Resonance and engagement through (dis-)agreement: Evidence of persistent constructional priming from Mandarin naturalistic interaction

The recent cognitive and pragmatic turn towards a dialogic syntax (cf. Du Bois 2014; Author et al. 2018) emphasises the important role played by resonance as catalytic activation of affinities across turns at talk (Du Bois & Giora 2014). Resonance occurs when interlocutors creatively co-construct utterances that are formally and phonetically similar to the utterance of a prior speaker. This study draws on naturalistic data from the Mandarin Callhome corpus of telephone conversations (McEnery & Xiao 2008) and focuses on the way resonance intersects with 1000 speech acts of (dis-)agreement. From a mixed effects linear regression model (Baayen & Davidson 2008) emerged a persistent mechanism of constructional priming in the form of both formal and functional similarity across turn-takings, intersecting with both speech acts of agreement and disagreement. Our results reveal that, contrary to what is often assumed in the literature (e.g. Bock 1986; Bock et al. 2007), priming does not occur as a merely implicit mechanism, but significantly correlates with increase of explicit engagement and sentence peripheral pragmatic marking of intersubjectivity (Tantucci 2020; 2021). The results of this case-study ultimately suggest that structural similarity in naturalistic interaction occurs as a by-product of interactional engagement, underpinning ad hoc formation of constructional pairings of form and meaning.

1. Introduction

This study provides new evidence supporting the assumption that cooperation through naturalistic interaction is reflected in the form of constructional and lexical affinities across turn takings (Du Bois 2014; Tantucci et al. 2018). In particular, we address the hotly debated notion of priming (i.a. Bock 1986; Gries 2005; Bock et al. 2007; Pickering & Ferreira 2008) as a mechanism that occurs both formally and functionally throughout spontaneous interaction (cf. Reitter et al. 2011). This paper is specifically focused on the way the co-construction of meaning and formal resemblance across utterances of (dis-)agreement occurs in Mandarin naturalistic conversation. We identified the first 1000 turns of either agreement or disagreement (2000 in total) from the Callhome corpus of Mandarin interaction (cf. McEnery & Xiao 2008). Our data indicate that agreement and disagreement both intersect with priming as forms of dialogic engagement unfolding functionally and formally in the form of a joint project and interactional co-operation (cf. Clark 1996; Tomasello 2008, 2019; Tantucci 2020, 2021). The key of this intersection is that co-operation occurs constructionally as a constitutive element of dialogic interaction, disregarding of the epistemic stance of the interlocutors. This conclusion resulted from a mixed effects linear model based on 1000 utterances of (dis-)agreement,

showing that resonance and constructional priming significantly correlate both phonetically and syntactically with sentence final particles (SFP) of marked intersubjectivity (cf. Tantucci 2013, 2017a, 2017b; 2021; Tantucci & Wang 2018, 2020a). SFPs constitute overt forms of interactional engagement, occurring as non-obligatory markers that are distinctively employed to address potential reactions to what is being said. SFPs positively correlated with resonance in both contexts of agreement and disagreement and revealed both a functional and formal relationship between constructional priming and dialogic cooperation. This is a novel finding, as to our knowledge, this is the first study aiming to shed quantitative light on the constructional features that emerge in the combined formation of meaning in spontaneous conversation and whether these features significantly vary depending on the epistemic stance of the interlocutors.

This paper is structured as follows: In section 2 we review the literature of resonance and dialogic syntax, with a specific focus on the analysis of dialogic constructions as pairs of form and meaning. In connection to this, section 2.1 is centred on the notion of formal/syntactic priming as it has been researched in the cognitive psychological literature and in corpus-linguistics studies. In section 3, we highlight the main research strands concerned with (dis-)agreement and we suggest the desiderata for a constructional approach to epistemic (dis-)alignment in dialogic interaction. Section 4 is devoted to the illustration of our methodology and the results of the multifactorial analysis of 1000 occurrences of (dis-)agreement from the Callhome corpus of Mandarin. In section 5 we formulate the conclusions of this study.

2. Resonance and dialogic engagement

The literature of usage-based linguistics is centred on language as consisting of structures and probabilistic constraints that are shaped by communication, memory and processing. However, for the most part, a strong emphasis has been traditionally placed on the notions of constructs and constructions (i.a. Langacker 1987; Goldberg 1995, 2006; Fillmore & Kay 1999; Tomasello 2003; Traugott and Trousdale 2013) as pairings of form and meaning that are produced by a single speaker.

Over the last few years, the notion of construction has yet been increasingly studied as a dialogic phenomenon, viz. as a shared item involving both interlocutors, cooperatively contributing to the formation of meaning, with the emergence of linguistic forms and functions as an inherently joint activity. This ′dialogic turn combines insights from usage-based linguistics, conversation analysis and interactional pragmatics, and it has been formalised in the so-called dialogic syntax paradigm (cf. Du Bois 2014; see also Zima & Brône 2015; Tantucci et al. 2018). The aim of dialogic syntax is to cast new light on both the formal and the pragmatic encoding of meaning as an adaptive mechanism unfolding through dialogic engagement, viz. as a by-product of dyadic, triadic or even

collective interaction. Meaning formation is viewed as an inherently cooperative project. With ″interactional tools available at every turn to review, revise, and recalibrate understanding, the dynamics of human cognition in interaction diverges radically from the one-shot models assumed in many current theories" (Dingemanse 2020: 24). This entails the redistribution of attentional, cognitive and embodied resources (Clark 2006; Hutchins 1995) whereby the shared dimension of interactional reasoning alleviates individual-bound capacity limits as a scaffolded form of cognitive offloading (Risko & Gilbert 2016). In this sense, cognitive processes and the states of attention, intentions, inference and agency, need to reach beyond explanations rooted at the level of individual psychological processing into forms of dyadic cognising (Arundale 2008; Arundale and Good 2002; Haugh 2009). This joint dimension of both formal and functional co-construction results holistically from ″two [or more] persons involved in, reciprocal co-creating of meanings and actions in ongoing address and uptake" (Arundale 2010:2079; Arundale & Good 2002; Krippendorff 2009:37-47).

From this perspective, dialogic constructions often emerge on the fly as the result of two or more interlocutors' dynamic engagement (Du Bois, 2014; Du Bois & Giora, 2014). The organisation of utterances is syntactically, phonetically, semantically and pragmatically affected by what has been said throughout the same speech event. Constructions are therefore encoded, dis-assembled and re-assembled in dialogue in the form of joint projects (cf. Clark, 1996) or co-actions (cf. Reich, 2011; Goodwin 2013; Tantucci 2016a, 2016b) whereby syntactical organisation, together with the locutionary, illocutionary and per-locutionary level of pragmatic cooperation, are constantly re-organised in the form of a turn-taking driven mechanism. This entails "a mechanistic psychology of dialogue" (Brône & Zima 2014: 465) and the automatic alignment of constructional pairs in discourse. Interlocutors are primed to re-use the linguistic input of immediately preceding utterances they have just processed, with obvious repercussions on the "high degree of repetition typical of interactive language use in comparison to written texts or monologues" (Brône & Zima 2014: 466; see also Tannen 1989). This reflects what in dialogic syntax is more broadly defined as **resonance**, namely the ″catalytic activation of affinities across utterances" (Du Bois 2014: 372) and the degree of encoded similarities (i.e. phonetic, semantic, syntactical and pragmatic) that naturally emerge throughout a dialogic speech event. Three fundamental assumptions are at stake for a constructional approach to dialogic interaction:

i. Speakers in an ongoing interaction jointly set up local constructional routines with varying degrees of flexibility and fixedness. These ad hoc constructions at the same time produce a strong effect of structural parallelism (coherence) and allow for (creative) lexical-semantic variation between speakers.

ii. The processes involved in setting up these ad hoc constructions are comparable to the mechanisms described for the abstraction of conventional grammatical constructions from usage patterns in CxG.
iii. Ad-hoc constructions are different from the form-meaning pairings traditionally described in CxG [1]only in the scope and impact of the process. Whereas CxG focuses on community-wide conventionalizations, ad hoc constructions are temporary routines set up as part of a **conceptual pact** between speakers in an ongoing interaction.

(Brône & Zima 2014: 459)

Cooperation and the conceptual pact of dialogic engagement constitute a fundamental dimension of resonance, as constructional similarity across utterances occurs in epistemic alignment as well as dis-alignment among interlocutors (cf. Tantucci & Di Cristofaro 2020b). Consider example (1) below:

(1) A: That guy just handed the other a bag filled with booze.
B: No, the guy handed him a bag with books.

(Du Bois 2014: 467)

From (1) above, we can see how B′s utterance has been primed by what has just been uttered by A, viz-a-viz resonance occurring at different levels. Syntactically, the ditransitive construction in A [DET + *guy* + *handed* + RECIPIENT + *a bag* + *with* + NP] is mirrored 'on the fly' by B who adopts the same schematic structure [DET + *guy* + *handed* + RECIPIENT *a bag* + *with* + NP] by means of analogy. At the lexical level there is a similar choice of words in the response from A to B: *that* > *the*; *guy* > *guy*; *handed* > *handed*; *a bag* > *a bag*; [*filled*] *with* > *with*. This indicates phonetic similarity across the two utterances and a close length of the utterance as a whole. Table 1 below reports this in the form of a diagraph, namely "a higher-order, supra-sentential syntactic structure that emerges from the structural coupling of two or more utterances (or utterance portions), through the mapping of a structured array of resonance relations between them" (Du Bois & Giora 2014:354). In the table, the creative alteration of the original ad hoc construction is marked as underlined text (in case of replacement) and in brackets (in case of (addition)):

	DET	NP	VP	NP	ADV
A:	that	guy	just handed	the other bag	with booze
B:	the	guy	handed (him)	a bag	with books

[1] Construction grammar.

Table 1.

Diagraph [DET + NP + VP + NP + ADV]

From a pragmatic angle, the pair above shows a case of overt disagreement whereby the illocutionary force of B′s utterance is boosted by structural similarity with A. This is a case of contrary intensifying parallelism (cf. Tantucci et al. 2018), whereby overt disagreement is achieved by means of structural subtraction, viz. the echoing of a preceding proposition p where an element x *booze* is markedly replaced with y *books*. In this sense, structural parallelism is strictly connected with pragmatic engagement, as B formally engages with A's turn with the per-locutionary effects of disagreeing.

Rhetoric strategies based on structural similarity and dynamic resonance are very common in contexts and co-texts of sarcasm and impoliteness. A case in point is 'trumping', whereby adversarial agents exploit the conceptual mechanisms underlying the opponent′s utterances. By aligning the content of different utterances trumping achieves its subversive goal, "allowing the hearer to expropriate the speaker′s own words and ideas and mould them into a contrary communicative goal" (Veale et al. 2006: 314). Consider the impolite exchange below from the BNC2014[2]:

(2) A: You're an idiot

B: MA′AM, you′re the idiot with the purple hair

A: Yes, honey, and I get plenty of compliments of what I′m like than yours

B: And you′ve just got a compliment .. you′re an idiot

BNC2014/SV5R

(Culpeper & Tantucci forthcoming)

Two parallel structures emerge from the exchange above. The first parallel structure is based on the construction [*you* + *are* + *an/the idiot*] > [P.PRONOUN + COPULA + DET + NP], which is creatively re-used by B to reciprocate A's face threat with the further addition of a new impolite comment: [P.PRONOUN + COPULA + DET + NP + *with the purple hair*].

	2nd PERS PRON	COPULA	DET	NP
A:	you	are	an	idiot
B:	you	are	the	idiot (with purple hair)
B:	you	are	an	idiot

[2] Last accessed 2/05/20. See Love et al. 2017 for more information about the BNC2014 corpus.

Table 2.

Diagraph [2nd PERS PRON + COPULA + DET + NP]

The second structure is based on resonance of the construction [*I/you* + GET + (*plenty of*) *compliment(s)*] > [P.PRONOUN + GET + DET + *compliment(s)*] and again the preceding [*you* + *are* + *an/the idiot*] > [P.PRONOUN + COPULA + DET + NP].

	PERS PRON	GET	DET	NP
A:	I	get	plenty of	compliments
B:	you	‘ve just got	a	compliment

Table 3.

Diagraph [PERS PRON + GET + DET + NP]

Despite B is declaring a compliment, this cannot conceivably be true, as the preceding discourse has been geared towards insults, with the flouting of the Gricean maxim of quality (Grice 1975). “The implicature is spelt out for us by the words in apposition to a compliment, namely, *you’re an idiot*” (Culpeper & Tantucci forthcoming). This exchange is a key example of how resonance constitutes an important dimension of engagement even in explicit contexts of impoliteness.

Resonance may occur in the form of mere replication of previously produced linguistic material, but can also be a source for creative re-composition of structural, semantic and pragmatic features of a prime. In fact, on the one hand resonance may be systemic, that is, based on stable properties of the language that are available to all members of a community of practice, such as the formulaic nature of greetings, e.g. [A: *good morning* B: *good morning*]. On the other hand, resonance often occurs dynamically, as a creative mechanism involving the re-elaboration of a previous construction ″on the fly in ways that may be comprehensible only to those who were present in the dialogic moment” (cf. Du Bois, 2014: 353). Dynamic resonance occurs formally through parallelism and/or analogy (i.e. Fischer, 2008; Gentner and Christie 2010) and pragmatically, i.e. by boosting or altering of the illocutionary force of a preceding utterance (Tantucci et al. 2018). In the following exchange B resonates with A′s utterance while s/he transforms the illocutionary force of the construct, from a greeting to an assertion:

(3) A: Alright Martin I′ll see you later

B: I′ll see you later anyway.

I′ll.

A: Okay yeah.

BNC/HMD/1459

(Tantucci et al. 2018)

In (3) A employs a conventionalised construction to perform a greeting, [*I'll see you later*]. The chunk is relatively low in compositionality (i.a. Traugott & Trousdale 2013), as the semantic contribution of the internal constituents to the procedural meaning of the chunk is relatively opaque. This means that A is hereby 'greeting at partying' rather than making a factual assertion about meeting B later on during the day. In the following turn, B′s resonance occurs in the form of a parallelism with A′s proposition *I'll see you later*, with the addition of the sentence-peripheral pragmatic marker <u>*anyway*</u>. This allows B to creatively alter the illocutionary force of the conventional construction [*I'll see you later*]. In this case B re-composes the meaning of the internal constituents of the chunk as s/he makes a new assertion aimed at re-assuring A that, as a matter of fact, they are indeed going to meet each other later on.

	1st PERS PRON	AUX	VP	ADV
A:	I	'll	see you	later
B:	I	'll	see you	later (<u>anyway</u>)

Table 4.
Diagraph [1st PERS PRON + AUX + VP + ADV]

This type of online alteration of a conventionalised construction is achieved by means of re-composition (Tantucci et al. 2018; Tantucci & Di Cristofaro 2020a), viz. the semantic re-discovery of the internal constituency of a conventionalised construction x in the form of x +/- y, x being the original construction [*I'll see you later*] and y its online variation <u>*anyway*</u>.

Goldberg (2019) identifies three important features underlying the relationship between the constructional organisation of utterances and meaning transmission as a by-product of social engagement:

1. Expressiveness: Linguistic options must be sufficient for conveying speakers thoughts, beliefs, and attitudes in ways that listeners are able to understand.
2. Efficiency: Fewer and shorter constructions are easier to learn and produce than more or longer constructions.

3. Obeying conventions: learners attempt to use language in the ways that others in the language communities do.

(Goldberg 2019: 8)

The persistent role played by online priming and resonance in the dialogic formation of constructional pairings of form and meaning inherently underpins engagement as a necessary condition of interactional coordination. In this sense, both socio-cognitive mechanisms of obeying interactional conventions of a community of practice and efficiency of meaning transmission are reasonable principles underlying the ubiquitous pursuit of constructional analogy and similarity across turns. At the same time, expressiveness constitutes a fundamental source of creativity for the realisation of ad hoc constructions, favouring dynamic resonance and online constructional alteration as a mechanism competing with systemic and repetitive linguistic behaviour.

2.1 Constructional priming

Over the last 30 years, priming and repetition have been acknowledged to be a fundamental dimension of human behaviour. A variety of studies indicates that speakers tend to repeat syntactic structures they have just encountered, produced or comprehended (Gries 2005: 365). Pickering & Ferreira (2008) refer to priming as a ubiquitous form of such structural repetition, "a tendency to repeat or better process a current sentence because of its structural similarity to a previously experienced (″prime") sentence" (2008: 1). In early studies on priming, Levelt & Kelter (1982) first noted how contextually situated interaction from merchants in the Netherlands was characterised by the syntactic structure of answers to questions being similar or even identical to that of the questions:

(4) a. Hoe laat gaat uw winkel dicht?
'At what time does your shop close?'
b. Om hoe laat gaat uw winkel dicht?
'What time does your shop close?'

(5) a. Om vijf uur.
'At five o′clock.'
b. Vijf uur"
'Five o′clock.'

(Levelt & Kelter 1982: 89; Gries 2005: 366)

Weiner & Labov (1983) similarly found that the passive utterances occurring at some point of a sociolinguistic interview tended to be significantly correlated with the presence of another passive utterance in the previous five sentences. An experimental strand of research on priming started with Bock (1986), who designed a picture-based memory task with subjects first repeating prime sentences based on transitivity alternation and dative alternation. Subsequently, subjects were given a picture to describe and indeed preferred to use the syntactic structure that matched the prime sentence. Later experimental work has been centred on spoken English and written English as well as Dutch (cf. Hartsuiker & Kolk 1998; Hartsuiker *et al.* 1999; Hartsuiker & Westenberg 2000) and German (cf Scheepers & Corley 2000). Offline experimental paradigms have also become increasingly popular, such as sentence completion tasks (i.a. Pickering & Branigan 1998; Hartsuiker & Westenberg 2000), sentence recall tasks (Potter & Lombardi 1998), and picture descriptions from dialogues (cf. Branigan et al. 2000). Smith & Wheeldon (2001) and Corley & Scheepers (2002) additionally conducted online studies where priming effects were measured in terms of production latencies.

Bock et al. (2007) argue for a structural persistence of priming, regardless of the modality in which language structures are experienced, therefore underscoring the power of priming as an implicit and distinctively syntactic learning mechanism (2007: 438). This view aligns with a number of studies distinctively addressing structural persistence as a tendency to echo syntactic structures from recent experience, despite changes in the meaning, in the wording and even in the language embodying the persistent structure (Bock, 1986; Bock & Loebell 1990; Hartsuiker & Kolk 1998; Pickering & Branigan 1998; Potter & Lombardi 1998; Loebell & Bock 2003: Hartsuikern Pickering & Veltkamp 2004). As it will be discussed in section 4, the present study provides naturalistic data that challenge this assumption.

Gries (2005) identifies a number of objects of enquiry of syntactic priming, some of which are especially relevant for the present analysis, in particular:

i. Duration: Levelt and Kelter (1982) and Branigan et al. (1999) report that priming (in both spoken and written production intervals) is relatively short-lived, while other studies report priming effects across longer time interval or intervening linguistic material (cf. Bock & Griffin 2000; Chang et al. 2000; Pickering et al. 2000).
ii. Construction-specificity: Bock (1986: Exp. 1) noticed stronger priming for the two syntactic frames involved in dative alternations than for those involved in the active–passive alternations in English; a similar prominence of datives over transitives was found for English by Potter and Lombardi (1998: Exp. 3) and for Dutch by Hartsuiker and Kolk (1998).
iii. Language-specificity: Hartsuiker et al. (2002) demonstrate syntactic priming from comprehending Spanish to producing English. Salamoura (2002) enquires priming from Greek (L1) structures to English (L2) structures, while Gries & Wulff (2005) show that German learners

of English as a foreign language exhibit priming in an English sentence completion task.

The distance from the priming item and subsequent constructions displaying resonance throughout spontaneous interaction is one of the issues that are being addressed in the present study. Language-specificity is equally an important dimension of our analysis, as we distinctively focused on Mandarin spontaneous interaction. Most crucially, the issues of grammatical and constructional characteristics of priming items will be addressed from a functional perspective, as factors that are affected by interlocutors' cooperation during an interactional exchange.

Syntactic priming has been traditionally centred on the formal structure of a construction type and whether some sort of schematic productivity is at stake in the transition from an original input to the subsequent output. Pickering & Ferreira (2008) claim that priming and repetition are inversely related to creativity, in that when we repeat a previous behaviour, we forgo the opportunity to create a novel behaviour instead. In this study we take a different stance, as we approach priming in spontaneous interaction as an inherently cooperative (and not merely structural) mechanism, which cannot be detached from pragmatic coordination among interlocutors. This, in turn, underpins interactants ability to creatively re-use previously encountered items to achieve new per-locutionary effects (cf. examples (1,2,3) in section 2.). The important role played by pragmatic cooperation as a form of priming has been noted by Brennan and Clark (1996) who had interlocutors describe pictures to each other and noted that they tended to imitate each other′s choice of referring expressions. Garrod & Anderson (1987) found something very similar with pairs of participants playing a cooperative maze game. There is also evidence of priming occurring deictically, with interlocutors showing a tendency to interpret spatial expressions such as left and right in the same way (Schober 1993; Watson, Pickering & Brannigan 2004). In addition, it has also been found that interlocutors tend to align on accent and speech rate (Giles, Coupland & Coupland 1991) and on phonetic realisations of repeated words (Pardo 2006). The relationship between priming and cooperation is similarly noted in Haywood, Pickering and Branigan (2005), as they found that participants were more likely to use locally disambiguated instructions when they had just been instructed to perform a similar act with a prime containing a particular item, than when the prime did not contain it.

Concerning the nature of data that can be analysed to study priming, Gries (2005: 385) notes that data in experimental environments is normally collected in very narrowly defined and artificial settings. While, he notes, this may be desirable from the point of view of delimiting error variance, it prevents from analysing the relationship between resonance and context, e.g. the role of register effects on syntactic priming. Corpus data, by contrast, allow for a multifactorial analysis of priming in natural settings. In addition, we add, it allows the analyst to verify whether priming is significantly associated with semantic-pragmatic dimensions that arise 'on the fly' through spontaneous

conversation, and not as the result of artificially designed stimuli. As far as we are aware, the present study is the first to account for all forms of syntactic and phonological priming across turn-takings of a dialogic dataset. That is, we are not exclusively interested in a specific construction type, but rather in the way priming unfolds 'as such' both schematically and pragmatically throughout a context-bound natural conversational setting. This method aims at the accountability of priming as an emergent property of naturalist interaction, which we address as a joint production of dialogic pairings of form and meaning. In this sense, we favour the notion of constructional priming, as it better captures the speakers' ability to naturally co-construct formal and functional pairings of meaning that are not necessarily bound to one specific syntactic pattern, but may rather occur holistically as a result of phonetic, lexical, syntactic and pragmatic resemblance across utterances. Consider the example below from our Mandarin dataset:

(6) A: **她她搞了什么**东西, **她搞了股票**。

tā tā gǎo le shénme dōngxi，tā gǎo le gǔpiào

she she do PERF[3] what thing, she do PERF stock

'She, she, what did she do, she was investing in the stock market.'

B: **她什么搞股票**, **她不是在帮写什么**东西。

tā shénme gǎo gǔpiào，tā bù shì zài bāng xiě shénme dōngxi.

she what do shares, she not PROG[4] help write what thing

'She was investing in no stock market, wasn't she helping with writing up some document?'

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In the case above, B disagrees with the facts that are reported by A. Disagreement here occurs in the form of a parallelism with A's priming construction [PERS PRON + *do* + NP] > [**她** *t'āshe'* + **搞** gǎo 'do **股票** + *gǔpiào 'stock market'*], which is then re-assessed in the form of a rhetoric question with the addition of **什么** *shenme'* what in the form of [P.PRON + *what* + *do* + NP] > [**她** *t'āshe'* + **什么** *shenme 'what'* + **搞** *gǎo 'do* + **股票** *gǔpiào 'stock market'*].

[3] Perfective.
[4] Progressive.

	PERS PRON	DO	NP
A:	她	搞了	什么东西
A:	她	搞了	股票
B:	她 (什么)	搞	股票

Table 5.
Diagraph [P.PRON + *do* + NP]

The ad hoc construction employed by B is a single instantiation of a dialogic construction that in Mandarin is conventionally used to express disagreement, namely [(Subj) + 什么 *shénme 'what* + P], whereby P is a proposition that has just been assessed in a preceding turn taking. Put simply, in (6) formal similarity conveys meaning. This suggests that, in naturalistic conversation, formal similarity and analogy combine with semantic and pragmatic dimensions and do not constitute an exclusively syntactic or merely structural mechanism. The ensuing discussion and analysis aim to support this view.

3. (Dis-)agreement

The main claim of this study is that priming occurs in conversation as both a functional and a formal mechanism of dialogic engagement, viz. underpinning speech acts of (dis-)agreement in Mandarin spontaneous conversation. In this section we provide an overview of the literature of (dis-)agreement in the pragmatics literature and suggest the desiderata for a constructional approach to epistemic (dis-)alignment through interaction.

Since the model of epistemic conflict discussed in Pomerantz (1984), agreement has traditionally been addressed as the preferred response to a claim in everyday conversation (Greatbach 1992). More recently disagreement started to be addressed as a multidirectional and multifunctional act that fulfils a number of social functions in different contexts and cultures (Sifianou 2012). From a discourse analytical perspective (Elen 2001; Watts 2003; Locher 2004; Mills 2005), it is noted that strong disagreement tends to be employed to maintain or enhance face and relationships through individual qualities, relations and membership, while ostensible face-threatening acts of strong disagreement are much less conventional.

Leech (1983, 2005) suggested that in response to opinions or judgements of interlocutors, agreement is preferred while disagreement is dispreferred in both Eastern and Western contexts. He argued that polite effects of agreement are often enhanced with intensification, while mitigated

agreement shows the opposite effect. As the allegedly dispreferred response, disagreement is often mitigated by speakers by means of adding delay, hesitation or temporising expressions in front of disagreement. However, in many cultures and context-specific instantiations, disagreement is arguably considered to be as socially ′expected or even a sociable form of rapport enhancement (cf. Spencer Oatey 2008). In particular, disagreement has been noted to be a frequent factor of engagement in Jewish culture (i.a. Heilman 1976; Schiffrin 1984; Tannen 1984; Blum-Kulka 1997; Blum-Kulka et al. 2002; Ben-Menachem & Livnat 2018). Similarly, in a wide variety of cultures (i.a. Goodwin & Goodwin 1990) such as Greek (Tannen & Kakavá 1992; Kakavá 1993; Marki-tsilipakou 1995; Georgakopoulou 2001; Koutsantoni 2005) disagreement and direct confrontation constitute a highly conventionalised and potentially scripted (Schank & Abelson 1977) form of social interaction. Context and ′situatedness have been taken into account as important dimensions of (dis-)agreement in studies by Kotthoff (1993), Myers (1998), Yaeger-Dror (2002), Clayman & Heritage (2002), Tannen (2002), Chiu (2008), and Netz (2014), among others. Disagreement has also been studied in contemporary online political discourse as a practise with a context-specific function of entertainment (i.a. Kleinke 2010; Dori-Hacohen & Shavit 2013; Johansson 2015; Livnat and Kohn 2018). The inherent relationship between disagreement and dialogic engagement is often at stake in so-called contexts of word meaning negotiation (WMN). Myrendal (2019) notes that many cases of WMN encompass sequences that originate in disagreement between participants regarding the way a particular word is used in the discussion context. The formal and functional status of the same collocate is therefore negotiated with effects on resonance and ad hoc pairings of form and meaning. Utterances of disagreement are often divided into strong disagreement and mitigated disagreement (Pomerantz 1984, Rees-Miller 2000, Angouri & Locher 2012). Put simply,″ disagreements are strong in as much as they occur in turns containing exclusively disagreement components, and not in combination with agreement components" (Pomerantz 1984: 74).

(Dis-)agreement has also been studied in a Chinese context. Through a contrastive study on disagreement strategies for politeness between American English and Mandarin Chinese, Liang and Han (2005) reveal that there is a positive correlation between rates of disagreement and change of social distance among Mandarin Chinese speakers. Similarly, Chu (2016) conducted a contrastive study on politeness strategies and social distance in connection with disagreement between native speakers of English and Chinese EFL (English as a Foreign Language). Zhu′s (2014a) research on mundane conversations in Mandarin reveals that non-familial, equal-status native speakers co-construct strong disagreement as a strategy to conduct facework and manage relationships. Pragmatic marking and intersubjectivity have also been discussed in connection with indirect disagreement, as in the case of adverbials 其实 *qíshí* 'actually' and 事实上 *shìshíshàng* 'in fact' with the function of

mitigating the threatening of recipients face (Hsieh & Huang 2005, Wang et al 2010, Wang et al 2011). Zhu (2014b) adopts Spencer-Oatey's rapport management model (2002, 2005, 2008) to investigate naturally occurring conversations produced by Chinese speakers of English. In this study, strong disagreement occurs can be deployed in order to preserve rights, conduct facework and achieve interactional goals. Strong disagreement observed in spontaneous English conversations among non-familial, equal-status Chinese native speakers has been observed to display predominantly face-enhancing and face-maintaining acts (see also Zhu & Boxer 2013 on strong disagreement in Mandarin and English as a Lingua Franca).

The focus of the present analysis is on agreement and disagreement as both being realised as forms of dialogic engagement, displaying functionally and formally a similar degree of resonance and constructional priming.

(7) A: **呃 , 你可不可以完全自己开耶** ?

ē，nǐ kě bù kěyǐ wánquán zìjǐ kāi ye

E, you can not can entirely self open YE

'Well, couldn't you start that business yourself?'

B: **私人啊** ?

sīrén a

private A

'You mean privately?'

A: **啊** ? **不是私人呐, 当然**。

a? bùshì sīrén na，dāngrán

A? Not be private NA, of course

'What? Not privately actually, of course not.'

Callhome/Chin 0029

In (7) A overtly disagrees with what is suggested by B, viz. that *the said company would be private*. Nonetheless, disagreement here is not pursued with the attempt of an overt face threat, as it is markedly mitigated by the presence of sentence final particles (SFP). The latter in Chinese are extremely common, non-obligatory markers of intersubjectivity, as they express the speaker's overt intention to address their interlocutors' potential reactions to the utterance (cf. Tantucci 2017b, Tantucci 2021; Tantucci & Wang 2018, 2020a, 2020b). The SFP **啊** *a* (or **呀** *ya*, **呐** *na*) is often

employed to set up close relations (cf. Chappell and Peyraube, 2016: 323). When it is used epistemically, 啊 *a* is aimed at soliciting H to acknowledge the state of affairs of p (i.a. Xu, 2007; Tantucci & Wang 2018, 2020). In the brief exchange above, A resonates with B syntactically and phonetically with a clearly functional orientation towards positive reassurance. The ad hoc construction [私人 *sīrén* 'private' + 啊/呐 *a/na*] > [ADJ PRED[5] + SFP] is the object of a parallelism, whereby the same structure of B's question is re-used with a new assertive force (cf. Tantucci 2015, 2016a) and a new negative mood.

	ADJ PRED	SFP
A:	私人	啊
B:	(不是) 私人	呐

Table 6.
Diagraph [ADJ + SFP]

There is evidently more than mere structural priming underpinning the case of resonance above, as the speakers' use of non-obligatory markers of intersubjectivity underpins both pragmatic and formal engagement, with facework being overtly geared towards rapport maintenance and avoidance of conflict.

In the next section we provide a multifactorial account of the direct relationship between the interlocutors' functional engagement and formal similarity across their utterances.

4. Data retrieval

The data of this project was retrieved from the Callhome corpus of Mandarin Chinese of spontaneous interaction. Two different annotators manually retrieved 1000 cases of turn-takings of agreement and disagreement occurring naturally from 83 different conversations. The Callhome corpus consists of 120 unscripted telephone conversations between native speakers, comprising 250,000 words. It is exclusively based on phone-calls data. This entails that elements of embodied interactional experience were not part of the present study. Topic-wise, the Callhome speakers were all aware that they were being recorded and they were given no guidelines about what they should talk about. The distinctively situated nature of this context allowed us to provide an empirical account of the distinctively textual dimension of verbal interaction. Put simply, multimodal effects that may be at play in other

[5] Adjectival predicate.

conversational settings (e.g. eye gaze, hand gestures and so on) were by default controlled for the very nature of telephone conversation. The retrieval of the data was based on the principle of total accountability (Leech 1992), entailing the manual selection of all the turns of (dis-)agreement from the beginning of the corpus up to the 1000th occurrence for each kind of speech acts. The operational criteria for the selection of turn takings of (dis-)agreement were based on wether the utterance would constitute an adjacency pair with a previous turn and whether it would either collocate or be acceptable with a preceding pragmatic marker *shì de* 是的 'it is so' or 不是 *bùshì* 'it is not (the case)' (cf. example (5) in section 3).

4.1 Annotation and methodology

The annotation of the occurrences of (dis-)agreement from the Callhome corpus was based on a number of dimensions, namely whether the utterance was one of agreement or disagreement, whether it included a sentence final particle (SFP), the source of resonance (i.e. whether speaker B would resonate with speaker A, with him/herself or with both), the degree of phonetic resonance, the degree of syntactic resonance and finally the distance from the prime and the point throughout the exchange where resonance occurred. A sample line of the input of all these dimensions is given in Table 7 below:

(Dis-)agreement	SFP	Source	Phon Resonance	Synt Resonance	Distance
Agr	*No*	*Other*	*4*	*3*	*2*

Table 7.
Input for the annotation

As far as the annotation of the dimensions in Table 7 is concerned, it is necessary to further explain the operational criteria for the identification of phonetic, syntactic resonance and distance. The count of phonetic resonance was based on the number of words or interjections that were reiterated or re-used by the interlocutors[6]. On the other hand, syntactic resonance accounts for the internal constituency of resonating ad hoc constructions. This means that the count would not be simply limited to similar words, but also to the schematic type of internal constituents of constructions displaying structural similarity with one another. Finally, the dimension distance was based on the

[6] The reason why we opted for the notion of phonetic resonance (instead of lexical resonance for instance) is because this category entails the mere repetition of a phonetic stimulus, which may be lexical, yet it may also be an interjection or a laugh.

number of intonation units (IU) (cf. Chafe 1994) that would occur from the prime and the resonating word or construction. Intonation units are defined in terms of a single intonation contour (Chafe 1994; Du Bois et al. 1993; Croft 1995; Tao 1996), they tend to end with continuing or falling intonation contour, they are typically separated by at least a brief pause, and they tend to consist of a single clause, which contains one verb plus commonly known phrases that are associated with it (Chafe 1994: 14). We can first look at example (8) as an illustration of the annotation procedure:

(8) A: **我知道, 我知道, 那个手段更复**杂了。

wǒ zhīdào，wǒ zhīdào，nà ge shǒuduàn gèng fùzá le

I know, I know,, that CLAS[7] method more complicated PERF

'I know, I know, that method is even more difficult.'

B: 对对对, 现在可复杂了。

duì duì duì，xiànzài kě fùzá le

correct correct correct, now extremely complicated PERF

'Absolutely true, now it's so difficult'

Callhome/Chin 0029

In the diagraoph below, the construction [**更** *gèng 'more'* + **复**杂 *fùzá 'complicated'* + **了** PERF] > [INT + ADJ + PERF] constitutes a prime for the adjacent B's turn [**可** kě *'so'* + **复**杂 *fùzá 'complicated'* + **了** PERF] > [INT[8] + ADJ + PERF]:

	INT	ADJ	PERF
A:	**更**	**复**杂	**了**
B:	**可**	**复**杂	**了**

Table 4.

Diagraph [INT + ADJ + PERF]

[7] Classifier.

[8] Intensifier.

The latter can be marked as a turn of agreement, as it is compatible with the pragmatic marker **是的** *shìde* 'it is so' and mutually exclusive with its negative counterpart **不是** *bùshì* ′it is not (the case)′ (cf. initial assessments in Pomerantz 1984 and especially prefacing markers of (dis-)agreements in Georgakopoulou 2001: 1886). B's construction has a phonetic resonance value of 2, with the acoustic replication of the items **复**杂 *fùzá* + **了** *le*. It has a syntactic resonance value of 3, with a match of the internal constituents of the same schematic construction [INT + ADJ + PERF]. The source of resonance of B's utterance is exclusively A and has been therefore labelled as *other*. Finally, the distance from the prime to the resonating construct is 2, namely the first IU of the sequential acknowledgement 对对对 *duìduìduì* 'right right right'[9], and the second IU where the resonating construction [INT + ADJ + PERF] occurs.

Consider now a second diagraph in (9) below:

(9) A: **你**们不是在努力?

nǐmen bù shì zài nǔlì
you not be PROG make-an-effort
'Weren't you making some efforts for that?'

B: 对啊，**在努力中啊**。

duì a，zài nǔlì zhōng a
correct SFP, in/PROG make-an-effort middle SFP
'Absolutely, we are just in the process of making those efforts.'

Callhome/Chin 0104

In (9), B's utterance is an agreement with A and resonates with the construction [**在** *zài* PROG + **努力** *nǔlì 'make an effort'*] with the addition of the SFP **啊** *a*. Similar to (8), the source of resonance is marked as *other*, as the prime originates exclusively from speaker A. The value of phonetic resonance here is 2 [**在** *zài* PROG + **努力** *nǔlì*], which is the same for syntactic resonance, viz. the schematic

[9] Sequential repetitions of this kind have not been included in the annotation when they were part of the same intonation unit and therefore could not be considered an element of priming.

internal constituents of the parallel constructions are [PROG + VP]. Distance corresponds to 2, as again resonance occurs after the first IU 对啊 *duì a* 'correct!'.

It may be argued that, at a high level of schematicity, constructional similarity is almost ubiquitous throughout dialogic conversation, resulting in an extremely challenging annotation task for the syntactic resonance dimension. To address this issue, our operational criterion for identifying the constructional pairs with varying degrees of syntactic resonance was the presence of phonetic resonance. This entailed the occurrence of at least one priming lexical item, particle or interjection as one of the internal constituents of the resonating construct, e.g. the presence of 复杂 *fùzá* and 了 *le* in [INT + ADJ + PERF] from (6), as well as 在 *zài* and 努力 *nǔlì* in [PROG + VP] from (7). This framework of analysis was based on formal criteria of annotation, and therefore did not pose the problem of subjective judgement of qualitative diagnostics. However, a three staged process of inter-rater reliability among three different annotators was still necessary to capture all the quantitative variation of both phonetic and syntactic resonance throughout the dialogues. The rate of accuracy among the annotators at each stage of analysis was respectively 78%, 81% and finally 97%.

4.2 Results

The results of our analysis are first centred on the persistence and duration of priming (i.a. Levelt & Kelter 1982; Branigan et al. 1999; Bock & Griffin 2000; Pickering et al. 2000; Chang et al. 2000). In particular, we focused on the relationship between resonance and distance, viz. the amount of linguistic material (measured in intonational units, IUs) that would affect speakers' replication of the original prime. Figure 1 below captures the relationship between increasing distance (expressed in intonation units on the x axis) together with frequency (indicated by the number of dots) and intensity of syntactic & phonetic resonance (y axis):

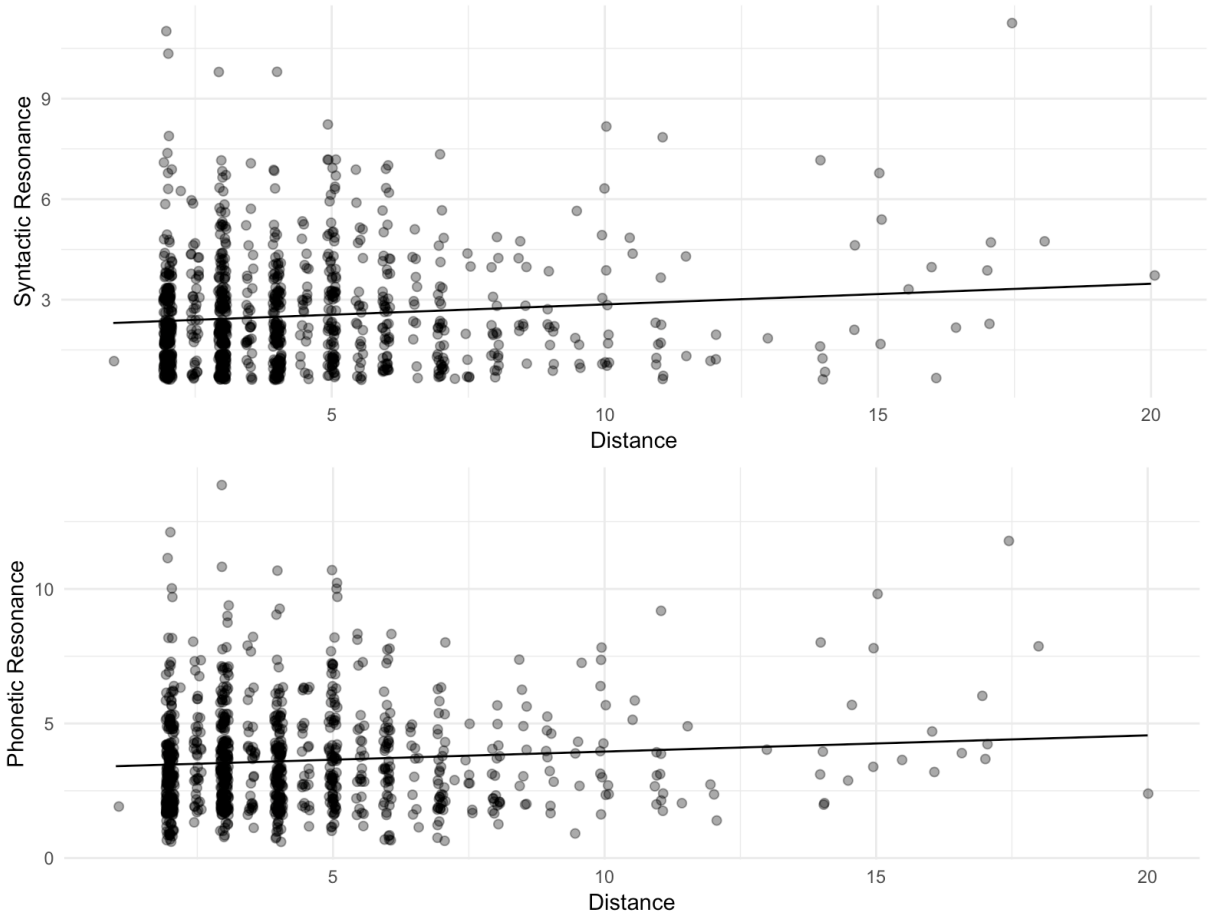

Figure 1.

The interaction of distance vs phonetic and syntactic resonance

Firstly, it is important to first interpret the relationship between density and height. On the one hand, the number of dots represents how frequently resonance occurs at different stages of dialogic interaction, i.e. from the 1st up to the 20th intonational unit (IU) since the original prime, corresponding to the intercept of the x axis. On the other hand, the location of the dots on the y axis represents the 'weight' of resonance, viz. how much phonetic and syntactic material underwent resonance in a single turn.

From the above, we can clearly see that the highest concentration of both phonetically and syntactically resonating items occurs in between the 1st and the 5th intonation unit (IU) after the initial prime. In fact, the density (and therefore the frequency of instances of resonance) clearly decreases after the 6th IU, before almost disappearing after the 18th IU. Quite intriguingly, as shown by the two linear regression lines, increasing distance is also directly proportional to significantly higher values (stronger weight) of both syntactic and phonetic resonance. Simply put, resonating utterances that occur at comparatively later IUs tend to be less frequent on the one hand, while, on the other, they are also characterised by significantly stronger (i.e. 'heavier') phonetic (df=1.866 on 990, R^2 =.006396, F=7.38 p<.01; β=2.72, p<.001) and constructional similarity (df=1.606 on 990, R^2

=.009, F=10.4, p<.001; β=3.22, p<.001) with the original prime. This implies that, if a speaker is still affected by an initial prime after a longer stretch of interaction, higher phonetic and constructional engagement will occur as the result of the same original stimulus. This phenomenon is arguably connected with the idea of priming being a potential trigger of explicit interactional engagement. If a stimulus persists for a longer stretch of discourse in a speaker′s mind, that may be due to the fact that s/he 'cares about bringing that up′ at some point. The heavier weight of resonance at a later turn at talk may indeed reflect the explicit attempt to – either positively or negatively – partake in the action formation of a distinctively salient priming stimulus. Consider the exchange in (10) below:

(10) A: **看你什么**时候发大财, **我**们来沾点光咯。

kàn nǐ shénme shíhou fā dà cái, wǒmen lái zhān diǎn guāng luò
see you when make big money, we come 'ride-on-coattails' SFP
'Let's see when you can make a lot of money, then we'll ride on your coattails.'

B: **哎**。**那** &=laugh **呃** 这, **想嘛**，这是。这要想发财的人才能发财。

āi。nà è, zhè，xiǎng ma，zhè shì。zhè yào xiǎng fācái de rén cái néng fācái

well. That, this want SFP, this is. This if want make money DE people only can make money
'Well, then, that, uhm, this, I want of course, this is. For this, only if you want to make money you can make money.'

B: **不想**发财的人, **一**辈子发不了财 .

bùxiǎng fācái de rén，yī bèizi fābùliǎo cái

not want make money DE people, one life make cannot money
'People who don't really want to make money, they will never make it.'

Callhome/Chin 717

This exchange is an example of interplay between structural similarity and interactional engagement. In this case, after a distance of 10 IUs the priming collocate 发财 *fācái* 'make money' leads to repeated resonance in B's subsequent argumentation, as it becomes the main topic of his turn and underlies a number of ad hoc constructions produced accordingly. This is reflected by a phonetic resonance value of 10, whereby the two words 发财 *fācái* occur 4 times throughout B's turn, in addition to the self-expansion of **想** *xiǎng* recurring twice after B's first usage (this indicates that B's

resonance originates both from constructions first uttered by A and by B herself and would be annotated as *combined* in our scheme). Conversely, syntactic resonance here has a value of 9, as the original construction [发 *fā* + (X) + 财 *cái*] > [V + X + Obj] is re-used four times in B's turn, in addition to the self-expansion of the hypothetical construction [(不) 想 *xiǎng* 'think/plan' X, Y].

At this point, we were also interested in assessing whether there is a significant difference between agreement and disagreement underpinning distance and weight of resonance. In Figure 2 we reported three box plots centred on the relationship between (dis-)agreement, resonance and distance.

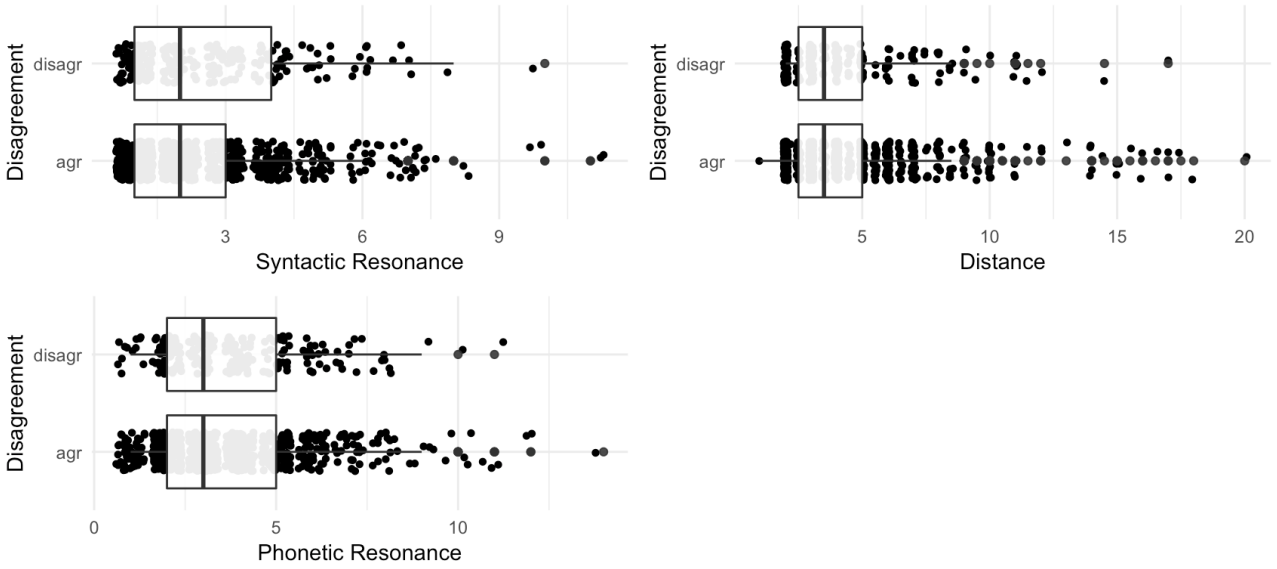

Figure 2.

Box plots of the relationship between (dis-)agreement, distance and syntactic/phonetic resonance

From the above, the medians of both agreement and disagreement appear to be very much aligned, leading to no significant difference between utterances of agreement vs disagreement. This may apparently support the idea that priming and resonance occur as exclusively structural features, disregarding of the role played by pragmatics and dialogic engagement. On the other hand, agreement and disagreement do occur as two qualitatively different forms of engagement. The fact that there is not a quantitative mismatch between the two does not exclude a functional dimension underpinning constructional priming and resonance throughout the naturalistic realisation of each. In Figure 3 below, we report the distribution of the resonating utterances of agreement and disagreement depending on the source of the prime. The latter could be exclusively the same speaker (a case of self-expansion), exclusively the other interlocutor (labelled as other) and cases where resonance originates from both interlocutors (labelled as combined):

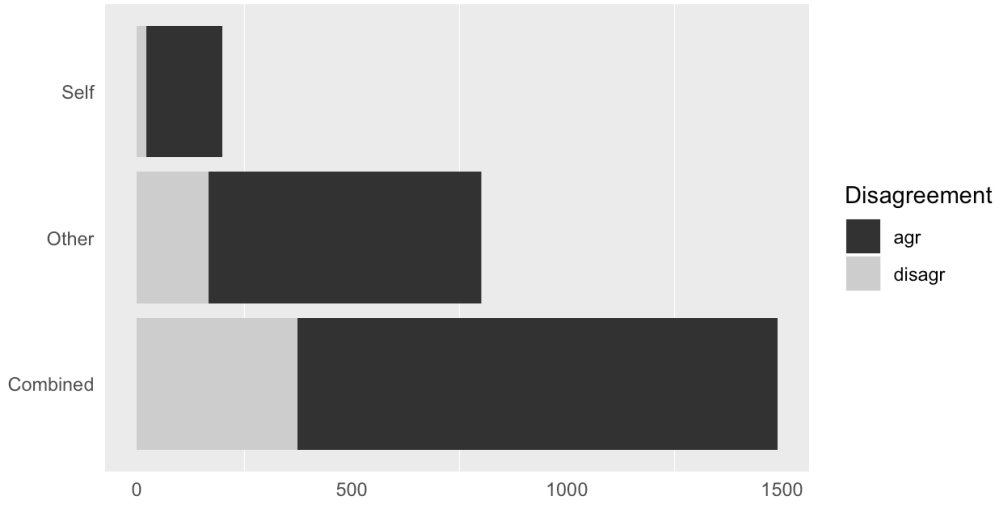

Figure 3.

Bar plot of the interaction of Source of resonance and (dis-)agreement

From Figure 3 we can see that disagreement tends to be extremely rare as a form of self-expansion. Simply put, interlocutors are rarely self-primed by their own linguistic material in order to express disagreement. This tendency is captured in Figure 4 below.

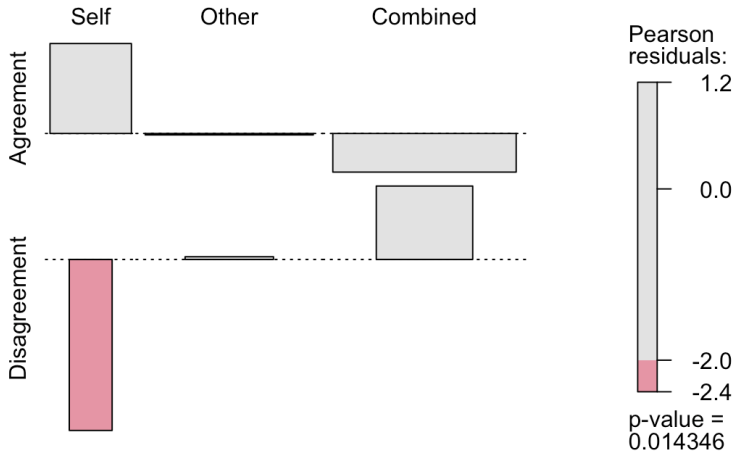

Figure 4.

Visualisation of Pearson residuals of the interaction of Source of resonance and (dis-)agreement

The bar plot above provides the visualisation of a X^2 test, X^2 (2, N = 1000) = 8.9, p<.05. The significant p-value of the model is given at the bottom right hand side, while the widths of the bars indicate frequency. Significantly negative Pearson residuals are expressed with a red bar (the observed frequencies are significantly lower than expected), which in this case result from the intersection between disagreement and self-expansion.

The central part of our analysis focused on the factors that holistically contributed to the increase of resonance. To do so, we fitted a mixed effects linear regression model (cf. Baayen et al. 2008) with syntactic resonance as a response variable and (dis-)agreement, source and presence of sentence final particles (SFP) as covariants, while distance was treated as a random effect, viz. as an epiphenomenon of resonance.

Random Effects				
Groups	Name	Variance	Std. Deviation	
Distance	(Intercept)	592	0.018	
Fixed Effects				
	Estimate	Std. Error	T value	Pr(>|t|)
(Intercept)	-0.085	0.073	-1.147	0.252
Disagreement	0.031	0.059	0.513	0.608
Source_other	-0.307	0.054	-5.675	3.34e-08 ***
Source_self	-2.629	0.424	-6.2	5.64e-10 ***
Phonetic resonance	0.734	0.013	53.614	< 2e-16 ***
SFP_yes	0.157	0.049	3.176	0.00154 **

Table 5.

Mixed effects linear regression of the factors contributing to Syntactic resonance

The column standard deviation in the random effects section shows the variability from the predicted values due to the random effects added to the model, viz. the number of IUs occurring in between the prime and the resonating construction case. In the fixed effects section, under the Estimate column, the coefficients indicate the slope for the multifactorial effects on the degree of syntactic resonance, namely disagreement, Source of resonance, degree of phonetic resonance and presence of sentence final particles of intersubjectivity (SFP).

As expected, the source of the prime interacts significantly with degree of resonance. In fact, when the prime is exclusively originated by either the speaker (Source_self, $\beta(948)=-2.6$, $p<.0001$), or the hearer (Source_other, $\beta(292)=-.3$, $p<.0001$), there is a significantly negative impact on the degree of syntactic resonance. The latter therefore tends to significantly occur as a distinctively combined phenomenon of both interlocutors (cf. example (10) and also figures 3 and 4). Similarly, there is a positively strong correlation between resonance occurring syntactically and phonetically (phonetic resonance, $\beta(982)=.73$, $p<.0001$), which indicates that whenever resonance increases

schematically, it also tends to increase phonetically. Most crucially, there is also a significant interplay between resonance and presence of sentence final particles of intersubjectivity (SFP, $\beta(945)=.16$, $p<.005$)), suggesting a clear intersection between structural similarity and interactional engagement. This last finding is a fundamental one, as it supports the assumption that the priming and syntactic similarity throughout the interaction are not detached from functional engagement and pragmatic competence. Consider example (11):

(11) A: **你**们那儿还是**不行** , **佛**罗里达应该没问题**吧** ?

nǐmen nàr háishì bù xíng，fóluólǐdá yīnggāi méi wèntí ba

you there also not well, Florida should no problem BA

'Things are still not well there, in Florida things should be rather fine isn't it?'

B: **佛**罗里达也不行, **佛**罗里达更不行, **佛**罗里达是犯罪率最高的**嘛**。

fóluólǐdá yě bù xíng，fóluólǐdá gèng bù xíng，fóluólǐdá shì fànzuìlǜ zuì gāo de ma

Florida also not well, Florida more not well, Florida is crime/rate most high DE MA

'Things in Florida are not well either, things in Florida are even worse, in Florida there is the highest crime rate, actually.'

Callhome/Chin 0669

The exchange above is a clear case of disagreement, whereby B rejects the idea that *the quality of life in Florida is comparatively better*, as suggested by A. Disagreement here leads to formal and functional engagement with the priming utterance. Both phonetic and syntactic resonance are at play, in turn intersecting with presence of SFPs. Phonetic resonance has a value of 7, with the word **弗**罗**里达** *Fóluólǐdá* 'Florida' resonating three times and the words **不** *bù* 'no' **行** *xíng* 'good' resonating twice each. Syntactic resonance overall amounts to 11. It occurs constructionally as [PLACE + ADV + **不** *bù* 'no' + **行** *xíng* 'good'] and is instantiated as [**那儿** *nàr* 'there'+ 还是 *háishi* + 'still'+ **不** *bù* 'no' + **行** *xíng* 'good'] in A's turn, while it is re-combined respectively as [**佛**罗里达 *Fúluólǐdá* 'Florida' + **也** *yě* 'also' + **不** *bù* 'no' + **行** *xíng* 'good'] and [**佛**罗里达 *Fóluólǐdá* 'Florida' + **更** *gèng* 'more' + **不** *bù* 'no' + **行** *xíng* 'good'] in B's turn. This is shown in Table 6 below:

	PLACE	ADV	NEG	ADJ PRED

A:	那儿	还是	不	行
B:	佛罗里达	也	不	行
B:	佛罗里达	更	不	行

Table 6.
Diagraph [PLACE + ADV + NEG + ADJ PRED]

A second, formally similar ad hoc construction also resonates throughout the exchange, namely the schema [PLACE + PRED + SFP], which in A is expressed with an assertive illocutionary force as [佛罗里达 *Fóluólǐdá* 'Florida' + 应该 *yīnggāi* 'should' + 没问题 *méiwèntí* 'no problem' + 吧 BA], while in B it occurs also assertively as 佛罗里达 *Fóluólǐdá* 'Florida' + 是 *shì 'is'* + 犯罪率 *fànzuìlǜ* 'crime-rate' + 最高的 *zuìgāo* DE 'highest' + 嘛 MA]. See Tale 7 below：

	PLACE	PRED	SFP
A:	佛罗里达	应该没问题	吧
B:	佛罗里达	是犯罪率最高的	嘛

Table 7.
Diagraph [PLACE + PRED + SFP]

Crucially, B construes a number of ad hoc constructions based on what A just said, and combines them with the intersubjective SFP 嘛 *ma* (cf. Lü 1999; Shen 2003; Qiang 2007, 2008; Tantucci 2017b, 2021), which mirrors the presence of the SFP 吧 *ba* (Tantucci 2017b; Tantucci & Wang 2018, 2020a, 2020b) in A's turn. This indicates that in the exchange structural similarity does not merely occur as an implicitly formal phenomenon, but is directly paired with functional and rhetorical effects. This parallelism is achieved in order to mitigate the potential negative impact of disagreement among the interlocutors, as the absence of SFPs in an adjacent parallel assertion of disagreement would result in a potential face threat.

5 Conclusion

This study led to a number of important results. First, in the context of telephone conversation, Mandarin spontaneous interaction is characterised by a similar degree of constructional priming and resonance in speech acts of agreement and disagreement. Secondly, distance has a negative effect on the frequency of resonating utterances, yet a positive one on the 'weight' of resonating turns. This means that the longer the stretch of discourse from the prime to the resonating utterance, the stronger the interlocutor's engagement with the same original prime. One additional result of the present analysis is that while resonance as such does not favour agreement over disagreement, nonetheless the latter is correlated with the source 'type' of the prime. In fact, disagreement is significantly unfrequent in contexts of self-expansion, viz. when the speaker repeats him/herself throughout his/her own turn. More importantly, from a mixed effects linear regression emerged that resonance throughout one single turn tends to occur as combined phenomenon that originates from primes within the turns of both speakers. Similarly, the model indicates that resonance occurring at a schematic level of abstraction is significantly correlated with resonance occurring phonetically. Finally, and most crucially, resonance is significantly correlated with presence of non-obligatory sentence final particles (SFP) of intersubjectivity. This is the most important result of this study as it indicates a significant correlation between structural similarity and interactional engagement. This fact has important implications for the cognition and the pragmatics of priming, as it suggests that both formal and functional factors are at play when a turn is characterised by resonance.

The present analysis provided a novel operational framework to put the dialogic syntax model ′into play and gather large-scale quantitative results from naturalistic data that could not be obtained in a controlled lab-environment of experimental analysis. This framework is centred on the interplay of usage-based and pragmatic analysis of spontaneous interaction. As Foolen notes, ″the process of recontextualizing Pragmatics to cognition is clearly a significant aspect of the present dynamics in the field" (Foolen 2019: 39). Since Grice′s work on implicatures, the interpretation of utterances in context has been the object of a strong line of research, i.a. Levinson (2000), Horn (2018) and the framework of Relevance Theory, starting with Sperber and Wilson (1986). This strand of research has traditionally been labelled Cognitive Pragmatics (cf. also Bara 2010; Schmid 2012, 2016). Naturalistic data addressed from both a cognitive and pragmatic angle has also become increasingly centred on processes deriving ″from concrete social action and thus from joint agency and the mutual coordination of verbal behavior" (Haselow & Hancil 2018:2-3; see also Du Bois & Giora 2014), with both individual and collective grammatical structure, not only being ″shaped by cognitive principles and processes, but also by the pragmatic, interpersonal, and social functions of language, and by pragmatic and social processes and forces" (Schmid 2012: 554). Similarly, the integration of

Pragmatics and cognition has found its way into Historical Pragmatics (see Traugott 2019), whereby invited inferences of increasingly (inter-)subjectified meanings combine with analogy, entrenchment, increased schematicity and so on (e.g. Traugott & Dasher 2002; Traugott & Trousdale 2013). From an evolutionary perspective, it is similarly held that ″interlocutors co-create and negotiate meaning interactively in discourse, a process that is context-based, interactive, inferential and pragmatic in nature" (Pleyer et al. 2017: 304). All of these models convergence towards a usage-based and pragmatic account of meaning formation in contexts of naturalistic interaction. Along this increasingly influential strand of research, this paper shows that in Mandarin interaction when constructional similarity across turns involves creativity, it reflects explicit dialogic engagement and pragmatic cooperation. This constitutes compelling evidence to suggest that, as far as naturalistic interaction is concerned, priming is not exclusively limited to an implicit mechanism of structural similarity.

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