Mandarin utterance-final particle *ba* in the conversational scoreboard

Allyson Ettinger (NYU, ake1@nyu.edu) and Sophia A. Malamud (Brandeis, smalamud@brandeis.edu)

The phenomenon. We explore the meaning of the Mandarin particle *ba* (吧). On our proposal, the effects of the particle emerge in interaction with the utterance to which it attaches (what we term **the anchor**) and the discourse context, with consequences for the semantics-pragmatics interface. We focus on the utterance-final occurrences of *ba*, which constitute the majority of the particle's uses. *Ba* can also occur in the middle of an utterance, with an effect described as attention-checking, but we leave such use to future work.

Previous literature on this particle contains no unified descriptive generalisation about its meaning. The functions and effects claimed by various scholars range between uncertainty [e.g., Chu 2009], soliciting agreement/confirmation [Li & Thompson 1981], "disturbing the neustic" [Han 1995] (we translate this as "meta-linguistic effect", or "modifying speaker's intention"), and politeness [Han 1995]. To arrive at a descriptive generalization and clarify the distribution of the particle, we conducted a corpus study of *ba* using Mandarin-language television and film (95 tokens).

All data were coded for anchor clause type: declarative, imperative, sub-sentential, and morphosyntactically unmarked. There were no interrogative-marked anchors with *ba* in the data. All data were also coded for (direct) speech act conveyed by the anchor: assertions, directives, commissives, and exhortations for joint action by speaker and hearer. There were no questions with *ba* in the data.

The corpus study of *ba* shows that its anchors include declarative assertions, as in (1), where the particle seems to add either a confirmation-seeking effect (1a), or an effect of uncertainty (1b).

(1)a. Speaker is talking to a basketball player about a difficult move he performed:
ni lian hen jiu le ba *effect: confirmation-seeking*
2sg practice very long-time PRT BA "You must have practiced for a long time, (right?)"

b. Speaker never played basketball formally, answers the question how well he plays:
yinggai bu cuo ba *effect: uncertainty*
should neg. bad BA "Should be pretty good, I'd say."

Anchors also included imperative directives [Chen-Main 2005] (2a), commissives (2b), and moves proposing joint action by speaker and hearer (such as English *Let's go*). *Ba* is characterized as contributing an effect of softening/increased politeness (2a), or a feeling of reluctant acquiescence (2b) to such utterances.

(2)a. Doctor informs a young man that they cannot save his grandmother, and advises:
ni kuai jinqu ba *effect: softening/politeness*
2sg fast enter BA "Go in quickly."

b. Speaker is told that he should donate more than the $100 he originally pledged.
na wo jiu juan liangbai ba *effect: reluctance*
that 1sg then donate two-hundred BA "Well, then, I'll donate 200." [from Chu 2009]

These effects are gradient – for example, an assertion with *ba* could convey a degree of uncertainty and also solicit confirmation. *Ba* also occurred in sub-sentential utterances, forming an interrogative-like tag. Such anchors are anaphoric to the preceding utterance, and are not treated as a separate type of speech act.

The proposal. Following Ettinger 2010, we make the novel descriptive generalization that *ba* creates a confirmation-seeking or softening effect when anchors represent proposals initiated by the speaker (1a, 2a), and an effect of uncertainty or reluctance when anchors represent proposals that are already "in play" by the time of the utterance (1b, 2b). This generalization subsumes and makes more precise prior claims.

> We argue that the effects of *ba* can be traced to a single underlying function:
> a use of *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 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 & Bruce 2010, among others).

The conversational model consists of: (1) **The common ground (CG)** [Stalnaker 1974], which is the intersection of the participants' public discourse commitments (DC) [Gunlogson 2003]; (2) **A to-do list (TDL) for each speaker** [Portner 2007], which, we propose, contains actions [cf. Barker 2011]. The CG and the TDLs constitute **target domains.** Separating these allows us to distinguish the effects of an assertion that a particular action is optimal (a proposal to update the CG) from those of a request/promise (a proposal to update a TDL).

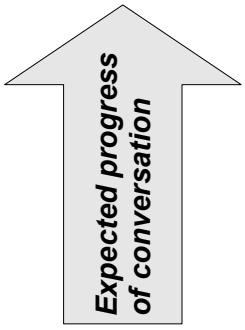
Target domains must be updated collaboratively. Thus, a move initiating a proposal to update a target domain will fall short until the hearer agrees. The hearer's agreement puts the content in the CG or the targeted TDL. (3) Moves that fall short of a target domain direct their content to the component termed **the Table** [Farkas & 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].

We depart from prior proposals in that the objects on our Table are not semantic questions (sets of propositions), but rather **sets of potential updates of the target domains**. This will allow us to model moves that are in some sense meta-linguistic. We further propose to articulate the Table into **two distinct parts**:

Table1$_{choices}$ 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 & Bruce 2010 – a set containing one or more propositions. A QUD determines what is at-issue.

Table2$_{propose}$ proposes a single move to update a target domain (CG or TDL), and cannot contain incompatible proposals.

This separation distinguishes moves according to the level of expected addressee engagement: when one or more updates are placed on Table1$_{choices}$, the hearer is expected to make a proposal by advancing a single option to Table2$_{propose}$. In contrast, a Table2$_{propose}$ move is itself a proposal of a single update of a target domain. For instance, questions recruit addressee involvement in decisions about potential updates and thus are Table1 moves, while assertions propose a single update directly, and thus are Table2 moves.



TDL$_{speaker}$	CG	TDL$_{hearer}$	examples
Table2$_{propose}$	add-"John is here"-to-CG		<= assertion
	add-"Open the door"-to-TDL$_{hearer}$		<= directive
Table1$_{choices}$	add-answer-to-"Is John here?"-to-CG		<= question
	add-"John is here"-to-CG		<= BA-assertion
	add-"Open the door"-to-TDL$_{hearer}$		<= BA-directive

We propose that *ba* utterances, and **contingent** moves in general, are like questions, recruiting addressee involvement in update decisions regarding a single proposed update. A speaker may place an update at any stage along the Table1-Table2-target path that s/he is authorized to change. As a consequence, the pragmatics of an utterance (its update of the scoreboard) cannot be derived from its semantics (the type of denotation it carries), contra Inquisitive Semantics [Groenendijk 2008, among others]. For instance, if a move falls short of the farthest stage to which the speaker can get it, hearers will draw additional inferences [Grice 1975][1],[2] The hearer may conclude from a move that falls short of expectations that the speaker is uncertain about the best way to address the goals or needs the hearer's contribution to decide [Grice 1975, inter alia].

To provide several examples: An unbiased polar question whether *p* directs {**add**-p-to-CG, **add**-not-p-to-CG} to Table1$_{choices}$. A direct inference from the presence of two incompatible proposals is that this move cannot

[1] In essence, we assume that all initiating moves (as opposed to responses) fall short of the target domains and must go to the Table. This is not a crucial assumption: it is possible that the speaker can change her own TDL, in addition to DC.

[2] A consequence of this additional Gricean inferencing is that the speaker's level of commitment to the content of the move increases as we progress towards target domains.

advance past Table1 without hearer's involvement. Another direct inference is that this proposal corresponds to the QUD {p, not-p}. The hearer may make an indirect inference that the speaker is unable or unwilling to propose a single option for a CG update (cf. with the Sincerity Condition(s) for speech acts [Searle 1965]).

In contrast, an assertion that *p* (e.g., "Jo is here") adds {**add**-p-to-CG} to $Table2_{propose}$. The hearer infers that the speaker has added *p* to her DC. Upon the hearer's acceptance, *p* will join his DC, too, and thereby the CG. We expand the Farkas & Bruce 2010 framework to enable the modelling of directives: a request for an action *a* "Do this" directs {add-*a*-to-TDL_{hearer}} to $Table2_{propose}$. [cf. Portner 2007]. The hearer infers that this action is optimal with respect to underlying goals [Roberts 1996], since this move addresses the implicit "default" QUD "what is the optimal action?" [Benz & van Rooij 2007, among others, cf. Kaufmann 2012]. The hearer can accept the directive, adding *a* to TDL_{hearer}. Indirectly, acceptance adds "*a* is optimal" to the CG.

Our treatment of commissives, like the treatment of directives, is an expansion of the original Farkas & Bruce model. A promise (or threat) to perform an action *a* "I will do this" directs {add-*a*-to-$TDL_{speaker}$} to $Table2_{propose}$. [cf. Portner 2007][3]. The hearer infers that this action is optimal [Roberts 1996]. Note that there is no English clause type reserved for commissives. In Mandarin, there may be.

We propose that *ba* marks the single update conveyed by the anchor as destined for $Table1_{choices}$.

This leaves it up to the hearer to advance this content to $Table2_{propose}$ or to a target domain, despite the fact that the anchor conveys a single update and thus the speaker would be able to advance it to $Table2_{propose}$. This captures Gunlogson's 2008 contingent moves and accounts for distribution and effects of *ba* across contexts.

Predictions and consequences. First, we predict that *ba* will not occur with anchors independently marked as questions. *Ba* cannot re-direct content to Table1 that is already going there.

Second, consider example (1a). The move is a single proposal on $Table1_{choices}$ to add *p* to CG. This indicates willingness to commit to *p*, once the hearer moves it up to $Table2_{propose}$ (and thus to her DC). The proposal originated with the speaker, yet it falls short of the farthest stage where she can get it: $Table2_{propose}$. This explicit delegation of authority on assertive content suggests a need for confirmation[4]. A similar example is that in (2a), which is a proposal on $Table1_{choices}$ to add *a* to TDL_{hearer}. This indicates willingness to commit to optimality of *a,* once hearer moves it up to $Table2_{propose}$ or to her TDL. As above, the proposal originated with the speaker, yet falls short of $Table2_{propose}$. This delegation of authority on directive content suggests deference to hearer's wishes (a suggestion rather than a command).

Third, consider (1b), which expresses a proposal that is already present on the Table. This is like (1a) in being a single proposal on $Table1_{choices}$ to add *p* to CG. But the proposal originated with the hearer, which means that she already passed the authority to advance content to $Table2_{propose}$ to the speaker, thereby indicating that she cannot or does not want to give confirmation of this content. When the speaker instead puts it back on $Table1_{choices}$, this "bounces the ball" away from the speaker. With assertive content, this (re-)delegation of authority to a hearer who has already placed that authority on the speaker generates an implication of epistemic uncertainty. A similar example in (2b) is a proposal on $Table1_{choices}$ to add *a* to $TDL_{speaker}$. But like in (1b), the proposal originated with the hearer in this example, and so the speaker has been given the authority to proceed with the update, implicating that the proposed update corresponds to the hearer's wishes/goals. Despite hearer's delegation of authority, the speaker puts content on $Table1_{choices}$. With directive content, this (re-)delegation of authority to a hearer who has already placed that authority on the speaker generates an implication of reluctance (uncertainty about optimality of the update). Uncertainty effects arise to the (gradient) extent that the hearer cannot be expected to advance the content to a target domain.

Fourth, in our model, the Table contains not the QUD, but a set of proposed updates. A directive proposes that an action be added to the hearer's TDL. This avoids a speaker directly manipulating someone else's TDL, contra Portner's 2007 analysis of directives. By agreeing (e.g., saying *ok*) to a directive, the hearer

[3] Alternatively, commissives bypass the Table and add *a* to $TDL_{speaker}$. We have no evidence distinguishing these options.

[4] The need for confirmation can stem from epistemic uncertainty, or from the need to politely defer to hearer's knowledge.

is not simply committing to optimality of the requested action, but is accepting the proposal: adding *a* to the TDL.

Finally, the effect of *ba* on commissives vs. declarative directives is especially revealing. In commissives such as (2b), the proposal is to update the speaker's TDL with *a. Ba* directs this to Table1, making it contingent on hearer's approval. This approval is not about epistemic commitment to the proposition that *I'll give 200.* It is about adding *a* to the TDL, and only indirectly about the optimality of *a.* In contrast, in indirect directives (e.g., *This room should be cleaned, BA*), the proposal is to update the CG with the proposition that *a* is optimal. *Ba* gives the hearer authority to approve a commitment to the proposition that the room should be cleaned. This is not about adding room-cleaning to anyone's TDL.

From this contrast between utterances like (2b) and declarative directives, we conclude that *ba* modifies the direct scoreboard update, rather than the ultimate force of an utterance. The interpretation of an indirect utterance begins with its direct meaning, and pragmatic reasoning derives the ultimate indirect force [cf. Searle 1975]. This means that the direct update of a Mandarin commissive like (2b) targets the speaker's TDL. In contrast, the direct update of a Mandarin declarative directive targets the CG.

If we define clause types by the direct updates that they effect, this may be evidence that commissives such as (2b) are associated with a special "promissive" clause type in Mandarin [cf. Pak et al 2004]. Note that this argument also applies to *ba*-modified moves that propose a joint action by the speaker and hearer, and thus could be evidence for an exhortative clause type targeting speaker and hearer TDLs simultaneously.

Conclusion. We propose that the Table [Farkas & Bruce 2010] contains not simply QUDs, but sets of potential updates. This allows a unified treatment of directives/commissives/exhortatives and assertions with *ba.* We articulate the Table into two parts: Table1 establishing the conversational goal, and Table2 proposing a single move to address that goal. This allows us to model contingent moves [Gunlogson 2008] as ones where the speaker chooses to direct content to Table1, even when s/he has the option of advancing it further. The account has consequences for the treatment of directives and commissives in general. Our proposal has several advantages over previous models, in allowing a unified treatment of a variety of speech acts, a handle on meta-linguistic nature of some moves (including *ba*), and a way in which the structure of the model, in combination with context, allows for generation of implicatures.

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