
Antecedent clause: $John_{SUBJ}$ [self's car]$_{OBJ}$ V
a. Overt Syntax: Bill Δ V
b. LF: Bill [self's car] V

Furthermore, it has been argued that Japanese can also derive ellipsis thorough PF-deletion (Takahashi 1994; Hiraiwa and Ishihara 2002; 2012; Funakoshi 2012; 2014; 2016; Sato and Maeda 2019; Takahashi 2020, a.o.). The PF-deletion approach is standardly adopted in other ellipsis phenomena such as V-stranding VP-ellipsis and sluicing (Takahashi 1994; Hiraiwa and Ishihara 2002; 2012; Funakoshi 2012; 2014; 2016, a.o.; but see also Takahashi 2020 for a deletion analysis of argument ellipsis). For example, Takahashi (1994) analyzes Japanese sluicing in (5a) as involving *wh*-movement to SpecCP and PF-deletion (i.e. deletion at PF) of TP.

(5) Takahashi's (1994) analysis of sluicing:
a. *John-wa nanika-o tabe-ta kedo, boku-wa [nani-o Δ ka] sir-ana-i.*
John-TOP something-ACC eat-PAST but I-TOP what-ACC Q know-NEG-PRES
'John ate something, but I don't know what.'
b. I don't know [$_{CP}$ [$_{TP}$ John ate what]].
c. I don't know [$_{CP}$ what$_i$ [$_{TP}$ John ate t_i]].
d. I don't know [$_{CP}$ what$_i$ ~~[$_{TP}$ John ate t_i]~~].

Furthermore, a different deletion operation is adopted in different ellipsis phenomena. Thus, Sato and Maeda (2019) apply a special deletion operation, *String Deletion* (i.e. deletion of sound strings; Mukai 2003; cf. Johnson 2006), to particle stranding ellipsis (which I will return to shortly, see (9) below).

At any rate, in the literature on Japanese ellipsis, there have been a variety of proposals regarding how elements get to be unpronounced, with different operations applied to different phenomena. This is an undesirable result in the absence of a principled account of why a particular ellipsis process is derived with a certain operation and others with different operations.[2] This state of affairs also raises a learnability issue, namely, how children get to correctly know that a particular ellipsis phenomenon employs a certain ellipsis operation and others different operations. Within this perspective, this dissertation will pursue a hypothesis that ellipsis phenomena in Japanese are uniformly generated by a single operation, namely, PF-deletion. In particular, I propose a movement approach to ellipsis in Japanese (henceforth movement approach), illustrated in (6), where the relevant element undergoes movement to the matrix CP in overt syntax and then undergoes PF-deletion.

(6) Movement approach to ellipsis:
a. [X Y Z]
b. [$_{CP(root)}$ Y [X t_Y Z]] (by movement to the matrix SpecCP)
c. [$_{CP(root)}$ ~~Y~~ [X t_Y Z]] (by PF-deletion)

The main ellipsis phenomena under investigation involve argument ellipsis (Oku 1998; Kim 1999; Saito 2007; Takahashi 2008b; Sakamoto 2017; 2019; Takahashi 2020, a.o.), sluicing (Inoue 1976; Takahashi 1994; Kuwabara 1996; Fukaya and Hoji 1999; Hiraiwa and Ishihara 2002; 2012; Saito 2004a; Kizu 2005; Hasegawa 2008; Takita 2012; Abe 2015, a.o.), and particle stranding ellipsis (Hattori 1960; Yoshida 2004; Sato 2012; Goto 2012; Sakamoto and Saito 2018a; Sato and Maeda 2019; Takita 2020, a.o.). I also investigate elliptical sentences where an object and other VP-internal elements like adjuncts get unpronounced together, which

[2] Based on Bošković's (2014) claim that ellipsis is phase-constrained (i.e. what can be elided is either phases or phasal complements), Sakamoto (2017, 2020) argues that PF-deletion applies to ellipsis of phases, whereas LF-copying to ellipsis of phasal complements, but why the two operations are implemented in the suggested way is not fully accounted for.

have been analyzed as involving V-stranding VP-ellipsis (Otani and Whitman 1991; Funakoshi 2012; 2016). Examples of each phenomenon noted above are given below:

(7) Argument Ellipsis (e.g. ellipsis of an object):
Haru-wa zibun-no sakuhin-ga suki-da-si, Aki-mo Δ suki-da.
Haru-TOP self-GEN work-ACC like-COP-and Aki-also read-PAST
lit. 'Haru likes her work, and Aki does Δ, too.'

(8) Sluicing (e.g. ellipsis of an embedded clause except the *wh*-phrase and a Q-particle):
Haru-wa nanika-o kat-ta kedo, boku-wa [nani-o Δ ka] sir-ana-i.
Haru-TOP something-ACC buy-PAST but I-TOP what-ACC Q know-NEG-PRES
lit. 'Haru bought something, but I don't know what Δ.'

(9) Particle Stranding Ellipsis (e.g. ellipsis of an object leaving its topic particle):
A: Rezibukuro-wa goiriyoo desu ka? B: Δ-wa ir-ana-i desu.
shopping.bag-TOP need COP Q -TOP need-NEG-PRES COP
'Do you need a bag?' lit. '~~It~~-TOP, I don't need.'

(10) V-stranding VP-ellipsis: [Subj [~~[VP Adj Obj tV]~~ V-T]]
Natsu-wa teineini kuruma-o arat-ta kedo, Fuyu-wa Δ araw-anak-atta.
Natsu-TOP carefully car-ACC wash-PAST but Fuyu-TOP wash-NEG-PAST
lit. 'Natsu washed a car carefully, but Fuyu did not wash.'

Furthermore, in spite of differences regarding e.g., sloppy interpretations, I will also suggest a unification between radical *pro*-drop and other ellipsis phenomena (e.g. argument ellipsis), extending the movement approach to ellipsis to radical *pro*-drop in Japanese. This will trivially resolve the long-debated issue of how radical *pro*-drop is licensed (in languages like Spanish, *pro* is taken to be licensed by agreement, which cannot be the case with *pro* in Japanese, given the lack of agreement in Japanese): radical *pro*-drop does not involve a lexically null pronoun in the first place.

The proposed movement approach to ellipsis in Japanese is in line with Johnson's (2001) proposal for VP-ellipsis in English (Hornstein 2008; Aelbrecht and Haegeman 2012; Funakoshi 2012; Aelbrecht and Harwood 2015; see also Szczegielniak 2006 for Polish and Russian bare VP-ellipsis and Authier 2011 for French modal ellipsis), where he suggests that a VP affected

by VP-ellipsis first undergoes VP-fronting. In this analysis, English VP-ellipsis in (11a) is analyzed as in (11b), where a VP is deleted after it is fronted.

(11) a. Rachel ate grapefruit, but Sarah wouldn't Δ_{VP}.
b. ~~[$_{VP}$ Eat grapefruit]~~, Sarah wouldn't t_{VP}.

As will become obvious during the discussion below, the current proposal, however, argues for a movement approach to ellipsis on very different and much broader grounds from Johnson's; it is also grounded in a much broader empirical domain of investigation. In fact, the analysis argued for in the thesis also differs from Johnson's analysis in the landing site of the elided element: the relevant elided element in Japanese moves to the matrix SpecCP, whereas English VP-fronting does not (see Aelbrecht and Haegeman 2012). This will turn out to have major consequences both empirically and theoretically.

The discussion in the dissertation will also have consequences for the proper analysis of a number of phenomena such as clefts, scrambling, topicalization, the Proper Binding Condition, ECM, V-movement, the coordinate structure constraint, the Case Filter, the double-*o* constraint (the ban on two accusative particles occurring in a sentence), case-drop, passives, and positive polarity items.

1.2. Overview of the Dissertation

The organization of this dissertation is as follows. In Chapters 2 and 3, I will examine argument ellipsis, where the LF-copy approach has been more dominant in the literature. In Chapter 2, I will argue that argument ellipsis involves overt movement of an element to be elided to the matrix SpecCP by showing that the distribution of argument ellipsis correlates with its overt movement counterparts (i.e. cases where the relevant element is not elided but undergoes movement). In addition, it will be shown that argument ellipsis cannot occur within an island, exhibits signs of successive cyclic movement regarding binding and scope, and induces

movement-blocking effects (i.e. argument ellipsis is blocked by another movement just like its movement counterpart), all of which support the idea that an element to be elided undergoes overt movement to the matrix SpecCP. The existence of overt movement in the derivation of argument ellipsis will be shown to support the PF-deletion approach to argument ellipsis.

In Chapter 3, I will provide additional arguments that favor the PF-deletion approach to argument ellipsis over the LF-copy approach. I will show that overt extraction out of an argument ellipsis site is possible, which indicates that there is an internal structure in the ellipsis site in overt syntax, contrary to Sakamoto's (2017, 2019, 2020) claim regarding this issue. Furthermore, I will also show that elided elements are subject to morpho-syntactic case constraints, the double-*o* constraint (Hale and Kitagawa 1976; Shibatani 1978) and the morphological case requirement on moved elements, which are unexpected under the LF-copy approach, where elided elements are assumed to lack phonological and morphological information.

In Chapter 4, I will extend the movement approach to ellipsis to other ellipsis phenomena in Japanese, namely, V-stranding VP-ellipsis, sluicing, and particle stranding ellipsis, which have been analyzed differently from one another. I will show that all ellipsis cases under investigation can be captured under the movement approach to ellipsis. The discussion in this chapter will also provide an account of a curious property of particle stranding ellipsis that it can occur only in sentence-initial positions, and a number of other properties of the ellipsis phenomena discussed in this chapter as well as Japanese clefts.

In Chapter 5, I will summarize the dissertation, also extending the proposed approach to ellipsis to additional phenomena and suggesting a unification between radical *pro*-drop and other ellipsis phenomena discussed in this dissertation under the movement approach to ellipsis.

Chapter 2

Movement Approach to Argument Ellipsis

2.1. PF-Deletion vs. LF-Copy

This chapter examines a particular instance of ellipsis in Japanese, namely, argument ellipsis. I propose a new approach to argument ellipsis and use it as a new way to tease apart different approaches to ellipsis, namely, the LF-copy approach and the PF-deletion approach. In particular, I argue that argument ellipsis involves overt movement of elided elements to the matrix SpecCP, as in (1).

(1) Proposal:
a. [$_{TP}$ Subj [$_{vP}$ Obj V-v]]
b. [$_{CP}$ Obj [$_{TP}$ Subj [$_{vP}$ ~~Obj~~ [$_{vP}$ ~~Obj~~ V-v]]]] (by movement of an argument to the SpecCP)
c. [$_{CP}$ ~~Obj~~ [$_{TP}$ Subj [$_{vP}$ ~~Obj~~ [$_{vP}$ ~~Obj~~ V-v]]]] (by PF-deletion of the element in the SpecCP)

The existence of such overt movement of elided phrases presumes the presence of full structure in elliptical constructions in overt syntax. This is unexpected under the LF-copy approach, in which there is no full-fledged structure in an ellipsis site in overt syntax, while a missing element is generated only in LF by being copied from a linguistic context without its LF-uninterpretable features such as phonological features (Shopen 1972, Wasow 1972, Williams 1977, Fiengo and May 1994, Chung et al. 1995, Lappin 1999, Fortin 2007, 2011, among others).

(2) LF-copy:
Antecedent clause: Subj Obj V
a. Overt Syntax: Subj Δ V
b. LF: Subj Obj V *copy*

On the other hand, the PF-deletion approach to ellipsis, in which full syntactic structure is present in an ellipsis site in overt syntax, is fully compatible with the proposed account of argument ellipsis.

In the literature on argument ellipsis, the LF-copy approach has been more dominant since Oku (1998) first identified the phenomenon of argument ellipsis (Shinohara 2006; Saito 2007; 2017; Takita

2010; Sato 2014; 2015; 2020; Sakamoto 2016c; 2017; 2019; 2020; see also Otani and Whitman (1991) for an LF-copy analysis of Japanese null objects in terms of V-stranding VP-ellipsis). There are two theoretical implementations of the LF-copy approach to argument ellipsis. Oku's (1998) LF-copy analysis builds on Bošković and Takahashi's (1998) idea that theta-features in Japanese need not to be checked in overt syntax (in Chomsky's (1995) terms, they are weak features). They claim that theta-positions can be empty in overt syntax in Japanese as long as they are filled in LF. Theta-positions can be filled by moving (typically lowering) in LF an element that is base-generated in its scrambled position (Bošković and Takahashi 1998) or by LF-copying from the antecedent clause (Oku 1998).[1] Saito (2007) pursues a different implementation of the LF-copy analysis. Developing an idea from Kuroda (1988), he argues that functional categories in Japanese (i.e. *v* and T) lack uninterpretable φ-features, and thereby arguments need not appear in overt syntax to establish an AGREE relation with it.

The aim of this chapter is to show that argument ellipsis involves overt movement, thereby supporting the PF-deletion approach. The organization of this chapter is as follows. In Section 2.2, I point out that the distribution of argument ellipsis is similar to the one of overt movement. Particularly, I show that (i) elements that can be elided are movable, and (ii) elements that cannot move cannot be elided by themselves. In other words, argument ellipsis is not based on whether the affected element is an argument or not, but rather on whether it can undergo overt movement or not. In addition to the parallelism between argument ellipsis and overt movement, in Section 2.3, I provide independent evidence that an element affected by argument ellipsis has actually undergone overt movement before it gets elided. In particular, I show that an elided element behaves like its movement counterpart regarding locality, binding, scope, and blocking effects. Section 2.4 summarizes this chapter.

---

[1] It should be noted that the movement approach to argument ellipsis pursued here still captures the main intuition behind Oku's (1998) analysis of argument ellipsis, that is, the availability of argument ellipsis essentially depends on the availability of Japanese-type long-distance scrambling (though this is done in a very different way from Oku 1998), as will be discussed in detail below.

2.2. Parallelism between Argument Ellipsis and Overt Movement

2.2.1. Set-up: diagnostic of argument ellipsis and overt movement

In this section, I show that the distribution of argument ellipsis correlates with its overt movement counterparts (i.e. cases where the relevant element is not elided but undergoes movement). Before doing that, I will discuss the diagnostics for argument ellipsis in more detail. Recall that in the literature, there are two sources of null arguments in Japanese: *pro* and argument ellipsis. In the former, a null argument is a lexically null pronoun that is interpreted as a definite pronoun such as 'he/she/it/they' (Kuroda 1965; Ohso 1976; Hoji 1985; Nakamura 1987, a.o.) or as an indefinite bare noun whose interpretation is specified by context (Hoji 1998; cf. Ishii 1991). In the latter, null arguments are derived by ellipsis of full arguments (Oku 1998; Kim 1999; Saito 2007; Takahashi 2008a; 2008b; Otaki 2014; Sakamoto 2017, 2019, a.o.). Therefore, according to these strategies, null arguments in Japanese can be interpreted in three ways as a definite pronoun, an indefinite noun, or a full argument. In investigating argument ellipsis, it is thus important to differentiate argument ellipsis from the (in)definite *pro*-strategy. In the literature, there have been a number of different ways to tease apart the two strategies: sloppy interpretation[2] (Otani & Whitman 1991), quantificational interpretation (Takahashi 2008a), disjunctive interpretation (Funakoshi 2013, Sakamoto 2015), cancelation of polarity items (Saito 2007; Funakoshi 2013; see Section 3.3.2.), extraction out of an ellipsis site (Sakamoto 2016c, 2017, 2019; Takahashi 2020; see Section 3.2.), missing antecedent phenomena (Sakamoto 2015), and parallelisms (Takahashi 2013). In this section, I will use sloppy interpretations and quantificational interpretations as tests for argument ellipsis.

[2] Sloppy interpretations are not always regarded as a diagnostic of ellipsis since overt pronouns in English may allow sloppy interpretations in certain context (Karttunen 1969; see also Merchant 2013a). It is, however, known that Japanese null arguments allow sloppy interpretations much more widely than English pronouns (Takahashi 1996; Tomioka 2003). It is also reported that Japanese overt pronouns do not allow sloppy interpretations even in the contexts where English pronouns allow them (Kurafuji 1999). Following the relevant literature, I thus assume that sloppy interpretations are a diagnostic of ellipsis in Japanese given that they differentiate (at least in the contexts discussed here) between ellipsis and other strategies, such as pronouns.

Let us first consider the null object sentence in (3), which is ambiguous in that the null object can be interpreted as 'John's apple' or 'Bill's apple'. The former interpretation is known as the strict(-identity) interpretation, and the latter as the sloppy(-identity) interpretation.

(3) *John-wa zibun-no ringo-ni sawat-ta si, Bill-mo Δ sawat-ta.*
John-TOP self-GEN apple-ACC touch-PAST and Bill-also touch-PAST
lit. 'John touched his own apples, and Bill also touched Δ. '

Importantly, the ambiguity in (3) does not hold with the overt pronoun in (4), where the sloppy interpretation is not available.

(4) *John-wa zibun-no ringo-ni sawat-ta si, Bill-mo sore-ni/sorera-ni sawat-ta.*
John-TOP self-GEN apple-ACC touch-PAST and Bill-also it-TOP/those-DAT touch-PAST
'John touched his own apples, and Bill also touched it/them (=John's apples).'

This indicates that the *pro* analysis cannot cover all data involving null arguments (under the assumption that *pro* is a null version of overt pronouns). The sloppy interpretation of (3) however can be obtained if the underlying structure of (3) is (5), where the object identical with the linguistic antecedent 'self's apples' is elided.

(5) *John-wa <u>zibun-no ringo-ni</u> sawat-ta si, Bill-mo ~~zibun-no ringo-ni~~ sawat-ta.*
John-TOP self-GEN apple-ACC touch-PAST and Bill-also self-GEN apple-ACC touch-PAST
'John touched his own apples, and Bill also touched his own apples (= Bill's apples).'

The sloppy interpretation of null arguments thus has been taken as a support for the ellipsis analysis of null arguments in Japanese (i.e. argument ellipsis; Otani and Whitman 1991; Oku 1998; Saito 2007, a.o.; cf. Sag 1976; Williams 1977).

Hoji (1998), however, claims that sloppy interpretations of null arguments in Japanese are only apparent and argues that such apparent sloppy interpretations are obtained by what he calls "supplied N head", which is a phonologically empty element like *pro* that behaves as a regular indefinite noun whose interpretation is specified by context. Consider now the overt counterpart of (3) in this analysis, where a bare indefinite noun occupies the object position, as shown in (6).

(6) *John-wa zibun-no ringo-ni sawat-ta si, Bill-mo ringo-ni sawat-ta.*
John-TOP self-GEN apple-ACC touch-PAST and Bill-also apple-DAT touch-PAST
'John touched his own apples, and Bill also touched apples.'

As Hoji argues, the truth values of the "sloppy" interpretation of (3) and the indefinite-noun interpretation of (6) overlap. For example, in a situation where Bill touched his own apples, the two interpretations are truth-conditionally indistinguishable. It is not the case, however, that their truth-conditions always overlap. For instance, in a situation where Bill touched John's apples but did not touch his own apples, (3) can be false with the sloppy interpretation, but (6) is true. The deniability of (3) in this situation thus suggests that sloppy interpretations are real in null argument constructions in Japanese, which supports the availability of argument ellipsis.

In addition, Saito (2007) also points out that the possibility of sloppy-like interpretations for null arguments can be controlled for by embedding them under negation. In this section, I will check the availability of argument ellipsis in this way. Consider (7), where a null object appears in the negative sentence. The null object in (7) can be analyzed in three different ways, argument ellipsis, definite *pro*, and indefinite *pro*. Interpretations of the null object that are compatible with the three analyses are given with their truth values in the relevant context below in the literal translation.

(7) [Context: John touched his own apples, and Bill touched John's apples but not his own apples]
John-ga zibun-no ringo-ni sawat-ta kedo, Bill-wa Δ sawar-anak-atta.
John-NOM self-GEN apple-DAT touch-PAST but Bill-TOP touch-NEG-PAST
lit. 'John touched his own apples, but Bill did not touch Δ.'
Argument Ellipsis (i.e. sloppy): 'Bill did not touch his own apples.' (True)
Definite *pro* (i.e. strict): 'Bill did not touch them.' (False)
Indefinite *pro* (i.e. indefinite noun): 'Bill did not touch apples.' (False)

In the argument ellipsis analysis, the null object is interpreted in the same way as its antecedent (i.e. his own apples). This interpretation thus corresponds to a sloppy interpretation. In the definite *pro* analysis, the null object is a definite null pronoun that refers to the object in the first sentence, which gives rise to a strict interpretation. In the indefinite *pro* analysis, the null object is interpreted as an indefinite noun 'apples'. In the given context in (7), only the sloppy interpretation, derived by argument

ellipsis, is true (the other two interpretations are false since Bill touched John's apples). In fact, (7) is true in the given context, which indicates that argument ellipsis of the object is possible in (7). The truth values of the three interpretations in (7) can be confirmed by the overt counterparts of the three strategies, as shown in (8).

(8) *a. Bill-wa zibun-no ringo-ni sawar-anak-atta.*
Bill-TOP self-GEN apple-DAT touch-NEG-PAST
'Bill did not touch his apple.' (True: cf. sloppy interpretation)

b. Bill-wa sorera-ni sawar-anak-atta.
Bill-TOP them-DAT touch-NEG-PAST
'Bill did not touch them.' (False: cf. strict interpretation)

c. Bill-wa ringo-ni sawar-anak-atta.
Bill-TOP apple-DAT touch-NEG-PAST
'Bill did not touch apples.' (False: cf. indefinite noun interpretation)

Therefore, the possibility of argument ellipsis can also be tested by checking whether the relevant sloppy interpretation is true in a context like (7). All the examples with sloppy interpretations in this section discussed below were tested in this way.

Quantificational interpretations can also be used as a test for the possibility of argument ellipsis (Takahashi 2008a). Consider interpretations of the null object in (9), where the object in the first sentence contains a universal quantifier.

(9) [Context: John met every student, and Bill met most of them but not all.]
John-wa zenin-no gakusee-ni at-ta kedo, Bill-wa Δ aw-anak-atta.
John-TOP all-GEN student-DAT meet-PAST but Bill-TOP meet-NEG-PAST
lit. 'John met every student, but Bill didn't meet Δ.'
Argument Ellipsis (i.e. quantificational): 'Bill did not meet every students.'
(NEG > every: True)/ (every > NEG: False)
(in)definite *pro*: 'Bill did not meet them/students.' (False)

The null object in (9) can also be analyzed in three different ways, argument ellipsis, definite *pro*, and indefinite *pro*. In the argument ellipsis analysis, the null object in the second sentence can be

interpreted as a universal quantifier 'every student', taking the object in the first sentence as an antecedent. Since the null object is embedded under negation in (9), there are two quantificational interpretations, *NEG* > *every* and *every* > *NEG*. In the *pro* analysis, the null object can be interpreted either as a definite pronoun, or indefinite noun 'student'. Crucially, among the possible interpretations, only the *NEG* > *every* quantificational interpretation is true in the given context. In fact, (9) is true in the given context. This indicates that argument ellipsis of the object is possible in (9). The overt counterparts of the argument ellipsis analysis and the *pro* analyses confirm the truth values of the quantificational and (in)definite *pro* interpretations in (9), as shown in (10).

(10) *a. Bill-wa zenin-no gakusee-ni aw-anak-atta.*
Bill-TOP all-GEN student-DAT meet-NEG-PAST
'Bill did not meet every student.' (NEG > every: True)/ (every > NEG: False)

b. Bill-wa karera/gakusee-ni aw-anak-atta.
Bill-TOP they/students-DAT meet-NEG-PAST
'Bill did not meet them/students.' (False: cf. (in)definite *pro*)

The possibility of quantificational interpretations can thus be used as a diagnostic of the availability of argument ellipsis.

Unlike full arguments discussed so far, there are a number of elements that cannot be null in Japanese, as will be shown shortly. Regarding such elements, I will not use sloppy and quantificational expressions in their antecedent since argument ellipsis of such elements is simply impossible. Therefore, for elements that cannot be null, I will use a simple noun as an antecedent.

As noted above, the goal of this chapter is to show that there is a correlation between movement and ellipsis. In order to establish it, I will check whether the relevant elements can undergo movement to the matrix SpecCP in examples not involving ellipsis. In particular, I will use long-distance scrambling, not middle scrambling (i.e. movement to a clause initial position within a single clause), to check whether the relevant elements can undergo overt movement or not. This is because middle scrambling has been argued to be different from the long-distance one. For example, Miyagawa (1997)

argues that clause-internal scrambling can involve movement to SpecTP to satisfy EPP. In this test, I will use a simple noun for a moved element unless the sentence sounds unnatural and an affirmative clause just for simplicity.

At any rate, in the following sections, I will show that (i) elements that can be elided can undergo long-distance scrambling and (ii) elements that cannot undergo long-distance scrambling cannot be elided on their own. We will see, however, that some of these unelidable elements can get deleted if a larger object containing them undergoes PF-deletion (see also Sect.4.1 on V-stranding VP-ellipsis).

2.2.2. Argument vs. adjunct

Under the prediction of the current movement approach to argument ellipsis (henceforth movement approach), an element that can undergo argument ellipsis should also be movable. (11) illustrates the parallelism between argument ellipsis of a direct object and its movement counterpart.

(11) Direct Object:

a. *John-wa Mary-ni zibun-no tegami-o watasi-ta kedo,*
John-TOP Mary-DAT self-GEN letter-ACC give-PAST but
'John$_1$ gave Mary his$_1$ letter, but'

b. Ellipsis:
Bill-wa Mary-ni Δ watas-anak-atta.
Bill-TOP Mary-DAT give-NEG-PAST
lit. 'Bill did not give Mary Δ.' (strict/ sloppy)

c. Movement
Tegami-o$_i$ Nancy-wa [Bill-ga Mary-ni t_i watasi-ta to] omot-ta.
letter-ACC Nancy-TOP Bill-NOM Mary-DAT give-PAST C think-PAST
lit. 'A letter$_i$, Nancy that Bill gave Mary t_i.'

In (11b), the direct object is missing.[3] Taking (11a) as an antecedent, (11b) can yield a sloppy reading. This indicates that the direct object can get elided in this case. (11c) shows that the direct object can also undergo long-distance scrambling.

Like direct objects, indirect objects can undergo argument ellipsis. A sloppy reading is possible in (12b). The example in (12c) shows that the indirect object can undergo long-distance scrambling.

(12) Indirect Object

a. *John-wa zibun-no sensee-ni ronbun-o okut-ta kedo*
John-TOP self-GEN teacher-DAT paper-ACC send-PAST but
'John$_1$ sent a paper to his$_1$ teacher, but'

b. Ellipsis
Bill-wa Δ ronbun-o okur-anak-atta.
Bill-TOP paper-ACC send-NEG-PAST
lit. 'Bill didn't send a paper Δ.' (strict/ sloppy)

c. Movement
Sensee-ni$_i$ Nancy-wa [Bill-ga t_i ronbun-o okut-ta to] omot-ta.
teacher-DAT Nancy-TOP Bill-NOM paper-ACC send-PAST C think-PAST
lit. 'To the teacher$_i$, Nancy thought that Bill sent a paper t_i.'

---

[3] The example in (11b) is slightly unnatural as it repeats a non-focused item 'Mary' from the antecedent sentence. This unnaturality can be avoided by using a null pronoun for a repeated non-focused item (i.e. by dropping it), as in (ia) (Kuno 1982), or contrastively focusing it, as in (ib).

(i) "John gave Mary his letter, but"

a. *Bill-wa pro Δ watas-anak-atta.*
Bill-TOP give-NEG-PAST
lit. 'Bill did not give her Δ.'

b. *pro Nancy-ni-wa Δ watas-anak-atta.*
Nancy-DAT-TOP give-NEG-PAST
lit. 'he(=John) did not give Nancy Δ.'

Below, in the interest of keeping minimal pairs in paradigms, this issue will not be controlled for, but nothing would change even if it was controlled for (see also discussion regarding partial deletion in (15) below).

Subjects can also be unpronounced in Japanese, as shown in (13b). The sloppy reading in (13b) indicates that (13b) is derived by ellipsis of subjects (i.e. subjects can be elided) (Oku 1998). The subject can also be scrambled, as indicated in (13c) (Miyara 1982; Mihara 1994; Ko 2007; Yamashita 2013b).[4]

(13) Subject

a. *John-wa [zibun-no ronbun-ga zyaanaru-ni nor-u to] omot-ta kedo*
John-TOP self-GEN paper-NOM journal-DAT appear-PRES C think-PAST but
'John$_1$ thought that his$_1$ paper would appear in a journal, but'

b. Ellipsis
Bill-wa [Δ zyaanaru-ni nor-ana-i to] omot-ta.
Bill-TOP journal-DAT appear-NEG-PRES C think-PAST
lit. 'Bill thought that Δ would not appear in a journal.' (strict/ sloppy)

c. Movement
Zibun-no ronbun-ga$_i$ Bill-wa [t$_i$ zyaanaru-ni nor-u to] omot-ta.
self-GEN paper-NOM Bill-TOP journal-DAT appear-PRES C think-PAST
lit. 'His$_1$ paper$_i$, Bill$_1$ thought that t$_i$ would appear in a journal.'

Let us now consider adjuncts. In contrast to arguments we have seen so far, an adjunct of a predicate cannot undergo long-distance scrambling, as shown in (14b) (Miyara 1982; Bošković and Takahashi

---

[4] There are some cases where scrambling of subjects is bad (Saito 1985): such cases usually involve scrambling of a nominative animate subject crossing another nominative animate subject, as in (i).

(i) **Bill-ga$_i$ John-ga [t$_i$ gakkoo-de Mary-ni kisusi-ta to] omottei-ru.*
Bill-NOM John-NOM school-at Mary-DAT kiss-PAST C think-PRES
int. 'John thinks that Bill kissed Mary at school.' (Saito 1985, 190: slightly modified)

It is, however, not the case that scrambling of subjects is generally banned in Japanese, as shown by (13c) (Mihara 1994; Yamashita 2013b, a.o.). In fact, (ii) is a case of scrambling of a nominative animate subject crossing another nominative animate subject.

(ii) *Zibun-no musuko-ga$_i$ John-ga [t$_i$ Toodai-ni ukat-ta to] omot-ta.*
self-GEN son-NOM John-NOM Tokyo.University-DAT pass-PRES C think-PAST
int. 'John thought that his son got into the University of Tokyo.'

1998; Boeckx and Sugisaki 1999; Sugisaki 2000; Takita 2011; Yamashita 2013a; see also Section 4.2.3).[5] As shown in (14c), it cannot be deleted either (Sugisaki 2013; Funakoshi 2014; 2016).

(14) Adjunct

a. *John-wa ringo-o isoi-de tabe-ta.*
John-TOP apple-ACC hurry-TE eat-PAST
'John ate apples quickly.'

b. Movement
**Isoide Nancy-wa [Bill-ga t ringo-o tabe-ta to] omot-ta.*
hurry-TE Nancy-TOP Bill-NOM apple-ACC eat-PAST C think-PAST
lit. 'Quickly, Nancy thought [that Bill ate apples t].'

c. Ellipsis
Demo Bill-wa ringo-o Δ tabe-nak-atta.
but Bill-TOP apple-ACC eat-NEG-PAST
'But Bill did not eat apples at all.' (*adjunct-inclusive reading)

cf. d. *Demo Bill-wa ringo-o isoi-de tabe-nak-atta.*
but Bill-TOP apple-ACC hurry-TE eat-NEG-PAST
'But Bill did not eat apples quickly.'

Oku (2016), however, claims that adjunct ellipsis is in principle possible in Japanese, attributing the impossibility of the adjunct-inclusive reading in (14c) to a violation of Kuno's (1982) discourse condition on null elements in (15).[6]

---

[5] It has been reported that long-distance scrambling of adjuncts is sometimes possible, e.g. when the adjunct is a *wh*-phrase (Bošković and Takahashi 1998) or an NPI *-sika* 'only' (Sugisaki 2000). As illustrated in (ia), for example, a *wh*-adjunct can undergo long-distance scrambling unlike a non-*wh*-adjunct.

(i) ?*Naze Mary-ga [t_{WH} John-ga sono setu-o sinziteiru ka] sitteiru.*
why Mary-NOM John-NOM that theory-ACC believe Q know
'Mary knows why John believes in that theory.' (Bošković and Takahashi 1998, 356)

Such adjuncts cannot undergo ellipsis. There are, however, independent reasons why this is the case, discussed in Section 2.2.3.7.

[6] In Kuno's (1982) original example, null elements are ambiguous between ellipsis and *pro*. The original data that he attempts to account for are answering patterns with null elements:

(15) Ban Against Partial Discourse Deletion (Kuno 1982, 84-85)
If discourse deletion of recoverable constituents is to apply, apply it across the board to non-focus constituents. Non-focus constituents which are left behind by partial discourse deletion will be reinterpreted, if possible, as representing contrastive foci.

According to Oku (2016), deletion of only the adjunct in (14c) is impossible since it violates (15) leaving another non-focus element (i.e. the object) behind. He instead illustrates the possibility of adjunct ellipsis with affirmative data like (16), where an object is contrasted.

(16) *John-wa ringo-o isoi-de tabe-ta. Bill-wa banana-o Δ tabe-ta.*
John-TOP apple-ACC hurry-TE eat-PAST Bill-TOP banana-ACC eat-PAST
lit. 'John ate apples quickly. Bill ate banana.'

It is, however, not clear whether one can logically determine if the adjunct-inclusive reading is possible with this sentence since it entails the literal interpretation (i.e. Bill ate banana). That is, even if the sentence is naturally uttered in a situation where Bill ate banana quickly, it is not clear whether the sentence involves an adjunct that got elided, or a sentence without an adjunct at any derivational stage

---

(i) Speaker A: *Kimi-wa kono hon-o yomi-masi-ta ka?*
you-TOP this book-ACC read-POL-PAST Q
'Have you read this book?'
Speaker B: a. *Iie, Δ Δ yomi-mase-n desi-ta.*
no read-POL-NEG COP-PAST
'No, Δ haven't read Δ.'
b. *Iie, Δ sono hon-wa yomi-mase-n desi-ta.*
no that book-TOP read-POL-NEG COP-PAST
'No, Δ haven't read that book$_{TOP}$.'
c. ?? *Iie, Δ sono hon-o yomi-mase-n desi-ta.*
no that book-ACC read-POL-NEG COP-PAST
'No, Δ haven't read that book$_{ACC}$.' (Kuno 1982, 84)

All the examples in (i-B) have a null subject and differ in whether an object is null (i-a), marked with a contrastive topic marker *wa* (i-b), or accusative-marked (i-c). Kuno (1982) finds that (i-a) and (i-b) are natural as an answer to (i-A), whereas (ic) is not. (i-a) obeys the condition in (15) since no non-focus constituent is left behind. In (i-b), the remaining object is contrasted with the topic marker *wa*, and thus it observes (15). In contrast, (i-c) violates (15), leaving the non-focus object overt, which makes it sound unnatural.

is used and pragmatically accommodated. In addition, the condition in (15) does not always work, i.e. there are cases of unacceptable adjunct ellipsis that cannot be explained by (15). For example, dropping the non-focus object does not improve the adjunct-inclusive reading in (14c), as shown in (17) (see Section 4.2 for possible cases of adjunct-inclusive readings).

(17) *John-wa ringo-o isoi-de tabe-ta. Demo Bill-wa Δ Δ tabe-nak-atta.*
John-TOP apple-ACC hurry-TE eat-PAST but Bill-TOP eat-NEG-PAST
lit. 'John ate apples quickly. But Bill did not eat.' (*adjunct-inclusive reading)

In addition, as we have seen in (11-13), argument ellipsis can target only one of the non-focus arguments leaving the other behind. For example, in (11), the direct object undergoes argument ellipsis although the non-focus indirect object remains undeleted. These suggest that (15) alone cannot account for the impossibility of the adjunct-inclusive reading in (14c). I thus conclude that the absence of the adjunct-inclusive reading in (14c) comes from the impossibility of eliding the adjunct.

In short, we have seen that arguments can typically move and get elided, while adjuncts cannot. In the next subsection, we will discuss several arguments that do not pattern with the elements discussed so far.

2.2.3. Undeletable arguments

As we have seen above, Japanese allows ellipsis of arguments, which is in fact why this ellipsis phenomenon has been called *Argument Ellipsis*. However, I will show in this section that not all arguments can be elided. Specifically, I show that the availability of eliding an element in Japanese does not depend on whether it is an argument or not, but rather on whether it can undergo movement or not.

2.2.3.1. Arguments of verbal noun

First, let us consider arguments of verbal nouns. In (18a), the internal argument of the compounded verb *benkyoo-si* 'study' is marked with accusative, and it can be dislocated and deleted.

(18) a. *Mary-wa zibun-no senmon-o benkyoo-si-ta.*
Mary-TOP self-GEN major-ACC study-do-PAST
lit. 'Mary studied self's major.'

b. Movement
Zibun-no senmon-o$_i$ Nancy-wa [John-ga t_i benkyoo-si-ta to] omot-ta.
self-GEN major-ACC Nancy-TOP John-NOM study-do-PAST C think-PAST
lit. 'Self's major, Nancy thought that John studied t.'

c. Ellipsis
Demo John-wa Δ benkyoo-si-nak-atta.
but John-TOP study-do-NEG-PAST
lit. 'But John did not study Δ.' (strict/ sloppy)

Thus, (18c) is compatible with a situation where John did not study his major, but he studied other subjects.

Let us consider a similar construction in (19), where the internal argument of the verbal noun *study* is marked with genitive. The verbal-noun is selected by verb *do* and assigned accusative. In this construction, the internal argument of the verbal noun cannot be dislocated, as illustrated in (19b). Crucially, this argument cannot get elided, as shown in (19c). Thus, (19c) is not compatible with a situation where John didn't study his major but studied other subjects. It only means that John did not study at all.

(19) a. *Mary-wa zibun-no senmon-no benkyoo-o si-ta.*
Mary-TOP self-GEN major-GEN study-ACC do-PAST
lit. 'Mary did a study of self's major.'

b. Movement
**Zibun-no senmon-no$_i$ Nancy-wa [John-ga t_i benkyoo-o si-ta to] omot-ta.*
self-GEN major-GEN Nancy-TOP John-NOM study-ACC do-PAST C think-PAST
lit. 'Of self's major$_i$, Nancy thought that John did a study t_i.'

c. Ellipsis
Demo, John-wa Δ benkyoo-o si-nak-atta.
but John-TOP study-ACC do-NEG-PAST
'But John did not study at all.' (*sloppy)

The above data show that not all arguments can undergo ellipsis. Importantly for our purposes, the unavailability of ellipsis here correlates with the impossibility of movement.

2.2.3.2. Multiple subjects

Consider now multiple subject constructions in Japanese. In this construction, multiple subjects have a so-called "aboutness" relation (Kuno 1973). In (20a), the subject-oriented anaphor *zibun* can refer to *John* or *wife* (Shibatani 1977). In this sentence, the inner subject 'his wife' cannot move across the first subject, as illustrated in (20b). (20b) is ungrammatical regardless of which marker is attached to the subjects, nominative case marker or topic marker. The unacceptability of (20c) suggests that the inner subject cannot get elided taking (20a) as its antecedent. The only reading we can get from (20c) is that Bill is not sleeping in his room.[7]

(20) a. *John$_1$-wa okusan$_2$-ga zibun$_{1/2}$-no heya-de nemut-te-i-ru.*
John-TOP wife-NOM self-GEN room-in sleep-TE-be-PRES
'As for John$_1$, his wife$_2$ is sleeping in self$_{1/2}$'s room.' (Kishimoto 2004, 129)

---

[7] In contrast to (20c), there is another kind of multiple subject constructions where the inner subject can be dropped (see Tateishi 2006 for a review of various types of multiple subject constructions).

(i) a. *Zou-wa hana-ga naga-i.*
elephant-TOP nose-NOM long-PRES
'As for elephants, their nose is long.'
b. *Kirin-wa Δ nagaku-na-i.*
giraffe-TOP long-NEG-PRES
'As for giraffes, their nose is not long.'

Although further investigation is needed to see whether the missing subject can show an ellipsis-compatible reading such as sloppy reading, this example is not inconsistent with our finding because movement of the inner subject is acceptable in this kind of multiple subject constructions, as shown by (ii).

(ii) *Hana-wa Mary-wa [kirin-ga t_i naga-i to] omot-ta.*
nose-TOP Mary-TOP giraffe-NOM long-PRES C think-PAST
lit. 'nose, Mary thought that it is ziraffes whose t is long.'

b. Movement

*Okusan-ga/wa$_i$ Bill-ga/wa t_i zibun-no heya-de nemut-te-i-ru.
wife-NOM/TOP Bill-NOM/TOP self-GEN room-in sleep-TE-be-PRES
lit. 'his wife$_i$, as for Bill, t_i is sleeping in his room.'

c. Ellipsis

Bill$_3$-wa Δ zibun$_3$-no heya-de nemut-te-i-na-i.
Bill-TOP self-GEN room-in sleep-TE-be-NEG-PRES
'Bill$_3$ is not sleeping in his$_3$ room.'/ *'As for Bill, his wife is sleeping in his room.'

2.2.3.3. Double object constructions

The same pattern, where an argument that cannot undergo movement cannot be elided, has been reported for Korean double object constructions (see also Section 4.2.1). In (21a), there are two items that are marked accusative. Kim (1999) shows that the inner object cannot cross the outer object, as in (21b-c). Kim also shows that the inner object cannot undergo ellipsis. (21d) does not contain the relevant item 'leg' in its meaning.

(21) Korean

a. Mike-nun James-lul tali-lul ketecha-ss-ta.
Mike-TOP James-ACC leg-ACC kick-PAST-DECL
'Mike kicked James on the leg.' (Kim 1999, 258)

Movement

*b. *Tali-lul Mike-nun James-lul t ketecha-ss-ta.*
leg-ACC Mike-TOP James-ACC kick-PAST-DECL
lit. 'On the leg, Mike kicked James t.'

*c. *Tali-lul Bill-un [Mike-ka James-lul t ketecha-ss-ta-ko] sayngkakhayssta.*
leg-ACC Bill-TOP Mike-NOM James-ACC kick-PAST-DECL-C thought
lit. 'On the leg, Bill thought that Mike kicked James t.'

d. Ellipsis

Kim-nun James-lul Δ ketecha-ahn-ss-ta.
Kim-TOP James-ACC kick-NEG-PAST-DECL
'Kim didn't kick James.'
*'Kim didn't kick James on the leg.'

The parallel between the unavailability of ellipsis and movement is an expected result under the movement approach to ellipsis.[8]

2.2.3.4. Small clause

Let us now consider small clauses. In (22a), the matrix verb *suru* 'do' takes a small clause which consists of a subject 'three dogs' and a predicate 'pets.' Taking this sentence as an antecedent, ellipsis can be applied to the subject 'three dogs' but not to the nominal predicate 'pets,' as shown in (22b-c). Further, (22d-e) shows that the subject of a small clause can undergo movement, but the predicate cannot.

(22) *a. John-wa [$_{SC}$ san-biki-no inu-o petto-ni] si-ta kedo,*
John-TOP three-CL-GEN dog-GEN pet-DAT do-PAST but
lit. 'John got three dogs as his pets, but'

Ellipsis

b. Bill-wa [$_{SC}$ Δ petto-ni] si-nak-atta.
Bill-TOP pet-DAT do-NEG-PAST
lit. 'Bill did not get Δ as his pets.'(quantificational)

*c. *Bill-wa [$_{SC}$ san-biki-no inu-o Δ] si-nak-atta.*
Bill-TOP three-CL-GEN dog-ACC do-NEG-PAST
lit. 'Bill did not get three dogs Δ.'

Movement

d. San-biki-no inu-o$_i$ Nancy-wa [Bill-ga [$_{SC}$ t$_i$ petto-ni] si-ta to] omot-ta.
three-CL-GEN dog-ACC Nancy-TOP Bill-NOM pet-DAT do-PAST C think-PAST
lit. 'Three dogs$_i$, Nancy thought that Bill got t$_i$ as his pets.'

*e. *Petto-ni$_i$ Nancy-wa [Bill-ga [$_{SC}$ san-biki-no inu-o t$_i$] si-ta to] omot-ta.*
pet-DAT Nancy-TOP Bill-NOM three-CL-GEN dog-ACC do-PAST C think-PAST
lit. 'As his pets$_i$, Nancy thought that Bill got three dogs t$_i$.'

[8] Takita (2011) reports that Japanese double object constructions show the same pattern as Korean.

The predicate of a small clause can however be elided when ellipsis targets both the subject and the predicate, as in (23a). Movement of these elements is also possible, as in (23b).

(23) a. Ellipsis (antecedent: 22a)
Bill-wa $[_{SC}$ *Δ Δ]* *si-nak-atta.*
Bill-TOP do-NEG-PAST
lit. 'Bill did not get ΔΔ.'(quantificational)

b. Movement
San-biki-no inu-o$_i$ *petto-ni*$_j$ *Nancy-wa [Bill-ga* $[_{SC}$ t_i t_j*] si-ta to] omot-ta.*
three-CL-GEN dog-ACC pet-DAT Nancy-TOP Bill-NOM do-PAST C think-PAST
lit. 'Three dogs$_i$, as his pets$_j$, Nancy thought that Bill got t_i t_j.'

Given that the predicate cannot undergo ellipsis or movement by itself, I conclude that ellipsis and movement in (23) target the whole small clause.

The same paradigm can be observed with naming verbs that take two nouns as arguments, as exemplified in (24a).[9] I simply assume that the two internal nouns in (24a) constitute a kind of a small clause since that the name argument behaves as a predicate and the other as a subject (i.e. *The stray cat is Tama*). What is important for our purposes is that the (im)possibility of eliding these arguments is correlated with the movement (im)possibility, as shown in (24b-e).

(24) a. *John-wa nora-neko-o Tama-to nazuke-ta kedo,*
John-TOP stray-cat-ACC Tama-C name-PAST but
'John named a stray cat Tama, but'

Ellipsis[10]
b. *Bill-wa Δ Tama-to nazuke-nak-atta.*
Bill-TOP Tama-C name-NEG-PAST
'Bill didn't name a stray cat Tama.'

[9] The exact status of the relevant elements, whether they both are arguments or one of them is a predicate, does not affect the argument here.

[10] I thank Teruyuki Mizuno for discussion of ellipsis examples in (24), (34), and (36-38).

c. ?*Bill-wa nora-neko-o Δ nazuke-nak-atta.
Bill-TOP stray-cat-ACC name-NEG-PAST
lit. 'Bill didn't name a stray cat Δ.' (see Landau 2021 for Hebrew data)

Movement

d. *Nora-neko-o$_i$ Nancy-wa [Bill-ga t_i Tama-to nazuke-ta to] omot-ta.*
stray-cat-ACC Nancy-TOP Bill-NOM Tama-C name-PAST C think-PAST
lit. 'A stray cat, Nancy thought that Bill named t_i Tama.'

e. **Tama-to$_i$ Nancy-wa [Bill-ga nora-neko-o t_i nazuke-ta to] omot-ta.*
Tama-C Nancy-TOP Bill-NOM stray-cat-ACC name-PAST C think-PAST
lit. 'Tama$_i$, Nancy thought that Bill named a stray cat t_i.'

The name argument cannot be elided (Landau 2021) and moved by itself, whereas the accusative marked object can be. The name argument is however elidable when the other internal argument is also elided, as shown in (25a).[11] Similarly, it can undergo movement when the movement also affects the other internal argument, as in (25b).

(25) a. Ellipsis
Bill-wa Δ Δ nazuke-nak-atta.
Bill-TOP name-NEG-PAST
'Bill didn't name a stray cat Tama.'

b. Movement
Nora-neko-o$_i$ Tama-to$_j$ Nancy-wa [Bill-ga t_i t_j nazuke-ta to] omot-ta.
stray-cat-ACC Tama-C Nancy-TOP Bill-NOM name-PAST C think-PAST
lit. 'A stray cat$_i$, Tama$_j$, Nancy thought that Bill named t_i t_j.'

These small clause constructions thus nicely illustrate the correlation between movement and ellipsis.

---

[11] Note that the contrast between (24c) and (25a) would be unexpected if Japanese only had the *pro* strategy to derive null arguments since their pronominal counterparts are both acceptable, as in (i).

(i) a. *Bill-wa nora-neko-o soo nazuke-nak-atta.* (cf. 24c)
Bill-TOP stray-cat-ACC so name-NEG-PAST
'Bill didn't name a stray cat so.'

b. *Bill-wa soitsu-o soo nazuke-nak-atta.* (cf. 25a)
Bill-TOP that.guy-ACC so name-NEG-PAST
'Bill didn't name it so.'

2.2.3.5. Idioms

In this subsection, we will examine two idiomatic expressions, *te-o ireru* "revise" and *te-ni ireru* "acquire," as illustrated below:

(26) *a. John-wa zibun-no genkoo-ni te-o ire-ta. [theme-V idiom]*
John-TOP self-GEN draft-DAT hand-ACC put.in-PAST
'John revised (lit. put hand in) his draft.'

b. John-wa zibun-no kuruma-o te-ni ire-ta. [goal-V idiom]
John-TOP SELF-GEN car-ACC hand-DAT put.in-PAST
'John acquired (lit. put in hand) his own car.'

It has been observed that an argument participating in an idiomatic meaning cannot undergo movement (Miyagawa and Tsujioka 2004). (27) illustrates this point with long-distance scrambling.[12]

(27) Movement
*a. *Te-o$_i$ Nancy-wa [John-ga genkoo-ni t_i ire-ta to] omot-ta.*
hand-ACC Nancy-TOP John-NOM draft-DAT put.in-PAST C think-PAST
int. 'Nancy thought that John revised (lit. put hand in) the draft.'

*b. *Te-ni$_i$ Nancy-wa [John-ga kuruma-o t_i ire-ta to] omot-ta.*
hand-DAT Nancy-TOP John-NOM car-ACC put.in-PAST C think-PAST
int. 'Nancy thought that John acquired (lit. put in hand) a car.'

These arguments cannot get elided either, as shown in (28).

(28) Ellipsis (antecedent: 26)
*a. *Bill-wa zibun-no genkoo-ni Δ ire-nak-atta. [theme-V idiom]*
Bill-TOP self-GEN draft-DAT put.in-NEG-PAST
int. 'Bill didn't revise (lit. put hand in) his draft.'

*b. *Bill-wa zibun-no kuruma-o Δ ire-nak-atta. [goal-V idiom]*
Bill-TOP self-GEN car-ACC put.in-NEG-PAST
int. 'Bill didn't acquire (lit. put in hand) his own car.'

[12] Even short scrambling of the relevant elements is not allowed (see Miyagawa and Tsujioka 2004, 21).

On the other hand, arguments that do not participate in idiomatic meanings can undergo movement, as shown in (29a-b). Note also that even here, arguments that are part of an idiomatic expression cannot move, as indicated in (29c-d).

(29) Movement

a. *Genkoo-ni$_i$ Nancy-wa [John-ga t_i te-o ire-ta to] omot-ta.*
draft-DAT Nancy-TOP John-NOM hand-ACC put.in-PAST C think-PAST
lit. 'The draft$_i$, Nancy thought that John revised (lit. put hand in) t_i.'

b. *Kuruma-o$_i$ Nancy-wa [John-ga t_i te-ni ire-ta to] omot-ta.*
car-ACC Nancy-TOP John-NOM hand-DAT put.in-PAST C think-PAST
lit. 'A car$_i$, Nancy thought that John acquired (lit. put in hand) t_i.'

c. ***Genkoo-ni$_i$ te-o$_j$ Nancy-wa [John-ga t_i t_j ire-ta to] omot-ta.***
draft-DAT hand-ACC Nancy-TOP John-NOM put.in-PAST C think-PAST
int. 'Nancy thought that John revised (lit. put hand in) the draft.'

d. ***Kuruma-o$_i$ te-ni$_j$ Nancy-wa [John-ga t_i t_j ire-ta to] omot-ta.***
car-ACC hand-DAT Nancy-TOP John-NOM put.in-PAST C think-PAST
int. 'Nancy thought that John acquired (lit. put in hand) a car.'

The same pattern can be seen in ellipsis. Arguments that do not participate in an idiom can undergo ellipsis, as illustrated in (30a-b) (Sakamoto 2016b, 248). The impossibility of idiomatic meanings in (30c-d) suggests that even when the two internal arguments are missing, they cannot get elided.

(30) Ellipsis (antecedent: 26)

a. *Bill-wa Δ te-o ire-nak-atta. [theme-V idiom]*
Bill-TOP hand-ACC put.in-NEG-PAST
lit. 'Bill didn't revise Δ.' (strict/ sloppy)

b. *Bill-wa Δ te-ni ire-nak-atta. [goal-V idiom]*
Bill-TOP hand-DAT put.in-NEG-PAST
lit. 'Bill didn't acquire Δ.' (#strict/ sloppy)

c. ***Bill-wa Δ Δ ire-nak-atta.***
Bill-TOP put.in-NEG-PAST
int. 'Bill didn't revise his/John's draft.' [theme-V idiom]
int. 'Bill didn't acquire his/John's car.' [goal-V idiom]

2.2.3.6. Non-nominal arguments

This subsection investigates the elidability of non-nominal arguments such as adjectival predicates and measure phrases. Consider constructions in (31), where an adjective phrase behaves as a predicate under the verb *naru* 'become.' Takahashi (2006) observes that this adjectival complement can get elided, as in (31b). It can also undergo movement, as shown in (31c).

(31) *a. Tyoonan-wa wagamama-ni nat-ta kedo,*
oldest.son-TOP selfish-DAT become-PAST but
'The oldest son became selfish, but'

b. Ellipsis
?*zinan-wa Δ nar-anak-atta.*
second.son-TOP become-NEG-PAST
'the second son did not become selfish.'

c. Movement
?*Wagamama-ni$_i$ Nancy-wa [tyoonan-ga t_i nat-ta to] omot-ta.*
selfish-DAT Nancy-TOP oldest.son-NOM become-PAST C think-PAST
lit. 'Selfish$_i$, Nancy thought that the oldest son became t_i.'

The examples in (32) confirm that ellipsis of this adjectival predicate yields sloppy readings.

(32) *a. Tyoonan-wa [zibun-ni kibisiku] nat-ta kedo,*
oldest.son-TOP self-DAT strict become-PAST but
'The oldest son became strict with himself, but'

b. Ellipsis
?*zinan-wa Δ nar-anak-atta.*
second.son-TOP become-NEG-PAST
lit. 'the second son did not become Δ.' (sloppy) (Takahashi 2006, 18: slightly modified)

c. Movement
?*[Zibun-ni kibisiku]$_i$ Nancy-wa [tyoonan-ga t_i nat-ta to] omot-ta.*
self-DAT strict Nancy-TOP oldest.son-NOM become-PAST C think-PAST
lit. '[Strict with himself]$_i$, Nancy thought that the oldest son became t_i.'

In contrast, Landau (2021) observes that an argumental adverb under the verb 'behave' cannot undergo ellipsis in Hebrew, which he argues has argument ellipsis (Landau 2018).

(33) **Yosi hitnaheg yafe aval axiv lo hitnaheg Δ.* [Hebrew]
Yosi behaved.3M.SG well but brother.his not behaved.3M.SG
lit. 'Yosi behaved well but his brother didn't behave Δ.'

His finding can also be replicated in Japanese, as in (34). Ellipsis of an adjectival predicate under the verb 'behave' is much worse than the one under the verb 'become' (cf. 31/32). (34c) shows that the adjectival predicate under the verb 'behave' cannot undergo movement.

(34) *a. Tyoonan-wa wagamama-ni furumat-ta kedo,*
oldest.son-TOP selfish-DAT behave-PAST but
'The oldest son behaved selfish, but'

b. Ellipsis
**zinan-wa Δ furumaw-anak-atta.*
second.son-TOP behave-NEG-PAST
lit. 'the second son did not behave Δ.'

c. Movement
?**Wagamama-ni*$_i$ *Nancy-wa [tyoonan-ga* t_i *furumat-ta to] omot-ta.*
selfish-DAT Nancy-TOP oldest.son-NOM behave-PAST C think-PAST
lit. 'Selfish$_i$, Nancy thought that the oldest son behave t_i.'

Landau (2021) further investigates whether argumental measure phrases can undergo ellipsis in Hebrew. Argumental measure phrases behave as obligatory arguments with certain verbs, as in *This car cost *($6000)*. Landau observes that argumental measure phrases are consistently unelidable in Hebrew.

(35) a. A: *ha-simla ha-kxula ola 220 dolar.*
the-dress the-blue costs.3F.SG 220 dollar
'The blue dress costs $220.'
B: *ve-gam ha-simla ha-aduma ola *(220 dolar)?*
and-also the-dress the-red costs.3F.SG 220 dollar
'And does the red one also cost $220?'

b. ha-ma'araxa ha-rišoona nimšexa xaci ša'a,
the-act the-first lasted.3F.SG half hour
*ve-ha-ma'araxa ha-šniya gam nimšexa *(xaci ša'a).*
and-the-act the-second also lasted.3F.SG half hour
'The first act lasted half hour and the second one did too.'

c. ha-xava šelo ba-negev mistara'at al pney yoter me-150 dunam, ve-ha-xava
the-farm his in.the-Negev sprawls on face-of more than-150 dunams and-the-farm
*šelo ba-galil gam mistara'at *(al pney yoter me-150 dunam).*
his in.the-Galilee also sprawls on face-of more than-150 dunam
'His farm in the Negev sprawls across more than 150 dunams, and his farm in the Galilee does too.' (Landau 2021, 19)

Not all argumental measure phrases are unelidable in Japanese, but importantly, the (im)possibility of ellipsis of argumental measure phrases correlates with their movability. For example, measure phrases of price and duration are elidable and movable, as in (36) and (37), but those of length cannot be elided or moved, as shown in (38).

(36) *a. Kono-doresu-ni-wa hyaku-doru kakat-ta. kedo,*
this-dress-DAT-TOP 100-dollars cost-PAST but
'This dress costed 100 dollars, but'

b. Ellipsis
kotti-no-doresu-ni-wa Δ kakar-anak-atta.
this-GEN-dress-DAT-TOP cost-NEG-PAST
'this one didn't cost 100 dollars.'

c. Movement
?*Hyaku-doru$_i$, Nancy-wa [kono-doresu-ni t_i kakar-u to] omot-ta.*
100-dollars Nancy-TOP this-dress-DAT cost-PRES C think-PAST
'100 dollars$_i$, Nancy thought that this dress would cost t_i.'

(37) *a. Kono hanasi-wa iti-zikan tuzui-ta kedo,*
this talk-TOP one-hour last-PAST but
'This talk lasts one hour, but'

b. Ellipsis
kotti-no hanasi-wa Δ tuzuk-anak-atta.
this-GEN talk-TOP last-NEG-PAST

'this one doesn't last one hour.'

c. Movement
Iti-zikan$_i$, Nancy-wa [kono hanasi-ga t_i tuzuk-u to] omot-ta.
one-hour Nancy-TOP this talk-NOM last-PRES C think-PAST
lit. 'One hour$_i$, Nancy thought that this talk would last t_i.'

(38) *a. Kono-tatemono-wa hyaku-meetoru-ni oyob-u kedo,*
this-building-TOP 100-meter-DAT reach-PRES but
'This building reaches 100 meters, but'

b. Ellipsis
**kotti-no tatemono-wa oyob-ana-i.*
this-GEN building-TOP reach-NEG-PRES
lit. 'this one does not reach Δ.'

c. Movement
**Hyaku-meetoru-ni$_i$ Nancy-wa [kono-tatemono-ga t oyob-u to] omot-ta.*
100-meter-DAT Nancy-TOP this-building-NOM reach-PRES C think-PAST
lit. '100 meters, Nancy thought that this building reaches t_i.'

Thus, the elidability of non-nominal arguments also depends on whether they can undergo overt movement or not.

2.2.3.7. A note on *wh*-elements

We have seen so far that (i) elements that can be elided are movable and (ii) elements that cannot move cannot be elided by themselves. However, *wh*-arguments do not pattern like that. It has been argued that *wh*-phrases cannot be elided by themselves in Japanese, as shown in (39) (see Sugisaki 2012). (39b) cannot be interpreted as a *wh*-question taking (39a) as an antecedent.

(39) *a. John-wa Mary-ni nani-o watasi-ta no? - Tegami da yo.*
John-TOP Mary-DAT what-ACC give-PAST C letter COP PRT
'What did John give Mary? – A letter.'

*b. Bill-wa Mary-ni Δ watasi-ta no? - Un. / Uun./ *Hana da yo.*
Bill-TOP Mary-DAT give-PAST C yes / no / flowers COP PRT
lit. 'Bill gave Mary Δ? – Yes/No/*Flowers.'

Nevertheless, Saito (1989) observes that *wh*-arguments can undergo long-distance scrambling.

(40) *Nani-o$_i$ John-ga [Mary-ga t_i kat-ta ka] sit-te-i-ru.*
what-ACC John-NOM Mary-NOM buy-PAST Q know-TE-be-PRES
'John knows what Mary bought.'

Regarding the implementation of the movement approach to argument ellipsis, I assume that elements affected by argument ellipsis denote old information, and they move to SpecTopP under the split CP mechanism (Rizzi 1997; see also Chapter 5). I suggest that the reason why *wh*-phrases cannot be elided is that they are new information, hence by their nature, they cannot undergo movement to SpecTopP. In fact, it is known that *wh*-phrases cannot be marked with a topic marker (Miyagawa 1987b).

(41) *John-wa/*Dare-wa ki-mas-u ka?*
John-TOP who-TOP come-POL-PRES Q
'Will John come?'/ *'Who will come?'

However, *wh*-phrases can be elided if a larger object containing them undergoes ellipsis. For example, an embedded question containing a *wh*-phrase can be elided, as shown in (42b). Importantly, it can also undergo movement, as in (42c).

(42) *a. John$_1$-wa Bill-ni [dare-ga zibun$_1$-no kenkyuu-ga suki ka] tazune-ta.*
John-TOP Bill-DAT who-NOM self-GEN research-NOM like Q ask-PAST
'John$_1$ asked to Bill who likes his$_1$ research.'

b. Ellipsis
Mary$_2$-wa Bill-ni Δ tazune-nak-atta.
Mary-TOP Bill-DAT ask-NEG-PAST
lit. 'Mary didn't ask to Bill Δ.' (sloppy)

c. Movement
[Dare-ga kenkyuu-ga suki ka]$_i$, Nancy-wa [John-ga Bill-ni t_i tazune-ta to] omot-ta.
who-NOM research-NOM like Q Nancy-TOP John-NOM Bill-DAT ask-PAST C think-PAST
lit. '[$_{CP}$ who likes research]$_i$, Nancy thought [that John asked to Bill t_i].'

Also, the topic marker *-wa* can be attached to an embedded question, as shown in (43).

(43) *[Dare-ga kenkyuu-ga suki ka]-wa$_i$ John$_1$-ga Bill-ni t_i tazune-ta.*
who-NOM research-NOM like Q-TOP John-NOM Bill-DAT ask-PAST
lit. '[Who likes research]$_i$, John asked to Bill t_i.'

So far, we have seen that elements which cannot undergo movement cannot get elided even when they behave as an argument. This supports the idea that the availability of argument ellipsis correlates with movability. In particular, we have seen that (i) elements that can be elided are movable and (ii) elements that cannot move cannot be elided by themselves. What is important for our purposes is that there is a one-way correlation in this respect. Movement to the matrix SpecCP is necessary but may not be sufficient for an element to undergo argument ellipsis since there can be other factors that can prevent a moved element from undergoing ellipsis (cf. *wh*-phrases). Table 1 summarizes the distribution of the possibility of ellipsis and overt movement for the elements that we have seen so far.

Table 1: the possibility of overt movement and argument ellipsis

	Direct Object	Indirect Object	Subject	Adjunct	Argument of verbal noun	Multiple Subject	Korean double object	Small clause	Idiom	Non-nominal arguments	*Wh*-phrase
Movement	✓	✓	✓	✗	✗	✗	✗	✗/✓	✗	✗/✓	✓
Ellipsis	✓	✓	✓	✗	✗	✗	✗	✗/✓	✗	✗/✓	✗

At any rate, what is particularly important for our purposes is that immobile elements cannot get elided on their own.

2.3. Evidence of Movement

This section provides evidence that elided elements undergo overt movement to the matrix SpecCP. In particular, it is shown that argument ellipsis exhibits island-effects and that elided elements can be

interpreted higher than their in-situ positions. In addition, I show that in a situation where long-distance movement is blocked, argument ellipsis of the relevant item is also blocked.

2.3.1. Islands

I will consider island effects in this subsection. Let us first see a non-island case. In (44a), the embedded object contains an anaphor 'self', and it can get elided in (44b) (Takahashi 2013; cf. Otani and Whitman 1991). As shown in (44c), the embedded object can move to the sentence-initial position when the embedded clause is not an island.

(44) *a. Otoosan-wa [musume-ga zibun-no kuruma-o untensi-ta to] it-ta kedo,*
father-TOP daughter-NOM self-GEN car-ACC drive-PAST C say-PAST but
'Father said that his daughter drove his car, but'

b. Ellipsis
Okaasan-wa [musume-wa/ga Δ untensi-ta to] iw-ank-atta.
mother-TOP daughter-TOP/NOM drive-PAST C say-NEG-PAST
'Mother didn't say that her daughter drove Δ.' (strict/ sloppy)

c. Movement:
Kuruma-o otoosan-wa [musume-ga t_i untensi-ta to] it-ta.
car-ACC father-TOP daughter-NOM drive-PAST C say-PAST
'A car$_i$, Father said that his daughter drove t_i.'

On the other hand, elements cannot be scrambled out of islands. Island effects are illustrated with an adjunct clause in (45b). Importantly, ellipsis also exhibits island sensitivity. In (45c), an object inside an adjunct clause is missing, but a sloppy reading cannot be obtained. Thus, (45c) is incompatible with a situation where her mother follows her when she drives her father's car, as confirmed by the fact that the sentence in (45d) cannot follow (45c).

(45) *a. Otoosan-wa [musume-ga zibun-no kuruma-o untensu-ru toki] (sinpai-de) yoku tsuite-ik-u.*
father-TOP daughter-NOM self-GEN car-ACC drive-PRES when worry-with often follow-go-PRES
'Her father often follows his daughter when she drives his car because he is worried.'

b. Movement

?**Kuruma-o*$_i$ *otoosan-wa [musume-ga* t_i *untensu-ru toki] tsuite-ik-u.*
car-ACC father-TOP daughter-NOM drive-PRES when follow-go-PRES
'A car$_i$, her father often follows his daughter when she drives t_i.'

c. Ellipsis

Demo okaasan-wa [musume-ga Δ untensu-ru toki] tsuite-ik-ana-i.
but mother-TOP daughter-NOM drive-PRES when follow-go-NEG-PRES
'But her mother does not follow her when she drives Δ.' (*sloppy)

d. #... *Tsuite-ik-u no-wa otoosan-no kuruma-no toki da.*
follow-go-PRES C-TOP father-GEN car-GEN time COP
'The time when her mother follows her is when she drives her father's car.'

Importantly, embedding another clause under an adjunct clause does not support a sloppy reading, as (46) shows. The embedded anaphor in CP2 in (46a) is an antecedent, and the object corresponding to it is missing in (46b). Crucially, the sloppy reading is not available in (46b), and therefore, the sentence in (46c) cannot follow (46b).

(46) *a. Otoosan-wa [$_{AdjCP}$ John-kara [$_{CP2}$ musume-ga zibun-no kuruma-o untensu-ru to]*
father-TOP John-from daughter-NOM self-GEN car-ACC drive-PRES C
osietemoratta toki] kossori ato-o tsuke-ta.
was.told when secretly behind-ACC follow-PAST
'Her father followed his daughter secretly when he was told by John that she would drive his car.'

b. Ellipsis

Demo okaasan-wa [$_{AdjCP}$ John-kara [$_{CP2}$ musume-ga Δ untensu-ru to]
but mother-TOP John-from daughter-NOM drive-PRES C
osietemoratta toki] ato-o tsuke-nak-atta.
was.told when behind-ACC follow-NEG-PAST
'But her mother did not follow her daughter when she was told by John that she drives Δ.'
(*sloppy)

c. #... *Ato-o tsuke-ta no-wa otoosan-no kuruma-no toki da.*
behind-ACC follow-PAST C-TOP father-GEN car-GEN time COP
'The time when her mother follows her is when she drives her father's car.'

This suggests that the position where ellipsis is licensed is the matrix SpecCP; it cannot be an embedded CP (i.e. CP2). If an element could get elided after moving to an embedded SpecCP, the sloppy reading should be acceptable in (46b).

An island effect of argument ellipsis is also observed with quantificational interpretations. In (47a), the object embedded in an adjunct clause has a universal quantifier. In (47b), the embedded quantified object is null. Crucially, (47b) does not have a quantificational interpretation. It only means that Bill is forced to help with the housework when his mother does not clean up rooms. (47c) confirms the island effect of the movement counterpart of (47b).

(47) *a. John-wa [okaasan-ga zenbu-no heya-o katazuke-ru toki] kazi-o*
John-TOP mother-NOM all-GEN room-ACC clean.up-PRES when housework-ACC
tetudaw-as-are-ru kedo,
help-CAUS-PASS-PRES but
'John is forced to help with the housework when his mother clean up all the rooms, but'

b. Ellipsis
Bill-wa [okaasan-ga Δ katazuke-nai toki] kazi-o tetudaw-as-are-ru.
Bill-TOP mother-NOM clean.up-NEG when housework-ACC help-CAUS-PASS-PRES
lit. 'Bill is forced to help with the housework when his mother does not clean up Δ.'
(*quantificational)

c. Movement:
**Heya-o*$_i$ *Bill-wa [okaasan-ga* t_i *katazukeru toki] kazi-o tetudawasareru.*
room-ACC Bill-TOP mother-NOM clean.up when housework-ACC is.forced.to.help
lit. 'Rooms$_i$, Bill is made to help with the housework when his mother does not clean up t_i.'

Let us now consider nominal clauses. In Japanese, a finite clause headed by *koto* 'fact' does not create island effects, as shown in (48b) (Uchibori 2000; Yoshida 2006; see Watanabe 1996 and Uchibori 2000 for detailed analyses of *koto*-clauses). The object embedded in this clause can also be elided, as shown in (48c).

(48) *a. John-wa [[doroboo-ga zibun-no saihu-o nusun-da] koto]-ni kizui-ta.*
John-TOP thief-NOM self-GEN wallet-ACC steal-PAST fact-DAT notice-PAST
'John noticed the fact that a thief stole his wallet.'

b. Movement

?Zibun-no saihu-o$_i$ John-wa [[doroboo-ga t_i nusun-da koto]-ni kizui-ta.
self-GEN wallet-ACC John-TOP thief-NOM steal-PAST fact-DAT notice-PAST
lit. 'His wallet$_i$, John noticed the fact that a thief stole t_i.'

c. Ellipsis

Demo Bill-wa [doroboo-ga Δ nusun-ta koto]-ni kizuk-anak-ta.
but Bill-TOP thief-NOM steal-PAST fact-DAT notice-NEG-PAST
'But Bill didn't notice that a thief stole Δ.' (sloppy)

In contrast to *koto*-clauses, an island effect is observed in relative clauses. (49b) indicates that scrambling out of a relative clause is not allowed in Japanese (Saito 1985). In (49c), the embedded object is null, but it does not exhibit a sloppy reading. (49c) is incompatible with a situation where Bill let a person who stole his wallet go but caught a person who stole other person's wallets.

(49) *a. John-wa [[zibun-no saihu-o nusun-da] hito]-o tukamae-ta.*
John-TOP self-GEN wallet-ACC steal-PAST person-ACC catch-PAST
'John caught a person who stole his wallet, but'

b. Movement

?**Zibun-no saihu-o$_i$ Bill-wa [[t_i nusun-da] hito]-o tukamae-nak-atta.*
self-GEN wallet-ACC Bill-TOP steal-PAST person-ACC catch-PAST
lit. 'His wallet$_i$, Bill caught a person [who stole t_i].'

c. Ellipsis

Demo Bill-wa [[Δ nusun-da] hito]-o tukamae-nak-atta.
but Bill-TOP steal-PAST person-ACC catch-NEG-PAST
lit. 'But Bill did not catch a person [who stole Δ].' (?*sloppy)

The unavailability of the sloppy reading in (49c) suggests that an element within a relative clause cannot get elided, which follows if the position where elided elements are licensed must be located in the matrix CP.

The same point can be made with quantificational interpretations. Taking (50a) as an antecedent, (50b) does not exhibit a quantificational interpretation. (50b) is thus incompatible with a situation

where Mary is looking for any person with whom her father exchanged letters. Notice that the movement counterpart of (50b) is also unacceptable, as shown in (50c).

(50) *a. Mary-wa [[hahaoya-ga 100-tuu-izyoo-no tegami-o kookansita] hito]-o sagasiteiru.*
Mary-TOP mother-NOM100-CL-more-GEN letter-ACC exchanged person-ACC look.for
'Mary is looking for a person whom her mother exchanged more than 100 letters with.'

b. Ellipsis
Demo, *kanozyo-wa [[titioya-ga Δ kookansi-ta] hito]-wa sagasite-i-na-i.*
but she-TOP father-NOM exchange-PAST person-TOP look.for-be-NEG-PRES
lit. 'But she is not looking for a person whom her father exchanged Δ with.'
*quantificational: she is not looking for a person whom her father exchanged more than 100 letters with.

c. Movement
**Tegami-o$_i$ Mary-wa [[titioya-ga t_i kookansi-ta] hito]-o sagasite-i-ru.*
letter-ACC Mary-TOP father-NOM exchange-PAST person-ACC look.for-be-PRES
lit. 'Letters$_i$, Mary is looking for a person whom her father exchanged t_i with.'

The parallelism between (50b) and (50c) supports the movement approach to argument ellipsis. The embedded object in (50b) cannot be elided since it cannot undergo movement to the matrix SpecCP (i.e. the licensing position), as in (50c).

Island effects are also observed in Japanese VP-coordination constructions (Kato 2005; Yoshida 2006). In (51a), two verb phrases are conjoined. (51b) and (51c) suggest that an object cannot undergo long-distance scrambling from a conjoined verb phrase in this context.

(51) *a. John-wa [$_{ConjP}$ [Mary-no gakusee-o home] [Bill-no gakusee-o home]]-ta.*
John-TOP Mary-GEN student-ACC praise Bill-GEN student-ACC praise-PAST
'John praised Mary's student and praised Bill's student.'

Movement
b. **Mary-no gakusee-o$_{i,}$ Nancy-wa [John-ga [$_{ConjP}$ [t_i home] [Bill-no gakusee-o*
Mary-GEN student-ACC Nancy-TOP John-NOM praise Bill-GEN student-ACC
home]]-ta to] omot-ta.
praise-PAST C think-PAST
lit. 'Mary's student$_i$, Nancy thought [that John [[praised t_i] and [praised Bill's student]]].'

c. *Bill-no gakusee-o$_i$, Nancy-wa [John-ga [$_{ConjP}$ [Mary-no gakusee-o home]
Bill-GEN student-ACC Nancy-TOP John-NOM Mary-GEN student-ACC praise
[t_i home]]-ta to] omot-ta.
praise-PAST C think-PAST
lit. 'Bill's student$_i$, Nancy thought [that John [[praised Mary's student] and [praised t_i]]].'

Similarly, ellipsis of an object in a conjoined verb phrase is not possible. The ungrammaticality of (52) and (53) indicates that the objects in the first and second verb phrase cannot be elided.[13]

(52) Ellipsis

a. John-wa [$_{ConjP}$ [zibun-no gakusee-o home] [Mary-no gakusee-o home]]-ta kedo,
John-TOP self-GEN student-ACC praise Mary-GEN student-ACC praise-PAST but
'John praised self's student and praised Mary's student, but'

b. *Bill-wa [$_{ConjP}$ [Δ home-zu] [Mary-no gakusee-o home]]-ta.
Bill-TOP praise-NEG Mary-GEN student-ACC praise-PAST
int. 'Bill did not praise self's student and praised Mary's student.'

cf. c. Bill-wa [$_{ConjP}$ [zibun-no gakusee-o home-zu] [Mary-no gakusee-o home]]-ta.
Bill-TOP self-GEN student-ACC praise-NEG Mary-GEN student-ACC praise-PAST
'Bill did not praise self's student and praised Mary's student.'

(53) Ellipsis

a. John-wa [$_{ConjP}$ [Mary-no gakusee-o home] [zibun-no gakusee-o home]]-ta kedo
John-TOP Mary-GEN student-ACC praise self-GEN student-ACC praise-PAST but
'John praised Mary's student and praised self's student, but'

b. *Bill-wa [$_{ConjP}$ [Mary-no gakusee-o home] [Δ (amari) home-nak]]-atta.
Bill-TOP Mary-GEN student-ACC praise not.much praise-NEG-PAST
int. 'Bill praised Mary's student and didn't praise self's student (not much).'

cf. c. Bill-wa [$_{ConjP}$ [Mary-no gakusee-o home] [zibun-no gakusei-o (amari)
Bill-TOP Mary-GEN student-ACC praise self-GEN student-ACC not.much

---

[13] It is not the case that an object in a coordinated verb phrase cannot be null. In (i), for example, the object in the second verb phrase is *pro* which refers to the object in the first verb phrase.

(i) Bill-wa [$_{ConjP}$ [gakko-de musuko-o sikari] [ie-de-wa Δ home]]-ta.
Bill-TOP school-at son-ACC scold home-at-TOP praise-PAST
int. 'Bill scolded his son at school and praised him at home.'

home-nak]]-atta.
praise-NEG-PAST
'Bill praised Mary's student and didn't praise self's student not much.'

The example in (54) is a control for (53), which expresses the same meaning as the intended meaning of (53). In (54), the verb phrases are not coordinated, but rather the first verb phrase is embedded under an adjunct clause and the second verb phrase is the matrix predicate. In this case, the object in the second verb phrase (i.e. matrix verb phrase) can be elided, as shown in (54b). (54c) shows that this object can also undergo movement.

(54) *a. John-wa [Mary-no gakusee-o home-ta ato]-de zibun-no gakusee-o home-ta.*
John-TOP Mary-GEN student-ACC praise-PAST after-at self-GEN student-ACC praise-PAST
lit. 'John praised, after praising Mary's student, self's student.'

b. Ellipsis
Demo Bill-wa [Mary-no gakusee-o home-ta ato]-de Δ home-nak-atta.
but Bill-TOP Mary-GEN student-ACC praise-PAST after-at praise-NEG-PAST
lit. 'But Bill did not praise, after praising Mary's student, Δ.' (sloppy)

c. Movement
Zibun-no gakusee-o$_i$ Nancy-wa [Bill-ga [Mary-no gakusee-o home-ta ato]-de t_i home-ta to] omot-ta.
self-GEN student-ACC Nancy-TOP Bill-TOP Mary-GEN student-ACC praise-PAST after-at praise-PAST C think-PAST
lit. 'Self's student$_i$, Nancy thought that Bill praised, after praising Mary's student, t_i.'

Furthermore, Japanese VP-coordination also shows a parallelism between ellipsis and across-the-board (ATB) movement. Kato (2005) observes that objects in Japanese VP-coordination can undergo long-distance ATB scrambling, as shown in (55).

(55) *a. Nancy$_i$-wa [John-ga [gakkoo-de syasin-o tori] [ie-de syasin-o hensyuusi]-ta to] omot-ta.*
Nancy-TOP John-NOM school-at photo-ACC take home-at photo-ACC edit-PAST C think-PAST
'Nancy thought that John took pictures at school and edited pictures at home.'

b. ATB movement:
Syasin-o$_i$ Nancy-wa [John-ga [gakkoo-de t_i tori] [ie-de t_i hensyuusi]-ta] to
photo-ACC Nancy-TOP John-NOM school-at take home-at edit-PAST C
omot-ta.
think-PAST
lit. 'Pictures$_i$, Nancy thought that John took t_i at school and edited t_i at home.'

Interestingly, the ellipsis counterpart of (55b) is possible. Taking (56a) as an antecedent, (56b) yields a quantificational interpretation.

(56) ATB-style Ellipsis:
a. *10-mai-izyoo-no syasin-o$_i$ John-wa [gakkoo-de t_i tori] [ie-de t_i hensyuusi]-ta.*
10-CL-more-GEN photo-ACC John-TOP school-at take home-at edit-PAST
'More than 10 pictures$_i$, John took t_i at school and edited t_i at home.'

b. Ellipsis:
Bill-mo [gakkoo-de Δ tori] [ie-de Δ hensyuusi]-ta.
Bill-also school-at take home-at edit-PAST
lit. 'Bill also took Δ at school and edited Δ at home.' (quantificational)

Thus, the contrast in the elidability of objects in coordinated VPs between (52/53) and (56) shows that ellipsis of objects in coordinated VPs is possible only in a situation where their overt counterparts can undergo ATB movement. In other words, movability matters to the elidability of objects in coordinated VPs. The observed contrast can be nicely captured under the movement approach to argument ellipsis since ATB movement enables objects to move to the ellipsis licensing position (i.e. the matrix SpecCP).

We have seen in this subsection that ellipsis shows island sensitivity, just like movement. This suggests that an elided element has undergone movement; more precisely, I claim that the movement takes place to the matrix SpecCP.

2.3.2. Upper copy

2.3.2.1. Reflexive

In this subsection, we will see that elided elements can be interpreted higher than their in-situ positions by investigating binding and scope relations. Let us first consider examples with a local anaphor. As shown in (57), movement changes the binding relation of Japanese local anaphors. In (57a), 'herself' is located in the embedded object position and cannot refer to the matrix subject 'Mary,' which shows that 'herself' in Japanese is a local anaphor. However, as can be seen in (57b), when this reflexive undergoes long-distance scrambling, it can refer to the matrix subject 'Mary' (cf. Saito 2003). Note that the binding relation here is established in the intermediate position *t'*. This is because the reflexive can satisfy Condition A while moving to the target position (Saito 2003).

(57) *a.* **Mary-wa [John-ga kanozyozisin-nokeeken-o hanasi-tagar-ana-i to] omot-ta.*
Mary-TOP John-NOM herself-GEN experience-ACC tell-want-NEG-PRES C think-PAST
lit. 'Mary thought that John does not want to tell herself's experience.'

b. Movement
Kanozyozisin-no keeken-o$_i$ Mary-wa [t'$_i$ John-ga t$_i$ hanasi-tagar-ana-i to] omotta.
herself-GEN experience-ACC Mary-TOP John-NOM tell-want-NEG-PRES C thought
lit. 'Herself's experience$_i$, Mary thought that John does not want to tell t$_i$.'

Crucially, even when it undergoes argument ellipsis, an embedded local reflexive can take a matrix subject as its antecedent. This is illustrated in (58).

(58) a. Ellipsis
Nancy-mo [Bill-wa Δ hanasi-tagar-ana-i to] omot-ta.
Nancy-also Bill-TOP tell-want-NEG-PAST C think-PAST
lit. 'Nancy also thought [that Bill does not want to tell Δ].' (strict/ sloppy)

b. **Nancy-mo [Bill-wa kanozyozisin-nokeeken-o hanasi-tagar-ana-i to] omot-ta.*
Nancy-also Bill-TOP herself-GEN experience-ACC tell-want-NEG-PAST C think-PAST
lit. 'Nancy also thought [that Bill does not want to tell herself's experience].'

Taking (57b) as an antecedent, (58a) has a null object position. Importantly, (58a) is grammatical and moreover, it yields a sloppy reading. Note that when the embedded object is pronounced as in (58b),

the sentence is ungrammatical. This suggests that the elided anaphor in (58a) has moved, as in (57b). In other words, what these data show is that the elided element has undergone successive cyclic movement through the intermediate embedded SpecCP, as illustrated in (59).

(59) a. [$_{TP}$ Nancy$_i$ [$_{CP}$ [$_{TP}$ Bill [herself$_i$'s experience] …]]]
b. [$_{TP}$ Nancy$_i$ [$_{CP}$ [herself$_i$'s experience] [$_{TP}$ Bill t …]]
c. [$_{CP}$ [herself$_i$'s experience]$_i$ [$_{TP}$ Nancy$_i$ [$_{CP}$ t [$_{TP}$ Bill t …]]

Here, I crucially assume that the reflexive 'herself' does not undergo vehicle change (Fiengo and May 1994) into a pronoun *her* in order to derive a sloppy reading. If this change happened, the elided object could establish a binding relation with the matrix subject 'Nancy', as in (60).

(60) *Nancy-mo [Bill-wa kanozyo-no keeken-o hanasi-tagar-ana-i to] omot-ta.*
Nancy-also Bill-TOP her-GEN experience-ACC tell-want-NEG-PAST C think-PAST
lit. 'Nancy also thought [that Bill does not want to tell her experience].'

Vehicle Change is often regarded as a change of an R-expression into a pronoun in an ellipsis site. For example, in (61), the second sentence can be interpreted as "John thinks that Sally admires John." If the embedded object in (61) behaved as an R-expression in the ellipsis site, as in (62a), (61) should violate Condition C and should not show the relevant interpretation, contrary to the fact. On the other hand, if an R-expression can become a pronoun as in (62b) (i.e. Vehicle Change), the relevant interpretation can be obtained without violating a binding condition.

(61) Mary admires John$_i$, and he$_i$ thinks Sally does, too.

(62) a. *Mary admires John$_i$ and he$_i$ thinks Sally admires John$_i$, too.
b. Mary admires John$_i$, and he$_i$ thinks Sally admires him$_i$, too.

The question that we address here is whether a reflexive can behave as a pronoun in an ellipsis site. Fiengo and May (1994) argue that it can in some cases. Consider (63), where the antecedent of VP-ellipsis contains a reflexive. According to them, the embedded clause can be interpreted as "Mary believes John to be heroic" when the matrix subject *he* refers to *John*. This situation requires that the

reflexive in the ellipsis site behave like a pronoun, as in (63ii), since if it were still a reflexive, it would violate Condition A, as in (63i).

(63) John$_i$ believes himself to be heroic, and he$_i$ said that Mary does, too. (Fiengo and May 1994, 206)
"John$_i$ believes himself to be heroic, and John$_i$ said that Mary believes John$_i$ to be heroic, too."
(i) *he$_i$ said that Mary believes himself$_i$ to be heroic, too.
(ii) he$_i$ said that Mary believes him$_i$ to be heroic, too.

Thus, there are some cases where a reflexive undergoes Vehicle Change and acts as a pronoun in an ellipsis site. However, note that the situation in (63) is different from the situation in our case. In (63), Vehicle Change applies in order to retain a strict reading. Our concern is whether Vehicle Change can apply in order to obtain a new binding relationship, namely a sloppy reading. Recall that in our case, the antecedent of 'herself' in the antecedent clause is 'Mary' (see 57b), while the antecedent of the elided reflexive is 'Nancy' (58a). Interestingly, Vehicle Change cannot occur in such a case. Consider the English example in (64), where the antecedents of the first reflexive and of the elided reflexive are mismatched (i.e. John and Bob, respectively). Crucially, as the translation indicates, the elided anaphor *himself* cannot refer to the matrix subject in the second clause, namely *Bob*.

(64) John$_i$ believes himself to be heroic, and Bob$_j$ said that Mary does ~~[believe himself to be heroic]~~, too.
"…, and Bob$_j$ said that Mary believes John/*Bob to be heroic, too."
(i) *Bob$_j$ said that Mary believes himself$_{i/j}$ to be heroic, too.
(ii) Bob$_j$ said that Mary believes him$_i$ to be heroic, too. (i.e. strict reading)
(iii) Bob$_j$ said that Mary believes him$_j$ to be heroic, too. (i.e. sloppy reading)

This is unexpected if the elided reflexive were able to undergo Vehicle Change as in (64iii). In other words, this suggests that Vehicle Change cannot be applied to get a new binding relation. Therefore, I conclude that the sloppy reading in (58a) does not come from Vehicle Change but from a binding relation between the elided local anaphor and the matrix subject 'Nancy' established during movement, as in (59).

2.3.2.2. Reciprocal

Movement can also change binding relations of reciprocals. In (65a), the binding requirement of the reciprocal *otagai* is not satisfied and the sentence is ungrammatical. On the other hand, the reciprocal *otagai* is successfully bound when the coordinated objects undergo movement, as illustrated in (65b). Taking (65b) as an antecedent, the object can undergo PF-deletion, as shown in (65c). The grammaticality of (65c) suggests that the elided object moves, just as in (65b). In addition, a sloppy reading can be obtained in (65c). (65c) is compatible with a situation where Nancy made her son's and daughter's teachers criticize them, respectively. Note that if the object is pronounced in its in-situ position, the sentence is ungrammatical, as indicated in (65d).

(65) *a.* **Mary-wa otagai-no sensee-ni [zibun-no musuko to musume-o]*
Maty-TOP each.other-GEN teacher-DAT self-GEN son and daughter-ACC
(nazeka) hihans-ase-ta.
for.some.reason criticize-caus-PAST
lit.'(For some reason,) Mary made each other's teachers criticize [self's son and daughter].'

b. Movement
[Zibun-no musuko to musume-o]$_i$ Mary-wa otagai-no sensee-ni t_i
self-GEN son and daughter-ACC Maty-TOP each.other-GEN teacher-DAT
(nazeka) hihans-ase-ta.
for.some.reason criticize-caus-PAST
lit. '[Self's son and daughter]$_i$, (for some reason,) Mary made each other's teachers criticize t_i.'

c. Ellipsis
Demo, Nansy-wa otagai-no sensee-ni Δ hihans-ase-nak-atta.
but Nany-TOP each.other-GEN teacher-DAT criticize-caus-NEG-PAST
lit. 'But Nancy didn't make each other's teachers criticize Δ.' (strict/ sloppy)

cf. d. **Demo, Nansy-wa otagai-no sensee-ni [zibun-no musuko to musume-o]*
but Nany-TOP each.other-GEN teacher-DAT self-GEN son and daughter-ACC
hihans-ase-nak-atta
criticize-caus-NEG-PAST
lit. 'But Nancy didn't make each other's teachers criticize [her son and daughter].'

2.3.2.3. Scope

Movement of elided elements can also be illustrated with scope relations of quantifiers. Japanese is a so-called scope rigid language, where the scope interaction between a subject and object in canonical sentences tends to be determined based on the surface structure. For example, (66a) yields only the surface reading (∃ > most); it cannot have the inverse reading (most > ∃). However, if the object crosses over the subject clause-internally, the sentence becomes ambiguous, as in (66b) (Hoji 1985; Kuroda 1986).

(66) *a. Mary-wa [dareka-ga sidookyooin-ni hotondo-no sensee-o eran-de-ru to]*
Mary-TOP someone-NOM advisor-DAT most-GEN teacher-ACC choose-TE-PRES C
omot-ta.
think-past
'Mary thought that someone chose most teachers as advisors.' (∃ > most) / *(most > ∃)

b. Movement
Hotondo-no sensee-o$_i$, Mary-ga [t_i dareka-ga sidookyooin-ni t_i eran-de-ru to] omot-ta.
lit. 'Most teachers$_i$, Mary thought [t_i that someone chose t_i as an advisor].' (∃>most)/ (most>∃)

This suggests that movement of the object feeds the "inverse scope" reading (most > ∃). However, it is not the case that scrambling always changes scope interpretations. In (67), the quantified embedded object scrambles over the matrix existential subject, but the "inverse scope" reading (most > ∃) is not possible (Tada 1993).

(67) *Hotondo-no sensee-o$_i$, dareka-ga [t_i Mary-ga sidookyooin-ni t_i eran-de-ru*
most-GEN teacher-ACC someone-NOM Mary-NOM advisor-DAT choose-TE-PRES
to] omot-ta.
C think-PAST
lit. 'Most teachers, someone thought [that Mary chose t as advisors].' (∃>most)/ *(most>∃)

This indicates that scrambling that crosses a finite-clause boundary cannot affect scope interpretation (Saito 1992; Tada 1993, a.o.). In other words, it is movement to the intermediate position that is crucial for the *most* > ∃ reading in (66b).

Interestingly, the "inverse scope" reading can also be obtained when the object is elided (Takahashi 2008a). Taking (66b) as an antecedent, (68a), where the embedded object is elided, exhibits the *most* > ∃ reading, which can be only obtained by movement of the object, as we have just seen in (66). Notice that if the object position is filled by the same object as the antecedent sentence, as in (68b), or the embedded existential subject is elided instead of the embedded object, as in (68c), the sentence cannot show the *most* > ∃ reading.

(68) *Hotondo-no sensee-o$_i$, Mary-ga [t_i dareka-ga sidookyooin-ni t_i eran-de-ru to] omot-ta.* (=66b)
lit. 'Most teachers$_i$, Mary thought [t_i that someone chose t_i as an advisor].' (∃>most)/ (most>∃)

a. John-mo [dareka-ga sidookyooin-ni Δ eran-de-ru to] omot-ta.
John-also someone-NOM advisor-DAT choose-TE-PRES C think-PAST
'John thought that someone chose Δ as an advisor.'(∃ > most / most > ∃)

b. John-mo [dareka-ga sidookyooin-ni hotondo-no sensee-o eran-de-ru to] omot-ta.
John-also someone-NOM advisor-DAT most-GEN teacher-ACC choose-TE-PRES C think-PAST
lit. 'John thought that someone chose most teachers as advisors.' (∃>most / *most>∃)

c. John-mo [Δ sidookyooin-ni hotondo-no sensee-o eran-de-ru to] omot-ta.
John-also advisor-DAT most-GEN teacher-ACC choose-TE-PRES C think-PAST
lit. 'John thought that Δ chose most teachers as advisors.' (∃ > most / *most > ∃)

The possibility of the *most* > ∃ reading in (68a) provides evidence that the elided quantificational object in (68a) has moved and is interpreted in the intermediate position, as in (66b).

2.3.3. Movement-blocking effect

2.3.3.1. Korean ECMed subject

In this subsection, I further support the movement approach to argument ellipsis by showing that in a situation where long-distance scrambling is blocked, argument ellipsis of the relevant element is also impossible.

Consider first the ECM construction in Korean. Yoo (2018) observes that when an embedded subject is assigned accusative by the matrix verb, the clause-mate accusative object cannot cross the accusative-assigned subject. The sentences in (69) are simple sentences, not ECMs. In this case, the embedded object can undergo long-distance scrambling across the nominative-marked embedded subject. On the other hand, in ECM constructions, where the embedded subject is assigned accusative, the internal argument cannot cross the embedded subject, as shown in (70).

(69) Non-ECM

*a. John-un [Mary-**ka** caki-uy cinkwu-ul ttaylyessta-ko] sayngkakhayss-ta.*
John-TOP Mary-**NOM** self-GEN friend-ACC hit-C thought-DECL
'John thought that Mary$_{NOM}$ hit her friend.'

b. Movement
*Cinkwu-ul$_i$ John-un [Mary-**ka** t_i ttaylyessta-ko] sayngkakhayss-ta.*
friend-ACC John-TOP Mary-**NOM** hit-C thought-DECL
'a friend, John thought that Mary$_{NOM}$ hit t.'

(70) ECM

*a. John-un [Mary-**ul** caki-uy cinkwu-ul ttaylyessta-ko] sayngkakhayss-ta.*
John-TOP Mary-**ACC** self-GEN friend-ACC hit-C thought-DECL
'John thought that Mary$_{ACC}$ hit her friend.'

Movement:

*b. *John-un [cinkwu-ul$_i$ Mary-**ul** t_i ttaylyessta-ko] sayngkakhayss-ta.*
John-TOP friend-ACC Mary-**ACC** hit-C thought-DECL
'a friend, John thought that Mary$_{ACC}$ hit t.'

*c. *Cinkwu-ul$_i$ John-un [Mary-**ul** t_i ttaylyessta-ko] sayngkakhayss-ta.*
friend-ACC John-TOP Mary-**ACC** hit-C thought-DECL
'a friend, John thought that Mary$_{ACC}$ hit t.'

Yoo (2018) argues that the accusative-marked subject, but not the nominative-marked subject, in Korean ECMed clause is base-generated in the SpecCP position (see also Taguchi 2009; Saito 2018; Bošković to appear), and it is this ECMed subject that blocks long-distance movement of the internal argument. Interestingly, argument ellipsis of the internal object is also blocked by the ECMed subject.

In (71a), the embedded subject is marked with nominative (i.e. non-ECM construction), and the embedded object can undergo ellipsis (Kim 1999). Crucially, however, when the embedded subject is marked with accusative (i.e. ECM construction), as in (71b), the embedded object cannot get elided.

(71) Ellipsis (antecedent: 69a and 70a, respectively)

*a. Bill-un [Sue-**ka** Δ ttaylyessta-ko] sayngkakhayss-ta.*
Bill-TOP Sue-**NOM** hit-C thought-DECL
int. 'Bill thought that Sue_{NOM} hits her friend.'

*b. *Bill-un [Sue-**ul** Δ ttaylyessta-ko] sayngkakhayss-ta.*
Bill-TOP Sue-**ACC** hit-C thought-DECL
int. 'Bill thought that Sue_{ACC} hits her friend.' (p.c. YongSuk Yoo)

Given that the embedded object in principle can undergo ellipsis, as in (71a), the impossibility of argument ellipsis in (71b) should come from an interaction between the accusative-marked subject and the elided object. The movement approach to argument ellipsis provides an account for it: the embedded object under the accusative-marked subject cannot be elided since movement to the licensing position (i.e. the matrix SpecCP) is blocked by the accusative subject, as shown by (70b-c).[14]

---

[14] The grammaticality status of Japanese counterparts of (70) is somewhat controversial in the literature. Hiraiwa (2001) judged (ib) as grammatical (cf. 70b), whereas Kaneko (1988) and Tanaka (1992) treated sentences like (ic) as marginal. Kaneko (1988) also reported some speaker variation on examples like (ic).

(i) *a. John-wa [Mary-o sono sigoto-ni muite-na-i to] omot-ta.*
John-TOP Mary-ACC that job-DAT suitable-NEG-PRES C think-PAST
'John thought that Mary_{ACC} is not suitable for that job.'

b. John-wa [sono sigoto-ni$_i$ Mary-o t_i muite-na-i to] omot-ta.
lit. 'John thought that for that job_i, Mary_{ACC} is not suitable t_i.' (Hiraiwa 2001, 72)

c. Sono sigoto-ni$_i$ John-wa [Mary-o t_i muite-na-i to] omot-ta.
lit. 'For that job_i, John thought that Mary_{ACC} is not suitable t_i.'

I found that the ellipsis counterpart of (i) allows a sloppy reading, as shown in (ii), but found both movement and ellipsis of the internal argument to be impossible with other examples like (iii).

(ii) a. *John$_i$-wa [Mary-**o** zibun$_i$-no hisho-ni muitei-ru to] omot-ta kedo,*
John-TOP Mary-**ACC** self-GEN secretary-DAT suitable-PRES C think-PAST but
'John thought that Mary_{ACC} is suitable for his secretary, but'

One may consider that the issue in (71b) is caused by a processing difficulty. Since the embedded subject 'Sue' has an accusative particle in (71b), which is normally attached to objects, it is easier to interpret it as the object of the embedded clause. However, note that even when a verb that takes an inanimate object is used, an accusative animate phrase cannot be interpreted as an embedded subject, as in (72).

(72) *a. John-un [Mary-lul chayk-ul ilknunta-ko] sayngkakhayssta.*
John-TOP Mary-ACC book-ACC read-C thought
'John thought that Mary reads books.'

b. Ellipsis
* *Bill-un [Sue-lul Δ ilknunta-ko] sayngkakhayssta.*
Bill-TOP Sue-ACC read-C thought
lit. 'Bill thought that Sue reads Δ.'

Thus, the impossibility of argument ellipsis under the accusative-marked subject cannot be attributed just to a processing difficulty.

---

b. Ellipsis
*Bill-wa [Mary-**o** Δ muitei-ru to] omow-anak-atta.*
Bill-TOP Mary-**ACC** suitable-PRES C think-NEG-PAST
'Bill didn't think that Mary$_{ACC}$ is suitable Δ.' (sloppy)

(iii) a. *John$_i$-wa [Mary-**o** zibun$_i$-no kodomo-ni kibisi-i to] omot-ta kedo,*
John-TOP Mary-**ACC** self-GEN child-DAT strict-PRES C think-PAST but
'John thought that Mary$_{ACC}$ is strict to his child, but'

b. Movement
{Kodomo-ni}$_i$ John$_i$-wa [{kodomo-ni}$_i$ Mary-o** t_i kibisi-i to] omot-ta.*
child-DAT John-TOP child-DAT Mary-**ACC** strict-PRES C think-PAST
lit. '{To his child}$_i$ John thought that {to his child}$_i$ Mary$_{ACC}$ is strict t_i.'

c. Ellipsis
*Bill-wa [Mary-**o** Δ kibisi-i to] omow-anak-atta.*
Bill-TOP Mary-**ACC** strict-PRES C think-NEG-PAST
'Bill didn't think that Mary$_{ACC}$ is strict Δ.' (*sloppy)

I will leave for future research to determine the exact status of movement and ellipsis for the embedded internal argument of Japanese ECM constructions.

2.3.3.2. Long-distance scrambled items

It has been known that a long-distance scrambled element prevents another element in a different clause from moving across it (Boeckx and Sugisaki 1999; Hiraiwa 2010). In (73b), the matrix indirect object crosses the long-distance scrambled object, and as a result, the sentence is ungrammatical. On the other hand, as shown in (74b), a middle-scrambled element does not block long-distance scrambling.

(73) *a. John-wa zibun-no zyoosi-ni [syatyo-ga kikakusho-o zessansi-ta to] it-ta kedo*
John-TOP self-GEN boss-DAT president-NOM proposal-ACC praise-PAST C say-PAST but
'John told his boss that the president praised the business proposal, but'

b. Long-distance scrambling blocking middle scrambling:

*
?* *[Zibun-no zyoosi-ni]$_i$ [kikakusho-o]$_j$ John-wa t_i [syatyo-ga t_j zessansi-ta to] itta.*

self-GEN boss-DAT proposal-ACC John-TOP president-NOM praise-PAST C said
lit. 'Self's boss$_i$, the business proposal$_j$, John told t_i that the president praised t_j.'

(74) *a. John-wa minna-ni [somurie-ga zibun-no wain-o zessansi-ta to] itta kedo*
John-TOP everyone-DAT sommelier-NOM self-GEN wine-ACC praise-PAST C said but
lit. 'John told everyone that a sommelier praised self's wine, but'

b. Middle scrambling + long-distance scrambling

OK
[Zibun-no wain-o]$_i$ [minna-ni]$_j$ John-wa t_j [somurie-ga t_i zessansi-ta to] it-ta.

self-GEN wine-ACC everyone-DAT John-TOP sommelier-NOM praise-PAST C say-PAST
lit. 'Self's wine$_j$, everyone$_i$, John told t_i that a sommelier praised t_j.'

It is then predicted under the movement approach to argument ellipsis that long-distance scrambling, but not middle scrambling, will block argument ellipsis in the same way. This prediction is indeed borne out. In (75a), the embedded object undergoes long-distance scrambling, and the matrix indirect object is null. Importantly, (75a) does not have a sloppy reading, indicating the impossibility of

argument ellipsis here. Notice that when the embedded object stays in-situ, as in (75b), a sloppy interpretation of the matrix indirect object is possible.

(75) Ellipsis (antecedent: 73a)

a. Kikakusho-o$_i$ Bill-wa Δ [shacho-ga t_i zessansi-ta to] iw-anak-atta.
proposal-ACC Bill-TOP president-NOM praise-PAST C say-NEG-PAST
lit. 'The business proposal$_i$, Bill told Δ that the president praised t_i.' (*sloppy)

cf. b. Bill-wa Δ [shacho-ga kikakusho-o zessansi-ta to] iw-anak-atta.
Bill-TOP president-NOM proposal-ACC praise-PAST C say-NEG-PAST
lit. 'Bill told Δ that the president praised the business proposal.' (sloppy)

On the other hand, as predicted, a middle-scrambled element can cooccur with argument ellipsis, as shown in (76). Taking (74a) as an antecedent, the embedded object undergoes ellipsis. Crucially, in this case, the sentence can have a sloppy reading.

(76) Ellipsis (antecedent: 74a)

Minna-ni$_i$ Bill-wa t_i [somurie-ga Δ zessansi-ta to] iw-anak-atta.
everyone-DAT Bill-TOP sommelier-NOM praise-PAST C say-NEG-PAST
lit.'Everyone$_i$, Bill told t_i that a sommelier praised Δ.' (sloppy)

The contrast between (75a) and (76) thus indicates that an element affected by argument ellipsis must undergo movement to the matrix SpecCP (i.e. the edge of the root clause). This movement is blocked by a long-distance scrambled element in (75a) in the same way as in (73b). However, movement of the embedded object in (76) is not blocked, as in (74b).

2.4. Summary

We have seen in this chapter that argument ellipsis attested in Japanese and Korean involves overt movement to the matrix SpecCP, prior to ellipsis. I have shown that the distribution of argument ellipsis correlates with its overt movement counterpart. In other words, the (im)possibility of argument ellipsis depends not on whether the affected element is an argument or not, but rather on whether it can undergo overt movement or not. The proposed movement approach to argument ellipsis thus captures the

distribution of argument ellipsis, which has not been paid attention to in the literature beyond the argument-adjunct distinction. I have also shown that argument ellipsis exhibits island sensitivity and movement-blocking effects; it also changes binding and scope relations, in fact in the same way as movement does. Importantly for our purposes, the existence of overt movement in the derivation of ellipsis supports the PF-deletion approach to argument ellipsis, which assumes the presence of full-fledged structures of elided elements in overt syntax. Under the LF-copy approach, however, the existence of overt movement with elided elements cannot be accounted for since the elided element is present only in LF under this approach. The correlation between ellipsis and movability established in this chapter thus quite strongly favors the PF-deletion approach over the LF-copy approach. We will see additional arguments for the PF-deletion approach to argument ellipsis and against the LF-copy approach in Chapter 3.

Chapter 3

Against the LF-Copy Approach to Argument Ellipsis

3.1. Introduction

We have seen so far that argument ellipsis in Japanese and Korean involves overt movement of phrases to be elided to the matrix SpecCP. (1) illustrates an example of argument ellipsis of a clausal complement, and (2) its derivation under the proposed movement approach. Taking (1a) as an antecedent, the CP complement of the verb 'say' is missing in (1b). Under the movement approach, the embedded clause first undergoes movement to the matrix SpecCP and then gets elided, as in (2).

(1) a. *John-wa [ronbun-ga zyaanaru-ni not-ta to] it-ta.*
John-TOP paper-NOM journal-DAT appear-PAST C say-PAST
'John said that the paper appeared in a journal.'

b. *Bill-wa Δ iw-anak-atta.*
Bill-TOP say-NEG-PAST
lit. 'Bill didn't say Δ.'

(2) Proposal:
a. Subj [$_{CP}$ Subj Obj V] V
b. [$_{CP}$ Subj Obj V] Subj t_{CP} V
c. PF: ~~[$_{CP}$ Subj Obj V]~~ Subj t_{CP} V

This approach requires the presence of full-fledged structure of elided elements in overt syntax, and hence supports the PF-deletion approach to ellipsis. It has however been argued in the literature that an element affected by argument ellipsis does not have full structure in overt syntax, which was taken to support the LF-copy approach to ellipsis (Shinohara 2006; Saito 2007; 2017; Takita 2010; Sakamoto 2016c; 2017; 2019; 2020).

(3) LF-copy:
Antecedent clause: Subj [$_{CP}$ Subj Obj V] V
a. Overt Syntax: Subj Δ V
b. LF: Subj [$_{CP}$ Subj Obj V] V *copy*

Under this approach, a missing element is generated only at LF by being copied from a linguistic context without its LF-uninterpretable features such as phonological features.

The goal of this chapter is to provide further evidence for the existence of full-fledged structure in the argument ellipsis site, thereby supporting the PF-deletion approach to argument ellipsis. The organization of this chapter is as follows. In Section 3.2, I first review an empirical argument for the LF-copy approach originally observed by Shinohara (2006) and developed by Saito (2007) and Sakamoto (2016c; 2017; 2019; 2020), which is that overt extraction out of an argument ellipsis site is impossible. I will show that overt extraction out of an argument ellipsis site is actually possible in certain cases. In addition, I will show that the contrast between the possible and impossible cases can be nicely captured under the proposed movement approach to argument ellipsis. In Section 3.3, I show that elided elements obey certain morpho-syntactic restrictions, which also indicates the presence of overt information with elided elements. Section 3.4 points out that the LF-copy approach requires special assumptions regarding the syntax of elliptical constructions that are not needed under the PF-deletion approach, which makes the PF-deletion approach conceptually more appealing. Section 3.5 summarizes this chapter.

3.2. (Im)possibility of Overt Extraction out of Argument Ellipsis Sites

3.2.1. Impossible cases

It has been reported that overt extraction out of an argument ellipsis site is not possible in Japanese (Shinohara 2006; Saito 2007; Tanaka 2008; Cheng 2013; Kasai 2014; Sakamoto 2016c; 2017; 2019; 2020). This has been regarded as an empirical argument for the LF-copy approach to argument ellipsis. First, consider this point with scrambling. In (4), the embedded object is extracted out of a finite clausal

object in both the antecedent and argument ellipsis clause. Crucially, only the latter is ungrammatical (Shinohara 2006). Notice that ellipsis of the relevant clause without extraction is in principle possible, as in (4c), which suggests that it is not the extraction in the antecedent clause that causes the impossibility of argument ellipsis here.

(4) Scrambling:

a. *Sono-hon-o$_i$ Taro-wa [$_{CP}$ Hanako-ga t_i kat-ta to] it-ta si,*
this-book-ACC Taro-TOP Hanako-NOM buy-PAST C say-PAST and
lit. 'This book$_i$, Taro said that Hanako bought t_i.'

b. **Sono-hon-o Ziroo-mo Δ it-ta.*
this-book-ACC Ziro-also say-PAST
lit. 'This book, Ziro also said Δ.' (Saito 2007, 210)

cf. c. *Ziroo-mo Δ it-ta.*
Ziro-also say-PAST
lit. 'Ziro also said Δ.'

This point holds even when there is no extraction in the antecedent sentence. This is the case in (5a). The ungrammaticality of (5b) then indicates that argument ellipsis cannot target a clause from which an element is scrambled out.

(5) Scrambling:

a. *Taroo-wa [$_{CP}$ Hanako-ga ie-de benkyoo-si-te-ru to] it-ta.*
Taro-TOP Hanako-NOM home-in study-do-TE-PRES C say-PAST
lit. 'Taro said that Hanako is studying at home.'

b. **Eego-o* pro *Δ it-ta.*
English-ACC he say-PAST
lit. 'English, (he) said Δ.'

cf. c. *Eego-o$_i$* pro [$_{CP}$ *Hanako-ga ie-de t_i benkyoo-si-te-ru to] it-ta.*
English-ACC he Hanako-NOM home-in study-do-TE-PRES C say-PAST
lit. 'English, (he) said that Hanako is studying t at home.'

A somewhat similar case of ellipsis is *sprouting*-type sluicing in English, like (6), where there is no correlate of the extracted *wh*-phrase in the antecedent clause (Chung, Ladusaw, and McCloskey 1995). The sentence is, however, grammatical, unlike (5).

(6) She's reading. I can't imagine what Δ.

The ungrammaticality of (5b) thus essentially indicates that a scrambled element cannot undergo so-called *sprouting* into the argument ellipsis site.

The above cases involve A'-scrambling out of an ellipsis site. Kasai (2014) investigates whether an element can be extracted out of an argument ellipsis site via A-scrambling. It is well-known that scrambling out of a finite clause and scrambling out of a non-finite clause exhibit different properties, namely, the former is A'-movement and the latter can be A-movement (Saito 1985; 1992; Nemoto 1993). This contrast is illustrated with binding of a reciprocal anaphor *otagai* 'each other' in (7) (Nemoto 1993). (7a) is a straightforward violation of Condition A. In (7b), the embedded object extracted out of a finite clause moves to the sentence-initial position but apparently fails to bind the reciprocal in the matrix clause. This means that this scrambling cannot be A-movement; rather it is A'-movement (Saito 1992). (7c), on the other hand, shows that an embedded object extracted out of a non-finite clause can successfully bind the reciprocal. This kind of scrambling thus exhibits properties of A-movement.

(7) a. ?**Otagai-no* *sensee-ga* *karera-o* *hihan-si-ta.*
each.other-GEN teacher-NOM they-ACC criticize-do-PAST
'Each other's teachers criticized them.'

b. **Karera-o*$_i$ *otagai-no* *sensee-ga* *[Haru-ga* t_i *hihan-si-ta* *to]* *it-ta.*
they-ACC each.other-GEN teacher-NOM Haru-NOM criticize-do-PAST C say-PAST
lit. 'Them$_i$, each other's teachers said [that Haru criticized t_i].'

c. *Karera-o*$_i$ *Natsu-ga* *otagai-no* *sensee-ni* *[PRO* t_i *hihansuru* *yooni]* *tanon-da.*
they-ACC Natsu-NOM each.other-GEN teacher-DAT criticize C ask-PAST
lit. 'Them$_i$, Natsu asked each other's teachers to criticize t_i.'

Consider then the examples in (8), where the embedded clause is a non-finite clause, and the embedded object undergoes A-scrambling to the sentence-initial position. Kasai (2014) finds that scrambling out of an elided non-finite clause is not possible, as in (8b). Note that ellipsis of such a clause is in principle possible, as in (8c).

(8) a. *Kuruma-no omotya-o$_i$ Hanako-wa Taro-ni [$_{CP}$ PRO t_i katazukeru yooni] meezi-ta.*
car-GEN toy-ACC Hanako-TOP Taro-DAT put.away C order-PAST
lit. 'Car toys$_i$, Hanako ordered Taro [to put away t_i].'

b. **Densya-no omotya-o pro Ziro-ni Δ meezi-ta.*
train-GEN toy-ACC Ziro-DAT order-PAST
lit. 'Train toys, she ordered Ziro Δ.'

cf. c. *Demo, pro Ziro-ni-wa Δ meezi-nak-atta.*
but Ziro-DAT-TOP order-NEG-PAST
'But she didn't order Ziro [to put away car toys].'

This thus shows that scrambling cannot extract an element out of an argument ellipsis site whether or not the relevant movement is A-scrambling or A'-scrambling.

The ban on overt extraction out of an argument ellipsis site is also observed in Japanese ECM constructions, where an embedded subject gets accusative, as in (9) (Tanaka 2008; Sakamoto 2016c; 2017; 2019; 2020). It has been argued that this subject can undergo raising from the embedded CP to the matrix object position (Kuno 1976; Hiraiwa 2001; Tanaka 2002, a.o). In (9a), the embedded accusative subject precedes a matrix adverb *orokanimo* 'stupidly,' which confirms that it has moved into the matrix clause. Taking (9a) as an antecedent, the remnant embedded clause, from which raising takes place, gets elided in (9b), and the sentence is ungrammatical.

(9) a. *Taro-ga Hanako-o$_i$ orokanimo [$_{CP}$ t_i tensai da to] omotta.*
Taro-NOM Hanako-ACC stupidly genius COP C thought
lit. 'Taro stupidly thought, Hanako$_i$, [that t_i is a genius].'

b. **Sachiko-wa Ziroo-o orokanimo Δ omotta.*
Sachiko-TOP Ziro-ACC stupidly thought
lit. 'Sachiko stupidly thought, Ziro, Δ.' (Tanaka 2008, 21: slightly modified)

cf. c. *Sachiko-wa Δ omow-anak-atta.*
Sachiko-top think-neg-past
lit. 'Sachiko did not think Δ.' = 'Sachiko did not think [that Hanako is a genius].'

This shows that the embedded subject cannot undergo raising from the ellipsis site to the matrix object position.

The same point can be seen with so-called *pseudoraising* constructions (Takahashi and Uchibori 2003; cf. Takezawa 1993). In (10a), the embedded subject has been extracted out of the embedded clause and moved to the matrix position. The existence of the matrix adjunct *anotoki* 'at that time' following the embedded subject suggests that this subject is located in the matrix clause. (10b) shows that argument ellipsis cannot target the remnant CP from which the embedded subject is extracted (Sakamoto 2017).

(10) a. *Fujiko-ni-wa Yawara-ga$_i$ ano-toki [$_{CP}$ t_i kinmedaru-o toru to] omoeta.*
Fujiko-DAT-TOP Yawara-NOM that-time gold.medal-ACC take C seemed
lit. 'Yawara$_i$ seemed to Fujiko at that time [that t_i would win a gold medal].'

b. **Kuniko-ni-wa Sayaka-ga ano-toki Δ omoeta.*
Kuniko-DAT-TOP Sayaka-NOM that-time seemed
lit. 'Sayaka$_i$ seemed to Kuniko at that time Δ.'

This again shows that raising out of an argument ellipsis site is disallowed.

The impossibility of overt extraction out of an argument ellipsis site gains further support from left-branch extraction of genitive PPs (Sakamoto 2017). In Japanese, left-branch extraction is generally banned, as shown in (11).

(11) a. **Ookii Taroo-wa [$_{DP}$ t_i ie]-o kat-ta.*
big Taro-TOP house-ACC buy-PAST
lit. 'Big, Taro bought [t_i house].'

b. **Hanako-no$_i$ Taroo-wa [$_{DP}$ t_i sensee]-ni at-ta.*
Hanako-GEN Taro-TOP teacher-DAT meet-PAST
lit. 'Hanako's$_i$, Taro met [t_i teacher].'

Takahashi and Funakoshi (2013) however observe that if an extracted element is a *wh*-genitive PP, left-branch extraction is possible in Japanese (see Shiobara 2016 and Arano and Oda 2019 for more discussion of this phenomenon).

(12) *Dare-kara-no$_i$ Taroo-ga [$_{DP}$ t_i tegami]-o sute-ta no?*
who-from-GEN Taro-NOM letter-ACC discard-PST Q
lit. 'From who$_i$ Taro discarded [a letter t_i]?' (Takahashi & Funakoshi 2013: 237)

Based on this finding, Sakamoto (2017) observes that left-branch extraction cannot occur from the ellipsis site. In (13a), the *wh*-genitive PP is extracted out of the object. In (13b), the remnant DP gets unpronounced, which makes the sentence ungrammatical.

(13) a. *Dare-kara-no$_i$ Taroo-wa [$_{DP}$ t_i tegami]-o yon-da no? - Bill da yo.*
who-from-GEN Taro-TOP letter-ACC read-PAST Q Bill COP PRT
lit. 'From who$_i$ Taro read [a letter t_i]? - Bill.'

b. **Zyaa, dare-kara-no$_i$ Hanako-wa Δ yon-da no?*
then who-from-GEN Hanako-TOP read-PAST Q
lit. 'Then, from who$_i$ Ziro read Δ?' (Sakamoto 2019, 113-114)

So far, we have seen that overt extraction out of an argument ellipsis site is not possible. Sakamoto (2016c; 2017; 2019; 2020) supports this generalization by showing that if movement does not affect word order as in the case of quantifier raising and null operator movement, the relevant element can be extracted out of an argument ellipsis site. (14) illustrates this point with quantifier raising of a focus particle *dake* 'only' (Shoji 1986; Harada and Noguchi 1992; Aoyagi 1998; Sano 2001; Takahashi 2010; cf. Futagi 2004).[1] (14a) is ambiguous in terms of whether *dake* 'only' takes scope over the matrix

[1] There are some confounding factors in Sakamoto's (2017) original examples that demonstrate the possibility of quantifier raising out of an argument ellipsis site. His argument is based on scope ambiguity in sentences like (i) and (ii).

negation or not.[2] Taking (14a) as an antecedent, the non-finite complement clause undergoes argument ellipsis in (14b).

(i) *Taroo-ga [$_{CP}$ Tokyo-no-yooni subete-no mati(-no-koto)-o nigiyaka da to] iwanakatta.*
Taro-NOM Tokyo-GEN-like all-GEN city-GEN-thing-ACC lively COP C not.said
'Taro did not say [$_{CP}$ that all the cities are lively like Tokyo].' (NEG > all)/ (all > NEG)
(Sakamoto 2019, 117)

(ii) *John-wa [$_{CP}$ Mary-ga sinabita ringo-sae tabeta to] omotteiru.*
John-TOP Mary-NOM wilted apple-even ate C think
'John thinks [$_{CP}$ that Mary ate even a wilted apple].' (Sakamoto 2020, 83; Aoyagi 1994, 25)
embedded scope: 'John thinks that Mary ate a wilted apple in addition to some other thing (i.e. a wilted apple is the least likely thing for Mary to eat).'
matrix scope: 'Even for a wilted apple, John has an idea that Mary ate it in addition to some other idea about some other things (i.e. a wilted apple is the least likely thing for John to think that Mary ate it).'

As for (i), it is not clear whether one can logically determine if the inverse scope interpretation is possible with the sentence since the surface scope interpretation (NEG > all) is entailed by the inverse scope interpretation (all > NEG).

In (ii), he considers two scope interpretations of *sae* 'even', matrix scope and embedded scope, following Aoyagi (1994), but (ii) has another interpretation, where *sae* 'even' takes an intermediate scope: 'John has an idea that Mary ate a wilted apple in addition to some other idea (i.e. a proposition that Mary ate a wilted apple is the least likely thing for John to think).' This intermediate scope interpretation can be obtained when *sae* 'even' is attached to the embedded clause, as in (iii).

(iii) *John-wa [$_{CP}$ Mary-ga sinabita ringo-o tabeta to]-sae omotteiru.*
John-TOP Mary-NOM wilted apple-ACC ate C-even think
'John thinks even [$_{CP}$that Mary ate a wilted apple].'

Importantly, the intermediate scope interpretation does not require *sae* 'even' to be extracted out of the embedded clause. Given the possibility of this interpretation in (ii), it is not clear that (ii) indeed has the matrix scope interpretation (where *sae* 'even' is extracted out of the embedded clause) that would be readily distinguished from the intermediate scope reading. I thus avoid using examples like (i) and (ii) to show the possibility of covert extraction out of an argument ellipsis site.

[2] I here use a non-finite complement clause in (14) since quantifier raising of *dake* 'only' is known to be clause-bound, as shown by (i) (Sano 2001; Takahashi 2010).

(i) *John-wa Bill-ni [pro uisukii-dake(-o) nomu to] iw-anak-atta.*
John-TOP Bill-DAT whisky-only-ACC drink C say-NEG-PAST
'John did not tell Bill that he would drink only the whisky.' (*only > NEG)/ (NEG > only)

(14) a. *John-wa Bill-ni [PRO uisukii-dake nomu yoo] meezi-nak-atta.*
John-TOP Bill-DAT whisky-only drink C order-NEG-PAST
'John did not order Bill to drink only the whisky.' (only > NEG)/ ?(NEG > only)
(only > NEG): [John ordered Bill to drink all the drinks except the whisky]
it is only the whisky that John did not order Bill to drink.
(NEG > only): [John ordered Bill to drink the whisky with chaser]
it is not the case that John ordered Bill to drink only the whisky.

b. *pro Mary-ni-mo Δ meezi-nak-atta.*
Mary-DAT-also order-NEG-PAST
lit. 'He did not order Mary Δ, either.' (only > NEG)/ ?(NEG > only)

c. *#pro Mary-ni-mo sore-o meezi-nak-atta.*
Mary-DAT-also it-ACC order-NEG-PAST
'He did not order Mary so, either.'

Sakamoto (2017) argues that the possibility of the wide scope reading (only > NEG) in (14b) shows that covert extraction out of an argument ellipsis site is possible. The overt pronominal counterpart in (14c) is unacceptable in the situations described in (14a) for the *only* > *NEG* and *NEG* > *only* interpretations since the pronoun *sore* 'it' in (14c) refers to something that John ordered Bill NOT to do although there is no such thing in the situations. The unacceptability of (14c) thus also indicates that the null complement in (14b) is not derived from *pro* but through argument ellipsis.

Sakamoto (2017) also investigates whether a null operator can be extracted out of an argument ellipsis site. One construction he examines is comparative deletion, shown in (15) (Kikuchi 1987; Ishii 1991; Watanabe 1992; 2003, a.o). In (15a), the object in the comparative clause is missing. This construction has been analyzed as involving null operator movement, the object being a trace of that movement. Kikuchi (1987) in fact points out that an overt element cannot appear in the null position, as illustrated in (15b).

(15) a. *John-wa [Mary-ga e_i mot-te-i-ru yori](-mo) takusan-no hon_i-o motteiru.*
John-TOP Mary-NOM have-TE-be-PRES than-also many-GEN book-ACC have
'John has more books than Mary has.' (Kikuchi 1987,2: slightly modified)

b. **John-wa [Mary-ga hon-o motteiru yori](-mo) takusan-no hon-o motteiru.*
John-TOP Mary-NOM book-ACC have than-also many-GEN book-ACC have
lit. 'John has more books than Mary has books.' (Kikuchi 1987,4: slightly modified)

Importantly, the following paradigm illustrates that comparative deletion is sensitive to the presence of an island (Kikuchi 1987; Watanabe 1992).

(16) a. *[[[John-ga e_i yon-da to] iw-are-te-i-ru yori(mo)]*
John-NOM read-PAST C say-PASS-TE-be-PRES than
Mary-wa takusan-no hon_i-o yon-de-i-ta.
Mary-TOP many-GEN book-ACC read-TE-be-PAST
'Mary had read more books than it is said that John read.'
(Kikuchi 1987, 6: slightly modified)

b. **[Paul-ga [$_{NP}$ [$_{Relative}$ e_i e_j yon-da] $hito_i$]-ni at-ta yori(mo)]*
Paul-NOM read-PAST person-DAT meet-PAST than
John-ga takusan-no hon_j-o yon-da.
John-NOM many-GEN book-ACC read-PAST
'John read more books than Paul met a man who read.' (Watanabe 1992, 276)

In (16a), the gap is embedded in a declarative complement and the sentence is acceptable. On the other hand, the sentence becomes deviant when the gap is embedded in a complex NP island, as in (16b). Based on island sensitivity, Kikuchi claims that the comparative deletion construction involves null operator movement from the gap to the edge of the comparative clause, as illustrated in (17) (see Kikuchi 1987 and Watanabe 1992 for another test for null operator movement concerning parasitic gap licensing).

(17) [$_{PP}$ [$_{CP}$ OP_i [$_{IP}$ … t_i …]] *yori*]

Adopting Kikuchi's analysis of comparative deletion, Sakamoto (2017) demonstrates that a null operator can be extracted out of an argument ellipsis site, as shown in (18). In (18a), the gap is embedded in a declarative complement in the comparative clause. In (18b), the declarative clause undergoes argument ellipsis.

(18) [The speaker conveys the number of Japanese books Bill read comparing Taroo's and Hanako's guesses on how many Japanese books John read.]

a. *[$_{PP}$ OP$_i$ [$_{CP}$ John-ga t_i yonda to] Taroo-ga t_{CP} itteru yori(mo)]*
John-NOM read C Taro-NOM be.saying than
Bill-wa takusan nihongo-no hon-o yondeiru yo.
Bill-TOP many Japanese-GEN book-ACC read PRT
'Bill read more Japanese books than [OP$_i$ Taro said [that John read t_i]].'

b. *Mottoiuto, [$_{PP}$ OP$_j$ Hanako-ga Δ itteru yori(mo)] takusan*
furthermore Hanako-NOM be.saying than many
nihongo-no hon-o yondeiru yo.
Japanese-GEN book-ACC read PRT
'Furthermore, he read more Japanese books than [OP$_j$ Hanako said ~~[that John read t_j]~~].'

The acceptability of (18b) then shows that a null operator can be extracted out of an elided complement clause.[3]

So far, we have seen that scrambling, raising and left-branch extraction cannot extract an element out of an argument ellipsis site, but quantifier raising and null operator movement can. Based on this, Sakamoto (2017) argues that overt extraction out of an argument ellipsis site is in general impossible whereas covert extraction (i.e. extraction that does not affect word order) is possible. He then provides

---

[3] Sakamoto (2016a) observes that a null operator can be extracted out of an argument ellipsis site with a propositional "proform" *soo*, as in (i).

(i) (18a: antecedent)
*[$_{PP}$ OP$_j$ Hanako-ga Δ **soo** itteru yori(mo)] takusan nihongo-no hon-o yondeiru yo.*
Hanako-NOM this be.saying than many Japanese-GEN book-ACC read PRT
'he read more Japanese books than [OP$_j$ Hanako said ~~[that John read t_j]~~].'

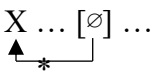
Following Sakamoto (2016a), I assume that (i) is derived from (ii) by eliding the finite clause selected by *soo*.

(ii) *[$_{PP}$ OP$_j$ Hanako-ga [$_{XP}$ [$_{CP}$ John-ga t_j yon-da to] **soo**] itteru yori(mo)] takusan*
Hanako-NOM John-NOM read-PAST C this be.saying than many
nihongo-no hon-o yondeiru yo.
Japanese-GEN book-ACC read PRT
'he read more Japanese books than [OP$_j$ Hanako said [that John read t_j]].'

See Sect. 3.2.2. for overt extraction out of an argument ellipsis site with *soo*.

an account of this state of affairs under the LF-copy approach to argument ellipsis.[4] He argues that argument ellipsis does not involve internal structure of the affected element in overt syntax, as is in fact assumed under the LF-copy approach, and thus no overt extraction can take place out of an argument ellipsis site. In contrast, covert movement is possible out of an argument ellipsis site after LF-copying takes place.[5] This LF-copy account is schematically illustrated in (19).

(19) a. Extraction in overt syntax:



b. Extraction at LF:

It should be pointed out that in order to make his argument work, Sakamoto (2017) departs from other approaches that adopt LF-copying (Chung, Ladusaw, and McCloskey 1995; Fortin 2007; 2011) in that he assumes that it is not possible to relate the remnant of ellipsis with the position where it is interpreted, which is created after LF-copying, via a non-movement mechanism (cf. in this respect, see Chung et al.'s (1995) Merger and Sprouting).

However, the proposed movement approach to argument ellipsis can also provide an account of the impossibility of overt extraction out of an argument ellipsis site under the PF-deletion approach, as it is implemented in this dissertation. In order to elide an element from which overt extraction takes place under the movement approach, the remnant clause first has to undergo movement to the matrix SpecCP. Importantly, this movement independently causes a violation.

---

[4] Shinohara's (2006) original account regarding the impossibility of long-distance scrambling out of an argument ellipsis site, discussed above, is attributed to the radical reconstruction property of A'-scrambling in the antecedent clause (Saito 1989). Thus, her account cannot fully cover other extraction possibilities (see also Cheng 2013 for discussion on this point).

[5] Sakamoto (2017, 2019, 2020) assumes that operator movement can take place at LF, following Cecchetto and Percus (2006).

Let us first consider one of the scrambling cases above, repeated below as (20). In (20a), the embedded object is extracted out of the embedded clause. The ungrammaticality of (20b) indicates that ellipsis of the remnant clause is not possible.

(20) a. *Sono-hon-o$_i$ Taroo-wa [$_{CP}$ Hanako-ga t_i kat-ta to] it-ta si,*
this-book-ACC Taro-TOP Hanako-NOM buy-PAST C say-PAST and
lit. 'This book$_i$, Taro said that Hanako bought t_i.'

b. Ellipsis:
**Sono-hon-o Ziroo-mo Δ it-ta.*
this-book-ACC Ziro-also say-PAST
lit. 'This book, Ziro also said Δ.' (Saito 2007, 210)

Importantly, as shown in (21), movement of the remnant clause is also impossible (recall that this movement must take place under the current approach to argument ellipsis).

(21) Movement:
**[$_{CP}$ Hanako-ga t_i kat-ta to] sono-hon-o$_i$ Ziroo-mo t_{CP} it-ta.*
Hanako-NOM buy-PAST C this-book-ACC Ziro-also say-PAST
lit. '[$_{CP}$ That Hanako bought t_i], this book$_i$, Ziro also said t_{CP}.'

Thus, the proposed movement approach to argument ellipsis also captures the observed impossibility of overt extraction out of an argument ellipsis, attributing it to the underlying illicit movement of a phrase to be elided.[6] All the impossible cases of overt extraction out of an argument ellipsis site discussed above can in fact be accounted for in this way. The movement counterparts of all these examples are ungrammatical, as shown below:

[6] The ungrammaticality of (21) is considered to be an effect of the Proper Binding Condition (PBC) (Saito 1989) since *sono-hon-o* 'this book' does not bind its trace. However, I do not adopt the PBC since the PBC would rule out any remnant movement. At any rate, what is important for us is simply the parallelism between ellipsis and its movement counterpart. See Hiraiwa (2010) for an account of the PBC effect (see also Saito 2003; Takita 2010).

(22) Scrambling (cf. 5, 8)

a. *[$_{CP}$ *Hanako-ga ie-de* t_i *benkyoo-site-ru to] eego-o*$_i$ *Taroo-wa* t_{CP} *it-ta.*
Hanako-NOM home-in study-do-TE-PRES C English-ACC Taro-TOP say-PAST
lit. '[$_{CP}$ That Hanako is studying t at home], English, Taro said t_{CP}.'

b. *[$_{CP}$ *PRO* t_i *katazukeru yooni], densya-no omotya-o*$_i$, *Hanako-wa Ziroo-ni* t_{CP} *meezi-ta.*
put.away C train-GEN toy-ACC Hanako-TOP Ziro-DAT order-PAST
lit. '[$_{CP}$ To put away t_i], train toys$_i$, she ordered Ziro t_{CP}.'

cf. c. *[$_{CP}$ PRO densya-no omotya-o katazukeru yooni], Hanako-wa Ziroo-ni* t_{CP} *meezi-ta.*
train-GEN toy-ACC put.away C Hanako-TOP Ziro-DAT order-PAST
lit. '[$_{CP}$ To put away train toys], she ordered Ziro t_{CP}.'

(23) Raising (cf. 9, 10)

a. *[$_{CP}$ t_i *tensai da to] Sachiko-wa Ziroo-o*$_i$ *orokanimo* t_{CP} *omotta.*
genius COP C Sachiko-TOP Ziro-ACC stupidly thought
lit. '[$_{CP}$ That t_i is a genius], Sachiko stupidly thought, Ziro, t_{CP}.'

b. *[$_{CP}$ t_i *kinmedaru-o toru to] Kuniko-ni-wa Sayaka-ga ano-toki* t_{CP} *omoeta.*
gold.medal-ACC take C Kuniko-DAT-TOP Sayaka-NOM that-time seemed
lit. '[$_{CP}$ that t_i would win a gold medal], Sayaka$_i$ seemed to Kuniko at that time t_{CP}.'

(24) *Wh* Left-Branch Extraction (cf. 13)

*[$_{DP}$ t_i *tegami]-o dare-kara-no*$_i$ *Hanako-wa* t_{DP} *yon-da no?*
letter-ACC who-from-GEN Hanako-TOP read-PAST Q
lit. '[$_{DP}$ a letter t_i], from who$_i$, Hanako read t_{DP}?'

The current PF-deletion approach, in which the element to be elided undergoes overt movement before ellipsis, can thus capture the impossible cases of extraction out of argument ellipsis sites reported in the literature.

3.2.2. Possible cases

It should, however, be pointed out that the movement approach makes a prediction that there can be acceptable cases of overt extraction out of an argument ellipsis site. Namely, it predicts that if a clause from which overt extraction takes place can undergo movement, the relevant element should be able to undergo argument ellipsis. In this section, I show that this prediction is indeed borne out.

Let us first consider active and passive versions of ECM constructions. (25a) is an active ECM construction, where the embedded subject is marked with accusative. As we have seen in the previous section, the accusative-marked subject can undergo movement to the matrix position (Kuno 1976; Hiraiwa 2001; Tanaka 2002, a.o). In (25b), the matrix predicate is passivized, and the ECMed object (i.e. the embedded subject) undergoes movement to the matrix subject position.

(25) a. ECM
Taro-wa Hanako-o$_i$ [$_{CP}$ t_i tensai da to] omotta.
Taro-TOP Hanako-ACC genius COP C thought
lit. 'Taro thought, Hanako$_i$, [that t_i is a genius].'

b. Passivized ECM
Hanako-wa$_i$ Taro-ni [$_{CP}$ t_i tensai da to] omow-are-te-i-ru.
Hanako-TOP Taro-DAT genius COP C think-PASS-TE-be-PRES
lit. 'Hanako$_i$ is believed by Taro [$_{CP}$ that t_i is a genius].'

Interestingly, the two constructions differ in the mobility of the remnant embedded clause (Hiraiwa 2010). (26) shows that the embedded clause in an active ECM construction cannot undergo movement, as we have seen in the previous section; however, the one in a passive ECM construction can undergo movement.

(26) Movement
a. ECM
**[$_{CP}$ t_i tensai da to] Taro-ga Hanako-o$_i$ t_{CP} omotta.*
genius COP C Taro-NOM Hanako-ACC thought
lit. '[$_{CP}$ That t_i is a genius], Taro thought, Hanako$_i$ t_{CP}.'

b. Passivized ECM
[$_{CP}$ t_i tensai da to] Hanako-ga$_i$ Taro-ni t_{CP} omow-are-te-i-ru.
genius cop C Hanako-NOM Taro-DAT think-PASS-TE-be-PRES
lit. '[$_{CP}$ That t_i is a genius], Hanako$_i$ is believed by Taro t_{CP}.'

Whatever an explanation for this contrast is (see Hiraiwa 2010 for details), the prediction under the movement approach is that the embedded clause in (26b) should be able to be elided. This prediction is borne out. As we have seen in the previous section, the embedded clause in an active ECM

construction in (27a) cannot be elided. In contrast, the one in a passive version can be elided, as shown in (27b).

(27) Ellipsis (antecedent: 25)

a. ECM

**Ziro-wa Sachiko-o Δ omotta.*
Ziro-TOP Sachiko-ACC thought
lit. 'Ziro thought, Sachiko, Δ.'

b. Passivized ECM

Sachiko-wa$_i$ Ziro-ni Δ omow-are-te-i-ru.
Sachiko-TOP Ziro-DAT think-PASS-TE-be-PRES
lit. 'Sachiko is believed by Ziro Δ.'

This possible case of overt extraction out of an argument ellipsis site shows that there is an internal structure in the ellipsis site in overt syntax (Merchant 2013a), contrary to Sakamoto's (2017, 2019, 2020) claim. The contrast in (27) is thus problematic for Sakamoto's LF-copying analysis. On the other hand, the proposed deletion approach (i.e. the movement approach to ellipsis) nicely captures the (im)possibility of argument ellipsis of remnant clauses.

(28) further supports the movement approach to argument ellipsis. In (28a), the extracted embedded subject is turned into a nominative object. In Japanese, an internal argument can be marked with nominative case and an external argument with dative under some stative predicates such as 'can,' as in passive constructions (Kuno 1973). (28a) thus has the same case pattern as passivized ECM constructions. In contrast to passivized ECMs, however, the remnant embedded clause cannot move across the extracted nominative object, as shown in (28b).

(28) ECM with a nominative object

a. Taro(-ni)-wa Hanako(-no-koto)-ga$_i$ orokanimo [$_{CP}$ t$_i$ tensai da to] omoikom-e-ru.
Taro-DAT-TOP Hanako-GEN-fact-NOM stupidly genius COP C believe-can-PRES
lit. 'Stupidly, Taro can believe, Hanako$_i$, [$_{CP}$ that t$_i$ is a genius].'

b. Movement

**[$_{CP}$ t_i tensai da to] Taro(-ni)-wa Hanako(-no-koto)-ga$_i$ orokanimo t_{CP} omoikom-e-ru.*

genius COP C Taro-DAT-TOP Hanako-GEN-fact-NOM stupidly believe-can-PRES

lit. '[$_{CP}$ That t_i is a genius], stupidly, Taro can believe, Hanako$_i$ t_{CP}.'

As predicted under the movement approach to argument ellipsis, the remnant embedded clause cannot be elided either, as in (29).

(29) Ellipsis

**Ziro(-ni)-wa Sachiko(-no-koto)-ga$_i$ Δ omoikom-e-ru.*

Ziro-DAT-TOP Sachiko-GEN-fact-NOM believe-can-PRES

lit. 'Ziro can also believe, Sachiko, Δ.'

The same point can be made with active and passive pseudoraising constructions. As we have seen in the previous section, the embedded subject in regular pseudoraising constructions can be extracted out of the embedded clause to the matrix position, as in (30). In a passivized pseudoraising construction in (30b), the extracted embedded subject further undergoes A-movement to the matrix subject position.[7]

---

[7] Although the two constructions have the same case pattern of the matrix arguments, they differ with respect to the position of the extracted embedded subject. (i) illustrates this point with a subject-oriented anaphor *zibun* 'self' (Kuroda 1965; Katada 1991). (ia) is an active peudoraising construction, minimally compared with a passive one in (ib). In (ia), the extracted element cannot serve as an antecedent of the subject-oriented anaphor *zibun* 'self,' whereas the one in (ib) can. This indicates that the extracted element in (ia) has not moved to the matrix subject position, unlike the one in (ib) (Takahashi and Uchibori 2003).

(i) a. Pseudoraising

**Yawara$_1$-wa$_i$ zibun$_1$-no oya-ni ano-toki [$_{CP}$ t_i kinmedaru-o toru to] kanzi-ta.*

Yawara-TOP self-GEN parent-DAT that-time gold.medal-ACC take C feel-PAST

lit. 'Self$_1$'s parents felt, Yawara$_{1\text{-}i}$, at that time [that t_i would win a gold medal].'

b. Passivized Pseudoraising

Yawara$_1$-wa$_i$ zibun$_1$-no oya-ni ano-toki [$_{CP}$ t_i kinmedaru-o toru to] kanzi-rare-ta.

Yawara-TOP self-GEN parent-DAT that-time gold.medal-ACC take C feel-PASS-PAST

lit. 'Yawara$_{1\text{-}i}$ was felt by self$_1$'s parent at that time [that t_i would win a gold medal].'

(30) a. Pseudoraising
Fujiko-ni(-wa) Yawara-ga$_i$ [$_{CP}$ t_i kinmedaru-o toru to] kanzi-ta.
Fujiko-DAT-TOP Yawara-NOM gold.medal-ACC take C feel-PAST
'Fujiko felt that it is Yawara$_i$ [that t_i would win a gold medal].'

b. Passivized Pseudoraising
Yawara-wa$_i$ Fujiko-ni [$_{CP}$ t_i kinmedaru-o toru to] kanzi-rare-ta.
Yawara-TOP Fujiko-DAT gold.medal-ACC take C feel-PASS-PAST
lit. 'Yawara$_i$ was felt by Fujiko [that t_i would win a gold medal].'

As shown in (31), the remnant CP in an active pseudoraising construction cannot undergo movement across the extracted embedded subject, while the one under a passivised verb can.

(31) Movement
a. Pseudoraising
**[$_{CP}$ t_i kinmedaru-o toru to] Fujiko-ni(-wa) Yawara-ga$_i$ t_{CP} kanzi-ta.*
gold.medal-ACC take C Fujiko-DAT-TOP Yawara-NOM feel-PAST
lit. '[$_{CP}$ That t_i would win a gold medal], Fujiko felt that it is Yawara$_i$ t_{CP}.'

b. Passivized Pseudoraising
[$_{CP}$ t_i kinmedaru-o toru to] Yawara-ga$_i$ Fujiko-ni t_{CP} kanzi-rare-ta.
gold.medal-ACC take C Yawara-NOM Fujiko-DAT feel-PASS-PAST
lit. '[$_{CP}$ That t_i would win a gold medal], Yawara$_i$ was felt by Fujiko t_{CP}.'

Their ellipsis counterparts exhibit exactly the same pattern, as shown in (32). The remnant CP cannot be elided in an active pseudoraising, whereas the one in a passive can be. This further confirms the movement-ellipsis parallelism, which is expected to hold under the proposed analysis.

(32) Ellipsis (antecedent 30)
a. Pseudoraising
**Kuniko-ni-wa Sayaka-ga$_i$ Δ kanzi-ta.*
Kuniko-DAT-TOP Sayaka-NOM feel-PAST
lit. 'Kuniko felt that it is Sayaka$_i$, Δ.'

b. Passivized Pseudoraising
Sayaka-wa$_i$ Kuniko-ni Δ kanzi-rare-ta.
Sayaka-TOP Kuniko-DAT feel-PASS-PAST
lit. 'Sayaka$_i$ was felt by Kuniko Δ.'

In addition to passivization, movement of clauses where overt raising extraction takes place is also possible when an adverbial pronoun *soo* occurs after those clauses. In Japanese, this element optionally appears after complement clauses, behaving like an expletive such as Hindi *yah* 'this' (Mahajan 1990). Interestingly, with this element, clauses from which overt raising extraction takes place can undergo movement across an extracted element.

Consider again ECM constructions. (33a) is a regular ECM construction where the embedded subject undergoes raising to the matrix object position. In (33b), *soo* appears after the complement clause, minimally differing from (33a).

(33) *a. Taro-ga Hanako-o$_i$ orokanimo [$_{CP}$ t$_i$ tensai da to] omoikon-de-i-ru.*
Taro-NOM Hanako-ACC stupidly genius COP C believe-TE-be-PRES
lit. 'Taro stupidly believes, Hanako$_i$, [$_{CP}$ that t$_i$ is a genius].'

b. Taro-ga Hanako-o$_i$ orokanimo [$_{CP}$ t$_i$ tensai da to] ***soo*** *omoikon-de-i-ru.*
Taro-NOM Hanako-ACC stupidly genius COP C this believe-TE-be-PRES
lit. 'Taro stupidly believes, Hanako$_i$, [$_{CP}$ that t$_i$ is a genius].'

Interestingly, as shown in (34), the embedded CP can undergo movement when *soo* appears.

(34) Movement
a. **[$_{CP}$ t$_i$ Tensai da to] Ziroo-mo Hanako-o$_i$ orokanimo t$_{CP}$ omoikon-de-i-ru.*
genius COP C Ziro-also Hanako-ACC stupidly believe-TE-be-PRES
lit. '[$_{CP}$ That t$_i$ is a genius], Ziro also stupidly believes, Hanako$_i$, t$_{CP}$.'

b. *[$_{CP}$ t$_i$ Tensai da to] Ziroo-mo Hanako-o$_i$ orokanimo t$_{CP}$* ***soo*** *omoikon-de-i-ru.*
genius COP C Ziro-also Hanako-ACC stupidly this believe-TE-be-PRES
lit. '[$_{CP}$ That t$_i$ is a genius], Ziro also stupidly believes, Hanako$_i$, t$_{CP}$.'

Under the movement approach to argument ellipsis, it is then expected that the movable remnant clause in (34b) can undergo ellipsis. This is indeed the case. As shown in (35), the remnant embedded clause

from which raising takes place can undergo ellipsis when *soo* appears after the complement clause (Sakamoto 2016a).[8,9]

(35) Ellipsis

a. **Ziroo-mo Hanako-o orokanimo Δ omoikon-de-i-ru.*
Ziro-also Hanako-ACC stupidly believe-TE-be-PRES
'Ziro also stupidly believes, Hanako, ~~[that t is a genius]~~.'

b. *Ziroo-mo Hanako-o orokanimo Δ* ***soo*** *omoikon-de-i-ru.*
Ziro-also Hanako-ACC stupidly this believe-TE-be-PRES
'Ziro also stupidly believes, Hanako, ~~[that t is a genius]~~.'

This further confirms that overt extraction out of an argument ellipsis site is not in general banned for Japanese argument ellipsis.

Pseudoraising constructions exhibit the same pattern. In this construction, the embedded clause can undergo movement when *soo* appears, as shown in (36b) (cf. 23b). It can also undergo argument ellipsis when *soo* appears, as in (36c) (cf. 10).

(36) a. *Fujiko-ni-wa Yawara-ga$_i$ ano-toki [$_{CP}$ t_i kinmedaru-o toru to]* ***soo*** *omoeta.*
Fujiko-DAT-TOP Yawara-NOM that-time gold.medal-ACC take C this seemed
lit. 'Yawara$_i$ seemed to Fujiko at that time [that t_i would win a gold medal].'

---

[8] The predicate used in this example *omoikom* does not take an animate object or a small clause as its complement, as in (i), and thus excludes the possibility that the raised object *Hanako* is base-generated in the matrix object position.

(i) a. **Ziroo-ga Hanako-o omoikon-de-i-ru.*
Ziro-NOM Hanako-ACC believe-TE-be-PRES
'Ziro thinks of Hanako.'

b. **Ziroo-ga Hanako-o kawaiku omoikon-de-i-ru.*
Ziro-NOM Hanako-ACC cute believe-TE-be-PRES
'Ziro thinks Hanako cute.'

[9] Sakamoto (2016a) observes that covert extraction out of an argument ellipsis site with *soo* is also possible as with quantifier raising and null operator movement (see also f.n.3).

b. Movement

[$_{CP}$ t_i Kinmedaru-o toru to] Kuniko-ni-wa Sayaka-ga ano-toki t_{CP} ***soo*** *omoeta.*

gold.medal-ACC take C Kuniko-DAT-TOP Sayaka-NOM that-time this seemed

lit. '[$_{CP}$ t_i would win a gold medal], Sayaka$_i$ seemed to Kuniko at that time t_{CP}.'

c. Ellipsis

Kuniko-ni-wa Sayaka-ga ano-toki Δ ***soo*** *omoeta.*

Kuniko-DAT-TOP Sayaka-NOM that-time this seemed

lit. 'Sayaka seemed to Kuniko at that time Δ.'

Note, however, that the presence of *soo* does not always help a remnant clause to undergo movement across an extracted element. In (37), for example, *soo* appears after a complement clause from which an object is extracted through scrambling. In this case, the remnant clause cannot move across the extracted element, as can be seen in (37b). Importantly, as predicted under the movement approach, the relevant embedded clause cannot undergo argument ellipsis either, as shown in (37c).

(37) Scrambling:

a. *Sono-hon-o$_i$ Taro-wa [$_{CP}$ Hanako-ga t_i kat-ta to]* ***soo*** *it-ta.*

this-book-ACC Taro-TOP Hanako-NOM buy-PAST C this say-PAST

lit. 'This book$_i$, Taro said that Hanako bought t_i.'

b. Movement

[$_{CP}$ Hanako-ga t_i kat-ta to] sono-hon-o$_i$ Taro-wa t_{CP}* ***soo* *it-ta.*

Hanako-NOM buy-PAST C this-book-ACC Taro-TOP this say-PAST

lit. '[$_{CP}$ That Hanako bought t_i], this book$_i$, Taro said t_{CP}.'

c. Ellipsis

Sono-hon-o Ziroo-mo Δ* ***soo* *it-ta.*

this-book-ACC Ziro-also this say-PAST

lit. 'This book, Ziro also said Δ.'

So far, we have seen that while an element cannot be extracted out of an argument ellipsis site in some cases, it can be extracted in other cases. This shows that there is no general ban on overt extraction out of an argument ellipsis site, which in turn indicates that the impossibility of overt extraction cannot be used as a general argument for the LF-copy approach. The possible cases of overt extraction out of an argument ellipsis site in fact indicate that there is internal structure in the ellipsis

site in overt syntax, hence the phenomenon in question actually supports the PF-deletion approach to argument ellipsis. The movement approach proposed in Chapter 2 in fact nicely captures the possible and impossible cases of overt extraction: a remnant clause that is movable can be elided, whereas an immobile remnant clause cannot, the correlation in question being exactly what is expected under the proposed approach.

3.3. Case Constraints of Elided Arguments

3.3.1. Constraints on morphological cases

Another piece of evidence that argument ellipsis employs PF-deletion concerns the fact that morpho-syntactic effects are effective under argument ellipsis.

Japanese has the double-*o* constraint, which is a morpho-syntactic constraint that restricts multiple occurrences of morphological accusative cases in a sentence (Hale and Kitagawa 1976; Shibatani 1978; Harada 1986, a.o.). This is a language specific constraint. Korean, which also has argument ellipsis (Kim 1999), does not have this constraint. (38) illustrates this contrast between Japanese and Korean with light verb constructions, where an accusative-marked verbal noun forms a complex verb with the light-verb *suru* 'to do.' In Japanese (38a), the object of the verbal noun cannot be assigned accusative case due to the double-*o* constraint, whereas the one in Korean (38b) can be.

(38) a. *John-wa kankokugo-no/*o kenkyuu-o si-ta.* *[Japanese]*
John-TOP Korean-GEN/ACC study-ACC do-PAST
'John did studies$_{ACC}$ (of) Korean$_{GEN/*ACC}$.'

b. *John-un hankwuke-lul kongbu-ul hayss-ta.* *[Korean]*
John-TOP Korean-ACC study-ACC did-DECL
'John did studies$_{ACC}$ (of) Korean$_{ACC}$.'

Interestingly, Japanese and Korean differ in the elidability of the argument of verbal nouns. As we have seen in Section 2.2.3.1, an internal argument of a verbal noun cannot be elided in Japanese. In Japanese (39a), the object 'Korean' cannot be contained in the interpretation, and thus the sentence can only

mean that Sue did not study at all, which therefore contradicts its continuing sentence in (39c). On the other hand, the one in Korean (39b) can contain the object of the verbal noun in its interpretation, hence (39c) can naturally follow it.

(39) Ellipsis (antecedent: (38a with genitive) and (38b), respectively)

a. *Demo Bill-wa Δ kenkyuu-o si-nak-atta.* *[Japanese]*
but Bill-TOP study-ACC do-NEG-PAST
lit. 'But Bill did not do studies Δ.'
*'But Bill did not do studies of Korean.'

b. *Kulena Bill-nun Δ kongbu-ul haci anh-ass-ta.* *[Korean]*
But Bill-TOP study-ACC do NEG-PAST-DECL
'Bill did not do studies of Korean.'

c. (#after a/ after b) 'he did studies of Japanese.'

The impossibility of argument ellipsis in Japanese (39a) shows two important properties of argument ellipsis. In order to illustrate them, let us consider two possible underlying structures of the verbal domains in (39a) below:

(40) a. *~~Korean-GEN~~ study-ACC V-NEG.
b. ~~Korean-ACC~~ study-ACC V-NEG. (*Japanese/ ^{OK}Korean)

In (40a), what is elided is a genitive-marked argument, whereas in (40b) it is an accusative marked argument. Given that double accusatives are in principle possible, as in Korean, we should also address why the structure used in Korean cannot be used in Japanese (39a). As we have seen in Chapter 2, under the movement approach to argument ellipsis, the impossibility of (40a) straightforwardly follows from the fact that genitive arguments cannot undergo overt movement (cf. Section 2.2.3.1). (41) shows that the internal argument of the verbal noun 'Korean' cannot be moved in Japanese. However, the one in the Korean example can be moved.

(41) Movement

a. **Kankokugo-no/o$_i$ Bill-wa t_i kenkyuu-o si-ta.* *[Japanese]*
Korean-GEN/ACC Bill-TOP study-ACC do-PAST
lit. '(Of) Korean$_{GEN/ACCi}$, Bill did studies$_{ACC}$ t_i.'

b. *Hankwuke-lul$_i$ Bill-un t_i kongbu-ul hayss-ta.* *[Korean]*
Korean-ACC Bill-TOP study-ACC did-DECL
lit. '(Of) Korean$_{ACCi}$, Bill did studies$_{ACC}$ t_i.'

What is more important with respect to the claim of this chapter is the (un)availability of (40b) as an underlying structure: it is available in Korean but not in Japanese. This contrast indicates that the double-*o* constraint, which applies only in Japanese, is effective even under argument ellipsis.[10] In other words, it indicates that the relevant element is syntactically present and assigned morphological case before it undergoes argument ellipsis, which is straightforwardly captured under the PF-deletion approach to argument ellipsis. Under the LF-copy approach, however, the object of the verbal noun in

---

[10] Saito (2004) already pointed out that the effect of double-*o* constraint under argument ellipsis is problematic for the LF-copy approach, using a causative construction in (i).

(i) *John-ga kusuri-o mottekita node, Mary-ga Bill-ni/*o ~~kusuri-o~~ nom-ase-ta.*
John-NOM medicine-ACC brought because Mary-NOM Bill-DAT/ACC medicine-ACC drink-CAUS-PAST
'Since John brought a medicine, Mary made Bill$_{DAT/ACC}$ drink ~~the medicine$_{ACC}$~~.' (Saito 2004, 116)

It seems that the impossibility of the accusative causative subject in (i) is not relevant to the double-*o* constraint as its Korean counterpart is also degraded, as shown in (ii).

(ii) *John-i yak-ul kacyewass-ki ttaymwuney,*
John-NOM medicine-ACC brought-NOMINALIZER because
'Since John brought a medicine,'

a. *Mary-ka Bill-eykey (yak-ul) masi-key hay-ss-ta.*
Mary-NOM Bill-DAT medicine-ACC drink-CAUS do-PAST-DECL
'Mary made Bill$_{DAT}$ drink the medicine$_{ACC}$.'

b. *Mary-ka Bill-ul ??(yak-ul) masi-key hay-ss-ta.*
Mary-NOM Bill-ACC medicine-ACC drink-CAUS do-PAST-DECL
'Mary made Bill$_{ACC}$ drink the medicine$_{ACC}$.'

The ungrammaticality of (i) and (ii) with the accusative causative subject thus calls for an explanation independent of the double-*o* constraint. I leave this issue for future research.

(39) is not present in overt syntax and appears only at LF. The PF relevance of the exact morphological case of this element is then difficult to capture under the LF-copy approach, as in (42).

(42) LF-copy approach
a. Overt Syntax: Subj Δ study-ACC do-NEG-T
b. LF: Subj Korean study do-NEG-T

In other words, we cannot appeal to the double *o*-constraint in the contrast between Japanese and Korean in (39) under the LF-copy approach.

Additionally, argument ellipsis is subject to a morphological case requirement. It has been well-known since Saito (1983) that scrambling requires moved elements to be morphologically case-marked.[11] This point can be illustrated with situations where topicalization is not allowed, as with *wh*-phrases (cf. Section 2.2.3.7). As shown in (43a), when the *wh*-object stays in-situ, the accusative case marker is optional. On the other hand, when the object *wh*-phrase undergoes scrambling, its morphological case cannot be dropped, as in (43b).

(43) *a. Dare-ga dare(-o) nagut-ta no?*
who-NOM who-ACC hit-PAST C
'Who hit who$_{ACC/\varnothing}$?'

b. Dare(-o)$_i$ dare-ga t_i nagut-ta no?*
who-ACC who-NOM hit-PAST C
lit. 'Who$_{ACC/*\varnothing}$, who hit t?' (Saito 1983, 254)

The same point can be made with non-*wh*-phrases embedded under relative clauses, where topicalization is prohibited (Kuroda 1988; cf. Kuno 1973).

(44) *a. Koko-ga [John-ga uisukii(-o) kat-ta] mise] da yo.*
here-NOM John-NOM whiskey-ACC buy-PAST shop COP PRT
'This is the shop where John bought the whiskey$_{ACC/\varnothing}$.'

[11] See Saito (2014) for an account under the labeling algorithm (Chomsky 2013).

b. Koko-ga [uisukii(-o)$_i$ John-ga t_i kat-ta] mise] da yo.*
here-NOM whiskey-ACC John-NOM buy-PAST shop COP PRT
'This is the shop where John bought the whiskey$_{ACC/*\varnothing}$.'

Keeping this constraint in mind, consider postnominal numeral constructions in Japanese and Korean. As shown in (45a-b), accusative particles cannot be attached to both the head noun and the postnominal numeral expression in Japanese due to the double-*o* constraint. Korean, on the other hand, does not exhibit this constraint, as shown by (45c).

(45) *a. John-wa hon(*-o) san-satu-o kat-ta. [Japanese]*
John-TOP book-ACC three-CL-ACC buy-PAST
'John bought three$_{ACC}$ books$_{*ACC/\varnothing}$.'

b. John-wa hon-o san-satu(-o) kat-ta. [Japanese]*
John-TOP book-ACC three-CL-ACC buy-PAST
'John bought three$_{*ACC/\varnothing}$ books$_{ACC}$.'

c. Kim-un chayk-ul sey-kwen-ul sassta. [Korean]
Kim-TOP book-ACC three-CL-ACC bought
'Kim bought three$_{ACC}$ books$_{ACC}$.'

As shown in (46), movement of the head noun 'book' requires it to be morphologically case-marked. (46a) indicates that the head noun with no morphological case cannot undergo movement. On the other hand, movement of the head noun itself is possible as long as the moved element is marked with an accusative case, as in Japanese (46b) and Korean (46c). The occurrence of another accusative case in the numeral expression causes Japanese example (46b) to be ungrammatical due to the double-*o* constraint.

(46) Movement
*a. *Hon$_i$ John-wa t_i san-satu-o kat-ta. [Japanese]*
book John-TOP three-CL-ACC buy-PAST
lit. 'Books$_\varnothing$, John bought three$_{ACC}$ t.'

b. Hon-o$_i$ John-wa t_i san-satu(-o) kat-ta. [Japanese]*
book-ACC John-TOP three-CL-ACC buy-PAST
lit. 'Books$_{ACC}$, John bought three$_{*ACC/\varnothing}$ t.'

c. *Chayk-ul$_i$ Kim-un t_i sey-kwen-ul sassta.* *[Korean]*
book-ACC Kim-TOP three-CL-ACC bought
'Books$_{ACC}$, Bill thought that Kim bought three$_{ACC}$ t.'

Interestingly, their ellipsis counterparts show the same paradigm. When a numeral expression is marked with accusative, the head noun cannot be elided, as shown in (47a). As in (47b-c), when the head noun can in principle be marked with accusative, it can be elided.

(47) Ellipsis (antecedent: 45)

a. **Demo Bill-wa Δ san-satu-o kaw-anak-atta.* *[Japanese]*
but Bill-TOP three-CL-ACC buy-NEG-PAST
lit. 'But Bill didn't buy three Δ.'

b. *Demo Bill-wa Δ san-satu kaw-anak-atta.* *[Japanese]*
but Bill-TOP three-CL buy-NEG-PAST
lit. 'But Bill didn't buy three Δ.'

c. *Kulena, Sue-nun Δ sey-kwen-ul saci-ahn-ass-ta.* *[Korean]*
but Sue-TOP three-CL-ACC buy-NEG-PAST-DECL
'But Sue didn't buy three.'

Ellipsis employed in (47b-c) can yield sloppy readings, as confirmed by Japanese (48) and Korean (49), respectively.

(48) Ellipsis

a. *John-wa zibun-no hon-o san-satu kat-ta.* *[Japanese]*
John-TOP self-GEN book-ACC three-CL buy-PAST
lit. 'John bought three [self's books]$_{ACC}$.'

b. *Demo Bill-wa Δ san-satu kaw-anak-atta.*
but Bill-TOP three-CL buy-NEG-PAST
lit. 'But Bill didn't buy three Δ.' (sloppy)

(49) Ellipsis

a. *Kim-un caki-uy chayk-ul sey-kwen-ul sassta.* *[Korean]*
Kim-TOP self-GEN book-ACC three-CL-ACC bought
lit. 'Kim bought three$_{ACC}$ [self's books]$_{ACC}$.'

b. Kulena, Sue-nun Δ sey-kwen-ul saci-ahn-ass-ta.
but Sue-TOP three-CL-ACC buy-NEG-PAST-DECL
'But Sue didn't buy three$_{ACC}$ Δ.' (sloppy)

The postnominal numeral constructions in question thus nicely illustrate the correlation between overt movement and ellipsis, especially concerning the possibility of eliding the head noun, which is expected under the movement approach to argument ellipsis.

What is important for the purposes of this chapter is that argument ellipsis requires an elided element to be morphologically case-marked, just like scrambling. Let us consider three structures of verbal domains we have seen in (47) below:

(50) a. *~~book~~ three-ACC V-NEG. (cf. 47a)
b. ~~book-ACC~~ three V-NEG. (cf. 47b)
c. ~~book-ACC~~ three-ACC V-NEG. (*Japanese 47a/ ^{OK}Korean 47c)

In (50a), an elided element is morphologically caseless and a numeral expression is marked with accusative. In contrast, in (50b), the former has accusative, and the latter is unmarked. In (50c), both elements contain accusative. Given that double accusatives are in principle possible, as in Korean, the reason why (50c) cannot be used in Japanese but can be in Korean should be addressed. Like the impossibility of argument ellipsis of arguments of verbal nouns (cf. 40), we can attribute the unavailability of (50c) in Japanese to the language specific double-*o* constraint. On the other hand, the contrast between the possible cases in (50b) and Korean (50c) and the impossible case in (50a) indicates that morphologically caseless elements cannot undergo ellipsis. In other words, this suggests that argument ellipsis has to be sensitive to the absence of morphological case on elided elements. Under the movement approach to argument ellipsis, this straightforwardly follows from the fact that caseless arguments cannot undergo overt movement. Under the LF-copy approach, however, the relevance of the presence or absence of morphological case is very difficult to capture since elided elements are generated only at LF, as in (51).

(51) LF-copy approach
a. Overt Syntax: Subj Δ three-ACC do-NEG
b. LF: Subj book three do-NEG

In other words, it is difficult to capture the morphological case requirement on argument ellipsis under the LF-copy approach.

We have seen so far that argument ellipsis is subject to morpho-syntactic case constraints: the double-*o* constraint and the morphological case requirement. This is unexpected under the LF-copy approach, where there is no information regarding elided elements in overt syntax.

3.3.2. Case Filter

In this section, I show that elements affected by argument ellipsis are subject to the Case Filter. In the literature of argument ellipsis, however, an opposite assumption has been made in Saito (2007), who claims that LF-copied arguments lack Case features. In order to illustrate his LF-copy analysis, let us first consider the relevant assumptions from Chomsky's (2000) feature checking system, which is schematically illustrated below:

(52) Activate Condition
a. … $F_{\{\varphi\}}$ … $DP_{\{\varphi, \text{Case}\}}$ …
b. … $F_{\{\varphi\}}$ … $DP_{\{\varphi, \text{Case}\}}$ …

In (52a), the probe F with uninterpretable φ-features searches for a goal DP with interpretable φ-features and an uninterpretable Case feature. The presence of the uninterpretable Case feature of the goal is required to enter into an AGREE relation with F due to the Activation Condition. Then, as a consequence of AGREE, the uninterpretable φ-features of the probe and the uninterpretable Case feature of the goal are deleted, as shown in (52b). Within this framework, under the assumption that LF-copied arguments lack Case features, Saito proposes that the availability of LF-copying is tied to the absence of obligatory φ-agreement (Fukui 1986; Kuroda 1988). In this LF-copy analysis, a functional category such as *v* and T that lacks uninterpretable φ-features does not require arguments to

establish an AGREE relation with it, as illustrated in (53a), since it does not have φ-features to check and delete. Instead, the relevant theta-position can be filled by a Caseless LF-copied element, as shown in (53b).

(53) LF-copy: possible cases (e.g. Japanese)
a. … F … Δ …
b. … F … DP …

Since both the probe and the goal in (53) lack uninterpretable φ-features and Case features, respectively, the derivation converges. On the other hand, this derivation raises a problem in a language like English where the relevant functional category F has uninterpretable φ-features. The uninterpretable φ-features of F cannot be deleted in an argument ellipsis derivation since F cannot enter into a checking relation with a Caseless (i.e. inactive) LF-copied element, as shown in (54). This leads to a derivation crash.

(54) LF-copy: impossible cases (e.g. English)
a. … $F_{\{\varphi\}}$ … Δ …
b. *… $F_{\{\varphi\}}$ … DP …

This analysis thus captures the unavailability of LF-copying of arguments in languages like English. As a piece of evidence that LF-copied elements lack Case features, Saito (2007) points out the case-mismatching effect of argument ellipsis, exemplified in (55). In (55), the antecedent object has a dative case, whereas the object gap is selected by a verb *oikaesu* 'to chase away' that cannot take a dative-marked object.[12]

(55) *Taroo-wa zibun-no hahaoya-ni at-ta ga,*
Taro-TOP self-GEN mother-DAT meet-PAST but

Hanako-wa {Δ | zibun-no hahaoya-o/-ni} oikaesi-ta.*
Hanako-TOP self-GEN mother-ACC DAT chase.away-PAST
lit. 'Taro met self's $\text{mother}_{\text{DAT}}$, but Hanako chased away {Δ| self's $\text{mother}_{\text{ACC/*DAT}}$}.'
(Saito 2007, 217)

[12] The pattern remains the same even if the antecedent is accusative and the gap is dative (Saito 2007).

If the LF-copied element here were strictly identical to the dative-marked antecedent and had the uninterpretable Case feature, this would create a case-licensing problem between the null object and its associate verb; although an overt dative object is not licensed under the verb 'chase away', the elided object appears to be dative. On the other hand, if LF-copied elements lack uninterpretable Case features, as claimed by Saito (2007), then such a case-licensing problem would not arise.[13] The issue here is actually relevant to the identity condition on ellipsis, which restricts the relationship of identity between the antecedent and the elided item. The LF-copy approach deals with this by copying only the relevant features of antecedents.

It is not the case, however, that the case-mismatching effect in argument ellipsis can be captured only under the LF-copy approach. Under the PF-deletion approach, the case-mismatching effect can in fact be attributed to the identity condition on deletion rather than the absence of case features of elided elements. It is well known in the literature on ellipsis that there is no strict morphological or phonological identity with the antecedent requirement (Chomsky 1965; Sag 1976, a.o). Given this, we can assume that the identity condition imposed on the deletion operation of argument ellipsis is not as strict as disallowing case-mismatching with antecedents. In other words, the PF-deletion approach deletes an element under the identity of only a subset of the features of antecedents. (Note that Case is not the only feature where the issue discussed here arises. In fact, the issue can arise even regarding clearly interpretable features like φ-features, which need not be identical (Todorovic 2016; cf. Stjepanović 1997)).

While the case-mismatch issue can be handled under both approaches, the two approaches differ in whether elided elements are subject to case constraints, i.e. the traditional Case Filter. Under Saito's LF-copy analysis, elided elements should be insensitive to it since LF-copied elements lack Case

[13] Alternatively, one can account for the case-mismatching effect in (55) under the LF-copy approach by assuming that the Case-Filter applies at LF and that LF-copying takes place before case-checking/case-valuation. Then, LF-copying of the antecedent applies before its case is valued in the antecedent clause, and the LF-copied element is case-valued in the ellipsis clause.

features.[14] On the other hand, under the PF-deletion approach, elided elements should be assigned case in overt syntax and thus should be sensitive to case constraints, i.e. they should be subject to the traditional Case Filter. In addition to the morphological case constraints in Section 3.3.1, I argue that elided arguments are also sensitive to the Case-Filter in the following discussion.

In order to support this, I first show that an elided argument undergoes A-movement to its case-position. In Japanese, the conjunction *-mo-mo* 'and' is a positive polarity item (PPI), and it must take scope over negation (Goro 2007). (56) illustrates this point with an object and a subject.

(56) a. *John-wa [kyabetu-mo daikon-mo] tabe-nak-atta yo.*
John-TOP cabbage-also radish-also eat-NEG-PAST PRT
lit. 'John did not eat [the cabbage and the radish].'
(and > NEG): 'It is both the cabbage and the radish that John did not eat.'
*(NEG > and): 'It is not the case that John ate both the cabbage and the radish.'

b. *[John-mo Bill-mo] kyabetu-o tabe-nak-atta yo.*
John-also Bill-also cabbage-ACC eat-NEG-PAST PRT
lit. '[John and Bill] did not eat cabbages.'
(and > NEG): 'It is both John and Bill that did not eat cabbages.'
*(NEG > and): 'It is not the case that both John and Bill ate cabbages.'

It is known that ellipsis cancels polarity sensitivity of polarity items such as *anyone* and *someone* (Sag 1976; Johnson 2001; Merchant 2013b). In (57a), the elided NPI *anyone* is not licensed by negation, and in (57c), the elided PPI *someone* does not take scope over negation.

(57) a. John didn't see anyone, but Mary did ~~[see anyone]~~.
b. *John didn't see anyone, but Mary saw anyone.
c. John saw someone, but Mary didn't ~~[see someone]~~. (NEG > some)/ *(some > NEG)
d. John saw someone, but Mary didn't see someone. *(NEG > some)/ (some > NEG)

The polarity sensitivity of *-mo-mo* also disappears when it is elided (Funakoshi 2013). As shown in (58b), the elided conjunction can take scope under negation.

[14] In Chung et al.'s (1995) LF-copying analysis, elided elements are also not subject to the Case constraint (Chung et al. 1995, 268).

(58) a. *John-wa [kyabetu-mo daikon-mo] tabe-ta kedo,*
John-TOP cabbage-also radish-also eat-PAST but
'John ate the cabbage and the radish, but…'

b. *Bill-wa Δ tabe-nak-atta yo.*
Bill-TOP eat-NEG-PAST PRT
lit. 'Bill did not eat Δ.' (and > NEG)[15]/ ^{OK}(NEG > and)

Crucially, the elided conjunction does not take scope under negation when it is placed in the subject position.

(59) a. *[John-mo Bill-mo] kyabetu-o tabe-ta.*
John-also Bill-also cabbage-ACC eat-PAST
'[John and Bill] ate cabbages.'

b. *Demo Δ daikon-wa tabe-nak-atta yo.*
but radish-TOP eat-NEG-PAST PRT
lit. 'But Δ did not eat radishes.' (and > NEG)/ *(NEG > and)

This indicates that an elided subject undergoes A-movement from its theta-position (i.e. Spec*v*P) to its case-position (i.e. SpecTP) (see Chomsky 1995 and Lasnik 1998 for the lack of reconstruction effects under A-movement, which is also assumed here). The finding that an elided element here is interpreted in its case-position can be taken to support the idea that an elided element obeys the Case-Filter (assuming that movement to SpecTP is required for case-licensing, see e.g. Epstein and Seely 2006; Bošković 2007). The subject undergoes A-movement to SpecTP in syntax and gets elided. On the other hand, this seems to be unexpected under Saito's (2007) LF-copy analysis, in which an elided element lacks Case-feature (notice also that it would be inactive for movement).

[15] One may think that the availability of the *and* > *NEG* reading indicates that cancelation of polarity sensitivity is optional in Japanese, unlike English. Nevertheless, it is possible to obtain this reading from other strategies such as *pro* since this reading corresponds to a pronoun-compatible reading (i.e. Bill did not eat them). Funakoshi (2013) indeed shows that the PPI property of the disjunction *ka* 'or' must be lost under ellipsis. Following this, I assume that the *and* > *NEG* reading here does not come from ellipsis.

We can also support the observation regarding the Case-Filter by showing that elided elements cannot appear in caseless theta positions. Under the PF-deletion approach, since elided elements are assigned Case before they get elided, the ellipsis site should be a position where overt elements can normally appear (i.e. where Case can be licensed). On the other hand, if an elided argument has an option to lack its case feature, as argued by Saito (2007), then it is predicted that it can appear in a caseless theta position as well as a case theta position. Let us consider this point with Japanese control constructions. (60) illustrates a contrast in the availability of the overt embedded subject between a non-finite obligatory control clause with *yoo* and a finite clause with *to*.

(60) *a. Taroo-wa Hanako-no sensee$_i$-ni [$_{CP}$ PRO$_{i/*k}$/ *kanozyo$_{i/k}$-ga kaigai-ni iku yoo] itta.*
Taro-TOP Hanako-GEN teacher-DAT she-NOM abroad-DAT go C said
'Taro told Hanako's teacher to go abroad.'

b. Taroo-wa Hanako-no sensee$_i$-ni [$_{CP}$ pro$_{i/k}$/ kanozyo$_{i/k}$-ga kaigai-ni iku beki da to] it-ta.
Taro-TOP Hanako-GEN teacher-DAT she-NOM abroad-DAT go should COP C say-PAST
'Taro told Hanako's teacher that she should go abroad.'

The contrast in (60) indicates that the embedded subject position in (60a) is a caseless position, whereas the one in (60b) is a case position. Crucially, the two constructions differ in the interpretation of the empty embedded subject when following an antecedent clause (cf. Bouchard 1984; Higginbotham 1992; Fujii 2006). Consider first the control case. (61a) is an antecedent clause where the embedded subject contains a quantificational expression. Crucially, the empty subject in the control clause in (61b) cannot yield a quantificational interpretation. The complement clause can only mean that Hanako's teacher should go abroad.

(61) *a. Taroo-wa Hanako-ni [$_{CP}$ hotondo-no gakusee-ga kaigai-ni iku beki da to] itta.*
Taro-TOP Hanako-DAT most-GEN student-NOM abroad-DAT go should COP C said
'Taro told Hanako that most students should go abroad.'

b. *Hanako-no sensee-ni-mo [$_{CP}$ Δ kaigai-ni iku yoo] it-ta.*
Hanako-GEN teacher-DAT-also abroad-DAT go C say-PAST
lit. 'He also told her teacher to Δ go abroad.'
'He also told her teacher$_i$ that {she$_{i/*k}$/ *most students} should go abroad.'

The impossibility of the quantificational interpretation suggests that the null subject must be analyzed as PRO controlled by the matrix indirect object 'Hanako's teacher.' In other words, it suggests that the empty subject in (61b) cannot be derived by argument ellipsis.

In contrast, the empty subject in the finite clause in (62b) can yield a quantificational interpretation.

(62) a. *Taroo-wa Hanako-ni [$_{CP}$ hotondo-no gakusee-ga kaigai-ni iku beki da to] itta.*
Taro-TOP Hanako-DAT most-GEN student-NOM abroad-DAT go should COP C said
'Taro told Hanako that most students should go abroad.'

b. *Hanako-no sensee-ni-mo [$_{CP}$ Δ kaigai-ni iku beki da to] it-ta.*
Hanako-GEN teacher-DAT-also abroad-DAT go should COP C say-PAST
lit. 'He also told her teacher that Δ should go abroad.'
'He also told her teacher$_i$ that {she$_i$/ most students} should go abroad.'

Recall that the embedded subject position in (62b) is a case position in contrast to the one in (61b) (cf. 60). The contrast between (61b) and (62b) thus suggests that argument ellipsis cannot target a caseless theta-position.[16] This is consistent with the prediction of the PF-deletion approach, where an elided

[16] The same contrast can be seen with a control clause antecedent. (ia) is an antecedent clause containing an obligatory control PRO. Taking (ia) as an antecedent, the empty subject in the non-finite clause in (ib) cannot refer to 'Hanako' in the antecedent clause. In contrast, the empty subject in the finite clause in (ic) can mean either 'Hanako' in the antecedent clause or 'Hanako's teacher' in the ellipsis clause.

(i) a. *Taroo-wa Hanako$_i$-ni [$_{CP}$ PRO$_i$ kaigai-ni iku yoo] itta.*
Taro-TOP Hanako-DAT abroad-DAT go C said
'Taro told Hanako to go abroad.'
Ellipsis:
b. *Hanako-no sensee-ni-mo [$_{CP}$ Δ kaigai-ni iku yoo] it-ta.*
Hanako-GEN teacher-DAT-also abroad-DAT go C say-PAST
lit. 'He also told her teacher to Δ go abroad.'
'He also told her teacher$_i$ that {she$_i$/ *Hanako} should go abroad.'

element is assigned Case in syntax; the ellipsis site should be the one where an overt element can be case-licensed. On the other hand, this is unexpected under Saito's (2007) LF-copying view, where an elided element lacks its Case-feature and thus should be insensitive to case constraints, including the traditional Case Filter.

3.4. Conceptual Argument

So far, we have seen a number of empirical arguments for the PF-deletion approach to argument ellipsis over the LF-copy approach. In this section, I point out that the PF-deletion approach to ellipsis is also conceptually more appealing than the LF-copy approach. In particular, I argue that the LF-copy approach requires special assumptions about the syntax of elliptical constructions, which the PF-deletion approach does not need.

LF-copying is an operation that copies only a subset of features of the relevant item, excluding features uninterpretable at LF/the conceptual-intentional (C-I) interface (e.g. phonological features and Case-features). Although LF-copying is considered as an instance of Merge (Oku 1998; Fortin 2007; Saito 2007; Takita 2010; Chung, Ladusaw, and McCloskey 2011; Sakamoto 2017; cf. Landau 2021), it requires some complications about the syntax of elliptical constructions, which the PF-deletion approach does not need. Consider first the case where the relevant LF-copy approach is treated as External Merge. Under this approach, the antecedent and the copied element are not syntactically related. The latter just appears in an ellipsis clause without LF-uninterpretable features. Saito's (2007) LF-copy analysis and Landau's (2021) analysis of argument ellipsis in Hebrew are in line with this

---

c. *Hanako-no sensee-ni-mo [$_{CP}$ Δ kaigai-ni iku beki da to] it-ta.*
Hanako-GEN teacher-DAT-also abroad-DAT go should COP C say-PAST
lit. 'He also told her teacher that Δ should go abroad.'
'He also told her teacher$_i$ that {she$_i$/ Hanako} should go abroad.'

This suggests that taking the indirect object 'Hanako' in (ia) as an antecedent, the embedded subject in (ic) can undergo argument ellipsis, but the one in (ib) cannot.

approach (though Landau does not categorize his analysis as the LF-copy approach). In Saito (2007), he speculates that there are discourse elements that contain internal syntax provided by prior sentences but lack phonological and case features. He then assumes that such elements can be targeted by Merge, just like objects in the numeration. His analysis thus crucially depends on the existence of syntactically full-fledged discourse elements. As Landau (2021) points out, however, it is questionable that sentences that have been completely derived and interpreted at the C-I interface hold their syntactic information and remain in the syntactic workspace (cf. Epstein, Kitahara, and Seely 2015). This may be too powerful a mechanism, and we have seen some overgeneration problems in Section 3.3. Note that the existence of such discourse elements is not necessary under the PF-deletion approach. Syntactic structures of elided elements are constructed during the derivation of the ellipsis sentence, in the same way as in non-elliptical sentences.

Landau (2021), on the other hand, argues that elements affected by argument ellipsis are lexical items that replace *pro* by an operation which he calls *External Merge after Transfer* (EMAT). In his analysis, silent elements are generated by External Merge from the numeration after Transfer takes place. This analysis crucially assumes that LF-uninterpretable features of lexical material are not introduced by EMAT since otherwise this would induce a C-I crash, but how these features are excluded from the application of EMAT is not addressed. Such exclusion should not be arbitrary or else it would give rise to overgeneration problems. Therefore, Landau's way of introducing silent elements still requires some special assumption about the syntax of ellipsis. Again, such assumptions are not needed under the PF-deletion approach.

Considering LF-copying as Internal Merge of an LF-object in the antecedent clause appears to provide a solution to the issues noted above (Oku 1998; Fortin 2007; Takita 2010; Chung, Ladusaw, and McCloskey 2011; Sakamoto 2017). LF-uninterpretable features are then stripped away from the syntactic object by Spell-Out in the course of the derivation of the antecedent clause (Chomsky 2000; 2001; Samuel D. Epstein, Kitahara, and Seely 2015), and Internal Merge targets LF-legitimate syntactic objects. In short, it is the operation of Spell-Out that plays a role in excluding undesirable

features from an LF-copied item for convergence. The copy operation adopted in this LF-copy approach is nonetheless conceptually undesirable in the sense that it must be able to operate across two independent sentences violating the Extension condition and cyclicity, which are assumed to maintain computational efficiency. In addition, the relation between the antecedent and the copy has to be established without a c-command, unlike with regular movement (i.e. Internal Merge) (see Nunes 2004 for arguments against Chomsky's 1995 idea regarding ellipsis, which is similar to this LF-copy analysis in the sense that an elided element and its antecedent are chain-connected). Therefore, some complications in the syntax are needed under this LF-copy approach, too. The PF-deletion approach does not require such complications.

At any rate, the main point of this section is that regardless of its exact implementation, the LF-copy approach requires special assumptions regarding the syntax of elliptical constructions, which are not needed under the PF-deletion approach, where nothing special needs to be said about the syntax of elliptical constructions.

3.5. Summary

In this chapter, we have seen a number of empirical arguments for the PF-deletion approach (more precisely, the movement approach) to argument ellipsis. I have shown that overt extraction out of an argument ellipsis site is in fact possible, contrary to Sakamoto's (2017, 2019, 2020) claim that it is not. Furthermore, I have shown that the contrasts between possible and impossible cases of overt extraction out of an argument ellipsis site can be straightforwardly captured by the movement approach proposed in Chapter 2: such cases are possible only if the elided element can undergo movement in the relevant configurations, which provides strong evidence for the current approach to argument ellipsis. I further observed the elided elements obey morpho-syntactic restrictions, the double-*o* constraint and the morphological case requirement. This is unexpected under the LF-copy approach where elided elements are assumed to lack phonological and morphological information. It was also shown that elided arguments are subject to the Case Filter. They thus must undergo A-movement to a case position

and cannot appear in a caseless theta-position, on a par with overt arguments. This is unexpected in the LF-copy analysis like the one in Saito (2007), where an elided element lacks Case-features. We have also seen that the PF-deletion approach is conceptually more appealing than the LF-copy approach in the sense that the latter requires special assumptions about the syntax of ellipsis, which the PF-deletion approach does not need.

Appendix: Extraction in Clefts

In this appendix, I discuss the possibility of overt extraction out of an argument ellipsis site in clefts, which is also discussed in Sakamoto (2017, 2020) and Takahashi (2020). The relevant cleft construction is illustrated in (63). In (63a), a non-finite complement clause in a topic-marked presuppositional clause contains a gap associated with the pivot. Taking this cleft construction as an antecedent, the non-finite clause in (63b) undergoes argument ellipsis.

(63) Cleft:

a. [Hanako-ga musume-ni [$_{CP}$ PRO e_i iku-yooni] meezi-ta no]-wa
Hanako-NOM daughter-DAT go-C order-PAST C-TOP
ni-kai-no heya-ni$_i$ desu.
2-CL-GEN room-DAT COP
'It is to the upstairs room$_i$ that Hanako ordered her daughter to go e_i.'

b. Ellipsis
[pro musuko-ni Δ_{CP} *meezi-ta no]-wa yaneurabeya-ni desu.*
son-DAT order-PAST C-TOP loft-DAT COP
'It is to the loft$_i$ that Hanako ordered her son ~~[to go e_i]~~.'

The pivot in (63b), associated with the gap in an elided clause, is thus seemingly extracted out of an argument ellipsis site. There are two different views on this apparent extraction data in the literature based on two different approaches to clefts. Sakamoto (2017, 2020) takes the relevant data as suggesting that they involve null operator movement out of an argument ellipsis site under his LF-copy analysis, as illustrated in (64) (Hoji 1990; Matsuda 1997; Koizumi 2000; Kizu 2005). In (64a), the complement of the verb in a presuppositional clause is empty in overt syntax. The empty position

is filled by an LF-copied clause which contains a null operator, as in (64b). The null OP then undergoes movement to the edge of the presuppositional clause and gets associated with the focus phrase of the cleft.

(64) a. Overt syntax: [… Δ_{CP} …]-TOP loft COP
b. LF: [… [$_{CP}$ to go OP] …]-TOP loft COP
c. LF: [OP$_i$ … [$_{CP}$ to go ~~OP~~] …]-TOP loft$_i$ COP

Thus, under this analysis, what is extracted out of an argument ellipsis site is not the focus element itself but a null operator. Takahashi (2020), on the other hand, uses the relevant data to support the PF-deletion approach under the assumption that case-marked clefts involve movement of the pivot itself (Hiraiwa and Ishihara 2002, 2012; Nishigauchi and Fujii 2006; Nakao 2009). In his analysis, what is extracted out of an argument ellipsis site is an overt focus element itself, which suggests that there is an internal syntax in the argument ellipsis site (see Chapter 4 for more details on focus movement approach to Japanese clefts).

As pointed out by Hiraiwa and Ishihara (2002; 2012), there is a problem with the null operator movement approach to Japanese clefts, namely, Japanese clefts exhibit case-matching effects, whereas uncontroversial null operator constructions do not. I illustrate this point with the following two verbs:

(65) a. *Taroo-ga gakkoo-ni/*o/*ga iku.*
Taro-NOM school-DAT/ACC/NOM go
lit. 'Taro goes school$_{DAT/*ACC/*NOM}$.'

b. *Taroo-ga inu-o/*ni/*ga turedasu.*
Taro-NOM dog-ACC/DAT/NOM take.out
lit. 'Taro takes out a dog$_{ACC/*DAT/*NOM}$.'

The examples in (65) show that the verb 'go' takes a dative object, whereas the verb 'take out' takes an accusative object. Keeping this in mind, consider comparative deletion, where the null operator movement is standardly assumed to be employed (Kikuchi 1987; Ishii 1991; Watanabe 1992; 2003, a.o). This construction allows case-mismatching between the null operator and the element it is

associated with, as in (66). In (66a), the null operator that moves from the complement of the verb 'went' is associated with an accusative object in the matrix clause. In (66b), the null operator moving from the complement of the verb 'take out' is associated with a dative object in the matrix clause.

(66) a. *[OP$_i$ John-ga t$_{OP}$ itta yorimo] Bill-wa ooku-no basyo$_i$-o kankoo-si-ta.*
John-NOM went than Bill-TOP many-GEN place-ACC sightseeing-do-PAST
'Bill went sightseeing more places$_{ACCi}$ than [OP$_i$ John went t$_{(DAT)}$].'

b. *[OP$_i$ John-ga soto-ni t$_{OP}$ turedasi-ta yorimo] Bill-wa ooku-no inu$_i$-ni atta.*
John-NOM outside-DAT take.out-PAST than Bill-TOP many-GEN dog-DAT met
'Bill met more dogs$_{DATi}$ than [OP$_i$ John took out t$_{(ACC)}$ outside].'

The relative clause in (67) further confirms that the null operator and the element associated with it do not have to match in case. Although the null operator in the relative clause is generated in a dative object position, the associated element cannot contain a dative case because it is selected by a copula.

(67) *Asoko-wa [OP$_i$ John-ga yoku t$_{OP}$ ik-u] mise$_i$(*-ni) desu.*
there-TOP John-NOM often go-PRES shop-DAT COP
'That is the place$_i$ [OP$_i$ that John often goes t$_{(DAT)}$].'

In contrast to null operator constructions above, clefts exhibit the case-matching effect. As illustrated in (68), the morphological case attached to the pivot must be identical to the one required by the verb in the presuppositional clause.

(68) a. *[Hanako-ga musume-ni [$_{CP}$ PRO e$_i$ iku-yooni] meezi-ta no]-wa*
Hanako-NOM daughter-DAT go-C order-PAST C-TOP
*ni-kai-no heya$_i$-ni /*o/*ga desu.*
2-CL-GEN room-DAT/ACC/NOM COP
'It is the upstairs room$_{DAT/*ACC/*NOM}$ that Hanako ordered her daughter to go e$_{(DAT)}$.'

b. *[Hanako-ga musume-ni [$_{CP}$ PRO e$_i$ turedasu-yooni] meezi-ta no]-wa*
Hanako-NOM daughter-DAT take.out-C order-PAST C-TOP
*inu-o/*ni/*ga san-biki$_i$ desu.*
dog-ACC/DAT/NOM three-CL COP
'It is three dogs$_{ACC/*DAT/*NOM}$ that Hanako ordered her daughter to take out e$_{(ACC)}$.'

Clefts thus do not allow case-mismatching between the clefted element and the gap it is associated with. Notice also that the focus element selected by the copula contains its morphological case, unlike (67). The contrast between clefts and other uncontroversial null operator constructions thus suggests that clefts should not be analyzed in terms of null operator movement with a single assumption that the null operator and the element it is associated with match in case. In other words, the null operator movement approach to clefts requires additional assumptions regarding the case-matching effect which would not hold in other null operator constructions. The case-matching effect of clefts is, on the other hand, expected under the focus movement approach to clefts since the focus phrase is first assigned case in-situ and then undergoes movement.

The above discussion thus supports Takahashi's (2020) idea that overt extraction out of an argument ellipsis site by focus movement is possible. Note that case-matching effects still hold even in clefts where an embedded clause undergoes argument ellipsis, as shown in (69).

(69) a. (antecedent: 68a)
[pro musuko-ni Δ_{CP} *meezi-ta no]-wa yaneurabeya-ni/*o/*ga desu.*
son-DAT order-PAST C-TOP loft-DAT/ACC/NOM COP
'It is the loft$_{DAT/*ACC/*NOM}$ that Hanako ordered her son ~~[to go t$_{(DAT)}$]~~.'

b. (antecedent: 68b)
[pro musuko-ni Δ_{CP} *meezi-ta no]-wa neko-o/*ni/*ga san-biki desu.*
son-DAT order-PAST C-TOP cat-ACC/DAT/NOM three-CL COP
'It is three cats$_{ACC/*DAT/*NOM}$ that Hanako ordered her son ~~[to take out t$_{(ACC)}$]~~.'

The case-matching effect here is again expected under the PF-deletion approach, where there is an internal structure in overt syntax.

It should be also noted that overt extraction in question exhibits island-sensitivity. Let us first consider island effects of focus movement in clefts (Hoji 1990; Kuwabara 1997; Hiraiwa and Ishihara 2002). As shown in (70b), movement of the pivot can cross a clause-boundary. The relevant movement in (70c) crosses an island-boundary, which causes ungrammaticality.

(70) a. *[Hannin-ga t_i deteki-ta no]-wa kono-biru-kara$_i$ desu.*
culprit-NOM come.out-PAST Fin-TOP this-building-from COP
'It is from this building$_i$ [that the culprit came out t_i].'

b. *[$_{FinP}$ John-ga [$_{CP}$ hannin-ga t_i deteki-ta to] syutyoo-si-te-i-ru no]-wa*
John-NOM culprit-NOM come.out-PAST C claim-do-TE-be-PRES Fin-TOP
kono-biru-kara$_i$ desu.
this-building-from COP
'It is from this building$_i$ [that John claims [that the culprit came out t_i]].'

c. **[$_{FinP}$ John-ga [[$_{RC}$ hannin-o t_i mokugeki-si-ta] hito]-o tazune-ta no]-wa*
John-NOM culprit-ACC witness-do-PAST person-ACC visit-PAST Fin-TOP
kono-biru-kara$_i$ desu.
this-building-from COP
'It is from this building$_i$ [that John visited a person [who witnessed the culprit t_i].'

(71) then illustrates island effects of overt extraction out of an argument ellipsis site. The antecedent clause in (71a) is a so-called in-situ focus construction where the matrix clause projects up to FocP under Rizzi's (1997) articulated CP structure (Hiraiwa and Ishihara 2002; cf. Saito 2012). In this construction, any phrase can receive a narrow focus interpretation with phonological prominence irrespective of the presence of island boundary: a PP in the relative clause is focused in (71a). Taking (71a) as an antecedent, the relative clause in a presuppositional clause is elided in (71b), which is unacceptable.

(71) a. *John-wa [hannin-o **kono-biru-kara** mokugekisi-ta] hito]-o tazune-ta n desu.*
John-TOP culprit-ACC this-building-from witness-PAST person-ACC visit-PAST Fin COP
'John visited a person [who witnessed the culprit **from this building**].'

b. **[$_{FinP}$ Bob-ga $\Delta_{RelativeDP}$ tazune-ta no]-wa atti-no-biru-kara$_i$ desu.*
Bob-NOM visit-PAST Fin-TOP that-GEN-building-from COP
lit. 'It is from that building$_i$ [that Bob visited $\Delta_{RelativeDP}$].'
intended. 'It is from that building$_i$ [that Bob visited a person [who witnessed the culprit t_i]]'

The observed island-sensitivity of overt extraction thus shows that there is an internal structure that involves an island in the ellipsis site in overt syntax. The following paradigm with a non-island counterpart confirms the island effect in (71):

(72) a. *John-wa [$_{CP}$ hannin-ga* ***kono-biru-kara*** *deteki-ta to] syutyoositeiru n desu.*
John-TOP culprit-NOM this-building-from come.out-PAST C is.claiming Fin COP
'John claims [$_{CP}$ that the culprit came out **from this building**].'

b. *Demo [$_{FinP}$ Bob-ga Δ_{CP} syutyoosi-te-i-ru no]-wa atti-no biru-kara$_i$ desu.*
but Bob-NOM claim-TE-be-PRES Fin-TOP that-GEN building-from COP
lit. 'But it is from that building$_i$ that Bob claims Δ_{CP}.'

Taking an in-situ focus construction in (72a) as an antecedent, argument ellipsis elides the embedded complement clause in (72b) from which focus movement takes place.

Overt extraction data with clefts thus also support the PF-deletion approach to argument ellipsis under the assumption that clefts in Japanese are derived by movement of foci (Hiraiwa and Ishihara 2002, 2012; Nishigauchi and Fujii 2006; Nakao 2009). They exhibit a connectivity effect and island-sensitivity, which indicates the presence of an internal structure of elided elements in overt syntax.

Chapter 4

Extending the Movement Approach to Other Ellipsis Phenomena

4.1. Introduction

In Chapters 2 and 3, I proposed that an element affected by argument ellipsis undergoes movement to the matrix SpecCP before it is elided, which suggests that argument ellipsis is licensed in the matrix SpecCP.

(1) Movement approach:
   a. [X Y Z]
   b. [$_{CP}$ Y [X t_Y Z]]
   c. [$_{CP}$ ~~Y~~ [X t_Y Z]]

In this chapter, I extend the movement approach to argument ellipsis to other ellipsis phenomena in Japanese, in particular, V-stranding VP-ellipsis, sluicing, and particle stranding ellipsis, which have been analyzed differently from argument ellipsis in the literature. I argue that they are also derived in a way that involves movement of elided elements to the matrix SpecCP. The four ellipsis phenomena are then unified under the movement approach to ellipsis.

The organization of this chapter is as follows. In Section 4.2, I first review Funakoshi's (2016) V-stranding VP-ellipsis analysis for null adjuncts (i.e. adjuncts that are interpreted but not pronounced) in Japanese and introduce independently motivated V-stranding VP-scrambling (Koizumi 2000; Arano 2017a,b). I then propose a movement approach to V-stranding VP-ellipsis, based on a correlation between the possibility of movement and ellipsis of adjuncts. In Section 4.3, I argue that sluicing is derived in such a way that the clause to be elided undergoes topicalization before ellipsis following Hiraiwa and Ishihara (2012). I show that this analysis gains further support based on a novel finding that the remnant phrase in sprouting cannot drop its morphological case. Section 4.4 discusses particle

stranding ellipsis, which has been treated differently from other ellipsis phenomena in the literature because of its unique sentence-initial property. I argue that particle stranding ellipsis should be unified with argument ellipsis under the movement approach to ellipsis, where an element to be elided undergoes movement to the matrix SpecCP. In support of this claim, I provide a number of parallelisms between argument ellipsis and particle stranding ellipsis.

4.2. V-Stranding VP-Ellipsis

4.2.1. V-stranding VP-ellipsis vs. argument ellipsis

V-stranding VP-ellipsis was originally proposed by Otani and Whitman (1991) to account for null objects in Japanese. They point out that null objects in Japanese can yield sloppy readings, as in (2), and argue that such null objects are derived not by *pro* but by V-stranding VP-ellipsis. In (3), VP-ellipsis elides only an object after the verb has undergone movement to T.[1,2]

(2) *John-wa zibun-no kuruma-o arat-ta kedo, Bill-wa Δ araw-anak-atta.*
John-TOP self-GEN car-ACC wash-PAST but Bill-TOP wash-NEG-PAST
lit. 'John washed his car, but Bill did not wash.' (strict/ sloppy)

(3) V-stranding VP-Ellipsis:
a. Subj [$_{VP}$ Obj V] T
b. Subj [$_{VP}$ Obj t$_{V}$] V-T by verb movement
c. Subj ~~[$_{VP}$ Obj t$_{V}$]~~ V-T by VP-ellipsis

Otani and Whitman's analysis of null objects has however been criticized by a number of studies that pursue the argument ellipsis analysis of null objects in (4) (Oku 1998; Kim 1999; Takahashi 2008b; Takita 2011; Otaki 2014; Sakamoto 2016b; 2017).

---

[1] I illustrate V-stranding VP-ellipsis under the PF-deletion approach in (2) although Otani and Whitman (1991) originally employed LF-copying in their analysis.

[2] I do not discuss whether the relevant verbal domain is actually VP, *v*P or another phrase. I use VP here as a neutral term for a verbal domain.

(4) Argument Ellipsis:
Subj [~~NP Obj~~] V T

One piece of evidence that favors argument ellipsis over V-stranding VP-ellipsis is that argument ellipsis can cover ellipsis of subjects as well as objects (Oku 1998). (5) exemplifies ellipsis of subjects.

(5) a. *John-wa [zibun-no ronbun-ga zyaanaru-ni nor-u to] omot-ta kedo*
John-TOP self-GEN paper-NOM journal-DAT appear-PRES C think-PAST but
'John$_1$ thought that his$_1$ paper would appear in a journal, but'

b. *Bill-wa [Δ zyaanaru-ni nor-ana-i to] omot-ta.*
Bill-TOP journal-DAT appear-NEG-PRES C think-PAST
lit. 'Bill thought that Δ would not appear in a journal.' (strict/ sloppy)

Taking (5a) as an antecedent, the embedded subject in (5b) undergoes argument ellipsis. Under the assumption that subjects move to SpecTP, V-stranding VP-ellipsis cannot elide subjects since they are outside of the verbal domain.

As noted in Section 2.2.3.3, Kim (1999) argues for the argument ellipsis analysis of null objects in Korean based on the so-called whole-part construction. (6a) illustrates a whole-part construction in Korean. The first accusative object 'self's child' is the "whole" expression, whereas the second accusative object 'arm' is the "part" expression. Kim (1999) finds that the whole object can undergo ellipsis, as in (6b).

(6) *a. Jerry-nun caki-uy ai-lul phal-ul ttayli-ess-ta. [Korean]*
Jerry-TOP self-GEN child-ACC arm-ACC hit-PAST-DCL
'Jerry hit his child on the arm.'

b. Kulena Sally-nun Δ tali-ul ttayli-ess-ta. [Korean]
but Sally-TOP leg-ACC hit-PAST-DCL
lit. 'But Sally hit Δ on the leg.' (strict/ sloppy) (Kim 1999, 259)

Ellipsis of the whole object cannot be captured under V-stranding VP-ellipsis. In order to derive (6b) in this analysis, the part object has to be extracted out of the verbal domain, as illustrated in (7). (8), however, shows that movement of the part object across the whole object is not possible.

(7) V-stranding VP-Ellipsis:
[$_{TP}$ Sally leg$_i$ [~~$_{vP}$ child t_i t_v~~] hit-PAST]

(8) * *Kulena Sally-nun tali-ul$_i$ caki-uy ai-lul t_i ttayli-ess-ta. [Korean]*
but Sally-TOP leg-ACC self-GEN child-ACC hit-PAST-DCL
lit. 'But Sally hit her child on the leg.' (Kim 1999, 259)

This indicates that V-stranding VP-ellipsis cannot capture ellipsis of an item that leaves an immobile element behind in a VP domain. The same point can be made in Japanese with small clauses (see also Section 2.2.3.4). In (9a), the small clause consists of two internal arguments that behave as a subject and a predicate respectively. As shown in (9b), the subject of the small clause 'three dogs' can be elided. In order to capture this under V-stranding VP-ellipsis, the predicate argument 'pet' would have to be extracted out of the verbal domain, crossing the subject argument 'three dogs.' Such movement is, however, not possible, as illustrated in (9c).

(9) *a. John-wa [$_{SC}$ san-biki-no inu-o petto-ni] si-ta kedo,*
John-TOP three-CL-GEN dog-GEN pet-DAT do-PAST but
lit. 'John got three dogs as his pets, but'

b. Bill-wa [$_{SC}$ Δ petto-ni] si-nak-atta.
Bill-TOP pet-DAT do-NEG-PAST
lit. 'Bill did not get Δ as his pets.'(quantificational)

*c. *Bill-wa petto-ni$_i$ inu-o t_i si-ta.*
Bill-TOP pet-DAT dog-GEN do-NEG-PAST
'Bill did not get a dog as his pet.'

So far, we have seen that argument ellipsis has wider empirical coverage than V-stranding VP-ellipsis. However, this does not argue against the existence of V-stranding VP-ellipsis. Arguments of the sort presented above just show that ellipsis of objects cannot be uniformly analyzed as V-stranding VP-ellipsis; they don't rule out the possibility that V-stranding VP-ellipsis is in fact available in Japanese.

4.2.2. Ellipsis of adjuncts

Funakoshi (2014, 2016) argues that Japanese indeed allows V-stranding VP-ellipsis based on the availability of adjunct-inclusive interpretations (see also Funakoshi 2012, 2013 for other arguments for V-stranding VP-ellipsis). It has been reported that adjuncts typically do not undergo ellipsis by themselves (Oku 1998; Sugisaki 2013; Funakoshi 2016; see also the discussion in Section 2.2.2), but they can be null when their clause-mate object is also null (Funakoshi 2016; cf. Oku 1998). (10) illustrates this point. Taking (10a) as an antecedent, the adjunct 'carefully' is null in (10b). Importantly, the sentence cannot contain the adjunct 'carefully' in its interpretation. On the other hand, when both the adjunct and the object are null, as in (10c), the adjunct can be interpreted in the sentence (i.e. adjunct-inclusive interpretation). (10c) thus can mean that John did not wash cars carefully.

(10) *a. Bill-wa kuruma-o teineini aratta kedo,*
Bill-TOP car-ACC carefully washed but
'Bill washed cars carefully, but …'

b. John-wa kuruma-o Δ arawanakatta.
lit. 'John didn't wash cars.' (*adjunct-inclusive)

c. John-wa Δ Δ arawanakatta.
lit. 'John didn't wash.' (adjunct-inclusive) (Funakoshi 2016, 119-120)

Based on the impossibility of ellipsis of adjuncts on their own, Funakoshi (2016) proposes that (10c) is derived by V-stranding VP ellipsis. He argues that it is not the case that the argument and the adjunct in (10c) are elided separately, as in (11). Rather, what is elided is a headless VP containing the object and the adjunct, as in (12).[3]

(11) a. Subj [$_{VP}$ Obj Adv V]
b. Subj [$_{VP}$ ~~Obj~~ Adv V] (ellipsis of object)
c. Subj [$_{VP}$ ~~Obj Adv~~ V] (*ellipsis of adverb)

[3] Regarding (10b), there is a derivation in which the object moves out of the VP prior to VP ellipsis. This derivation will be blocked for a principled reason below in Section 4.2.3.

(12) V-stranding VP-ellipsis (Otani and Whitman 1991; Funakoshi 2016)
a. Subj [$_{VP}$ Obj Adv V]
b. Subj [$_{VP}$ Obj Adv t_V] V (Verb movement)
c. Subj ~~[$_{VP}$ Obj Adv t_V]~~ V (VP-ellipsis)

The V-stranding VP-ellipsis thus nicely captures the contrast regarding ellipsis of adjuncts between (10b) and (10c).

This analysis further predicts that when adjuncts are the only material in a VP-ellipsis domain, then they should be able to be elided on their own (Funakoshi 2016). This prediction is indeed borne out. In (13), the adjunct 'on time' is the only material in the verbal domain and is elided (i.e. not pronounced) in the second sentence. Crucially, the sentence has an adjunct-inclusive reading.

(13) *Densya-wa zikandoorini ki-ta kedo, basu-wa Δ ko-nak-atta.*
train-TOP on.time come-PAST but bus-TOP come-NEG-PAST
'The train came on time, but the bus didn't come Δ.' (adjunct-inclusive) (Funakoshi 2016, 129)

This shows that adjuncts can be elided on their own with intransitive verbs, but not with transitive verbs. This contrast further supports the existence of V-stranding VP-ellipsis in Japanese.

I thus conclude that Japanese allows both argument ellipsis and V-stranding VP-ellipsis, which have been treated differently in the literature although some of their empirical coverage overlaps. The movement approach to ellipsis, however, raises a possibility that the two ellipsis phenomena can be unified in the sense that the elided element in both cases is fronted to the matrix SpecCP, where it undergoes ellipsis. It would be then expected that V-stranding VP-phrase undergoes movement before it gets elided (cf. Funakoshi 2012, 2014; see also Johnson 2001 regarding VP-ellipsis in English).

One novel piece of evidence that this is indeed the case is provided by the fact that adjunct-inclusive interpretations are not obtained in islands. In (14a), the target adjunct 'carefully' is embedded in a relative clause. Taking this sentence as an antecedent, the adjunct and the clause-mate object are null in (14b). Crucially, the adjunct interpretation cannot be obtained here. (14b) is judged as false in the given context.

(14) [Context: A washed cars in a careful manner, B washed cars but not in a careful manner, and C did not wash cars at all. John employed A and Bill employed B.]

a. John-wa [[kuruma-o teineini arat-ta] hito]-o saiyoosi-ta kedo,
John-TOP car-ACC carefully wash-PAST person-ACC employ-PAST but
'John employed a person who washed cars carefully, but'

b. Bill-wa [[Δ Δ araw-anak-atta] hito]-o saiyoosi-ta.
Bill-TOP wash-NEG-PAST person-ACC employ-PAST
lit. 'Bill employed a person who did not wash Δ Δ.' (*adjunct-inclusive)

This indicates that V-stranding VP-ellipsis is sensitive to islands, just like argument ellipsis (see Section 2.3.1). (15) illustrates the same point with adjuncts under intransitive verbs. In (15a), the reason clause contains an intransitive verb with an adjunct. In this case too, the adjunct-inclusive interpretation is not possible, as shown in (15b).

(15) *a. John-wa [tomodati-ga zikandoori-ni kita kara] issyoni paatii-ni it-ta kedo,*
John-TOP friend-NOM on.time-DAT came because together party-DAT go-PAST but
'Because his friend came on time, John went to the party together with him, but'

b. #Bill-wa [tomodati-ga Δ konakatta kara] issyoni karaoke-ni it-ta.
Bill-TOP friend-NOM not.came because together karaoke-DAT go-PAST
'because his friend did not come Δ, Bill went to Karaoke together with him.'
(*adjunct-inclusive)

This suggests that the VP to be elided actually undergoes movement to the matrix SpecCP. Furthermore, embedding another clause under an adjunct clause does not support an adjunct-inclusive reading, as (16) shows. In (16a), the embedded intransitive verb contains an overt adjunct, whereas the corresponding adjunct is null in (16b). Crucially, the adjunct-inclusive reading is not available in (16b).

(16) *a. John-wa [$_{Adj}$ pro [tomodati-ga zikandoori-ni kuru to] omotta kara]*
John-TOP friend-NOM on.time-DAT come C thought because
massugu mukat-ta kedo,
straight went but
'Because he thought that his friend would come on time, John went directly (to the meeting place), but'

b. #Bill-wa [$_{Adj}$ pro [tomodati-ga Δ konai to] omotta kara] yorimiti-o sita.
Bill-TOP friend-NOM not.come C thought because detour-ACC did
'because he thought that his friend would not come Δ, Bill took a detour.'
(*adjunct-inclusive)

This suggests that the position where V-stranding VP-ellipsis is licensed is the matrix CP, not an embedded CP, the conclusion that was also reached regarding argument ellipsis in Chapter 2. If the VP could get elided after moving to an embedded SpecCP, the adjunct-inclusive reading should be possible in (16b).

Under the movement approach to V-stranding VP-ellipsis, we would expect that the V-stranding VP-phrase can be fronted. In the next section, I will show that there is independent evidence for V-stranding VP-scrambling in Japanese based on Koizumi (2000) and Arano (2017a).

4.2.3. V-stranding VP-scrambling

In this section, I summarize the independently motivated V-stranding VP-scrambling analysis of multiple scrambling phenomena in Japanese, where two or more elements are fronted in a sentence, as shown in (17) (Koizumi 2000; Arano 2017a).

(17) {Mary-ni tegami-o} Bill-wa[{Mary-ni tegami-o} John-ga t_{IO} t_{DO} watasita to] omotta.
Mary-DAT letter-ACC Bill-TOP Mary-DAT letter-ACC John-NOM gave C thought
lit. '{To Mary a letter}, Bill thought [{to Mary a letter} that John gave t_{IO} t_{DO}].'

In this analysis, multiple fronting can be analyzed as a single movement of a larger constituent, VP, which contains both fronted elements. Arano (2017a) claims that this analysis holds when the two fronted nouns form a phonological unit (i.e. when there is no pause between them).[4] The derivation of this analysis is schematized in (18). In (18b), the verb undergoes head-movement to T. In (18c), the

[4] Arano (2017b) argues that the multiple scrambling derivation has a different prosody, with each fronted nominal forming a separate prosodic unit, i.e. the nominals don't form a prosodic constituent on this derivation. I will put this prosodic pattern/derivation aside below.

headless VP-phrase undergoes scrambling, taking along the two internal objects.

(18) V-stranding VP-scrambling (Koizumi 2000; Arano 2017a)
  a. Subj [$_{VP}$ IO DO V] T
  b. Subj [$_{VP}$ IO DO t_V] V-T (Verb movement)
  c. [$_{VP}$ IO DO t_V] Subj t_{VP} V-T (VP-movement)

It has been reported that multiple scrambling exhibits different properties from single scrambling (Koizumi 2000; Arano 2017a; cf. Sohn 1995; Takano 2002; Agbayani, Golston, and Ishii 2015). In this respect, one piece of evidence for V-stranding VP-scrambling is that an NP in a fronted VP, such as indirect or direct object, does not c-command the subject (Arano 2017a).[5]

Let us consider interaction between scope interpretations and single/multiple scrambling in this regard. Although Japanese is a scope rigid language, single scrambling can change scope-interpretations, as shown in (19) (Hoji 1985; Kuroda 1986; see also Section 2.3.2.3).

(19) *a. Bill-wa [mit-tu-no ginkoo-ga Toyota-dake-ni monku-o it-ta to]*
Bill-TOP three-CL-GEN bank-NOM Toyota-only-DAT complaint-ACC say-PAST C
omot-ta.
think-PAST
'Bill thought that three banks made complaints only to Toyota.' (3 > only/ *only > 3)

b. Toyota-dake-ni Bill-wa [t_{IO} mit-tu-no ginkoo-ga t_{IO} monku-o itta to] omotta.
Toyota-only-DAT Bill-TOP three-CL-GEN bank-NOM complaint-ACC said C thought
lit. 'Only to Toyota$_i$, Bill thought that three banks made complaints t_i.'(3 > only/ only > 3)

The canonical sentence (19a) allows only the surface scope interpretation (3 > only). On the other hand, when the indirect object undergoes long-distance scrambling, as in (19b), then another scope interpretation (only > 3) becomes possible. This is because the indirect object then c-commands the embedded quantificational subject (as discussed in Section 2.3.2.3, what is relevant here is actually successive cyclic movement since the final landing site of long-distance scrambling does not affect

[5] See also Arano (2017a,b) for arguments against Agbayani et al.'s (2015) phonological scrambling approach to multiple scrambling, which will not be discussed here.

scope (Tada 1993)).

Interestingly, such a scope change is not observed when the indirect object and the direct object that form a phonological unit move together, as shown in (20) (Agbayani, Golston, and Ishii 2015; Arano 2017a).

(20) *a. Toyota-dake-ni monku-o, Bill-wa [mit-tu-no ginkoo-ga t_{IO} t_{DO} itta to] omotta.*
Toyota-only-DAT complaint-ACC Bill-TOP three-CL-GEN bank-NOM said C thought
lit. 'Only to Toyota complaints, Bill thought that three banks made t t.' (3 > only/ *only > 3)

b. Monku-o Toyota-dake-ni, Bill-wa [mit-tu-no ginkoo-ga t_{IO} t_{DO} itta to] omotta.
complaint-ACC Toyota-only-DAT Bill-TOP three-CL-GEN bank-NOM said C thought
lit. 'Complaints only to Toyota, Bill thought that three banks made t t.' (3 > only/ *only > 3)

In (20), although the indirect object undergoes long-distance movement together with the direct object and appears to c-command the embedded quantificational subject, the *only > 3* interpretation is not possible. Under the V-stranding VP-scrambling approach to multiple scrambling, the impossibility of the relevant scope interpretation naturally follows. In (20), what is scrambled is actually a VP containing both the indirect and the direct object. Therefore, the indirect object itself does not c-command the embedded subject (i.e. it does not c-command outside of the fronted VP).

The same point can be illustrated with bound variables, which are also subject to a c-command requirement (Hoji 2003). In (21a), a bound variable item *soko* is located in the object position and c-commanded by the subject NP. (21a) thus has the bound variable interpretation. In (21b), on the other hand, the bound variable interpretation between the subject and the object is not possible since the former is not c-commanded by the latter.

(21) *a. Mettu-sae$_i$-ga soko$_i$-no kantoku-o uttae-ta.*
Mets-even-NOM there-GEN manager-ACC sue-PAST
'Even the Mets$_i$ sued its$_i$ manager.'

*b. *Soko$_i$-no kantoku-ga Mettu-sae$_i$-o uttae-ta.*
there-GEN manager-NOM Mets-even -ACC sue-PAST
'Its$_i$ manager sued even the Mets$_i$.' (Hoji 2003, 393-394)

The subject can be bound by a moved element, as in (22). In (22), the object crosses the subject, and the sentence has the bound variable interpretation between them (Agbayani, Golston, and Ishii 2015; Arano 2017a).

(22) *Mettu$_i$-sae-o soko$_i$-no kantoku-ga t_{DO} saibansyo-ni uttae-ta.*
Mets-even-ACC there-GEN manager-NOM court-DAT sue-PAST
'Even the Mets$_i$, it$_i$'s manger sued t_{DO} in court.'

What is important here is that when both the direct and the indirect object undergo scrambling and form a phonological unit, as in (23), the relevant bound variable interpretation is not possible.

(23) *?*Mettu$_i$-sae-o saibansyo-ni soko$_i$-no kantoku-ga t_{DO} t_{IO} uttae-ta.*
Mets-even-ACC court-DAT there-GEN manager-NOM sue-PAST
'Even the Mets$_i$ in court, it$_i$'s manger sued t_{DO} t_{IO}.' (Agbayani et al. 2015, 73)

The impossibility of the bound variable interpretation between the fronted direct object and the subject in (23) can be straightforwardly captured under the V-stranding VP-scrambling analysis of multiple scrambling. In this analysis, what is fronted is the VP containing both the direct and the indirect object. VP-movement thus does not enable the direct object to c-command the subject.

4.2.4. V-stranding VP-ellipsis under the movement approach to ellipsis

We have seen so far that Japanese allows both V-stranding VP-ellipsis and V-stranding VP-scrambling. I argue that the derivation of the former involves the latter, i.e. V-stranding VP-ellipsis is derived in such a way that a headless VP undergoes movement to the matrix SpecCP prior to ellipsis. This means that the availability of adjunct-inclusive interpretations should correlate with the (im)possibility of movement of adjuncts. Consider first the case where adjunct-inclusive interpretations are not possible. The impossibility of an adjunct-inclusive interpretation in (24b) shows that adjunct phrases cannot

undergo ellipsis on their own. As expected, this adjunct cannot undergo movement by itself, as shown in (24c) (Sugisaki 2000; Takita 2011; Yamashita 2013a).[6]

(24) Manner adverb

a. John-wa kuruma-o teineini aratta kedo,
John-TOP car-ACC carefully washed but
'John washed cars carefully, but …'

b. Ellipsis
Bill-wa kuruma-o Δ arawanakatta.
lit. 'Bill didn't wash cars Δ.' (*adjunct-inclusive)

c. Movement
**Teineini, John-wa [dare-ga kuruma-o t aratta ka] kiita.*
lit. 'carefully, John asked who washed cars t.'

cf. d. Kuruma-o, John-wa [dare-ga t teineini aratta ka] kiita.
'cars, John asked who washed t carefully.'

---

[6] It is controversial whether an adjunct modifying VP can undergo long-distance scrambling or not. Saito (1985) argues that scrambling of manner adverbs is possible, as in (ia). On the other hand, Sugisaki (2000), Takita (2011) and Yamashita (2013) judge (ia) to be ungrammatical. Note that long-distance scrambling of the object is completely grammatical, as in (ib).

(i) a. %*Yukkurito John-wa [Mary-ga t booru-o nageta to] itta.*
slowly John-TOP Mary-NOM ball-ACC threw C said.
lit. 'Slowly, John said that Mary threw a ball t.' (Sugisaki 2000, 387: modified)

b. *Booru-o John-wa [Mary-ga yukkurito t nageta to] itta.*
ball-ACC John-TOP Mary-NOM slowly threw C said.
lit. 'a ball, John said that Mary threw t slowly.'

I do not discuss this speaker variation here, but what is important is that the adjunct-argument asymmetry in scrambling becomes even stronger when we use interrogative as an embedded clause, an in (24) (cf. Bošković 2008 on similar effects).

As we have seen in Section 4.2.2, adjunct inclusive interpretations are possible when both a VP-adjunct and its clause-mate object are elided, as in (25b) (Funakoshi 2016). Importantly, multiple fronting of an adjunct and its clause-mate object is possible, as shown in (25c) (Koizumi 2000).[7]

(25) Manner adverb + Object

a. John-wa kuruma-o teineini aratta kedo,
John-TOP car-ACC carefully washed but
'John washed cars carefully, but …'

b. Ellipsis
Bill-wa Δ Δ arawanakatta.
lit. 'Bill didn't wash Δ Δ.' (adjunct-inclusive) (Funakoshi 2016, 119)

c. Movement
Kuruma-o$_i$ teinei-ni$_j$, John-wa [dare-ga t_j t_i aratta ka] kiita.
'Cars carefully, John asked who washed t_i t_j.'

The possibility of adjunct-inclusive interpretations thus correlates with the movability of adjuncts, which is expected under the movement approach to V-stranding VP-ellipsis. Under this approach, the adjunct-inclusive interpretation in (25b) is derived by V-stranding VP-ellipsis, which involves movement of a remnant VP that contains both the adjunct and the object, as in (25c). Recall that the multiple fronting in (25c) cannot be analyzed as multiple applications of scrambling given that an adjunct cannot undergo long-distance scrambling by itself, as shown by (24c).

The movement approach to V-stranding VP-ellipsis gains further support based on considerations of adjuncts under intransitive verbs. As we have seen in Section 4.2.2, adjuncts can be elided on their own when they are the only material with intransitive verbs, repeated below as (26). Thus, an adjunct-inclusive interpretation is allowed in (26). Funakoshi (2016) takes this as supporting V-stranding VP-ellipsis in Japanese.

---

[7] (25c) is degraded when there is a pause between the two fronted items, as expected under the V-stranding VP-movement approach to multiple scrambling (Arano 2017a,b).

(26) Ellipsis

Densya-wa zikandoorini ki-ta kedo, Basu-wa Δ ko-nak-atta.
train-TOP on.time come-PAST but bus-TOP come-NEG-PAST
'The train came on time, but the bus didn't come Δ.' (adjunct-inclusive) (Funakoshi 2016, 129)

Funakoshi (2016) himself however notes that not all adjuncts can undergo ellipsis under intransitive verbs. (27) shows that verbal *te*-adjuncts cannot be elided (see Section 2.2.2; Sugisaki 2013; Funakoshi 2016).

(27) Ellipsis

Densya-wa okure-te ki-ta kedo, Basu-wa Δ ko-nak-atta.
train-TOP be.late-TE come-PAST but bus-TOP come-NEG-PAST
'The train came late, but the bus didn't come Δ.' (*adjunct-inclusive)

The movement approach to V-stranding VP-ellipsis nicely accounts for the contrast between (26) and (27), which was left unexplained in the literature. Importantly, as can be seen in (28), the movement counterpart of (26) is possible although an adjunct itself cannot undergo long-distance scrambling, as we have just seen.

(28) Movement

Zikandoorini$_i$ John-wa [dono-basu-ga t_i ki-ta ka] kii-ta.
on.time John-top which-bus-nom come-PAST Q ask-PAST
lit. 'On time, John asked which bus came t.'

(26) and (28) are thus another case of correlation between the possibility of adjunct-inclusive interpretations and the movability of adjuncts, which is expected under the movement approach to V-stranding VP-ellipsis. The fronted adjunct construction in (28) should be analyzed as involving movement of an intransitive VP that contains only the adjunct given that adjuncts cannot undergo long-distance scrambling on their own. The movement approach to V-stranding VP-ellipsis thus nicely ties the apparent possibility of adjunct ellipsis in (26) (i.e. V-stranding VP-ellipsis; Funakoshi 2016) with the apparent movability of the adjunct in (28) (i.e. V-stranding VP-scrambling).

Interestingly, in contrast to the adjunct in (28), *te*-adjuncts cannot be fronted across a clausal boundary, as in (29).

(29) Movement
**Okure-te$_i$ John-wa [dono-basu-ga t_i kita ka] kii-ta.*
be.late-TE John-TOP which-bus-NOM come-PAST Q ask-PAST
lit. 'Late, John asked which bus didn't come t.'

(27) and (29) thus show that an adjunct that cannot be moved cannot be elided, which is also consistent with the movement approach to V-stranding VP-ellipsis.[8]

One may consider that ellipsis of only adjuncts could be wrongly derived under V-stranding VP-ellipsis. As illustrated in (30), an adjunct could be elided by itself if the object were extracted out of a VP-ellipsis site before the VP gets elided.

(30) a. Subj [$_{VP}$ Obj Adv V]
b. Subj [$_{VP}$ Obj Adv t_V] V (Verb movement)
c. Subj Obj [$_{VP}$ t_{Obj} Adv t_V] V (extraction of object)
d. Subj Obj ~~[$_{VP}$ t_{Obj} Adv t_V]~~ V (VP-ellipsis: apparent adjunct ellipsis)

Under the movement approach to V-stranding VP-ellipsis, however, the derivation of the relevant case is actually (31), where a VP undergoes movement before it is elided.

(31) a. Subj [$_{VP}$ Obj Adv V]
b. Subj [$_{VP}$ Obj Adv t_V] V (Verb movement)
c. Subj Obj [$_{VP}$ t_{Obj} Adv t_V] V (extraction of object)
d. [$_{VP}$ t_{Obj} Adv t_V] … Subj Obj t_{VP} V (VP-movement)
e. ~~[$_{VP}$ t_{Obj} Adv t_V]~~ … Subj Obj t_{VP} V (VP-ellipsis: apparent adjunct ellipsis)

I argue that the apparent adjunct ellipsis is blocked because its movement counterpart (31d) is not possible. (32) illustrates this point with data. As indicated in (32b), the embedded object can be extracted out of a VP and move to a higher position (i.e. any of the positions indicated in (32b)). In

[8] I speculate that the reason why *te*-adjuncts cannot undergo V-stranding VP-ellipsis/scrambling is that they are placed outside of the VP domain targeted by the operations in question.

(32c), the remnant VP undergoes scrambling crossing the extracted object, and the sentence is ungrammatical. In other words, a VP from which extraction of an object takes place cannot undergo movement.[9]

(32) *a. John-wa [dare-ga [$_{VP}$ kuruma-o teineini t_V] arat-ta ka] kii-ta.*
John-TOP who-NOM car-ACC carefully wash-PAST Q ask-PAST
'John asked [who washed [$_{VP}$ t_V cars carefully]].'

b. John-wa[{kuruma-o} dare-ga {kuruma-o} [$_{VP}$ t_{Obj} teineini t_V] aratta ka] kiita.
lit. 'John asked [{cars} who washed {cars} [$_{VP}$ t_V t_{Obj} carefully]].'

c.[$_{VP}$ t_{Obj} Teineini t_V], John-wa [{kuruma-o} dare-ga {kuruma-o} t_{VP} aratta ka] kiita.*
lit. '[$_{VP}$ t_V t_{Obj} carefully], John asked [{cars} who washed {cars} t_{VP}].'

cf. d. [$_{VP}$ kuruma-o teineini t_V] John-wa [dare-ga t_{VP} arat-ta ka] kii-ta.
car-ACC carefully John-TOP who-NOM wash-PAST Q ask-PAST
lit. '[$_{VP}$ t_V cars carefully], John asked [who washed t_{VP}].'

Under the movement approach to V-stranding VP-ellipsis, the impossibility of eliding such a remnant VP naturally follows. Movement of a remnant VP that undergoes ellipsis is not allowed (see also Section 3.2.1).[10]

It should be noted that Funakoshi (2014, 2016) points out that apparent adjunct ellipsis is possible if the extracted object is marked with topic particle *-wa* and contrastively focused, as in (33).

(33) *a. John-wa syatyo-no kuruma-wa teineini arau.*
John-TOP president-GEN car-TOP carefully wash
'John washes the president's cars carefully, but …'

---

[9] In contrast to objects, subjects can be apparently extracted out of a fronted verb phrase. For ease of exposition (if the PBC is relevant here), I assume that this is because the verbal domain targeted by V-stranding VP-scrambling and VP-ellipsis is VP, not *v*P (but see Hiraiwa 2010 for an account on which subject extraction out of a fronted *v*P can also avoid the classical PBC effect). The trace of V-movement in a fronted VP is apparently not a problem either. See Funakoshi 2014 for relevant discussion.

[10] The above account of the impossibility of overt extraction out of an ellipsis site might apply to other ellipsis cases where overt extraction out of an ellipsis site is impossible (see e.g. Merchant 2008; Aelbrecht 2009; Bošković 2014). I leave exploring this possibility for future research.

b. Demo fukusyatyo-no kuruma-wa Δ arawanai.
but vice.president-GEN car-TOP not.wash
lit. 'But he does not wash the vice president's cars Δ.' (adjunct-inclusive)

It is however not clear that the topic-marked object in (33) is really extracted out of a V-stranding VP ellipsis site since phrases marked only with a topic marker can be base-generated in the apparent dislocated surface position (Saito 1985). Such phrases are in fact insensitive to islands, as illustrated in (34a). On the other hand, when topic marked phrases contain other particles, they exhibit island-sensitivity, as in (34b). This suggests that phrases of this sort cannot be base-generated in the apparent surface position.

(34) *a. ?Russell$_i$-wa, [John-ga [e_j e_i atta koto-ga aru] nihonzin$_j$]-o oozei sitteru rasii.*
Russell-TOP John-NOM met fact-NOM exist Japanese-ACC many know seem
'Speaking of Russell$_{TOP}$, it seems that John knows many Japanese who met him.'

*b. *Russell$_i$-ni-wa, [John-ga [e_j t_i atta koto-ga aru] nihonzin$_j$]-o oozei sitteru rasii.*
Russell-DAT-TOP John-nom met fact-NOM have Japanese-ACC many know seem
'Speaking of Russell$_{DAT\text{-}TOP}$, it seems that John knows many Japanese who met him.'
(Saito 1985, 332)

Importantly, in contrast to (33), an adjunct cannot undergo ellipsis by itself when a clause-mate topic-marked object contains another particle, as in (35).

(35) *a. John-wa syatyo-no kuruma-ni-wa sintyo-ni sawaru.*
John-TOP president-GEN car-DAT-TOP carefully touch
'John touches the president's cars carefully, but …'

b. Demo fukusyatyo-no kuruma-ni-wa Δ sawaranai.
but vice.president-GEN car-DAT-TOP not.touch
'But he does not touch the vice president's cars Δ.' (*adjunct-inclusive)

This confirms that overt extraction of an object out of a V-stranding VP-ellipsis site is not possible.

To summarize, in this section, I have extended the movement approach to argument ellipsis to V-stranding VP-ellipsis, proposed by Otani and Whitman (1991) and elaborated on by Funakoshi (2016). This analysis nicely captures a number of contrasts in the (im)possibility of adjunct-inclusive

interpretations. Under the movement approach to ellipsis argued for in this thesis, argument ellipsis and V-stranding VP-ellipsis, which have been treated differently in the literature, are actually unified in the sense that ellipsis is licensed in the matrix SpecCP, which requires movement to that position. We have seen that this analysis can account for the relevant contrasts regarding the (im)possibility of adjunct-inclusive interpretations.

4.3. Sluicing

4.3.1. Four approaches to sluicing

In this section, I extend the movement approach to ellipsis to sluicing in Japanese. Examples of matrix and embedded sluicing in Japanese are the following:

(36) a. Matrix Sluicing

A: John-ga nanika-o tabe-ta rasii. B: Nani-o (desu ka)?
John-NOM something-ACC eat-PAST seem what-ACC COP.POLITE Q
'It seems that John ate something.' 'What?'

b. Embedded Sluicing

John-wa nanika-o tabe-ta kedo, boku-wa [nani-o (da) ka] sir-ana-i.
John-TOP something-ACC eat-PAST but I-TOP what-ACC COP Q know-NEG-PRES
'John ate something, but I don't know what.'

In Japanese sluicing, copula can optionally appear, as shown in (36) (Kuwabara 1996; Nishiyama, Whitman, and Yi 1996; Kizu 1997; Hiraiwa and Ishihara 2002; Saito 2004; cf. Takahashi 1994).[11]

---

[11] It is sometimes argued that the obligatory absence of the Q-complementizer *ka* in (i) supports Merchant's (2001) Sluicing Comp generalization, that is, the generalization that the C head must be deleted in sluicing (Hasegawa 2008; Abe 2015).

(i) *A: John-ga nanika-o tabe-ta rasii. B: Nani-o (*ka)?*
John-NOM something-ACC eat-PAST seem what-ACC Q
'It seems that John ate something.' 'What?'

The existence/absence of the Q-complementizer *ka* in Japanese is however independent of sluicing. The Q-complementizer is optional in matrix clauses with a polite morpheme and is obligatory in embedded clauses

There have been a number of analyses of Japanese sluicing in the literature. The first analysis is that sluicing in Japanese is a copula construction with a null pronominal subject, as in (37a) (Nishiyama, Whitman, and Yi 1996; cf. Murasugi 1991; Takahashi 1994; Saito 2004). Note in this respect that the copula is optional in Japanese copula sentences, as shown in (37b).

(37) *a. pro* analysis
[$_{TP}$ pro (is) wh]

b. John-wa gakusee (da/desu).
John-TOP student COP/COP.POL
'John (is) a student.'

The second analysis employs so-called in-situ deletion (Kimura and Takahashi 2011; Abe 2015). In this analysis, it is assumed that an element that carries a focus feature can survive PF-deletion. The underlying structure of sluicing under this analysis is assumed to be either canonical sentences like (38a) (Abe 2015) or in-situ focus constructions like (38b) (Kimura and Takahashi 2011). In-situ focus constructions are constructions where focused phrases are marked by prosodic prominence (Hiraiwa and Ishihara 2012). Following Hiraiwa and Ishihara (2002, 2012) and Saito (2012), I assume that *no* in this construction occupies the Fin position, and the optional copula is the Foc head. The optionality of copula in Japanese sluicing can be captured under the assumption that the underlying structure of sluicing is an in-situ focus construction.

(38) In-situ deletion approach
a. ~~[$_{TP}$ *John-ga*~~ *Nani-o*$_{[FOC]}$ ~~*tabeta]*~~*?*
John-NOM what-ACC ate
lit. '~~John ate~~ what?'

b. ~~[$_{FinP}$ *John-ga*~~ *Nani-o*$_{[FOC]}$ ~~*tabeta no]*~~ *(desu ka)?*
John-NOM what-ACC ate Fin Foc Q
lit. '~~John ate~~ what?'

(see Miyagawa 1987; 2017; Fujiwara 2020a for the distribution of *ka*). Therefore, *ka* can appear in Japanese matrix sluicing when a polite morpheme also occurs, as in (36a).

The third analysis is that sluicing involves *wh*-fronting, which is followed by deletion of TP or FinP, as in English sluicing (Takahashi 1994; Hiraiwa and Ishihara 2002; Hasegawa 2008; Nakao 2009; Takita 2011). In this approach, a *wh*-phrase escapes PF-deletion by either *wh*-movement (Takahashi 1994; Hasegawa 2008; Takita 2011) or focus movement (Hiraiwa and Ishihara 2002; Nakao 2009). The underlying structure of this analysis can also be either canonical sentences like (39a) or in-situ focus constructions like (39b) (prior to *wh*-fronting).

(39) *Wh*-movement approach

a. Nani-o$_i$ ~~[$_{TP}$ John-ga t$_i$ tabeta]~~?
what-ACC John-NOM ate
'What did John eat?'

b. Nani-o$_i$ ~~[$_{FinP}$ John-ga t$_i$ tabeta no]~~ (desu ka)? (in-situ)
what-ACC John-NOM ate Fin Foc Q
'What did John eat?'

The fourth approach assumes that sluicing is derived from cleft constructions by deletion of the presuppositional clause, as shown in (40) (Kuwabara 1996; Fukaya and Hoji 1999; Saito 2004; Kizu 2005; Hiraiwa and Ishihara 2012).

(40) *a. [John-ga e tabeta no]-wa nani-o (desu ka)?* (cleft)
John-NOM ate C-TOP what-ACC COP.POL Q
'What$_{ACC}$ is it that John ate?'

b. *~~[John-ga e tabeta no]-wa~~ nani-o (desu ka)?* (deletion of the topic-marked clause)

Notice that copula is optional in cleft sentences as well. Therefore, the cleft-based analysis can also capture the optionality of copula in sluicing. In the following sections, I will pursue the cleft-based approach to sluicing. In Section 4.3.4, I will show that this approach to sluicing fits well with the movement approach to ellipsis argued for in this dissertation.

4.3.2. Ellipsis vs. *pro*: case-marked or not

In this section, following Fukaya and Hoji (1999) and Hiraiwa and Ishihara (2002, 2012), I show that the *pro* analysis and the ellipsis analysis are both needed to capture two types of sluicing in Japanese, case-marked sluicing like (41) and caseless sluicing like (42). In particular, I show that the former is derived by ellipsis but the latter is derived by *pro*. The matrix caseless sluicing, for example, is thus analyzed as in (43), where the *wh*-phrase is the predicate of a copula sentence and the subject of the copula sentence is *pro*. I call the latter pseudo-sluicing following Hiraiwa and Ishihara (2002, 2012) in the sense that the analysis does not involve ellipsis.

(41) (Case-marked) Sluicing

a. *A:John-ga nanika-o tabe-ta rasii. B:Nani-**o** (desu ka)?*
John-NOM something-ACC eat-PAST seem what-**ACC** COP Q
'It seems that John ate something.' 'What$_{ACC}$?'

b. *John-wa nanika-o tabe-ta kedo, boku-wa [nani-**o** (da) ka] sir-ana-i.*
John-TOP something-ACC eat-PAST but I-TOP what-**ACC** COP Q know-NEG-PRES
'John ate something, but I don't know what$_{ACC}$.'

(42) Pseudo-sluicing

a. *A:John-ga nanika-o tabe-ta rasii. B:Nani (da)?*
John-NOM something-ACC eat-PAST seem what COP
'It seems that John ate something.' 'What$_{\varnothing}$?'

b. John-wa nanika-o tabe-ta kedo, boku-wa [nani (da) ka] sir-ana-i.
John-TOP something-ACC eat-PAST but I-TOP what COP Q know-NEG-PRES
'John ate something, but I don't know what$_{\varnothing}$.'

(43) pro analysis of pseudo-sluicing
[$_{TP}$ pro Nani (da)]?
'What (is) (it)?'

A contrast between sluicing and pseudo-sluicing can be seen in the linguistic antecedent requirement (Takahashi 1994; Fukaya 2007). It has been known since Hankamer and Sag (1976) that ellipsis (i.e. surface anaphora) requires an overt linguistic antecedent, whereas proforms (i.e. deep

anaphora) do not. (44) illustrates this point with English VP-ellipsis and VP-proform *do it*. Although the VP-proform *do it* can be used in the given context, VP-ellipsis cannot be.

(44) [Hankamer attempts to stuff a 9-inch ball through a 6-inch hoop]
a. Sag: #It's not clear that you'll be able to Δ.
b. Sag: It's not clear that you'll be able to do it.

This suggests that ellipsis cannot be applied without a linguistic antecedent. The same point can be shown with English sluicing. As shown in (45b), sluicing is not acceptable when there is no overt linguistic antecedent.

(45) a. Hankamer: Somone's just been shot. Sag: Yeah, I wonder who.
b. [Hankamer produces a gun, points it offstage and fires, whereupon a scream is heard.]
Sag: #Jesus, I wonder who.

With this in mind, consider sluicing and pseudo-sluicing in Japanese. As shown in (46a), when there is an overt linguistic antecedent, both sluicing and pseudo-sluicing are acceptable. On the other hand, without any linguistic antecedent, (case-marked) sluicing cannot be used, as in (46b) (see Takahashi 1994, Fukaya and Hoji 1999, and Fukaya 2007 for embedded sluicing).

(46) [Context: When people were dancing in a night club, Police came in. The speaker is looking around and wondering who they came for.]

a. Keisatu-wa dareka-o sagasite-ru mitai da. Dare(-o) daroo.
police-TOP someone-ACC look.for-PRES seem COP who-ACC MODAL
'It seems that Police look for someone. (I wonder) Who.'

b. Dare(#-o) daroo.
who-ACC MODAL
'(I wonder) Who.'

The contrast between sluicing and pseudo-sluicing in (46b) suggests that sluicing is an instance of ellipsis, whereas pseudo-sluicing involves a silent proform.

The (un)availability of multiple remnants further confirms the ellipsis analyses of sluicing and the *pro* analysis of pseudo-sluicing. Recall that pseudo-sluicing is analyzed as a copula sentence, as in

(47), where the subject is occupied by an empty pronoun whose reference is determined depending on the context.

(47) *pro* analysis
[TP pro (is) wh]

Since copula sentences cannot take two NPs as a predicate without any connective, as shown in (48), it is predicted that multiple *wh*-remnants will not be allowed in pseudo-sluicing.

(48) **John-wa gakusei otoko da.*
John-TOP student man COP
lit. 'John is a student a man.'

Takahashi (1994) and Hiraiwa and Ishihara (2002, 2012) among others in fact observe that pseudo-sluicing (i.e. caseless sluicing) does not allow multiple remnants, as shown in (49).

(49) Pseudo-sluicing
*a. A:Dareka-ga nanika-o tabe-ta rasii. B:*Dare nani?*
someone-NOM something-ACC eat-PAST seem who what
'It seems that someone ate something.' 'Who what?'

*b. *Dareka-ga nanika-o tabe-ta kedo, boku-wa [dare nani ka] sir-ana-i.*
someone-NOM something-ACC eat-PAST but I-TOP who what Q know-NEG-PRES
'Someone ate something, but I don't know who what.'

On the other hand, multiple remnants are possible in sluicing, as shown in (50) (Takahashi 1994; Hiraiwa and Ishihara 2002, a.o).

(50) Sluicing
a. A:Dareka-ga nanika-o tabe-ta rasii. B:Dare-ga nani-o?
someone-NOM something-ACC eat-PAST seem who-NOM what-ACC
'It seems that someone ate something.' 'Who what?'

b. Dareka-ga nanika-o tabe-ta kedo, boku-wa [dare-ga nani-o ka] siranai.
someone-NOM something-ACC eat-PAST but I-TOP who-NOM what-ACC Q not.know
'Someone ate something, but I don't know who what.'

The contrast between (49) and (50) indicates that pseudo-sluicing cannot be derived in the same way as sluicing.[12] Based on the above data, I conclude that pseudo-sluicing is a copula construction where a subject pronoun is dropped, as in (51).

(51) *a. A:John-ga nanika-o tabe-ta rasii. B:(Sore-wa) nani?*
John-NOM something-ACC eat-PAST seem it-TOP what
'It seems that John ate something.' 'What is it?'

b. John-wa nanika-o tabe-ta kedo, boku-wa [(sore-ga) nani ka] sir-ana-i.
John-TOP something-ACC eat-PAST but I-TOP it-NOM what Q know-NEG-PRES
'John ate something, but I don't know what it is.'

4.3.3. Cleft-based or not

In this section, I provide two empirical arguments for the cleft-based approach to sluicing. The first argument is based on the NPI focus particle *-sika* 'only' in comparison with another non-NPI particle *-dake* 'only'. As shown in (52), the NPI *-sika* can be attached to a noun and requires a clause-mate negation (Takahashi 1990; Aoyagi and Ishii 1994). On the other hand, the focus particle *-dake* does not require a clause-mate negation and it can in fact appear in an affirmative sentence, as in (53).

(52) *a. *John-ga Mary-ni-sika atta.*
John-NOM Mary-DAT-only met
lit. 'John met [only Mary]$_{NPI}$.'

[12] The availability of multiple sluicing can be captured under any of the three analyses of sluicing discussed in this chapter. Under the in-situ deletion approach, there are two focus phrases escaping PF-deletion. In fact, it is known that multiple elements can be focused without movement in in-situ constructions (Hiraiwa and Ishihara 2002). The *wh*-movement approach would assume that two *wh*-phrases are extracted out of an ellipsis site (see e.g. Takahashi 1993 for the possibility of multiple *wh*-movement in Japanese; note that multiple sluicing of this sort is also possible in multiple *wh*-fronting languages). Multiple sluicing is also not problematic for the cleft-based approach as it is known that multiple elements can be the pivot of clefts in Japanese (Koizumi 1995; 2000; Hiraiwa and Ishihara 2002, a.o.).

b. John-ga Mary-ni-sika awanakatta.
John-NOM Mary-DAT-only not.met
lit. 'John didn't meet [only Mary]$_{NPI}$.'
'John met nobody except Mary.'

(53) *John-ga Mary-ni-dake atta/awanakatta.*
John-NOM Mary-DAT-only met/not.met
'John met/didn't meet only Mary.'

Importantly, the NPI *-sika* cannot be attached to the remnant of sluicing, as shown in (54) (Fujiwara 2020b; cf. Nishigauchi and Fujii 2006; Kimura and Takahashi 2011). (54a) and (54b) illustrate this point with matrix sluicing and embedded sluicing, respectively.

(54) Sluicing
*a. A:John-wa dareka-ni-sika awanakatta yo. B:*Dare-ni-sika (daroo)?*
John-TOP someone-dat-only not.met PRT who-DAT-only MODAL
lit. 'John didn't meet [only someone]$_{NPI}$.' '(I wonder) [Only who]$_{NPI}$.'

*b. *John-ga dareka-ni-sika awanakatta rasii ga,*
John-NOM someone-DAT-only not.met seem but
boku-wa [$_{CP}$ dare-ni-sika ka] siranai.
I-top who- DAT-only Q not.know
lit. 'It seems that John didn't meet [only someone]$_{NPI}$, I don't know [only who]$_{NPI}$.'

On the other hand, as can be seen in (55), the non-NPI particle *-dake* can appear with a remnant of sluicing.

(55) *a. A:John-wa dareka-ni-dake awanakatta yo. B:Dare-ni-dake (daroo)?*
John-TOP someone-DAT-only not.met PRT who-DAT-only MODAL
'John didn't meet only someone.' '(I wonder) Only who?'

b. John-ga dareka-ni-dake awanakatta rasii ga,
John-NOM someone-DAT-only not.met seem but
boku-wa [$_{CP}$ dare-ni-dake ka] siranai.
I-TOP who- DAT-only Q not.know
'It seems that John didn't meet only someone, I don't know only who.'

This contrast indicates that the NPI *-sika* cannot be licensed in a remnant position in sluicing.

The impossibility of the NPI *-sika* as a remnant of sluicing is consistent with the cleft-based approach since this NPI cannot be licensed in the pivot of clefts, either, as shown in (56).

(56) Cleft

a. *[$_{CP}$ *John-ga awanakatta no]-wa Mary-ni-sika da.*
John-NOM not.met C-TOP Mary-DAT-only COP
lit. 'It is [only Mary]$_{NPI}$ that John did not meet.'

b. [$_{CP}$ *John-ga awanakatta no]-wa Mary-ni-dake da.*
John-NOM not.met C-TOP Mary-DAT-only COP
'It is only Mary that John did not meet.'

This is however problematic for the in-situ deletion and the *wh*-movement approach to sluicing since a *wh*-phrase with the NPI *-sika* can appear in non-cleft sentences regardless of whether it undergoes movement or not, as illustrated in (57).

(57) *{Dare-ni-sika} John-wa {dare-ni-sika} awanakatta no (desu ka)?*
who-DAT-only John-TOP who-DAT-only not.met Fin COP Q
lit. '{[Only who]$_{NPI}$} John didn't meet {[only who]$_{NPI}$}?'

This thus provides evidence that sluicing is better analyzed as involving an underlying cleft.

Kizu (2005) provides another argument for the cleft-based approach based on ordering restrictions between a numeral quantifier and its associate *wh*-phrase in sluicing. In Japanese, numeral quantifiers can either precede or follow modifying *wh*-phrases, as shown in (58).

(58) *John-wa {takusan nani-o | nani-o takusan} katta no?*
John-TOP many what-ACC what-ACC many bought C
'Many of what did John buy?'

In contrast, numeral quantifiers cannot precede modifying *wh*-phrases in the remnant position of sluicing, as shown in (59). Matrix sluicing in (59a-B) only allows the quantifier-noun order and so does embedded sluicing in (59b).

(59) Sluicing

a. A:{Takusan nanika-ga | nanika-ga takusan} tikyu-no soba-o toorisugi-ta rasii yo.
many smth-NOM smth-NOM many earth-GEN side-ACC pass-PAST seem PRT
'(I heard that) A lot of something passed the earth.'

*B:{*Takusan nani-ga | nani-ga takusan} (daroo).*
many what-NOM what-NOM many MODAL
'(I wonder) Many of what?'

b. {Takusan nanika-ga | nanika-ga takusan} tikyu-no soba-o toorisugi-ta rasii kedo,
many smth-NOM smth-NOM many earth-GEN side-ACC pass-PAST seem but
*kenkyuusya-wa [{*takusan nani-ga | nani-ga takusan} ka] wakaranakatta.*
researcher-TOP many what-NOM what-NOM many Q not.knew
'A lot of something passed the earth, but researchers didn't know many of what.'

Kizu (2005) also observes that clefts allow only the quantifier-noun order, as shown in (60). The cleft-based approach to sluicing can thus nicely capture the ordering restriction in question.

(60) Cleft

*[e Tikyu-no soba-o toorisugita no]-wa {*takusan nani-ga | nani-ga takusan}(desu ka)?*
earth-GEN side-ACC pass-PAST C-TOP many what-NOM what-NOM many COP Q
'Many of what is it that passed the earth?'

The in-situ deletion approach and the *wh*-movement approach cannot capture this pattern since the ordering restriction is not observed in non-cleft sentences regardless of whether there is movement or not, as shown in (61).

(61) *{Takusan nani-ga | nani-ga takusan} kenkyuusha-wa [{takusan nani-ga | nani-ga*
many what-NOM what-NOM many researcher-TOP many what-NOM what-NOM
takusan} tikyu-no soba-o toorisugi-ta to] omot-ta no (desu ka)?
many earth-GEN side-ACC pass-PAST C think-PAST Fin COP Q
'{Many of what} did researchers think {many of what} passed the earth?'

The above data thus favor the cleft-based approach to sluicing.[13]

---

[13] Another similarity between sluicing and clefts is that *na-no* can appear between a remnant/pivot *wh*-phrase and a copula, as shown in (i) and (ii).

It should, however, be noted that Kimura and Takahashi (2011) provide an argument against the *wh*-movement approach as well as the cleft-based approach to sluicing based on the immobility of the predicate of small clauses. In particular, they find that the predicate of a small clause cannot be moved or clefted, as shown in (62) (see also Section 2.2.3.4).

(62) *a. {*Totemo tuyoku} Ken-wa [gakusee-o sake-ni {totemo tuyoku}] si-ta.*
very strong Ken-TOP student-ACC liquor-DAT very strong do-PAST
lit. '{very strong} Ken made his students {very strong} in liquor.'
'Ken made his students able to hold their liquor.'

(i) *Sluicing*

a. A: *John-ga nanika-o tabe-ta rasii.* B: *Nani-o (na no) (desu ka)?*
John-NOM something-ACC eat-PAST seem what-ACC NA NO COP.POLITE Q
'It seems that John ate something.' 'What?'

b. *John-wa nanika-o tabe-ta kedo, boku-wa [nani-o (na no) (da) ka] siranai.*
John-TOP something-ACC eat-PAST but I-TOP what-ACC NA NO COP Q not.know
'John ate something, but I don't know what.'

(ii) *Cleft*

a. *[John-ga e atta no]-wa dare-ni (na no) (desu ka)?*
John-NOM met Fin-TOP who-DAT NA NO COP.POLITE Q
'Who is it that John met?'

b. *boku-wa [$_{CP}$ [John-ga e atta no]-ga dare-ni (na no) (da) ka] wakaranai.*
I-TOP John-NOM met Fin-NOM who-DAT NA NO COP Q not.know
'I don't know who it is that John met.'

On the other hand, this element cannot appear in a regular *wh*-question, as shown in (iii).

(iii) *John-wa dare-ni atta (no) (*na no) (desu ka)?*
John-TOP who-DAT met Fin NA NO COP Q
'Who did John meet?'

Na-no thus occurs between a nominal element and the copula. It seems that this element in sluicing and clefts behaves in the same way as *no* as the Fin head in in-situ focus constructions. Indeed, when it appears in copula constructions like (iv) (cf. Nishiyama 1999), it forms an in-situ focus construction of copula sentences. I leave examining the exact syntactic status of *na-no* in clefts and sluicing for future research.

(iv) *John-wa gakusee (na no) (da/desu).*
John-TOP student NA NO COP/COP.POL
'John is a student.'

b. Cleft

**[Ken-ga [gakusee-o sake-ni e_i] si-ta no]-wa [totemo tuyoku]$_i$ da.*
Ken-NOM student-ACC liquor-DAT do-PAST C-TOP very strong COP
lit. 'It was very strong that Ken made his students in liquor.'

In contrast, they find that it can be a remnant of sluicing, as shown in (63).

(63) *a. Ken-wa gakusei-o sake-ni tuyoku si-tai sooda.*
Ken-TOP student-ACC liquor-DAT strong make-want MODAL
lit. 'I heard that Ken wanted to make his students strong in liquor.'

b. Kimi-wa [dorekurai tuyoku (da) ka] soozoo-deki-mas-u ka?
you-TOP how strong COP Q imagine-can-POL-PRES Q
'Can you imagine how strong?'

Based on the discrepancy between sluicing and movement constructions, they argue that sluicing should be analyzed as involving in-situ deletion. However, (63b) does not necessarily support the in-situ deletion analysis, as it can be analyzed as a *pro*-drop counterpart of (64), where an overt pronoun appears in the embedded subject position.

(64) *Kimi-wa [sore-ga dorekurai tuyoku (da) ka] soozoo-deki-mas-u ka?*
you-TOP it-NOM how strong COP Q imagine-can-POL-PRES Q
'Can you imagine how strong it is?'

To summarize, in this section, I have shown that matrix sluicing and embedded sluicing in Japanese should be analyzed as underlying cleft constructions. In the following section, I will show that the cleft-based analysis of sluicing is in line with the movement approach to ellipsis argued for in this thesis under Nishigauchi and Fujii (2006), Nakao (2009) and Hiraiwa and Ishihara' (2002, 2012) analysis of Japanese clefts.

4.3.4. Cleft-based movement approach to sluicing

We have seen that sluicing in Japanese is derived by ellipsis of the presuppositional clause of clefts, as in (65) (Kuwabara 1996; Fukaya and Hoji 1999; Saito 2004; Kizu 2005; Hiraiwa and Ishihara 2012).

(65) *a. [John-ga e tabeta no]-wa nani-o (desu ka)?* (cleft)
John-NOM ate C-TOP what-ACC COP.POL Q
'What$_{ACC}$ it is that John ate?'

b. ~~*[John-ga e tabeta no]-wa*~~ *nani-o (desu ka)?* (deletion of the topic-marked clause)

As we have seen in Appendix of Chapter 3, there are two types of analyses of clefts. The first type base-generates the presuppositional clause and the pivot separately and establishes a relation between a gap in the presuppositional clause and the pivot through a null operator, as shown in (66) (Kizu 2005; Matsuda 1997; Koizumi 2000). In this analysis, the pivot is coindexed with the null operator in the presuppositional clause.

(66) Basegeneration + Operator
[$_{CP1}$ [$_{CP2}$ OP$_i$ … t$_{OP}$ … V] [$_{TP}$ Pivot$_i$ COP]]

In contrast, the second approach relates a gap and the pivot derivationally (Hiraiwa and Ishihara 2002, 2012; Nishigauchi and Fujii 2006; Nakao 2009). In this analysis, it is assumed that case-marked clefts underly in-situ focus constructions. A derivation of clefts from in-situ focus constructions is exemplified in (67). (67a) is an underlying in-situ focus construction. In (67b), an element undergoes focus movement to SpecFocP. In (67c), the remnant FinP is topicalized to SpecTopP yielding a cleft construction.

(67) Derivational approach
a. [$_{FinP}$ John-ga ringo-o tabeta no] da. (in-situ focus construction)
John-NOM what-ACC ate Fin Foc
'John ate apples.'

b. [$_{FocP}$ apple$_i$ [$_{FinP}$ John t$_i$ ate Fin] Foc] (Focus movement of 'apple')
c. [$_{TopP}$ [$_{FinP}$ John t$_i$ ate Fin] [$_{Top'}$ [$_{FocP}$ apple$_i$ t$_{FinP}$ Foc]]] (Remnant FinP movement: clefts)

As we have discussed in Appendix in Chapter 3, Japanese clefts exhibit a case-matching effect between a gap in the presuppositional clause and the pivot, which favors the derivational approach to clefts (Hiraiwa and Ishihara 2002, 2012). That is, the morphological case attached to the pivot must be

identical to the one required by the verb in the presuppositional clause. This point can be illustrated with the following two verbs:

(68) a. *Taroo-ga gakkoo-ni/*o/*ga iku.*
Taro-NOM school-DAT/ACC/NOM go
lit. 'Taro goes school$_{DAT/*ACC/*NOM}$.'

b. *Taroo-ga inu-o/*ni/*ga turedasu.*
Taro-NOM dog-ACC/DAT/NOM take.out
lit. 'Taro takes out a dog$_{ACC/*DAT/*NOM}$.'

In Japanese, *iku* 'go' takes a dative object, while *turedasu* 'take out' takes an accusative object. With this in mind, consider the clefts in (69). In (69a), the gap in the presuppositional clause is an object of the verb 'go'. As expected, the pivot of this cleft construction must contain a dative case. In (69b), the pivot associated with the object gap of the verb 'take out' must be marked with accusative.

(69) a. *[Hanako-ga musume-ni [$_{CP}$ PRO e_i iku-yooni] meezi-ta no]-wa*
Hanako-NOM daughter-DAT go-C order-PAST C-TOP
*ni-kai-no heya$_i$-ni /*o/*ga desu.*
2-CL-GEN room-DAT/ACC/NOM COP
'It is the upstairs room$_{DAT/*ACC/*NOM}$ that Hanako ordered her daughter to go e$_{(DAT)}$.'

b. *[Hanako-ga musume-ni [$_{CP}$ PRO e_i turedasu-yooni] meezi-ta no]-wa*
Hanako-NOM daughter-DAT take.out-C order-PAST C-TOP
*inu-o/*ni/*ga san-biki$_i$ desu.*
dog-ACC/DAT/NOM three-CL COP
'It is three dogs$_{ACC/*DAT/*NOM}$ that Hanako ordered her daughter to take out e$_{(ACC)}$.'

As discussed in the appendix of Chapter 3, the case-matching effect between the gap and the focus phrase naturally follows under the derivational analysis of clefts since the focus phrase is directly moved from the gap in the presuppositional clause (i.e. the gap is an A-position trace of the focus phrase). On the other hand, the null operator analysis requires a special mechanism that would force the case-matching effect between a null operator and its associated element only in clefts (see Appendix in Chapter 3 for other uncontroversial null operator constructions, which do not exhibit the

case-matching effect). The case-matching effect of clefts thus supports the derivational analysis of clefts.

So far, we have seen that matrix and embedded sluicing in Japanese is derived from (case-marked) cleft constructions by deletion of the presuppositional clause, and (ii) case-marked clefts are better analyzed as involving an underlying in-situ focus construction. Japanese sluicing can thus be analyzed as in (70), which is what is proposed in Hiraiwa and Ishihara (2012). The underlying structure of sluicing is an in-situ focus construction in (70a). The *wh*-phrase is extracted out of the FinP and moves to SpecFocP, as illustrated in (70b). In (70c), the remnant FinP undergoes topicalization to SpecTopP and forms a cleft construction. In (70d), the remnant FinP gets elided, resulting in sluicing.

(70) Derivation of sluicing

a. in-situ focus construction:

$[_{ForceP}[_{TopP}[_{FocP}[_{FinP}$ *John-ga nani-o tabeta no] desu]] ka]?*

John-NOM what-ACC ate Fin Foc Q

b. Focus movement:

$[_{ForceP}[_{TopP}[_{FocP}$ *Nani-o* $[_{FinP}$ *John-ga* t_{WH} *tabeta no] desu]] ka]?*

what-ACC John-NOM ate Fin Foc Q

c. Remnant FinP topicalization (i.e. clefts):

$[_{ForceP}[_{TopP}[_{FinP}$ *John-ga* t_{WH} *tabeta no]-wa* $[_{FocP}$ *Nani-o* t_{FinP} *desu]] ka]?*

John-NOM ate Fin-TOP what-ACC Foc Q

d. Ellipsis of the topicalized FinP (i.e. sluicing):

$[_{ForceP}[_{TopP}$ ~~$[_{FinP}$ *John-ga* t_{WH} *tabeta no] wa*~~ $[_{FocP}$ *Nani-o* t_{FinP} *desu]] ka]?*

John-NOM ate Fin-TOP what-ACC Foc Q

Crucially, in this analysis, what is elided is the presuppositional clause that has undergone topicalization to SpecTopP. This approach is thus fully compatible with, in fact can be taken to confirm, the movement approach to ellipsis. What is important is that the clause to be elided undergoes

movement to SpecTopP, which follows if for an element to be elided it has to undergo movement to SpecCP, as argued in this dissertation.[14,15]

It should, however, be noted that in Hiraiwa and Ishihara (2012), embedded sluicing is analyzed as underlying embedded clefts, with the FinP elided in the embedded SpecTopP, as in (71).

(71) *a.* Embedded clefts:
Boku-wa [$_{ForceP}$ [$_{TopP}$ [$_{FinP}$ John-ga t_{WH} tabeta no]-ga [nani-o t_{FinP}]] ka] siranai.
I-TOP John-NOM ate Fin-NOM what-ACC Q not.know
'I do not know [what it is that John ate].'

b. Ellipsis of the topicalized FinP (i.e. embedded sluicing):
Boku-wa [$_{ForceP}$ [$_{TopP}$ ~~[$_{FinP}$ John-ga t_{WH} tabeta no]-ga~~ [nani-o t_{FinP}]] ka] siranai.
I-TOP what-ACC Q not.know
'I do not know [what ~~it is that John ate~~].'

In their analysis, a FinP to be elided stays in the embedded SpecCP. If this is the only option, that would be a problem for the current proposal, where an element to be elided moves to the matrix SpecCP. However, a presuppositional clause can undergo movement to the matrix SpecCP. Although the direct movement-counterpart of (71b) sounds somewhat unnatural, as shown in (72), (73) indicates the movability of the relevant presuppositional clause of embedded clefts.

(72) *?[$_{FinP}$ John-ga t_i tabeta no]-ga boku-wa [t_{FinP} nani-o$_i$ ka] siranai.*
John-NOM ate Fin-NOM I-TOP what-ACC Q not.know
lit. '[$_{FinP}$ that John ate t_i], I do not know what$_i$ it is t_{FinP}.'

(73) *a. Boku-wa [[$_{FinP}$ zyuusee-ga t_i natta no]-ga dono atari-kara$_i$ (nano) ka] wakaranai.*
I-TOP gunshot-NOM sounded Fin-NOM which area-from NANO Q not.know
'I don't know [from where$_i$ it is [that a gunshot sounded t_i]].'

---

[14] The discussion so far did not take into consideration split CP. With split CP, the movement of elements to be elided, argued for in this dissertation so far, would be targeting the matrix SpecTopP (see Chapter 5 for details).

[15] The null operator movement analysis of clefts (Matsuda 1997; Koizumi 2000; Kizu 2005) is also compatible with the proposed movement approach to sluicing if the relevant CP undergoes movement to the matrix SpecCP and then gets elided.

b. *[$_{FinP}$ Zyuusee-ga t_i natta no]-ga$_i$ boku-wa [t_{FinP} dono atari-kara$_i$ (nano) ka]*
gunshot-NOM sounded Fin-NOM I-TOP which area-from NANO Q
wakaranai.
not.know
lit. '[$_{FinP}$ That a gunshot sounded t_i], I don't know [from where$_i$ it is t_{FinP}].'

Regarding the cleft-based approach to sluicing, it is also worth noting that it can naturally be extended to stripping phenomena, where the remnant is a non-*wh*-item, given that clefts allow a non-*wh*-item in the pivot (cf. Fukaya and Hoji 1999; Nakao 2009; Hiraiwa and Ishihara 2012). A derivation of stripping is exemplified in (74).

(74) *Naoya-wa dareka-ni kuruma-o katta rasii kedo,*
Naoya-TOP someone-DAT car-ACC bought MODAL but
'I heard that Naoya bought a car for someone, but'

a. Embedded declarative cleft:
boku-wa [[$_{FinP}$ Naoya-ga kuruma-o katta no]-ga musuko-ni da to] omotteita.
I-TOP Naoya-NOM car-ACC bought Fin-NOM son-DAT COP C thought
'I thought [that it was for his son [that Naoya bought a car]].'

b. Movement of FinP to the matrix SpecCP:
[$_{FinP}$ Naoya-ga kuruma-o katta no]-ga boku-wa [t_{FinP} musuko-ni da to] omotteita.
Naoya-NOM car-ACC bought Fin-NOM I-TOP son-DAT COP C thought
lit. '[That Naoya bought a car]$_i$ I thought [that it was for his son t_i].'

c. Stripping:
~~*[$_{FinP}$ Naoya-ga kuruma-o katta no]-ga*~~ *boku-wa [t_{FinP} musuko-ni da to] omotteita.*
I-TOP son-DAT COP C thought
lit. '~~[That Naoya bought a car]~~$_i$ I thought [that it was for his son t_i].'

In (74a), the declarative cleft is embedded. In (74b), the presuppositional clause of the cleft undergoes movement to the matrix SpecCP. The fronted presuppositional clause is elided in (74c).

The cleft-based movement approach to stripping can also capture the following contrast regarding predicate ellipsis (cf. Takahashi 2006; Bošković 2018):

(75) *a. Karera-wa kawaii. Watasitati-mo Δ (da).*
they-TOP cute we-also COP
lit. 'They are cute.' 'We are also cute.' (Bošković 2018, 25)

*b. Karera-wa kawaiku-nai. *Watasitati-wa Δ (da).*
they-TOP cute-NEG we-TOP COP
'They are not cute.' 'We are cute.'

As shown in (75), ellipsis of a predicate in copula sentences is possible when *-mo* 'also' is attached to the remnant subject but impossible when a topic particle *-wa* is attached to it. Interestingly, the same paradigm can be seen in cleft constructions (i.e. the movement counterparts). As shown in (76), only when the pivot is marked with the particle *-mo* 'also', the predicate can be topicalized (under the approach adopted here) via cleft-formation.

(76) *a. [t_i Kawaii no]$_j$-wa watasitati-mo$_i$ t_j da.*
cute Fin-TOP we-also COP
'It is also us that t are cute.'

*b. *[t_i Kawaii no]$_j$-wa watasitati-wa$_i$ t_j da.*
cute Fin-TOP we-TOP COP
'It is us that t are cute.'

Therefore, under the cleft-based movement approach to stripping, the impossibility of predicate ellipsis in (75b) (i.e. impossibility of a topic-marked remnant) can be attributed to the impossibility of its movement counterpart in (76b).

Therefore, argument ellipsis, sluicing, stripping, and predicate ellipsis can be unified under the movement approach to ellipsis argued for in this dissertation in the sense that they all involve ellipsis that is licensed in the matrix SpecCP.

4.3.5. Sprouting

In this section, I provide further support for the movement approach to ellipsis through investigation of sprouting-type sluicing in Japanese, where an antecedent clause does not contain an overt correlate

(see Chung, Ladusaw, and McCloskey 1995, a.o., regarding sprouting). Examples of Japanese sprouting are given in (77). In (77a) and (77b), the antecedent clauses contain intransitive verbs, and the sprouting sentences in B ask about information that has not been given by the antecedent clauses such as implicit objects and adjuncts. In (77c) and (77d), sprouting sentences in B ask what null arguments in the antecedent clauses refer to.

(77) Matrix sprouting

a. A:John-ga benkyosi-te-i-ru yo. *B:Nani-o (desu ka)?*
John-NOM study-TE-be-PRES PRT what-ACC COP Q
'John is studying.' 'What?'

b. A:John-ga naiteru yo. *B:Doko-de (desu ka)?*
John- NOM is.crying PRT where-at COP Q
'John is crying.' 'Where?'

c. A:John-wa pro wasureteru yo. *B:Nani-o (desu ka)?*
John-NOM is.forgetting PRT what-ACC COP Q
lit. 'John has forgotten *pro*.' 'What?'

d. A:pro Kinenbi-o wasureteru yo. *B:Dare-ga (desu ka)?*
anniversary-ACC is.forgetting PRT who-NOM COP Q
lit. '*pro* has forgotten the anniversary.' 'Who?'

I argue that sprouting is derived from clefts like other sluicing cases in Japanese. Notice that the copula is optional in sprouting in (77), which suggests that the underlying structure of sprouting is a cleft where a copula can appear. In addition, the NPI *-sika*, which cannot appear in the pivot of clefts (cf. 56), cannot occur as a remnant of sprouting, as shown in (78a).

(78) *a. A:John-wa [minna-ga sitteoku beki koto]-o iwanakatta yo. B:*Dare-ni-sika?*
John-TOP everyone-NOM know should fact-ACC not.said PRT who-DAT-only
lit. 'John didn't tell the thing that everyone should know.' '[Only who]$_{NPI}$?'

b. A:John-wa [minna-ni itta koto]-o aete iwanakatta yo. B:Dare-ni-dake?
John-TOP everyone-DAT said fact-ACC purposely not.said PRT who-DAT-only
lit. 'John didn't tell the thing that he told everyone.' 'Only who?'

Furthermore, sprouting exhibits the same ordering restriction as the one observed in clefts. Recall that numeral quantifiers cannot precede modifying *wh*-phrases in the pivot of clefts (cf. 53). The same restriction can be seen in sprouting, as shown in (79).

(79) *A: John-wa katta rasii yo. B:{*Takusan nani-o | nani-o takusan}?*
John-TOP bought seem PRT many what-ACC what-ACC many
'It seems that John bought.' 'Many of what?'

The above data suggest that sprouting is derived from clefts like other sluicing cases, as illustrated in (80). (80a) is a cleft structure where the *wh*-phrase undergoes movement to SpecFocP, and the remnant FinP is topicalized. In (80b), the topicalized FinP gets elided, which results in sprouting.

(80) *A: John-ga benkyoo-si-te-i-ru yo.*
John-NOM study-do-TE-be-PRES PRT
'John is studying.'

a. *B:[[$_{TopP}$ [$_{FinP}$ John-ga t_i benkyoositeiru no]-wa [$_{FocP}$ nani-o$_i$ t_{FinP} (desu)]] (ka)]?* (cleft)
John-NOM be.studying Fin-TOP what-ACC Foc Q
'What is it that John is studying?'

b. B:[[$_{TopP}$ ~~[$_{FinP}$ John-ga t_i benkyoositeiru no] wa~~ [$_{FocP}$ nani-o$_i$ t_{FinP} (desu)]] (ka)]? (sprouting)

Sprouting is thus also in line with the movement approach to ellipsis. FinP undergoes movement before it gets elided.

What is especially interesting in Japanese sprouting and what differentiates it from other sluicing cases is that remnants in sprouting cannot drop their structural morphological case, as shown in (81).

(81) a. *A:John-ga benkyoo-si-te-i-ru yo. B:*Nani?*
John-NOM study-do-TE-be-PRES PRT what
'John is studying.' 'What?'

c. *A:John-wa pro wasureteru yo. B:*Nani?*
John-NOM is.forgetting PRT what
lit. 'John has forgotten *pro*.' 'What?'

*d. A:pro Kinenbi-o wasureteru yo. B:*Dare?*
anniversary-ACC is.forgetting PRT who
lit. '*pro* has forgotten the anniversary.' 'Who?'

Recall that we have seen in Section 4.3.2 that non-case-marked sluicing (i.e. pseudo-sluicing) is best analyzed as copula sentences where the pronominal subject undergoes *pro*-drop. The impossibility of non-case-marked sprouting thus suggests that copula sentences cannot be used in sprouting contexts. Indeed, an overt pronoun cannot appear in sprouting, as shown in (82). In A's examples in (82), there is no item that the pronominal subjects in Bs can refer to and they end up being unspecified.

(82) *a. A:John-ga benkyoo-si-te-i-ru yo. B:*Sore-wa nani?*
John-NOM study-do-TE-be-PRES PRT it-TOP what
'John is studying.' 'What is it?'

*b. A:John-wa pro wasureteru yo. B:*Sore-wa nani?*
John-NOM is.forgetting PRT it-TOP what
lit. 'John has forgotten *pro*.' 'What is it?'

*c. A:pro Kinenbi-o wasureteru yo. B:*Sore-wa dare?*
anniversary-ACC is.forgetting PRT it-TOP who
lit. '*pro* has forgotten the anniversary.' 'Who is it?'

This finding shows that caseless sluicing (i.e. pseudo-sluicing) is available only when copula sentences are available in a given context, which confirms the conclusion in Section 4.3.2 that the *pro* analysis can apply to caseless sluicing (i.e. pseudo-sluicing) but not to case-marked sluicing.

In addition, the morphological case requirement observed in sprouting further confirms that caseless sluicing cannot be derived by ellipsis. In order to illustrate this point, let us first consider Japanese cleft constructions. There are two types of cleft constructions in Japanese, depending on whether the pivot is marked with a particle or not, as illustrated in (83).

(83) *a. [John-ga t_i tabeta no]-wa nani-o (desu ka)?* (case-marked cleft)
John-NOM ate Fin-TOP what-ACC FOC Q
'What$_{ACC}$ is it that John ate?'

b. [John-ga e tabeta no]-wa nani (desu ka)? (caseless cleft)
John-NOM ate NO-TOP what COP.POL Q
'What$_{\varnothing}$ is it that John ate?'

We have seen that case-marked clefts like (83a) are best analyzed as derived from in-situ focus constructions (Hiraiwa and Ishihara 2002, 2012; Nishigauchi and Fujii 2006; Nakao 2009). Under this analysis, the presuppositional clause is analyzed as a topicalized FinP and the pivot occupies SpecFocP. The same analysis cannot be applied to caseless clefts as there are a number of syntactic differences between the two cleft constructions (Hoji 1987; Hiraiwa and Ishihara 2002; 2012). In caseless clefts, the pivot is analyzed as being base-generated as a nominal predicate, and the presuppositional clause is a topic of the sentence (Kizu 2005; cf. Hiraiwa and Ishihara 2002). Suggestive evidence for this analysis is that *no* heading the presuppositional clause in caseless clefts can be replaced with a regular noun, as shown in (84b) (Hiraiwa and Ishihara 2002). Case-marked clefts, on the other hand, do not allow such NP substitution, as illustrated by (84a).

(84) *a. *[John-ga e tabeta kudamono]-wa nani-**o** (desu ka)?*
John-NOM ate fruits-TOP what-**ACC** COP.POL Q

b. [John-ga e tabeta kudamono]-wa nani (desu ka)?
John-NOM ate fruits-TOP what COP.POL Q
'What is the fruits John ate?'

This suggests that the presuppositional clause in caseless clefts is a nominal clause which is base-generated as a topic of the sentence.

With this in mind, consider the source of sprouting again. We have seen that sprouting in Japanese is best analyzed as derived from case-marked clefts, as in (80), repeated below:

(85) A: 'John is studying.'

a. B:[[$_{TopP}$ [$_{FinP}$ John-ga t_i benkyoositeiru no]-wa [$_{FocP}$ nani-o_i t_{FinP} (desu)]] (ka)]? (cleft)
John-NOM be.studying Fin-TOP what-ACC Foc Q
'What is it that John is studying?'

b. B:[[$_{TopP}$ ~~[$_{FinP}$ John-ga t_i benkyoositeiru no]-wa~~ [$_{FocP}$ nani-o_i t_{FinP} (desu)]] (ka)]? (sprouting)

The impossibility of bare remnants in sprouting, however, suggests that the topic-marked presuppositional clause in caseless clefts cannot undergo ellipsis, as in (86).

(86) *A: John-ga benkyoo-si-te-i-ru yo.*
John-NOM study-do-TE-be-PRES PRT
'John is studying.'

*B: *~~John-ga benkyoositeiru no-wa~~ nani?*
John-NOM is.studying NO-TOP what
'What ~~is it that John is studying~~?'

This restriction is especially interesting given that caseless clefts and case-marked clefts do not differ semantically. Indeed, as shown in (87), caseless clefts can be used in sprouting contexts in contrast to copula sentences with pronominal subjects (cf. 82).

(87) a. *A: John-ga benkyoo-si-te-i-ru yo.*
John-NOM study-do-TE-be-PRES PRT
'John is studying.'

B: John-ga benkyoositeiru no-wa nani?
John-NOM is.studying NO-TOP what
'What is it that John is studying?'

b. *A: John-wa pro wasureteru yo.*
John-TOP is.forgetting PRT
lit. 'John has forgotten *pro*.'

B: John-ga wasureteru no-wa nani?
John-NOM is.forgetting NO-TOP what
'What is it that John has forgotten?'

c. *A: pro Kinenbi-o wasureteru yo.*
anniversary-ACC is.forgetting PRT
lit. '*pro* has forgotten the anniversary.'

B: Kinenbi-o wasureteru no-wa dare?
anniv.-ACC is.forgetting NO-TOP who
'Who is it that has forgotten the aniversary?'

The question is then why the presuppositional clause in caseless clefts cannot be elided but the one in case-marked clefts can. I attribute this contrast to whether the presuppositional clause is base-generated in SpecTopP or derived by movement to SpecTopP. This means that an element that is just base-generated as a topic of the sentence cannot be elided, whereas one that is moved to SpecTopP can. This suggests that an elided element has to be the part of a chain.[16]

The impossibility of bare remnants in sprouting thus confirms the idea pursued under the movement approach to ellipsis that an elided element has to undergo movement to the relevant licensing position. In the cases discussed earlier, one of the arguments for the movement approach to

[16] See, however, Footnote 3 in Chapter 5 for a different possibility.

ellipsis was island-sensitivity of argument ellipsis. As shown in (88), argument ellipsis cannot occur inside of an island.

(88) a. Antecedent:
John-wa [pro zibun-no kuruma-o untensu-ru toki] tebukuro-o tuke-ru.
John-TOP self-GEN car-ACC drive-PRES when glove-ACC wear-PRES
'John wears gloves when he drives his car,'

b. Ellipsis
Demo Bill-wa [pro Δ untensu-ru toki] tebukuro-o tuke-na-i.
but Bill-TOP drive-PRES when glove-ACC wear-NEG-PRES
'But Bill does not wear gloves when he drives a car.' (*sloppy)

This also implies that an element base-generated in SpecCP cannot be elided since this would void islandhood effects. In other words, this indicates that the underlying structure of (88b) cannot be (89), where the topicalized embedded object 'self's car', to be elided, is base-generated in SpecCP (*e* is not a trace), as a result of which the example incorrectly would not show island-sensitivity.

(89) ~~*Zibun$_i$-no kuruma-wa*~~ *Bill$_i$-wa [pro e untensu-ru toki] tebukuro-o tsuke-na-i.*
self-GEN car-TOP Bill-TOP drive-PRES when glove-ACC wear-NEG-PRES
'Speaking of self$_i$'s car, Bill$_i$ does not wear gloves when he drives it.'

Note furthermore that base-generating an item that corresponds to the embedded object in the island clause as a topic in the antecedent clause does not enable the sloppy reading in (88), as illustrated in (90). In (90a), the base-generated topic is related to the embedded object position in an island (which rules out the movement option). In (90b), the corresponding topic is null. Crucially, the sloppy reading is still unavailable here. Thus, (90b) cannot be a true statement in a situation where Bill wears gloves when he drives other's car but not his car.

(90) *a.* Antecedent:
Zibun-no kuruma(-ni kansite)-wa$_i$ John-wa [pro e$_i$ untensuru toki] tebukuro-o tukeru.
self-GEN car(-DAT-about)-TOP John-TOP drive when glove-ACC wear
lit. 'Speaking of self$_1$'s car$_i$, John$_1$ wears gloves when he drives *e*$_i$.'

b. Ellipsis

Demo Bill-wa [pro Δ untensu-ru toki] tebukuro-o tuke-na-i.
but Bill-TOP drive-PRES when glove-ACC wear-NEG-PRES
'But Bill does not wear gloves when he drives Δ.' (*sloppy)

The above data thus show that an element base-generated in a topic position cannot be elided. As noted above, this in turn suggests that an elided element has to be part of a chain.

4.4. Particle Stranding Ellipsis

4.4.1. Properties of particle stranding ellipsis

In this section, I will extend the movement approach to argument ellipsis to particle stranding ellipsis, which is uniquely observed in Japanese (Hattori 1960; Yoshida 2004; Sato and Ginsburg 2006; 2007; Goto 2012; Sato 2012; Nasu 2012a; 2012b; Shibata 2014; Arita 2015; Sakamoto and Saito 2018a; 2018b; Sato and Maeda 2019; Yamashita 2019; 2020; Takita 2020). An example of particle stranding ellipsis is given in (91B), where the sentence begins with a topic particle *-wa* without its host (i.e. the object 'bag').

(91) *A: Kotira-no bakku-wa moo otukai-ni narimasita ka?*
this-GEN bag-TOP already use-DAT became Q
'Have you already tried this bag?'

B: Δ-Wa mada tukatte-na-i desu.
TOP yet use-NEG-PRES COP
lit. 'Δ_{TOP}, I haven't tried t_{Obj} yet.'

In the literature, it has been observed that a wide variety of particles is tolerant of being stranded in this manner, such as case particles, postpositions, focus particles, connectives, complementizers and modals (see Yamashita 2019 for a review). What those stranded particles have in common is that the

stranding cannot occur in the middle of the sentence, as exemplified in (92) (Yoshida 2004; Arita 2015).[17]

---

[17] While most of the literature claims that a particle can be stranded only in the sentence initial position, some studies report that particle stranding ellipsis does not have to occur in the sentential initial position (Nasu 2012b, Abe 2015, Yamashita 2019). Some of their examples are given in (i) and (ii).

(i) A: *Hanako-wa (Taroo-kara zyanakute) Ziroo-kara meeru-o morat-ta no?*
Hanako-TOP Taro-from not Ziro-from email-ACC receive-PAST C
'Did Hanako receive an email from Ziro, not from Taro?'
B: *Tabun, Δ-kara daroo ne.*
probably from MODAL PRT
'(I think) it is probably from Δ.' (Nasu 2012b)

(ii) *Jim-ga [UConn-ga NCAA-ni katu to] itteru ga,*
Jim-NOM Uconn-NOM NCAA-DAT win C say but
'Jim says that Uconn will win NCAA, but'
a. ?*Boku-ni-wa, Δ-to-wa, omoenai.*
I-DAT-TOP C-TOP not.seem
'It does not seem to me that-Δ.'
b. ?*Boku-ni-wa, Δ-kadooka-wa, wakaranai.*
I-DAT-TOP whether-TOP not.know
'I don't know whether-Δ.' (Abe 2015, 112; Yamashita 2019; cf. Takahashi 1994)

Note also that because of the sentence initial property of particle stranding ellipsis, it has been claimed that particle stranding ellipsis cannot occur twice in a sentence (Yoshida 2004; Sato 2012, a.o). Nasu (2012b) and Yamashita (2019), on the other hand, argue against this claim based on data like (iii) (recall, however, that they also argue against the sentence-initial property of particle stranding ellipsis).

(iii) A: *Taro-wa Osaka zyanakute Tokyo-ni it-ta no?*
Taro-TOP Osaka not Tokyo-DAT go-PAST C
'Did Taro go to Tokyo, not Osaka?'
B: *Δ-Wa, Δ-ni, it-ta n desu.*
TOP DAT say-PAST Fin Foc
lit. 'Δ_{TOP} went Δ_{DAT} ' (Nasu 2012b)

Judging by the kind of examples that are given by those who allow particle stranding ellipsis in non-sentence initial positions, particle stranding ellipsis for them can occur at the edge of intonational phrase boundaries (hence after a non-utterance initial pause) rather than at the edge of utterance boundaries (see discussion in Section 4.4.4 for relevance of different types of prosodic boundaries). Since the above data are not acceptable

(92) *a. A: Kotira-no bakku-wa moo otukai-ni narimasita ka?*
this-GEN bag-TOP already use-DAT became Q
'Have you already tried this bag?'

*B: *Mada Δ-wa tukatte-na-i desu.*
yet TOP use-NEG-PRES COP
int. 'I haven't tried it yet.'

b. A: *Suzuki-kun-wa kyoo kenkyuusitsu-ni iru to omo-u?*
Suzuki-Mr.-TOP today laboratory-DAT be-PRES C think-PRES
'Do you think that Suzuki is in a laboratory today?'

*B: {Δ-Wa tabun | *Tabun Δ-wa} i-ru n zyanai kana.*
TOP probably probably TOP be-PRES Fin be.not Q
lit. 'Δ_{TOP} probably is.' (Arita 2015, 5)

A number of studies have attempted to capture this unique property of particle stranding ellipsis in the literature (Yoshida 2004; Goto 2012; Sato 2012; Nasu 2012a; 2012b; Shibata 2014; Arita 2015; Takita 2020).

In addition to the unique property noted above (I will return to it below), it has been reported that particle stranding ellipsis exhibits the same properties as other ellipsis phenomena, like argument ellipsis (Sakamoto and Saito 2018a, 2018b; Sato and Maeda 2019). One prominent property is that particle stranding ellipsis can yield ellipsis-compatible interpretations such as sloppy readings and quantificational readings (Sato and Maeda 2019). To see this, consider (93). (93a) begins with a topic particle *-wa*. An elided element here should be the object since the subject is overt in the sentence. Crucially, just like argument ellipsis, particle stranding ellipsis in (93a) yields a quantificational interpretation where an elided universal quantifier takes scope under negation. Note that this interpretation cannot be obtained with an overt pronoun, as in (93b).

---

for me and my informants, I will not deal with the possibility that particle stranding ellipsis can occur in non-sentence-initial positions in this dissertation.

(93) *Quatificational reading:*
Koko-ni i-ru zenin-o paatii-ni syotaisi-ta no?
here-DAT be-PRES everyone-ACC party-DAT invite-PAST C
'Did you invite everyone here to the party?'

a. *Δ-Wa boku-wa syotaisi-mase-n desi-ta.*
TOP I-TOP invite-POL-NEG COP-PAST
lit. 'I didn't invite Δ_{TOP}.' (not > all)

b. *Karera-wa syotaisi-mase-n desi-ta.*
they-TOP invite-POL-NEG COP-PAST
lit. ' (I) didn't invite them.' (*not > all) (Sato and Maeda 2019, 379: slightly modified)

In addition, Sakamoto and Saito (2018b) observe that extraction of a null operator out of a particle stranding ellipsis site is possible. (94a) is a comparative deletion construction where the null operator is extracted out of an embedded clause in a comparative clause (cf. OP_i and t_{OP}; see Section 3.2.1 for discussion of comparative deletion constructions). Taking (94a) as an antecedent, in (94b), the embedded clause (i.e. TP) is elided leaving the complementizer particle *-to* behind.

(94) *a. Kimi-wa [$_{CP}$ OP_i [John-ga t_{OP} yon-da to] Hanako-ga itte-ta yorimo]*
you-TOP John-NOM read-PAST C Hanako-NOM say-PAST than
takusan-no ronbun$_i$-o yon-da n da yo ne?
many-GEN paper-ACC read-PAST Fin COP PRT PRT
'Did you read more papers$_i$ [OP_i than Hanko said that John read t_{OP}].'

b. [$_{CP}$ OP_i [Δ-to] Aya-ga itteta yorimo] takusan-no ronbun$_i$-o yonda n da yo.
C Aya-NOM said than many-GEN paper-ACC read Fin COP PRT
lit. 'I read more papers$_i$ [OP_i than Aya said that-Δ].'

Note that the null operator is extracted out of the elided TP-clause and gets associated with the matrix object. This indicates that there is syntactic structure of the embedded clause in the ellipsis site.

The shared properties between particle stranding ellipsis and argument ellipsis discussed above thus suggest that particle stranding ellipsis should be analyzed similarly to argument ellipsis.

4.4.2. Movement approach to particle stranding ellipsis

4.4.2.1. Sentence-initial property

So far, we have seen that particle stranding ellipsis shows regular ellipsis properties, like argument ellipsis, but that it also exhibits the strange sentence-initial property (cf. 92). Interestingly, however, under the movement approach proposed for argument ellipsis in Chapters 2 and 3, argument ellipsis has exactly the same property as particle stranding ellipsis; in particular, argument ellipsis also occurs in the sentence-initial position. For example, under the current analysis, an object to be elided first undergoes movement to the matrix SpecCP, i.e. the sentence-initial position, and then gets elided, as illustrated in (95).

(95) Argument Ellipsis
   a. [$_{TP}$ Subj Obj V]
   b. [$_{CP}$ Obj [$_{TP}$ Subj t_{Obj} V]]
   c. [$_{CP}$ ~~Obj~~ [$_{TP}$ Subj t_{Obj} V]]

When extended to particle stranding ellipsis, the movement approach to ellipsis can then straightforwardly capture the sentence-initial property, without any additional assumption. Under this approach, particle stranding ellipsis of an object is analyzed as in (96).

(96) Particle Stranding Ellipsis
   a. [$_{TP}$ Subj Obj-PRT V]
   b. [$_{CP}$ Obj-PRT [$_{TP}$ Subj t_{Obj} V]]
   c. [$_{CP}$ ~~Obj~~-PRT [$_{TP}$ Subj t_{Obj} V]]

In (96), an object first undergoes movement to the matrix SpecCP, and then gets elided leaving its particle behind in the matrix SpecCP, which is the sentence-initial position. The sentence-initial property of particle stranding ellipsis is thus a natural consequence of movement of an elided element, which is also found with the phenomenon of argument ellipsis: there is in fact nothing special about it that is not found with other ellipsis phenomena discussed in this thesis, like argument ellipsis.

4.4.2.2. Extraction out of particle stranding ellipsis sites

Recall that the movement approach to ellipsis employs PF-deletion, not LF-copying, as I have argued for argument ellipsis in Chapters 2 and 3. In the cases discussed earlier, one of the arguments for the PF-deletion analysis was the possibility of overt extraction out of an ellipsis site, which indicates the existence of a full-fledged structure in the ellipsis site in overt syntax. The movement approach to particle stranding ellipsis then predicts that overt extraction out of a particle stranding ellipsis site should be possible. This prediction is indeed borne out. In Section 3.2.2, we have seen that the embedded subject of ECM constructions can be extracted out of an argument ellipsis site by A-movement involved in passivization. (97) illustrates the same point with particle stranding ellipsis. In (97A), the matrix subject 'you' is extracted out of the embedded clause via A-movement in passivization. Note that the embedded clause is fronted here since particle stranding ellipsis targets only the sentence-initial material. As we have seen in Section 3.2.2, there is no classical PBC effect here (see Hiraiwa 2010 for a detailed analysis). In (97B), the embedded clause undergoes ellipsis leaving only the complementizer particle behind.

(97) *A: [$_{CP}$ t_i tensai da to] kimi-ga$_i$ minna-kara t_{CP} omow-are-teiru n da yo ne?*
genius COP C you-NOM everyone-from think-PASS-be.PRES Fin Foc PRT PRT
lit. '[$_{CP}$ That t_i is a genius], you$_i$ are believed by everyone t_{CP}?'

B: [Δ-to] boku-no aikata-ga$_i$ t_{CP} omow-are-teiru n da yo.
C I-GEN buddy-NOM think-PASS-be.PRES Fin Foc PRT
lit. '[$_{CP}$ That-Δ], my business partner$_i$ is believed t_{CP}.'

The grammaticality of (97B) indicates that overt extraction out of a particle stranding ellipsis site is possible, just as with argument ellipsis. This confirms that particle stranding ellipsis should be analyzed in terms of PF-deletion.

Yamashita (2020) observes that extraction of the pivot of a case-marked cleft out of a particle stranding ellipsis site is also possible, as shown in (98).

(98) *a. [[UConn-ga yuiitu t_i kateru to] kimi-ga itta no]-wa NCAA-ni_i da yo ne?*
Uconn-NOM only can.win C you-NOM said Fin-TOP NCAA-DAT COP PRT PRT
'It is the $NCAA_i$ that you said that Uconn would win only t_i.'

b. [[Δ-to] itta no]-wa AAC-ni_i da yo.
C said Fin-TOP AAC-DAT COP PRT
'It is the AAC that I said that ~~Uconn would win only t_i~~.'

Under the derivational approach to clefts (see Section 4.3.4), this also shows that overt extraction out of a particle ellipsis site is possible.

The possibility of overt extraction out of a particle stranding ellipsis site thus indicates that particle stranding ellipsis employs PF-deletion, not LF-copying, as I have argued for argument ellipsis in Chapters 2 and 3 (for LF-copy analyses of particle stranding ellipsis, see, however, Sato and Ginsburg 2006, 2007; Sakamoto and Saito 2018a; Yamashita 2020). This finding thus implies that particle stranding ellipsis can be unified with argument ellipsis in terms of PF-deletion, which in turn supports the movement approach to particle stranding ellipsis.

4.4.2.3. Additional parallelisms between particle stranding ellipsis and argument ellipsis

In support of a unification of the two ellipsis phenomena, I will now show that particle stranding ellipsis and argument ellipsis share additional properties that have not been discussed before. First, as we have seen in Section 3.3.2, ellipsis can cancel polarity sensitivities of polarity items (Sag 1976; Johnson 2001; Saito 2007; Merchant 2013b; Funakoshi 2013). (99) illustrates this point with argument ellipsis of a PPI *dareka* 'someone'. In (99A), 'someone' is contained in the antecedent object. Taking (99A) as an antecedent, the object in (99a) undergoes argument ellipsis. Importantly, the elided PPI can be interpreted under negation. On the other hand, as shown in (99b), the overt PPI cannot yield a *NEG* > *some* interpretation. Thus, (99b) is infelicitous as an answer to the question in (99A) because (99A) is asking whether there is someone in the class whose name he used, while (99b) says that there is someone in the class whose name he didn't use.

(99) *A: [[Kono kurasu-no dareka-no] namae]-o syoosetu-ni tuka-tta no?*
this class-GEN someone-GEN name-ACC novel-DAT use-PAST C
'Did you use someone's name in this class in your novel?'

a. B: Δ tuka-tte-nai yo. Hoka-no kurasu-no yatu no-wa tuka-tta yo.
use-TE-NEG PRT other-GENclass-GEN guy one-TOP use-PAST PRT
'I didn't use anyone's name in this class. I used names in other's class.' (NEG > some)

b. B:#[[Kono kurasu-no dareka-no] namae]-o/wa tuka-tte-nai yo.
this class-GEN someone-GEN name-ACC/TOP use-TE-NEG PRT
'There is someone in this class whose name I didn't use.' (some > NEG)/*(NEG > some)

c. B:#sore-o/wa tuka-tte-nai yo.
this-ACC/TOP use-TE-NEG PRT
'I didn't use it.'

The contrast between (99a) and (99b) indicates that argument ellipsis can cancel the polarity sensitivity of the PPI 'someone.' Note that an overt pronoun in (99c) cannot yield the intended interpretation of (99a). This indicates that the null element in (99a) cannot be analyzed as *pro*.

Crucially, particle stranding ellipsis can also cancel the polarity sensitivity. (100A) has a PPI 'someone' in the object phrase. (100B) shows that the PPI affected by particle stranding ellipsis can take scope under negation.

(100) *A: [[Kono kurasu-no dareka-no] namae]-o syoosetu-ni tuka-tta no?*
this class-GEN someone-GEN name-ACC novel-DAT use-PAST C
'Did you use someone's name in this class in your novel?'

B: ~~[[Kono kurasu-no dareka-no] namae]~~-Wa tuka-tte-nai yo.
TOP use-TE-NEG PRT
Hoka-no kurasu-no yatu no-wa tuka-tta yo.
other-GEN class-GEN guy one-TOP use-PAST PRT
'I didn't use anyone's name in this class. I used names in other's class.' (NEG > some)

This illustrates another similarity between argument ellipsis and particle stranding ellipsis.

In addition, particle stranding ellipsis does not obey the strict phonological identity condition, just like other ellipsis phenomena. It is well known in the literature on ellipsis that there is no strict

morphological or phonological identity with the antecedent (Chomsky 1965; Sag 1976, a.o.). This point is illustrated with argument ellipsis in (101). In (101), the object containing a PPI and a first-person pronoun gets elided taking an object with a second-person pronoun as an antecedent.

(101) *A: [[Kimi-no kurasu-no dareka-no] namae]-o syoosetu-ni tuka-tta no?*
you-GEN class-GEN someone-GEN name-ACC novel-DAT use-PAST C
'Did you use someone's name in your class in your novel?'

B: ~~[[Boku-no kurasu-no dareka-no] namae]-o~~ tuka-tte-nai yo.
I-GEN class-GEN someone-GEN name-ACC use-TE-NEG PRT
Hoka-no kurasu-no yatu no-wa tuka-tta yo.
other-GEN class-GEN guy one-TOP use-PAST PRT
'I didn't use ~~anyone's name in my class~~. I used names in your class.' (NEG > some)

The phonological mismatch between the antecedent and the elided element in (101) shows that a deletion operation in argument ellipsis does not require strict phonological identity with the antecedent.

Consider then particle stranding ellipsis in (102), which again shows that an elided PPI can take scope under negation. Crucially, in this example too, there is a phonological mismatch between an antecedent clause and ellipsis clause. The antecedent object in (102) contains a second-person pronoun 'you,' while the elided object is a first-person pronoun 'I'.

(102) *A: [[Kimi-no kurasu-no dareka-no] namae]-o syoosetu-ni tuka-tta no?*
you-GEN class-GEN someone-GEN name-ACC novel-DAT use-PAST C
'Did you use someone's name in your class in your novel?'

B: ~~[[Boku-no kurasu-no dareka-no] namae]~~-Wa tuka-tte-nai yo.
I-GEN class-GEN someone-GEN name TOP use-TE-NEG PRT
Hoka-no kurasu-no yatu no-wa tuka-tta yo.
other-GEN class-GEN guy one-TOP use-PAST PRT
'I didn't use ~~anyone's name in my class~~. I used names in your class.' (NEG > some)

This is, then, another similarity between particle stranding ellipsis and argument ellipsis. Particle stranding ellipsis allows phonological mismatches between antecedents and elided elements, just like argument ellipsis does.

The same point can be illustrated with the comparative deletion construction in (103). Recall that the null operator extracted out of an embedded clause indicates that there is a syntactic structure in an ellipsis site (Sakamoto 2017; see Section 3.2.1 for discussion of comparative deletion constructions). In (103A), the antecedent embedded clause contains the first-person pronoun 'I', whereas the ellipsis target clause in (103B) has the second-person pronoun 'you.'

(103) *A: [OP$_i$ [Boku-ga t_{OP} morat-ta to] seken-ga suisokusite-ru yorimo] Kazu-wa*
I-NOM receive-PAST C society-NOM infer-PRES than Kazu-TOP
takusan-no ofaa$_i$-o morat-ta n da yo ne?
many-GEN offer-ACC receive-PAST Fin Foc PRT PRT
'Kazu received more offers$_i$ than [OP$_i$ people infer that I received t_{OP}].'

B: [OP$_i$ [~~kimi-ga t_{OP} morat-ta~~ to] suisokusite-ru yorimo] sukunai ofaa$_i$-o morat-ta
you-NOM received C infer-PRES than little offer-ACC receive-PAST
rasii yo.
seem PRT
'He seems to receive less offers$_i$ than [OP$_i$ people infer that ~~you received t_{OP}~~].'

The phonological mismatch between the antecedent and the elided element in (103) confirms that particle stranding ellipsis does not require strict phonological identity.

4.4.2.4. String Deletion

It should be noted, however, that while under the current PF-deletion approach, the PF-deletion involved in particle stranding ellipsis is the same kind of PF-deletion that is involved in other PF-deletion ellipsis phenomena, there have been proposals that a special PF-deletion process is involved in particle stranding ellipsis (Sato and Maeda 2019; Takita 2020; cf. Mukai 2003). Thus, Sato and Maeda (2019) argue that particle stranding ellipsis is derived by what is called string deletion, as defined below:

(104) String Deletion in the Phonological Component:
String deletion may apply to a contiguous phonetic string in U_E [i.e. elliptical utterance] at PF,

> regardless of its syntactic constituency, if U_A [i.e. antecedent non-elliptical utterance] has the identical phonetic string. (Sato and Maeda 2019, 367: with minor modification)

In this analysis, particle stranding ellipsis is deletion of a phonetic string under strict phonological identity with the antecedent. We have already seen above that the strict phonological identity requirement does not hold. In fact, particle stranding ellipsis does not differ from argument ellipsis in this respect. Turning to the second special property of String Deletion, Sato and Maeda (2019) argue that particle stranding ellipsis can be applied to a non-constituent. It is however far from clear that elements that undergo non-pronunciation in their examples are a non-constituent. For example, they claim that what is elided in (105B) is a disjunctive phrase in (105A). They then argue for the string deletion process assuming that an elided disjunctive phrase in (105B) is not a constituent, as in (106).

(105) [Speakers A and B wonder where they want to go for a date this Saturday.]
A: Konsyu-no deeto doko ik-oo ka? Omotesando ka Sinjuku?
this.week-GEN date where go-MODAL Q Omotesando or Sinjuku
'Where shall we go for a date this Saturday? Omotesando or Sinjuku?'

B: Δ-ka Asakusa-wa?
or Asakusa-TOP
lit. 'Δ-Or Asakusa?' (Sato and Maeda 2019, 369)

(106) Non-constituent deletion analysis:
[$_{DisjP1}$ ~~Omotesando [$_{Disj'}$ ka [$_{DisjP2}$ Sinjuku~~ [$_{Disj'}$ ka Asakusa]]]]-wa?

It is however not clear that the first two disjunctions in (106) are a non-constituent. The structure of a three-item disjunction can also be analyzed as in (107), where the first two disjunctions constitute a disjunctive phrase like the one in (105A) on their own and occupy the specifier of the higher DisjP (Hiraiwa 2014; Hiraiwa and Chino 2014).

(107) [$_{DisjP1}$ [$_{DisjP2}$ Omotesando [$_{Disj'}$ ka Sinjuku]] [$_{Disj'}$ ka Asakusa]]-wa?

The plausibility of this analysis is confirmed by the fact that an overt pronoun can occur in the ellipsis site in (105B) without changing its intended interpretation (Takita 2020).

(108) *B: Sore ka Asakusa-wa?*
it or Asakusa-TOP
'Those places or Asakusa?' (Takita 2020, 108)

A string of words that can be replaced by a proform is standardly assumed to be a constituent (i.e. proform replacement test; Larson 2010). (108) thus confirms the constituency of the elided disjunction in (105B). Sato and Maeda's argument for non-constituent deletion thus does not work.

In contrast to their claim, I argue that particle stranding ellipsis in fact cannot target a non-constituent. I illustrate this point with a stranded genitive particle. It is reported that particle stranding phenomena also allow a stranded genitive particle, as in (109) (Sakamoto and Saito 2018a).

(109) Genitive Particle Stranding
[Students are assigned to read Chomsky's book and other's book.]
A: [Chomsky-no hon] yon-da?
Chomsky-GEN book read-PAST
'Did you read Chomsky's book?'

B: [Δ-No hon]-ga mada yom-e-te-nai. Hoka-no hito-no nara yon-da kedo.
GEN book-NOM yet read-can-TE-NEG other-GEN person-GEN if read-PAST but
lit. 'I haven't read Δ's book yet. Though I read other's book.'

Consider then (110), where there is another element that modifies 'Chomsky's book' which precedes it. Interestingly, in this case, stranding the genitive particle is not possible.

(110) [Students are assigned to read Chomsky's new and old books.]
A: [Atarasii [Chomsky-no hon]] yon-da?
new Chomsky-GEN book read-PAST
'Did you read Chomsky's new book?'

*B: *[~~Atarasii [Chomsky-~~No hon]]-ga mada yom-e-te-nai. Furui-no nara yonda kedo.*
new Chomsky-GEN book-NOM yet read-can-TE-NEG old-one if read but
int. 'I haven't read Chomsky's new book yet. Though I read his old one.'

The impossibility of stranding a genitive particle in (110B) suggests that the particle-stranding deletion cannot be applied to a non-constituent string, that is, 'new Chomsky.'

The following paradigm further confirms the impossibility of non-constituent deletion with particle stranding ellipsis. In (111), a possessor phrase is elided leaving a genitive particle behind.

(111) [A girl and a boy lost their shoes]

A: [Onnanoko-no kutsu]-wa mitukat-ta?
girl GEN shoes-TOP find-PAST
'Have the girl's shoes been found?'

B: [Δ-No kutsu]-ga mada mitukat-te-nai n da yo.
GEN shoes-NOM yet find-TE-NEG C COP PRT
Otokonoko no nara mitukat-ta kedo.
boy one if find-PAST but
'The girl's shoes have not been found yet. Though the boy's ones have been found.'

The impossibility of non-constituent deletion is confirmed by (112), where an adjective modifies a noun modified by a genitive phrase.

(112) [A boy lost his blue and red hats.]

A: [Aoi [Otokonoko-no boosi]]-wa mitukat-ta?
blue boy GEN hat-TOP find-PAST
'Have the boy's blue hat been found?'

*B: *[~~aoi [otokonoko~~-No boosi]]-ga mada mitukat-te-nai n da yo.*
blue boy gen hat-NOM yet find-TE-NEG C COP PRT
Akai no nara mitukat-ta kedo.
red one if find-PAST but
'His blue hat has not been found yet. Though his red one has been found.'

(112B) shows that deletion cannot be applied to a non-constituent 'blue boy.' On the other hand, when a modifying adjective constitutes a constutituent with the genitive phrase, a genitive particle can be stranded. In (113), the adjective 'naughty' modifies the genitive phrase 'boy's', rather than the head noun 'hat'. Therefore, the two phrases can be analyzed as a constituent here. Crucially, in this case, the genitive particle can be stranded.

(113) [A naughty boy and a gentle boy lost their hats.]

A: [[[Yantyana] otokonoko]-no (hoo-no) boosi]-wa mitukat-ta?
naughty boy-GEN more-GEN hat-TOP find-PAST
'Has the naugty boy's hat been found?'

B: [[Δ-No (hoo-no) boosi]-ga mada mitukat-te-nai n da yo.
GEN more-GEN hat-NOM yet find-TE-NEG C COP PRT
Otonasii ko-no hoo nara mitukat-ta kedo.
gentle child-GEN more if find-PAST but
'His hat has not been found yet. Though the gentle boy's one has been found.'

This confirms the impossibility of non-constituent deletion in particle stranding ellipsis.

Note that argument ellipsis cannot target a non-constituent either. Consider, for example, the following double object construction:

(114) a. *John-wa [Mary-ni] [takai tokee-o] age-ta kedo,*
John-TOP Mary-DAT expensive watch-ACC give-PAST but
'John gave Mary an expensive watch, but'

b. Bill-wa Δ [Δ tokee-o] age-nak-atta.
Bill-TOP watch-ACC give-NEG-PAST
lit. 'Bill didn't give Δ [Δ watch].'
'Bill didn't give her/anyone a watch.'

As we have seen in Section 2.2.2, either an indirect object or a direct object can be elided. In (114b), ellipsis targets a non-constituent, that is, the indirect object and an adjective that modifies the direct object. The interpretation of (114b) however indicates that such a non-constituent ellipsis is not possible. Clearly, (114b) cannot mean that Bill did not give Mary an expensive watch (he might have given her a cheap watch). This thus shows that the deletion operation underlying argument ellipsis cannot involve a special string deletion process either.

To summarize Section 4.4.2, I have first shown that the strange sentence-initial property of particle stranding ellipsis can be naturally accounted for under the movement approach to ellipsis. In fact, there is nothing strange about it. Under the current analysis, argument ellipsis is also sentence-initial since it is licensed in the matrix SpecCP. In this sense, the sentence-initial property is not unique to particle

stranding ellipsis. It is actually shared with other ellipsis cases under the movement approach to ellipsis. The movement approach to particle stranding ellipsis is also consistent with the finding that particle stranding ellipsis shares other properties with argument ellipsis. In particular, particle stranding ellipsis allows overt extraction out of an ellipsis site, which indicates that particle stranding ellipsis employs a PF-deletion operation, not LF-copy, as I have argued for argument ellipsis in Chapters 2 and 3. Furthermore, particle stranding ellipsis cannot be applied to a non-constituent, just like argument ellipsis, which argues against the string deletion approach to particle stranding ellipsis. The shared properties between argument ellipsis and particle stranding ellipsis are thus naturally accounted for under the movement approach to ellipsis. What is particularly important is that what has previously considered to be a peculiar particle-stranding-ellipsis-specific sentence-initial property is part of a much broader pattern under the movement approach to ellipsis argued for in this dissertation.[18]

4.4.3. A remaining issue

The proposed approach attributes the sentence-initial property of particle stranding ellipsis to a particular syntactic position (see Yoshida 2004; Goto 2012; Nasu 2012b; Sato 2012 for other accounts). However, Shibata (2014) observes that particle stranding ellipsis can occur in an embedded clause when no overt matrix material precedes the particle, as shown in (115) (see also Sato and Maeda 2019).

---

[18] What is different from other ellipsis cases under the movement approach to ellipsis is then that in particle stranding ellipsis, a subpart of an element in the matrix SpecCP is elided, whereas the whole moved phrase is elided in other ellipsis cases. In (i), for example, only the host noun of the topic particle is elided in the matrix SpecCP leaving its associate topic particle behind.

(i) A: "Have you already tried this bag?"
B: *[$_{CP}$ [Δ-Wa]$_i$ [$_{C'}$ pro t_i mada tukatte-na-i desu]]*
TOP yet use-NEG-PRES COP
lit. 'Δ_{TOP}, I haven't tried t_{Obj} yet.'

I assume that the discrepancy between what is moved and what is elided is possible only when the head that remains is one of the particles discussed in this section (see Yamashita 2019 for the full list). Prosodic factors discussed above may also be relevant here.

(115) *A: Kimi-wa [Miku-ga nani-o tabe-ta to] omotte-i-ru no?*
you-TOP Miku-NOM what-ACC eat-PAST C think-be-PRES C
'What do you think [that Miku has eaten]?'

B: [$_{CP1}$ [$_{CP2}$ ~~Miku~~-Ga udon-o tabe-ta to] boku-wa t_{CP2} omotte-i-ru].
Miku-NOM noodle-ACC eat-PAST C I-TOP think-be-PRES
lit. '[$_{CP2}$ that Δ_{NOM} has eaten noodles] I think t_{CP2}.' (Takita 2020, 104)

In (115B), what is elided is the embedded subject leaving its nominative particle behind. This is not a problem however if the embedded subject undergoes movement to the matrix SpecCP and then gets elided, as in (116).

(116) [$_{CP1}$ ~~Miku~~-NOM[$_{CP2}$ t_{Subj} …]]

This example can thus also be accommodated.[19]

4.4.4. *Pro*-strategy

In the literature on particle stranding ellipsis, a phonologically null pronoun *pro* has not been considered as an option for the ellipsis site. In this respect, Nasu (2012a) shows that particle stranding ellipsis is not allowed in a context where *pro*-drop is clearly possible, as in (117). Sakamoto and Saito (2018a) also point out based on the data in (118) that particle stranding ellipsis requires an overt linguistic antecedent, which has been standardly considered to be a hallmark of ellipsis since Hankamer and Sag (1976).

---

[19] It is, however, also possible that the ellipsis licensing movement in question takes place to the highest SpecCP that is also phonologically sentence initial. If this is the case, there would be no need for movement to the matrix SpecCP in (115), moving to the embedded clause SpecCP would be enough. (Under a unified analysis of particle stranding ellipsis and argument ellipsis we would expect this to also hold for argument ellipsis. It is not clear that anything would go wrong if the account of argument ellipsis proposed in the earlier chapters is amended this way).

At any rate, in the next section another strategy for particle stranding will be discussed: if examples like (115B) involve this strategy the issue currently under consideration would not arise in the first place.

(117) *(*Δ-Wa) John desu. hajimemasite.*
'Δ_{TOP} am John. Nice to meet you.' (Nasu 2012a: slightly modified)

(118) *[Context: Mary is a very cute girl, and every boy in her class has a crush on her. When Mary enters the classroom, ...]*

a. Kanozyo-ga kita!	*b. pro Kita!*	*c. *Δ-ga kita!*
she-NOM came	came	NOM came
'She came!'	'*pro* came!'	'Δ_{NOM} Came!'

(Sakamoto and Saito 2018, 351)

Based on this finding, Sakamoto and Saito (2018a) draw the conclusion that the phonologically null material in particle standing phenomenon cannot be analyzed as *pro*.

In contrast to the previous studies, I would like to suggest that *pro* can appear with stranded particles, which has an important consequence in that it requires us to control for this issue when investigating particle stranding *ellipsis*. It is known that use of stranded particles is pragmatically restricted to the beginning of a turn in turn-taking in conversation (Arita 2015). (119a) indicates that stranded particles can occur in the first utterance of B's conversational turn but cannot in the second utterance.

(119) A: *Suzuki-kun-wa kyoo kenkyuusitu-ni iru to omo-u?*
Suzuki-Mr.-TOP today laboratory-DAT be-PRES C think-PRES
'Do you think that Suzuki is in a laboratory today?'

*a. B: Saa, kyoo-wa mi-nak-atta na. *Δ-Wa i-na-i n zyanai kana.*
PRT today-TOP see-NEG-PAST PRT TOP be-NEG-PRES Fin not Q
'I don't see him today. (I think) Δ_{TOP} is not around.'

cf. b.B: Δ-Wa tabun i-ru n zyanai kana.
TOP probably be-PRES Fin be.not Q
lit. 'Δ_{TOP} probably is.' (Arita 2015, 5)

In contrast to (119), the examples in (117) and (118) are not a conversation. The impossibility of stranding particles in (117) and (118) may then be due to a disobedience of the pragmatic condition in question.

Consider instead the conversation in (120), where a particle stranding phenomenon takes place in the beginning of B's turn in conversation. What is particularly interesting in this example is that the linguistic antecedents in (120A) do not match the interpretation of the ellipsis site in (120a-B). Among the three possible linguistic antecedents in (120A) (the subject *Oda*, the object *Akechi*, and the proposition that *Oda betrayed Akechi*), none of them can overtly appear in the ellipsis site, as shown in (120b-d).

(120) *A: Oda-ga Akechi-o uragi-tta n da kke?*
Oda-NOM Akechi-ACC betray-PAST C COP Q
'Is it correct that Oda betrayed Akechi?'

a. B: Δ-Wa, (tasika,) Akechi-ga Oda-o uragi-tta n zyanak-atta kke?
TOP as.I.recall Akechi-NOM Oda-ACC betray-PAST C COP.NEG-PAST Q
lit. 'Δ_{TOP}, as I recall, Akechi betrayed Oda, didn't he?'

*b. B: *Oda-wa, (tasika,) Akechi-ga Oda-o uragi-tta n zyanak-atta kke?*

*c. B: *Akechi-wa, (tasika,) Akechi-ga Oda-o uragi-tta n zyanak-atta kke?*

*d. B: *[Oda-ga Akechi-o uragitta no]-wa, (tasika,) Akechi-ga Oda-o uragi-tta n zyanak-atta kke?*

Given that ellipsis requires an overt linguistic antecedent (Hankamer and Sag 1976), the apparent absence of an overt linguistic antecedent for the missing part in (120a-B) suggests that what looks like particle stranding ellipsis here is actually not an instance of ellipsis. I suggest that it is *pro* that occurs in (120a-B). Pronominal elements in this example do not require an overt linguistic antecedent. Moreover, the interpretation of (120a-B) is the same as with the overt pronominal counterpart of this *pro* in (121), where the overt pronoun *sore* refers to the intended proposition that Speaker A is trying to describe. (120a-B) can then be obtained by dropping the overt pronoun *sore* from (121).

(121) *B: Sore-wa, (tasika,) Akechi-ga Oda-o uragi-tta n zyanak-atta kke?*
it-TOP as.I.recall Akechi-NOM Oda-ACC betray-PAST C COP.NEG-PAST Q
lit. 'That is, as I recall, Akechi betrayed Oda, didn't he?'

The *pro*-strategy in the particle stranding phenomenon in fact provides another similarity between argument ellipsis and particle stranding ellipsis. As discussed in Chapter 2, argument ellipsis is also known to alternate with *pro*, and so does particle stranding ellipsis.[20]

The finding of the *pro* strategy in the particle stranding phenomenon suggests that some properties of particle stranding ellipsis may be due to the nature of Japanese particles, not necessarily due to the process of ellipsis. In this regard, the results of Shibata (2014) can be incorporated into the current system.[21] Shibata (2014) provides a phonological approach to particle stranding ellipsis which ties the availability of particle stranding ellipsis with the possibility of marking particles with prosodic stress (Nagahara 1994). In particular, he observes that stranded particles are possible only when they bear prosodic stress (which non-stranded particles typically do not do) and argues that this is possible only when they occur at intonational phrase boundaries that correspond to utterance boundaries. Although his analysis was originally intended for particle stranding ellipsis, there is no reason why it would apply only to particle stranding ellipsis since it is prosodic stress on particles that enables them to be stranded in his analysis and they have this prosodic property in the *pro*-strategy as well. Furthermore, the sentence-initial property also holds for the *pro*-strategy. In (122), a stranded topic particle occurs in the second position of the sentence, which causes ungrammaticality.[22]

---

[20] I will actually pursue a unification of argument ellipsis and *pro* in Chapter 5, which will not require treating *pro* cases any differently from ellipsis cases even regarding issues about to be discussed.

[21] Note also that the embedded particle stranding example in (115B) could in fact involve *pro*.

[22] In addition, particle stranding *pro* cannot appear in the second utterance of a conversational turn, just like particle stranding ellipsis, as shown in (i) (cf. Arita 2015).

(i) A: *Oda-ga Akechi-o uragi-tta n da kke?*
Oda-NOM Akechi-ACC betray-PAST C COP Q
'Is it correct that Oda betrayed Akechi?'
B: *Kinoo zyugyo-de yat-ta yo ne. *Δ-wa, tasika Akechi-ga Oda-o uragi-tta*
yesterday class-in do-PAST PRT PRT TOP as.I.recall Akechi-NOM Oda-ACC betray-PAST
n zyanak-atta kke?
C COP.NEG-PAST Q
'We did it in class yesterday. ~~That~~ is, as I recall, Akechi betrayed Oda, didn't he?'

(122) *A: Oda-ga Akechi-o uragi-tta n da kke?*
Oda-NOM Akechi-ACC betray-past C COP Q
'Is it correct that Oda betrayed Akechi?'

*B: *Tasika, Δ-wa, Akechi-ga Oda-o uragi-tta n zyanak-atta kke?*
as.I.recall TOP Akechi-NOM Oda-ACC betray-PAST C COP.NEG-PAST Q
'As I recall, ~~that~~ is, Akechi betrayed Oda, didn't he?'

As long as the phonological condition Shibata posits is met, stranded particles are then possible whether the phonologically null material is an elided element or *pro*. Shibata also accounts for the impossibility of particle stranding ellipsis in Korean, whose particle system is very similar to Japanese, based on the impossibility of marking particles with the necessary focus prosody in Korean (Jun 1993).[23] Note also that Shibata ties the two prosodic properties he observed. The intonational phrase boundary is stronger when it corresponds to an utterance boundary (see Bošković 2015; 2020). His suggestion is then that for the exceptional stressing of the affix to occur, it must occur at a strong intonational boundary (i.e. the one that corresponds to an utterance boundary). The above discussion then indicates that there are both syntactic and prosodic licensing conditions on particle stranding.

4.5. Summary

In this chapter, I have extended the movement approach to argument ellipsis to V-stranding VP-ellipsis, sluicing, and particle stranding ellipsis. The movement approach to V-stranding VP-ellipsis nicely captures a correlation between the possibility of adjunct-inclusive interpretations and the apparent movability of adjuncts (i.e. an adjunct that can be fronted via V-stranding VP-scrambling can be elided).

This is consistent with Arita's (2015) view of stranded particles, where stranded particles behave as a response-marker that indicates that the speaker is going to reply to questions directed to him/her. Stranded particles thus do not appear in the second sentence in a conversational turn.

[23] Shibata's (2014) analysis can account for Japanese particles that resists stranding such as complementizes *-yooni/-no* and a nominalizer *-koto*, as observed by Fujii (2016), as these particles cannot be stressed at the relevant prosodic boundary.

Sluicing in Japanese can also be accounted for under the movement approach if we assume that (i) case-marked clefts underly sluicing and (ii) case-marked clefts are derived from in-situ focus constructions. The idea in (i) was supported by showing that elements that cannot be the pivot of clefts cannot be remnants of sluicing. Furthermore, the investigation of sprouting has supported the idea in (ii), also revealing that a base-generated topic cannot undergo ellipsis. Particle stranding ellipsis can also be unified with argument ellipsis under the movement approach to ellipsis although it has been treated differently from other ellipsis cases in the literature because of its unique sentence-initial property. Interestingly, in our analysis, argument ellipsis also occurs in the sentence-initial position, just like particle stranding ellipsis. The movement approach to ellipsis thus provides a natural account of the sentence-initial property of particle stranding ellipsis. More generally, the movement approach to ellipsis accounts for argument ellipsis, V-stranding VP-ellipsis, sluicing, and particle stranding ellipsis in the same way. If the four instances of Japanese ellipsis can be unified under the movement approach to ellipsis, as argued in this chapter, this raises the possibility that all ellipsis cases in Japanese are licensed through movement to the matrix SpecCP.

Chapter 5

Conclusion and an Extension: Ellipsis and Radical *Pro*-drop

5.1. Summary

This chapter will summarize the results of this dissertation as well as discuss several additional issues and areas where the analyses proposed in this dissertation can be extended.

This dissertation has explored the nature of ellipsis, focusing on ellipsis phenomena in Japanese. In the literature on Japanese ellipsis, there have been a variety of proposals regarding how to analyze elements that appear to go unpronounced, such as PF-deletion, LF-copying, String Deletion, and insertion of phonologically null lexical elements (e.g. *pro*), with different operations applied to different ellipsis phenomena. An obvious question that immediately arises at this point is a learnability question, namely, how children get to correctly know that a particular ellipsis phenomenon employs a certain ellipsis operation and others different operations (a related question is how these options are represented in Universal Grammar and why those particular options). This issue is rather complicated especially given that in ellipsis phenomena, there is no overt linguistic signal of elided elements. The theory of ellipsis thus must ensure that children can acquire it.

In light of this learnability issue, I have pursued a hypothesis in this dissertation that ellipsis in Japanese is derived by a single operation, PF-deletion. In particular, I have proposed a movement approach to ellipsis in Japanese, where an elided element undergoes movement to the matrix SpecCP in overt syntax and then undergoes PF-deletion. This is line with Johnson's (2001) idea for VP-ellipsis in English (see also Hornstein 2008; Aelbrecht and Haegeman 2012; Funakoshi 2012; Aelbrecht and Harwood 2015) and subsequent works for Polish and Russian bare VP-ellipsis (Szczegielniak 2006) and French modal ellipsis (Authier 2011), though the scope of the movement approach to ellipsis has been significantly broadened in this dissertation. In Chapters 2 and 3, I have examined argument ellipsis, where the LF-copy approach has been more dominant in the literature since Oku (1998) first

identified the phenomenon of argument ellipsis (Shinohara 2006; Saito 2007, 2017; Takita 2010; Sato 2014, 2015, 2020; Sakamoto 2016c, 2017, 2019, 2020). In Chapter 2, I have argued that argument ellipsis involves overt movement of an element to be elided to the matrix SpecCP by showing that the distribution of argument ellipsis correlates with its overt movement counterparts (i.e. cases where the relevant element is not elided but undergoes movement). I have also provided evidence that elided elements undergo overt movement to the matrix SpecCP. I have shown that argument ellipsis is island-sensitive. In particular, sloppy and quantificational interpretations, which are the hallmark of ellipsis, are not possible for elided elements within an island. In addition, I have shown that argument ellipsis exhibits signs of successive cyclic movement regarding binding and scope, i.e. elided elements can be interpreted in an intermediate position between the matrix SpecCP and their base position. Furthermore, I have shown that argument ellipsis induces movement-blocking effects, namely, argument ellipsis is impossible in situations where its overt counterpart cannot undergo movement due to blocking effects. I have also shown that the existence of overt movement in the derivation of argument ellipsis supports the PF-deletion approach to argument ellipsis, i.e. it strongly favors this approach over the LF-copy approach. In Chapter 3, I have provided additional arguments that favor the PF-deletion approach to argument ellipsis over the LF-copy approach. I have shown that overt extraction out of an argument ellipsis site is possible, which indicates that there is internal structure in the ellipsis site in overt syntax, contrary to Sakamoto's (2017, 2019, 2020) claim. Furthermore, I have also shown that elided elements are subject to morpho-syntactic case constraints, the double-*o* constraint (Hale and Kitagawa 1976; Shibatani 1978) and the morphological case requirement on moved elements (Saito 1983), which is unexpected under the LF-copy approach, where elided elements are assumed to lack phonological and morphological information. In Chapter 4, I have extended the movement approach to ellipsis to other ellipsis phenomena in Japanese, namely, V-stranding VP-ellipsis, sluicing, and particle stranding ellipsis, which have been analyzed differently from one another in the literature. In the context of V-stranding VP-ellipsis, I have considered (im)possible cases of ellipsis of adjuncts (i.e. adjunct-inclusive interpretations) and tied them with the apparent movability of adjuncts. In particular, I have argued

that adjunct-inclusive interpretations are possible only when adjuncts can be fronted via V-stranding VP-scrambling. In the context of sluicing, I have argued that sluicing is best analyzed as derived from an in-situ focus construction via cleft-formation, following Hiraiwa and Ishihara (2012). This analysis fits well with the movement approach to ellipsis since sluicing is derived by ellipsis of FinP which undergoes topicalization to SpecTopP in the process of cleft-formation (Hiraiwa and Ishihara 2002, 2012; Nishigauchi and Fujii 2006; Nakao 2009). As an argument for this cleft-based analysis of sluicing, I have shown that an element that cannot appear in the pivot of clefts cannot be a remnant of sluicing, which is unexpected under analyses where the source of sluicing is a non-cleft construction, as in the *wh*-movement approach (e.g. Takahashi 1993) and the in-situ deletion approach (e.g. Kimura and Takahashi 2011). Regarding particle stranding ellipsis, we have seen that it exhibits a strange sentence-initial property (i.e. it can take place only in the sentence-initial position) and that it shares properties with argument ellipsis such as the possibility of overt extraction out of an ellipsis site. I have then argued that these properties of particle stranding ellipsis can be nicely captured under the movement approach to ellipsis. Importantly, under the proposed movement approach to ellipsis, not only particle stranding ellipsis but other ellipsis cases (e.g. argument ellipsis) are also sentence-initial. The noted parallelisms between particle stranding ellipsis and argument ellipsis are expected since they are analyzed in the same way, namely, as ellipsis of material in the matrix SpecCP. I have also argued that particle stranding ellipsis should not be analyzed in terms of String Deletion (cf. Sato and Maeda 2019) since it does not allow ellipsis of non-constituent elements (contrary to what was claimed by Sato and Maeda 2019).

The idea pursued in this dissertation is that different domains of ellipsis should not be treated by different ellipsis operations. Under the movement approach to ellipsis, all ellipsis cases under investigation can be captured in terms of PF-deletion. If this unification is on the right track, it raises the possibility that all ellipsis cases in Japanese are licensed through movement to the matrix SpecCP and PF-deletion of the moved element.

In this connection, it is worth noting that Bošković (2011) analyzes English null objects in imperatives as involving movement, as they license parasitic gaps, as shown in (1) (Bošković 2011).

(1) Don't open Δ without closing e_{PG} afterward. (Bošković, Fall lecture, 2021; cf. Bošković 2011)

It is well-known that parasitic gaps are licensed by A'-moved elements. Bošković (2011) claims that the parasitic gap in (1) is licensed by A'-movement of the null object to a context linking projection in the left periphery (see Sigurðsson and Maling 2010 and Sigurðsson 2011 on such projections). The movement approach to ellipsis can then be extended to null objects in English imperatives if these objects are analyzed in terms of ellipsis.

Another case which could be compatible with the movement approach is the topic-drop phenomenon in Germanic languages, where a null topic has been argued to be licensed in SpecCP (Ross 1982; Huang 1984; Cardinaletti 1990; Rizzi 1994, a.o.). Trutkowski (2016) points out that German topic drop allows a sloppy interpretation, just like argument ellipsis, as shown in (2).

(2) *A: Der Hans$_i$ hat gestern seine$_i$ Mutter getroffen.*
the Hans has yesterday his mother.ACC met
'Hans has met his mother yesterday.'

B: Δ hat der Otto heute auch getroffen.
has the Otto today also met
lit. 'Otto also met Δ today.' (strict/ sloppy) (Trutkowski 2016, 122)

If a null topic in Germanic languages can be analyzed as ellipsis, which is plausible in light of (2), the movement approach to ellipsis can also be applicable to it.

At any rate, I will leave for future research to explore the consequences of extending the approach to ellipsis argued for in this dissertation to (1) and (2).

5.2. Extension of the Movement Approach to Ellipsis

I will finish the dissertation by noting additional areas where the proposals in this dissertation can be extended.

5.2.1. Speculation on crosslinguistic differences

I have proposed that an element to be elided moves to the matrix SpecCP and then undergoes PF-deletion, as schematized in (3).

(3) Movement approach to ellipsis:
a. [X Y Z]
b. [$_{CP(root)}$ Y [X t_Y Z]]
c. [$_{CP(root)}$ ~~Y~~ [X t_Y Z]]

From the perspective of licensing, this approach indicates that ellipsis is licensed in the matrix SpecCP by the root C, with what is elided being located in SpecCP. This means that the relation between the ellipsis site (i.e. what is elided) and the licensing head is the spec-head relation in the relevant ellipsis phenomena rather than previously proposed relations for ellipsis (i.e. the licensing head and the ellipsis site) for other languages, such as government (Zagona 1982; Lobeck 1990, 1995; Saito and Murasugi 1990)[1], the head-complement relation (Merchant 2001), or the c-command relation (i.e. non-local relation via Agree; Aelbrecht 2009). The questions for the proposed licensing mechanism for ellipsis in Japanese are then why the elided element has to move to the specifier of the licensing head and why the licensing head is the root C. In other words, why can't the licensing head license ellipsis in a non-local fashion? In this regard, I adopt Rizzi's (1994) idea that the highest position of the root clause guarantees optimal access to the discourse, which I assume provides the linguistic antecedent for the elided element (Tsao 1977; Huang 1984; Haegeman 2000; Cardinaletti 1990; Sigurðsson 2011; Sigurðsson and Maling 2010; Mörnsjö 2002; Nygard 2018; Bošković 2011; a.o). This means that an elided element undergoes movement to the edge of the root clause in order to ensure its identity with/recoverability from the linguistic antecedent in the discourse. Given this, the licensing position of ellipsis under investigation can then be considered to be the matrix discourse-given TopP (Frascarelli 2007; Frascarelli and Hinterhölzl 2007; Bianchi and Frascarelli 2010; see also Mizuno 2021 for an

[1] Some sort of a spec-head relation is also employed in Lobeck's (1990, 1995) and Saito and Murasugi's (1990) system. In their analysis, a spec-head relation is needed for a functional head to license ellipsis of its complement.

analysis of argument ellipsis as involving topicalization). Therefore, the movement operation involved in ellipsis under the movement approach has the discourse-given TopP as its landing site. It is indeed known that scrambling, which I have been using as a test for movement, gives rise to a discourse effect and is related to discourse-givenness (Miyagawa 2017; cf. Saito 2010).[2,3] If this is the case, the

---

[2] Discourse-given topics are different from what is called thematic *wa* in Kuno (1973), which is considered to be an aboutness topic (Miyagawa 2017). Although aboutness topics are often related to discourse elements, they are not necessarily discourse-given (Frascarelli 2007; Frascarelli and Hinterhölzl 2007; Bianchi and Frascarelli 2010). Thus, a newly-introduced element can be what the sentence is about, as shown in (ia) (Lacerda 2020). Interestingly, in contrast to the topicalized object in (ia), a scrambled object cannot function as an aboutness-shift topic, as shown by (ib). This can be interpreted as indicating that scrambling is not related to aboutness topics. (Note that an in-situ object cannot behave as an aboutness topic even if it is marked with a topic particle, as shown in (ic)).

(i) A: *Peter-wa sono-zyugyoo-de Minimalist Program-o yom-anakya-ikenak-atta.*
Peter-TOP that-class-in Minimalist.Program-ACC read-NEG-bad-PAST
'Peter had to read the Minimalist Program in the class.'

a. B: *Barriers-**wa** sono-zyugyoo-de yom-anaku-te-mo yok-atta.*
Barriers-TOP that-class-in read-NEG-TE-also good-PAST
'Speaking of Barriers, he didn't have to read it in the class.'

b. B: *#Barriers-**o** sono-zyugyoo-de yom-anaku-te-mo yok-atta.*
Barriers-ACC that-class-in read-NEG-TE-also good-PAST
lit. 'Barriers$_i$, he didn't have to read t_i in the class.'

c. B': *#Sono-zyugyoo-de Barriers-**wa/o** yom-anaku-te-mo yok-atta.*
that-class-in Barriers-TOP/ACC read-NEG-TE-also good-PAST
'He didn't have to read Barriers in the class.'

[3] If base-generated topics cannot serve as discourse given topics in Japanese, then the impossibility of eliding base-generated topics discussed in Section 4.3.5 would actually naturally follow from the idea that the licensing head is the discourse given Topic. There is some indication that this is true. Recall that base-generated topics are phrases marked only with a topic marker as such phrases are insensitive to island, as in (i) (cf. Section 4.2.4; Saito 1985).

(i) a. **Pekin-ni$_i$ John-ga [[t_i it-ta koto-ga aru] hito]-o sagasite-i-ru.*
Beijing-DAT John-NOM go-PAST fact-NOM exist person-ACC look.for-be-PRES
lit. 'To Beijing$_i$, John is looking for a person who has been to t_i.'

movement approach to ellipsis can be considered as ellipsis of a discourse-given topic, as illustrated in (4).

(4) Movement approach to ellipsis (i.e. Discourse-Given Topic Ellipsis)
$[_{\text{G-TopicP(root)}}$ ~~XP~~ $[_{\text{G-Topic'}}$ G-Topic$_{[E]}$ [… t_{XP} …]]]

Under this approach, the crosslinguistic difference in the availability of discourse-given topic ellipsis (e.g. argument ellipsis) may lie in whether the discourse-given Topic head can function as a licensor of ellipsis or not. I tentatively suggest that this distinction is related to a parameter distinguishing discourse-oriented languages from sentence-oriented languages (for relevant discussion, see Tsao 1977; Huang 1984; McShane 2005; Jantunen 2013; cf. also Li and Thompson 1981). In discourse-oriented languages like Japanese, the discourse-given Topic head serves as a licensor of ellipsis and

---

b. *Pekin-wa$_i$ John-ga [[e$_i$ it-ta koto-ga aru] hito]-o sagasite-i-ru.*
Beijing-TOP John-NOM go-PAST fact-NOM exist person-ACC look.for-be-PRES
lit. 'Speaking of Beijing$_i$, John is looking for a person who has been to e$_i$.'

The grammaticality of (ib), which involves a complex NP island, suggests that phrases marked only with a topic marker can be base-generated in a topic position. The question is then whether such phrases can serve as discourse given topics. In this regard, consider the sentences in (ii), where the subject is focalized and other phrases are discourse-given. In the answers (ii-A$_1$) and (ii-A$_2$), the location phrase 'Christmas party' appears in the sentence initial position. Crucially, in this context, the phrase 'Christmas party' with the postposition in (ii-A$_2$) can be fronted, but the one only with the topic marker (ii-A$_2$) cannot.

(ii) Q: *Dare-ga kurisumasu paatii-de Mary-ni purezento-o watasi-ta no?*
who-NOM Christmas party-at Mary-DAT present-ACC give-PAST C
'Who gave Mary a present at the Christmas party?'

A$_1$: *Kurisumasu paatii-de$^?$(-wa)$_i$, John-ga t$_i$ Mary-ni purezento-o watasi-ta yo.*
Christmas party-at(-TOP) John-NOM Mary-DAT present-ACC give-PAST PRT
lit. 'At the Christmas party$_i$, John gave Mary a present t$_i$.'

A$_2$: *#Kurisumasu paatii-wa, John-ga Mary-ni purezento-o watasi-ta yo.*
Christmas party-TOP John-NOM Mary-DAT present-ACC give-PAST PRT
lit. 'Speaking of the Christmas party, John gave Mary a present.'

This indicates that the base-generated topic in (ii-A$_2$) cannot be a discourse-given topic.

thus an element in the discourse-given SpecTopP can undergo ellipsis under identity with discourse material.

5.2.2. Speculation on radical *pro*-drop

In this last section, I would like to suggest that the movement approach to ellipsis leads to a potential solution for a long-standing puzzle regarding licensing of radical *pro*-drop and a long-debated issue of whether a null argument is derived by ellipsis or *pro*.

Some languages clearly employ the *pro*-strategy. This strategy is discussed in the literature regarding licensing conditions on *pro*, given that not all languages allow *pro*. A well-known condition on licensing *pro* developed under extensive research on null subjects in languages like Italian and Spanish is that *pro* is licensed by the existence of rich inflectional morphology on verbs (Perlmutter 1968; Taraldsen 1981; Chomsky 1981; Jaeggli 1981; Rizzi 1986, a.o). Languages with rich agreement on verbs allow *pro* in an argument position because a null pronoun can be identified through the rich agreement system on the verb. This also accounts for the unavailability of *pro* in languages with relatively impoverished agreement inflections like English and French. The agreement marking on the verb is not rich enough to identify missing arguments in those languages. Such an account however clearly cannot apply to null arguments in languages like Japanese, Korean and Chinese, where verbs exhibit no morphological agreement with arguments (Kuroda 1965; Li and Thompson 1981; Huang 1984). *Pro*-drop in such languages has been called radical *pro*-drop but the term really hides a licensing issue; how radical *pro*-drop is licensed has in fact been a long-standing question. The goal of the following discussion is to outline an answer for this long-standing question.

Following Huang (1984), I suggest that radical *pro*-drop is syntactically licensed by a discourse given Topic head. However, crucially departing from Huang (1984), who analyzes radical *pro*-drop as a silent topic operator (which undergoes movement), I suggest that radical *pro*-drop is ellipsis of a pronominal item licensed by a discourse given Topic head rather than insertion of a lexically null pronoun (see also Neeleman and Szendrői 2007 for an analysis of radical *pro*-drop as zero spell-out).

What is called radical *pro*-drop is then not a lexical null pronoun (or Huang's null operator), as is standardly assumed. Recall that under the movement approach to ellipsis, an elided element undergoes movement to the matrix SpecTopP for its identity with/recoverability from a linguistic antecedent. Under this idea, pronouns should also be able to be elided since they can be identified by a discourse element even without a linguistic antecedent. In other words, there is no reason why pronouns cannot be elided in languages that allow discourse-given topic ellipsis (e.g. argument ellipsis), which would then be another property of discourse-oriented languages. Thus, for example, the missing object in (5) can be analyzed as argument ellipsis of the pronoun *sore* 'it', whose referent is determined based on the context.

(5) *Kodomo-wa ~~sore-ni~~ sawar-anai-hoo-ga ii yo.*
child-TOP it-DAT touch-NEG-more-NOM good PRT
'Children had better not touch ~~it~~.'

Recall that I have observed in Section 4.4.4 that the particle stranding phenomenon also allows the *pro*-drop strategy, which confirms that both argument ellipsis and particle stranding ellipsis alternate with *pro*. For example, in Section 4.4.4, I have concluded that the stranded particle in (6) is derived by *pro*-drop since there is no overt linguistic antecedent for the null element (i.e. none of the items in the preceding sentence can occur in the empty position). As illustrated in (6) with a strikethrough, this null element can be reanalyzed as an elided pronoun, under the proposal made in this section.

(6) *A: Oda-ga Akechi-o uragi-tta n da kke?*
Oda-NOM Akechi-ACC betray-PAST C COP Q
'Is it correct that Oda betrayed Akechi?'

B: ~~Sore-~~Wa, (tasika,) Akechi-ga Oda-o uragi-tta n janak-atta kke?
it-TOP as.I.recall Akechi-NOM Oda-ACC betray-PAST C COP.NEG-PAST Q
lit. '~~That~~ is, as I recall, Akechi betrayed Oda, didn't he?'

Importantly, this analysis resolves the long-standing problem regarding how radical *pro*-drop is licensed. The problem is resolved trivially: there is no such thing as radical *pro*-drop *pro*. Lexically

null pronominal *pro* can then be universally subject to the agreement requirement discussed with respect to languages like Spanish. What has been called radical *pro*-drop is not a lexical null pronoun, but ellipsis of regular overt pronominal items, which can be done even without a linguistic antecedent in discourse-oriented languages.[4]

The ellipsis approach to radical *pro*-drop is also consistent with the well-known fact that without a linguistic antecedent, a null argument exhibits properties of pronouns (Takahashi 2008b). As shown in (7), a missing object cannot refer to the clause-mate subject, which indicates a Condition B effect.

(7) [Watching Bill blaming himself]
John-mo Δ seme-te-ru yo.
John-also blame-TE-PRES PRT
'John$_i$ also blames him$_{*i/Bill.}$'

---

[4] It is, however, well-known that null pronouns, being weak pronouns, behave differently from overt pronouns (Montalbetti 1984; Xu 1986; Huang 1991, Cardinaletti and Starke 1999, a.o.; cf. Saito and Hoji 1983). For examples, *pro* can be a bound-variable for quantificational nouns, whereas an overt pronoun cannot, as shown in (i).

(i) *Dono-sensee$_i$-mo [seeto-ga {pro$_i$ | *kare$_i$-o} kiratteiru to] omotte-i-ru.*
every-teacher-also student-NOM he-ACC dislike C think-be-PRES
lit. 'Every teacher$_i$ believes that students dislike *pro$_i$*/*him$_i$.'

Cardinaletti and Starke (1999) argue that this is because null pronouns (i.e. weak pronouns) have less internal structure than overt pronouns and that what they call Minimize Structure (an economy principle of representations) enforces the use of less structured pronouns (i.e. null/weak pronouns) when both are in principle available. Note that their account is not compatible with the approach taken in this section where radical *pro*-drop is just an instance of ellipsis of pronouns (i.e. there is no structural difference between null "pronouns" and overt pronouns). One possible way to capture the contrast in (i) under the proposed approach is to attribute it to a difference between weak pronouns and overt pronouns in the phonological strength, not the richness of syntactic structure (the two, clearly, do differ in the former criterion, while the latter difference is really a matter of analysis). The suggestion here is then that when both null pronouns (i.e. ellipsis of pronouns) and overt pronouns are possible, the former must be used because it is phonologically weaker. (Another difference between the two under the current approach actually concerns movement, as discussed below). I will leave for future research to explore further consequences of this account.

The impossibility of coreference between the subject and the missing object in (6) also means that a null argument without a linguistic antecedent cannot be an anaphor. The proposed ellipsis analysis can provide an account for why null anaphors, in contrast to null pronouns, do not exist in Japanese. Anaphors are not discourse referential items and thus unrecoverable without a linguistic antecedent, which means that they cannot arise through ellipsis without a linguistic antecedent.

Under this analysis, so-called radical *pro*-drop is thus reduced to ellipsis of discourse referential pronominals. This leads us to a solution to a long-debated issue, since Otani and Whitman (1991), whether a null argument in discourse-oriented languages is derived by *pro* or ellipsis. What has been considered as *pro* is actually derived by ellipsis of pronominals under the current approach; there are no lexically null pronouns in Japanese. I further suggest that the crucial difference between "*pro*" and "ellipsis" is the licensing position. The latter (i.e. ellipsis of non-pronominal items) is licensed in the matrix discourse-given TopP. Non-pronominal items have to move to this position to ensure optimal access to a linguistic antecedent in the discourse (since they require a linguistic antecedent). The former (i.e. ellipsis of pronominal items) does not have to be licensed in the matrix discourse-given TopP since it does not require a linguistic antecedent and can take a pragmatic antecedent. It thus can be licensed by lower discourse-given Topic heads. It is indeed known that discourse-given TopP is not restricted to the matrix clause (Bianchi and Frascarelli 2010; see Lacerda 2020 even for discourse-given Topics in the middle field of a sentence). Recall in this regard that argument ellipsis is island-sensitive, as we have seen in Chapter 2. The impossibility of a sloppy interpretation in (8) suggests that an embedded object with an anaphor 'self's vegetables' must move to the matrix clause to get elided, which induces an island violation.

(8) *a. John-wa [[zibun-no yasai-o ut-te-ru] mise]-ni it-ta kedo,*
John-TOP self-GEN vegetable-ACC sell-TE-PRES shop-DAT go-PAST but
'John went to a store which sells his vegetables, but'

b. Bill-wa [[Δ ut-te-ru] mise]-ni ik-anak-atta.
Bill-TOP sell-TE-PRES shop-DAT go-NEG-PAST
lit. 'Bill didn't go to a store which sells Δ.' (*sloppy)

In contrast to argument ellipsis, ellipsis of a pronoun (i.e. traditional radical *pro*-drop) is not island-sensitive (Xu 1986; Nakamura 1987). Thus, an elided pronoun can appear inside of an island, as shown in (9).

(9) [A friend shows off his new watch]
Bill-ga [[~~sore-o~~ ut-te-ru] mise]-o sagasi-te-ta yo.
Bill-NOM it-ACC sell-TE-PRES shop-ACC look.for-TE-PAST PRT
'Bill was looking for a store which sells ~~it~~.'

The ellipsis approach to radical *pro*-drop can then be summarized as in (10). In (10), a pronominal (to be elided) undergoes movement to the specifier of discourse-given TopP and then undergoes PF-deletion, licensed by a discourse-given Topic head. Crucially, the discourse-given TopP does not have to be the one in the root clause (cf. 4).[5]

(10) Ellipsis approach to radical *pro*-drop
$[_{\text{G-TopicP(root/non-root)}}$ ~~pronominal~~ $[_{\text{G-Topic'}}$ G-Topic$_{[E]}$ [… t$_{XP}$ …]]]

So far, I have suggested that radical *pro*-drop can be unified with ellipsis in the sense that they are both derived by ellipsis of a discourse-related element. In short, if an element needs a linguistic antecedent, it moves to the matrix discourse-given TopicP (this is traditional argument ellipsis), whereas if an element can take a pragmatic antecedent like pronominals, then it can be elided in any discourse-given TopicP (this is traditional radical *pro*-drop).

[5] I here assume that an elided pronominal undergoes movement to the specifier of discourse-given TopP. Alternatively, it can be licensed via a non-local fashion like Agree between the licensor and the elided element. I leave open how to tease apart the two possibilities, which concern the deeper issue of topic licensing more generally. (Note also that multiple null arguments are possible in Japanese, but so are multiple discourse topics.)

It is worth noting here a similarity with Huang's (1984) treatment of radical *pro*-drop, where the relevant element also undergoes movement. However, in Huang (1984), the relevant element is lexically null (i.e. null topic operator) and undergoes movement to the matrix SpecCP (island-insensitivity is thus a problem for Huang (1984)).

Importantly, it has been observed that the distribution of radical *pro*-drop and argument ellipsis overlaps cross-linguistically (Saito 2007; Sakamoto 2020; cf. Bošković 2012; Cheng 2013). Languages that have been claimed to allow argument ellipsis include Japanese, Korean (Kim 1999), Chinese (Cheng 2013), Mongolian (Sakamoto 2017), Turkish (Şener and Takahashi 2010), American Sign Language (Koulidobrova 2012), Colloquial Singapore English (Sato 2014), Javanese (Sato 2015), and Persian (Sato and Karimi 2016), all of which have also been categorized as radical *pro*-drop languages. This is not at all surprising from the current perspective. The distributional similarity between argument ellipsis and radical *pro*-drop is also in line with the suggested parametric approach, where the relevant ellipsis operation is licensed by the discourse-given Topic head in discourse-oriented languages.[6] Null arguments in these languages (both traditional radical *pro*-drop and traditional argument ellipsis) are licensed by the same head, namely, discourse-given Topic.[7]

---

[6] See however Landau (2018) for his argument ellipsis analysis of null objects in Hebrew, which would not be categorized as a discourse-oriented language.

[7] It is well known that some argument ellipsis languages exhibit a subject-object asymmetry regarding the possibility of argument ellipsis, unlike languages like Japanese and Korean (Şener and Takahashi 2010; Simpson, Choudhury, and Menon 2013; Sato 2015, a.o.). For example, in Turkish, an elided object can yield a quantificational interpretation, whereas an elided subject cannot, as shown in (i) (Şener and Takahashi 2010).

(i) a. Ellipsis of an object in Turkish

Can üç hırsız yakala-dı. Filiz-se Δ sorgula-dı.
John three burglar catch-PAST Phylis-however interrogate-PAST
lit. 'John caught three burglars. Phylis, however, interrogated Δ.' (quantificational)

(Şener and Takahashi 2010, 88)

b. Ellipsis of a subject in Turkish

**Üç öğretmen Can-ı eleştir-di. Δ Filiz-i-yse öv-dü.*
three teacher John-ACC criticize-PAST Phylis-ACC-however praise-PAST
lit. 'Three teachers criticized John. Δ praised Phylis.' (*quantificational)

(Şener and Takahashi 2010, 91)

One possibility to account for the impossibility of argument ellipsis of subjects in these languages is that the overt movement counterpart is not possible. This is indeed the case in Turkish. Subjects cannot undergo long-

To summarize, in this section, I have extended the movement approach to ellipsis to radical *pro*-drop. The suggested unification resolves the long-standing problem regarding the licensing of so-called radical *pro*-drop *pro* (there is no such thing) and captures in a principled way the overlapping distribution between radical *pro*-drop and argument ellipsis, given that radical *pro*-drop is in fact argument ellipsis. Although the suggested unification between radical *pro*-drop and argument ellipsis is somewhat speculative, I believe that it brings us to a more desirable theory of ellipsis and also contributes to the learnability issue regarding ellipsis.

---

distance scrambling (out of a finite clause), whereas objects can, as shown in (ii) (Aygen 2002; see Sohn 1995; Ko 2007; Yamashita 2013b; Section 2.2.2 for the movability of subjects in Korean and Japanese).

(ii) a. **Ercan$_i$ Kürşat [t_i kek-i ye-di] san-ıyor.*
Ercan Kürşat cake-ACC eat-PAST think-PROG
lit. 'Ercan$_i$, Kürşat thinks [t_i ate the cake].'

b. *Kek-i Kürşat [Ercan$_i$ t_i ye-di] san-ıyor.*
cake-ACC Kürşat Ercan eat-PAST think-PROG
lit. 'The cake$_i$, Kürşat thinks [Ercan ate t_i].' (Aygen 2002, 250)

The movement approach to argument ellipsis proposed in Chapters 2 and 3 thus provides an account for the subject-object asymmetry in argument ellipsis in Turkish. I will leave for future research to explore the possibility of extending this account to other languages that exhibit a subject-object asymmetry in argument ellipsis.

References

Abe, Jun. 2015. *The In-situ Approach to Sluicing*. Amsterdam; Philadelphia: John Benjamins Publishing Company.

Aelbrecht, Lobke. 2009. "You Have the Right to Remain Silent: The Syntactic Licensing of Ellipsis." Ph.D. dissertation, Catholic University of Brussels.

Aelbrecht, Lobke. 2015. "18. Ellipsis." In *Handbücher Zur Sprach- Und Kommunikationswissenschaft / Handbooks of Linguistics and Communication Science (HSK) 42/1*, 562–94. Berlin, Boston: De Gruyter Mouton.

Aelbrecht, Lobke, and Liliane Haegeman. 2012. "VP-Ellipsis Is Not Licensed by VP-Topicalization." *Linguistic Inquiry* 43 (4): 591–614.

Aelbrecht, Lobke, and William Harwood. 2015. "To Be or Not to Be Elided: VP Ellipsis Revisited." *Lingua* 153 (Supplement C): 66–97.

Agbayani, Brian, Chris Golston, and Toru Ishii. 2015. "Syntactic and Prosodic Scrambling in Japanese." *Natural Language & Linguistic Theory* 33 (1): 47–77.

Aoyagi, Hiroshi. 1998. "On the Nature of Particles in Japanese and Its Theoretical Implications." Ph.D. dissertation, University of Southern California.

Aoyagi, Hiroshi, and Toru Ishii. 1994. "On Agreement-Inducing vs. Non-Agreement-Inducing NPIs." In *Proceedings of NELS*, 24:1–15.

Arano, Akihiko. 2017a. "Multiple Scrambling, Headless vP-Movement, and Cyclic Linearization." In *Proceedings of 47th Annual Meeting of North East Linguistic Society (NELS 47)*, edited by Andrew Lamont and Katerina Tetzlof, 55–64. University of Massachusetts, Amherst: Graduate Linguistic Student Association.

Arano, Akihiko. 2017b. "Reconsidering Multiple Scrambling in Japanese." Manuscript. University of Connecticut.

Arano, Akihiko, and Hiromune Oda. 2019. "The A-/A'-Distinction in Scrambling Revisited." In *Proceedings of the 36th West Coast Conference on Formal Linguistics*, edited by

Richard Stockwell, Maura O'Leary, Zhongshi Xu, and Z.L. Zhou, 48–54. Somerville, MA: Cascadilla Proceedings Project.

Arita, Setsuko. 2015. "Nihongo-Gimonbun No Ootoo No Bootoo Ni Arawareru 'wa' Nituite - Kakari-Joshi-Kara Kando-Shi e [On the Utterance-Initial Wa of Responses to Interrogatives: The Transition from Topic Marker to Discourse Marker]." In *Kokuritsu Kokugo Kenkyujo Ronshu (NINJAL Research Papers)*, 9:1–22. Tokyo: NINJAL.

Authier, J.-Marc. 2011. "A Movement Analysis of French Modal Ellipsis" 23 (2): 175–216.

Aygen, Gülşat. 2002. "Finiteness, Case and Clausal Architecture." Ph.D. dissertation, Harvard University.

Bianchi, Valentina, and Mara Frascarelli. 2010. "Is Topic a Root Phenomenon?" *Iberia* 2 (1): 43–88.

Boeckx, Cedric, and Koji Sugisaki. 1999. "How to Get a Free Ride: Additional Scrambling Effect and the Principle of Minimal Compliance." In *WCCFL 18: Proceedings of the 18th West Coast Conference on Formal Linguistics*, edited by Sonya Bird, Andrew Carnie, Jason D. Haugen, and Peter Norquest, 43–54. Somerville, MA: Cascadilla Press.

Bošković, Željko. 2007. "Agree, Phases, and Intervention Effects." *Linguistic Analysis* 33 (1): 54–96.

Bošković, Željko. 2008. "On the Operator Freezing Effect." *Natural Language & Linguistic Theory* 26 (2): 249.

Bošković, Željko. 2011. "Rescue by PF Deletion, Traces as (Non)Interveners, and the That-Trace Effect." *Linguistic Inquiry* 42 (1): 1–44.

Bošković, Željko. 2012. "On NPs and Clauses." In *Discourse and Grammar: From Sentence Types to Lexical Categories*, edited by Günther Grewendorf and Thomas Ede Zimmermann, 179–242. Berlin: De Gruyter.

Bošković, Željko. 2014. "Now I'm a Phase, Now I'm Not a Phase: On the Variability of Phases with Extraction and Ellipsis." *Linguistic Inquiry* 45 (1): 27–89.

Bošković, Željko. 2015. “On Prosodic Boundaries.” In *Proceedings of Formal Description of Slavic Languages 10*, 93–104. Frankfurt am Main: Peter Lang.

Bošković, Željko. 2018. “On Pronouns, Clitic Doubling, and Argument Ellipsis: Argument Ellipsis as Predicate Ellipsis.” *English Linguistics* 35 (1): 1–37.

Bošković, Željko. 2020. “On the Syntax and Prosody of Verb Second and Clitic Second.” In *Rethinking Verb Second*, 503–35. Oxford: Oxford University Press.

Bošković, Željko. to appear. “The Comp-Trace Effect and Contextuality of the EPP.” In *Proceedings of the 39th West Coast Conference on Formal Linguistics*.

Bošković, Željko, and Daiko Takahashi. 1998. “Scrambling and Last Resort.” *Linguistic Inquiry* 29 (3): 347–66.

Bouchard, Denis. 1984. *On the Content of Empty Categories*. *On the Content of Empty Categories*. De Gruyter Mouton.

Cardinaletti, Alfonso. 1990. “Subject/Object Asymmetries in German Null-Topic Constructions and the Status of Spec CP.” In *Grammar in Progress*, edited by Joan Mascarò and Marina Nespor, 75–84. Dordrecht: Foris Publications.

Cardinaletti, Anna, and Michal Starke. 1999. “The Typology of Structural Deficiency: A Case Study of the Three Classes of Pronouns.” In *The Typology of Structural Deficiency: A Case Study of the Three Classes of Pronouns*, 145–234. De Gruyter Mouton.

Cecchetto, Carlo, and Orin Percus. 2006. “When We Do That and When We Don’t: A Contrastive Analysis of VP Ellipsis and VP Anaphora.” In *Phases of Interpretation*, 71–106. De Gruyter Mouton.

Cheng, Hsu-Te. 2013. “Argument Ellipsis, Classifier Phrases, and the DP Parameter.” Ph.D. dissertation, University of Connecticut.

Chomsky, Noam. 1965. *Aspects of the Theory of Syntax*. MIT Press.

Chomsky, Noam. 1981. *Lectures on Government and Binding*. Foris Publications.

Chomsky, Noam. 1995. *The Minimalist Program*. MIT Press.

Chomsky, Noam. 2000. “Minimalist Inquiries: The Framework.” In *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*, edited by Howard Lasnik, Roger Andrew Martin, David Michaels, and Juan Uriagereka, 89–156. Cambridge, MA: MIT Press.

Chomsky, Noam. 2001. “Derivation by Phase.” In *Ken Hale: A Life in Language*, edited by Michael J. Kenstowicz, 1–52. Cambridge, MA: MIT Press.

Chomsky, Noam. 2013. “Problems of Projection.” *Lingua* 130: 33–49.

Chung, Sandra, William A. Ladusaw, and James McCloskey. 1995. “Sluicing and Logical Form.” *Natural Language Semantics* 3 (3): 239–82.

Chung, Sandra, William A. Ladusaw, and James McCloskey. 2011. “Sluicing(:) Between Structure and Inference.” In *Essays in Honor of Judith Aissen*, edited by Line Mikkelsen, Eric Potsdam, and Rodrigo Gutiérrez-Bravo, 31–50. Santa Cruz, CA: Linguistics Research Center Publications.

Culicover, Peter W., and Ray Jackendoff. 2005. *Simpler Syntax*. Oxford University Press.

Epstein, Samuel D., Hisatsugu Kitahara, and T. Daniel Seely. 2015. “Structure Building That Can’t Be!” In *Explorations in Maximizing Syntactic Minimization*, edited by Samuel D. Epstein, Hisatsugu Kitahara, and T. Daniel Seely, 155–74. New York: Routledge.

Epstein, Samuel David, and T. Daniel Seely. 2006. *Derivations in Minimalism*. Cambridge Studies in Linguistics. Cambridge: Cambridge University Press.

Fiengo, Robert, and Robert May. 1994. *Indices and Identity*. Cambridge, MA: MIT Press.

Fortin, Catherine. 2007. “Some (Not All) Nonsententials Are Only a Phase.” *Lingua* 117 (1): 67–94.

Fortin, Catherine. 2011. “We Need LF Copying: A Few Good Reasons Why.” In *Proceedings of the 28th West Coast Conference on Formal Linguistics*, edited by Mary Byram Washburn, Katherine McKinney-Bock, Erika Varis, Ann Sawyer, and Barbara Tomaszewicz, 87–95. Somerville, MA: Cascadilla Proceedings Project.

Frascarelli, Mara. 2007. “Subjects, Topics and the Interpretation of Referential Pro.” *Natural Language & Linguistic Theory* 25 (4): 691–734.

Frascarelli, Mara, and Roland Hinterhölzl. 2007. “Types of Topics in German and Italian.” *On Information Structure, Meaning and Form*, March, 87–116.

Fujii, Tomohiro. 2006. “Some Theoretical Issues in Japanese Control.” Ph.D. dissertation, University of Maryland at College Park.

Fujii, Tomohiro. 2016. “Fukubun No Koozoo to Umekomi-Hobun No Bunrui [The Structure of Complementation and the Classification of Embedded Complements].” In *Nihongo Bumpo Handobukku: Gengo-Riron to Gengo-Kakutoku No Kanten Kara [The Handbook of Japanese Grammar: From the Perspectives of Linguistic Theory and Language Acquisition]*, edited by Keiko Murasugi, Mamoru Saito, Yoichi Miyamoto, and Kensuke Takita, 2–37. Tokyo: Kaitaku-sya.

Fujiwara, Yoshiki. 2020a. “Licensing of Matrix Questions in Japanese and Its Implications.” *Proceedings of the Linguistic Society of America* 5 (1): 735–49.

Fujiwara, Yoshiki. 2020b. “Sprouting: A Key to Unifying Japanese Sluicing.” *University of Pennsylvania Working Papers in Linguistics* 26 (1): 87–95.

Fukaya, Teruhiko. 2007. “Sluicing and stripping in Japanese and some implications.” Ph.D., Ann Arbor, United States.

Fukaya, Teruhiko, and Hajime Hoji. 1999. “Stripping and Sluicing in Japanese and Some Implications.” In *Proceedings of the 18th West Coast Conference on Formal Linguistics, (WCCFL 18)*, edited by Sonya Bird, Andrew Carnie, Jason D. Haugen, and Peter Norquest, 145–58. Somerville, Massachusetts: Cascadilla Press.

Fukui, Naoki. 1986. “A Theory of Category Projection and Its Application.” Ph.D. dissertation, MIT.

Funakoshi, Kenshi. 2012. “On Headless XP-Movement/Ellipsis.” *Linguistic Inquiry* 43 (4): 519–62.

Funakoshi, Kenshi. 2013. “Disjunction and Object Drop in Japanese.” In *Proceedings of the 4th Annual Tampa Workshop in Linguistics*, edited by Stefan Huber, 11–20. Tampa: Tampa Papers in Linguistics.

Funakoshi, Kenshi. 2014. “Syntactic Head Movement and Its Consequences.” Ph.D. dissertation, University of Maryland at College Park.

Funakoshi, Kenshi. 2016. “Verb-Stranding Verb Phrase Ellipsis in Japanese.” *Journal of East Asian Linguistics* 25 (2): 113–42.

Futagi, Yoko. 2004. “Japanese Focus Particles at the Syntax-Semantics Interface.” Ph.D. dissertation, Rutgers University.

Ginzburg, Jonathan, and Ivan Sag. 2001. *Interrogative Investigations: The Form, Meaning, and Use of English Interrogatives*. Stanford: CSLI.

Goro, Takuya. 2007. “Language-Specific Constraints on Scope Interpretation in First Language Acquisition.” Ph.D. dissertation, University of Maryland at College Park.

Goto, Nobu. 2012. “A Note on Particle Stranding Ellipsis.” In *Proceedings of the 14th Seoul International Conference on Generative Grammar (SICOGG 14)*, edited by Bum-Sik Park, 78–97.

Hale, Kenneth L., and Chisato Kitagawa. 1976. “A Counter to Counter Equi.” *Journal of Japanese Linguistics* 5 (1–2): 41–62.

Hankamer, Jorge, and Ivan Sag. 1976. “Deep and Surface Anaphora.” *Linguistic Inquiry* 7 (3): 391–428.

Harada, S. I. 1986. “Counter Equi-NP Deletion.” *Journal of Japanese Linguistics* 11 (1–2): 157–202.

Harada, Yasunari, and Naohiko Noguchi. 1992. “On the Semantics and Pragmatics of Dake (and Only).” *Semantics and Linguistic Theory* 2 (June): 125–44.

Hardt, Daniel. 1993. “Verb Phrase Ellipsis: Form, Meaning, and Processing.” Ph.D. dissertation, University of Pennsylvania.

Hasegawa, Nobuko. 2008. “Wh-Movement in Japanese: Matrix Sluicing Is Different from Embedded Sluicing.” In *Proceedings of the 4th Workshop on Altaic Formal Linguistics (WAFL4), (MIT Working Papers in Linguistics 55)*, edited by C. Boeckx and S. Ulutas, 63–74. Cambridge, MA: MITWPL.

Hattori, Shiro. 1960. *Gengogaku No Hoohoo [Methods in Linguistics]*. Tokyo: Iwanami Shoten.

Higginbotham, James. 1992. “Reference and Control.” In *Control and Grammar*, edited by Richard K. Larson, Sabine Iatridou, Utpal Lahiri, and James Higginbotham, 79–108. Studies in Linguistics and Philosophy. Dordrecht: Springer Netherlands.

Hiraiwa, Ken. 2001. “Multiple Agree and the Defective Intervention Constraint in Japanese.” In *Proceedings of the 1st HUMIT Student Conference in Language Research (HUMIT 2000), (MIT Working Papers in Linguistics 40)*, edited by Ora Matushansky et.al., 67–80. Cambridge, MA: MITWPL.

Hiraiwa, Ken. 2010. “Scrambling to the Edge.” *Syntax* 13 (2): 133–64.

Hiraiwa, Ken. 2014. “Constraining Doubling.” In *Identity Relations in Grammar*, edited by Nasukawa Kuniya and Riemsdijk Henk, 225–54. Berlin, Boston: De Gruyter Mouton.

Hiraiwa, Ken, and Yukiko Chino. 2014. “Coordination and the Head Parameter.” In . Minneapolis, MN.

Hiraiwa, Ken, and Shinichiro Ishihara. 2002. “Missing Links: Cleft, Sluicing, and ‘“No Da”’ Construction in Japanese.” In *Proceedings of the 2nd HUMIT Student Conference in Language Research, (MIT Working Papers in Linguistics 43)*, edited by Tania Lonin, Heejeong Ko, and Andrew Nevins, 35–54. Cambridge, MA: MITWPL.

Hiraiwa, Ken, and Shinichiro Ishihara. 2012. “Syntactic Metamorphosis: Clefts, Sluicing, and In-Situ Focus in Japanese.” *Syntax* 15 (2): 142–80.

Hoji, Hajime. 1985. “Logical Form Constraints and Configurational Structures in Japanese.” Doctoral dissertation, University of Washington.

Hoji, Hajime. 1987. “Japanese Clefts and Chain Binding/Reconstruction Effects.” University of Southern California, Los Angeles.

Hoji, Hajime. 1990. “Theories of Anaphora and Aspects of Japanese Syntax.” Manuscript. University of Southern California, Los Angeles.

Hoji, Hajime. 1998. “Null Object and Sloppy Identity in Japanese.” *Linguistic Inquiry* 29 (1): 127–52.

Hoji, Hajime. 2003. “Falsifiability and Repeatability in Generative Grammar: A Case Study of Anaphora and Scope Dependency in Japanese.” *Lingua*, Formal Japanese syntax and universal grammar: the past 20 years, 113 (4): 377–446.

Hornstein, Norbert. 2008. *A Theory of Syntax: Minimal Operations and Universal Grammar*. Cambridge: Cambridge University Press.

Huang, C.-T. James. 1984. “On the Distribution and Reference of Empty Pronouns.” *Linguistic Inquiry* 15 (4): 531–74.

Huang, C.-T. James. 1991. “Remarks on the Status of the Null Object.” In *Principles and Parameters in Comparative Grammar*, 56–76. Cambridge, MA: MIT Press.

Inoue, Kazuko. 1976. *Nihongo-No Bunpoo Kisoku [Grammatical Rules in Japanese]*. Tokyo: Taisyuukan.

Ishii, Yasuo. 1991. “Operators and Empty Categories in Japanese.” Ph.D. dissertation, University of Connecticut.

Jaeggli, Osvaldo. 1981. *Topics in Romance Syntax*. *Topics in Romance Syntax*. Dordrecht: Foris.

Jantunen, Tommi. 2013. “Ellipsis in Finnish Sign Language.” *Nordic Journal of Linguistics* 36 (3): 303–32.

Johnson, Kyle. 2001. “What VP Ellipsis Can Do, and What It Can’t, But Not Why.” In *The Handbook of Contemporary Syntactic Theory*, edited by rk Baltin and Chris Collins, 439–79. Blackwell Publishers Ltd.

Johnson, Kyle. 2006. “Gapping.” In *The Blackwell Companion to Syntax*, edited by rtin Everaert and Henk van Riemsdijk, 407–35. Blackwell Publishing.

Jun, Sun-Ah. 1993. “The Phonetics and Phonology of Korean Prosody.” Ph.D. dissertation, The Ohio State University.

Karttunen, Lauri. 1969. “Pronouns and Variables.” In *Papers from the Fifth Regional Meeting of the Chicago Linguistic Society*, edited by Robert I. Binnick, Alice Davison, Georgia M. Green, and Jerry L. Morgan, 108–16. Chicago, IL: Chicago Linguistic Society, University of Chicago.

Kasai, Hironobu. 2014. “On the Nature of Null Clausal Complements in Japanese.” *Syntax* 17 (2): 168–88.

Katada, Fusa. 1991. “The LF Representation of Anaphors.” *Linguistic Inquiry* 22 (2): 287–314.

Kato, Takaomi. 2005. “A Case against the Representational Approach to the Coordinate Structure Constraint.” In *Proceedings of NELS 35*, edited by Leah Bateman and Cherlon Ussery, 307–21. Amherst: GLSA.

Kikuchi, Akira. 1987. “Comparative Deletion in Japanese.” Manuscript. Yamagata University.

Kim, Soowon. 1999. “Sloppy/Strict Identity, Empty Objects, and NP Ellipsis.” *Journal of East Asian Linguistics* 8 (4): 255–84.

Kimura, Hiroko, and Daiko Takahashi. 2011. “NPI and Predicative Remnants in Japanese Sluicing.” In *Japanese/Korean Linguistics*, edited by Ho-min Sohn, Haruko Minegishi Cook, William O’Grady, Leon Serafim, and Sany Yee Cheon, 19:141–54. Stanford: CSLI.

Kishimoto, Hideki. 2004. “Transitivity of Ergative Case-Marking Predicates in Japanese.” *Studies in Language* 28 (1): 105–36.

Kizu, Mika. 2005. *Cleft Constructions in Japanese Syntax*. New York: Palgrave Mamillan.

Ko, Heejeong. 2007. “Asymmetries in Scrambling and Cyclic Linearization.” *Linguistic Inquiry* 38 (1): 49–83.

Koizumi, Masatoshi. 1995. “Phrase Structure in Minimalist Syntax.” Ph.D. dissertation, MIT.

Koizumi, Masatoshi. 2000. “String Vacuous Overt Verb Raising.” *Journal of East Asian Linguistics* 9 (3): 227–85.

Koulidobrova, Elena V. 2012. “When the Quiet Surfaces: ‘Transfer’ of Argument Omission in the Speech of ASL-English Bilinguals.” Ph.D. dissertation, University of Connecticut.

Kuno, Susumu. 1973. *The Structure of the Japanese Language*. Mit Press.

Kuno, Susumu. 1976. “Subject Raising.” In *SYNTAX AND SEMANTICS 5: Japanese Generative Grammar*, edited by Masayoshi Shibatani, 17–49. New York: Academic Press.

Kuno, Susumu. 1982. “Principles of Discourse Deletion Case Studies from English, Russian, and Japanese.” *Journal of Semantics* 1 (1): 61–93.

Kurafuji, Takeo. 1999. “Japanese Pronouns in Dynamic Semantics: The Null/Overt Contrast.” Ph.D. dissertation, Rutgers University.

Kuroda, S.-Y. 1965. “Generative Grammatical Studies in the Japanese Language.” Ph.D. dissertation, Massachusetts Institute of Technology.

Kuroda, S.-Y. 1986. “Remarks on the Notion of Subject with Reference to Words like Also, Even, or Only. Illustrating Certain Banners in Which Formal Systems Are Employed as Auxiliary Devices in Linguistic Descriptions: Part 1.” *Journal of Japanese Linguistics* 11 (1–2): 98–156.

Kuroda, S.-Y. 1988. “Whether We Agree or Not: A Comparative Syntax of English and Japanese.” *Lingvisticae Investigationes* 12 (1): 1–47.

Kuwabara, Kazuki. 1996. “Multiple Wh-Phrases in Elliptical Clauses and Some Aspects of Clefts with Multiple Foci.” In *Formal Approaches to Japanese Linguistics: Proceedings of FAJL 2*, edited by Masatoshi Koizumi, Masayuki Oishi, and Uli Sauerland, 97–116. Cambridge, MA: MITWPL.

Kuwabara, Kazuki. 1997. “On the Properties of Truncated Clauses in Japanese.” In *Researching and Verifying an Advanced Theory of Human Language (Grant-in-Aid for COE Research Report 1)*, edited by Kazuko Inoue, 61–83. Chiba: Kanda University of International Studies.

Lacerda, Renato. 2020. “Middle-Field Syntax and Information Structure in Brazilian Portuguese.” Ph.D. dissertation, University of Connecticut.

Landau, Idan. 2018. “Missing Objects in Hebrew: Argument Ellipsis, Not VP Ellipsis.” *Glossa: A Journal of General Linguistics* 3 (1): 76.

Landau, Idan. 2021. “Argument Ellipsis as Pro-Replacement after TRANSFER.” Paper presented at the North East Linguistic Society 52 (NELS 52), Rutgers University, New Brunswick NJ.

Larson, Richard K. 2010. *Grammar as Science*. MIT Press.

Lasnik, Howard. 1998. “Some Reconstruction Riddles.” In *Proceedings of the 22nd Annual Penn Linguistics Colloquium*, edited by Alexis Dimitriadis, 83–98. Philadelphia: University of Pennsylvania.

Li, Charles N., and Sandra A. Thompson. 1981. *Mandarin Chinese: A Functional Reference Grammar*. University of California Press.

Lobeck, Anne. 1995. *Ellipsis: Functional Heads, Licensing, and Identification*. Oxford University Press.

Mahajan, Anoop K. 1990. “The A/A-Bar Distinction and Movement Theory.” Ph.D. dissertation, MIT.

Matsuda, Yuki. 1997. “A Syntactic Analysis of Focus Sentences in Japanese.” In *Proceedings of the Eighth Student Conference in Linguistics (MIT Working Papers in Linguistics 31)*, 291–310. Cambridge, MA: MITWPL.

McShane, Marjorie J. 2005. *A Theory of Ellipsis*. Oxford University Press.

Merchant, Jason. 2001. *The Syntax of Silence: Sluicing, Islands, and the Theory of Ellipsis*. Oxford University Press.

Merchant, Jason. 2008. "Variable Island Repair under Ellipsis." In *Topics in Ellipsis*, edited by Kyle Johnson, 132–53. Cambridge: Cambridge University Press.

Merchant, Jason. 2013a. "Diagnosing Ellipsis." In *Diagnosing Syntax*, edited by Lisa Lai-Shen Cheng and Norbert Corver, 537–42. Oxford: Oxford University Press.

Merchant, Jason. 2013b. "Polarity Items under Ellipsis." In *Diagnosing Syntax*, edited by Lisa Lai-Shen Cheng and Norbert Corver, 440–62. Oxford University Press.

Merchant, Jason. 2019. "Ellipsis: A Survey of Analytical Approaches." In *The Oxford Handbook of Ellipsis*, edited by Jeroen Van Craenenbroeck and Tanja Tammerman, 19–45. Oxford Handbooks. Oxford, New York: Oxford University Press.

Mihara, Kenichi. 1994. *Nihongo No Togo Kozo [Japanese Syntactic Structures]*. Tokyo: Shohakusha.

Miyagawa, Shigeru. 1987a. "LF Affix Raising in Japanese." *Linguistic Inquiry* 18: 362–67.

Miyagawa, Shigeru. 1987b. "Wa and the WH Phrase." In *Perspectives on Topicalization*, edited by John Hinds, Shoichi Iwasaki, and Senko V. Maynard, 185–217. John Benjamins Publishing Company.

Miyagawa, Shigeru. 1997. "Against Optional Scrambling." *Linguistic Inquiry* 28 (1): 1–25.

Miyagawa, Shigeru. 2017. *Agreement beyond Phi*. Cambridge, MA: MIT Press.

Miyagawa, Shigeru, and Takae Tsujioka. 2004. "Argument Structure and Ditransitive Verbs in Japanese." *Journal of East Asian Linguistics* 13 (1): 1–38.

Miyara, Shinsho. 1982. "Reordering in Japanese." *Linguistic Analysis* 9 (4): 307–40.

Mizuno, Teruyuki. 2021. "Argument Ellipsis as Topic Deletion." Manuscript. University of Connecticut.

Montalbetti, Mario M. 1984. "After Binding: On the Interpretation of Pronouns." Ph.D. dissertation, MIT.

Mukai, Emi. 2003. “On Verbless Conjunction in Japanese.” In *NELS 33: Proceedings of the 33rd Annual Meeting of the North East Linguistic Society*, edited by Shigeto Kawahara and Makoto Kadowaki, 205–24. Amherst: GLSA.

Murasugi, Keiko. 1991. “Noun Phrases in Japanese and English: A Study in Syntax, Learnability and Acquisition.” Ph.D. dissertation, University of Connecticut.

Nagahara, Hiroyuki. 1994. “Phonological Phrasing in Japanese.” Ph.D. dissertation, University of California, Los Angeles.

Nakamura, Masaru. 1987. “Japanese as a pro Language” 6 (4): 281–96.

Nakao, Chizuru. 2009. “Island Repair and Non-Repair by PF-Strategies.” Ph.D. dissertation, University of Maryland at College Park.

Nasu, Norio. 2012a. “Topic Particle Stranding and the Structure of CP.” In *Main Clause Phenomena: New Horizons*, edited by Lobke Aelbrecht, Liliane Haegeman, and Rachel Nye, 203–28. John Benjamins Publishing Company.

Nasu, Norio. 2012b. “Zyosi-Zanryu Ga Okoru Bunto No Iti Nituite [On Sentence-Initial Positions for Particle Stranding].” *CLAVEL* 2: 1–12.

Neeleman, Ad, and Kriszta Szendrői. 2007. “Radical Pro Drop and the Morphology of Pronouns.” *Linguistic Inquiry* 38 (4): 671–714.

Nemoto, Naoko. 1993. “Chains and Case Positions: A Study from Scrambling in Japanese.” Ph.D. dissertation, University of Connecticut.

Nishigauchi, Taisuke, and Tomohiro Fujii. 2006. “Short Answers: Ellipsis, Connectivity, and Island Repair.” Manuscript. Kobe Shoin Graduate School and University of Maryland.

Nishiyama, Kunio. 1999. “Adjectives and the Copulas in Japanese.” *Journal of East Asian Linguistics* 8 (3): 183–222.

Nishiyama, Kunio, John Whitman, and Eun-Young Yi. 1996. “Syntactic Movement of Overt Wh-Phrases in Japanese and Korean.” In *Japanese/Korean Linguistics*, 5:337–51. Stanford: CSLI.

Nunes, Jairo. 2004. *Linearization of Chains and Sideward Movement*. Cambridge: MIT Press.

Ohso, Mieko. 1976. "A Study of Zero Pronominalization in Japanese." The Ohio State University.

Oku, Satoshi. 1998. "A Theory of Selection and Reconstruction in the Minimalist Perspective." Ph.D. dissertation, University of Connecticut.

Oku, Satoshi. 2016. "A Note on Ellipsis-Resistant Constituents." *Nanzan Linguistics* 11: 57–70.

Otaki, Koichi. 2014. "Ellipsis of Arguments: Its Acquisition and Theoretical Implications." Ph.D. dissertation, University of Connecticut.

Otani, Kazuyo, and John Whitman. 1991. "V-Raising and VP-Ellipsis." *Linguistic Inquiry* 22 (2): 345–58.

Perlmutter, David M. 1968. "Deep and Surface Structure Constraints in Syntax." Ph.D. dissertation, MIT.

Rizzi, Luigi. 1986. "Null Objects in Italian and the Theory of Pro." *Linguistic Inquiry* 17 (3): 501–57.

Rizzi, Luigi. 1994. "Early Null Subjects and Root Null Subjects." In *Syntactic Theory and First Language Acquisition: Cross-Linguistic Perspectives*, edited by Barbara Lust, Gabriella Hermon, and Jaklin Kornfilt, 249–72. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Rizzi, Luigi. 1997. "The Fine Structure of the Left Periphery." In *Elements of Grammar*, edited by Liliane Haegeman, 281–337. Kluwer International Handbooks of Linguistics. Springer Netherlands.

Ross, John Robert. 1969. "Guess Who?" In *Papers from the Fifth Regional Meeting of the Chicago Linguistic Society*, edited by Robert I. Binnick, Alice Davison, Georgia M. Green, and Jerry L. Morgan, 252–86. Chicago, IL: Chicago Linguistic Society, University of Chicago.

Ross, John Robert. 1982. "Pronoun Deleting Processes in German." In . San Diego, CA.

Sag, Ivan A. 1976. “Deletion and Logical Form.” Ph.D. dissertation, MIT.

Saito, Hiroaki. 2018. “The Monster Tells Where You Are.” In *Proceedings of the 35th West Coast Conference on Formal Linguistics*, edited by Wm. G. Bennett, Lindsay Hracs, and Dennis Ryan Storoshenko, 341–48. Somerville, MA: Cascadilla Proceedings Project.

Saito, Mamoru. 1983. “Case and Government in Japanese.” In *Proceedings of the 2nd West Coast Conference on Formal Linguistics, (WCCFL 2)*, 247–59.

Saito, Mamoru. 1985. “Some Asymmetries in Japanese and Their Theoretical Implications.” Massachusetts Institute of Technology.

Saito, Mamoru. 1989. “Scrambling as Semantically Vacuous A’-Movement.” In *Alternative Conceptions of Phrase Structure*, 182–200. Chicago: University of Chicago Press.

Saito, Mamoru. 1992. “Long Distance Scrambling in Japanese.” *Journal of East Asian Linguistics* 1 (1): 69–118.

Saito, Mamoru. 2003. “A Derivational Approach to the Interpretation of Scrambling Chains.” *Lingua*, Formal Japanese syntax and universal grammar: the past 20 years, 113 (4): 481–518.

Saito, Mamoru. 2004a. “Ellipsis and Pronominal Reference in Japanese Clefts.” *Nanzan Linguistics* 1: 21–50.

Saito, Mamoru. 2004b. “Genitive Subjects in Japanese: Implications for the Theory of Null Objects.” In *Non-Nominative Subjects*, edited by Peri Bhaskararao and Karumuri Venkata Subbarao, 103–18. Amsterdam: John Benjamins Publishing Company.

Saito, Mamoru. 2007. “Notes on East Asian Argument Ellipsis.” *Language Research* 43: 203–27.

Saito, Mamoru. 2010. “Semantic and Discourse Interpretation of the Japanese Left Periphery *.” In *The Sound Patterns of Syntax*, 140–73. Oxford: Oxford University Press.

Saito, Mamoru. 2012. “Sentence Types and the Japanese Right Periphery.” In *Discourse and Grammar: From Sentence Types to Lexical Categories*, edited by Günther Grewendorf and Thomas Ede Zimmermann, 147–75. Berlin, Boston: De Gruyter.

Saito, Mamoru. 2014. “Case and Labeling in a Language without φ-Feature Agreement.” In *On Peripheries: Exploring Clause Initial and Clause Final Positions*, edited by Anna Cardinaletti, Guglielmo Cinque, and Yoshio Endo, 269–97. Tokyo: Hituzi Syobo.

Saito, Mamoru. 2017. “Ellipsis.” In *Handbook of Japanese Syntax*. Vol. 4. Berlin, Boston: De Gruyter Mouton.

Saito, Mamoru, and Hajime Hoji. 1983. “Weak Crossover and Move α in Japanese.” *Natural Language & Linguistic Theory* 1 (2): 245–59.

Saito, Mamoru, and Keiko Murasugi. 1990. “N’-Deletion in Japanese: A Preliminary Study.” *Japanese/Korean Linguistics* 1: 285–301.

Sakamoto, Yuta. 2015. “Disjunction as a New Diagnostic for (Argument) Ellipsis.” In *Proceedings of the Annual Meeting of 45th North East Linguistic Society*, edited by Thuy Bui and Deniz Ozildiz, 15–28. Amherst, MA: GLSA.

Sakamoto, Yuta. 2016a. “Clausal Complement ‘Replacement.’” In *Proceedings of Formal Approaches to Japanese Linguistics 8 (FAJL8), MIT Working Papers in Linguistics 79*, edited by Ayaka Sugawara, Shintaro Hayashi, and Satoshi Ito, 109–20. Cambridge, MA: MITWPL.

Sakamoto, Yuta. 2016b. “Phases and Argument Ellipsis in Japanese.” *Journal of East Asian Linguistics* 25 (3): 243–74.

Sakamoto, Yuta. 2016c. “Overtly Empty but Covertly Complex: An Argument for the LF-Copy Analysis.” In *Proceedings of the 46th Annual Meeting of the North East Linguistic Society (NELS46)*, edited by Christopher Hammerly and Brandon Prickett, 3:155–68. Amherst, MA: GLSA.

Sakamoto, Yuta. 2017. “Escape from Silent Syntax.” Ph.D. dissertation, University of Connecticut.

Sakamoto, Yuta. 2019. “Overtly Empty but Covertly Complex.” *Linguistic Inquiry* 50 (1): 105–36.

Sakamoto, Yuta. 2020. *Silently Structured Silent Argument*. John Benjamins Publishing Company.

Sakamoto, Yuta. to appear. “Japanese Null Arguments as Mixed Anaphora: Evidence for the LF-Copy Analysis.” In *Proceedings of the 11th Workshop on Altaic Formal Linguistics (WAFL11)*. MITWPL.

Sakamoto, Yuta, and Hiroaki Saito. 2018a. “Overtly Stranded but Covertly Not.” In *Proceedings of the 35th West Coast Conference on Formal Linguistics*, edited by Wm. G. Bennett, Lindsay Hracs, and Dennis Ryan Storoshenko, 349–56. Somerville, MA: Cascadilla Proceedings Project.

Sakamoto, Yuta, and Hiroaki Saito. 2018b. “Some Notes on Particle-Stranding Ellipsis in Japanese.” In . National University of Singapore, Singapore, March 1-2, 2018.

Sano, Masaki. 2001. “On the Scope of Some Focus Particles and Their Interaction with Causatives, Adverbs, and Subjects in Japanese.” *English Linguistics* 18 (1): 1–31.

Sato, Yosuke. 2012. “Particle-Stranding Ellipsis in Japanese, Phase Theory, and the Privilege of the Root.” *Linguistic Inquiry* 43 (3): 495–504.

Sato, Yosuke. 2014. “Argument Ellipsis in Colloquial Singapore English and the Anti-Agreement Hypothesis.” *Journal of Linguistics* 50 (2): 365–401.

Sato, Yosuke. 2015. “Argument Ellipsis in Javanese and Voice Agreement.” *Studia Linguistica* 69 (1): 58–85.

Sato, Yosuke. 2020. “Idioms, Argument Ellipsis and LF-Copy.” *Journal of East Asian Linguistics* 29 (3): 259–78.

Sato, Yosuke, and Jason Robert Ginsburg. 2006. “A New Type of Nominal Ellipsis in Japanese: Further Evidence for the LF Copy Analysis.” In *Proceedings of the 8th Seoul International Conference on Generative Grammar: Minimalist Views on Language Design*, edited by Changguk Yim, 293–300. Seoul: The Korean Generative Grammar Circle.

Sato, Yosuke, and Jason Robert Ginsburg. 2007. “A New Type of Nominal Ellipsis in Japanese.” In *Proceedings of FAJL 4: Formal Approaches to Japanese Linguistics*, edited by Yoichi Miyamoto and Masao Ochi, 197–204. Cambridge, MA: MITWPL.

Sato, Yosuke, and Simin Karimi. 2016. “Subject-Object Asymmetries in Persian Argument Ellipsis and the Anti-Agreement Theory.” *Glossa: A Journal of General Linguistics* 1 (1).

Sato, Yosuke, and Masako Maeda. 2019. “Particle Stranding Ellipsis Involves PF-Deletion.” *Natural Language & Linguistic Theory* 37 (1): 357–88.

Şener, Serkan, and Daiko Takahashi. 2010. “Ellipsis of Arguments in Japanese and Turkish.” *Nanzan Linguistics* 6: 79–99.

Shibata, Yoshiyuki. 2014. “A Phonological Approach to Particle Stranding Ellipsis in Japanese.” Presented at the Formal Approaches to Japanese Linguistics (FAJL) 7, National Institute for Japanese Language and Linguistics, Tokyo.

Shibatani, Masayoshi. 1977. “Grammatical Relations and Surface Cases.” *Language* 53 (4): 789–809.

Shibatani, Masayoshi. 1978. *Nihongo No Bunseki*. Tokyo: Taisyuukan.

Shinohara, Michie. 2006. “On Some Differences between the Major Deletion Phenomena and Japanese Argument Ellipsis.” Unpublished manuscript. Nanzan University.

Shiobara, Kayono. 2016. “A Phonological Approach to Left Branch Condition: Evidence from Exceptions in Japanese.” In *Proceedings of Formal Approaches to Japanese Linguistics*

8 (FAJL8), MIT Working Papers in Linguistics 79, edited by Ayaka Sugawara, Shintaro Hayashi, and Satoshi Ito, 143–52. Cambridge, MA: MITWPL.

Shoji, Atsuko. 1986. "Dake and Sika in Japanese: Syntax, Semantics and Pragmatics." Ph.D. dissertation, Cornell University.

Sigurðsson, Halldór Ármann. 2011. "Conditions on Argument Drop." *Linguistic Inquiry* 42 (2): 267–304.

Sigurðsson, Halldór Ármann, and Joan Maling. 2010. "The Empty Left Edge Condition." In *Exploring Crash-Proof Grammars*, edited by Michael T. Putnam, 59–86. John Benjamins Publishing.

Simpson, Andrew, Arunima Choudhury, and Mythili Menon. 2013. "Argument Ellipsis and the Licensing of Covert Nominals in Bangla, Hindi and Malayalam." *Lingua* 134 (September): 103–28.

Sohn, Keun-Won. 1995. "Negative Polarity Items, Scope, and Economy." Ph.D. dissertation, University of Connecticut.

Stjepanović, Sandra. 1997. "VP Ellipsis in a Verb Raising Language and Implications for the Condition on Formal Identity of Verbs." In *"Is the Logic Clear?": Papers in Honor of Howard Lasnik*, edited by Jeong-Seok Kim, Satoshi Oku, and Sandra Stjepanović, 287–306. Cambridge, MA: University of Connecticut.

Sugisaki, Koji. 2000. "Scrambling of Adjuncts and Last Resort." In *Japanese/Korean Linguistics*, 9:379–89. CSLI.

Sugisaki, Koji. 2012. "A Constraint on Argument Ellipsis in Child Japanese." In *Proceedings of the 36th Annual Boston University Conference on Language Development*, edited by Alia K. Biller, Esther Y. Chung, and Amelia E. Kimball, 555–67. Somerville, MA: Cascadilla Press.

Sugisaki, Koji. 2013. “The Ban on Adjunct Ellipsis in Child Japanese.” In *Proceedings of the 37th Annual Boston University Conference on Language Development*, edited by Sarah Baiz, Nora Goldman, and Rachel Hawkes, 423–32. Somerville, MA: Cascadilla Press.

Szczegielniak, Adam. 2006. “VP Ellipsis and Topicalization.” In *NELS 35: Proceedings of the 37th Annual Meeting of the North East Linguistic Society*, 603–14. Amherst, MA: GLSA.

Tada, Hiroaki. 1993. “A/A-Bar Partition in Derivation.” Ph.D. dissertation, Massachusetts Institute of Technology.

Taguchi, Shigeki. 2009. “Japanese ECM as Embedded Bare Topicalization.” In *NELS 38: Proceedings of the 38th Annual Meeting of the North East Linguistic Society*, edited by Anisa Schardl, Martin Walkow, and Muhammad Abdurrahman, 415–26. Amherst, MA: GLSA Publications.

Takahashi, Daiko. 1990. “Negative Polarity, Phrase Structure, and the ECP.” *English Linguistics* 7: 129–46.

Takahashi, Daiko. 1993. “Movement of Wh-Phrases in Japanese.” *Natural Language & Linguistic Theory* 11 (4): 655–78.

Takahashi, Daiko. 1994. “Sluicing in Japanese.” *Journal of East Asian Linguistics* 3 (3): 265–300.

Takahashi, Daiko. 1996. “Antecedent-Contained Deletion in Japanese.” In *University of Connecticut Working Papers in Linguistics 7: Papers in Honor of Mamoru Saito*, edited by Asako Uchibori and Kazuko Yatsushiro, 263–78. Storrs, CT: University of Connecticut.

Takahashi, Daiko. 2006. “Apparent Parasitic Gaps and Null Arguments in Japanese*.” *Journal of East Asian Linguistics* 15 (1): 1–35.

Takahashi, Daiko. 2008a. “Quantificational Null Objects and Argument Ellipsis.” *Linguistic Inquiry* 39 (2): 307–26.

Takahashi, Daiko. 2008b. “Noun Phrase Ellipsis.” In *The Oxford Handbook of Japanese Linguistics*, edited by Shigeru Miyagawa and Mamoru Saito, 394–423. New York: Oxford University Press.

Takahashi, Daiko. 2013. “A Note on Parallelism for Elliptic Arguments.” In *Proceedings of FAJL 6: Formal Approaches to Japanese Linguistics*, edited by Kazuko Yatsushiro and Uli Sauerland, 203–14. Cambridge, MA: MIT Press.

Takahashi, Daiko. 2020. “Derivational Argument Ellipsis.” *The Linguistic Review* 37 (1): 47–74.

Takahashi, Daiko, and Asako Uchibori. 2003. “Pseudoraising.” *Gengo Kenkyu (Journal of the Linguistic Society of Japan)* 2003 (123): 299–329.

Takahashi, Masahiko. 2010. “Case, Phases, and Nominative/Accusative Conversion in Japanese.” *Journal of East Asian Linguistics* 19 (4): 319–55.

Takahashi, Masahiko, and Kenshi Funakoshi. 2013. “On PP Left-Branch Extraction in Japanese.” *University of Pennsylvania Working Papers in Linguistics* 19 (1): 237–46.

Takano, Yuji. 2002. “Surprising Constituents.” *Journal of East Asian Linguistics* 11 (3): 243–301.

Takezawa, Koichi. 1993. “A Comparative Study of Omoe and Seem.” In *Argument Structure: Its Syntax and Acquisition*, edited by Heizou Nakajima and Yukio Otsu, 75–95. Tokyo: Kaitaku-sya.

Takita, Kensuke. 2010. “Cyclic Linearization and Constraints on Movement and Ellipsis.” Ph.D. dissertation, Nanzan University.

Takita, Kensuke. 2011. “An Argument for Argument Ellipsis from -Sika NPIs.” In *NELS 39: Proceedings of the 39th Annual Meeting of the North East Linguistic Society*, edited by Suzi Lima and Kevin Mullin, 771–84. Amherst, MA: GLSA Publications.

Takita, Kensuke. 2012. “‘Genuine’ Sluicing in Japanese.” In *Proceedings from the Annual Meeting of the Chicago Linguistic Society*, 45:577–92.

Takita, Kensuke. 2020. “Labeling for Linearization.” *The Linguistic Review* 37 (1): 75–116.

Tanaka, Hidekazu. 2002. “Raising to Object out of CP.” *Linguistic Inquiry* 33 (4): 637–52.

Tanaka, Hidekazu. 2008. “Clausal Complement Ellipsis.” Manuscript. University of York.

Tancredi, Christopher Damian. 1992. “Deletion, Deaccenting, and Presupposition.” Ph.D. dissertation, MIT.

Taraldsen, Tarald. 1981. “The Theoretical Implications of a Class of Marked Extractions.” In *Theory of Markedness in Generative Grammar: Proceedings of the 1979 GLOW Conference*, edited by Adriana Belletti, Luciana Brandi, and Luigi Rizzi, 475–516. Pisa: Scuola Normale Superiore.

Tateishi, Koichi. 2006. “Double Nominatives in Japanese.” In *The Blackwell Companion to Syntax*, edited by rtin Everaert and Henk van Riemsdijk, 56–72. Blackwell Publishing.

Todorovic, Neda. 2016. “On the Presence/Absence of TP: Syntactic Properties and Temporal Interpretation.” Ph.D. dissertation, University of Connecticut.

Tomioka, Satoshi. 2003. “The Semantics of Japanese Null Pronouns and Its Cross-Linguistic Implications.” In *The Interfaces*, edited by Kerstin Schwabe and Susanne Winkler, 321–39. John Benjamins Publishing Company.

Trutkowski, Ewa. 2016. *Topic Drop and Null Subjects in German*. *Topic Drop and Null Subjects in German*. De Gruyter.

Tsao, Feng-fu. 1977. “A Functional Study of Topic in Chinese: The First Step Toward Discourse Analysis.” Ph.D. dissertation, University of Southern California.

Uchibori, Asako. 2000. “The Syntax of Subjunctive Complements: Evidence from Japanese.” Ph.D. dissertation, University of Connecticut.

Watanabe, Akira. 1992. “Subjacency and S-Structure Movement of Wh-in-Situ.” *Journal of East Asian Linguistics* 1 (3): 255–91.

Watanabe, Akira. 1996. “Nominative-Genitive Conversion and Agreement in Japanese: A Cross-Linguistic Perspective.” *Journal of East Asian Linguistics* 5 (4): 373–410.

Watanabe, Akira. 2003. “Wh and Operator Constructions in Japanese.” *Lingua* 113 (4–6): 519–58.

Williams, Edwin S. 1977. “Discourse and Logical Form.” *Linguistic Inquiry* 8 (1): 101–39.

Xu, Liejiong. 1986. “Free Empty Category.” *Linguistic Inquiry* 17 (1): 75–93.

Yamashita, Hideaki. 2013a. “On (Multiple) Long-Distance Scrambling of Adjuncts and Subjects and the Generalized Additional Scrambling Effect.” *Snippets* 27: 19–20.

Yamashita, Hideaki. 2013b. “Toward a Better Understanding of Japanese Scramblings: What Makes Long-Distance Scrambling of Subject (Im)Possible?” *University of Pennsylvania Working Papers in Linguistics* 19 (1): 267–76.

Yamashita, Hideaki. 2019. “Reconsidering the Nature of Particle Stranding Ellipsis in Japanese.” In *ICU Working Papers in Linguistics (ICUWPL)*, 7:79–91.

Yamashita, Hideaki. 2020. “Particle Stranding Ellipsis in Japanese Involves LF-Copying, Not PF-Deletion.” In *Pre-Proceedings of the 161th Annual Meeting of the Linguistic Society of Japan*, 230–36.

Yoo, Yong-Suk. 2018. “Mobility in Syntax: On Contextuality in Labeling and Phases.” Ph.D. dissertation, University of Connecticut.

Yoshida, Masaya. 2006. “Constraints and Mechanisms in Long-Distance Dependency Formation.” Ph.D. dissertation, University of Maryland at College Park.

Yoshida, Tomoyuki. 2004. “Syudai No Syooryaku Gensho: Hikaku Toogoron Teki Koosatu [The Phenomenon of Topic Drop: A Comparative Syntactic Consideration].” In *Nihongo Kyooikugaku No Siten [Perspectives on Japanese Language Pedagogy]*, 291–305. Tokyo: Tokyodo.