Proposing to ignore discourse updates in Colloquial Singaporean English (CSE)

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1 Introduction

Colloquial Singaporean English (CSE) is well-known for its sentence-final discourse particles (Botha, 2018; Gupta, 1992; Smakman & Wagenaar, 2013). Consider the following example with the particle **ló** :

(1)   Context: A and B are good friends, and out of the blue:
    A: Can you send (=take) me to the airport?
    B: **Okay ló**. (=*I'll do it (but I don't really want to).*)
    A1: #I knew you'd say yes!
    A2: Never mind, I can ask someone else.
    A3: Thank you so much for helping me out!

We call **ló** a "discourse particle" because it seems hard to translate (i.e., ineffable in the sense of Potts 2005). Instead, its meaning contribution is best understood through how it constrains how subsequent discourse evolves. In this case, it has the following major effects: (i) **ló** commits the speaker to the prejacent (1.A3), (ii) **ló** invites the addressee to withdraw their request (1.A2), and (iii) **ló** precludes the addressee from acting as if the prejacent was somehow not contingent (1.A1).

This cluster of features is of particular interest to us because they have surface connections to other empirical phenomena that have been of great interest to researchers building dynamic pragmatic models. First, there are intriguing connections to the notion of *contingent commitment*, introduced by Gunlogson (2008) to analyze rising declaratives. She argues that in a rising declarative, as in (2), the rising intonation marks the discourse move as *contingent*.

(2)   It's raining outside (↑)

It says "I'll be a source for the prejacent just in case you, the addressee, also commit to being a source, else, I won't commit to being a source for the prejacent." This feels similar to how in (1), the speaker using **ló** dangles commitment, but does not go through with it. The fact that they do not fully commit is shown by the infelicity of (1.A1). The other interlocutor cannot act as if *B* simply agreed to go to the airport. This is like how someone who utters (2) is not fully committed to the fact that it is raining outside, even though they used a declarative with those truth conditions.

The second connection **ló** opens up with the dynamic pragmatics literature is that it can be used to *agree to disagree*. We see an example of this in (3). Here, both *A* and *B* are using **ló** in an argument, and the effect is neither are backing down from their contradictory claims, but are willing to just drop this issue.

(3)   Context: A and B are having a discussion about John's food preferences. A
       is John's acquaintance (and so does not know that John does not like curry
       chicken) while B is John's best friend.
       A: Yesterday, John say he like my curry chicken.
       B: No way **ló**.
       A: Ok **ló**

The situation we see in (3) is what Farkas & Bruce (2010) call *agreeing-to-disagree*,
which is a way to fix a conversation in crises. They want to model the state of the
context if *A* says *p* and *B* says ¬*p*. Clearly each conversational participant is com-
mitted to their utterance, but we cannot take the union of these commitments to get
a common ground—the conversation is thus in crises. In this situation there are two
options: (i) a conversational participant can retract commitment to a troublesome
proposition, or (ii) both conversational participants can agree-to-disagree—i.e., re-
tain commitment to their troublesome propositions, though agreeing to put neither
in the common ground. This is paired with a tacit agreement to not broach that issue
again (i.e., *A* shouldn't say something that entails *p*, ask a question whose answer
is *p*, etc.)

    We see both of those option available for **ló** . That is, when *B* says *no way* **ló**
the intuition is that *B* is trying to get *A* to either agree with them or drop the issue.
When *A* responds with another **ló** they do the same. The only thing they agree
on this situation, then, is to drop the issue, which is the most likely outcome, i.e.,
agreeing-to-disagree.

    In these two examples, we thus see that the importance of **ló** goes beyond a
better understanding of the grammar of CSE. An analysis of the discourse particle
has the potential to relate to previous work on conversational crises and contingent
commitment. An account of **ló** will provide a way to unify these two dynamic
pragmatic notions. Moreover, as we will see in section 3, **ló** can target expressions
making all sorts of discourse moves (assertions, questions, imperatives, etc.). This
means that a unified account of **ló** will allow us to generalize these important no-
tions of contingency and agreeing-to-disagree outside of the domain of declarative
assertions to questions and imperatives.

    Our core idea, which will be fleshed out formally over the rest of the paper,
is that **ló** makes a meta-conversational question. That is, it lays out two conversa-
tional futures. In the first, the prejacent has its standard effect. In the second, the
conversational participants agree to ignore their last moves. The listener must then
decide which path to take, just like when a listener selects a proposition (an answer)
from a set of propositions (a question). We will show that this core proposal can
give a unified account of **ló** and additionally explain the effects we have seen so
far, namely the connections to *conversational crises* and *contingent commitments*.
Before we get to this analysis, though, we must introduce the particular dynamic
pragmatic model we will be working with, which is discussed in section 2.

2   Dynamic Pragmatic Models
In Dynamic Pragmatic frameworks (see Portner 2018 for overview), sentence mean-
ing in discourse is a function of its standard static meaning and the effect its ut-

terance has on the discourse context. For instance, a declarative might denote a proposition p whose utterance would be a proposal to update the common ground by adding p—$\{p\} \cup \mathbf{cg}$ (e.g., Stalnaker 1978). In contrast, an imperative might denote a property restricted to the addressee A whose utterance would update A's to-do list—$\{P_A\} \cup \mathbf{to\text{-}do}_A$ (Portner, 2004). We could continue to explore other types of speech acts, but the idea is clear. Assertion, imperative force, etc. is modeled by speakers using static sentence meaning to alter aspects of an articulated, formal discourse context.

The issue, then, for dynamic pragmatic models is to define what constitutes a discourse context, to define the kinds of contextual updates that exist, and to show how the semantic content of expressions, under various updates, yields the kinds of discourse effects we see (e.g., question-ness, assetion-ness, etc.). In this paper we will be using the so-called *Table* model of Farkas & Bruce (2010), extending it to handle a Portner-like (2004) account of imperatives. Before doing this, though, an important caveat is in order. We are not using **ló** to argue for these particular dynamic pragmatic models. It is highly likely we could formulate an equivalent in various models, but these are well-behaved, simple to work with, and allow for clear exposition of the effect of **ló** on the context, which is our ultimate goal.

2.1 The table model

Farkas & Bruce (2010) propose a model of the conversation with the following core ingredients, arranged in a table for clarity.

(4)

A	Table	B
DC_A	S	DC_B
Common Ground cg	**Projected Set** ps	

DC_X is a set of propositions for each conversational participant representing their public commitments that are not shared by all other participants. The cg is the common ground, storing the set of propositions that all participants have publicly agreed to, as well as "common knowledge". S is a stack called the Table. It represents unresolved issues in the conversation. When a participant makes a conversational move, we add a pair consisting of the syntactic object uttered along with its denotation. The ps is the projected set, a set of common grounds, namely those privileged common grounds that the discourse is headed towards. The ps is defined in terms of the table, namely, what the common ground will look like if the table were cleared.

We can now model sentence meaning in discourse in terms of how it is used to update discourse structures like (4). For instance, Farkas & Bruce (2010) define assertion as follows.

(5)　　$\mathbf{A}(S[D], a, K_i) = K_o$ such that
　　　　a.　$DC_{a,o} = DC_{a,i} \cup \{p\}$
　　　　b.　$T_o = push(\langle S[D]; \{p\}\rangle, T_i)$
　　　　c.　$ps_o = ps_i \bar{\cup} \{p\}$

Note that **A**ssertion is a function that takes a linguistic expression S (in declarative

form, $[D]$), an agent a, and a discourse structure K_i and returns a discourse structure K_o where: (i) the denotation of S, namely $\{p\}$ is added to a's discourse commitments in K_o, (ii) the pair of S and its denotation is pushed onto the stack (i.e., the table), and (iii) we add the denotation of S to every cg in the projected set. The reason is that the canonical way to remove an assertion from the table would be for everyone to accept it, which would have the effect of adding $\{p\}$ to the common ground.

We can more perspicaciously illustrate these updates by providing canonical pairs of input/output discourse structures.

(6) K_1, Initial Context

A	Table	B
Common Ground s_1	**Projected Set** $ps_1 = \{s_1\}$	

(7) K_2, the result of asserting *Sam is home* relative to K_1

A	Table	B
p	$\langle$*Sam is home*$[D]; \{p\}\rangle$	
Common Ground $s_2 = s_1$	**Projected Set** $ps_2 = \{s_1 \cup p\}$	

Note that in K_2 A's utterance and its denotation has been placed on the table, A becomes committed to p and we project a future common ground where p has been accepted. If B were to accept A's assertion, by saying *okay* for instance, the effect would be the following—i.e., the result of a default acceptance of assertion.

(8) K_3, the result of accepting assertion in K_2

A	Table	B
Common Ground $s_3 = s_2 \cup \{p\}$	**Projected Set** $ps_3 = \{s_3\}$	

In this way, for each operation adding something to the table, we have a default operation to remove that thing from the table, returning the conversation to stasis. Thus, discourse is modeled as a kind of algebra over discourse structures with operations that add things to the table with an inverse that removes them.

We will also be concerned with **ló**-marked reactions to questions, so it will be helpful to know the effect of questions, which we illustrate with the polar variety:

(9) K_2, the update of K_1 with *Is Sam home?*

A	Table	B
	$\langle$*Sam is home*$[Q]; \{p, \neg p\}\rangle$	
Common Ground $s_2 = s_1$	**Projected Set** $ps_2 = \{s_1 \cup p, s_1 \cup \neg p\}$	

Note that questions denote the set of their answers, and the effect of having a question on the table is to have a projected set with a set of common grounds—one with each possible answer applied. The canonical way to react to a question is with an assertion, which we have already seen. The assertion will go on the table, and the speaker will be committed to it. We will project only future common grounds consistent with that answer (removing common grounds with other inconsistent answers). If the questioner accepts the answer, it is just like accepting a normal assertion. The table will become entirely cleared, and the answer goes in the common

ground.

2.2 Portner in the Table Model

Farkas & Bruce 2010 does not consider imperatives, but they will be of interest to us because we can react to them with **ló** , as in (1). We extend the Table model with an account of imperatives in the style of Portner 2004. The core idea is that sentences in imperative form denote properties indexed with the individual the imperative is directed at, and who is requested to have that property. Consider the following example imperative, where the first projection of its translation is its syntactic form (i.e., *pull* in imperative form), and its section is a property, the set of pullers, that A is asked to be a member of.

(10)   Pull (directed at A)! $\rightsquigarrow \langle pull[I], P_A \rangle$

We mirror these changes in the dynamic discourse model. Each conversational participant X is given a to-do list, a set of X-indexed properties they must fulfill. The effect of using an imperative to make a command is then to project a future to-do list for the addressee which contains the denotation of the imperative.

(11) K_1, the Initial Context

A	Table	B
To-do$_A$		**To-do**$_B$
Common Ground s_1	**Projected Set** $ps_1 = \{s_1\}$	
	Projected To-Do $ptd_1 = \{td_A, td_B\}$	

After A makes the command, we get the following discourse structure.

(12) K_2, A commanding *Pull!* relative to K_1

A	Table	B
	$\langle pull[I], P_B \rangle$	
To-do$_A$		**To-do**$_B$
Common Ground s_1	**Projected Set** $ps_1 = \{s_1\}$	
	Projected To-Do $ptd_2 = \{td_A, td_B \cup P_B\}$	

The effect of accepting a command, for instance with a hearty *Aye!*, is to clear the table and increase (add to) the speaker's to-do list, simplifying the projected to-do list:

(13) K_3, B accepting *Pull!* relative to K_2

A	Table	B
To-do$_A$		**To-do**$_B$
		P_B
Common Ground s_1	**Projected Set** $ps_1 = \{s_1\}$	
	Projected To-do $ptd_3 = \{td_A, td_B\}$	

Now that we know how to make assertions, questions, and commands, and react to them, we can consider the behavior of **ló**-marked reactions to these various kinds of discourse moves.

3 Core SE Data

We will first look at three core cases—imperatives, questions and assertions—and see how **ló** affects the discourse. After laying out this data, we will then turn to their analysis in the following section.

Example (1), repeated as (14) below, is the first core case we consider. Here, *A* makes a request of *B*, and *B* responds with a **ló** -marked utterance:

(14)   Context: A and B are good friends, and out of the blue:
        A: Can you send (=take) me to the airport?
        B: **Okay ló**. (=*I'll do it (but I don't really want to).*)
        A1: #I knew you'd say yes!
        A2: Thank you so much for helping me out!
        A3: Never mind, I can ask someone else.

Because *B*'s affirmative response is **ló**-marked, *A* cannot respond as though *B* had simply (or happily) agreed to the request (A1). That is, *A*'s possible (and felicitous) responses, which include either thanking *B* for accepting their request (A2) or withdrawing their request (A3), have to address the new constraints now placed on the discourse by the **ló**-marked response.

The second core case is (15), where we observe a **ló**-marked answer *A* gives to a question that *B* asks:

(15)   Context: A and B are good friends who are chatting at lunch. A is married. A is receiving a phone call:
        A: Yes, yes, okay… I come back for dinner.
        B: Who was that?
        A: My wife **ló**, she cook chicken for dinner tonight. (=*it should be obvious*)
        B1: Oh, that makes sense.
        B2: Oh, I thought it was someone else.

It is important to note that *A* did not simply answer *B*'s question in (15), and we can again see the constraints placed on the discourse by the **ló**-marked answer in *B*'s possible responses. *B* must either acknowledge that the answer to the question was indeed obvious (B1) or claim genuine ignorance (B2), hence legitimising the need to ask the question.

The third core case is (16), where *A* makes an assertion *p* and *B* makes the assertion ¬*p*:

(16)   Context: A and B are having a discussion about John's food preferences. A is John's acquaintance (and so does not know that John does not like

curry chicken) while B is John's best friend.

    A: Yesterday, John say he like my curry chicken.
    B: No way **ló**.
    A1: Ok, he didn't finish it, so maybe he didn't like it.
    A2: Ok **ló**.

As expected, the *ló*-marked assertion *B* makes has again constrained the discourse. Notice that the response of ¬*p* by *B* in (16) prompts *A* to respond by either withdrawing their original assertion *p* (A1) or by instead proposing to agree to disagree (Farkas & Bruce 2010) in (A2). Notice that (A2) crucially *does not* indicate that *A* has backed down from their original assertion (unlike in (A1) or if (A2) was not **ló**-marked i.e. a plain "*ok*"). Rather, (A2) indicates that *A* acknowledges *B*'s assertion ¬*p* but remains committed to *p*, and we get the agree-to-disagree effect.

In the next section, we propose a unified analysis that can capture the core cases seen in (14)–(16), where we have repeatedly seen that a **ló**-marked utterance seems to bifurcate the discourse in such a way that the other speaker is prompted to withdraw the previous discourse move but can choose not to, although in the latter case they must acknowledge that the discourse has been bifurcated.

4 Analysis

The previous section introduced three core examples: (i) **ló** reacting to a command (a request), (ii) **ló** reacting to a question, and (iii) **ló** reacting to an assertion. In each case, we saw slightly different discourse effects. Reacting with **ló** to a command / request led to tentative commitment or asking for retraction. Reacting with **ló** to a question led to answering the question, while suggesting the question was infelicitous. Finally, reacting with **ló** to an assertion led to a different, possible contrary assertion that sought retraction while suggesting to agree-to-disagree. Surely, if we looked at more examples we would see more discourse effects.

The main question we have is whether there is a unified account of **ló** that derives all these effects as side effects that follow from the core meaning of **ló** . Ideally, the different effects we see would follow from the dynamic discourse properties of the expressions **ló** is reacting to (along with incidental particulars of the conversation).

The intuition behind our proposal is that the particle **ló** makes a meta-conversational question. That is, it lays out two conversational futures. In the first, the prejacent has its standard effect. In the second, the conversational participants agree to ignore their last moves. The question now is how to make precise such an account in a formal model of dynamic discourse updates. Having introduced discourse structures à la Farkas & Bruce 2010, we are in a position to define this sort of update. First, though, we define a new update called **Wipe**, short for "wiping the table".

(17)   **Wipe**(K_i) = K_o where,   (**idealized**[1])

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[1]This version of **Wipe**, while clean, is a bit too powerful. The problem, of course, is what if there are items on the table from earlier discourse? We don't want to remove them wholesale. The solution involves realizing that the table is a stack. This means that we can treat **ló** as an anaphoric expression, such that it can anaphorically pick up some expression $S[X]$ and feed this information

      a. $T_o = \emptyset$

(18)   **ló** $(U(S[X], a, K_i)) = \{U(S[X], a, K_i), \textbf{Wipe}(K_i)\}$ where

      a. U is a variable over standard updates

      b. $K_o = \textbf{Wipe}(K_i)$

Note that the output of a **ló** update is a *set* of output discourse structures. This is in contrast to standard kinds of updates, which take an input discourse structure to an output discourse structure. This is why we call **ló** a meta-conversational question. Just like a question can be treated as a set of propositions, a meta-conversational question is a set of discourse structures. In the case of **ló** the first element of this set is just the output of doing the prejacent's update on the input discourse structure—that is, if **ló** is applied to an assertion, then $U = \textbf{A}$ and the first element will simply be the standard output of applying **A** to $S[X]$, K_i, and a. The second element of this set is the discourse state produced by wiping the input K_i using **Wipe**.

    We are now in a position to explain the core data. We start with the example we began with, repeated for convenience:

(19)   Context: A and B are good friends, and out of the blue:

      A: Can you send (=take) me to the airport?

      B: **Okay ló**. (=*I'll do it (but I don't really want to).*)

      A1: #I knew you'd say yes!

      A2: Never mind, I can ask someone else.

      A3: Thank you so much for helping me out!

After *A* says (19).A, we have a discourse structure like the following with a command/request on the table:

(20) K_2, *A* makes a request of *B* relative to K_1

A	Table	B
	$\langle Airport[I], Air_B \rangle$	
To-do$_A$		**To-do**$_B$
Common Ground s_1	**Projected Set** $ps_1 = \{s_1\}$	
	Projected To-Do $ptd_2 = \{td_A, td_B \cup Air_B\}$	

When *B* says (19).B, we get a set of output contexts. The first is just the result of acceptance with *okay*. The second is the result of **Wipe**, which clears the table. Because the projected to-do list is defined as a function of what is on the table, this discourse structure cannot evolve into one where *B* is committed to taking *A* to the airport.

(21)   The effect of (19).B relative to K_2

      a. K_3, *B* accepting relative to K_2

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to a version of **Wipe** that pops every element of the stack up to and including $S[X]$, but stopping there. This is trivial to implement, but not necessary for the examples we consider here, which we assume take place in out-of-the-blue conversational contexts, so we will use the simple version.

A	Table	B
To-do$_A$		**To-do$_B$**
		Air$_B$
Common Ground s_1	**Projected Set** $ps_1 = \{s_1\}$	
	Projected To-do $ptd_3 = \{td_A, td_B\}$	

b. K_3, *B* **wiping** relative to K_2

A	Table	B
To-do$_A$		**To-do$_B$**
Common Ground s_1	**Projected Set** $ps_1 = \{s_1\}$	
	Projected To-do $ptd_3 = \{td_A, td_B\}$	

What we have now is a kind of question, a set of options, but it is a meta-conversational one.[2] *A* must choose which discourse structure will form the base for future conversation. In (19).A2, *A* retracts, choosing the second K_3 (21b). In (19).A3, *A* chooses the first K_3 (21a) and acknowledges that the first K_3 is a live option, that is, *B* may not want to do it.

What *A* cannot do is ignore that a meta-conversational question has arisen. (19).A1 is infelicitous because it acts like only the first K_3 exists—crucially, *B* did say yes, but also proposed a *K* where they do not have to go to the airport. This last point is crucial. It helps us understand a puzzle we began with, which is how provisional discourse moves can arise. Our answer is that they can arise through expressions that take input discourse structures to sets of output discourse structures.

We can now show how this analysis generalizes. Let's consider the case of agreeing-to-disagree we saw in (16), repeated below.

(22)   Context: A and B are having a discussion about John's food preferences. A is John's acquaintance (and so does not know that John does not like curry chicken) while B is John's best friend.

   A: Yesterday, John say he like my curry chicken.
   B: No way **ló**.
   A1: Ok, he didn't finish it, so maybe he didn't like it.
   A2: Ok **ló**.

After *A* asserts *c* we have:

(23) K_2, the result of (22).A relative to K_1

A	Table	B
c	$\langle \ldots$ *like my curry chicken*$[D]; \{c\}\rangle$	
C. Ground $s_2 = s_1$	**Projected Set** $ps_2 = \{s_1 \cup \{c\}\}$	

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[2]Note, we do not add the request to the list of *A*'s commitments, but it is not the kind of thing that could go in the common ground, which contains propositions. We could add some kind of list tracking commands/requests made, but do not do so here for simplicity.

When *B* says (22).B, we get two output contexts—one with the contrary assertion, and one in which there has been a **Wipe**.

(24) a. K_3, the result of (22).B relative to K_2

A	Table	B
c	$\langle$*No way*$[D]; \{\neg c\}\rangle$ $\langle \ldots$ *like my curry chicken*$[D]; \{c\}\rangle$	$\neg c$
C. Ground $s_2 = s_1$	**Projected Set** $ps_2 = \{s_1 \cup \{c\}, s_1 \cup \{\neg c\}\}$	

  b. K_3, the result of (22).B relative to K_2

A	Table	B
c		
C. Ground $s_2 = s_1$	**Projected Set** $ps_2 = \{s_1\}$	

A now has a choice between contexts on which to continue the conversation. In (22).A1, *A* retracts. That is, they choose the wiped discourse structure and then asserts a new proposition—$\neg c$. This will replace his earlier commitment. It is possible that *A* could not retract and this could be $\diamond \neg c$, which is consistent with c. In this case, they could be committed to both c and $\diamond \neg c$, which are not contradictory. Crucially, c is *not* in the common ground and is in no danger of being so. It is off the table in either case, so *B* has got *A* to back down with **ló** .

In the second case, namely (22).A2, *A* makes his own **ló**-marked assertion. This example is extremely interesting, because it shows how **ló**-marked expressions interact with complex contexts. We propose that *A* here expresses disagreement with *B*, that is, that is, they acknowledge that *B* spoke with *Ok* (which we take as expressing no proposition), while asking *B* if they want to **wipe**. That is, *A* targets the first K_3 (24a), and then produces a new set of contexts from that input *K*. We see this below.

(25) a. K_4, the result of (22).A2 relative to first K_3

A	Table	B
c	$\langle$*ok*$[D]; \emptyset\rangle$ $\langle$*No way*$[D]; \{\neg c\}\rangle$ $\langle \ldots$ *like my curry chicken*$[D]; \{c\}\rangle$	$\neg c$
C. Ground $s_2 = s_1$	**Projected Set** $ps_2 = \{s_1 \cup \{c\}, s_1 \cup \{\neg c\}\}$	

  b. K_4, the result of (22).A2 relative to K_3

A	Table	B
c		$\neg c$
C. Ground $s_2 = s_1$	**Projected Set** $ps_2 = \{s_1\}$	

Now, *A* and *B* could continue to fight by selecting the first K_4 (25a), but what is interesting to us is what happens if they leave things here. The result is the second K_4 (25b) where the table is clear, but we have *A* and *B* committed to contradictory propositions. Note, though, that the table is clear and the conversation is not in crisis. This is precisely what Farkas & Bruce (2010) call agreeing-to-disagree. Thus, we have shown how a generalized account of **ló** can lead to agreeing-to-disagree in a method not considered previously in the literature, and that it arises in particular situations based on the meaning of **ló** —i.e., not a primitive discourse move. This

is a major advance in that we can use **Wipe** and meta-conversational questions to generate both contingent commitments and agreeing-to-disagree in a unified way based solely on the kinds of discourse contexts we are reacting to with **ló** .

Finally, we can see how **ló** behaves as a reaction to questions. If you recall, as repeated below, a **ló**-marked reaction to a question has the effect of suggesting that the question was infelicitous.

(26) Context: A and B are good friends who are chatting at lunch. A is married. A is receiving a phone call:

   A: Yes, yes, okay… I come back for dinner.
   B: Who was that?
   A: My wife **ló**, she cook chicken for dinner tonight. (=*it should be obvious*)
   B1: Oh, that makes sense.
   B2: Oh, I thought it was someone else.

We know, from Farkas & Bruce 2010, that questions place the set of answers on the table, and project future common grounds, each of which is enriched with an answer to the question.

(27) K_3, where B asks a question relative to K_2

A	Table	B
	$\langle who\ was\ that[Q]; \{parents, wife, \ldots\}\rangle$	
C. Ground s_1	**P. Set** $ps_1 = \{s_1 \cup \{parents\}, s_1 \cup \{wife\}, \ldots\}$	

Here, when A answers with a **ló**-marked assertion, they project two discourse structures, which we are now familiar with. In one, the question is answered in the standard way. In the other, the table undergoes **Wipe**, which completely removes all effects of B's question. We see these effects below in the two discourse structures presented.

(28) a. K_4, the result of (26).A relative to K_3

A	Table	B
	$\langle \ldots wife[D]; \{c\}\rangle$	c
	$\langle who\ was\ that[Q]; \{parents, wife, \ldots\}\rangle$	
C. G. $s_2 = s_1$	**P. Set** $ps_2 = \{s_1 \cup \{c\}\}$	

   b. K_4, the result of (26).A relative to K_3

A	Table	B
C. Ground $s_2 = s_1$	**Projected Set** $ps_2 = \{s_1\}$	

The resulting discourse structures, we believe, explain the range of replies we see. In (26).B1 we see B concede that their question was unfounded. A question cannot be asked if its answer is entailed by the common ground. *A* raised the possibility of just wiping the question off the table—this would be appropriate if there was no reason to ask the original question—that is, if its answer was already entailed by the common ground. In this response, B concedes that the answer likely follows

from the common ground, that is, allows the table to be wiped.

In (26).B2, an alternative, B defends the question. That is, it reacts to the first K_3 by recognizing A's answer and saying something to the effect of "actually I didn't know the common ground entailed the answer to the question."

In both cases, though, the fact that A requests to possibly wipe the table forces B to address the (meta-conversational) question of whether their question was felicitous. We see then how our proposal for **ló** allows us to understand how its use can signal that someone's discourse move was inappropriate.

5   Comparison to previous literature

So far, we have provided an analysis of **ló** , applied its core semantic meaning and function to three different discourse contexts and have also shown how the various side effects of **ló** given various discourse contexts can be accounted for.

We note that **ló** has previously been described as a discourse particle expressing, as in (19), resignation on the part of the speaker (Wee, 2002; 2010), indexing an utterance, as in (26), as being obvious (Wee, 2002), or indexing an utterance as a suggestion (Gupta, 1992).[3] Although these various discourse effects have long been noticed in the literature, so far there has been no attempt to provide a generalised formal analysis accounting for said effects. Additionally, as far as we can tell, the literature does not describe how **ló**-marked utterances can result in agree-to-disagree effects, which is one of the core cases we have considered (22), and an novel empirical contribution on our part.

Example (19) would be a case where **ló** expresses a sense of resignation as it is described in Wee 2002 and Wee 2010. We capture exactly this intuition with our unified analysis of **ló** — specifically, we claim that since **ló** *always* projects two discourse structures (and B turns out to be off the hook for the request in one of them in this case), the discourse move marked by **ló** indicates at least a slight unwillingness to agree to the request made by A regardless i.e. a sense of resignation.

Crucially, because we have proposed that **ló** makes a meta-conversational question, we correctly predict (19).A2 and A3 as felicitous responses and also correctly predict A1 to be an infelicitous response, on top of being able to capture the above intuition. As far as we can tell, neither Wee 2002 nor Wee 2010 provides such an account.

Next, Wee 2002 observes that **ló** marks an utterance as being obvious, something that are we also able to capture in our unified analysis of **ló** in (26). For us, this effect is achieved when the **ló**-marked answer suggests that the question is entailed by the common ground.

Beyond capturing the above side effect of **ló** , our analysis also accounts for (26).B2, something that is also not discussed in the literature. That is, because our analysis has **ló** projecting two discourse structures, we straightforwardly explain

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[3]While we do not have the space to go into a formal analysis, we note that when an utterance (for instance, a proposition p) is **ló**-marked , there is always a choice between taking up p or choosing to **Wipe**. Intuitively, by presenting the **Wipe** option, the speaker allows the addressee to ignore the previous discourse move, thereby achieving the effect of indexing an utterance as a suggestion. Thus, our account is certainly able to account for this effect in a formal fashion as well, though we leave this for future work.

how it is possible for B to defend their question.

6   Conclusions

In this paper, we proposed a unified analysis of **ló** and claimed that **ló** makes a meta-conversational question, such that two discourse structures are simultaneously projected. This provides an account of the provisional discourse effect that **ló** has. The unified feature of **ló** is that one of these discourse structures in the meta-conversational question is the result of an application of a novel discourse update we call **Wipe**, which is a proposal to simply clear the Table.

In the case where A makes the assertion c and B makes the assertion $\neg c$, **Wipe** creates the agree-to-disagree effect, where both speakers can remain committed to their contrary assertions without putting the conversation in crisis. Else, A can choose the other discourse structure, in which they retract c. This is because a speaker remains committed to propositions asserted even if they are not resolved in the standard way and the issue is pushed off the Table.

In the case where A makes a request of B, the discourse structure in which the Table is wiped provides B with the possibility to be off the hook for the request but the other projected discourse structure still allows A to keep the request live i.e., A's request is not immediately shut down. Either way, the **ló**-marked response signals to A that B is not 100% on board with the request, hence the intuition that there is a sense of resignation.

When A gives a **ló**-marked answer to a question, the update **Wipe** removes the effects of the question and thus indicates to B that there was no grounds to ask the question since the answer was already entailed by the common ground i.e., that the answer to the question was obvious. However, we have also argued that it is indeed possible for B to defend the question, a discourse move which straightforwardly falls out from the other projected discourse structure in which the answer is projected to be added to the common ground.

Thus, we have provided a unified account that correctly predicts both the felicitous and infelicitous responses to **ló**-marked utterances and that also captures the various and seemingly disparate meanings of **ló** as side effects that straightforwardly fall out of the generalized discourse effects we argue **ló** has. Moreover, and perhaps more importantly, the proposed account has critical theoretical implications. We have shown that the **Wipe** operation, in conjunction with the idea of a meta-conversational question, allows us to generate contingent commitments, as well as agreeing-to-disagree. We thus have a unified account of these two critical kinds of discourse moves that have played an important role in the literature.

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