A Distributed Morphology approach to Japanese phrase-final particles*

Akitaka Yamada

Osaka University

1. Introduction

In the recent surge of interest in Performative Hypothesis, several studies have been carried out regarding allocutive markings and other discourse-oriented expressions (Haegeman and Hill 2013, Miyagawa 2012, 2017, Zu 2018, Portner et al. 2019), and it has become a standard assumption that a speaker-hearer coordinate is present in the outermost layer of the sentence. Although such a speech act phrase analysis naturally predicts that all addressee-oriented elements are distributed in the sentence (clause) periphery, some discourse-oriented elements have been discovered in non-clause peripheral regions, and attempts have been made to reconcile the otherwise appealing assumption of Performative Hypothesis with such challenging data (e.g., embedded addressee-honorifics/allocutivity, Yamada 2019, Kaur and Yamada 2019, Alok 2021, and overt second-person pronouns, Alok and Baker 2018, Kaur and Yamada 2021).

This paper picks another instance of such dislocated allocutive markings from Japanese — the phrase-final particle (henceforth, PFP), an addressee-oriented element found at a phrase-boundary. In Section 2, we briefly observe four fundamental properties of Japanese PFPs. Despite the apparent challenge the Japanese PFP poses to Performative Hypothesis, Section 3 shows that it can be analyzed consistently with this view when combined with some commonly adopted assumptions of Distributed Morphology. Section 4 is devoted to answering the potential questions raised by readers, and Section 5 concludes this paper with future remarks.

*I would like to thank Hitomi Minamida for her insightful comments. This work was supported by the JSPS Core-to-Core Program (#JPJSCCA2021 0001) and by JSPS Grant-in-Aid for Research Activity Start-up (#20K21957). All errors and mistakes in this paper are exclusively my own.

2. Basic data

PFPs are suffixes distributed in a phrase periphery used to catch the addressee's attention, and encode the speaker's construal of the social relation established between the speaker and the addressee. Consider the example in (1).

(1) [aitu-wa-**yo**] it-ta-yo.
he-TOP-PFP go-PST-SFP
'he went.'

The boldface element *-yo* in *aitu-wa-yo* is an instance of PFP, which has the same phonological disguise as the sentence-final particle (SFP) attached to the predicate. Although there have been studies discussing and analyzing the properties of SFPs (Saito and Haraguchi 2012, Oshima 2014, Portner et al. 2019, Endo 2020, McCready and Davis 2020, Miyagawa 2022), to date, PFPs have not been well-documented, let alone formally analyzed. Here, let us examine the four fundamental properties of these particles.

Property 1: Repertoire. In addition to *-yo*, there are several vocabulary items (e.g., *-sa*, *-ne*, and *-na*) that encode different social relations whose semantics are non-truthconditional and ineffable (Potts 2007). A similar repertoire is also found in SFPs (e.g., *-yo*, *-ne*, *-na*, *-yo-ne*, *-zo*, and *-wa*), but the lists are not a perfect match: while there are some overlaps in vocabulary items, some are used only for an SFP (e.g., *-ze*, *-zo*, and *wa*):

(2) Sentence-final particle
aitu-wa it-ta-{***ze/zo/wa***}.
he-TOP go-PST-SFP
'he went.'

(3) Phrase-final particle
aitu-wa(-{****ze/*zo/*wa***}) it-ta-yo.
he-TOP-PFP go-PST-SFP
'he went.'

Property 2: c-selection–free. PFPs are not restricted to an NP periphery. As in (4), they can appear at any phrase-final position (e.g., PP, AP, and AdvP, and even after a filler).

(4) ano(-**ne**) tasikani(-**ne**) kinoo-wa(-**ne**) isoide(-**ne**) yasui(-**ne**)
uhm-PFP certainly-PFP yesterday-TOP-PFP hastily-PFP inexpensive-PFP
omise-ni(-**ne**) watasi-wa(-**ne**) it-ta-yo.
store-to-PFP I-TOP-PFP go-PST-SFP
'Uhm, yesterday I went to an inexpensive store hastily'

Property 3: Optionality. PFPs are optional, as shown by the parentheses in (4).

Property 4: Prosodic break. PFPs introduce a prosodic break, as they are followed by a short pause. Observe the prosodic contour in Figure 1 for the sentence in (1). Here, a pause is clearly seen between the PFP and the following verbal predicate. Likewise, in (4), when *-ne* is not pronounced, the speaker reads the sentence without any prosodic break. In contrast, when *-ne* is present, the speaker stops for a while before pronouncing the next word each time they pronounce *-ne*.

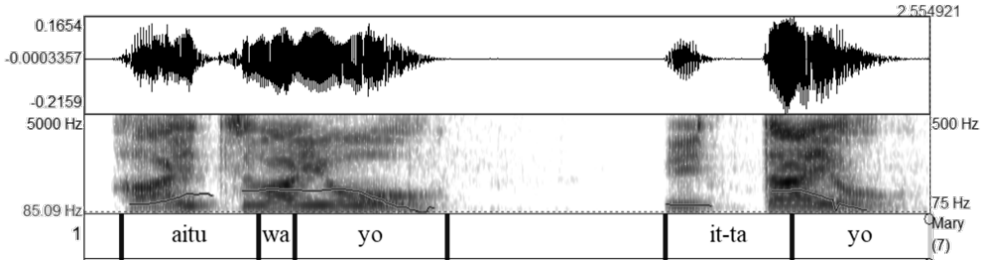


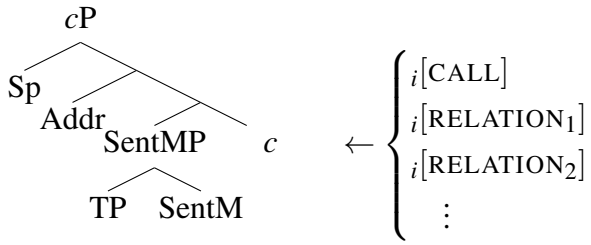
Figure 1: Prosodic break after a PFP

3. Analysis

3.1 Syntax and semantics in clause periphery

For the structure in clause periphery, we assume the superordinate structure proposed by Portner et al. (2019:28), which is presented in (5): *c*P (context phrase) is designed to provide information about the context of utterance.

(5)



To explain Korean SFPs, Portner et al. (2019) propose that the head of *c*P hosts STATUS and FORMAL features. Developing this view, we propose additional utterance-oriented features in *c*: (i) CALL and (ii) (SOCIAL) RELATION, formally defined in (6).

(6) a. $[\![{}_i[\textsc{call}]]\!] = \lambda p.\lambda x.\lambda y.\ p \bullet y$ tries to call x's attention at the moment when a CALL feature is pronounced.

b. $[\![{}_i[\textsc{relation}_1]]\!] = \lambda p.\lambda x.\lambda y.\ p\ .\ y$ confesses at the moment when the feature is pronounced that y thinks that y has the social relation *relation*$_1$ with x.

The CALL feature (cf., Portner 2007) is the source of the attention-catching function of SFP and PFP (an expressive meaning, Potts 2007). We propose different RELATION features to capture the different meanings among PFPs (Property 1).[1]

[1]For example, when the PFP *-sa* is used, the addressee recognizes that the speaker assumes a casual relation between the speaker and the addressee; hence, the denotation in (i) seems appropriate. Good approximation as it is, it remains unclear what counts as an 'intimate relation,' and we need to develop a theory to explain how this expressive meaning updates contextual information; these issues are left to future research.

(i) $[\![{}_i[\textsc{relation}_{\text{-}sa}]]\!] = \lambda p.\lambda x.\lambda y.\ p\ .\ y$ confesses at the moment when the feature is pronounced that y thinks that y has an 'intimate' relation with x.

3.2 Morphology and phonology

Assuming the architecture of Distributed Morphology and related fields, we propose that the features in *c* trigger some postsyntactic morphological modifications of the structure created in the narrow syntax, which are applied in the following order.

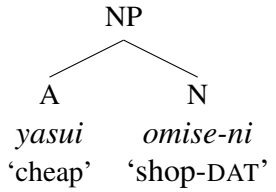
(7) Spell-Out→Node-sprouting (→Feature deletion)→Vocabulary Insertion (VI) → Prosody assignment

First, *c* triggers node-sprouting by the rule in (8) (for a node-sprouting of features that are involved with social relations, see Choi and Harley 2019, Oseki and Tagawa 2019, and Yamada 2019): a head X gets an Agr-node with the uninterpretable features CALL and RELATION_1 iff *c* carries the corresponding interpretable features.

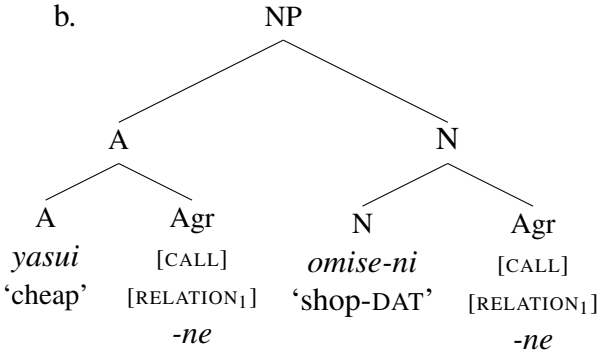
(8) $\text{X} \rightarrow [_X\ \text{X}\ \text{Agr}_{u[\text{CALL}],u[\text{RELATION}_1]}\ ]$ / __ is c-commanded by $c_{i[\text{CALL}],i[\text{RELATION}_1]}$

For example, suppose that the structure in (9a) is obtained as a result of the derivation in the narrow syntax, and further assume that this structure is c-commanded by *c* that bears ${}_i[\text{CALL}]$ and ${}_i[\text{RELATION}_1]$. The rule in (8) inserts an Agr-node as an adjunct to the A-node in which CALL and RELATION features are present, as illustrated in (9a).

(9) a.



b.



Property 2 is derived from the rule in (8). Notice that X is a head whose category is not specified, explaining PFPs' insensitivity to the category of the head to which they attach. Note also that the features introduced by the rule in (8) are only available for the PF-interface, and what we have at LF are the features present in the clause periphery (those present in Section 3.1). While thus maintaining the Performative Hypothesis both in the narrow syntax and at LF, the semantics in (6) indirectly captures the pronunciation sites of the particles. The interpretable CALL feature in (6a) gives rise to the meaning that the speaker tries to call the addressee's attention at the moment when both SFP and PFP are pronounced, which is exactly what we want. Although the CALL features on SFP and PFP are different in interpretability, the semantics in (6a) is insensitive to this distinction; they are both overt realizations of a CALL feature.

Second, based on VI-rules — such as those given in (10) — each terminal node is associated with the right phonological exponent. Different RELATION features lead to the repertoire, previously mentioned as Property 1.

(10) a. $\text{Agr}_{u[\text{CALL}],u[\text{RELATION}_1]} \leftrightarrow$ *ne* b. $\text{Agr}_{u[\text{CALL}],u[\text{RELATION}_2]} \leftrightarrow$ *yo*

Third, as for Property 3, we could imagine two theoretical possibilities. One is to assume that the node-sprouting rule in (8) is optionally applied. The other is to propose a postsyntactic deletion rule before vocabulary insertion. Either way, optionality can be placed outside syntax. If we attempt to attribute it to narrow syntax, a module assumed to consist only of universal operations, it is conceptually hard to justify the existence of optionality. Rather, morphology, which deals with language-specific idiosyncrasies, is more amenable to optionality.

Finally, based on the morphological tree and the features provided by the terminal node in (9b), the prosody of the sentence is determined: we assume the rule in (11).

(11) **A PF-rule used to determine the prosodic contour of a sentence**: The phrase projected by the head in which the CALL feature is present forms a prosodic unit, which is followed by a short pause.

For example, in (9b), a CALL feature is present in an adjunct position in A and N. Thus, *yasui-ne* and *omise-ne* become a prosodic unit followed by a pause.

4. Discussions

4.1 Discussion 1: *Syntactic explanation?*

In our proposal, PFPs are analyzed as the realization of the node postsyntactically introduced after Spell-Out. But some may wonder if we can alternatively analyze them as a realization of the head, which already existed in the narrow syntax (i.e,. before Spell-Out). For example, Ritter and Wiltschko (2018) propose the existence of a speech act layer in the nominal periphery. It is thus worth asking if the structure in (12) analyzes the distribution of PFPs as appropriately as our analysis.

(12) $[_{\text{GroudP}}\ [_{\text{DP}}\ \ldots\ ]\ \text{Ground}\ (\textit{ne})]$

Conceptually and empirically, however, such a syntactic approach runs into problems, at least as it stands. First, unlike the *-ne* in *omise-ni* 'shop-DAT' in (4), the *-ne* attached to *yasui* 'cheap' is difficult to explain (because a speech act layer is assumed only once in the nominal periphery). Second, even if we loosen the assumption proposing that GroudP can be distributed in any phrase periphery, we can then run into a different problem. The functional items in the narrow syntax have a selectional restriction on its sisternode (D takes N, but not Adv; Adv takes A, but not N). Since a PFP can appear in any phrase periphery, we would have to propose that it lacks selectional restriction, thus violating

the cross-linguistically robust generalization. Since our morphological approach dispenses with such an 'indifferent' projection in the narrow syntax, and fits better with the grammatical architecture assumed in the formal theory of language, it is hard to justify such an exception.

4.2 Discussion 2: *Dependency on* SFP*s*

For a PFP to be introduced, the existence of a RELATION feature in c is necessary, and this higher feature is expected to get realized as an SFP. Of course, the higher feature may be deleted for an independent reason, and we cannot decisively predict a strict entailment relation, but it is still reasonable to ask if there is a correlation between a PFP and an SFP.

In most cases, this prediction is borne out; PFPs sound very odd without an SFP at the end of the sentence. For example, the sentence below does not sound good without *-yo*.

(13) watasi-wa-**ne** gakko-ni-**ne** it-ta#(-**yo**).
I-TOP-PFP school-to-PFP go-PST-SFP
'I went to school yesterday.'

In a few cases, however, the *-yo* in (13) can be dropped, but when that happens, the sentence-final region is assigned a marked prosodic contour, and a special semantic/pragmatic interpretation is obtained (e.g., a very strong assertive nuance).

We can consider this marked prosody a result of the discourse features in c. For example, we can propose that [ASSERT: strong] can be present in c, as well as CALL and RELATION, and they are pronounced -∅. Alternatively, we can consider a different RELATION feature distinct from *-ne* and *-yo*, which is pronounced -∅. Either way, the assertive effect in (13) supports our assumption of discourse features in cP.

4.3 Discussion 3: Syntax-Phonology interface

The phonological theories of the syntax-phonology interface have been commonly divided into two main groups, the Direct Reference Theory and the Indirect Reference Theory (or the Prosodic Hierarchy Theory), depending on whether phonological processes directly refer to the syntactic structure (see Elordieta 2008 for an overview). Since the rule in (11) just determines the location of an edge in prosody, our analysis is consistent with both approaches.

If we wish to frame our analysis in Match Theory (a growing theory in the Indirect Reference approach), it would be reasonable to propose a syntax-to-prosody mapping constraint, $\textsc{Match}(\mathrm{X}_{\textsc{call}}, \iota)$ (map the syntactic structure X that bears a CALL feature to an intonational phrase), whose violation is maximally avoided and prioritized, for example, over the constraint $\textsc{Match}(\mathrm{NP}, \phi)$. For example, in (9), the entire phrase is an NP, so it is expected to receive a phonological phrase. However, the resulting structure violates the constraint $\textsc{Match}(\mathrm{X}_{\textsc{call}}, \iota)$. To maximally respect the latter constraint, A and N receive an intonational phrase, yielding a pause every time a PFP is pronounced.

4.4 Discussion 4: *Interaction with an addressee-honorific markers*

In addition to a PFP and an SFP, Japanese is equipped with a system of allocutive honorificity (AH). For example, consider the sentences below (for an elaborate description of the AH in Japanese, see Harada 1976 and Yamada 2019):

(14) a. watasi-wa seito **dear**-u.
I-TOP student PRED.COP-PRS
b. watasi-wa seito **des**-u.
I-TOP student PRED.COP.AH-PRS
'I am Japanese,'

These two sentences are truth-conditionally equivalent, but differ in allocutive honorificity: (14a) is the plain form, and (14b) is the honorific counterpart (the polite form), used when talking to someone the speaker respects. Such AH markings have been observed to appear in the clause periphery, thus playing a pivotal role in the examination of clause periphery (Miyagawa 2012, 2017, 2022, Kaur 2020, Portner et al. 2019, Yamada 2019, Alok 2021, Haddican 2018). However, just like a PFP, an AH marking can also be found in the phrase periphery. Observe the sentence in (15), which has the same truth-conditional meaning as (4) but is politer in honorificity.

(15) ano(-**desu**-**ne**) tasikani(-**desu**-**ne**) kinoo-wa(-**desu**-**ne**) isoide(-**desu**-**ne**)
uhm-AH-PFP certainly-AH-PFP yesterday-TOP-AH-PFP hastily-AH-PFP
yasui(-**desu**-**ne**) omise-ni(-**desu**-**ne**) watasi-wa(-**desu**-**ne**)
inexpensive-AH-PFP store-to-AH-PFP I-TOP-AH-PFP
iki-masi-ta-yo.
go-AH-PST-SFP
'Uhm, yesterday I went to an inexpensive store hastily.'

Note, first, that independent of the boldface AH elements, an AH marking is provided in the verbal predicate (i.e., *-mas*). While phrase-final AH-markers are optional, this AH marking attached to the verbal predicate is obligatory in a polite sentence. Second, although there are seven AH markings in (15), it does not mean that the sentence is seven times politer than (4). Rather than intensifying the politeness level, a phrase-final AH marker has a function of confirming that the speaker does maintain the polite attitude at the very time when the phrase is pronounced. If a PFP is absent, the addressee will not know whether the speaker has a polite attitude toward the addressee until the speaker pronounces an AH marking at the end of the sentence. But the presence of a *des-* in each phrase periphery where a CALL feature is pronounced gives the speaker an opportunity to express his politeness. Third, a phrase-final AH marker is illicit when a PFP is not pronounced: a PFP is a prerequisite for a phrase-final AH marker, as shown below.

(16) [aitu-wa-**desu***(-**yo**)] it-ta-yo.
he-TOP-AH-PFP go-PST-SFP
'he went.'

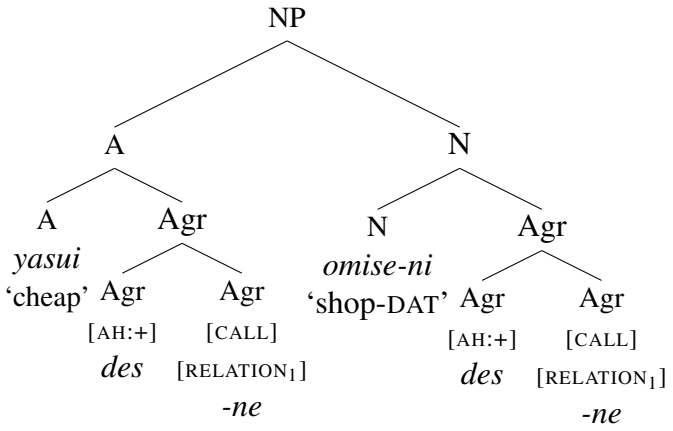
Our analysis can be easily extended to capture the distribution of these phrase-final AH markers by assuming a new node-sprouting rule in (17) and a VI rule in (18).

(17) $\text{Agr}_{u[\text{CALL}]} \rightarrow [\ \text{Agr}_{u[\text{AH:+}]}\ \text{Agr}_{u[\text{CALL}]}\ ]$ / __ is c-commanded by $c_{i[\text{AH:+}]}$

(18) $\text{X}_{[\text{AH:+}]} \leftrightarrow$ *des*

When c-commanded by a *c* with an AH feature, the structure in (9b) is modified into the structure below, where another Agr is inserted and pronounced *des*.[2]

(19)



Since the rule in (17) is triggered only when there is an Agr-node inserted for a PFP, a phrase-final AH marker requires a PFP, as seen in (15).

Note also that the rule in (17) is applied independently of the specification of the RELATION feature, and is only sensitive to the CALL feature. This is designed to capture the observation that *des(u)* is compatible with different PFPs, as illustrated below.[3]

[2]The *-u* in *desu* is hard to analyze as a present tense marker, given that it appears in the phrase periphery. Here, it is analyzed as an epenthetic vowel.

[3]There are two caveats. First, the sequence of *desu-na* is associated with a certain persona (someone who is rather old and takes pleasure in sharing their wisdom to the addressee), so it is less frequently used in daily lives (and more frequently found in novels). For an approach to an expressive meaning in light of the speaker's Persona, see Yamada and Donatelli (2021). Second, an exception of this generalization is *-sa*, which is illicit with a phrase-final AH marker, as in (i). This paper does not have a decisive analysis of this particle. In fact, it is not clear whether this is attributed to a grammatical error or a pragmatic anomaly. If it is pragmatic in nature, it is likely that the expressive intimate meaning of the relation feature of *-sa* is inconsistent with the polite meaning of an AH feature. Future research is required to investigate such possibilities.

(i) a. watasi-wa-**sa** it-ta-yo.
I-TOP-AH-PFP go-AH-PST-SFP
'I went.'

b. *watasi-wa-desu-**sa** iki-masi-ta-yo.
I-TOP-PFP go-PST-SFP
'I went.'

(20) watasi-wa-desu-{**ne/yo/na**} iki-masi-ta-yo.
I-TOP-AH-PFP go-AH-PST-SFP
'I went.'

5. Conclusion and future implications

Maintaining the Performative Hypothesis, recent studies have proposed grammatical links between an element in the speech act layer (clause periphery) and the instance it c-commands — *syntactic binding* for pronouns (Alok and Baker 2018), and a postsyntactic *morphological node-sprouting* for an addressee-honorific marker (Yamada 2019). In the current study, we develop this direction with Japanese PFPs, and demonstrate how unexpected non–clause-peripheral elements are analyzed by the Performative Hypothesis couched in the postsyntactic rules commonly assumed in the literature of Distributed Morphology.

Unfortunately, PFPs are not observed in English and other well-studied European languages, and in this regard, cross-linguistic comparisons are hard to make. Yet, as hinted in the discussion, a PFP has a CALL function, as has been proposed for vocatives (Portner 2007). In addition, vocative phrases are assigned an independent prosodic contour, which is distributed in different positions within a sentence (Hill 2007). Hence, their similarities are evident. A thorough comparison with a vocative phrase is thus expected in future research.

References

Alok, Deepak. 2021. The morphosyntax of Magahi addressee agreement. Syntax 24:263–296.

Alok, Deepak, and Mark Baker. 2018. On the mechanics (syntax) of indexical shift: Evidence from allocutive agreement in Magahi. Ms. Rutgers University.

Choi, Jaehoon, and Heidi Harley. 2019. Locality domains and morphological rules: phases, heads, node-sprouting and suppletion in Korean honorification. Natural Language and Linguistic Theory 37:1319–1365.

Elordieta, Gorka. 2008. An overview of theories of the syntax-phonology interface. Anuario Del Seminario De Filología Vasca "Julio De Urquijo" 42:209–286.

Endo, Yoshio. 2020. Information structure, null case particle and sentence final discourse particle. In Information-structural perspectives on discourse particles, ed. by Pierre-Yves Modicom and Olivier Duplâtre, 128–138. Amsterdam: John Benjamins.

Haddican, Bill. 2018. The syntax of Basque allocutive clitics. Glossa 3:1–31.

Haegeman, Liliane, and Virginia Hill. 2013. The syntacticization of discourse. In Syntax and its limits, ed. by Raffaella R. Folli, Christina Sevdali, and Robert Truswell, 370–390. Oxford: Oxford University Press.

Harada, S.-I. 1976. Honorifics. In Syntax and semantics, ed. by Masayoshi Shibatani, volume 5, 499–561. New York: Academic Press.

Hill, Virginia. 2007. Vocatives and the pragmatics-syntax interface. Lingua 117:2077–2105.

Kaur, Gurmeet. 2020. On the syntax of addressee in imperatives: insights from allocutivity. Glossa 5:107, 1–44.

Kaur, Gurmeet, and Akitaka Yamada. 2019. Embedded allocutivity and its reference. Presented at Person and Perspective: a workshop honoring the work of María Luisa Zubizarreta. Los Angeles, University of Southern California. 3-4 May 2019.

Kaur, Gurmeet, and Akitaka Yamada. 2021. Variation in honorificity. WCCFL 39.

McCready, Elin, and Christopher Davis. 2020. Sentence-final particles in Japanese. In Handbook of Japanese semantics and pragmatics, ed. by Wesley M. Jacobsen and Yukinori Takubo, 655–684. Berlin: De Gruyter Mouton.

Miyagawa, Shigeru. 2012. Agreements that occur mainly in the main clause. In Main clause phenomena: New horizons, ed. by Lobke Aelbrecht, Liliane Haegeman, and Rachel Nye, 79–112. Amsterdam: John Benjamins.

Miyagawa, Shigeru. 2017. Agreement beyond phi. Cambridge, MA: MIT Press.

Miyagawa, Shigeru. 2022. Syntax in the treetops. Cambridge, MA: MIT Press.

Oseki, Yohei, and Takumi Tagawa. 2019. Dual suppletion in Japanese. In Proceedings of the Workshop on Altaic Formal Linguistics, volume 15, 193–204.

Oshima, David Y. 2014. On the functional differences between the discourse particles ne and yone in Japanese. In The Proceedings of the 28th Pacific Asia Conference on Language, Information and Computation, 442–451.

Portner, Paul. 2007. Instructions for interpretation as separate performatives. In Instructions for interpretation as separate performatives, ed. by Kerstin Schwabe and Susanne Winkler, 407–425. Amsterdam: John Benjamins.

Portner, Paul, Miok Pak, and Raffaella Zanuttini. 2019. The speaker-addressee relation at the syntax-semantics interface. Language 95:1–36.

Potts, Christopher. 2007. The expressive dimension. Theoretical Linguistics 33:165–198.

Ritter, Elizabeth, and Martina Wiltschko. 2018. Distinguishing speech act roles from grammatical person features. In Proceedings of the 2018 annual conference of the Canadian Linguistics Association.

Saito, Mamoru, and Tomoko Haraguchi. 2012. Deriving the cartography of the Japanese right periphery: the case of sentence-final discourse particles. Iberia: An International Journal of Theoretical Linguistics 4:104–123.

Yamada, Akitaka. 2019. The syntax, semantics and pragmatics of Japanese addressee-honorific markers. Doctoral dissertation, Georgetown University, Washington DC.

Yamada, Akitaka, and Lucia Donatelli. 2021. A persona-based analysis of politeness in japanese and spanish. In Proceedings of the Seventeenth International Workshop of Logic and Engineering of Natural Language Semantics (LENLS17), 129–144.

Zu, Vera. 2018. Discourse participants and the structural representation of the context. Doctoral dissertation, New York University, New York.

Akitaka Yamada
a.yamada.hmt@osaka-u.ac.jp