Sensitive to future:
the case of Japanese *nara*-conditionals

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Abstract. This study explores the felicity condition of Japanese *nara*-conditionals. Building on the observation that *nara*-conditionals require the antecedent to express information that the speaker has recently acquired [1], I argue that *nara*-conditionals require that the antecedent be in some possible future context set provided by the actual context. I implement the idea in [8]'s Table model, and explore the consequence of the proposed account regarding the interaction between *nara*-conditionals and (i) evidentiality and (ii) directive speech acts.

Keywords: factual conditionals, discourse dynamics, speech acts, Table model

1   Introduction

It is well-known that in conversations, information is not only exchanged between interlocutors, but is also organized in a highly systematic manner. In formal semantics and pragmatics, there is a vast body of literature that investigates how linguistic expressions help us organize information in conversations. Phenomena that are often explored in this direction include discourse particles, questions, prosody, etc. Conditionals, however, have not received much attention in this respect. This is perhaps because conditionals are particularly interesting in terms of what they inform us about epistemic inferences, causal relations, etc., but these issues are largely orthogonal to the ways that information is presented and organized in discourse.

Nevertheless, there is at least one type of conditionals that seems to show sensitivity to the information that has been presented in the discourse, namely factual conditionals ([9]). The characteristic of factual conditionals is that the antecedent proposition has been mentioned in the preceding discourse, as illustrated in (1).

(1)   A: Bill is very unhappy here.   ([9]: 56 (20))
          B: If he is so unhappy, he should leave.

Of course, in English, factual conditionals appear in the same form as regular hypothetical conditionals, namely *if*-constructions.[1] However, Japanese provides a different pattern for how factual conditionals can be expressed. To see this, first notice that Japanese has a number of conditional connectives, which are all considered as the counterpart of English *if*: *nara*, *tara*, *ba* and *to*. As exemplified in (2), these connectives appear as the suffix or the enclitic on the verb in the antecedent.

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[1] Though see [9] and [4] for diagnostics for factual conditionals in English.

(2) *Mary-ga*   {*kuru **nara** / ki-**tara***   */ ku-**reba** / kuru **to**}, John-mo kuru.*
       Mary-NOM come NARA come-TARA come-BA come TO John-aso come
       'If Mary comes, John also comes.'

Interestingly, in factual conditionals, only *nara* is allowed, as observed by [1]:[2]

(3)   A: I have decided to go to the winter LSA.
       B: *kimi-ga*   {*iku (no) **nara** / #it-**tara**   / #ik-**eba** / #iku **to**}, boku-mo iku yo.*
            you-NOM go FIN NARA go-TARA go-BA   go TO I-ADD   go SFP
            'If you're going, I'm going, too.'   (Adapted from [1]: 629)

This paper investigates the felicity conditions of *nara*-conditionals. We will examine the distribution of *nara*-conditionals in various types of discourse, e.g. after assertions, after questions, and when the speaker holds certain types of attitudes toward the antecedent proposition. I will argue that *nara*-conditionals require that the antecedent be a possible resolution of an issue currently under consideration.

This paper is structured as follows. Sec 2 introduces the discourse properties of *nara*-conditionals building on the existing view by Akatsuka [1]. Sec 3 develops an account that implements these properties within Farkas & Bruce's Table model [8]. Sec 4 discusses the predictions for the interaction between *nara*-conditionals and (i) evidentiality and (ii) directive speech acts. Sec 5 raises the open issue regarding the interaction between *nara*-conditionals and discourse strategies of questions-answering, and points out the direction for further development. Sec 6 concludes the paper.

2   Data and a previous account

It has been observed that the antecedent of *nara*-conditionals often 'express new information that has just entered the consciousness of the speaker at the discourse site' ([1]: 628). Factual conditionals like (3) above provide typical instances where this condition holds, since they are uttered after another interlocutor has brought up the antecedent proposition in the immediately preceding discourse.

[1]'s account captures the infelicity of *nara*-conditionals in completely out-of-the-blue contexts. For instance, in (4), the information expressed by the antecedent has not entered the discourse prior to the utterance of the conditional; hence, *nara* is predicted to be infelicitous. This prediction is correct. Note that it is not the case that conditionals cannot be used in out-of-the-blue contexts to begin with, as shown by the acceptability of the *tara*-conditional in (4).

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[2] [1] only discusses examples with *no nara*, but not *nara*. Although *nara* and *no nara* display a contrast in terms their distribution in predictive conditionals (see [3]: Ch. 8), they do not differ in terms of how the antecedent interacts with the discourse. Henceforth, I will focus exclusively on *nara*.

(4)   [You arrive at a new campus and are lost on your way to the semester orientation. To a stranger...]
sumimasen. moshi   ima nyuugakushiki-no kaijou-ni   {#ikare-tei-ru
sorry   supposedly now orientation-GEN   venue-DAT go-ASP-NPST
nara */ ikare-tei-tara}, basho-o   oshiete itadake-mas-en ka?*
NARA   go-ASP-TARA place-ACC teach   give-POL-NEG Q
'Excuse me. If you're going to the orientation, could you tell me where it is?'

[1]'s view also captures the infelicity of *nara*-conditionals when the speaker has explicitly committed to the antecedent proposition. For instance, in (5), speaker B's response *shitteru yo!* 'I know!' is ruled out correctly because it suggests that the information that Mary was elected as the next department head has already been part of her knowledge before speaker A's utterance; in other words, the antecedent does not express newly acquired information.

(5)   A: Mary was elected as the next department head.
    B: {a. *#shit-te-ru   yo!* / b. *souna no?*} *kanojo-ga era-bare-ta   **nara**,*
        know-ASP-NPST SFP   that   FIN she-NOM select-PASS-PST NARA
        iwatte   age-you.
        celebrate give-VOL
        (a): #I know! If she was elected, we should celebrate for her.
        (b): Is that so? If she was elected, we should celebrate for her.

However, there are cases where the antecedent expresses newly acquired information, and yet *nara* is not allowed. In (6), the information that it started to rain is newly acquired; specifically, it is acquired via both speaker A's utterance (6A) and their access to the direct evidence for rain.

(6)   [A and B are looking outside the window together. It suddenly starts raining.]
    A: *ame-ga   futte kita   ne.*
        rain-NOM fall   came SFP
        'It started to rain.'
    B: *#ame-ga   fu-te kita   **nara**, Uber.Eats-o tanom-ou.*
        rain-NOM fall   came NARA U.E.-ACC   order-VOL
        #If it started to rain, we should order Uber Eats.

In addition, there are cases where the antecedent does not express newly acquired information, and yet *nara*-conditionals are allowed. Consider the following examples, where the *nara*-conditionals are preceded by questions raised by another interlocutor (7) or by the speaker herself (8). In both cases, the antecedent constitutes a possible answer for the question, but does not express information that the speaker has acquired before the utterance of the *nara*-conditionals. Nevertheless, the sentences are felicitous.

(7)   A: Where's the professor?
    B: *wakar-anai kedo, ofisu-ni   iru **nara**, boku-mo kiki-tai   koto-ga   aru.*
        know-NEG but   office-DAT be   NARA I-ADD   ask-want thing-NOM be
        'I don't know, but if she's in the office, I also have something to ask her.'

(8)   [Talking on the phone]
       *moshimoshi, ima doko desu   ka? suupaa-ni   iru **nara**,*
       hello   now where COP.POL Q   grocery.shop-DAT be   NARA
       yasai-o   katte kite   kure-nai kana?
       vegetable-ACC buy   come give-NEG Q
       'Hello, where are you? If you're at the grocery shop, can you get some veggies?'

Two remarks are in order regarding the observations made so far. First, the English *if*-counterparts of (5B-a) and (6B) also seem to be degraded, as shown in the English translations of the examples (cf. [2], [9], [17] for data along the lines of (6) in English). In addition, the other Japanese conditional connectives such as *tara* are also unacceptable in these examples.[3] It is thus tempting to ask whether there is an independent constraint that conditional antecedents in general cannot express propositions that the speaker knows or has direct evidence for.[4] Arguments along these lines have in fact been made by [1], [2] and [17] based on comparisons between conditionals and *because*-constructions in English. In Sec 3, I will make a similar argument for the Japanese conditional connectives, including *nara* and *tara*.

Second, the *nara*-conditional in (6) seems to improve significantly if there is a salient issue under discussion in the context that the *nara*-conditional is relevant with. For instance, if speaker A and B in (6) are trying to decide what to do for dinner, then the *nara*-conditional is acceptable even if speaker B has direct evidence for the antecedent proposition. This issue will be discussed in more details in Sec 5.

In the next section, we will formulate an account of the discourse properties of *nara*-conditionals observed above.

3   The account

3.1   Assumed discourse model

I adopt a simplified version of the Table model proposed by [8], with a modification that is needed to capture the interpretation of conditionals. Specifically, I assume that a context c is a quadruple $\langle$T, CS, PS, Temp-CS$\rangle$. The four components of c are as follows.

- **The table**: T is a stack of sets of propositions, recording what has been proposed in the discourse so far. Following [8], I assume that the goal of conversations is to empty T, namely to resolve unresolved issues.
- **The context set:** CS is a set of worlds compatible with the the mutual joint beliefs of the conversation participants (cf. [19]). As the conversation proceeds, the body of information mutually held by the participants grows, thereby reducing CS.
- **The projected set**: PS is a set of sets of worlds, with each member representing a possibility for what the context set could look like once the the issues on the table are settled. In other words, PS represents a set of possible future context sets.

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[3] With *tara*, the verbs in the antecedents need to be changed into their progressive forms in order to ensure the non-futurate reading: *erabare-tei-tara* 'be.selected-PROG-TARA' in (5-B), and *ki-tei-tara* 'come-PROG-TARA' in (6B). This issue is orthogonal to our concern.

[4] I thank an anonymous reviewer of LENLS 18 for pointing out this possibility.

The above three components are needed to capture how conversations develop in general, as will be illustrated shortly. For conditionals, I adopt the dynamic-semantic view on conditionals (and modal subordination, cf. [11]). That is, a conditional establishes a temporary state where the antecedent holds, and then updates the temporary state with the consequent. This idea is reflected in the component `Temp-CS` of c (cf. [5]):

- **The temporary context set**: `Temp-CS` is a set of worlds representing a temporary context set; it becomes non-empty only when interpreting conditionals and modal subordination.

To model the discourse effects of speech acts, I assume that speech acts are functions from input to output contexts ([8], among many others), as illustrated below.

Assertions. Suppose that the dialogue in (9) takes place in a context c_0, which contains a set of worlds q as the context set, and nothing on the table or the temporary context set. When there is no issue to be settled in the context, I follow [8] and assume that the projected set is the singleton set of the context set. Hence, $c_0 = \langle \emptyset, q_{\langle s,t \rangle}, \{q\}, \emptyset \rangle$.

(9)   A: It's raining.
        B: Yes, it is.

Overall, the discourse effect of the exchange in (9) is to update the context set of c_0 with the set of worlds where it's raining; in other words, it eliminates the worlds where it is not raining from the context set. This effect is achieved in two steps. First, speaker A's assertion (9A) proposes to update the context set of c_0 with the propositional content of the assertion. Specifically, it adds the set of the proposition that it's raining to the top of the table and projects a future context set where the proposition holds. This leads to the output context c_1.

(10) $c_0 : \langle \emptyset, q, \{q\}, \emptyset \rangle \xrightarrow{\llbracket (9A) \rrbracket} c_1 : \langle \langle \{\lambda w.\textbf{raining}_w\} \rangle, q, \{q \cap \{w : \textbf{raining}_w\}\}, \emptyset \rangle$

Second, (9B) signals that speaker A's proposal to update the context set is accepted. Specifically, it takes the output of speaker A's assertion (namely c_1) as its input context, removes the issue from the table and replaces the actual context set with the projected future context set. This move results in the output context c_2.

(11) $c_1 \xrightarrow{\llbracket (9B) \rrbracket} c_2 : \langle \emptyset, q \cap \{w : \textbf{raining}_w\}, \{q \cap \{w : \textbf{raining}_w\}\}, \emptyset \rangle$

Note that the eliminative effect on the context set is yielded not by speaker A's assertion alone, but by speaker A's assertion and speaker B's acceptance of the assertion. In actual conversations, acceptance of assertions does not need to be signaled linguistically. Usually, as long as an assertion is not objected explicitly, it can be regarded as having been accepted by the other interlocutors.

Questions. Now, consider the following dialogue and suppose again that it takes place in the context $c_0 = \langle \emptyset, q, \{q\}, \emptyset \rangle$.

(12)   A: How's the weather now?
         B: It's raining.

The overall discourse effect of the exchange in (12) is again to eliminate the worlds where it is not raining from the context set of c_0. Just like in (9), it does so in two steps. First, speaker A proposes to update the context set by adding the denotation of the question to the top of the table and projecting a set of future context sets. Each projected context set corresponds to the result of restricting the context set to the worlds where a possible answer of the question holds. The projected set thus reflects the potential ways of resolving the question. This moves yields the output context c_1.

(13) $c_0 : \langle \emptyset, q, \{q\}, \emptyset \rangle \xrightarrow{\;\llbracket (12A) \rrbracket\;}$

         $c_1 : \langle \langle \{\lambda w.\mathbf{rain}_w, \lambda w.\mathbf{snow}_w, \ldots\} \rangle, q, \{q \cap \{w : \mathbf{rain}_w\}, q \cap \{w : \mathbf{snow}_w\}, \ldots\}, \emptyset \rangle$

Next, speaker A's proposal to update the context set is resolved by speaker B's response. It removes the issue from the table, picks out the future context set corresponding to the answer that speaker B provides, and makes it the actual context set. This results in the final output context c_2.

(14) $c_1 \xrightarrow{\;\llbracket (12B) \rrbracket\;} c_2 : \langle \emptyset, q \cap \{w : \mathbf{raining}_w\}, \{q \cap \{w : \mathbf{raining}_w\}\}, \emptyset \rangle$

Strictly speaking, speaker B's response (12B) is an assertion itself, so its discourse effect should consist of speaker B's proposal to update the context and speaker A's acceptance of the proposal, similarly to (9A). These steps are omitted in (14) for simplicity.

3.2 Proposal

I propose that conditional connective such as *nara* and *tara* take a proposition and return a function from input to output contexts. The entries of *tara* and *nara* are given below:

(15) $\llbracket tara \rrbracket(p) = \lambda c.\langle \mathrm{T}_c, \mathrm{CS}_c, \mathrm{PS}_c, \mathrm{CS}_c \cap p \rangle$, defined only if $p \nsubseteq \mathrm{CS}_c$

(16) $\llbracket nara \rrbracket(p) = \lambda c.\langle \mathrm{T}_c, \mathrm{CS}_c, \mathrm{PS}_c, \mathrm{CS}_c \cap p \rangle$, defined only if
         a. $p \nsubseteq \mathrm{CS}_c$ (general condition)
         b. $\exists q \in \mathrm{PS}_c[q \subseteq p]$ (specific condition)

At the at-issue level, *tara* and *nara* introduce a temporary context restriction, which is reflected in the temporary context set of the output context. As mentioned earlier, this ensures that the sentences containing *tara* and *nara* are to be understood as conditionals, following the standard assumption in the dynamic treatment of conditionals. *Tara* and *nara* do not yield any effect on the other components of the input context.

The definedness condition in (15) and (16a) imposes a constraint on the context set of the input context, namely that the context set must not entail the antecedent proposition. In addition, *nara* also imposes the constraint (16b) on the input context, namely that the input context must project a future context set where the antecedent proposition p is true. Given that the projected set represents what the context set could look like once the issues on the table are resolved, the condition in (16b) amounts to saying

that before the utterance of *nara*-conditionals, there must be an unresolved issue in the context that could potentially be resolved by updating the context with the antecedent proposition *p*. Henceforth, I will sometimes refer to the definedness condition in (16a) as the 'general condition' (since it is shared by the other connectives, such as *tara*), and to the one in (16b) as the 'specific condition'.

In the rest of this section, I will show that the definedness condition of *nara* plays a key role in explaining the data discussed in Sec 2.

Expressing newly acquired information. Recall [1]'s idea that *nara*-antecedents express information that 'has just entered the consciousness of the speaker' ([1]: 628). Under our current assumptions about speech acts and the discourse model, such information can be understood as information expressed by assertions that have not been accepted by the speaker. If such information is available in the context, then it follows that the context contains an unresolved issue, which could potentially be resolved by updating the context with the propositional content of the assertion. According to (16), such contexts provide appropriate input contexts for *nara*-conditionals.

For instance, in (3), after speaker A's assertion and before speaker B's utterance, there is no indication that the assertion has been accepted by speaker B. Therefore, (3B)'s input context projects a future context set where speaker A goes to LSA next year. Assuming that the input context of the dialogue c_0 has no unresolved issue (that is, c_0 has an empty table), the discourse effect of (3A) is illustrated below:

(17) $c_0 : \langle \varnothing, \mathrm{CS}_{c_0}, \{\mathrm{CS}_{c_0}\}, \varnothing \rangle \xrightarrow{\;[\![(3A)]\!]\;}$
         $c_1 : \langle \langle \{w : \textbf{go-to-LSA}_w(\textbf{A})\}\rangle, \mathrm{CS}_{c_0}, \{\mathrm{CS}_{c_0} \cap \{w : \textbf{go-to-LSA}_w(\textbf{A})\}\}, \texttt{Temp-CS}_{c_0} \rangle$
         c_1 is the input context of the *nara*-conditional (3B).

The context c_1 satisfies the definedness condition of *nara*-conditionals, because the context set of c_1 does not entail the proposition that speaker A goes to LSA (i.e. the general condition (16a)), and the projected set of c_1 contains an element that entails the proposition (i.e. the specific condition (16b)).

In contrast, out-of-the-blue contexts like (4) fail to satisfy the specific condition of *nara*. The reason is that no issue has been raised prior to the speaker's utterance, so the input context of the *nara*-conditional does not project any future context set.

We have also observed that *nara*-conditionals are not allowed if the speaker has explicitly committed to the antecedent proposition. Recall that as shown in (5), a *nara*-conditional cannot be preceded by the speaker's response 'I know!'. I argue that in this dialogue, although speaker A has proposed to update the context with the antecedent proposition of the *nara*-conditional, speaker B explicitly accepts this proposal by saying that she knows.[5] As shown in (18), at the point when the *nara*-conditional is uttered, the context set has been successfully updated with the proposition that Mary is elected as the department head.

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[5] It remains to be explored whether similar response particles—e.g. *sou nan da* and *sou nan desu ka* (with falling intonation) 'I see'—give rise to the same discourse effect, and if so, how they interact with *nara*-conditionals. I thank an anonymous reviewer of LENLS 18 and Osamu Sawada (p.c.) for bringing up this issue.

(18)
$$c_0 \xrightarrow{[\![(5A)]\!]} c_1 : \left\langle \begin{array}{c} \langle \{w : \textbf{elected-as-head}_w(\textbf{Mary})\}\rangle, \ \text{CS}_{c_0}, \\ \{\text{CS}_{c_0} \cap \{w : \textbf{elected-as-head}_w(\textbf{Mary})\}\}, \ \texttt{Temp-CS}_{c_0} \end{array} \right\rangle$$

$$\xrightarrow{[\![\text{'I know!'}]\!]} c_2 : \left\langle \begin{array}{c} \varnothing, \text{CS}_{c_0} \cap \{w : \textbf{elected-as-head}_w(\textbf{Mary})\}, \\ \{\text{CS}_{c_0} \cap \{w : \textbf{elected-as-head}_w(\textbf{Mary})\}\}, \texttt{Temp-CS}_{c_0} \end{array} \right\rangle$$

The input context of the *nara*-conditional in (5B-a) is c_2.

Since the context set of c_2 entails that Mary was elected as the department head, the general condition of the *nara*-conditional (5B-a) is not satisfied. This yields the infelicity of the sentence. Note that the specific condition of *nara* is satisfied in c_2, since the projected set of c_2 contains an element that entails the antecedent proposition. The split between the two conditions (one being satisfied and the other not) is desirable, because as mentioned in Sec 2, the other conditional connectives, including *tara*, also cannot be used in (5B-a). This suggests that the current argument that (5B-a) is ruled out by the general condition instead of the specific condition is on the right track.

Direct evidence. In (6), we have seen that *nara*-conditionals are not allowed when the speaker has direct evidence for the antecedent proposition. I assume that in (6), speaker A's utterance is not a standard assertion in the sense that it does not propose to update the context set, but rather confirms whether the proposition is already in the context set. This assumption follows from the following reasoning. In the context of (6), speaker A and speaker B both have direct evidence for the proposition that it started to rain, and mutually know that they each other have direct evidence for it. Therefore, upon observing the rain, they would both expect the proposition that it started to rain to have entered the context set already, and speaker A's utterance (6A) is intended to confirm whether this is the case. Of course, it still remains to be worked out how exactly this is to be modeled under the current discourse model.

In fact, the status of (6A) as a confirmation rather than a proposal to update the context receives independent support from sentence-final particles. It is well-known that Japanese has a series of sentence-final particles that display intricate sensitivity to the interlocutors' belief states, the information available in the context, etc.[6] The particle *ne*, which is typically used to request confirmation from the hearer, is allowed in our example (6A). However, *ne* cannot be replaced with *yo*, which is typically used to signal hearer-new information:

(19)   [A and B are looking outside the window together. It suddenly starts raining.]

A: *ame-ga   futte kita   {ne / #yo}.*
rain-NOM fall   came NE   YO
'It started to rain.'

I take the contrast between *ne* and *yo* in (19) to indicate that in (6), the information that it started to rain is already in the context set. Consequently, the general condition of the *nara*-conditional in (6B) is not satisfied, which leads to the infelicity of the sentence. Similarly to the case with *nara* immediately following 'I know!', the specific condition of *nara* is satisfied in (6B). The split between the two conditions is again welcome,

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[6] See [13] for a recent overview of Japanese sentence-final particles.

because as mentioned in Sec 2, the other conditional connectives, such as *tara*, also cannot be used in (6B). This suggests that it is the general condition instead of the specific condition that is responsible for the infelicity of (6B).

Interaction with questions. Finally, we have seen in (7) and (8) that *nara*-conditionals can respond to questions, with the antecedent proposition being a possible answer of the question. In such cases, the antecedent does not express newly acquired information. This observation falls out naturally from the proposal in (16). Recall that under the current discourse model, questions are proposals to update the context with one of the possible answers of the questions. For instance, the question in (7A) about the professor's location results in a set of propositions on the top of the table and a projected set of future context sets, each reflecting a way of resolving the question. The discourse effect of the question (7A) is shown below:

(20)
$$c_0 \xrightarrow{[\![(7A)]\!]}$$
$$c_1 \colon \left\langle \begin{array}{c} \langle \{w : \textbf{in-office}_w(\textbf{prof})\}, \{w : \textbf{at-home}_w(\textbf{prof})\}, \ldots \rangle, \quad \text{CS}_{c_0}, \\ \{\text{CS}_{c_0} \cap \{w : \textbf{in-office}_w(\textbf{prof})\}, \text{CS}_{c_0} \cap \{w : \textbf{at-home}_w(\textbf{prof})\}, \ldots\}, \\ \text{Temp-CS}_{c_0} \end{array} \right\rangle$$

The input context of the *nara*-conditional in (7B) is c_1.

At the point of speaker B's utterance, since the question is not yet resolved, the question's output context c_1 also constitutes the input context of the *nara*-conditional uttered. Hence, the definedness conditions of the *nara*-conditional are satisfied. The felicity of the *nara*-conditional in (8) can be explained in the same way, with the only difference being that it is the speaker of the *nara*-conditional herself, instead of another interlocutor, that has raised the question that results in the set of future context sets.

4 Further predictions

4.1 Evidentiality

Apart from assertions, another way to propose to update the context set with a proposition is to use evidential markers. Following [16], I assume that if an evidential marker requires the speaker's commitment to the prejacent proposition, the sentence proposes to update the context set with the proposition, similarly to assertions. Japanese *rashii* requires speaker commitment, as shown by the following sequence (*pace* [15]):

(21) #*kinou   ame-ga   fut-ta   **rashii** ga, jitsu-wa fur-anakat-ta.*
         yesterday rain-NOM fall-PST EVID but fact-TOP fall-NEG-PST
         Intended: 'I heard that it rained yesterday, but in fact it didn't.'

Hence, sentences in the form of *P-rashii* resemble simple assertions in the sense that they add an issue to the top of the table and project a future context set where the propositional content of *P* is true. We thus expect the hearer of *P-rashii* to be able to respond by uttering a *nara*-conditional with *P* being the antecedent. This is borne out, as in (22) (cf. also [21] for a similar observation):

(22)   A: *kinou   ame-ga fut-ta   **rashii**.*
            yesterday rain-NOM fall-PST EVID
            'I heard that it rained yesterday.'
        B: *ame-ga fut-ta   **nara**, undoukai-ga   chuushi-ni natta   hazuda.*
            rain-NOM fall-PST NARA sports.day-NOM cancel-DAT became should
            'If it rained, the sports day should have been canceled.'

Another evidential marker in Japanese that is particularly interesting with respect to speaker commitment is the inferential marker *youda*. [20] identifies two uses of *youda* that differ in terms of whether the speaker is required to commit to the prejacent proposition: when the adverb *douyara* 'apparently' is present, speaker commitment is obligatory; with the adverb *marude* 'as if', speaker commitment is not required. This is shown by the following contrast:

(23)   {a. *#douyara /* b. *marude*} *ame-ga   futta **youda** kedo, jitsu-wa furanakatta.*
            apparently   as.if   rain-NOM fell   EVID but   fact-TOP not.fell
            a. Intended: 'Apparently, it rained, but in fact it didn't.'
            b. 'It looks as if it had rained, but in fact it didn't.'   ([14]: (18), (19))

Consequently, *youda*-sentences that contain *douyara* 'apparently' are like assertions in terms of their discourse effect, whereas those that contain *marude* 'as if' are not. We thus predict that *nara*-conditionals can be used to respond to *youda*-sentences containing *douyara*, but not to those containing *marude* 'as if'. This prediction is borne out, as shown in (24).

(24)   A: {a. *douyara /* b. *marude*} *ame-ga   fut-ta   **youda**.*
            apparently   as.if   rain-NOM fall-PST EVID
            a. 'Apparently it rained.'   /   b. 'It looks as if it had rained.'
        B: ✓ following (A-a); # following (A-b)
            *ame-ga fut-ta   **nara**, undoukai-ga   chuushi-ni natta   hazuda.*
            rain-NOM fall-PST NARA sports.day-NOM cancel-DAT became should
            'If it rained, the sports day should have been canceled.'

4.2   Directive speech acts

Besides assertions and questions, directive speech acts can also project future context sets, and we thus expect *nara*-conditionals to be able to follow those speech acts. Some directives can project future context sets where the addressee agrees to carry out the relevant action.[7] For the directives expressed by hortatives, this seems to be the case, as exemplified in the following:

(25)   A: Let's go to Hawaii next year!
        B: *(it-temo ii   kedo,) iku **nara**, mazu-wa chokin   shi-you.*
            go-also good but   go NARA first-TOP save.money do-VOL
            '(I wouldn't mind, but) If we go, let's save some money first.'

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[7] See [12] for a similar view on the discourse effects of imperatives. See [18] for an implementation of directives within the Table model.

The interaction between *nara*-conditionals and directives is complicated by the independent issue regarding whether all types of directive speech acts display such discourse effect. As pointed out by [10]: Sec 2.2.3, it is possible for the addressee of an imperative to accept the imperative without promising to carry out the action (e.g. '*Okay, I'll try to do so*', p. 49). Under our discourse model, the future context sets projected by such speech acts should be weaker; for instance, they may only entail that the addressee *is obliged to* carry out (rather than *will* carry out) the action. This seems to be the case for commands. (26) shows that as a response to speaker A's command, the *nara*-conditional is degraded if the antecedent expresses an unmodalized proposition describing the action, but is acceptable with the deontic modal *nakereba narani* 'must'.

(26)   A: Submit this project by tomorrow!
        B: *ashita   madeni teishutsu* {a. *??suru **nara** /* b. *shi-nakereba.naranai*
              tomorrow until   submit   do   NARA   do-must
              nara}, *asatte-wa   yasumi-o   tor-asete   itadak-imasu yo.*
              NARA day.after.tmr-TOP vacation-ACC take-CAUS give-POL   SFP
              Intended: 'If I {a. submit / b. have to submit} it by tomorrow, please let
              me take a day off the following day.'

I leave the investigation of the discourse dynamics of directives for future research.

5   Possible interactions with question-answering strategies

In Sec 2, I have mentioned briefly that *nara*-conditionals can be used in contexts that contain a salient question that the conditional is relevant to, even if the speaker has direct evidence for the antecedent. This is illustrated in (27).

(27)   [At home, A and B are looking outside the window together while talking about
        the plan for dinner. It suddenly starts raining.]
        A: It started to rain. What should we do for dinner?
        B: *ame-ga   fu-te kita   **nara**, Uber.Eats-o tanom-ou.*
              rain-NOM fall   came NARA U.E.-ACC   order-VOL
              'If it's raining, we should order Uber Eats.'

The felicity of *nara* in (27) poses a challenge for the present proposal. As argued in Sec 3 for (6), when the speaker has direct evidence for the antecedent proposition, the antecedent proposition is entailed by the context set. Consequently, the general condition of *nara* would wrongly rule out (27). I will not be able to offer a full account for this observation, but would like to point out that it might indicate that *nara* is sensitive to an intricate interaction between the projected set and the contrastive strategy of question-answering.

The idea is that speaker B in (27B) adopts the contrastive strategy of addressing the decision problem. To see this, consider the simple polar question in (28a). The hearer of (28a) can of course address this question directly by providing one of the answers given in (28b). But she can also address the question indirectly, for instance, by providing a response in a conditional form, as exemplified in (28c).
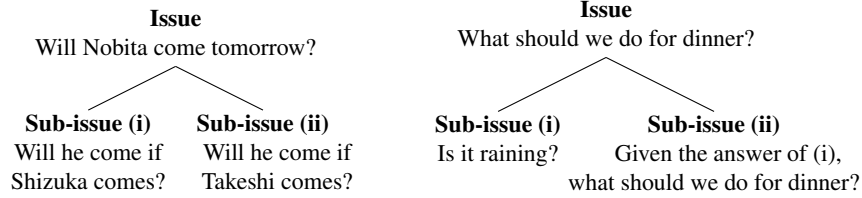
Issue
Will Nobita come tomorrow?

Sub-issue (i)   **Sub-issue (ii)**
Will he come if   Will he come if
Shizuka comes?   Takeshi comes?

Issue
What should we do for dinner?

Sub-issue (i)   **Sub-issue (ii)**
Is it raining?   Given the answer of (i),
      what should we do for dinner?

Fig. 1. Contrastive strategy of addressing (28a) **Fig. 2.** Contrastive strategy of addressing (27A)

(28) a. Will Nobita come tomorrow?
      b. Yes, he will. / No, he won't.   (Non-contrastive)
      c. He will if Shizuka comes.   (Contrastive)

Following [7], I assume that (28c) is an instantiation of the contrastive strategy of question-answering. As shown in Fig. 1 (cf. [6]'s d-tree model), the speaker of (28c) might break the issue raised by (28a) into sub-issue (i) and (ii). Since sub-issue (i) is a move that zooms in on the possibilities that Shizuka comes and addresses the main issue within those possibilities, it is plausible to assume that sub-issue (i) projects a possible future context set where Shizuka comes. This gives rise to a prediction regarding *nara*-conditionals, namely that the hearer of (28a) should be able to respond by providing a *nara*-conditional with 'Shizuka comes' being the antecedent. In other words, we expect the Japanese counterpart of (28c) to allow *nara*. This prediction is borne out:

(29) A: Will Nobita come tomorrow?
      B: *SHIzuka-ga   kuru **nara**, Nobita-mo   kuru to omo-imas-u   kedo...*
          Shizuka-NOM come NARA Nobita-ADD come C think-POL-NPST but
          'I think if Shizuka comes, Nobita will also come (at least)...'

    Returning to (27), the hypothesis is that speaker B also adopts a contrastive strategy of addressing the decision problem, but in a way that is slightly different from that one shown for (28a); see Fig. 2 for an illustration.[8] It is important to recall that in this context, the proposition that it's raining is already in the context set. Accordingly, in order for speaker B to raise sub-issue (i) 'Is it raining?' plausibly, she would need to 'pretend' as if they do not yet know that it's raining. It is not clear to me right now what the nature of this 'pretending' move is and why it should become available under this particular context. To the extent that this 'pretending' effect can be motivated in future research, the discourse strategy in Fig. 2 would predict the felicity of *nara* in

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[8] Postulating different strategies in Fig. 1 and Fig. 2 receives support from the contrast between (27B) and (29B) in prosody. (29B) is uttered with the typical focus prosody in Japanese, which consists of a pitch rise on *Shizuka* and reduced pitch on the materials following *Shizuka*. In contrast, (27B) is pronounced with neutral prosody. The contrast might also be relevant with the prosodic patterns of different types of contrastive topics discussed by [7].

(27): the context set would no longer entail that it's raining (by virtue of 'pretending'), thus satisfying the general condition of *nara*; sub-issue (i) projects a future context set that it's raining, thus satisfying the specific condition of *nara*.

As a final remark, native speakers of English accept the *if*-counterpart of (27B) (see the translation under (27B)). Interesting, they note that in this context, the conditional comes with an intuition that is close to modus ponens: there is a general rule that we order Uber Eats if it rains, and that we go outside if it's sunny; it's raining now; therefore, we should order Uber Eats. It would be worth exploring in future work the discourse effects of such modus-ponens-style conditionals, as well as the interaction between modus ponens and the conditional connectives in Japanese, such as *tara*.

6   Conclusions

In this paper, I have argued that *nara*-conditionals require the context to provide a future context set in which the antecedent proposition holds. In addition, *nara*-conditionals are subject to the general condition that the antecedent not be entailed by the context set. These conditions together explain the distribution of *nara*-conditionals in various types of discourse contexts, such as after assertions, after questions, and when the speaker holds different attitudes toward the antecedent.

Besides the open questions that have already been discussed, there are many loose ends for future work. One of the most important remaining issues is why in the basic factual conditional (3), the other conditional connectives are not allowed (e.g. the definedness condition of *tara* in (15) cannot capture its infelicity in (3)). A hypothesis that is worth exploring is that there is a competition between *nara* and the other connectives in terms of their definedness conditions. Another future direction would be to explore whether the current proposal for *nara*-conditionals can be extended to *nara*-topics (e.g. *Mary nara* 'as for Mary'), which have also been observed to be sensitive to the information that has been brought up previously in the discourse (cf. [22]).

References

1. Akatsuka, N: Conditionals and the epistemic scale. Language, Vol. 61, No. 3, pp. 625–639. Linguistic Society of America (1985).
2. Akatsuka, N.: Conditionals are discourse-bound. In: Traugott, E., Meulen, A., Reilly, F., Ferguson, C. (eds) On Conditionals, pp. 333–352. Cambridge, Cambridge University Press (1986).
3. Arita, S: Nihongo Zyôkenbun to ZisêSetusê [Japanese Conditionals and Tensedness]. Kuroshio, Tokyo (2007).

4. Bhatt, R., Pancheva, R.: Conditionals. In: Everaert, M., van Riemsdijk, H. (eds) The Wiley Blackwell Companion to Syntax, 2nd ed., John Wiley & Sons, Inc. (2017).
5. Bledin, J., Rawlins, K: *What if*s. Semantics and Pragmatics, Vol 12 (2019).
6. Büring, D.: On D-Trees, Beans, and B-Accents. Linguistics and Philosophy, Vol. 26, No. 5, pp. 511–545. Springer (2003).
7. Constant, N.: Contrastive topic: Meanings and realizations. PhD dissertation, University of Massachusetts, Amherst (2014).
8. Farkas, D. F., Bruce, K. B.: On Reacting to Assertions and Polar Questions. Journal of Semantics, Vol. 27, No. 1, pp. 81–118. Oxford University Press (2010).
9. Iatridou, S.: Topics in conditionals. PhD Thesis, MIT (1991).
10. Kaufmann, M.: Interpreting Imperatives. Dordrecht, Springer (2011).
11. Kaufmann, S.: Dynamic context management. In: Faller, M., Kaufmann, S., Pauly, M. (eds.) Formalizing the Dynamics of Information, pp. 171–188. Stanford, CSLI publications (2000).
12. Lascarides, A., Asher, N.: Imperatives in Dialogue. In: Kuehnlein, P., Rieser, H., Zeevat, H. (eds) The Semantics and Pragmatics of Dialogue for the New Millenium, pp. 1–24. Benjamins (2003).
13. McCready, E., Davis, C.: 14 Sentence-final particles in Japanese. In: Jacobsen, W. M., Takubo, Y. (eds.) Handbook of Japanese Semantics and Pragmatics, pp. 655-684. Berlin, Boston, De Gruyter Mouton (2020).
14. Mizuno, T.: The lack of commitment in a subclass of inferential evidentials and counterfactual reasoning. Talk at the workshop Zyookenditionals (2021).
15. McCready, E., Ogata, N.: Evidentiality, modality and probability. Linguistics and Philosophy, Vol. 30, pp. 147–206. Springer (2007).
16. Murray, S. E.: Varieties of update. Semantics and Pragmatics, Vol. 7. (2014).
17. Pesetsky, J.: Factual Conditionals and Hypothetical Commitments. MA Thesis, ILLC, Universiteit van Amsterdam (2018).
18. Rudin, D.: Rising Imperatives. In: Maspong, S., Stefánsdóttir, B., Blake, K., Davis, K. (eds) Proceedings of the 28th Semantics and Linguistic Theory, pp. 100–119. Linguistic Society of America (2018).
19. Stalnaker, R.: Assertion. In: Cole, P. (ed.), Syntax and Semantics: Pragmatics, Vol.9, pp. 315–332. New York, Academic Press (1978).
20. Sugimura, Y. Gendai nihongo ni okeru gaizensei o arawasu fukusi no kenkyuu [A study of epistemic adverbs in modern Japanese]. PhD dissertation, Nagoya University (2000).
21. Takubo, Y.: 9 Conditionals in Japanese. In Jacobsen, W. M., Takubo, Y. (eds) Handbook of Japanese Semantics and Pragmatics, pp. 451–494. Berlin, Boston, De Gruyter Mouton (2020).
22. Tomioka, S.: Conditionals and topics: How they are similar but not quite the same. Talk at National Institute for Japanese Language and Linguistics, January 16, 2018 (2018).