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# Question Marker Drop in Japanese and Generalized Factivity

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## 1 Introduction

Yoshida & Yoshida (1997) point out that the sentence-final particle *no* in Japanese questions can optionally be dropped, especially in colloquial speech. We refer to this phenomenon *Q-drop* in this paper.<sup>1</sup> While Yoshida & Yoshida (1997) themselves almost never discuss interpretive effects of Q-drop, Sudo (2013) examines Q-drop in polar questions like (1) as cases of biased polar questions in Japanese.

Sudo (2013) proposes that the two versions of this polar question differ in the so-called *evidential bias* they encode. We will defer our discussion of polar questions until the end, and for the bulk of the paper we will focus on interpretive effects of Q-drop in *wh*-questions like (1), which has scarcely been investigated previously (we are only aware of one relevant study, Miyagawa 2001, which we will discuss in Section 2).

- (1) *nani taberu (no)?*  
what eat (NO)  
'What are you going to eat?'

We propose that the two versions of this *wh*-question differ in the discourse felicity conditions in the following manner. The version with *no* requires two things to be common knowledge among the interlocutors at the time when the question is posed: (i) that the speaker wonders about the question and (ii) that an answer to the question can be immediately provided. On the other hand, the version without *no* requires at least one of these things to be not common knowledge (or at least not easily accommodatable).

We furthermore suggest that these felicity conditions have to do with the presupposition that *no* triggers. While *no* is known to have a number of different functions in Modern Japanese (see e.g. Bedell 1972), one of them is to mark *factivity* of a declarative clause. We propose to extend this idea to *no* in interrogative clauses. The idea is that factivity can be generalized so as to encompass interrogative clauses by regarding it as about the discourse participants' being ready to accept the discourse move. To be more precise, in the case of a declarative clause, *no* signals that all discourse participants are commonly known to *accept* it to be true, which is factivity as classically conceived. On the other hand, in the case of an interrogative clause, it signals that all discourse participants are commonly known to *engage* with the question act, i.e. the speaker wonders about it and an answerer is ready to be provided to resolve it. We call this idea *generalized factivity*.

This paper is structured as follows. In Section 2, we will examine Miyagawa's (2001) about interpretive effects of Q-drop in *wh*-questions, and raise some counterexamples. We will sketch our proposal with supporting data in Section 3. Then in Section 4, we will pursue the idea of generalized factivity and discuss potential issues. We will conclude in Section 5 with some discussion on other languages.

## 2 Miyagawa's Claims and Their Counterexamples

Besides Yoshida & Yoshida (1997), we are only aware of one relevant previous study on Q-drop, namely Miyagawa (2001). He claims that *wh*-questions without *no* are incompatible with (i) exhaustive answers, (ii) pair-list answers, and (iii) functional answers, unlike *wh*-questions with *no*. We would like to raise counterexamples to Miyagawa generalizations.

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<sup>1</sup> Note, however, that we end up analyzing *no* as a marker of generalized factivity, rather than a question marker.

Firstly, the *wh*-question in (2) is compatible with, and in fact typically requires, an exhaustive answer, falsifying his first claim.

- (2) *kono naka-de dono hon yonda koto aru?*  
 this among-in which book read fact exist  
 ‘Which of these books have you read?’

Secondly, (3) can felicitously be used to ask how to divide some work among a group of people, expecting a pair-list answer, which contradicts his second claim.

- (3) *jaa dare-ga nani yaru?*  
 now who-nom what do  
 ‘Ok, who does what?’

Finally, the following mini-dialogue demonstrates that a functional answer is compatible with a *wh*-question without *no*.

- (4) Q: *donna tango-nara hotondo-no kodomo-ga kanji-de kakeru to omou?*  
 what.kind word-foc most-gen child-nom kanji-in can.write C think  
 ‘What kind of words do you think most children can write in kanji?’  
 A: *zibun-no namae kana.*  
 self-gen name perhaps  
 ‘Perhaps their own name.’

These observations lead us to abandon Miyagawa’s generalizations mentioned above, although we leave open the possibility that they might hold as tendencies.

Additionally, Miyagawa (2001) alludes to one observation due to Yoshida & Yoshida (1997), namely that reason *wh*-questions require *no*.

- (5) *nande kyoo zidensya-de gakkoo kita ??(no)?*  
 why today bicycle-by school came (NO)  
 ‘Why did you bike to school today?’

This seems to be a solid generalization that calls for an explanation.<sup>2</sup> We will attempt to derive it from our general analysis in the next section.

### 3 Analysis

One thing that is left undiscussed in the previous studies is the fact that even in a very simple *wh*-question like (1) there are interpretive effects of Q-drop. We claim that the version a *wh*-question with *no* has two presuppositional requirements: (i) it must be commonly known that the speaker wonders about the question, and (ii) it must be commonly known that an answer to the question can be immediately provided. By contrast, the version without *no* requires at least one of these conditions to be not met. To illustrate, let us go through some examples.

Firstly, here is a context where neither (i) nor (ii) is the case. Suppose that you are attending a conference in a foreign city with your co-author. After the first day, you can ask her (6) without *no*, but not with *no*.

- (6) *tokorode kyoo yuuhan doko-de taberu (no)?*  
 by.the.way today dinner where-in eat  
 ‘By the way where are we going to have dinner today?’

The use of *no* would be felicitous, if it had been agreed beforehand that it was your co-author’s job to pick a restaurant for dinner, for example. In such a context, both (i) and (ii) are satisfied.

<sup>2</sup> It should be noted that the version of (5) without *no* seems to be acceptable in a certain speech style that sounds to us to be intimidating/condescending. We will not consider such a register here.

Next, let us consider a case where (i) is not commonly known. The prediction here is that *no* should be infelicitous. The following example corroborates this prediction.

- (7) *tokorode kyoo ohiru nani tabeta (no)?*  
 by.the.way today lunch what ate (NO)  
 ‘By the way, what did you have for lunch today?’

Since the addressee is supposed to know what he or she had for lunch, the presupposition (ii) should be satisfied. On the other hand, in a typical context where (7) is used, (i) is not satisfied, since the speaker indicates that this is a new topic of conversation by *tokorode* ‘by the way’. Consequently, *no* is infelicitous here.

In certain types of contexts the version of this question with *no* could be felicitously used. For example, it would be felicitous if there was something commonly accessible in the discourse context that would naturally make one wonder what the addressee ate, e.g. his or her breath has a certain smell. Similarly, it would be felicitous if the speaker were known to ask this question every day to the addressee. These observations are compatible with our analysis, because in such contexts, it is common knowledge, or at least it can be accommodated, that the speaker wonders about this question.

Thirdly, let us look at a context where (i) is commonly known, but (ii) is not. Suppose, for example, Taro tells Hanako that he will cook whatever she wants to eat. Taro can then felicitously ask (8) without *no*, but not with *no*, which is in line with our prediction.

- (8) *nani tabe-tai (no)?*  
 what eat-want (NO)  
 ‘What do you want to eat?’

The version of the question with *no* here would sound ‘pushy’ in that Taro would sound like he was demanding an immediate answer.

Finally, when both (i) and (ii) are commonly known, *no* should be required, and this prediction is also borne out. To see this, suppose that Taro and Hanako are going to order food delivery, and it is Taro’s job to place the order. Suppose now that Hanako has just informed Taro that she’s decided. Then he can only ask the version of (1) with *no* but not without.

- (1) *nani taberu (no)?*  
 what eat (NO)  
 ‘What are you going to eat?’

Recall at this point that reason wh-phrases always require *no*. We claim that this is because the pragmatics of reason questions ensures that the presuppositions of *no* will always be satisfied. Specifically, a reason question *why p?* has a factive presupposition that *p* is the case, and furthermore, typically, *p* must be under discussion when the reason question is posed. Then it is reasonable to assume that the discourse participants are wondering about the reason for *p*, unless they already know it. At least this is something that can easily be accommodated. And if the hearer knows the reason, they should be able to provide it immediately, the immediacy presupposition is also satisfied. Of course, the hearer might not know the reason and cannot provide an answer immediately, but upon asking the reason question, the speaker behaves as if that is possible.

We take these observations to corroborate our generalizations, but we would also like to mention some systematic complications and open issues. First, when the main predicate is a copula *-da*, whose adnominal form is *-na*, there seems to be no conditions on the use of *no*.

- (9) *kono-naka-de dare-ga gengokakusha-na no?*  
 this-inside-LOC who-NOM linguist-OP Q  
 ‘Who among these is a linguist?’

This is probably due to the fact that in this grammatical context *no* is obligatory.<sup>3</sup> This could be taken as suggesting that the presuppositional requirements come from some sort of competition between the two

<sup>3</sup> More precisely, the version of (9) without *no* is only acceptable in a certain register, which seems to be similar to the one mentioned in fn. 2.

forms, but we will not pursue this idea in this paper, leaving such issues that are related to the compositional properties of *no* to further research.

Secondly, *wh*-questions with *no* seem to be more often used when the addressee is a small child. Although this ought to be tested against quantitative data, our analysis could give it a reasonable rationale as a pragmatic strategy for the speaker to show attentiveness and sympathy to the child. However, details of this is also left for another occasion.

Thirdly, we observe that *no* is optional in embedded questions, and is associated with related inferences in examples like (10).

- (10) *Taro-wa Hanako-ni [sono hi doko-de yuuhan taberu (no) ka] kiita.*  
 Taro-TOP Hanako-DAT [that day where-LOC dinner eat (no) Q] asked  
 ‘Taro asked Hanako where they would have dinner that day.’

The version of this question with *no* presupposes that it was commonly known at the time of Taro’s asking that he was interested in this question and that Hanako was ready to provide an answer, which is parallel to (6).

However, it seems that when the embedding predicate is not one of asking, there does not seem to be a noticeable semantic difference with or without *no*, as in (11).

- (11) *Taro-wa [sono hi Hanako-ga doko-ni ita (no) ka] sitteiru.*  
 Taro-TOP [that day Hanako-NOM where-LOC was (no) Q] know  
 ‘Taro knows where Hanako was that day.’

In particular, the version with *no* does not seem to have presuppositions about the speech act of asking the embedded question. We think this is a major challenge for developing a compositional account of *no*, and at this point we do not have anything insightful to offer.

#### 4 Generalized Factivity

Having established the semantic contributions of *no* in (matrix) *wh*-questions, we would now like to consider the possibility that *no* has the same semantic contribution in other types of sentences. In particular, it is known that *no* marks factivity of embedded declarative sentences, as in (12).

- (12) *taroo-wa kyoo hareteiru no-o sitteiru.*  
 taro-top today sunny NO-acc know  
 ‘Taro knows (the fact) that it’s sunny today.’

In this connection, it should be pointed out that *no* in a *wh*-question is most plausibly not a question marker. This is especially evident when a polite suffix is present, in which case a separate question marker *ka* appears. The two versions of (1) in the polite register would look as follows.

- (13) a. *nani-o tabe-mas-u ka?*  
 what-acc eat-polite-pres Q  
 ‘What are you going to eat?’  
 b. *nani-o tabe-ru no desu ka?*  
 what-acc eat-pres NO cop.polite Q  
 ‘What are you going to eat?’

This suggests that in a *wh*-question like (14), there is a copular and a question marker hidden as well.<sup>4</sup>

- (14) *nani taberu no DA ka?*  
 what eat NO cop Q  
 ‘What are you going to eat?’

<sup>4</sup> It seems that when the copular and the question marker are overt, (14) only has a self-directed/rhetorical reading and cannot be used to ask for information. We have no explanation for this observation.

Given these considerations, it is desirable to give a uniform analysis of interrogative and declarative uses of *no*. We will sketch our analytical attempt in what follows.

**4.1 Inquisitive Epistemic Logic** We adopt *Inquisitive Epistemic Logic* (IEL; Ciardelli & Roelofsen 2015). This framework treats declarative and interrogative clauses with the same semantic type, so we could have a single meaning for *no* combining with a declarative clause and with an interrogative clause.

In IEL, information states are modeled as sets of possible worlds, and both declarative and interrogative clauses denote non-empty sets of information states that are downward closed. The denotations of declarative sentences have a unique maximal information state, while those of interrogative clauses have more than one maximal information state. The latter situation models an *issue* that is to be resolved by specifying which one of the maximal information states contains the actual world.

Each agent  $a$  in a given discourse is assigned a non-empty downward-closed set  $\Sigma_a(w)$  of information states, in each world  $w$ , which represents their epistemic state in  $w$ . In particular,  $\Sigma_a(w)$  encodes issues that  $a$  entertains in  $w$  as well as  $a$ 's beliefs via  $\bigcup \Sigma_a(w)$ , which is seen as the set of possible worlds compatible with  $a$ 's beliefs in  $w$ .

Ciardelli & Roelofsen (2015) introduce the notion of *entertaining*: an agent  $a$  is said to *entertain* a non-empty downward closed set  $S$  of information states in  $w$  if for each  $t \in \Sigma_a(w)$ ,  $t \in S$ . When  $S$  only has one maximal information state, then this amounts to  $\bigcup \Sigma_a(w) \subseteq \bigcup S$ , meaning that  $a$  believes that  $S$  is true. If  $S$  has multiple maximal information states, then it represents  $a$ 's epistemic state being compatible with possible ways of resolving this issue (and possibly  $a$  knows an answer to  $S$ ).

**4.2 No and Commitment** Making use of the above framework, we propose that when combined with a non-empty downward closed set  $S$  of information states, *no* triggers a presupposition that the discourse participants are *committed to S*. The speaker's commitment to  $S$  in  $w$  amounts to entertaining  $S$  in  $w$ , while the hearer  $h$ 's commitment to  $S$  amounts to being able to settle  $S$  with respect to  $s$ , i.e.  $\bigcup \Sigma_h(w) \in S$ .

When *no* combines with a declarative sentence, the denotation of the sentence only has one maximal information state. If the speaker and hearer are committed to this denotation in  $w$ , that amounts to that both of them believe this sentence is true. This is the factive presupposition.

When *no* combines with an interrogative sentence, the denotation of the sentence has multiple maximal elements. The speech act of asking this question independently requires the speaker to not know an answer to it, so the presuppositions of *no* effectively amounts to (i) that multiple possible answers to the question are compatible with the speaker's knowledge, i.e. the speaker wonders what the correct answer is, and (ii) that the hearer's epistemic state settles the issue. These are the two presuppositions of *no* in *wh*-questions we put forward above.

Lastly, we assume that the version of a *wh*-question without *no* is only usable when the version with *no* cannot be used, due to the general preference for expressions with more presuppositions (cf. 'Maximize Presupposition', Heim 1991; Percus 2006).

## 5 Summary and Further Issues

In this short paper we examined the interpretive effects of dropping the particle *no* in *wh*-questions. We claimed that a *wh*-question with *no* is associated with two presuppositions, namely, (i) that the speaker is wondering about the question, and (ii) that the hearer can immediately provide an answer, and the version of the same *wh*-question without *no* is only felicitous if at least one of these presuppositions does not meet. We furthermore explored the possibility to give a uniform semantics to this use of *no* in *wh*-questions, and its other use as a factive marker by analyzing its presupposition to be about the discourse participants' *commitment* to the discourse move the clause it attaches to expresses.

Before closing, we would like to consider whether this uniform approach work for polar questions. Recall that polar questions can also be formed with or without *no*, as in (15).

- (15) *kore taberu (no)?*  
 this eat (NO)  
 'Are you going to eat this?'

Sudo (2013) analyzes such cases as involving particular *biases*. That is, according to him, the version of (15)

with *no* requires there to be something in the conversational context (i.e. something accessible to all discourse participants) that suggests that the positive answer is true. On the other hand, the version without *no* requires there to be nothing in the conversational context that suggests either answer to be true.

If this characterization is correct, then the uniform analysis will not be easily achieved. That is, if we apply the analysis we proposed above, the version with *no* should presuppose that the speaker is wondering about the question and that the hearer is ready to give an answer to the question. This is not quite the same thing as presupposing there to be something that suggests that the positive answer is true. Furthermore, according to the above characterization, the requirement for the version without *no* is not that the presupposition of the version with *no* is not satisfied, which would be a requirement that there be nothing in the conversational context that suggests that the positive answer is true, but it's something stronger than that, namely, that there be nothing in the conversational context that suggests either answer is true.

To make the matter more complicated, Sudo (2013) observes that when a polar question contexts negation, the content of the bias changes, both with and without *no*. The data are fairly complex and the interested reader is simply referred to Sudo (2013) and more recent work like Northup (2014), Ito (2015) and Hirayama (2019), but comparable interpretive effects of negation are not observed in (matrix) *wh*-questions or in (embedded) declarative sentences, and our account of *no* do not predict them. Again, our conclusion at this point is that polar questions constitute serious challenges for the uniform analysis of the semantics of questions with and without *no* in Japanese.

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