

Mandarin utterance-final particle *ba* (吧) in the conversational scoreboard

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Abstract. We explore the meaning of the Mandarin particle *ba* (吧) in interaction with the utterance to which it attaches (the “anchor”) and the context. Previous literature on *ba* contains no unified generalization – effects claimed by various scholars include uncertainty, soliciting agreement/confirmation, or politeness. To arrive at a unified descriptive generalization and clarify the distribution of the particle, we conducted a corpus study of *ba* using Mandarin-language television and film (95 tokens).

We observe that *ba* anchors include assertions, directives, commissives, and sub-sentential tags, and we make the novel descriptive generalization that *ba* creates a confirmation-seeking or softening effect when anchors represent proposals initiated by the speaker, and an effect of uncertainty or reluctant agreement when anchors represent proposals that are already “in play”. We argue that these effects of *ba* can be traced to a single underlying function: *ba* transfers the authority for the conversational move represented by the anchor away from the speaker, making the effects of the anchor contingent on hearer’s approval (cf. Gunlogson, 2008).

To model contingent moves, we propose a conversational scoreboard in which interlocutors’ contributions target the Common Ground, which includes a preference state containing interlocutors’ public discourse commitments (Gunlogson, 2003, 2008), the inquiries that they aim to resolve (Groenendijk and Roelofsen, 2009), and preferences that guide actions (Starr, 2010). Moves often fall short of putting content in the target domain, which must be updated collaboratively. Thus, a move initiating a proposal to update a target domain will fall short until the hearer agrees, and will instead direct its content to the Table component (Farkas and Bruce, 2010, a.o.). The Table determines what is at-issue (Roberts, 1996, a.o.). Departing from prior models, we claim that the objects on the Table are sets of potential updates of the target domain. We articulate the Table into two parts: Table1_{choices}, which establishes the conversational goals conceptualized as a choice of one or more updates, and Table2_{propose}, which proposes a single move to update the target domain.

Ba marks the single update conveyed by the anchor as destined for Table1_{choices}, leaving it up to the hearer to advance this content to Table2_{propose} or to the target domain. The effects of softening/soliciting confirmation follow from this delegation of authority; the effects of speaker uncertainty/reluctance are derived as implicatures. Our model allows a handle on the meta-linguistic nature of contingent moves, and a unified treatment of assertions, directives, and commissives. We discuss the consequences for the treatment of indirect speech acts, performative modals and verbs, and speech act modifiers in other languages.

Keywords: utterance modifier, direct speech act, indirect speech act, Mandarin utterance-final *ba*, conversational scoreboard, discourse commitment, clause types, imperative update, declarative update

1. Introduction

The present paper explores the behavior of the Mandarin utterance-final particle *ba* illustrated in (1b), and proposes a theoretical account of its meaning. As the translations in (1) suggest, the particle changes the illocutionary force of the utterance to which it attaches (its “anchor”). *Ba* is unembeddable – it projects through negation, questions, conditionals, and attitudes.

- (1) a. *ni qu*
 2sg go
 ‘Go!’
- b. *ni qu ba*
 2sg go BA
 ‘(How about you) go.’ or ‘Go (if you must).’

We argue that the meaning of this particle operates at the level of speech acts (discourse moves), interacting with the semantic denotation of the utterances to which *ba* attaches, and modifying the ultimate force of the conversational update effected by these utterances. We build on prior work at the semantics-pragmatics interface, connecting the line of research on models of dialogue (Grosz and Sidner, 1986; Roberts, 1996; Ginzburg, 1996, 2012; Groenendijk and Roelofsen, 2009; Farkas and Bruce, 2010; Malamud and Stephenson, 2014; Murray, 2014) with a compatible approach to the semantics and pragmatics of imperatives (Starr, 2010; Murray, 2014).

We will first provide examples from a corpus study of *ba*, with the aim of providing a more systematic and comprehensive account of the particle’s distribution than has previously been available. The particle can attach to utterances of various clause types, including declarative, imperative, and morphosyntactically unmarked, and to several kinds of sub-clausal utterances. We will argue that all *ba*-modified utterances fall into two basic pragmatic types, roughly comprising assertive and directive/commissive speech acts. We then propose an analysis of the particle’s meaning within a formal discourse model, which builds upon the notions of conditional discourse move (Gunlogson, 2008) and Question Under Discussion (Roberts, 1996). We argue that the effect of *ba* on the force of assertive and requestive utterances calls for a unified model of the pragmatics of these types of discourse moves, with important consequences for the accounts of direct and indirect speech acts and for the semantics-pragmatics interface more generally.

Previous literature on this particle contains no unified descriptive generalization about its meaning. The functions and effects claimed by various scholars range from uncertainty (e.g., Chu, 2009), to soliciting agreement or confirmation (Li and Thompson, 1989), to the effect that Han (1995) terms “disturbing the neustic” – we translate this as “secondary speech act” (Bach, 1999), or “metalinguistic effect”, or “modifying speaker’s intention” – and politeness (Han, 1995).

This lack of agreement in the literature calls for a careful empirical study of the distribution and meaning of *ba*. In this paper, we first report on such a corpus study, and describe a novel descriptive generalization of this particle's behavior (§2). We then provide a formal model of the pragmatics of speech acts, building on the semantics of clause types in Starr (2010) and on the discourse model in (Farkas and Bruce, 2010) (§3). This model successfully captures the effects of *ba* in interaction with its anchors (§4), and has important consequences for the treatment of (in)directness and performatives (§5).

2. The corpus study

We conducted an initial corpus study of over seven hours of Mandarin language television and film. Tokens of the particle *ba*, along with relevant contextual details, were recorded from three hours of the Taiwanese television program *Lanqiu Huo*, “Hotshot”, as well as from the mainland Chinese film, *Yingxiong*, “Hero”, and the Mandarin-language Hong Kong film *Yinghan*, “Underdog Knight”. The majority of tokens – 67 – occurred in the television program, while the films “Hero” and “Underdog Knight” yielded 5 and 23 tokens, respectively, for a total of 95 tokens.

Several informants¹ were consulted regarding grammaticality, felicity, and interpretation of the examples obtained from the corpora. Additional informants later provided further discussion of corpus examples, as well as judgments on fabricated examples.

We refer to the utterance to which the particle *ba* appends as the “anchor”. Anchors for all collected examples were coded for clause type and speech act type. Clause type coding revealed anchors coded as declarative, imperative, sub-sentential, and morphosyntactically unmarked. Speech act coding revealed anchors used to perform assertions, directives, commissives and hortatives.

Analysis of corpus examples and informant responses revealed four primary effects contributed by the particle *ba*. These effects are gradient, and a given instance of the particle may exhibit multiple effects simultaneously (or may be ambiguous between different effects, in the absence of contextual information). We take four strongly representative examples to demonstrate the four effects below.

2.1. Confirmation-seeking

In example (2), *ba* appends to a declarative assertion. The speaker of the utterance, a basketball coach, is addressing a player about a difficult move that the player has just performed.

¹Three informants were consulted. Two informants were university Chinese language instructors who had spoken standard Mandarin since early childhood. One informant was a university linguistics professor and a native speaker of a regional Chinese dialect, who had acquired the standard dialect after entering college.

- (2) *ni lian hen jiu le ba*
 you.sg practice very long time PRT BA
 ‘You (must have) practiced for a long time, (right?)’

The bare anchor in this case denotes an assertion to the effect of “You practiced a long time”. With the addition of the particle *ba*, we obtain a confirmation-seeking effect, as indicated by the interrogative tag (and epistemic modal) in the English translation.

2.2. Softening

In example (3), *ba* appends to an imperative directive (Chen-Main 2005). The speaker of this utterance, a doctor, has just informed a young man that they cannot save his grandmother, who is in the next room. The doctor advises,

- (3) *ni kuai jinqu ba*
 you.sg fast enter BA
 ‘Go in quickly.’

The anchor in (3) expresses the directive “Go in quickly”. The effect of the particle in this case (not reflected in the translation) is characterized as one of “softening” or “politeness” – specifically, the particle serves to soften the force of the directive from that of a command to that of a suggestion or request.

2.3. Uncertainty

In example (4), the particle appends once again to a declarative assertion. In this case the speaker, who has never played basketball formally, is answering the question of how well he plays the sport:

- (4) *yinggai bu cuo ba*
 should neg bad BA
 ‘Should be pretty good, (I’d say).’

The anchor of this utterance denotes the assertion “It should be pretty good.” Informants agree that in this case, addition of the particle *ba* contributes an effect of speaker uncertainty, over and above that contributed by the epistemic modal.

2.4. Reluctance

The fourth effect, though attested in the literature and confirmed by informants, did not occur in our original corpus examples. However, it is robustly accepted by speakers and attested in the literature, and as such we provide a fabricated example. The reading given below is appropriate in the following type of scenario: the addressee has been asking permission to go somewhere, and after some resistance, the speaker replies with (5).

- (5) *ni qu ba*
 2sg go BA
 ‘Go (if you must).’

The anchor in (5) denotes the directive “Go.” The effect of the particle in this case is agreed to be one of expressing reluctance or hesitation with regard to the acquiescence.

2.5. Predictiveness of context

All of the above effects have been observed, in some form or another, by previous researchers of the particle *ba*. What we see, however, through systematic analysis of corpus examples, is that these different effects align with – and thus can be predicted by – the anchor type and discourse context of a given *ba* utterance.

Specifically, we can make the following preliminary generalization:

- (6) The effect of a *ba*-marked utterance is
- a. to solicit hearer agreement/confirmation when the context raises the expectation that the hearer can (and might) provide this, as in examples (2, 3)
 - b. to delay the effect of the anchor if the hearer has already indicated prior agreement/confirmation, e.g., due to politeness or reluctance, example (5)
 - c. to express uncertainty/tentativeness if context indicates that hearer is unable to agree/confirm, e.g., due to lack of knowledge, example (4)

2.6. Interrogatives as anchors

Note that no corpus examples were identified for which the anchor could be coded as an interrogative or a question. This is consistent with the general native speaker intuition that the particle *ba* cannot be appended to interrogatives. However, because the literature contains occasional reference to examples of the particle appending grammatically to interrogative anchors (e.g., Chao,

1965), we performed a follow-up corpus study on a larger scale, searching the Mandarin Treebank corpus (230 lines containing the particle *ba*) and the Mandarin CallHome corpus (1640 lines containing the particle *ba*) for any examples of interrogative anchors. No examples of *ba* appending to an interrogative anchor were found. Subsequent construction of examples for consultation with native speakers did reveal, however, that speakers will accept certain interrogative + *ba* utterances, under specific contextual conditions. This suggests that while the construction is exceedingly rare, it can be used both grammatically and felicitously. See §5 for further discussion.

2.7. Interim conclusions and desiderata for a model

The effects of modifying an utterance by attaching the particle *ba* not only vary predictably with context, as described in (6), but also are gradient: each example may express, to a larger or smaller degree, some need for confirmation, some uncertainty, some politeness, etc. This pattern leads us to conclude that these ultimate effects are due to pragmatic inference. We propose, informally, that *ba* has a single underlying function: it transfers the authority for the conversational move represented by the anchor away from the speaker. Pragmatic reasoning derives the gradient effects from this underlying meaning and the context.

To capture this underlying speech act modifying function, we need a theory of clause types and their effects. This theory should allow different clause types to have the same type of meaning, which can then be modified by *ba*. In addition, to model the pragmatic reasoning triggered by *ba*, we need a model of conversation. We will next turn to such a unified theory of the semantics of clause types and the pragmatics of speech acts, building on prior work of Farkas and Bruce (2010); Starr (2010).

This model will support *ba*'s effects across anchors, derivable from the unified approach to clause types and a meta-linguistic component to allow speech-act modification (cf. Faller, 2002).

3. The semantics of clause types and the pragmatics of speech acts

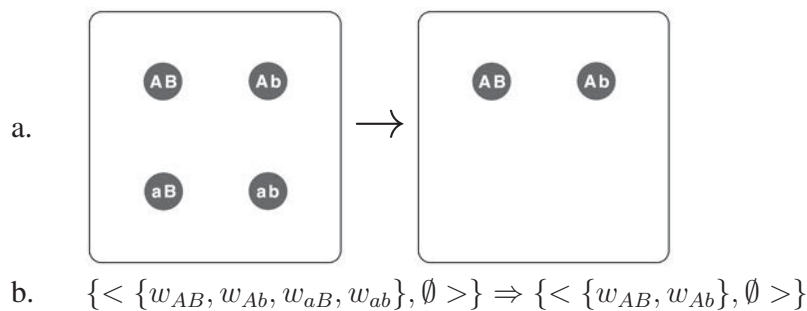
3.1. The semantics of clause types (Starr, 2010)

Ba modifies clauses of different types; thus any account of *ba* needs to be based on a unified approach to clause types. Independently, a unified semantics of clause types is needed to model sentences connecting different types of clauses (Starr, 2010; Charlow, 2010), as in (7).

- (7) a. If you want to sing, sing!
 b. If Jo is going, will Mary go?
 c. Sing and I will dance.

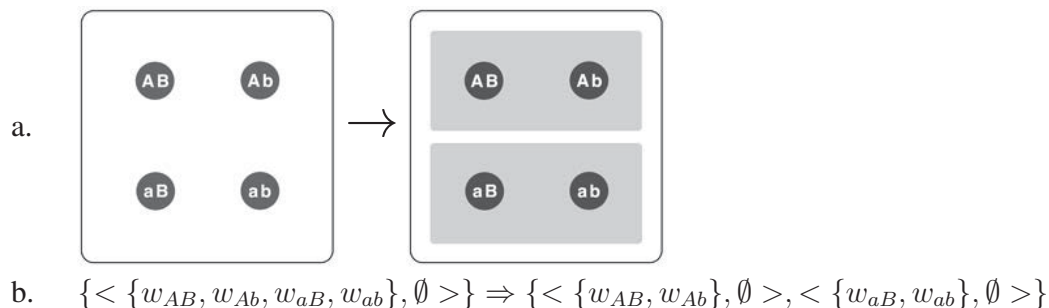
We are going to utilize such a unified semantics proposed by Starr (2010) for declaratives, interrogatives, and imperatives. This is a dynamic semantics which uses a preference state as the Stalnakerian context set. A preference state consists of a set of worlds representing the contextual live possibilities, which are partitioned into alternative propositions, which, in turn, are ranked. On this approach, a declarative sentence denotes a proposition. Its typical effect is to eliminate worlds at which that proposition is not true. A declarative introduces no partitions and no preferences. This is modeled by ranking the single proposition introduced by the declarative as preferred over the empty proposition. Thus, accepting a declarative removes incompatible worlds from the preference state, as in (8).

(8) Starr (2012): Accepting information that A (a stands for $\neg A$, b for $\neg B$)



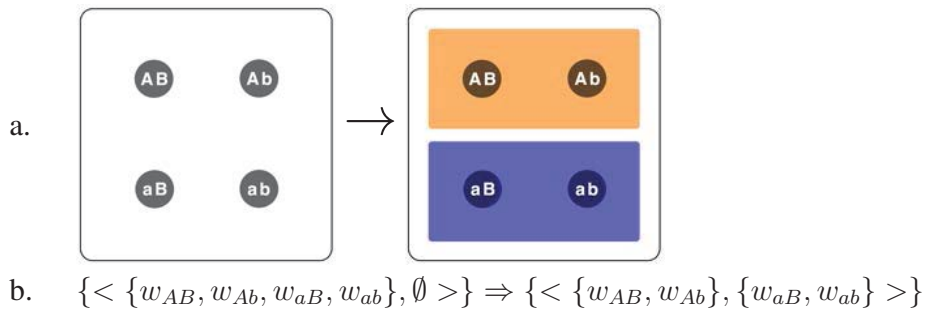
In contrast, the base content of an interrogative sentence is a set of propositions (Groenendijk and Stokhof, 1984; Groenendijk, 2009; Groenendijk and Roelofsen, 2009, among others). Its typical effect is to introduce a partition of the contextual possibilities corresponding to the answer propositions. An interrogative introduces no preferences, which is modeled by ranking each proposition in the partition over the empty proposition. Thus, accepting an interrogative partitions the worlds in the preference state, as in (9).

(9) Starr (2012): Accepting inquiry whether A (a stands for $\neg A$, b for $\neg B$)



Finally, the base content of an imperative is a preference relation, ranking alternative propositions. Its typical effect is to introduce a preference corresponding to the ranking in (10).

- (10) Starr (2012): Accepting directive in favor of A (a stands for $\neg A$, b for $\neg B$; warm colors are preferred over cool colors)



If the hearer accepts an imperative directive to perform an action, then for the purposes of the conversation, the hearer now has a preference for those worlds in which the action has been performed. If the hearer adopts this preference for private decision-making, and if this preference is undominated, the requested action becomes optimal for the hearer. A rational hearer will choose to do the action. This will make the preferred proposition come true.

We adopt this semantics of clause types, and claim that while this provides an account of (the dynamics of) content, it is not sufficient as a model of what speakers do with this content (despite appearances to the contrary). For such a model we turn to the pragmatics of conversation.

3.2. Speech acts in a conversational scoreboard

To formalize the dynamics of conversation, we adopt a model in which moves such as assertions, directives, and commissives are proposals that address conversational goals of the interlocutors (this was proposed for assertions in Roberts (1996), Farkas and Bruce (2010), among others).

The conversational model consists of several components. The first is the Stalnakerian common ground (CG) (Stalnaker, 1974). Following Gunlogson (2003), we treat the CG not as a primitive, but rather as the intersection of the participants' public discourse commitments (DC). The public discourse commitments and the CG contain propositions – sets of possible worlds; the worlds that are live possibilities for all participants form the context set notated $\text{info}(\text{CG})$. The context set is structured as a preference state, so that its worlds are partitioned into issues (live alternatives in CG, notated $\text{altr}(\text{CG})$) and preferences (pairs of alternative propositions, notated $\text{pref}(\text{CG})$) that are jointly accepted by all the interlocutors for the purposes of the conversation.

This preference state constitutes the target domain for conversational moves. Some aspects of a conversational move update this target directly: the words and intonation used, the current speaker (Ginzburg, 1996); and arguably information conveyed by evidentials and appositives (Murray,

2010, 2014, among others). However, at-issue content of a move gets into the target only when all interlocutors agree. This collaborative nature of the target domain update is a key feature of the conversational dynamics (cf. Farkas and Bruce 2010, and proposals such as Groenendijk and Roelofsen (2009); Farkas and Roelofsen (2012) in the Inquisitive Semantics framework). Thus, a move initiating a proposal to update the target domain will typically fall short until the hearer agrees (contra Gunlogson (2003) for DC_{hearer} and Portner (2007) for the To-Do-List of the hearer). The hearer's agreement puts the content in the target preference state.

Moves that fall short of the target domain direct their content to the scoreboard component termed the Table (Farkas and Bruce, 2010) instead. We base this scoreboard component on previous models proposing a stack or list containing questions under discussion (QUDs) (Roberts, 1996; Ginzburg, 1996, among others)². We introduce two innovations into the notion of the Table that allow us to model *ba*, and provide a framework for modeling both direct and indirect effects of a variety of speech acts. As a first innovation, we propose that the objects on the Table are not semantic questions (sets of propositions), but rather potential updates of the target domain – that is, preference states updated with the proposed content. This will allow us to model moves that are in some sense meta-linguistic in that they refer to the proposed update of the preference state.

In addition to the updated preference states, the Table will contain a propositional discourse referent identifying at-issue content. This referent is probably recoverable from the preference states on the Table, but it clarifies the exposition to track it separately. This propositional discourse referent provides antecedents for anaphora, such as “yes/no” (Farkas and Bruce, 2010; Murray, 2010, 2014). The proposed update differs in the degree of speaker commitment or preference for the discourse referent proposition.

Our second innovation is to articulate the Table into two distinct parts, which distinguish moves according to the level of conveyed speaker authority and expected addressee engagement. This is modeled as a two-part division of the Table into $Table1_{\text{choices}}$ and $Table2_{\text{proffer}}$.

Putting a proposal on $Table2_{\text{proffer}}$ is the next best thing to reaching the target domain – it proposes a single move to update that target domain. This is somewhat similar to Beyssade and Marandin (2006)'s “call on the addressee.” $Table2_{\text{proffer}}$ cannot contain incompatible proposals. The expected level of hearer's engagement with such a move is minimal – explicit or implicit acceptance of the move will advance the content to the target domain.

Consider a declarative assertion that A , as in (8). The initial CG preference state is $\{ \langle \{w_{AB}, w_{Ab}, w_{aB}, w_{ab}\}, \emptyset \rangle \}$. After a declarative A is uttered, the Table contains, first, the proposed update $CG[A] = \{ \langle \{w_{AB}, w_{Ab}\}, \emptyset \rangle \}$, as in (8b), and second, the propositional discourse referent made salient by this assertion, $A = \{w_{AB}, w_{Ab}\}$. The at-issue proposition A is proposed to be added to the information of the CG preference state. The inference one can draw from these

²Our notion of the Table seems closer to Ginzburg's than to Roberts's QUD, in that it allows preference states that have no live issues, such as proposals to update the context set with an assertion.

Table contents is that the speaker is publicly committed to A , and that there is a high degree of speaker's authority/commitment to A . The hearer's expected involvement is just acceptance of this move. These are all the hallmarks of a $\text{Table2}_{\text{proffer}}$ move.

Turning to another example, consider an imperative directive in favor of A in the context of the same initial CG, $\{ \langle \{w_{AB}, w_{Ab}, w_{aB}, w_{ab}\}, \emptyset \rangle \}$, see (10b). The Table contents after an imperative "Do X !" is uttered consist of, first, the proposed update: $\text{CG}[\text{Do } X!] = \{ \langle \{w_{AB}, w_{Ab}\}, \{w_{aB}, w_{ab}\} \rangle \}$, as in (10b). Second, the Table contains the same discourse referent as with the declarative example above, $A = \{w_{AB}, w_{Ab}\}$, where $A =$ "the hearer will perform action X ". As noted above, if the hearer agrees, A will typically enter into the context set $\text{info}(\text{CG})$: that is, if the move is accepted and this preference enters the Common Ground, the requested action will typically become optimal and the hearer will choose to perform it, making A true. The at-issue proposition A is promoted in the preferences in the CG, which, as with the declarative example, indicates a high degree of speaker's authority/commitment to A . The hearer's expected involvement in advancing this preference state towards the target domain is just acceptance. Thus, imperative directives are, like declarative assertions, $\text{Table2}_{\text{proffer}}$ moves.

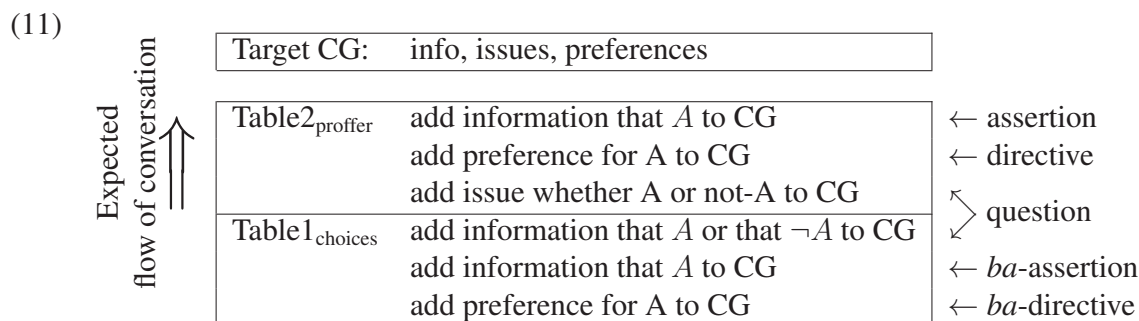
In sum, in both the declarative and imperative examples above, the Table contains a proposal that the at-issue proposition be used as a single update of $\text{info}(\text{CG})$ or $\text{pref}(\text{CG})$. The Table contains no incompatible proposals. The hearer's expected engagement in advancing the conversation is acceptance. This kind of proposal is the next best thing to reaching the target and updating the CG directly.

In contrast, $\text{Table1}_{\text{choices}}$ establishes the conversational goals, conceptualized as a choice of one or more updates. A conversational goal is in 1-to-1 correspondence with a QUD, or an issue in the sense of Farkas and Bruce (2010) – a set containing one or more propositions. When one or more updates are placed on $\text{Table1}_{\text{choices}}$, the hearer is expected to make a proposal by advancing a single option to $\text{Table2}_{\text{proffer}}$ or to the target domain.

For example, consider a polar interrogative question whether A . The initial CG, as before, will be $\{ \langle \{w_{AB}, w_{Ab}, w_{aB}, w_{ab}\}, \emptyset \rangle \}$, see (9b). After an interrogative is uttered, the proposed update on the Table is $\text{CG}[A?] = \{ \langle \{w_{AB}, w_{Ab}\}, \emptyset \rangle, \langle \{w_{aB}, w_{ab}\}, \emptyset \rangle \}$. The discourse referent is, as before, $A = \{w_{AB}, w_{Ab}\}$. The proposal is to advance the issue whether A to the target domain, and this proposal requires only the hearer's acceptance to advance, so it's a $\text{Table2}_{\text{proffer}}$ move involving an issue. However, there is additionally the proposal to eventually advance one of the answer propositions to the $\text{info}(\text{CG})$. The hearer's potential involvement is to determine which proposition should be added to the CG. Note that an interrogative question is not proposing to add the at-issue proposition A to $\text{info}(\text{CG})$ – rather, it's proposing to eventually add either A or $\neg A$. This indicates a low degree of speaker's authority/commitment to A , and a higher degree of hearer's potential involvement in advancing content towards the target domain (in this case, determining the content of the eventual update).

This is indicative of a $\text{Table1}_{\text{choices}}$ move: putting a proposal on $\text{Table1}_{\text{choices}}$ establishes the conversational goals without proffering the at-issue proposition as information or preference to be added to the CG. A comparison between questions and assertions brings out the differences between $\text{Table1}_{\text{choices}}$ and $\text{Table2}_{\text{proffer}}$ moves. Questions recruit addressee involvement in decisions about potential updates and thus are $\text{Table1}_{\text{choices}}$ moves. In contrast, assertions proffer a single update directly, and thus are $\text{Table2}_{\text{proffer}}$ moves.

The conversational model thus consists of the target domain and the two-part Table. The dynamics of conversation includes the interlocutors' expectation that content will progress towards the target domain as part of the normal progress of conversation. The model is summarized in (11) below.



With all the ingredients for the semantics of clause types and the pragmatics of speech acts in place, we can now turn to *ba*.

4. Pragmatic inferencing and the effects of *ba*

4.1. The function of *ba*

We proposed, informally in (6), that *ba* transfers the authority for the conversational move represented by the anchor away from the speaker. We can now formalize this proposal: *ba* marks the update conveyed by the anchor as destined for $\text{Table1}_{\text{choices}}$. In addition, *ba* presupposes that the update conveyed by the anchor isn't already destined for $\text{Table1}_{\text{choices}}$; that is, the use of *ba* presupposes that it is not redundant.

Within this system, the structure of the update process – and specifically, the shared expectation that content is to advance forward along the Table1 - Table2 -target path – allows for generation of inferences based on the choices of discourse participants. For instance, in this model we assume that a speaker may direct a discourse move to any stage along the Table1 - Table2 -target path that s/he is authorized to change.³ The speaker is expected to advance the content as far as s/he can along this path. As a result of this expectation, if a speaker chooses to place content at an earlier

³Note that the update made by an utterance cannot be derived from utterance denotation alone in this system, contra Groenendijk and Roelofsen (2009), among others, cf. non-default initiatives in Farkas and Roelofsen (2012).

stage, this will generate additional inferences (Grice, 1975) – such as reluctance, uncertainty, or deference – the precise nature of which will depend on the discourse context. This process of inferencing, we argue, is the means by which the four observed effects of the particle *ba* are derived from the underlying function that we have proposed.

4.2. Seeking hearer input

Examples (2) and (3), repeated below, exemplify inferences generated by a $\text{Table1}_{\text{choices}}$ move when the addressee can reasonably be expected to advance the placed content. Recall that in these two examples, the effects of the particle *ba* amount to confirmation-seeking and softening, respectively.

(2) *ni lian hen jiu le ba*
 you.sg practice very long time PRT BA
 ‘You (must have) practiced for a long time, (right?)’

(3) *ni kuai jinqu ba*
 you.sg fast enter BA
 ‘Go in quickly.’

In utterance (2), the speaker moves to place on $\text{Table1}_{\text{choices}}$ the proposed update $\text{CG}[A] = \{ \langle \{w_{AB}, w_{Ab}\}, \emptyset \rangle \}$, and the propositional discourse referent $A = \{w_{AB}, w_{Ab}\}$. In utterance (3) the speaker moves to place on $\text{Table1}_{\text{choices}}$ the proposed update $\text{CG}[\text{Do } X!] = \{ \langle \{w_{AB}, w_{Ab}\}, \{w_{aB}, w_{ab}\} \rangle \}$ and the discourse referent $A = \{w_{AB}, w_{Ab}\}$ (where $A = \text{“the hearer will perform action } X\text{”}$). As discussed above, the expectation is that a cooperative hearer will advance content from $\text{Table1}_{\text{choices}}$ if possible. In both of the above cases, the hearer can reasonably be expected to advance the content (that is, there is no a priori reason in the context to suspect that the hearer cannot or will not advance the content – the addressee of (2) can reasonably be expected to know whether he has practiced for a long time, and similarly, the addressee of (3) can reasonably be expected to comply and go in to see his ailing grandmother). The hearer can infer from the speaker’s choice to place content on $\text{Table1}_{\text{choices}}$, rather than $\text{Table2}_{\text{proffer}}$, that the speaker is willing to commit to the placed content, but that this willingness is contingent on the hearer’s advancing the content to $\text{Table2}_{\text{proffer}}$, or to the target domain. In a context in which this action on the part of the hearer can reasonably be expected, such a move suggests a need for approval/confirmation of the update, perhaps for reasons of uncertainty or polite deference.

4.3. Not seeking hearer input

Examples (4) and (5), repeated below, exemplify inferences generated by a $\text{Table1}_{\text{choices}}$ move when discourse context alters default expectations about the hearer’s ability or willingness to advance

the placed content. Recall that the particle *ba* in these examples has effects of uncertainty and reluctance, respectively.

- (4) *yinggai bu cuo ba*
 should neg bad BA
 ‘Should be pretty good, (I’d say).’

In utterance (4), as in (2), the speaker moves to place on $\text{Table1}_{\text{choices}}$ the proposed update $\text{CG}[A] = \{ \langle \{w_{AB}, w_{Ab}\}, \emptyset \rangle \}$ and corresponding discourse referent as before. In this context, however, the utterance is a response to a question from the addressee. This changes the game: the addressee *cannot* reasonably be expected to advance the content from $\text{Table1}_{\text{choices}}$, having just requested this information herself. A $\text{Table1}_{\text{choices}}$ move in such a context merits a reassessment of the intent of the move. In such a case, the hearer can reason that the speaker is showing unwillingness to move $\text{CG}[A] = \{ \langle \{w_{AB}, w_{Ab}\}, \emptyset \rangle \}$ to $\text{Table2}_{\text{proffer}}$, knowing full well that his interlocutor cannot make this move either. A logical inference in this case is that the speaker, rather than soliciting confirmation, is expressing epistemic uncertainty.

- (5) *ni qu ba*
 2sg go BA
 ‘Go (if you must).’

In utterance (5), as in (3), the speaker moves to place on $\text{Table1}_{\text{choices}}$ the proposed update $\text{CG}[\text{Do } X!] = \{ \langle \{w_{AB}, w_{Ab}\}, \{w_{aB}, w_{ab}\} \rangle \}$ and corresponding discourse referent. Unlike (3), however, this utterance occurs in a context in which the hearer has in fact *pre-approved* (that is, actively encouraged, by requesting permission) an update of this kind. Making a move to $\text{Table1}_{\text{choices}}$ for the sake of seeking approval is therefore redundant. The hearer can reason in this case that the speaker expects to become committed to the preference state favoring the action in question, but is intentionally choosing not to proffer the update directly. A logical inference in this case is that the speaker’s delay is expressing reluctance about the hearer’s carrying out of the action.

5. *Ba* as a window to indirectness

Ba can provide a window to (in)directness of its anchor’s meaning. This is because it only modifies the direct update of the anchor, as examples such as (12) suggest.

- (12) *wo xuyao yi gen bi ba*
 1sg need one CL pen BA
 ‘I need a pen, right?’

By itself, the anchor “I need a pen” can serve as an indirect request. However, modification with *ba* can serve to seek confirmation about the speaker’s need for a pen, and never about the hearer’s giving the speaker a pen. That is, (12) cannot mean “How about you give me a pen?”. Similarly, in the corpus example (13), the particle is interpreted as seeking confirmation for adding the proposi-

tion “It should be put back in order” to the CG, even though the anchor is a clear indirect request, and the entire utterance is ultimately interpreted as a request.

- (13) *ni zuotian shui na, huifu yuanzhuang shi yinggai de ba*
 2sg yesterday sleep there, return original-state COP should PRT BA
 ‘You slept there yesterday. It should be put back in order, correct?’

5.1. Interrogatives are not requests (generally)

As we noted in §2, *ba* is generally bad with interrogatives. Moreover, no examples were found in the three corpora we searched. However, many speakers accept interrogatives with *ba* in ‘impatience’ scenarios, such as (14)⁴.

- (14) The speaker is at a car dealership, and has asked the salesman about the price of the new car several times. The salesman keeps going on about the excellent qualities and features of the car. Finally, the speaker says:
zhe liang che (daodi) duoshao qian ba?
 this CL car (on earth) how much money BA
 ‘How much (on earth) is this car?’ / ‘C’mon, tell me how much this car costs!’

Our proposal for *ba* explains those cases where *ba* is incompatible with questions, since we claim that *ba* presupposes that its anchor is not already a Table₁_{choices} move. So what might explain the rare examples that are felicitous? Two possibilities exist. A syntactic explanation is that in cases like (14), there is an implicit imperative embedding the question (e.g. that (14) is literally ‘Tell me, how much on earth is this car’). This is a lot of implicit material, which is why it requires an extra-clear special scenario to license it. However, this explanation is somewhat ad hoc – what exactly are the pragmatic conditions that license such implicit syntactic material?

Alternatively, note that questions are typically requests for information. A question, in our model, corresponds to putting on Table₂_{proffer} the proposal to add to *altr*(CG) the issue consisting of possible answers, and putting on Table₁_{choices} a proposal to update the *info*(CG) with one of the answers. The general expectation that interlocutors will try to advance the content towards the target results in the typical inference that the question is also a request for the hearer to give an answer.

An alternative explanation for the felicitous uses of *ba* in impatience scenarios, and one that we prefer, is that in the felicitous cases of *ba*-interrogatives, the proposed update is actually already on the Table – since, e.g., in (14) the speaker has already asked about the price. The *ba*-modified utterance is therefore coerced into a directive interpretation, whereby the (somewhat indirect) in-

⁴We thank Dun Deng for this example in particular, and for a very fruitful discussion of *ba* with interrogatives in general.

ference that the hearer should give an answer to the question becomes reified as the proposal to update the CG with a preference in favor of the hearer giving an answer. This is the same meaning as the (*ba*-modified) imperative directive “Tell me the answer”.

On this explanation, we see a slight relaxation of the notion that *ba* only modifies the direct meaning of the anchor. However, even in these interrogatives, the meaning that *ba* modifies is not so very indirect: after all, every question is, as a default, interpreted as a request for an answer; this inference is part of the direct meaning of the interrogative (proposals on Table 1_{choices} that an answer be added to the CG) coupled with the nature of the conversational model (that the hearer is expected to advance that proposal towards the target). The fact that these felicitous uses are so very rare suggests that *ba* modifies the direct update of the anchor, unless there is a good reason to do something else. In the ‘impatience’ scenarios, the reason is that the direct update has already been performed several times in the conversation.

5.2. Performative modals and verbs

Sentences with deontic modals can be used performatively in Mandarin, as in English. For instance, (15) can be used to impose on the hearer the obligation to give the speaker a pen.

- (15) *ni yinggai gei wo yi zhi bi*
 2sg should give 1sg one CL pen
 ‘You should give me a pen’

On some theories (e.g. Schwager, 2006b,a, and subsequent work), the meaning of performative modals is very close to that of imperatives. Yet modification with *ba* takes away the performativity of this anchor, as shown in (16).

- (16) *ni yinggai gei wo yi zhi bi ba*
 2sg should give 1sg one CL pen BA
 ‘You should give me a pen, shouldn’t you’
 NOT ‘How about you give me a pen’

The above example seeks hearer confirmation on existing obligation, and not on a new request. It is about adding information to the CG, and not about preferences and actions.

Turning to performative verbs, we note that *ba* takes away the performative flavor from the explicit performative anchors, but not their commissiveness, as (17) demonstrates.

- (17) *wo mingming zhe sou chuan wei longchuan ba*
 1sg name this CL ship as dragon-boat BA
 #‘I am naming this ship The Dragon, am I not?’
 ‘How about I name this ship The Dragon’

One possible explanation for this pattern is that sentences with performative verbs and modals are direct assertions. Performativity emerges indirectly, and since *ba* only modifies the direct update of the anchor, it takes away the performativity of these examples. Note that the contrast with *ba*-modified interrogatives suggests a scale of indirectness, on which questions as requests for information are more direct than performative modals or explicit performatives. Explicit performatives, as tested by *ba*, are also direct commissives, to which we turn next.

5.3. Clause types in Mandarin

If we assume that *ba* modifies the direct update of the anchor, an intriguing possibility is presented by anchors that update preferences regarding joint speaker-hearer action – that is, hortatives such as (18); as well as those that update preferences regarding speaker action – that is, commissives such as (19) from Chu (2009).

- (18) *women yiqi qu chifan ba*
 we together go eat BA
 ‘Let’s/How about we go eat together’

- (19) The speaker has pledged \$100 to a charitable cause, but his interlocutor is unsatisfied and protests that the speaker should donate more. The speaker responds as follows:
na wo jiu juan liangbai ba
 then I just donate two-hundred BA
 ‘Well, then, (I guess) I’ll donate 200.’ (Chu, 2009)

The example in (19) is a classic example of the particle contributing an effect of reluctance.

Note that while the anchors in (18) and (19) take the same form as assertions, the presence of *ba* reveals two separate possible update types for this form, apparently corresponding to assertion-type and commissive- or hortative-type speech acts. For instance, a sentence of the surface form “I go first BA”, can mean “I go first, right?” (assertive anchor), or alternatively “How about I go first?” (commissive anchor).

This suggests the existence of hortative and commissive clause types in Mandarin. These can easily be accommodated in Starr’s model: a hortative or a commissive update is similar to a directive

update. It adds to the CG a preference in favor of a joint speaker-hearer action or in favor of a speaker action.

An alternative explanation is that these are declaratives and are indirectly interpreted as commissives and hortatives. If this latter explanation is right, this would mean that hortative and commissive interpretations for declaratives in (18) and (19) are more direct than request-for-information interpretations for interrogatives, as in (14), and much more direct than performative interpretations for declaratives with deontic modals, such as (16), and explicit performative verbs, such as (17).

6. Concluding discussion

Our proposal builds on much prior work, most immediately on the model of conversation explored in Farkas and Bruce (2010) and subsequent work, and the dynamic semantics of clause types discussed in Starr (2010); Murray (2014); Murray and Starr (2015). Could these models handle *ba*? An immediate problem that arises for Farkas and Bruce (2010) and subsequent work is that these models are limited to assertive and inquisitive updates which target the Stalnakerian CG. In Ettinger and Malamud (2013) we attempt to address this by extending the model to include updates that target the To-Do-List of the speaker (commissive-type) and of the hearer (directive-type), following Portner (2004, 2007). This has the important drawback that there is no plausible way to treat sentences that contain different types of clauses, such as (20) below.

(20) *ni changge wo tiaowu ba*
 2sg sing 1sg dance BA
 ‘How about you sing and I’ll dance?’

In (20), the connective conjoins an imperative clause with a declarative or commissive, corresponding to different kinds of updates. Thus the anchor in (20) is not of a single mood and so, as Portner (2007) makes clear, there is no way to assign an update type to it. The conjunction in (20) clearly operates on (direct) updates, and not just the semantic contents. This cannot be easily modelled in Ettinger and Malamud (2013), especially once we consider additional connectives (e.g., *Sing or I will dance*).⁵

The need to go beyond assertive and inquisitive updates also has the consequence that the behavior of *ba* cannot be captured by the pragmatic model in Malamud and Stephenson (2014). The model builds on Farkas and Bruce (2010) to account for the differences among three utterance modifiers in English. In addition to the participants’ public commitments making up the CG, the model proposes a set of projected commitments for each participant. This allows for modification of assertive moves (which target commitments, and thereby the CG). To capture *ba* and cover directive, commissive, and hortative updates, the model can be extended in two ways. One is the path we

⁵See a detailed discussion in Murray and Starr (2015, among others).

take in this paper, to split the Table rather than commitment sets. Another is to add projected preference states (which would include issues and preferences) rather than projected commitment sets, for each speaker. It is beyond the scope of this paper to investigate such a model.

Finally, Murray (2014); Murray and Starr (2015) build on the unified semantics of clause types proposed in Starr (2010) to provide, among other things, an analysis of several utterance modifiers, namely, Cheyenne evidentials (cf. Murray 2010). In their system, evidentials add a not-at-issue proposition to the CG (that is, the proposition is added to the target preference state directly without the need for the hearer to agree). This not-at-issue proposition gives the source of evidence that the speaker has for the at-issue proposition (the anchor), for instance, that the speaker has reportative evidence for the anchor. Pragmatic inferences may then weaken the perceived epistemic commitment the speaker has for the anchor proposition (for instance, if the source of the reportative evidence was not very authoritative). Adopting this analysis for *ba*, we could propose that it adds the not-at-issue proposition that the speaker is not willing to fully update the target CG preference state with the anchor. This is a very meta-linguistic proposition, referring to the update and the target preference state. A conversational model that allows such propositions would wield enormous power. Perhaps such power is precisely what is needed to analyse the rich and varied set of utterance modifiers across languages, but for the present we prefer to explore a more constrained model to better understand how the pragmatics of speech acts arises from the semantics of clause types.

To sum up, we have examined the utterance-final particle *ba* in Mandarin, and proposed an analysis for it that gives a unified treatment of various speech acts, and a handle on meta-linguistic moves. The structure of the model together with the context of the utterance gives rise to implicatures, deriving the various effects of the particle.

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