Where is a Monster?: A Case Study of Indexical Shift in Japanese*

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1 Introduction

In some languages, indexicals in complement clauses of attitude predicates are interpreted with respect to the context of the attitude event, rather than to the utterance context, contrary to what Kaplan (1989) expects. This phenomenon is widely referred to as *indexical shift* (e.g. Anand & Nevins 2004,

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Anand 2006, Sudo 2012, Shklovsky & Sudo 2014, Deal 2020). For example, Uyghur is observed to show obligatory indexical shift (Sudo 2012, Shklovsky & Sudo 2014). In the Uyghur sentence in (1), the first person pronoun which appears as the embedded subject must refer to the matrix subject, which corresponds to the speaker of the reported clause; it cannot be interpreted as the utterance speaker.[1]

(1) Ahmet [**men** ket-tim] di-di.
Ahmet 1SG leave-PAST.1SG say-PAST.3
'Ahmet$_i$ said that {he$_i$ / *I} left.' (Uyghur; Sudo 2012: 203)

One might claim that the shifted reading in (1) is obtained because the complement clause is a direct quote. This is not necessarily the case, however, given that shifted readings are obtained even if a complement clause is syntactically transparent. (2) shows, for example, that indexical shift still takes place when a wh-phrase in the complement clause takes matrix scope, ensuring that it is not syntactically opaque, i.e. not a direct quote.

(2) Tursun [**men** kim-ni kör-dim] di-di?
Tursun 1SG who-ACC see-PAST.1SG say-PAST.3
'Who did Tursun$_i$ say {he$_i$ / *I} saw?' (Uyghur; ibid: 205)

The recent literature converges that indexical shift can be captured by positing an operator that overwrites the values of the context parameter. Following the literature, I call this operator a *monster operator*. Morphosyntactic aspects of monster operators, however, remain to be explored in more detail. One recent view regarding these aspects is that the availability of monster operators draws on how large the complement clause is. Deal (2020), for instance, argues that the availability of monster operators depends on the size of complement clauses which in turn depends on the type of matrix predicates. This paper refers to such an approach to the morphosyntax of monster operators as the *clause size approach*.

Against this backdrop, this paper aims to explore morphosyntactic aspects of indexical shift in Japanese (Sudo 2012). More specifically, I will argue that in Japanese, a monster operator is encoded in *Speech Act Phrase* (*SAP*, henceforth; e.g. Speas & Tenny 2003, Haegeman & Hill 2013). This adds support to the clause size approach.

[1] The following abbreviations are used: 1 = first person, 3 = third person, ACC = accusative, DAT = dative, NOM = nominative, PAST = past, MP = modal particle, POL = politeness marker, Q = question particle, SG = singular, REP = reportative complementizer, SFP = sentence final particle, TOP = topic particle

This paper is organized as follows: Section 2 illustrates how monster operators semantically function, mainly relying on Deal (2020). Section 3 gives an overview of indexical shift in Japanese, building on Sudo (2012). Section 4 discusses additional data on indexical shift in Japanese. Based on that discussion, Section 5 submits a proposal regarding the morphosyntax of monster operators in Japanese. Section 6 concludes the paper.

2 How a Monster Works

This section gives a brief overview of the semantic role of monster operators. For expository purposes, this paper basically adopts Deal's (2020) theory of monster operators. To begin with, I assume that linguistic expressions are interpreted with respect to at least two parameters: context *c* and index *i*. I further assume that *c* and *i* consist of at least three coordinates: author *a*, hearer *h*, and world *w*. The semantic value of indexicals is directly determined by *c* (Kaplan 1989). For instance, the first and second person pronoun are interpreted as in (3).

(3) a. $[\![\text{I}]\!]^{c,g} = a_c$
b. $[\![\text{you}]\!]^{c,g} = h_c$

Attitude verbs quantify over all the coordinates of the index parameter *i* of the complement clause. For example, I assume that the attitude verb *say* is interpreted as in (4) (Deal 2020: 29).

(4) $[\![\text{say } \alpha]\!]^{c,g} = \lambda x.\forall i' \in R_{\text{say}}(x, i)\ [\![\alpha]\!]^{c,i'}$
where $i' \in R_{\text{say}}(x, i)$ iff
a. $w_{i'}$ is compatible with what *x* says in w_i
b. $a_{i'}$ is an individual in $w_{i'}$ that *x* identifies at *i* as herself
c. $h_{i'}$ is an individual in $w_{i'}$ that *x* identifies at *i* as her addressee

Importantly, in (4), the context parameter with respect to which the embedded clause is evaluated remains free. This is compatible with Kaplan's (1989) view that the context values are invariable across clause boundaries. In the English example (5), for instance, the first person pronoun must refer to the speaker of the utterance context even though it appears in the complement clause of the attitude verb.

(5) the speaker$_i$: Mary$_j$ said [that John praised **me**$_{i/*j}$].

This cannot be the full picture, however, given the possibility of indexical shift in some languages. See, for example, the Uyghur example in (1) repeated below, where the first person pronoun in the complement clause is construed to refer to the attitude holder, or the matrix subject.

(1) Ahmet [**men** ket-tim] di-di.
Ahmet 1SG leave-PAST.1SG say-PAST.3
'Ahmet$_i$ said that {he$_i$ / *I} left.' (Uyghur; ibid: 203)

What fills this gap is monster operators. This paper represents a monster operator as 😈 and, following Deal (2020), assumes (6) as its (syncategorematic) definition (Deal 2020: 31).

(6) $[\![😈\ \alpha]\!]^{c,i} = [\![\alpha]\!]^{i,i}$

According to (6), the monster operator plays a role of replacing the values of *c* with those of *i*. With this assumption, for instance, the Uyghur example in (1) has the structure in (7), where the sentence is translated into English.

(7) Ahmet said [😈 I left].

In (7), crucially, a monster operator appears in the complement clause. (7) is then interpreted as in (8).

(8) a. $[\![$Ahmet said [😈 I left]$]\!]^{c,i,g} = 1$
iff $\forall i' \in R_{say}$ (Ahmet, *i*) $[\![😈$ I left$]\!]^{c,i',g}$
b. $[\![😈$ I left$]\!]^{c,i',g} = [\![$I left$]\!]^{i',i',g}$
c. $[\![$Ahmet said [😈 I left]$]\!]^{c,i,g} = 1$
iff $\forall i' \in R_{say}$ (Ahmet, *i*)[$a_{i'}$ left in $w_{i'}$]

Of importance here is that as a result of the monster operator overwriting the context parameter, the first person pronoun in the complement clause is interpreted with respect to the index parameter quantified over by the attitude verb *say*, namely *i'*, as shown in (8c). According to the semantics of *say* in (4), $a_{i'}$ in (8c) is construed as an individual that Ahmet identifies at *i* as himself, namely Ahmet, thus yielding the shifted interpretation.

3 Indexical Shift in Japanese: Sudo (2012)

This section provides an overview of indexical shift in Japanese, mainly based on the relevant previous work, Sudo (2012). Sudo points out that in

Japanese, indexical shift optionally takes place in complement clauses headed by the reportative complementizer *to* (*to*-clauses, henceforth), as exemplified in (9).[2]

(9) Mary-wa [John-ga **watasi**-o hometa to] itta.
Mary-TOP John-NOM I-ACC praised REP said
'Mary$_i$ said that John praised {me / her$_i$}.'

In (9), the first person pronoun *watasi* 'I' appears in the complement clause and can be interpreted as the speaker of the attitude event, namely Mary.

One might suspect at this point that the *to*-clause in (9) is a direct quote when the indexical in it receives the shifted interpretation. This doubt is particularly motivated by the fact that *to* can indeed introduce a direct quote, as well as a reported clause, as exemplified in (10).

(10) Mary-wa [Yeah! to] itta.
Mary-TOP REP said
'Mary said "Yeah!".'

However, this view is not necessarily correct, similarly to what we observed for Uyghur before; shifted readings are available even if the *to*-clause is syntactically transparent. For example, Sudo (2012) observes that an indexical can receive a shifted interpretation even when the *to*-clause involves a wh-phrase that takes a matrix scope, as shown in (11).[3,4]

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[2] Some previous works describe data that contrast with Sudo (2012), claiming that at least person indexicals cannot shift in Japanese (e.g., Kuno 1988, Yatsushiro & Sauerland 2014, H. Saito 2018). My own judgements align with Sudo's, and the discussion in this paper pertains to the grammar of speakers who, like us, allow indexical shift to apply even to person indexicals. It is left open what causes the difference between the speakers who allow shifted readings of person indexicals and those who do not.

[3] That the wh-question (11) is not an echo question can be ensured by the fact that that question is felicitous even if it is uttered at the outset of a conversation. The same holds true with the wh-questions in (17) and (19).

[4] As pointed out by David Y. Oshima (p.c.), it is possible in Japanese to replace a part of proper nouns, such as movie titles, with a wh-phrase and make a matrix wh-question, as exemplified in (i). (Note that (i) can be interpreted as a non-echo question.)

(i) Mary-wa "Gojira baasasu nani"-o mita no?
Mary-TOP Godzirra versus what-ACC watched Q
Lit. 'Mary watched "Godzirra vs. what"?'

Given that proper nouns arguably constitute syntactically opaque domains, the grammaticality of (i) might be taken to suggest that (11) does not ensure the syntactic transparency of the *to*-clause with the shifted interpretation. Crucially, however, the same pattern does not hold for *to*-clauses that are clearly interpreted as direct quotes. For example, in the ungrammatical sentence

(11) Mary-wa [dare-ga **watasi**-o hometa to] itta no?
Mary-TOP who-NOM I-ACC praised REP said Q
'Who did Mary$_i$ said (that) praised {me / her$_i$}?'

I additionally point out that a shifted reading is still available when an element in the *to*-clause undergoes scrambling to the matrix clause (i.e. long-distance scrambling), as shown in (12).[5]

(12) Susan-ni$_i$ Mary-wa [John-ga t_i **watasi**-o syookaisita to] itta
Susan-to Mary-TOP John-NOM I-ACC introduced REP said

(iia), whose potential answer is (iib), a wh-phrase taking a matrix clause appears in a *to*-clause which is obviously construed as a direct quote.

(ii) a. *Mary-wa [Yeah! Nani-ga owatta zo. to] itta no?
Mary-TOP what-NOM ended SFP REP said Q
Lit. 'Mary said "Yeah! I've done what."?'

b. Mary-wa [Yeah! Syukudai-ga owatta zo. to] itta.
Mary-TOP homework-NOM ended SFP REP said
'Mary said "Yeah! I've done homework."'

This observation itself ensures that the *to*-clause with the shifted interpretation in (11) is not a direct quote. The remaining question, then, is why the grammaticality difference arises between (i) and (iia). One possible approach is to assume that there is some mechanism (e.g. feature percolation) which allows a syntactically-opaque phrase containing a wh-phrase to be construed as the relevant wh-phrase in a wh-question (cf. pied-piping) and that this mechanism can apply to proper nouns but cannot to direct quotes. With this assumption, the mechanism in question applies to the proper noun in (i) and, as a result, the whole proper noun, rather than *nani* 'what' itself, is interpreted as the relevant wh-phrase. This accounts for the grammaticality of (i). On the other hand, the same mechanism cannot apply to the direct quote in (iia), whose grammaticality thus cannot be improved. I suggest that the different applicability of the mechanism in question might be ascribed to whether a relevant phrase is nominal (e.g. proper nouns) or clausal (e.g. direct quotes).

[5] Note that in Japanese (texts, in particular), direct quotes can be (at least marginally) split into two parts with one of them placed in the sentence-initial position; see (ib), whose basic counterpart is (ia). I call this split *direct quote split*.

(i) a. Mary-wa "Yosi! Sorejaa ohiru-o tabe-yooka." to itta (hazuda).
Mary-TOP OK then lunch-ACC eat-let's REP said should
"Mary (must have) said "OK! Then let's have a lunch, shall we?"."

b. (?)"Yosi! Sorejaa,", Mary-wa "ohiru-o tabe-yooka." to itta (*hazuda).
OK then Mary-TOP lunch-ACC eat-let's REP said should
Lit. ' "OK! Then," Mary (must have) said, "let's have a lunch, shall we?".'

Given that, when an element in a *to*-clause appears in the matrix clause, it might result from direct quote split, rather than long-distance scrambling. Crucially, however, this split is not allowed when the modal verb *hazuda* 'should' appears in the matrix clause, as shown in (ib). Based on this fact, I add *hazuda* in the matrix clause of the examples where an element of a *to*-clause appears outside that clause (i.e. (12), (18), (20)), in order to ensure that the configuration results from long-distance scrambling rather than direct quote split.

hazuda.
should
Lit. '[To Susan]$_i$, Mary$_j$ must have said that John introduced {me / her$_j$} t_i.'

These facts thus indicate that indexical shift is possible in *to*-clauses that are not interpreted as direct quotes.[6]

To account for those shifted interpretations, Sudo (2012) argues that monster operators are available in Japanese. Under this assumption, the sentence (9), repeated below, is analyzed as having the structure in (13) when the first person pronoun receives a shifted interpretation.

(9) Mary-wa [John-ga **watasi**-o hometa to] itta.
Mary-TOP John-NOM I-ACC praised REP said
'Mary$_i$ said that John praised {me / her$_i$}.'

(13) Mary-wa [John-ga watasi-o hometa to] itta.
Mary-TOP John-NOM I-ACC praised REP said

(13) crucially includes a monster operator within the *to*-clause. As illustrated in Section 2, the operator overwrites the context parameter of the complement clause with the index parameter that is quantified over by the matrix attitude predicate (see (4)). Consequently, the first person pronoun in the *to*-clause is construed with respect to the reported context and thus refers to the attitude holder, or the matrix subject *Mary*.

This monster-operator-based analysis of Japanese indexical shift is indirectly supported by the fact that when two or more shiftable indexicals (e.g. *watashi* 'I', *anata* 'you') appear in a *to*-clause, either all of them receive the shifted interpretation, or none of them does (i.e. *Shift Together*; e.g. Anand & Nevins 2004, Anand 2006). This is observed in (14).

(14) Mary-wa Bill-ni [watasi-wa(/-ga) anata-o kiratteiru to] itta.
Mary-TOP Bill-to I-TOP/-NOM you-ACC hate REP said
i. ✓'Mary$_i$ said to Bill$_j$ that she$_i$ hates him$_j$.'
ii. ✓'Mary said to Bill that I hate you.'
iii. *'Mary$_i$ said to Bill that she$_i$ hates you."
iv. *'Mary said to Bill$_i$ that I hate him$_i$.'

[6] See Sudo (2012) for other diagnostics for the syntactic transparency of *to*-clauses, which are based on *de re* interpretations and NPI licensing.

This pattern can be captured by positing a monster operator; given the assumption that the operator takes sentential scope, it affects every indexical in the complement clause.

Regarding morphosyntactic traits of indexical shift in Japanese, two observations by Sudo (2012) are relevant. First, as noted before, indexical shift in Japanese is optional, unlike the obligatory indexical shift in Uyghur (e.g. (1)); see (9), for example. Second, indexical shift is not observed in complement clauses other than *to*-clauses. (15) shows, for example, that shifted readings are not available in the embedded question headed by the question particle *ka* (15a) and the nominalized clause headed by *koto* 'fact' (15b).

(15) a. Mary-wa [John-ga **watasi**-o hometa ka] {kiita / sitteita}.
Mary-TOP John-NOM I-ACC praised Q asked/knew
'Mary$_i$ {asked / knew} whether John praised {me / *her$_i$}.'
b. Mary-wa [John-ga **watasi**-o kiratteiru koto]-ni kiduita.
Mary-TOP John-NOM I-ACC hate fact-DAT realized
'Mary$_i$ realized that John hates {me / *her$_i$}.'

From these observations, Sudo (2012) concludes that the monster operator can be licensed only in *to*-headed clauses, but he does not delve further into its morphosyntactic properties. Against this backdrop, the rest of the paper aims to dig further into the morphosyntax of indexical shift/monster operators in Japanese. We will turn back to the above two properties of Japanese indexical shift after submitting the proposal of this paper in Section 5.

4 More on Indexical Shift in Japanese

This section discusses additional data on indexical shift in Japanese and explores its morphosyntactic facets. To begin with, two relevant observations from the literature are in order. First, it has been observed in the traditional study of the Japanese language, i.e. *nihongogaku* (日本語学), that shifted interpretations are forced when a *to*-clause contains a sentence final particle (SFP, henceforth; e.g. *yo* in (16a)) or the politeness marker *-mas*; see, e.g., Fujita (2000) and Sunakawa (1989, 2003).[7] The relevant data are shown in (16). (Note that SFPs and the politeness marker in *to*-clauses are interpreted only with respect to the reported context; in (16b), for example, the politeness marker indicates that the attitude holder, Mary, spoke politely to the addressee of the reported context.)

[7] This observation is also made in the syntactic literature; for example, see Saito & Haraguchi (2012) for SFPs, and Miyagawa (2012) and Yoshimoto (2016) for the politeness marker.

(16) a. Mary-wa [(kuruma-de) **watasi**-ga(/-wa) Tokyo-ni iku yo to]
Mary-TOP car-by I-NOM/-TOP Tokyo-to go SFP REP
itta.
said
'Mary$_i$ said that {*I / she$_i$} went to Tokyo (by car).'

b. Mary-wa [(kuruma-de) **watasi**-ga(/-wa) Tokyo-ni iki-masu to]
Mary-TOP car-by I-NOM/-TOP Tokyo-to go-POL REP
itta.
said
'Mary$_i$ said that{*I / she$_i$} went to Tokyo (by car).'

Based on this observation, it has been argued in *nihongogaku* that *to*-clauses involving an SFP or the politeness marker are forced to be interpreted as direct quotes (e.g. Fujita 2000, Sunakawa 1989, 2003). This however is challenged by the second observation, made by Uchibori (2007) and Noguchi (2018): *to*-clauses involving an SFP (Noguchi 2018) or the politeness marker (Uchibori 2007) can be syntactically transparent. For instance, (17) shows that such clauses can contain a wh-phrase that takes matrix scope, while (18) shows that an element can undergo long-distance scrambling from within such a clause.

(17) a. Mary-wa [(kuruma-de) dare-ga Tokyo-ni iku yo to] itta no?
Mary-TOP car-by who-NOM Tokyo-to go SFP REP said Q
'Who did Mary said would go to Tokyo (by car)?'

b. Mary-wa [(kuruma-de) dare-ga Tokyo-ni iki-masu to] itta no?
Mary-TOP car-by who-NOM Tokyo-to go-POL REP said Q
'Who did Mary said would go to Tokyo (by car)?'

(18) a. Tokyo-ni$_i$ Mary-wa [(kuruma-de) John-ga t_i iku yo to] itta
Tokyo-to Mary-TOP car-by John-NOM go SFP REP said
hazuda.
should
Lit. '[To Tokyo]$_i$, Mary must have said that John would go t_i (by car).'

b. Tokyo-ni$_i$ Mary-wa [(kuruma-de) John-ga t_i iki-masu to] itta
Tokyo-to Mary-TOP car-by John-NOM go-POL REP said
hazuda.
should
Lit. '[To Tokyo]$_i$, Mary must have said that John would go t_i (by car).'

These data serve as counterarguments to the view in *nihongogaku* that *to*-clauses containing an SFP or the politeness marker are interpreted only as direct quotes.[8]

Now, I further point out that the above two observations are compatible with each other. That is, *to*-clauses involving an SFP or the politeness marker show syntactic transparency even if they include an indexical, which obligatorily receives a shifted interpretation; observe (19) for matrix wh-questions and (20) for long-distance scrambling.

(19) a. Mary-wa [(kuruma-de) **watasi**-ga(/-wa) doko-ni iku yo to]
Mary-TOP car-by I-NOM/-TOP where-to go SFP REP
itta no?
said Q
'Where did Mary$_i$ said that {*I / she$_i$} would go (by car)?'

b. Mary-wa [(kuruma-de) **watasi**-ga(/-wa) doko-ni iki-masu to]
Mary-TOP car-by I-NOM/-TOP where-to go-POL REP
itta no?
said Q
'Where did Mary$_i$ said that {*I / she$_i$} would go (by car)?'

(20) a. Tokyo-ni$_i$ Mary-wa [(kuruma-de) **watasi**-ga(/-wa) t_i iku yo
Tokyo-to Mary-TOP car-by I-NOM/-TOP go SFP
to] itta hazuda.
REP said should
Lit. '[To Tokyo]$_i$, Mary$_j$ must have said that {*I / she$_j$} would go t_i (by car).'

b. Tokyo-ni$_i$ Mary-wa [(kuruma-de) **watasi**-ga(/-wa) t_i iki-masu
Tokyo-to Mary-TOP car-by I-NOM/-TOP go-POL
to] itta hazuda.
REP said should
Lit. '[To Tokyo]$_i$, Mary$_j$ must have said that {*I / she$_j$} would go t_i (by car).'

With these observations together, I conclude that shifted interpretations are forced in *to*-clauses involving an SFP or the politeness marker even if they are not interpreted as direct quotes.

[8] Uchibori (2007) and Noguchi (2018) do not take indexical shift into consideration; Uchibori (2007) shows data like (17b) and (18b) in order only to ensure the syntactic transparency of *to*-clauses involving the politeness marker, while Noguchi (2018) exhibits such data as in (17) and (18) to suggest the necessity of reconsidering the dichotomy between direct and indirect quotes proposed in *nihongogaku*.

5 Proposal

This section aims to put forth a proposal concerning the morphosyntax of monster operators in Japanese. In terms of the monster-operator-based analysis of indexical shift (see Section 3), the conclusion in the last section can be rephrased as follows: *to*-clauses that (i) involve an SFP or the politeness marker but (ii) are not interpreted as direct quotes, always involve a monster operator (unlike *to*-clauses without these elements, where shifted interpretations are optional). The immediate question, then, is why this is the case. Of crucial relevance here is that it has been argued in the syntactic literature that both SFPs and the politeness marker are associated with SAP, the topmost projection in the syntactic structure involving pragmatic notions such as *Speaker* and *Addressee* (Speas & Tenny 2003, Haegeman & Hill 2013, among others). Specifically, Saito & Haraguchi (2012) argue that Japanese SFPs correspond to the head of SAP (see also Kido 2015), while Miyagawa (2012) argues that the politeness marker is syntactically licensed by SAP through agreement (i.e. allocutive agreement).

Building on these findings, I propose that in Japanese, a monster operator is encoded in SAP. To illustrate my proposal, consider (16a), repeated below.

(16) a. Mary-wa [(kuruma-de) **watasi**-ga(/-wa) Tokyo-ni iku <u>yo</u> to]
Mary-TOP car-by I-NOM/-TOP Tokyo-to go SFP REP
itta.
said
'Mary$_i$ said that {*I / she$_i$} went to Tokyo (by car).'

I here assume that the reportative complementizer *to* heads ReportP (e.g. Saito 2012) and can take SAP as its complement. The non-direct-quote *to*-clause in (16a) is then analyzed as having the structure in (21).

(21) [$_{\text{ReportP}}$ [$_{\text{SAP}}$  [… [$_{\text{TP}}$ (kuruma-de) watasi-ga(/-wa) Tokyo-ni iku]]
car-by I-NOM/-TOP Tokyo-to go
yo] to]
SFP REP

Notice first that the presence of the SFP *yo* ensures that the *to*-clause involves SAP (Saito & Haraguchi 2012). It then follows under the current proposal that the non-direct-quote *to*-clause in (16a) necessarily involves a monster operator, which is encoded in SAP. This explains why indexical shift obligatorily takes place in (16a). The same reasoning holds for (16b).

With this proposal in place, let us finally turn back to the two properties of Japanese indexical shift observed by Sudo (2012), which are illustrated in Section 3. First, indexical shift in Japanese is optional (to the extent that the *to*-clause does not contain an SFP or the politeness marker), as shown in (9) repeated below.

(9) Mary-wa [John-ga **watasi**-o hometa to] itta.
Mary-TOP John-NOM I-ACC praised REP said
'Mary$_i$ said that John praised {me / her$_i$}.'

To capture this optionality with the current proposal, I assume that (i) the reportative complementizer *to* heads ReportP (e.g. Saito 2012), (ii) the head of SAP takes ForceP as its complement (e.g. Saito & Haraguchi 2012, Haegeman & Hill 2013), and (iii) the head of ReportP takes as its complement either SAP or ForceP. Then, under the proposed analysis, the optionality follows from the clause size of the complement clause. More specifically, indexical shift takes place when SAP is contained in the *to*-clause, while it does not when SAP is not involved, as illustrated in (22).

(22) a. the configuration where indexical shift takes place:
[$_{\text{ReportP}}$ [$_{\text{SAP}}$  [$_{\text{ForceP}}$ … (politeness marker) …] (SFP)] *to*] V
b. the configuration where indexical shift does not take place:
[$_{\text{ReportP}}$ [$_{\text{ForceP}}$ …] *to*] V

This view thus lends support to the clause size approach to the availability of monster operators, according to which the availability of monster operators draws on the size of the complement clause (e.g. Deal 2020).

Second, in Japanese, indexical shift does not take place in complement clauses other than *to*-clauses, such as embedded questions and nominalized clauses, as exemplified in (15) repeated below.

(15) a. Mary-wa [John-ga **watasi**-o hometa ka] {kiita / sitteita}.
Mary-TOP John-NOM I-ACC praised Q asked/knew
'Mary$_i$ {asked / knew} whether John praised {me / *her$_i$}.'
b. Mary-wa [John-ga **watasi**-o kiratteiru koto]-ni kiduita.
Mary-TOP John-NOM I-ACC hate fact-DAT realized
'Mary$_i$ realized that John hates {me / *her$_i$}.'

Crucially, these complement clauses cannot involve an SFP or the politeness marker, as shown below:

(23) a. *Mary-wa [John-ga Bill-o {hometa ka ne / hometa ne ka / home-masi-ta ka}] {kiita / sitteita}.
Mary-TOP John-NOM Bill-ACC praised Q SFP praised SFP Q
praise-POL-PAST Q asked/knew
'Mary {asked/knew} whether John praised Bill.'

b. *Mary-wa [John-ga Bill-o {kiratteiru ne / kirattei-masu} koto]-ni kiduita.
Mary-TOP John-NOM Bill-ACC hate SFP hate-POL
Fact-DAT realized
'Mary realized that John hate Bill.'

This indicates that SAP cannot appear in these complement clauses. Given that, the impossibility of indexical shift in those clauses is captured by the current proposal; indexical shift cannot take place in them because they cannot contain SAP, where a monster operator is encoded.[9]

6 Conclusion

This paper has explored morphosyntactic facets of indexical shift, or monster operators, in Japanese. In particular, building on the observation that indexical shift is obligatory when non-direct-quote *to*-clauses contain an SFP or the politeness marker, I have proposed that in Japanese a monster operator is en-

[9] Magdalena Kaufmann (p.c.) points out that German modal particles (MPs, henceforth) like *ja* and *wohl* can appear in complement clauses of attitude verbs without invoking indexical shift, despite the fact that they are semantically similar to Japanese SFPs. A relevant example is shown in (i).

(i) Peter hat gesagt, [dass Sue **mich** ja angerufen hat].
Peter has said that Sue me MP called has
'Peter$_i$ said that Sue called {*him$_i$ / me} (as (according to him) is well-known).'

If MPs were licensed by SAP given their similarity to SFPs in Japanese, the embeddability of MPs would not be compatible with the proposed analysis. Note, however, that unlike Japanese SFPs, MPs can appear even in embedded questions and factive clauses (Magdalena Kaufmann p.c.), as shown in (ii); compare these data with (23).

(ii) a. Sue hat gefragt, [ob **ich** wohl auf die Party komme].
Sue has asked whether I MP to the party come
'Sue asked if {*she / I} would be coming to the party.'

b. Sue hat erkannt, [dass **ich** {ja / wohl} auf die Party kommen würde].
Sue has realized that I MP MP to the party come would
'Sue realized that {*she / I} {would (as is well known) / would most likely} come to the party.'

Under the assumption that SAP cannot appear in environments like embedded questions and factive clauses (cf. (23)), (ii) indicates that MPs are licensed by some projection below SAP, unlike Japanese SFPs. Hence, the data (i) will not be problematic for the proposal of this paper.

coded in SAP. This serves as support for the clause size approach to the availability of monster operators (e.g. Deal 2020). It is left as a future task to investigate how the proposal could extend to indexical shift in other languages.[10]

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[10] One remaining question concerns interjections such as *a* 'oh' and *eetto* 'well'. Even though they seem to be related to SAP, they can never appear in *to*-clauses with a shifted interpretation; *to*-clauses including interjections are obligatorily interpreted as direct quotes. A possible account of this fact would be to assume that interjections are licensed by a projection that never appears in embedded clauses (e.g. cP; Portner et al. 2019), rather than SAP. I leave this issue open for future study.

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