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Justifying the dichotomy of questions in Jin Chinese and a tentative implicational universal

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Abstract

The dichotomy of confirmation-seeking (CS) polar questions versus information-seeking (IS) constituent questions—based on the semantics of singleton sets versus non-singleton sets of propositions—is instrumental in reassessing the typology of questions in several Sinitic languages: Mandarin, Xiang, Southern Min, and Cantonese, as well as English and Paiwan (Austronesian) and in discovering that Xiang has no CS questions, while Paiwan, and perhaps also English, have only intonational CS questions. This study reexamines questions in Jin Chinese, the only non-Mandarin Sinitic language in northern China, and demonstrates that the CS versus IS dichotomy is more revealing than the previous distinctions. Jin clearly exhibits the contrast between CS and IS questions, as well as the significant functional overlap between polar questions and disjunctive questions. We propose that CS questions can evolve from disjunctive IS questions, suggesting that IS questions are universal, but CS questions are not. Consequently, a tentative implicational universal is proposed: languages that have CS questions also have IS questions, but not conversely. The typological variation of questions is further enriched by the fact that, in addition to morphosyntactic marking for CS questions, languages also employ prosodic strategies; however, Jingle Jin does not.

Keywords

Jin Chinese, Jingle Jin, Polar question, Confirmation-seeking question, Information-seeking question

1 Introduction

Conventionally, questions are categorized into three types based on the set of possible answers: polar questions, disjunctive questions, and *wh*-questions (e.g., Huddleston 1994), as illustrated in (1) with examples from English.¹

- (1) a. *Are you ready?*
b. *Is it a boy or a girl?*
c. *Whose hat is this?* (Huddleston 1994: 416)

This three-way distinction is widely applied in Mandarin Chinese, as illustrated by Zhu (1982: 202–204) and Huang et al. (2009, Ch. 7); see examples in (2).

- (2) a. Tā jīntiān lái ma? Polar question
3SG today come Q
'Will he come today?'
- b. *háishì* type: Tā jīntiān lái háishì míngtiān lái? Disjunctive question²

¹ In the literature, the two terms 'polar question' and 'yes-no question' are often used interchangeably. In this paper, we will adopt the term 'polar question', as there are in fact no exact counterparts for 'yes' and 'no' in Chinese; the closest approximations, *shì/bù shì* and *duì/bù duì*, actually mean 'right/wrong' or 'correct/incorrect'. So, the typical way of responding to a polar question like *Are you happy?* is to say *happy* or *not happy*, while the optional *shì/bù shì* and *duì/bù duì* responses are less common, as noted by an anonymous reviewer.

² There are two basic types of disjunctive questions in Mandarin Chinese: one is formed by the conjunction *háishì* 'or', while the other is formed by the juxtaposition of two opposite conjuncts, A and not-A, referred to as A-not-

3SG today come or tomorrow come
 ‘Will he come today or tomorrow?’

b’. A-not-A type: Tā jīntiān lái bù lái?
 3SG today come NEG come
 ‘Will he come today or not?’

c. Tā jīntiān zěnme lái? Wh-question
 3SG today how come
 ‘How will he come today?’

Despite the prevalent three-way distinction, Dryer (2013) categorizes questions mainly into two types—polar questions and content questions—from a typological perspective. The former differs from the latter in that its expected answer is the equivalent of ‘yes’ or ‘no’. Under this criterion, disjunctive questions behave more like polar questions than content questions. For example, the sentence *Will he come today or not?* can be answered with ‘yes’ or ‘no’; in contrast, a content question, which normally contains a *wh*-word, cannot. While there are no exact counterparts for ‘yes’ or ‘no’ in Chinese, both polar and A-not-A questions, unlike *haishi*- and *wh*-questions, invite a positive or negative response. For example, either *lai* ‘come’ or *bu lai* ‘not come’ can be the answer to the questions in (2a) and (2b’). Consequently, polar questions and A-not-A (including VP-neg) disjunctive questions are grouped, leaving *haishi*-disjunctive questions and *wh*-questions in a separate category (e.g., Fan 1982; Shao et al. 2010 for Mandarin Chinese; Shi 2023 for Jin Chinese).

However, this dichotomy is not accepted in other studies (e.g., Lu 1982; Tang 1984; Hsiao and Her 2021; Her et al. 2022), which argue that polar questions form a distinct category separate from disjunctive and *wh*-questions. Supporting evidence from semantics, syntax, and pragmatics will be detailed in the subsequent sections. Hsiao and Her (2021) and Her et al. (2022) further develop this view, focusing on Southern Min (闽南语), Mandarin, and Xiang (湘语), redefining polar questions as confirmation-seeking (CS) questions. In contrast, disjunctive and *wh*-questions require the addressee to fill in the information gap, thus defined as information-seeking (IS) questions. Table 1 summarizes the different views discussed above.

Table 1. Question classification in Chinese.

Classification	Question Type			
	Ternary	Polar	Disjunctive	
Binary-1	Polar	A-not-A disjunctive	<i>Haishi</i> -disjunctive	<i>Wh</i>
Binary-2	Polar	Disjunctive		<i>Wh</i>

Based on the CS versus IS dichotomy, this study investigates questions in Jin Chinese (晋语), the only non-Mandarin Sinitic language in northern China, primarily spoken in Shanxi

A questions. In addition to these two types, there is another special type called VP-neg questions, which are formed with a declarative structure followed by negation to convey interrogative force. Interpretively, VP-neg questions are like questions with ‘or not’ in English, as illustrated in (i), where *pù* and *méi* are two negators in Mandarin.

(i) Nǐ lái pù/méi?
 2SG come NEG
 ‘Will/Have you come or not?’

Simply speaking, *pù* is more connected to a non-past event while *méi* is associated with a past event (Li and Thompson 1981; Tsai 2015). However, readers are encouraged to consult M. Li (1999), Lin (2003a), and Xiao & McEnery (2008) for details regarding their differences in tense-aspect sensitivity. Readers are also recommended to refer to Huang et al. (2009: Ch. 7) for the morphosyntactic features of A-not-A questions and VP-neg questions.

Province and the surrounding regions. To ensure the reliability of data, we will focus on the Jingle dialect (dubbed Jingle Jin 静乐晋语) and provide a fine-grained analysis. Furthermore, comparative analyses between Jin, Mandarin, and other unrelated languages will explore a tentative implicational universal.

All data from Jingle Jin were constructed by one of the authors, a native speaker, and verified by two other native speakers (one female and one male, both aged over 60). Data from other branches of Jin and Mandarin are provided by native speakers unless otherwise cited. All data were double-checked during consultation sessions.

This paper is structured as follows. Section 2 first reviews the CS versus IS dichotomy and the formal diagnostics that justify this two-way distinction in Mandarin Chinese. Section 3 conducts a thorough investigation of the various types of questions in Jingle Jin. Section 4 adopts the CS versus IS diagnostics to Jin and justifies the dichotomy. Section 5 further discusses the theoretical and typological issues involved, bringing in data from other languages and proposing a tentative implicational universal that highlights the fundamental status of CS in human languages. Section 6 consists of some closing remarks.

2 The CS versus IS dichotomy of questions

It is generally accepted that questions denote a set of propositions (Hamblin 1973; Karttunen 1977; Krifka 2008; Roberts 2012; Bhatt and Dayal 2020). From a mathematical perspective, the most straightforward taxonomy of sets within its topmost domain is singleton sets versus non-singleton sets, as illustrated in (3).

- (3) a. Singleton sets: $\{a\}$, $\{1\}$, $\{\text{book}\}$, ...
 b. Non-singleton sets: $\{a, 1\}$, $\{a, \text{book}\}$, $\{a, 1, \text{book}\}$, ...

This implies that a two-way distinction approach is preferable to a three-way distinction approach. However, the dichotomy of Chinese questions proposed by Fan (1982), Lu (1982), Tang (1984), Shao et al. (2010), and Shi (2023) does not align with this logical foundation, and thus, their classification criteria are inconsistent. Let us now illustrate the logic behind the CS versus IS dichotomy using straightforward formal semantic tools.

2.1 A formal semantic dichotomy of questions

Bhatt and Dayal (2020) specifically advocate for a formal distinction between polar questions and *wh*-questions, arguing that polar questions denote singleton propositional sets, while *wh*-questions denote non-singleton propositional sets, as illustrated in (4).

- (4) a. polar question
 $\llbracket \text{did John leave} \rrbracket = \lambda p. [p = \hat{\text{John left}}] = \{\text{John left}\}$
 b. *wh*-question
 $\llbracket \text{who left} \rrbracket = \lambda p. \exists x [\text{person}(x) \wedge p = \hat{x \text{ left}}] = \{\text{John left, Sue left, Kostas left, . . .}\}$
 (In Bhatt and Dayal 2020: 1124)

Building on a similar formal semantic framework, Hsiao and Her (2021: 256) explicitly develop a semantic representation of disjunctive questions, as shown in (5), which illustrates two proposition choices.

- (5) a. Did John stay or leave?
 b. $\llbracket \text{did John leave or stay} \rrbracket = \lambda p. [p = \hat{\text{John left}} \vee p = \hat{\text{John stayed}}] = \{\text{John left, John stayed}\}$

In addition to these three types of questions, Chinese also features VP-neg questions, whose classification remains a subject of debate in the literature (Xu 1999; Huang et al. 2009). Her et al. (2022) demonstrate that VP-neg questions exhibit properties different from polar questions and behave like disjunctive questions in denoting a non-singleton set of two propositions, as illustrated in (6).

(6) a. Lìsì kāixīn bu?

Lisi happy NEG

‘Is Lisi happy or not?’

b. $\llbracket \text{Is Lisi happy or not} \rrbracket = \lambda p. [p = \text{Lisi is happy} \vee p = \neg \text{Lisi is happy}] =$
 $\{\text{Lisi is happy, Lisi is not happy}\}$

Such a formal account precisely categorizes Mandarin questions into two groups: polar questions and all other questions, which are referred to as ‘constituent questions’ somewhere in this paper.³ The former denotes a singleton proposition set, while the latter denotes a non-singleton proposition set. This account not only precisely matches the basic logic of taxonomy from a semantic perspective but also implies certain pragmatic effects. Specifically, since polar questions denote a singleton proposition set, the expected answer is to either confirm or disconfirm the proposition, in other words, to seek confirmation. In contrast, disjunctive questions (including VP-neg questions) and *wh*-questions all denote non-singleton proposition sets; accordingly, the expected answer is not to (dis)confirm but to choose the proposition or fill the information gap. This leads to the dichotomy in Hsiao and Her (2021) and Her et al. (2022), as in Table 2. Examples in (7) illustrate a CS polar question and an IS disjunctive question in Mandarin.

Table 2. Question taxonomy in Her et al. (2022).

Pragmatic function	Confirmation-seeking	Information-seeking
Semantic denotation	Singleton set (one proposition)	Non-singleton set (two or more propositions)
Question form	Polar questions	Constituent questions Disjunctive questions <i>Wh</i> -questions

(7) a. Lìsì kuàilè ma?

Lisi happy Q

‘Is Lisi happy?’

b. Lìsì kuàilè bu?

Lisi happy NEG

‘Is Lisi happy or not?’

As pointed out by one anonymous reviewer, a natural response to the two questions in (7) should be either *kuàilè* ‘happy’ or *bù kuàilè* ‘not happy’. This is indeed the case. However, this similarity does not mean the VP-neg questions are polar questions. Crucially, since a CS question requires an evaluation of the truth value of the proposition ‘Lisi is happy’, another possible answer to (7a) can be either *duì* ‘correct’ or *bù duì* ‘not correct’, indicating (dis)confirmation. In contrast, (7b) is an IS question; thus, an answer with either *duì* or *bù duì*

³ The term ‘constituent questions’ is used simply because these questions all seek information specifically targeted by interrogative constituents. This term is used in several previous works, e.g., Huang et al. (2009); Her et al. (2022). Under the dichotomy of questions, CS questions are called ‘constituent questions’. In disjunctive questions, the alternative conjuncts function as the interrogative constituent, while in *wh*-questions, the *wh*-words (e.g., *whether*, *what*, *how* in English) act as such constituents. A key difference between constituent questions and polar questions in Mandarin is that the former can optionally take the sentence-final particle (SFP) *ne*, while the latter cannot. This will be discussed in Section 2.

is strongly rejected. Instead, the interlocutor is expected to choose between the two propositions: ‘Lisi is happy’ and ‘Lisi is not happy’.

2.2 Diagnostics supporting the CS versus IS dichotomy

We will now review some key diagnostics that distinguish CS and IS questions put forth in Hsiao and Her (2021) and Her et al. (2022), before applying them to Jin.

2.2.1 The *ma* versus *ne* distinction

One key distinction between CS and IS questions, as many scholars have noted, e.g., Tang (1981, 1984) and Lu (1982), is that polar questions in Mandarin require the question SFP (Q-particle) *ma*, not the non-question SFP *ne*. Disjunctive and *wh*-questions are exactly the opposite and can be optionally followed by the SFP *ne* only. See the examples in (8).

(8) a. CS question

Tā jīntiān lái. Declarative
3SG today come
‘He will come today.’

Tā jīntiān lái ma/*ne?⁴ Polar question
3SG today come Q SFP
‘Will he come today?’

b. IS question

Tā jīntiān lái háishì míngtiān lái (ne/*ma)? *Háishì*-disjunctive question
3SG today come or tomorrow come SFP Q
‘Will he come today or tomorrow?’

Tā jīntiān lái bù lái (ne/*ma)? A-not-A disjunctive question
3SG today come NEG come SFP Q
‘Will he come today or not?’

Tā jīntiān lái {bu (*ne/*ma) / méi (ne/*ma)}? VP-neg disjunctive question
3SG today come NEG SFP Q NEG SFP Q
‘Will/Did he come today or not?’

Tā jīntiān zénme lái (ne/*ma)? *Wh*-question
3SG today how come SFP Q
‘How will he come today?’

The CS question in (8a) becomes declarative after removing *ma*, while omitting *ne* does not change the IS question’s status. This indicates that *ma* serves as the primary question marker for interrogative force, whereas *ne* does not. *Ne* can optionally attach to either a question or a

⁴ Both *ma* and *ne* are sentence-final particles (SFPs) in Mandarin Chinese; however, only *ma* serves as a question particle, turning a declarative clause into a question. To highlight this function of *ma*, *ma* is glossed as Q, while *ne* is simply glossed as SFP in this paper. Additionally, an anonymous reviewer pointed out that a declarative clause can take the SFP *ne* (meaning ‘actually’), probably for emphasis, as in (i). This is indeed the case, but note that *ne* does not convert a declarative clause into a question; that’s why the sentence containing *ne* in (8a) is not grammatical as a question (marked with *).

(i) Lǐsì hěn yòuqián ne.
Lisi very rich SFP
‘Lisi is actually very rich.’

declarative clause without changing the clause type. It should be highlighted that VP-neg questions formed by the negator *bù* are incompatible with *ne*, which appears to challenge our claim that VP-neg questions are IS questions, as noted by an anonymous reviewer. However, this does not form a counterexample, as, first, *ma* is also not allowed to attach to VP-*bu* questions; second, VP-neg questions formed by *méi* do not display this divergence (contra Huang et al. 2009: 258). As for why VP-*bu* questions are incompatible with *ne*, we simply assume that the negator *bù* is undergoing grammaticalization into an SFP in Chinese. Supporting evidence comes from phonology: The fourth citation tone of *bù* changes to a neutral tone in VP-*bu* questions; however, this tone change does not occur for *méi* in VP-*méi* questions. This, however, awaits careful investigation in a separate study. In what follows, further diagnostics will demonstrate that VP-*bu* questions indeed behave like an IS question.

2.2.2 Recoverability

Another test related to particle *ma* and *ne* is the fragment question test for information recoverability, introduced in Her et al. (2022). We refine it as follows: when licensed by discourse or shared world knowledge, certain constituents can be omitted, allowing the question to be replaced by a fragment with either *ma* or *ne*, depending on the interpretation of the question, as exemplified in (9).

Scenario: Wangwu knew that Luqi and another friend would come on the day the interlocution took place. After Lisi's statement (9a), Wangwu asked as in (9b) or (9c).

(9) a. Lisi: Tā jīntiān lái.

3SG today come

'He will come today.'

b. Wangwu: Lúqí ___ ma?

Luqi Q

'Will Luqi come?'

c. Wangwu: Lúqí ___ ne?

Luqi SFP

'How about Luqi?'

As shown in the English translations of (9b) and (9c), the *ma* fragment question can only be traced back to a CS question, while the *ne* fragment question triggers a constituent question reading.

2.2.3 The *nándào* and *dàodǐ* divergence

The third diagnostic concerns adverbial compatibility in CS and IS questions. It has been observed that in Mandarin, *nándào* 'do you really mean to say' is used in polar questions,⁵ and that *dàodǐ* or *jūjìng* 'after all' appears in disjunctive and *wh*-questions, as also noted by Lu (1982), Tang (1984), Huang et al. (2009), and B. Xu (2012). Specifically, *nándào* is exclusive to CS questions, while *dàodǐ*-type adverbials are limited to IS questions, as illustrated in (10).

(10) a. CS question

Tā nándào / *dàodǐ jīntiān lái ma? Polar question

3SG actually after.all today come Q

'(Do you really mean to say that?) Will he come today?'

b. IS question

Tā *nándào / dàodǐ jīntiān lái háishì míngtiān lái?

3SG actually after.all today come or tomorrow come

⁵ While it is hard to provide an accurate English translation of *nándào*, we follow Huang et al. (2009) in translating it as 'do you really mean to say', which is a common translation. But for simplicity, we use 'actually' in the gloss.

‘Will he, after all, come today or tomorrow?’	<i>Háishì</i> -disjunctive question
Tā *nándào / dàodǐ jīntiān lái bù lái? 3SG actually after.all today come NEG come ‘Will he, after all, come today or not?’	A-not-A disjunctive question
Tā *nándào / dàodǐ jīntiān lái bu/méi? 3SG actually after.all today come NEG ‘Will he, after all, come today or not?’	VP-neg disjunctive question
Tā *nándào / dàodǐ jīntiān zěnme lái? 3SG actually after.all today how come ‘How will he come today, after all?’	<i>Wh</i> -question

The restriction on the appearance of adverbials stems from the semantic distinctions between CS and IS questions. IS questions define a non-singleton proposition set, prompting the speaker to seek a specific proposition, aligning well with *dàodǐ*-type adverbs. A potential explanation for this compatibility is that *dàodǐ* literally means ‘to reach the bottom’, thus indicating at least two places as the options (i.e., the surface and the bottom) and possibly more places in between to choose from. Thus, metaphorically, *dàodǐ* is compatible with IS questions, which involve two or more propositions.

Conversely, in CS questions, the speaker holds low belief regarding the sole proposition, allowing for compatibility with *nándào*-type adverbials. Specifically, *nándào* likely triggers the speaker’s belief and is considered a bias word indicating disbelief of the proposition (B. Xu 2018: 448-457), thus compatible with the confirmation-seeking dynamic (see also Tang 1984: 401). Similar belief-triggering adverbials like *zhēnde* ‘really’ and *yǐjiù* ‘still’ are also suited only to CS questions, not IS questions, as in (11).

(11) a. CS question

Tā zhēnde / yǐjiù jīntiān lái ma? 3SG really still today come Q ‘Will he really/still come today?’	Polar question
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b. IS question

Tā *zhēnde / *yǐjiù jīntiān lái háishì míngtiān lái? 3SG really still today come or tomorrow come Intended: ‘Will he really/still come today or tomorrow?’	<i>Háishì</i> -disjunctive question
Tā *zhēnde / *yǐjiù jīntiān lái bù lái? 3SG really still today come NEG come Intended: ‘Will he really/still come today or not?’	A-not-A disjunctive question
Tā *zhēnde / *yǐjiù jīntiān lái bu/méi? 3SG really still today come NEG Intended: ‘Will he really/still come today or not?’	VP-neg disjunctive question
Tā *zhēnde / *yǐjiù jīntiān zěnme lái? 3SG really still today how come Intended: ‘How will he really/still come today?’	<i>Wh</i> -question

In essence, we contend that the mechanism behind this adverbial constraint is that CS questions reflect certain degrees of belief about the proposition, whereas IS questions do not.

2.2.4 Embeddability constraint

Another syntactic test mentioned in Hsiao and Her (2021) is embeddability. Previous studies (e.g., Li and Thompson 1981; Huang et al. 2009) have reported that polar questions can only act as matrix questions, while questions such as disjunctive questions can be embedded. In Hsiao and Her (2021), they further claim that CS questions only act as matrix questions, whereas IS questions can be embedded as indirect questions, as illustrated in (12-13).

(12) CS question

*Lǐsì zhīdào [QP tā jīntiān lái ma]. Embedded polar question
 Lisi know 3SG today come Q
 Intended: ‘Lisi knew whether he would come or not.’

(13) IS question

a. Lǐsì zhīdào [tā jīntiān lái háishì míngtiān lái]. Embedded *háishì*-question
 Lisi know 3SG today come or tomorrow come
 ‘Lisi knew whether he would come today or tomorrow.’

b. Lǐsì zhīdào [tā jīntiān lái bù lái]. Embedded A-not-A question
 Lisi know 3SG today come NEG come
 ‘Lisi knew whether he would come today or not.’

c. Lǐsì zhīdào [tā jīntiān lái méi/?bu].⁶ Embedded VP-neg question
 Lisi know 3SG today come NEG
 ‘Lisi knew whether he {came / would come} today or not.’

d. Lǐsì zhīdào [tā jīntiān zénme lái]. Embedded *wh*-question
 Lisi know 3SG today how come
 ‘Lisi knew how he would come today.’

The embeddability contrast in (12-13) strongly indicates that Mandarin polar questions (CS questions) are distinct from disjunctive and *wh*-questions, which are identified as IS questions. The embeddability restriction of polar questions is also observed in unrelated languages. For example, Arkadiev (2020) reports that the polar interrogative suffix *-ma* in Abaza, a Northwest Caucasian language, appears only in matrix clauses, not in embedded clauses, providing typological support for the validity of this embeddability constraint test.

Table 3 summarizes the diagnostics introduced so far, clearly illustrating the semantic and syntactic differences between CS and IS.

Table 3. Diagnostics of CS versus IS.

	Polar question	Disjunctive question			<i>Wh</i> -question
		<i>háishì</i>	A-not-A	VP-neg	
Proposition set defined	1		¬ 1	¬ 1	
Answer with <i>duì</i> ‘correct’	√		×	×	

⁶ The acceptability of whether a VP-*bu* question can be embedded is marginal. Again, we contend that this is because *bu* in VP-*bu* questions is undergoing grammaticalization into an SFP. This does not pose a challenge to analysing VP-neg questions as IS questions, as demonstrated by other tests.

According to Z. Li (2024), *lai*, *lə*, and *iə* strictly mark past, present, and future interpretations, respectively, as shown in (14). Importantly, these particles are neither verbal nor adverbial elements; their presence is obligatory for a grammatical sentence, and their removal renders the sentence incomplete. Z. Li, therefore, argues that these particles are tense morphemes. Leaving the details aside, this paper follows Z. Li (2024) and simply assumes that Jingle Jin possesses tense morphemes. Now, we investigate the question strategies in Jingle Jin.

ansi

Ansi is a Q-particle positioned at the sentence-final position, as illustrated in (15), where *ansi* is attached to a declarative sentence, affirmatively in (15a) and negatively in (15b). Both sentences convey an interrogative reading.

(15) a. Lisi miŋ tsɿ iə ansi?
 Lisi tomorrow leave FUT Q
 ‘Will Lisi leave tomorrow?’

b. Lisi miŋ pə tsɿ ansi?
 Lisi tomorrow NEG leave Q
 ‘Will Lisi not leave tomorrow?’

Since the prosodic strategy does not contribute to forming polar questions, the interrogative force in (15) is solely due to *ansi*. Additional evidence includes: (i) removing *ansi* transforms the sentences in (15) into declarative forms; (ii) the presence of *ansi* can turn a *wh*-question into a polar question, as shown in (16).

(16) a. Lisi mai-xa ɕiɕ səŋ lai?
 Lisi buy-complete some what PST
 ‘What did Lisi buy?’

b. Lisi mai-xa ɕiɕ səŋ lai ansi?
 Lisi buy-complete some what PST Q
 ‘Did Lisi buy something?’

The sentence containing the *wh*-object *səŋ* ‘what’ in (16a) is a *wh*-question; but inserting *ansi* eliminates the *wh*-reading of *səŋ*, replacing it with an indefinite interpretation (16b).¹⁰ However, the whole sentence conveys a polar question reading, strongly suggesting that *ansi* contributes to this interrogative reading.

Another important point is that *ansi* implies some degree of the speaker’s prior belief about the proposition in question. For instance, in (16a), the sentence is used when the speaker holds some belief that Lisi may leave the next day and seeks to (dis)confirm this with the addressee. In other words, an *ansi*-question conveys a slight bias, which aligns it with Mandarin *ma*-questions, though the bias in the latter is probably even less (e.g., Chao 1968: 800; Tang 1984; Yuan 1993).

an

¹⁰ For details on the licensing of *wh*-indefinites in Chinese questions, see A. Li (1992), Tsai (1994), Lin (1998). Put simply, a *wh*-phrase can get an indefinite or existential reading when it falls within the scope of Q-particles.

An is another typical Q-particle. Like *ansi*, *an* can attach to a declarative sentence, either affirmative or negative, to construct a polar question, as illustrated in (17).¹¹

- (17) a. Tha nianfu kə lai an?
 3SG study go PST Q
 ‘Did she go to study?’
- b. Ni pə tsai tɛia an?
 2SG NEG exist home Q
 ‘Are you not at home?’

Removing *an* changes questions into declarative sentences, suggesting that *an* itself encodes an interrogative feature, like *ansi*. While *an* can also attach to a *wh*-question, it differs from *ansi* and Mandarin *ma* by echoing and confirming the question content itself without seeking the *wh* information. For example, *an* in (18) follows a *wh*-question, showing the speaker seeks to confirm whether the addressee asked the question, rather than asking the addressee to answer it (see the English translation). We refer to this as the echo function of *an*, further supporting its contribution to the polar question reading.¹²

- (18) Lisi mai-xa ɛie səŋ lai an?
 Lisi buy-complete some what PST Q
 ‘Is that the case that you asked what Lisi bought?’

Like *ansi*, the use of *an* implies a degree of belief about the proposition in question; otherwise, its use is infelicitous. For instance, in (18a), the sentence can only be uttered if the speaker holds some belief that the person went to study before the conversation and seeks to (dis)confirm this with the addressee. However, compared to an *ansi*-question, an *an*-question conveys a higher degree of belief or a stronger bias toward the proposition.

va

Another common Q-particle in Jingle Jin is *va*. Like *ansi* and *an*, it follows a declarative sentence, either affirmative or negative, to form a polar question, as shown in (19).

- (19) a. Tha nianfu kə lai va?
 3SG study go PST Q
 ‘Did she go to study?’
- b. Ni pə tsai tɛia va?
 2SG NEG exist home Q

¹¹ There seems to be a historical relationship among *an*, *ansi*, and the conjunction *xansi* ‘or’, which will be detailed in Section 5.

¹² To the best of our knowledge, the echo function of *an* is not implemented as one of its semantic-syntactic features. Instead, this echo function is derived by deleting the matrix clause that contains *an*, leaving a truncated construction formed with the embedded clause and *an*. This analysis is supported by the fact that echo *an* can only apply to IS questions rather than CS questions, as CS questions cannot be embedded. The example in (i) illustrates the original form of the *an*-question in its echo use.

(i) ni fə si [Lisi mai-xa ɛie səŋ lai] an?
 2SG say COMP Lisi buy-complete some what PST Q
 ‘You said that what Lisi bought, didn’t you?’

The echo *an*-question is derived by deleting the matrix part *ni fə si* in (i). As for why and how this deletion occurs, those topics are beyond the scope of this paper. We will set them aside.

‘Are you not at home?’

If *va* is dropped, both sentences in (19) will assume a declarative reading. For example, in (19a), the sentence will change to the one in (20), which can only be interpreted as declarative, and the prosody does not support forming a question.

(20) Tha nianfu kə lai.
3SG study go PST
‘She went to study.’

Like *ansi*, *va* can be added to a *wh*-question, yielding a *wh*-indefinite reading, as shown by the English translation in (21), demonstrating that *va* itself encodes interrogative force. However, *va* lacks an echo function, unlike *an*.

(21) Ni tiu-lau səŋ tɔŋei lai va?
2SG lose-PERF what thing PST Q
‘Did you lose something?’

Compared to *ansi* and *an*, *va* triggers the strongest bias, indicating the highest degree of the speaker’s prior belief toward the proposition. Three contrastive scenarios are provided below to illustrate their differences in the degrees of belief or bias they encode.

Scenario 1: Lisi knows his neighbor Luqi is home, having seen him come home just minutes ago, Lisi calls Luqi on his mobile. Luqi answers and Lisi asks:

(22) Ni tsai tɛia lə va/*an/*ansi?
2SG at home PRE Q
‘Are you now at home?’

In this scenario, only *va* should be used, as the speaker knows Luqi is home, thus holding a strong belief toward the proposition put forth.

Scenario 2: Lisi knows his neighbor Luqi went on a trip with his family but isn’t sure if he’s back. Hearing some faint noise coming from Luqi’s house, Lisi calls Luqi. Luqi answers and Lisi asks:

(23) Ni tsai tɛia lə an/??ansi/*va?
2SG at home PRE Q
‘Are you at home now?’

In scenario 2, *an* is the best candidate due to weak evidence of Luqi being home. *Ansi*, however, is appropriate only when the speaker is merely guessing the truth of the proposition, as illustrated in Scenario 3.

Scenario 3: Lisi knew his friend Luqi was leaving town. Although unsure if Luqi has left, Lisi thinks it’s slightly more likely that Luqi has. Lisi calls Luqi. Luqi answers and Lisi asks:

(24) Ni tsɿ lei ansi /*an /*va?¹³
2SG leave PRF Q
‘Have you left?’

¹³ *Ansi* is somewhat similar to Mandarin *ma*, while *va* aligns closely with Mandarin *ba*. However, important differences exist that are not explored in this paper.

Overall, the linguistic facts indicate that *ansi*, *an*, and *va* are Q-particles in Jingle Jin. Both *ansi* and *va* can license a *wh*-indefinite reading while maintaining a polar interrogative meaning. In contrast, *an* cannot license a *wh*-indefinite reading but has an echo function, also maintaining the polar interrogative meaning, which strengthens our claim that they are Q-particles. The degree of the speaker's prior belief triggered by them varies from higher to lower: *va* encodes the highest degree of belief, *an* is in the middle, and *ansi* represents the lowest level.

Significantly, *ansi*, *an* and *va* are not negators in VP-neg and can freely co-occur with negation within one clause domain. As demonstrated in (25), both *pə* and *məla* 'not' are negation forms, and the entire question conveys a polar question reading.

- (25) a. Lisi pə/məla phaupu ansi/an/va?
 Lisi NEG jog Q
 'Does/did Lisi not jog?'

məla

Məla is a negator used specifically in past contexts in Jingle Jin and can thus only appear with past temporal adverbials, as shown in (26).

- (26) Lisi iə /ʔsəxui /ʔmiŋ məla xuiteia.
 Lisi yesterday currently tomorrow NEG return.home
 'Lisi did not return home yesterday.'

Significantly, *məla* can be attached to the end of a declarative sentence, e.g., (27), to form an interrogative sentence (28). Since Jingle Jin lacks prosodic strategies for questions, we must determine whether the question in (28), triggered by *məla*, is polar or disjunctive.

- (27) Lisi khan tian'ij kə lai.
 Lisi see movie go PST
 'Lisi went to see the movies.'

- (28) Lisi khan tian'ij kə lai məla?
 Lisi see movie go PST NEG
 'Did Lisi go to see the movies or not?'

We argue that *məla* in (28) remains a negator, not a polar Q-particle, for two reasons. First, genuine Q-particles like Standard Mandarin *ma* and Jingle *an* cannot be followed by another SFP (29), but *məla* can, as shown in (30), indicating that the syntactic position of *məla* is lower than the Q-particles *ma/an*.

- | | |
|-------------------------------|--------------------------------|
| (29) a. Standard Mandarin | b. Jingle Jin |
| *Ni fāngjià le ma wa/me/a/ya? | *Ni fɿ-lau tɛia lei an mə/ia? |
| 2SG have.holiday PRF Q SFP | 2SG off-PERF holiday PRF Q SFP |

- (30) Jingle Jin
 Lisi khan tian'ij kə lai məla mə/ia?
 Lisi see movie go PST NEG SFP
 '(After all), Did Lisi see the movies or not?'

Second, Q-particles *ma/va/an/ansi* can attach to a negative sentence (31), but *məla* cannot (32). Jin *məla* thus aligns with Standard Mandarin *mei*, Southern Min *bô* and *m̄* (Hsiao and Her 2021: 275) and Cantonese *mei6* in forming VP-neg questions (Y.H. Huang et al. 2025).

- (31) a. Standard Mandarin
 Lǐsì méiyǒu qù kàn diànyǐng ma?
 Lisi NEG go see movie Q
 ‘Did Lisi not go to see the movies?’
- b. Jingle Jin
 Lisi məla kʰan tian’iŋ kə va/an?
 Lisi NEG see movie go Q
 ‘Did Lisi not go to see the movies?’
- (32) *Lisi məla kʰan tian’iŋ kə məla?
 Lisi NEG see movie go NEG
 ‘Did Lisi not go to see the movies?’

In short, *məla* remains a negator, and VP-neg questions with *məla* are used exclusively in neutral or unbiased contexts, in contrast to polar questions with *ansi/an/va*.

pə

In Jingle Jin, *pə* ‘not’ is another negation form; unlike *məla*, which is restricted to past contexts, *pə* is unaffected by tense, as shown in (33).

- (33) Lisi itɕhian /tsəxui /ixiu pə tɔŋtan.
 Lisi past /currently /future NEG work
 ‘Lisi did / does / will not work in the past / currently / in the future.’

The sentences can be marked with the past tense morpheme *lai*, the present tense morpheme *lə*, or the future *iə* (34), to which *pə* can attach to form VP-neg questions (35).

- (34) Lisi tɔŋtan lai /lə /iə.
 Lisi work PST PRE FUT
 ‘Lisi worked/works/will work.’
- (35) Lisi tɔŋtan lai /lə /iə pə?
 Lisi work PST PRE FUT NEG
 ‘Did/Does/Will Lisi work?’

Thus, like *məla*, *pə* is not a polar Q-particle but a negative marker forming a VP-neg construction, as shown by the incompatibility of a *pə*-question with another negation form like *məla/pə* (36).

- (36) a. *Lisi məla mai phiəu pə?
 Lisi NEG buy ticket NEG
 Intended: ‘Did Lisi not buy the ticket?’
- b. ??Lisi pə kauɕiŋ lə pə?
 Lisi NEG happy PRE NEG
 Intended: ‘Is Lisi not happy?’

Also, like *məla* in VP-neg questions, CP-level SFPs, such as *mə* (conveying impatience force) in (37), can freely follow *pə*.

- (37) Lisi mai phiəu lai pə mə?
 Lisi buy ticket PST NEG SFP
 ‘(I am saying, after all) Did Lisi buy the ticket?’

Overall, *məla* and *pə* attach to a declarative sentence to create VP-neg questions. It is important to note that, unlike the Q-particles *va*, *an*, and *ansi*, the use of *məla* and *pə* in VP-neg contexts is neutral/unbiased, with no prior belief about the proposition on the speaker’s part.¹⁴

lə

The particle *lə* in Jingle Jin serves as a present tense marker (Z. Li 2024), its present tense use has been exemplified previously in (34-35).¹⁵ Notably, it imparts an interrogative force when *lə* combines with a nominal element, as shown in (38). The interrogative nuances vary by speech contexts, as shown in the English translation in (38). Additionally, *lə* triggers a ‘what if’ interpretation when paired with an antecedent of a hypothetical conditional with its consequent not spelled out, as in (39).

(38) Mama lə?
 Mom PRE
 ‘Where is Mom?’ OR ‘How about Mom?’

(39) Tha iausi pə kə lə?
 3SG if NEG go PRE
 ‘What if he does not go?’

The fact that *lə* triggers an interrogative reading in Jingle Jin resembles the particle *ne* in Standard Mandarin, which produces the same effect. It is important to note that *lə* itself is also not a Q-particle; rather, it remains a present tense morpheme, as all questions containing it convey a present reading. The questions in (38-39) are in fact fragments of disjunctive or *wh*-questions, as shown by the need for *wh*-elements to reconstruct the complete question forms. For instance, (38) can be reconstructed contextually as any one of the options in (40). If (39) is reconstructed by no *wh*-elements, the outcome, however, becomes a declarative sentence (41).

(40) a. Mama tsai **la** lə? b. Mama **tsa** tə lə? c. Mama tshə tə lə **pə** lə?
 Mom be where PRE Mom how PROG PRE Mom eat PROG PRE NEG PRE
 ‘Where is Mom?’ ‘How is Mom?’ ‘Is Mom eating or not?’

(41) Mama tsai tɛia lə.
 Mom be home PRE
 ‘Mom is at home.’

¹⁴ An anonymous reviewer suggests that *məla* and *pə* are tag-question particles. We thank the reviewer for the comment. A tag-question can be either a polar question or a disjunctive question, e.g., *dui ma* and *dui bu dui* in (i-a) and (i-b) respectively.

(i) a. nǐ chī níuròu, dui ma? b. nǐ chī níuròu, dui bù dui? (ii) nǐ chī níuròu bu?
 2SG eat beef right Q 2SG eat beef right NEG right 2SG eat beef NEG
 ‘You eat beef, right?’ ‘You eat beef, right or not?’ ‘Do you eat beef?’

A VP-neg question in (ii) thus differs from a tag-question in (ia-b), which is formed by a polar question tag or a disjunctive tag. In our account, since *məla* and *pə* are negators, they function as the ‘neg’ part in disjunctive VP-neg questions. Therefore, we do not characterize these negators as tag-question particles. Another supporting evidence is that the tag can be prosodically separated from the preceding clause, as marked by the comma in (i). By contrast, no prosodic pause is allowed between the ‘neg’ part (i.e., *bu*) and the preceding part in (ii).

¹⁵ An anonymous reviewer asked whether Jingle *lə* is cognate with Mandarin *le* (了). We suggest a negative answer. While the two share similar pronunciation, they are entirely different morphemes. *Lə* clearly encodes a present tense reading (Z. Li 2024) and does not bear any aspectual interpretations, such as perfective or perfect, like Mandarin *le*. Additionally, *le* does not share the present tense use of *lə*, either. Since this topic is beyond the scope of our paper, we will not delve into the details.

Also, the question reconstruction from (39) requires a *wh*-phrase in the consequent; otherwise, it fails, as shown in (42).

- (42) a. Tha iausi pə kə, tsa nau lə? vs. b. Tha iausi pə kə, iε eiŋ lə.
 3SG if NEG go how tackle PRE 3SG if NEG go also fine PRE
 ‘What if he does not go?’ ‘It is also fine if he does not go.’

The data suggest that the interrogative force, in fact, relies on the omitted *wh*-elements instead of the present morpheme *lə*. Importantly, these fragment questions connect only to a *wh*-force, not a polar question force, as illustrated by the reconstructions above. Thus, Jingle *lə* in fragment questions, like Mandarin *ne*, can help distinguish IS from CS questions.

Adjectival antonyms

In Jingle Jin, there is a unique question type not found in Standard Mandarin, featuring two antonymous adjectives as alternatives, as illustrated in (43).

- (43) a. Tsei tɛiantɕi isəŋ tɕ ɕiau lai?
 this CL dress big small PST
 ‘Was this dress big or small?’
 b. Tsei van mithəŋ tʂɿ tɛhi iə?
 this bowl congee sticky watery FUT
 ‘Will the congee be sticky or watery?’

Using (43a) as an example, this sentence asks whether the dress is big or small, not about its specific size. The possible answers are limited to ‘big’ or ‘small’, though further details about the specific size can be added as an afterthought. Thus, the questions in (43) are disjunctive ones. Notably, the adjectives must be monosyllabic and antonymous; otherwise, the construction is illicit. This is shown in (44), where the monosyllabic *tɕ* ‘big’ and *kui* ‘expensive’ are not antonyms (44a), and one of the antonyms, *phian-i* ‘cheap’, is disyllabic (44b).

- (44) a. *Tsei tɛiantɕi isəŋ tɕ kui lai? b. *Tsei tɛiantɕi isəŋ kui phian-i lai?
 this CL dress big expensive PST this CL dress expensive cheap PST
 ‘Was this dress big or expensive?’ ‘Was this dress expensive or cheap?’

Antonymous adjectives that can form this type of disjunctive question include but are not limited to, *van-niŋ* ‘soft-hard’, *tʂəŋ-tuan* ‘long-short’, *khuan-tsə* ‘wide-narrow’, *iuan-tɛiŋ* ‘far-near’, *kau-tei* ‘high-low’, *xau-lai* ‘good-bad’, *səŋ-tɛhian* ‘deep-shallow’, *tʂɿ-ɕi* ‘thick-thin’, *khuai-man* ‘fast-slow’, *tʂhi-tsau* ‘late-early’. We will refer to this as AB antonym question. Importantly, AB antonym questions are also unbiased.

Disjunctive questions

Unlike biased CS polar questions, disjunctive questions in Jingle Jin are unbiased and formed simply with the interrogative conjunction *xansi* ‘or’ (45), which cannot be omitted.

- (45) Ni nianfu lai *(xansi) fa lai?
 2SG study PST or play PST
 ‘Did you study or play?’

Wh-questions

Wh-questions are also unbiased. Jingle Jin, like Standard Mandarin (Huang 1982; Tsai 1994), exhibits *wh*-in-situ, where all *wh*-questions are formed with in-situ *wh*-phrases. Table 5 lists frequently used *wh*-phrases in Jingle Jin, with examples in (46).

Table 5. *Wh*-pronominals in Jingle.

<i>Wh</i>-nominal	<i>fu</i> ‘who’, <i>səŋ</i> ‘what’, <i>la</i> ‘which’
<i>Wh</i>-adjunct	<i>tsa</i> ‘how’, <i>veisəŋ</i> ‘why’, <i>la</i> ‘where’

- (46) a. *wh*-nominal
 Ni khanteian fu lai?
 2SG see who PST
 ‘Who did you see?’
- b. *wh*-adjunct
 Tha tsa tau eiεciau kə lai?
 3SG how arrive school go PST
 ‘How did she go to school?’

3.2 Section summary

Eight strategies for forming questions in Jingle Jin were introduced. Three Q-particles—*ansi*, *an*, and *va*—are primarily used for confirmation, reflecting the speaker’s prior beliefs about the proposition in polar questions. In contrast, the negation forms *məla* and *pə* construct VP-neg questions, prompting the addressee to fill an information gap without any prior belief from the speaker. Additionally, Jingle Jin features two strategies: one uses the present morpheme *lə* in fragment questions, which reconstructs disjunctive or *wh*-questions rather than polar questions; and the other employs antonymous adjectives to form disjunctive questions, which Standard Mandarin lacks. We also discussed *xansi* disjunctive questions and *wh*-questions. It is important to note that all other questions, except those formed by *ansi*, *an*, and *va*, are unbiased. Finally, we highlight that the prosodic strategy does not contribute to question formation in Jingle Jin. Table 6 summarizes these strategies.

Table 6. Question formation in Jingle.

Question-formation	Examples	Prior belief
Q-particle	<i>va</i>	High
	<i>an</i>	Moderate
	<i>ansi</i>	Low
Negator	<i>məla</i>	No
	<i>pə</i>	No
AB adjective antonym	AB (e.g., <i>tr-εiau</i> ‘big or small’)	No
Present morpheme	<i>lə</i>	No
Alternative conjunction	<i>xansi</i> ‘or’	No
<i>Wh</i> -pronominal	e.g., <i>səŋ</i> ‘what’, <i>tsa</i> ‘how’	No

4 A dichotomy of questions in Jin Chinese

Shi (2023: 352) grouped Jin VP-neg questions with polar questions, primarily because polar questions historically originated from VP-neg questions in Chinese (Ōta Tatsuo 1958; Wang 1980; Lü 1982). A systematic test of the semantic and syntactic behaviors of VP-neg questions reveals that Shi’s classification is inappropriate. This section tests all questions formed using the strategies discussed in Section 3 by applying the diagnostics (repeated in Table 7) outlined in Section 2.2 to reclassify the questions in Jingle Jin. The testing results indicate that the CS versus IS dichotomy appears plausible. Furthermore, we argue that the pragmatic function, specifically the speaker’s prior belief about the proposition in question, plays a vital role in differentiating CS questions from IS questions, a crucial aspect not developed in Hsiao and Her (2021) and Her et al. (2022).

Table 7. Diagnostics of CS versus IS.

	Polar question	Disjunctive question	Wh-question
Proposition set defined	1	¬ 1	¬ 1
Answer with <i>dui</i> ‘correct’	√	×	×
<i>ma</i> or <i>ne</i> attachment	<i>ma</i>	<i>ne</i>	<i>ne</i>
Fragment question recoverability	<i>ma</i>	<i>ne</i>	<i>ne</i>
Belief triggers (<i>nándào</i> , <i>dàodǐ</i>)	<i>nándào</i>	<i>dàodǐ</i>	<i>dàodǐ</i>
Embeddability	×	√	√
Classification	CS questions	IS questions	

4.1 CS versus IS dichotomy in Jingle Jin

Before proceeding, two points need clarification. First, while Jingle Jin lacks a direct counterpart for the Standard Mandarin adverb *nándào* ‘do you really mean to say’, we can substitute it with *tsənkɿ* ‘really’, as both relate to the speaker’s prior belief discussed in Section 2. Second, *lə* serves as the counterpart of the Standard Mandarin particle *ne* in Jingle Jin, and *ansi* closely aligns with Standard Mandarin *ma*. Therefore, we will apply the recoverability test using *lə* and *ansi*.

We will provide only the relevant examples and present the testing results directly, with detailed test examples in the supplementary materials.

Particle questions as CS polar questions

Let us first test polar questions formed by Q-particles *ansi*, *an*, and *va* (48), followed by a summary of the results in Table 8 (see Supplementary Materials 1 for the testing details).

- (47) Ni mai fu lai ansi/an/va?
 2SG buy book PST Q
 ‘Did you buy the book?’

Table 8. Test with polar questions.

Diagnostics	<i>ansi</i> question	<i>an</i> question	<i>va</i> question
Proposition set defined	1	1	1
Answer with <i>dui</i> ‘correct’	√	√	√
<i>ma</i> or <i>ne/lə</i> attachment	n.a.	n.a.	n.a.
Fragment question recoverability	<i>ansi</i>	<i>ansi</i>	<i>ansi</i>
Belief triggers (<i>tsənkɿ</i> ‘really’, <i>tautei</i> ‘after all’)	<i>tsənkɿ</i>	<i>tsənkɿ</i>	<i>tsənkɿ</i>
Embeddability	×	×	×
Classification	CS questions	CS questions	CS questions

VP-neg questions as IS constituent questions

Sentences (48) and (49) illustrate VP-neg questions formed with *məla* and *pə*, respectively, with diagnostic results in Table 9 indicating that VP-neg questions are IS questions, not CS questions (see Supplementary Materials 2 for the testing details).

- (48) Lisi khan tian’iŋ lai məla?
 Lisi see movie PST NEG
 ‘Did Lisi see the movies or not?’

- (49) Lisi khan tian'inj lai pə?
 Lisi see movie PST NEG
 'Did Lisi see the movies or not?'

Table 9. Test with VP-neg questions.

Diagnostics	<i>məla</i> question	<i>pə</i> question
Proposition set defined	-1	-1
Answer with <i>dui</i> 'correct'	×	×
<i>ma</i> or <i>ne/lə</i> attachment	<i>lə</i>	<i>lə</i>
Fragment question recoverability	<i>lə</i>	<i>lə</i>
Belief triggers (<i>tsənkɿ</i> 'really', <i>tautei</i> 'after all')	<i>tautei</i>	<i>tautei</i>
Embeddability	√	√
Classification	IS questions	IS questions

Disjunctive questions as IS constituent questions

Disjunctive questions formed with AB antonyms and the conjunction *xansi* 'or' are illustrated in (50 = 43b) and (51). Table 10 presents the diagnostic results (see Supplementary Materials 3 & 4 for the testing details).

- (50) Tsei van mithəŋ tshɿ təhi iə?
 this bowl congee sticky watery FUT
 'Will the congee be sticky or watery?'

- (51) Ni nianfu lai xansi fa lai?
 2SG read PST or play PST
 'Did you study or play?'

Table 10. Test with disjunctive questions.

Diagnostics	AB Antonyms	<i>xansi</i>
Proposition set defined	-1	-1
Answer with <i>dui</i> 'correct'	×	×
<i>ma</i> or <i>ne/lə</i> attachment	<i>lə</i>	<i>lə</i>
Fragment question recoverability	<i>lə</i>	<i>lə</i>
Belief triggers (<i>tsənkɿ</i> 'really', <i>tautei</i> 'after all')	<i>tautei</i>	<i>tautei</i>
Embeddability	√	√
Classification	IS questions	IS questions

Wh-questions as IS constituent questions

The *wh*-question in (52 = 46b) has test results summarized in Table 11 (see Supplementary Materials 5 for the testing details).

- (52) *wh*-adjunct question
 Tha tsa tau ɛiɛɛiau kə lai?
 3SG how arrive school go PST
 'How did she go to school?'

Table 11. Test with *wh*-questions.

Diagnostics	<i>Wh</i> -question
Proposition set defined	-1
Answer with <i>dui</i> 'correct'	×

<i>ma</i> or <i>ne/lə</i> attachment	<i>lə</i>
Fragment question recoverability	<i>lə</i>
Belief triggers (<i>tsənkɿ</i> ‘really’, <i>tautei</i> ‘after all’)	<i>tautei</i>
Embeddability	√
Classification	IS questions

Based on the test results above, Table 12 presents a comprehensive summary of all eight question types discussed. An interesting pattern emerges: *ansi*-, *an*-, and *va*-questions are CS questions, while all others fall in the IS question camp.

Table 12. Test with all questions.

Questions	Polar			VP-neg		Disjunctive		<i>Wh</i>
	<i>ansi</i>	<i>an</i>	<i>va</i>	<i>məla</i>	<i>pə</i>	antonyms	<i>xansi</i>	<i>wh</i>
Propositions	1	1	1	-1	-1	-1	-1	-1
Answer with <i>dui</i> ‘correct’	√	√	√	×	×	×	×	×
<i>ma</i> or <i>ne/lə</i>	n.a.	n.a.	n.a.	<i>lə</i>	<i>lə</i>	<i>lə</i>	<i>lə</i>	<i>lə</i>
Recoverability	<i>ansi</i>	<i>ansi</i>	<i>ansi</i>	<i>lə</i>	<i>lə</i>	<i>lə</i>	<i>lə</i>	<i>lə</i>
<i>tsənkɿ</i> ‘really’ vs. <i>tautei</i> ‘after all’	<i>tsənkɿ</i>	<i>tsənkɿ</i>	<i>tsənkɿ</i>	<i>tautei</i>	<i>tautei</i>	<i>tautei</i>	<i>tautei</i>	<i>tautei</i>
Embeddability	×	×	×	√	√	√	√	√
Classification	CS	CS	CS	IS	IS	IS	IS	IS

4.2 Interim summary

The taxonomy proposed by Hsiao and Her (2021) and Her et al. (2022) more effectively accounts for question classification in Jingle Jin. Importantly, under this new framework, questions within the same category share similar semantic and syntactic properties, enhancing the reliability of the CS vs. IS distinction.

In addition, Xing (2006) and Shi (2023) claim that Jin lacks polar questions like the Standard Mandarin *ma*-question. However, based on our investigation, this conclusion may need reconsideration and revision. In fact, *ansi*-, *an*-, and *va*-questions can be classified as typical polar questions, answerable with ‘yes’ or ‘no’ (or *dui* ‘right’ and *bu dui* ‘not right’). Therefore, we propose a new question taxonomy for Jin, presented in Table 13.¹⁶

Table 13. New question taxonomy in Jin.

CS questions			IS questions			
Polar question			Disjunctive questions			<i>Wh</i> -questions
<i>an-si</i>	<i>an</i>	<i>va</i>	<i>xansi</i> ‘or’	AB antonyms	VP-neg	<i>wh</i>

Furthermore, we found that, unlike unbiased IS questions, CS questions in Jingle Jin are biased, indicating that the speaker’s prior belief about the proposition is crucial for classification, which will be discussed in Section 5.

5 Discussions of theoretical issues and implications

¹⁶ VP-neg questions are often mistakenly grouped with polar questions (Yuan 1993; Zhang 1997). However, their divergence in syntactic, semantic, and pragmatic aspects, as tested in this paper, contradicts this classification. Hsiao and Her (2021), building on Hsieh (2001) and R. H. Huang (2008), consider VP-neg to be a deletion form of the A-not-A question. If this is the case, VP-neg questions can be viewed as a type of disjunctive question (also see Huang et al. 2009).

This section addresses several theoretical issues arising from the investigation of questions in Jin Chinese. We first argue that polar questions can evolve from IS questions, but the reverse evolution is not found in Jin. Furthermore, we propose a tentative implicational universal and a typological pattern of questions in human language, showing that IS questions are more fundamental than CS questions. We conclude by updating the diagnostics for distinguishing between CS and IS questions, emphasizing speaker bias in this distinction.

5.1 A tentative implicational universal of questions

This subsection will present a step-by-step argument to develop a tentative implicational universal of questions, as stated in (53).

(53) Languages that have CS questions also have IS questions, but not conversely.

5.1.1 The functional overlap between polar and disjunctive questions

As previously pointed out, a polar question semantically defines a singleton proposition set, while a disjunctive question denotes a non-singleton proposition set, as illustrated in (54). Nevertheless, it has also been noted that there is an overlap between the pragmatic functions of polar questions (as CS questions) and disjunctive questions (as IS questions) in Mandarin. Both can prompt the addressee to indicate whether the proposition in question is true or false (Gasde 2004: 295; Her et al. 2022).

(54) a. Lǐsì lái ma? Lisi come Q ‘Will Lisi come?’ Singleton: {Lisi will come}	b. Lǐsì lái bù lái? Lisi come NEG come ‘Will Lisi come or not come?’ Non-singleton: {Lisi will come; Lisi will not come}
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This functional overlap is even clearer when comparing Jin and Mandarin. Since polar questions in Jingle Jin all encode a certain degree of prior bias, they differ somewhat from Mandarin *ma*-questions, which, although they have a very slight bias toward positivity, are largely neutral. Thus, a closer translation of a Mandarin *ma*-Q is not any of the polar questions in Jin; rather, an entirely neutral VP-neg question in Jin would be more appropriate (also see Shi 2023). Indeed, we asked 10 native speakers of Jingle Jin to translate the Mandarin polar question in (55a) into Jingle Jin, and all responses were rendered as VP-neg questions (55b) with quick reaction times, with no exceptions.¹⁷ This, therefore, indicates some functional overlap between polar questions and VP-neg questions.

(55) a. Standard Mandarin Nǐ zài jiā ma? 2SG at home Q ‘Are you at home?’	b. Jingle Jin Ni tsai teia lə pə? 2SG at home PRE NEG ‘Are you at home or not?’
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Notably, this functional overlap between polar questions and disjunctive questions is not limited to Chinese; it has also been observed in unrelated languages. For example, Davies (1981: 5) notes that neutral polar questions in English are expressed as disjunctive questions in Kobon, a Papua New Guinea language, as shown in (56), indicating a similar functional overlap.

¹⁷ Note that while it is possible to use *ansi*-, *an*-, and *va*-questions in Jingle Jin to translate the Mandarin sentence in (56a), the translation carries a certain bias, as discussed in Section 3.1. Additionally, the Mandarin sentence in (56a) has a VP-neg alternative using the ending *bù* (i.e., *nǐ zài jiā bu?*). The difference is that VP-neg questions are entirely neutral. We thank the reviewer for this question.

- (56) a. Ne kaj ap mid-öp (aka) mid-ag-öp?
 2SG pig INDEF be-PERF.3SG or be-NEG-PERF.3SG
 ‘Have you any meat?’
 b. Ne kaj ap mid-öp aka wasö?
 2SG pig INDEF be-PERF.3SG or no
 ‘Have you any meat?’

(In Davies 1981: 5)

This functional overlap observed across languages strongly suggests that there may be a developmental connection between CS and IS questions. In fact, this connection has been solidly established between polar questions and VP-neg questions in Mandarin. Historically, *ma*-questions, as polar questions, originated from VP-neg questions (Ōta Tatsuo 1958; Wang 1980; Lü 1982; Shi 2023), which is a widely accepted linguistic fact in the Chinese academic community. In other words, an IS question can be grammaticalized into a CS question. In the next subsection, we provide further evidence from Jingle Jin to support this grammaticalization direction.

5.1.2 Conjunctions evolving into polar question particles in Jin

We previously introduced three polar Q-particles: *an*, *ansi*, and *va* in Jingle Jin. This subsection focuses on *ansi*, arguing that it originated from the conjunction used in disjunctive questions.

As noted in Section 3, one of the disjunctive questions in Jingle Jin is formed with the interrogative conjunction *xansi* ‘or,’ as shown in (57a). Notably, this conjunction is often spelled out in its reduced form, *ansi*. Therefore, the disjunctive question in (57b), with *xansi* substituted by *ansi*, is a grammatical sentence and shares the same meaning as its counterpart in (57a).

- (57) a. Lisi khan tiansi lai **xansi** khan fu lai?
 Lisi see television PST or see book PST
 ‘Did Lisi see the opera or read the book?’
 b. Lisi khan tiansi lai **ansi** khan fu lai?
 Lisi see television PST or see book PST
 ‘Did Lisi see the opera or read the book?’

Considering the connection between polar questions and disjunctive questions outlined in 5.1.1, as well as the fact that the conjunction *ansi* and the Q-particle *ansi* share the same morphological form, we argue that the Q-particle *ansi* developed from the reduced conjunction form *ansi*. Two pieces of evidence will be provided as follows: First, like the Q-particle *ansi*, the conjunction *ansi* also bears interrogative force on its own. This is supported by the fact that when the conjunction *ansi* is omitted, the interrogative force disappears, and the residue can only be interpreted as the juxtaposition of two declarative sentences, as illustrated in (58), which forms a minimal pair with (57b). Since the conjunction *ansi* itself bears interrogative features, it naturally follows that the Q-particle *ansi* also intrinsically bears interrogative force if it originated from the conjunction *ansi*.

- (58) Lisi khan tiansi lai **ansi** khan fu lai.
 Lisi see television PST see book PST
 ‘Lisi saw the opera and also read the book.’

Another supporting fact comes from an unrelated Mandarin variety called Linfen Mandarin (官话临汾话), where, according to S. Zhang (2022), one of the interrogative conjunction forms is spelled as *a*, as illustrated in (59). Importantly, the conjunction form *a* cannot be deleted in disjunctive questions, such as the one in (59), which suggests that it also contributes to the interrogative force of the disjunctive question.

- (59) Chi mo a chi mian ne?
 eat steam.bun or eat noodles SFP
 ‘Do you eat the steam bun or eat noodles?’ (cited in S. Zhang 2022: 27 with our glosses)

On the other hand, the same morphological form *a* can attach to a declarative clause to form a polar question, as illustrated in (60).

- (60) Na jiali mei ren a?
 that home no person Q
 ‘Is there no person in his house?’ (cited in S. Zhang 2022: 8 with our glosses)

The comparison in (59-60) suggests that the same morphological form *a* can function either as a conjunction or as a Q-particle. This pattern mirrors what we have observed in Jingle Jin, where the same form *ansi* can be either a reduced conjunction or a Q-particle.¹⁸ Such a parallel between Jin and Linfen Mandarin cannot be accidental; rather, it strongly suggests that disjunctive conjunctions can develop into Q-particles.

In fact, Q-particles that originated from disjunctive conjunctions are commonly found in human languages (see Biberauer 2017; Metslang et al. 2017; Walkden et al. 2025; and the literature therein). Taking Kobon as an example again, the sentences in (56) above demonstrate the conjunction form *aka* ‘or’ used in disjunctive questions. Additionally, according to Davies (1981: 5-7), *aka* can solely attach to a declarative sentence to form polar questions in biased contexts, as illustrated by the sentences and their English translations in (61).

- (61) A: Ne kaj ap mid-ag-öp aka?
 2SG pig INDEF be-neg-PERF.3SG or
 ‘Is that right that you haven’t any meat?’
 B: Yawö. Yad kaj ap mid-ag-öp.
 yes 1SG pig INDEF be-neg-PERF.3SG
 ‘That is right. I haven’t any meat.’ (In Davies 1981: 6)

While it is still not clear whether *aka* has completely grammaticalized into a genuine Q-particle, it strongly demonstrates the connection between disjunctive and polar questions. This makes Kobon *aka* comparable to Jingle *ansi*. Therefore, this typological observation strengthens our analysis that Q-particle *ansi* originated from the conjunction *ansi* in disjunctive questions in Jingle Jin.

5.1.3 A tentative implicational universal

Thus far, we have reached two important conclusions: first, VP-neg questions can evolve into polar questions in Mandarin; second, disjunctive *xansi*-questions can develop into polar

¹⁸ One may wonder if there is any developmental relationship between the Q-particles *an* and *ansi*. Without further details, we will assume that *an* is a further reduced form of *ansi*, with its final syllable dropped. This is plausible, as both are Q-particles and encode a certain degree of prior bias about the proposition in question. If this is the case, then a comprehensive picture of grammaticalization from a conjunction to a Q-particle in Jingle Jin can be established as follows: *xansi* → *ansi* → *an*.

questions in Jingle Jin. However, the reverse direction is not found in Jin, and to the best of our knowledge, this reverse direction has not been reported in Mandarin or in unrelated languages. In other words, IS questions can evolve into CS questions, but not vice versa.

Considering the functional overlap and grammaticalization between IS questions and CS questions, we expect that some languages may have only IS questions and lack CS questions. Such languages appear to exist. Her et al. (2022) suggest that Changsha Xiang (长沙湘语), a representative dialect of New Xiang, exemplifies such a language, where alleged polar questions, like the one in (62), are actually VP-neg questions. The role of *pu*²⁴ (不) in (62) as a negator can be further verified by the fact that a modal particle (e.g., *la*³³) can attach to the question, which is not possible if *pu*²⁴ is a Q-particle like Mandarin *ma* and Jingle *va*, *ansi*, *an*. This, thus, indicates the absence of true polar questions in Changsha Xiang, and even prosodic strategies do not facilitate the transition from declarative to polar questions (Wu 2005: 305-306). If this is correct, it follows that Changsha Xiang only has IS questions.

- (62) li⁴¹ te^hia²⁴ fan²¹ pu²⁴ (la³³)?
 2SG eat meal NEG MOD
 ‘Are you going to eat or not?’ (adapted in Wu 2005: 310)

In this regard, the two closely related dialects of Mixtec in southern Mexico—Chalcatongo Mixtec and San Miguel el Grande Mixtec—may serve as another notable example. According to Pike (1944: 136) and Macaulay (1996: 126), these two dialects do not use overt strategies (e.g., morphology and prosody) to form polar questions. Using Chalcatongo Mixtec as an example in (63), the so-called polar questions are identical in form to declarative sentences. Note that rising or falling intonation does not change the sentence type in (63).

- (63) xakú=ro. ↑ / ↓¹⁹
 laugh=2
 ‘You’re laughing.’ OR ‘Are you laughing?’ (Macaulay 1996: 126)

Macaulay (1996) did not address how the interrogative force in (63) is triggered if there are no overt strategies to form polar questions. We cannot envision a language where all declarative sentences can always be interpreted as polar questions. Therefore, we assume that the interrogative force in (63) must be triggered by context or other pragmatic factors (see Pike 1944: 136), but we will not delve further into this topic. The fact remains that they demonstrate languages that may lack CS questions.

On the other hand, to the best of our knowledge, while a handful of languages have been found to lack polar questions entirely, no language has ever been documented as lacking constituent questions. Based on these findings, we build on Her et al. (2022) and propose a tentative implicational universal in (64).

- (64) A tentative implicational universal of questions
 Languages that have CS questions also have IS questions, but not conversely.²⁰

In our analysis, Changsha Xiang, Chalcatongo Mixtec, and San Miguel el Grande Mixtec serve as examples that lack both morphosyntactic CS questions and those marked by prosodic

¹⁹ ↑ and ↓ are used to indicate rising intonation and falling intonation, respectively.

²⁰ It is important to note that the absence of CS questions does not mean a language lacks strategies for seeking confirmation. For example, imperative sentences can serve this purpose, as in the construction like ‘Tell me...’ or ‘Confirm that...’. Alternatively, according to Pike (1944: 136), certain contexts—such as gestures or a surprised or protesting voice—often help to seek confirmation in San Miguel el Grande Mixtec.

strategies. We further assume that in languages lacking morphosyntactic CS polar questions, prosodic strategies may serve as a last resort. Such languages do exist. According to Maiden and Robustelli (2000) and Cruschina (2012), Colloquial Italian exemplifies a language that relies solely on intonation contours to distinguish polar questions from declarative sentences, as shown in (65).

- (65) a. Va al mare. b. Va al mare? ↑
 go-PRE.3SG to-the sea go-PRE.3SG to-the sea
 ‘(S)he goes to the sea.’ ‘Does (s)he go to the sea?’ (In Lusini 2013: 10)

Paiwan, an unrelated Austronesian language spoken in Taiwan, is also reported to use only prosodic marking for CS questions (L. M. Huang et al. 1999; P. H. Huang and Her 2024). For instance, P. H. Huang and Her (2024) argue that the so-called polar Q-particles (e.g., *(ui) dri/pai, na, ui lja*) are polar question tags, with true polar questions formed solely by rising intonation. Using *pai* as an example, Chang (2006) and H. Chang (2017) treat it as a polar Q-particle; however, this is not correct. First, different intonations yield different interpretations of sentences containing *pai*, as demonstrated in (66a-b). Second, *pai* can stand alone, as seen in (66c). These points strongly suggest that *pai* is not a Q-particle; rather, it functions as a question tag, as argued by P. H. Huang and Her (2024). Thus, Paiwan, like Colloquial Italian, employs only prosodic marking for CS questions.

- (66) a. Ti Palang timadju pai. ↓ b. Ti Palang timadju pai? ↑ c. Pai!
 NOM Palang 3SG.NOM PAI NOM Palang 3SG.NOM PAI PAI
 ‘He is Palang, yes.’ ‘He is Palang, right?’ ‘It’s so!’

In fact, the prosodic strategy is common across languages; *The World Atlas of Language Structures* (WALS) notes that over 173 of 955 languages rely solely on prosodic strategies for polar questions (Dryer 2013). Considering all of these, we summarize the question typology in human languages in Table 14.

Table 14. Question typology.

Language example	IS	CS	
		Morphosyntactic CS	Prosodic CS
Mandarin	√	√	√
Jingle Jin	√	√	×
Paiwan	√	×	√
Colloquial Italian	√	×	√
Changsha Xiang	√	×	×
San Miguel el Grande	√	×	×
Chalcatongo Mixtec	√	×	×

Table 14 reveals that while not all languages have CS questions, all possess IS questions, implying that IS questions are more universal and fundamental. Among the languages with CS questions, Mandarin is particularly notable for using both morphosyntactic and prosodic strategies. This raises the question: why does a language use two strategies for the same type of question? We leave this puzzle unresolved.

5.2 CS versus IS questions and speaker bias

The distinction between CS and IS questions in Jingle Jin suggests that CS questions are employed in biased contexts, where the speaker has prior beliefs about the proposition in question, whereas IS questions are used in unbiased contexts. This biased-unbiased distinction is strictly maintained in Jingle Jin. Kobon again demonstrates this distinction. According to Davies (1981: 5-7), disjunctive questions formed with the conjunction *aka* are employed for unbiased questions; another example is provided in (67). In contrast, *aka* solely attaches to a declarative sentence to form polar questions in biased contexts, as illustrated previously in (61).

(67) disjunctive question (unbiased)

Ne Agaple ar-nab-ön **aka** Ihaʔ (ar-nab-ön)?
 2SG Agaple go-FUT-2SG or Ihaʔ go-FUT-2SG
 ‘Will you go to Agaple or Ihaʔ?’

(In Davies 1981: 7)

If the relationship between CS versus IS and biased versus unbiased is established, we would expect Mandarin *ma*-questions, classified as CS questions (Her et al. 2022), to exhibit biased properties. In fact, the correlation between *ma*-questions and the speaker’s prior belief has also been noted in the literature (Chao 1968; Li and Thompson 1981; Tang 1984, Liu 1987; Yuan 1993, Huang et al. 2009: 236-238).²¹ Taking the negative *ma*-question as an example, this biased condition emerges explicitly, as illustrated in (68).

(68) Nǐ bù qù shàngbān ma?

2SG NEG go work Q
 ‘Will you not go to work?’

The *ma*-question in (68) is used when the speaker assumes that the interlocutor is expected to go to work, reflecting bias. This biased/unbiased distinction well explains the compatibility of *nándào*-type adverbs with CS questions, as detailed in section 2.2.3. Consequently, we propose a new diagnostic for the CS vs. IS distinction: CS questions are biased and tied to the speaker’s prior beliefs, whereas IS questions are neutral. Table 15 provides an updated overview of the diagnostics for the CS vs. IS distinction in Chinese.

Table 15. Diagnostics for CS and IS in Chinese.

	Polar question	Disjunctive question	Wh-question
Proposition set defined	1	¬ 1	¬ 1
Answer with <i>dui</i> ‘correct’	√	×	×
<i>ma</i> or <i>ne</i> attachment	<i>ma</i>	<i>ne</i>	<i>ne</i>
Fragment question recoverability	<i>ma</i>	<i>ne</i>	<i>ne</i>
Belief triggers (<i>nándào</i> , <i>dàodǐ</i>)	<i>nándào</i>	<i>dàodǐ</i>	<i>dàodǐ</i>
Embeddability	×	√	√
Biased or not	√	×	×
Classification	CS questions	IS questions	

Finally, the encoding of bias in putative polar questions has also been reported in familiar languages such as English and German. Domaneschi et al. (2017) investigate the interaction between bias types (i.e., those from the speakers and those arising from the discourse) and the

²¹ Notice that, according to Yuan’s investigation (1993), the use of *ma* in unbiased contexts increased from the 1930s. Nevertheless, the observation that Mandarin *ma* is often employed in biased contexts still holds.

forms of polar questions. Their experimental study finds that positive polar questions (e.g., *Did you get a car?*) are typically used when there is no prior belief from the speaker in English and German. This contrasts with Jin and Mandarin. One potential explanation for this divergence may be that English and German are polarity-based languages (Jones 1999; Holmberg 2016; Servidio et al. 2018), whereas Jin and Mandarin are truth-based languages where polar questions require (dis)agreement with the proposition, regardless of its polarity, as noted by Servidio et al. (2018).²² This may also suggest that the alleged polar questions in English and German could, in fact, be disjunctive questions (Her et al. 2022). However, a full investigation of this controversial issue is beyond the scope of the paper.

6 Concluding remarks

This paper offers a thorough investigation of question constructions in Jin Chinese, with a focus on the Jingle Jin. Questions in Jin can be formed using various elements, including Q-particles (e.g., *va*, *an*, *ansi*), negators (*məla* and *pə*), *wh*-elements (such as *wh*-pronominals and the conjunction *xansi*), the present morpheme *lə* in fragment questions, and AB adjective antonyms. Notably, the prosodic strategy for forming polar questions is ineffective in Jingle Jin, although it works in other Jin varieties and in Mandarin.

By employing the semantic and syntactic tests introduced in Hsiao and Her (2021) and Her et al. (2022), we found that the CS and IS dichotomy effectively captures all question types in Jingle Jin. We also discovered a connection between bias and the distinction between CS and IS questions. Specifically, CS questions are associated with the speaker's prior beliefs about the proposition, which may thus be biased, whereas IS questions are neutral and used in unbiased contexts. This connection is further illustrated by question constructions in Kobon and *ma*-questions in Standard Mandarin. Consequently, we incorporate this bias connection into the diagnostics for distinguishing CS and IS questions.

Furthermore, our analysis suggests that CS questions can evolve from IS questions. For example, in addition to the grammaticalization of the final negator in a VP-neg question into a polar interrogative particle, we found that the conjunction in disjunctive questions also evolves into Q-particles in Jingle Jin, which appears to be a typological universal. This finding implies that IS questions play a more fundamental role in question systems. We thus propose a tentative implicational universal: languages with CS questions also possess IS questions, but not conversely. This is also directly supported by languages that lack CS questions, such as Changsha Xiang, Chalcatongo Mixtec, and San Miguel el Grande Mixtec. Importantly, while some languages do not exhibit morphosyntactic CS questions, prosodic strategies can serve as a last resort for constructing CS questions, as demonstrated by Paiwan and Coclíque Italian. This leads to a typological framework for questions in human languages that needs refinement.

²² Polarity-based languages are referred to as Positive-Negative languages, while truth-based languages are referred to as Agreement-Disagreement languages in Servidio et al. (2018). In polarity-based languages, putative polar questions are answered based on the polarity (i.e., positive or negative) of the answer statement. English is a good example, as shown in (i).

(i) Q: Aren't you happy?

A: Yes, I am (happy). / No. I am not (happy).

In truth-based languages, putative polar questions are answered based on the truthhood (i.e., true or false) of the proposition put forth. Mandarin serves as a good example, see (ii).

(ii) Q: Nǐ bù kuàilè ma? A: Shì de, wǒ bù kuàilè. / Bù shì de, wǒ hěn kuàilè.

2SG NEG happy Q right SFP 1SG NEG happy NEG right SFP 1SG very happy

'Aren't you happy?' 'You're right, I am not happy' 'You're not right, I am very happy.'

Thus, under the semantic and pragmatic definitions of the dichotomy of CS polar questions versus IS constituent questions, putative polar questions in polarity-based languages are in fact not polar questions and are disjunctive questions presenting two propositions with opposite polarities. Only truth-based polar questions put forth a single position and seek its (dis)confirmation.

Abbreviations

Abbreviations used in glosses: CL = classifier; COMP = complementizer; COND = conditional; FUT = future; INDEF = indefinite; MOD = modal; NEG = negation; NOM = nominative; PERF = perfective; PRE = present; PRF = perfect; PROG = progressive; PST = past; Q = question; SFP = sentence-final particle; 1 = first person; 2 = second person; SG = singular person.

Supplementary File

Testing examples and details can be found in *Supplementary Materials: Data and testing results*.

References

- Arkadiev, Peter M.. 2020. Syntax in morphological guise: Interrogative verbal morphology in Abaza. *Linguistic Typology* 24(2). 211–251.
- Bhatt, Rajesh & Veneeta Dayal. 2020. Polar question particles: Hindi-Urdu *kya*. *Natural Language & Linguistic Theory* 38. 1115–1144.
- Biberauer, Theresa. 2017. The final-over-final condition and particles. In Michelle Sheehan, Theresa Biberauer, Ian Roberts & Anders Holmberg (eds.), *The final-over-final condition: A syntactic universal*, 187–296. Mass: The MIT Press.
- Chang, Anna Hsiou-Chuan. 2006. *A reference grammar of Paiwan*. Canberra: Australian National University dissertation.
- Chang, Hsiu-Chuan. 2017. *Peipaiwanyu yiwenci yanjiu* [Interrogatives in northern Paiwan]. Kaohsiung: National Kaohsiung Normal University MA thesis.
- Chao, Yuen-Ren. 1968. *A grammar of spoken Chinese*. California: University of California Press.
- Cruschina, Silvio. 2012. *Discourse-related features and functional projections*. Oxford: Oxford University Press.
- Davies, John. 1981. *Kobon*. Amsterdam: North-Holland Publishing Company.
- Domaneschi, Filippo, Maribel Romero & Bettina Braun. 2017. Bias in polar questions: Evidence from English and German production experiments. *Glossa: A Journal of General Linguistics* 2(1): 26. 1–28.
- Fan, Jiyan. 1982. Shifei wenju de jufa xingshi [The syntactic forms of yes-no questions]. *Zhongguo Yuwen* 6. 426–434.
- Gasde, Horst-Dieter. 2004. Yes/no questions and A-not-A questions in Chinese revisited. *Linguistics* 42(2). 293–326.
- Hamblin, C. L.. 1973. Questions in Montague English. *Foundations of Language* 10(1). 41–53.
- Her, One-Soon, Dewei Che & Adams Bodomo. 2022. On a dichotomy of question types: The case of Mandarin Chinese and Changsha Xiang. *The Linguistic Review* 39(2). 257–291.
- Holmberg, Anders. 2016. *The syntax of yes and no*. Oxford: Oxford University Press.
- Hsiao, Pei-Yi & One-Soon Her. 2021. Taxonomy of questions in Taiwan Southern Min. *Concentric: Studies in Linguistics* 47(2). 253–299.
- Hsieh, Miao-Ling. 2001. *Form and meaning: Negation and questions in Chinese*. Los Angeles: University of Southern California dissertation.
- Huang, Cheng-Teh James. 1982. *Logical relations in Chinese and the theory of grammar*. Cambridge: Massachusetts Institute of Technology dissertation.
- Huang, C. T. James, Y. H. Audrey Li & Yafei Li. 2009. *The syntax of Chinese*. Cambridge: Cambridge University Press.
- Huang, Lillian M., Elizabeth Zeitoun, Marie M. Yeh, Anna Hsiou-Chuan Chang & Joy J. Wu. 1999. Interrogative constructions in some Formosan languages. In Yuen-mei Yin, I-li Yang & Hui-chen Chan (eds.), *Chinese Languages and Linguistics, V: Interactions in Language*, 639–680. Taipei: Institute of Linguistics, Academia Sinica.

- Huang, Po-Hsuan & One-Soon Her. 2024. On a dichotomy of question types: The case of Paiwan. *Concentric* 50(1). 20–56.
- Huang, Rui-Heng Ray. 2008. Deriving VP-neg questions in modern Chinese: A unified analysis of A-NOT-A syntax. *Taiwan Journal of Linguistics* 6(1). 1–54.
- Huang, Yu-Hsin, One-Soon Her & Stano Kong. 2025. Revisiting the taxonomy of Interrogatives in Cantonese. *Tsing Hua Journal of Chinese Studies* 55(1). 159–197.
- Huddleston, Rodney. 1994. The contrast between interrogatives and questions. *Journal of Linguistics* 30(2). 411–439.
- Jones, Bob Morris. 1999. *The Welsh answering system*. Berlin: De Gruyter.
- Li, Charles N. & Sandra A. Thompson. 1981. *Mandarin Chinese: A functional reference grammar*. Berkeley: University of California Press.
- Li, Mei. 1999. *Negation in Chinese*. Manchester: The University of Manchester (United Kingdom) dissertation.
- Li, Yen-hui Audrey. 1992 Indefinite *wh* in Mandarin Chinese. *Journal of East Asian Linguistics* 1(2). 125–155.
- Li, Zhen. 2024. Finiteness and Tense: A Viewpoint from Negation in Jing-le Jin. In Tae Sik Kim (ed.) *SICOGG 26 Proceedings*, 52–73.
- Lin, Jo-Wang. 1998. On existential polarity-wh-phrases in Chinese. *Journal of East Asian Linguistics* 7(3). 219–255.
- Lin, Jo-Wang. 2003a. Aspectual selection and negation in Mandarin Chinese. *Linguistics* 41(3). 425–459.
- Lin, Jo-Wang. 2003b. Temporal reference in Mandarin Chinese. *Journal of East Asian Linguistics* 12(3). 259–311.
- Lin, Jo-Wang. 2006. Time in a language without tense: The case of Chinese. *Journal of Semantics* 23(1). 1–53.
- Lin, Jo-Wang. 2010. A tenseless analysis of Mandarin Chinese revisited: A response to Sybesma 2007. *Linguistic Inquiry* 41(2). 305–329.
- Liu, Yuehua. 1987. Yong “ma” de shifei wenju he zhengfan wenju yongfa de bijiao [A comparison between the yes-no question with the particle *ma* and the A-not-A question]. In Yuehua Liu (ed.), *Juxing yu dongci* [Clause types and verbs], 117–138. Beijing: Yuwen chubanshe [Language & Culture Press].
- Lu, Jianming. 1982. You “fei yiwen xingshi + ne” zaocheng de yiwenju [On the questions formed by non-interrogative structures and the particle *ne*]. *Zhongguo Yuwen* 6. 435–438.
- Lü, Shuxiang. 1982. *Zhongguo wenfa yaolue* [An outline of Chinese grammar]. Beijing: Shangwu Yinshuguan [Commercial Press].
- Lusini, Sara. 2013. *Yes/no question-marking in Italian dialects: A typological, theoretical and experimental approach*. LOT.
- Metslang, Helle, Habicht Külli & Pajusalu Karl. 2017. Where do polar question markers come from? *Language Typology and Universals* 70(3). 489–521.
- Karttunen, Lauri. 1977. Syntax and semantics of questions. *Linguistics and Philosophy* 1. 3–44.
- Krifka, Manfred. 2008. Basic notions of information structure. *Acta Linguistica Hungarica (Since 2017 Acta Linguistica Academica)* 55(3–4). 243–276.
- Macaulay, Monica. 1996. *A grammar of Chalcatongo Mixtec*. Berkeley CA: University of California Press.
- Maiden, Martin & Cecilia Robustelli. 2000. *A reference grammar of Italian*. Chicago: NTC Publishing.
- Dryer, Matthew S. 2013. Polar questions. In Dryer, Matthew S. & Haspelmath, Martin (eds.) *WALS Online (v2020.4)* [Data set]. Zenodo. <https://doi.org/10.5281/zenodo.13950591> (Available online at <http://wals.info/chapter/116>, Accessed on 2024–11–21.)
- Ōta, Tatsuo. 1958. *A historical grammar of modern Chinese*. Tokyo: Eminami Shuin.

- Pike, Kenneth L. 1944. Analysis of a Mixteco text. *International Journal of American Linguistics* 10(4). 113–138.
- Roberts, Craige. 2012. Information structure: Towards an integrated formal theory of pragmatics. *Semantics and Pragmatics* 5. Article 6. 1–69.
- Servidio, Emilio, Giuliano Bocci & Valentina Bianchi. 2018. (Dis)agreement, polarity, and focus: Answering negative polar questions in Italian. *Glossa: A Journal of General Linguistics* 3(1): 3. 1–28.
- Shao, Jinmin, Xiaochuan Peng & Yunhan Li. 2010. Hanyu fangyan yiwen fanchou bijiao yanjiu [Comparative study of question categories in Chinese dialects]. Guangzhou: Jinan University Press.
- Shi, Xiuju. 2011. Shanxi Jinyuqu de shitai zhuci “lai”, “laile”, “lailai”, “laike” [The aspectual particles *lai*, *laile*, *lailai*, and *laike* in Jin Chinese in Shanxi]. *Yuyan Yanjiu* [Studies in Language and Linguistics] 31(3). 103–107.
- Shi, Xiuju. 2023. *Shanxi fangyan yufa yanjiu* [A study of grammar in Shanxi dialects]. Beijing: Shangwu Yinshuguan [Commercial Press].
- Tang, Ting-chi. 1981. A study of interrogative sentences in Chinese. *Journal of National Taiwan Normal University* 26. 219–277.
- Tang, Ting-chi. 1984. A further study of interrogative sentences in Chinese. *Journal of National Taiwan Normal University* 29. 381–437.
- Tsai, Wei-Tien Dylan. 1994. *On economizing the theory of A-bar dependencies*. Cambridge: Massachusetts Institute of Technology dissertation.
- Tsai, Wei-Tien Dylan. 2015. On the topography of Chinese modals. In Ur Shlonsky (ed.), *Beyond functional sequence*, 275–294. Oxford: Oxford University Press.
- Walkden, George, Tian Li & Laura Weisshaar. 2025. Sources for question particles. *Journal of Historical Syntax* 9(2-10): 1–39.
- Wang, Li. 1980. *Hanyu shigao* [The study of historical Chinese]. Beijing: Zhonghua Shuju [Zhonghua Book Company].
- Xiao, Richard & Tony McEnery. 2008. Negation in Chinese: A corpus-based study. *Journal of Chinese Linguistics* 36(2). 274–320.
- Xing, Xiangdong. 2006. *Shanbei Jinyu yufa bijiao yanjiu* [A comparative study of Jin grammar in north Shaanxi]. Beijing: Shangwu Yinshuguan [Commercial Press].
- Xing, Xiangdong. 2020. Jinyu de shizhi biaoji ji qi gongneng yu tedian: Jinyu shizhi fanchou yanjiu zhi san [The functions and characteristics of the tense markers in Jin Chinese: A study on tense category of Jin Chinese III]. *Fangyan* 42(1). 5–19.
- Xu, Beibei. 2012. *Nandao*-questions as a special kind of rhetorical questions. In *Proceedings of SALT 22*. 508–526.
- Xu, Beibei. 2018. Dedicated bias word *nandao* as an illocutionary modifier. In *35th West Coast Conference on Formal Linguistics*, 448–457. Cascadilla Proceedings Project.
- Xu, Jie. 1999. Yiwen fanchou yu yiwen jushi [Question categories and question types]. *Yuyan Yanjiu* 2. 22–36.
- Yuan, Yulin. 1993. Zhengfan wenju ji xiangguan de leixingxue canxiang [On A-not-A questions and the related value for typology]. *Zhongguo Yuwen* 2. 103–111.
- Zhang, Bojiang. 1997. Yiwenju gongneng suoyi [A brief discussion of questions]. *Zhongguo Yuwen* 2. 104–110.
- Zhang, Shumin. 2022. *Shanxi Linfen yaoduqu fangyan yiwenju yanjiu* [A study of questions of Yaodu dialect in Linfen Shanxi]. Tianjin, China: Tianjin Normal University MA thesis.
- Zhu, Dexi. 1982. *Yufa jiangyi* [Lectures on grammar]. Beijing: The Commercial Press.