ON A DICHOTOMY OF QUESTION TYPES:
THE CASE OF MANDARIN CHINESE AND CHANGSHA XIANG

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Abstract Contrary to the conventional three-way distinction of questions: polar questions, disjunctive questions, and *wh*-questions, we argue for a more revealing two-way distinction of polar versus constituent questions, the latter with two subtypes: disjunctive and *wh*-questions. Following Bhatt and Dayal's (2020: 1125) proposal that polar questions denote singleton sets of propositions and the standard view that disjunctive and *wh*-questions denote sets with multiple propositions, we further characterize this dichotomy pragmatically as confirmation-seeking (CS) and information-seeking (IS), i.e., polar questions seek confirmation of the proposition put forth, while constituent questions seek information specifically targeted by the interrogative constituent. This dichotomy is formally detected in Mandarin Chinese via the question particle *ma* versus *ne*, dichotomy of fragment questions, adverb *nandao* 'don't tell me' versus *daodi* 'after all', respective (in)ability to serve as indirect questions, and an intervention effect on constituent questions. We then discuss the typological implications of this two-way distinction and demonstrate that the Changsha dialect of Xiang, another Sinitic language, has no CS polar questions as the alleged polar questions are all disjunctive questions. This fact suggests that, while there are two major types of questions cross-linguistically, CS polar questions are not universal.

Keywords: polar question, constituent question, confirmation-seeking, information-seeking, disjunctive question

1. Introduction

Descriptive grammars on individual languages routinely include a category of sentence form called 'question' or 'interrogative', under which various types are proposed.[1] The most common and conventional major types recognized are polar questions (or yes-no questions), disjunctive questions (or alternative questions), and *wh*-questions (or constituent

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[1] We use 'question' and 'interrogative' interchangeably, noting that some grammarians, e.g., Huddleston (1994), justifiably use 'interrogative' for the category of grammatical form, and 'question' for the category of meaning. In this strict sense, what we deal with in this paper is the types of interrogatives in languages.

questions) (Hölzl 2018:56). In English, for example, questions are categorized by Huddleston (1994) into three subcategories, as in (1).

(1) (a) *Are you ready?*   [Polar Q]
     (b) *Is it a boy or a girl?*   [Alternative Q]
     (c) *Whose hat is this?*   [Variable Q]

In the current generative framework, the most accepted typology of interrogatives in various languages is indeed this three-way taxonomy at the top rank. Similar distinctions are made in Mandarin (e.g., Tang 1981, 1984). In recent literature, Huang et al (2009: Chapter 7) propose the following three types of questions in their influential book, *The Syntax of Chinese*, namely yes-no questions, disjunctive questions, and constituent questions, as shown in (2a-c), respectively. Note that the difference in terminology is insignificant, as the same three-way distinction is clear.

(2) (a) 你　　認識　他　嗎？
         ni   renshi ta   ma?
         you   know him   PQP[2]
         'Do you know him?'
     (b) 你　想　　看　電影　　還是　打　麻將？
         ni   xiang kan dianying haishi da   majiang?
         you want see movie   or-Q   play majiang
         'Do you want to see a movie or play majiang?'
     (c) 你　想　　跟　誰　去？
         ni   xiang gen shei qu?
         you want   with who go
         'Who do you want to go with?'

The example of (2a) is called a yes-no question or polar question because it can be responded to with either *yes* or *no*.[3] In Mandarin, it can be formed by attaching a sentence-final polar question particle. The disjunctive question (2b) is where two or more alternatives are conjoined by the interrogative *haishi* 'or'. The constituent question (2c), also known as *wh*-questions, includes a *wh*-in-situ element such as *shei* 'who', *shenme* 'what', *shenme shihou* 'when', *nali* 'where', *zenme* 'how', and *weishenme* 'why'. Such a three-way distinction of questions is summarized in Table 1. Note that in this particular taxonomy of questions, there are three types at the top rank; yet, each category may still have a lower rank of subtypes. Polar questions can be formed by several interrogative particles or by intonation. Disjunctive questions also have several varieties, e.g., A-or-B and A-not-A. Constituent questions likewise involve a number of different *wh*-elements.

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[2] The following abbreviations are used in this paper : CS= confirmation-seeking, IS = information seeking, CL = classifier, PQP = polar question particle, CQP = constituent question particle, EP = exclamative particle, NEG =negative marker, ASP = aspect marker, Q = question marker, HAISHI = silent *haishi*
[3] Yes-no responses are the briefest; other appropriate responses may be the positive or negative forms of the main verb or the whole sentence.

Table 1. Three-way Distinction of Questions in Mandarin

Questions		
Yes-No Qs	**Disjunctive Qs**	**Constituent Qs**

Contrary to the three-way taxonomy, we propose a simpler and more revealing two-way taxonomy of polar versus constituent questions, where disjunctive questions are argued to be merely a subtype of constituent questions, as in Table 2.

Table 2. Two-way Distinction of Questions in Mandarin

Questions		
Polar Qs	**Constituent Qs**	
	Disjunctive Qs	*Wh*-Qs

The primary focus of this study is the debate over two or three types at the top rank in the taxonomy of questions in Mandarin Chinese. We aim to demonstrate that once the convergence and divergence of the known characteristics of the conventional three types of questions are properly coordinated, a clear picture of dichotomy emerges.

Subsequent discussions are organized as follows. In section 2, we will first explain why in the science of taxonomy of any field, a justifiable two-way distinction is preferred over multiple distinctions. Section 3 then justifies a dichotomy of questions in pragmatic and semantic terms as an abstract concept. Section 4 applies this dichotomy to Mandarin Chinese and demonstrates some of the different grammatical characteristics of the two categories of questions. Section 5 then discusses the typological implications of this two-way distinction of questions. Section 6 examines the various putative yes-no questions in the Changsha dialect of Xiang, another Sinitic language, and offers a reclassification of them as A-not-A disjunctive questions. Typologically it is thus an example of languages without CS polar questions. Section 6 concludes the paper.

2. Why the Debate Matters

Typological studies of the structural features of languages must rely on an informative and meaningful taxonomy of the features in question. In terms of question types, one may wonder: if a two-way distinction can be justified, why should it be preferred over a three-way distinction? After all, in the dichotomy in Table 2, disjunctive questions and *wh*-questions are still recognized as two distinct types. So, why is it better to subsume the three types into two types at the top level? A two-way, or binary, distinction is the simplest kind, and thus, if it can be justified empirically, it should be preferred in the spirit of Occam's Razor. Let's first look at a similar debate in the taxonomy of biology, albeit a debate with far more importance and greater consequences.

Taxonomy in biology, according to the Convention on Biological Diversity, is 'the science of naming, describing and classifying organisms and includes all plants, animals

and microorganisms of the world'. Modern taxonomists unanimously recognize eight ranks: domain, kingdom, phylum, class, order, family, genus, and species. A serious controversy is concerned with the number of categories at the top rank, i.e., domain, *aka* empire and superkingdom. Ernst Mayr, one of the 20th century's leading evolutionary biologists, summed it up well in the title of his (1998) *PNAS* paper, 'Two empires or three?', where he argued for the two-domain system. While a few other prominent biologists such as Thomas Cavalier-Smith likewise hold to the two-domain view and insist that the three-domain system overemphasizes the division between Archaea and Bacteria and thus misses important generalizations (e.g., Cavalier-Smith 2004), the three-domain classification, proposed in Woese et al (1990), has been the conventional mainstream view. Cavalier-Smith and associates in fact proposed a two-superkingdom scheme as recently as 2015 in Ruggiero et al (2015). Details of the debate do not concern us. The crucial point relevant to the current study is that there is this long-standing debate and that whether there should be two or three domains matters a great deal scientifically. What will ultimately settle the debate is the weight of empirical evidence. Likewise, the aim of our study is to demonstrate that once the relevant evidence scattered around in the literature is gathered and organized systematically, a two-way distinction of questions naturally emerges.

Note that it is precisely in this spirit that the current mainstream three-way distinction overturned an earlier popular four-way classification, e.g., as proposed in Tang (1981) and Cheng (1984), shown in Table 3. Compare this four-way distinction with the three-way distinction advocated in Huang et al (2009), shown in Table 4.

Table 3. Four-way Distinction of Questions in Mandarin
(e.g., Tang 1981, Cheng 1984)

Questions			
Question-particle Qs	**A-or-B Qs**	**A-not-A Qs**	**Question-word Qs**

Table 4. Three-way Distinction of Questions in Mandarin
(Huang et al 2009)

Questions		
Yes-No Qs	**Disjunctive Qs**	**Constituent Qs**
	A-or-B Qs	A-not-A Qs	

The transition from the four-way typology to the three-way typology was without controversy, and it is by now a truism that A-or-B and A-not-A questions share some common semantic and syntactic characteristics not found in polar and *wh*-questions. The four-way taxonomy, where A-or-B and A-not-A do not belong to a common category, thus misses important generalizations between the two. However, given the hierarchical structure in the taxonomy, the differences between the two can still be recognized by classifying the two as subtypes of the same type.

Note also that Cheng's (1984) four-way classification had likewise been the accepted view for decades in the literature on questions in Taiwan Southern Min (TSM). See Table 5 for an example from Lau (2010a).

Table 5. Four-way Distinction of Questions in Taiwan Southern Min
(Lau 2010a)

Questions			
Yes-No Qs	**Disjunctive Qs**	**A-not-A Qs**	***Wh*-Qs**

Hsiao and Her (2021) have proposed a two-way typology similar to Table 2 for TSM. Following the logic and spirit of Occam's Razor, we will argue that disjunctive and *wh*-questions share significant semantic and syntactic characteristics in Mandarin Chinese to be considered merely as two subtypes of a major type. We will discuss the typological implications of this two-way distinction of questions in section 5.

3. Justifying a Two-way Distinction

Though a tripartite typology of questions is the most common, simpler binary distinctions have also been proposed previously. Siemund (2001: 1012), for example, subsumes disjunctive questions under polar questions, claiming that 'the differences and similarities between polar and alternative interrogatives are relatively unimportant from a typological perspective'. Huddleston (1994: 419), in addition to his three-way distinction, likewise points out that, in terms of the answers expected, polar and alternative questions can be grouped under one category, where the set of answers is closed, while that of a variable question is open. Dik (1997: 260) likewise has yes-no questions and alternative questions under one category of questions with a closed set of answers, while Q-word questions, or *wh*-questions, stand alone as a category of questions with an open set of answers. Dixon (2012: 390-400), though offering no specific justification, also includes alternative questions under polar questions and cites A-not-A questions in Mandarin and Cantonese and the so-called polar alternative questions in other languages as examples of alternative questions functioning as polar questions.

Table 6. Two-way Distinction of Questions
(Siemund 2001: 1012; Huddleston 1994: 419; Dik 1997: 260; Dixon 2012: 390-400)

Questions		
Questions with a closed set of answers		**Questions with an open set of answers**
Polar Qs	Disjunctive Qs	

Tang (1984: 383-384), interestingly, proposes an opposite view, where disjunctive and *wh*-questions form one category instead, as both provide the addressee a range of possible answers to choose from, the only difference is that the options are explicitly expressed in disjunctive questions while a range of possible options is delimited by the question word in

wh-questions. Polar questions, which allow only the option of (dis)agreement, thus stand alone as an independent category; see Table 7.

Table 7. Two-way Distinction of Questions
(Tang 1984: 383)

Questions		
Questions requiring (dis)agreement to the proposition provided	**Questions requiring a choice from the set of answers provided**	
	Disjunctive Qs	*Wh*-Qs

A dichotomy of questions similar to the one in Table 7 is what we will be arguing for. Specifically, we propose a dichotomy of questions in terms of two different pragmatic functions: confirmation-seeking (CS) vs. information-seeking (IS). With a CS question, the enquirer puts forth a complete proposition and seeks its confirmation from the interlocutor, who is thus expected to (dis)confirm the proposition in question. An IS question, on the other hand, though likewise a proposition on the surface, has an information gap, which is occupied by a placeholder in the form of an interrogative element, and the interlocutor is expected to provide specific information to fill that gap. Such interrogative elements are better known as *wh*-elements, e.g., *whether*, *which*, *what*, *who*, *where*, *when*, and *how* in English, each seeking information of a particular kind.[4] Note that under such a characterization, disjunctive questions and *wh*-questions both fall under IS questions.

With a CS question, the interlocutor is thus expected to respond with an evaluation of the truthhood of the *one* single proposition presented. Huang et al (2009:236) put it informally as follows: 'a yes-no question asks for a confirmation or denial of a single proposition'. Such a characterization reflects the insight in Jones' (1999:42) use of the term 'truth-based system' to describe the way the answer 'yes' or 'no' to polar questions is to be interpreted in languages like Mandarin, Japanese, and Korean, i.e., 'yes' indicates confirmation and 'no' is the opposite.

The dichotomy in terms of pragmatic functions is also reflected in semantics. Following Biezma and Rawlins (2012: 392), Bhatt and Dayal (2020:1125) explicitly propose that semantically polar questions denote *singleton* sets of propositions; (3a) is an example. This view provides a formal semantic foundation of CS questions as characterized above. An IS question, however, puts forth *two or more* propositions and the interlocutor is expected to select one or more as the answer. This is fully compatible with the standard view in the semantics literature that *wh*-questions denote multi-membered sets; (3b) is an example given by Bhatt and Dayal. They further acknowledge the standard view that the same multi-membered set requirement is true for disjunctive questions, as the expected

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[4] We take the view that *whether* is a *wh*-element, recognizing that this view may be somewhat controversial. See 3.5 for a discussion on the issues involved.

response is one of the proffered alternatives (Bhatt and Dayal 2020:1136). In (3c), we offer an example of the denotation of a disjunctive question, following the same logic.

(3) (a) Polar Qs

    [[did John leave]] = $\lambda p.[p = $ˆJohn left] = {John left}

<div align="right">(Bhatt & Dayal 2020:1125 (22b))</div>

  (b) *Wh*-Qs

    [[who left]] = $\lambda p.\exists x$[person(x) $\wedge$ $p = $ˆx left] =

<div align="right">{John left, Sue left, Kostas left, ...}</div>
<div align="right">(Bhatt & Dayal 2020:1125 (22a))</div>

  (c) Disjunctive Qs

    [[did John leave or stay]] = $\lambda p.[p = $ˆJohn left $\vee$ $p = $ˆJohn stayed] =

<div align="right">{John left, John stayed}</div>

Based on Bhatt and Dayal's (2020) view on the denotations of questions, we propose two crucial explicit generalizations. First, questions are unified semantically, exclusive of declaratives, in their denotation of *sets* of propositions. Second, a simple dichotomy of questions is achieved, where polar questions, which denote *singleton* sets of propositions, are distinguished from questions of all other types, which denote *multi-membered* sets of propositions. We shall call this latter category 'constituent questions' due to their requirement of an interrogative *wh*-constituent.

However, recall the claim by Huddleston (1994) and Dik (1997) that disjunctive questions and *wh*-questions differ in that the set of answers expected by the former is closed, while that of the latter is open. This may well be a misconception, and Tang's (1984) view is more insightful, that *wh*-questions and disjunctive questions are alike in providing a range of possible answers. Consider the pair of examples in (4a) and (4b).

(4) (a) Disjunctive Qs

    [[did John or Jerry leave]] = $\lambda p.[p = $ˆJohn left $\vee$ $p = $ˆJerry left] =

<div align="right">{John left, Jerry left}</div>

  (b) *Wh*-Qs

    [[between John and Jerry, who left]] = $\lambda p.\exists x[x \in$ {John, Jerry} $\wedge$ $p = $ˆx left] =

<div align="right">{John left, Jerry left}</div>

Note the fact that a *wh*-question, e.g., (4b), can easily limit its range of answers.[5] The set of answers expected in (4a), a disjunctive question, and that in (4b), a *wh*-question, are thus exactly identical. Two more elaborate pairs of examples are given in (5) and (6). Though the proffered alternatives in a disjunctive question are limited canonically to a small number due to practical considerations, they may be potentially rather large or even numerous by the use of expressions such as *so on and so forth*, as in (6a).

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[5] An anonymous reviewer questions whether *wh*-questions can in general limit the range of possible answers to only two. As shown in 4(b), this can be easily done. Here are two more examples:

    (i) Between Mary and Janet, who is he going to marry?

    (ii) Given the options of beer and wine, which do you prefer?

(5) (a) Is your favorite season of the year spring, summer, autumn, or winter?
    (b) What is your favorite season of the year?

(6) (a) Did you get married in January, February, March, or so on and so forth?
    (b) What month did you get married in?

In a *wh*-question, the answer expected may seem to be open but is in fact implicitly or explicitly limited within a range, however big that range may be. In addition, the existence of the so-called 'open alternative questions', e.g., *Do you want money or what?*, further blurs the boundary between disjunctive and *wh*-questions (Tolskaya and Tolskaya 2008).

It is also opportune to point out the misconception behind grouping polar questions, as in (7a), and the so-called polar disjunctive questions, as in (7b), together under the co-called yes-no questions. Note that, in terms of semantics, the two are very different, as one involves a single proposition in a set, and the other concerns two propositions in a set. The confusion is due to the equivalent semantic effect of the two: a positive response to confirm the single proposition of (7a) is equivalent to the selection of the positive proposition of (7b), and vice versa, and the same is also true for the negative response. Hence, though (7a) and (7b) are similar in terms of the net effect, they are clearly different semantically.

(7) (a) [[did John leave]] = $\lambda p.[p = {}^{\wedge}$John left$]$ = {John left}
    (b) [[did John leave or not]] = $\lambda p.[p = {}^{\wedge}$John left $\vee$ $p = {}^{\wedge}\neg$John left$]$ =
                                    {John left, John did not leave}
    (c) [[did John leave or stay]] = $\lambda p.[p = {}^{\wedge}$John left $\vee$ $p = {}^{\wedge}$John stayed$]$ =
                                    {John left, John stayed}

Now compare (7c) with (7b). The two are also semantically different, but since not leaving entails staying, and vice versa, the two are also similar in a practical sense. Thus, the three questions in (7) are all semantically equivalent, but different. However, the most important formal characteristic to be considered among these three questions is be the number of propositions serving as answers expected. In this strict sense, the polar question in (7a) should be distinguished from (7b) and (7c), both disjunctive questions, which in turn should thus be grouped under one category with *wh*-questions.

We propose that such a dichotomy in terms of semantics can also be characterized functionally or pragmatically as *confirmation-seeking* (CS) versus *information-seeking* (IS), i.e., a polar, or yes-no, question seeks confirmation of the proposition put forth, while all other questions seek appropriate information specifically targeted by the interrogative constituent. This dichotomy is summarized in Table 8.

Table 8. Two-way Distinction of Questions

Questions	
Confirmation-seeking **Polar Qs**	**Information-seeking** **Constituent Qs**

	Disjunctive Qs	Wh-questions

In section 4, we shall consolidate the evidence available to validate this dichotomy in Mandarin Chinese. Moreover, recall Siemund's (2001:1012) claim that the distinction between polar and alternative questions is not so unimportant from a typological perspective. In section 5, we will discuss the typological implications of this two-way distinction and, in section 6, demonstrate that grouping polar and disjunctive questions in one category typologically misses very important generalizations, as the Changsha dialect of Xiang, also a Sinitic language, clearly has no polar questions per se, but it has a rich variety of A-not-A disjunctive questions.

4. A Case Study of Mandarin Chinese

With the largest number of native speakers among the world's languages, Mandarin Chinese has many varieties over a massive continent. To minimize controversy over grammaticality judgments and thus foster better accountability and reliability of the data presented, our arguments will be largely based on accepted, non-controversial existing accounts of various interrogative constructions in the published literature.

The first definitive divide between CS polar questions and IS constituent questions in Mandarin Chinese, discussed in 4.1, is in the use of different interrogative particles. In 4.2, we offer crucial evidence from fragment questions that have not been considered before. In 4.3, the semantics of two adverbs, *nandao* 'don't tell me' and *daodi* 'after all', is shown to distinguish CS and IS questions. An intervention effect is presented in 4.4, which involves the adverbs *you* 'again' and *zai* 'again' and applies to IS questions only. The final distinction, discussed in 4.5, is that crucially, CS questions do not, but IS questions do, have indirect counterparts serving as embedded subject or complement clauses. In 4.6 we clarify the terms 'embedded polar questions' and 'embedded yes-no questions' in the literature.

4.1 *The distinction of interrogative particles*

The first syntactic distinction is that CS questions require either a rising intonation or an polar interrogative particle, e.g., *ma*, among others,[6] as in (8a), while all non-polar questions, i.e., IS questions, are compatible only with the optional non-polar question particle *ne*, as in the disjunctive question in (8b), the A-not-A form of the disjunctive question in (8c), and the *wh*-question in (8d).[7] A word of caution is immediately necessary. The reader is strongly advised *not* to construe the meaning of a genuine CS polar question in Mandarin, e.g., (8a), according to its idiomatic English translation, which is a putative CS question but its genuine status is in fact controversial; as we shall discuss in 3.5, there

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[6] While *ma* is the most quintessential polar interrogative particle in Mandarin, which expresses either the speaker's neutral stance or a slight bias towards the proposition put forth, there are others, e.g., , expressing different degrees of the speaker's presumption. However, given our focus on establishing the two-way distinction of CS and IS questions, a detailed exposition would take us too far afield.

[7] It has been proposed that the optional sentence final particle *ne* serves to draw the attention of the interlocutor to the utterance preceding it, a function similar to *hey*, *look*, and *listen* in English (e.g., Qi 2002, Wu 2005, 2009, Ren 2017, Pan 2021). It thus has an interactive effect. We thank the anonymous reviewer for this point and the references.

are good reasons to at least consider the alternative that it is a disjunctive question in disguise.

(8) (a) Q: 你 快樂 嗎？
       ni kuaile ma?
      you happy PQP
    'Are you happy?'
   A: 是的/快樂。
      shide/kuaile.
     'Yes/I'm happy.'
  (b) Q: 你 快樂 還是 悲傷 (呢)？
      ni kuaile haishi beishang (ne)?
      you happy or sad CQP
    'Are you happy or sad?'
   A: 快樂。
     Kuaile.
    'I'm happy.'
  (c) Q: 你 快（樂）不快樂 (呢)？
      ni kuai(le)-bu-kuaile (ne)?
      you ha(ppy)-NEG-happy CQP
    'Are you happy or not happy?'
   A: 快樂。
     Kuaile.
    'I'm happy.'
  (d) Q: 你 為什麼 快樂 (呢)？
      ni weishenme kuaile (ne)?
      you why happy CQP
    'Why are you happy?'
   A: 因為 你。
     yinwei ni.
     because you
    'Because of you.'

The first unmistakable difference between the CS polar question (8a) and all IS questions is that the particle *ma* is only compatible with the former, while the particle *ne* can only be used elsewhere. In the absence of a rising intonation, an otherwise declarative proposition is turned into a polar interrogative syntactically with the addition of *ma*. In sharp contrast, only sentences that are already (non-polar) questions can optionally receive *ne*. This divide is highly strict and can only be insightfully accounted for by a two-way distinction.

The second crucial difference between the polar question (8a) and all others is that only the former can be answered with a simple confirmatory *shide* 'yes' or the like, none of the others has this privilege. The way of answering polar questions in Mandarin and other East

Asian languages has been known as the 'agree/disagree system', where a 'yes' or 'no' answer indicates agreement or disagreement to the proposition put forth (e.g., Kuno 1973, Pope 1976, Sadock and Zwicky 1985, Floyd et al 2016). Holmberg (2016:156) aptly points out that the logic behind the term 'agree/disagree system' is that a 'yes' or 'no' answer in this system conveys agreement or disagreement, respectively, with the expectation of the person asking the question. We contend that the term 'confirmation-seeking' is more accurate in that such questions, e.g., (8a), often involve an affirmative assumption on the part of the enquirer, unlike disjunctive questions, e.g., (8b), and A-not-A questions, e.g., (8c), where the enquirer is neutral between the two or more options presented (e.g., Li and Thompson 1981: 548-550, Huang et al 2009: 237). Such neutrality regarding the possible answers likewise exists in canonical *wh*-questions such as (8d).

It is crucial to note the fundamental difference between the yes-no question (8a) and the A-not-A question (8c), i.e., a genuine yes-no question involves a single proposition and seeks its confirmation, while an A-not-A question involves exactly two propositions. An anonymous reviewer thus suggests that such two-proposition questions may be considered as a major type on their own, giving rise to a three-way distinction: one-proposition, two-proposition, and multiple-proposition questions. We contend that such a classification, like all other three-way distinctions, misses the generalizations that a two-way distinction captures, where polar questions stand alone as a major type and all other question types form the other major type. Worse still, such a three-way distinction even misses the generalization that A-not-A questions are merely a subtype of disjunctive questions.

Confusion also often arises with polar questions and A-not-A questions involving the copular verb *shi* 'be' as the main verb, e.g., (9a) and (10a), respectively. Superficially, both questions can be answered with *shi* or *bu shi*, and consequently, both are taken to be yes-no questions. This serious misunderstanding is due to the failure to recognize that the polar question (9a) requires the particle *ma*, not *ne*, but disjunctive question (10a) can take particle *ne*, not *ma*, and also that only the polar question (9a) can be answered with the stative verb *dui* meaning 'correct' or 'right'; the disjunctive (10a) cannot (e.g., Gasde 2004: 294).

(9) (a) Q: 零　是 數目　　嗎？
　　　　　ling shi shumu   ma?
　　　　　zero be number PQP
　　　　　'Is zero a number?'
　　(b) A: 是 啊/對　　啊。
　　　　　shi a/ dui   a.
　　　　　be EP correct EP
　　　　　'It is./That's right.'

(10) (a) Q: 零　是 不　　是 數目　呢？
　　　　　ling shi bu   shi shumu   ne?
　　　　　zero be NEG   be number CQP
　　　　　'Is zero a number or not?'
　　(b) A: 是 啊/*對　　啊。

shi a/ dui   a.
be EP correct   EP
'It is.'

(11) (a) Q: 零　加　零　等於　零　嗎？
       ling jia   ling dengyu ling ma?
       zero plus zero equal   zero PQP
       'Does zero plus zero equal zero?'
  (b) A: 是 啊/對　　啊。
       shi a/ dui   a.[8]
       be EP correct   EP
       'Correct/That's right.'

To a genuine polar question not involving the copular *shi*, e.g., (11a), the answers *shi* and *dui* in (11b) are both stative verbs synonymously meaning 'correct' or 'right' (e.g., Zhan 2012); the answer *shi* here thus cannot be the copular verb. In contrast, given (10a), a disjunctive A-not-A question with the copular verb *shi* as its main verb, the answer *shi* in (10b) can only be the copular verb serving as an abbreviation of the positive proposition. The answer *shi* here cannot be the stative verb *shi* 'correct', and that's why the synonymous *dui* 'correct' is not a well-formed answer in (10b) either. In (9a), however, the *shi* in this polar question is the copular verb *be*; thus, the answer *shi* here is ambiguous between the stative verb, which is synonymous with *dui* 'correct', and the copular verb serving as an abbreviation of the whole sentence.

4.2 *Evidence from fragment questions*
Fragment questions (FQs) in Mandarin provide further evidence to the binary distinction of questions. An FQ contains a sentence fragment, e.g., an NP, and either a CS interrogative particle *ma* or an IS interrogative particle *ne*. While a *ma*-FQ can only be recovered to a CS polar question, a *ne*-FQ, crucially, can be recovered to either a disjunctive question or a *wh*-question (Hsiao and Her 2021). This again suggests that the disjunctive and *wh*-questions belong to the same type of questions. Two sets of examples are given in (12) and (13), where A and B refer to two interlocutors.

(12) (a) A : 他　媽媽　是　外國人。
        ta mama shi   waiguoren.
        he mom be   foreigner
        'His mom is a foreigner.'
  (b) B: ~~他　媽媽　是~~　美國人　　嗎？
       ~~ta mama shi~~ meiguoren ma?
       he mom be   American PQP
       '(His mom is an) American?'

---

[8] Note that polar questions can also be answered by using the verb. Thus, (11a) can be answered with *dengyu* 'equal' or *bu dengyu* 'not equal'.

(b')A: 是 啊/對　啊。
　　　shi a/　dui　　a.
　　　be EP　correct　EP
　　　'Correct/That's right.'

(c) B: **他 爸爸** ~~是 不 是　外國人~~　**呢？**
　　　ta　baba　~~shi bu shi waiguoren~~　ne?
　　　he　dad　　be not be　foreigner　　CQP
　　　'What about his dad? Is he a foreigner or not?'

(c') A : 他 爸爸　也　是　外國人。
　　　ta　baba　also shi　waiguoren.
　　　he　dad　　also be　foreigner
　　　'His dad is also a foreigner.'

(d) B: **他 爸爸** ~~是 哪裡 人~~　**呢？**
　　　ta　baba　~~shi nail ren~~　ne?
　　　he　dad　　be where person CQP
　　　'(What about) his dad? (Where is he from?)'

(d') A : 他 爸爸　也　是　外國人。
　　　ta　baba　also shi　waiguoren.
　　　he　dad　　also be　foreigner
　　　'His dad is also a foreigner.'

(13) (a) A : 他 喜歡　看　　棒球。
　　　ta　xihuan kan　　bangqiu.
　　　he　enjoy　watch baseball
　　　'He enjoys watching baseball.'

(b) B: ~~他　喜歡　看~~　**職棒**　　　　　　**嗎？**
　　　~~ta　xihuan kan~~　zhibang　　　　　ma?
　　　 he　enjoy　watch professional-baseball　PQP
　　　'(He enjoys watching) professional baseball?'

(b')A: 是 啊/對　啊。
　　　shi a/　dui　　a.
　　　be EP　correct　EP
　　　'Correct/That's right.'

(c) B: **你** ~~喜歡　不　喜歡　看　　棒球~~　**呢？**
　　　ni　~~xihuan bu　xihuan kan　　bangqiu~~　ne?
　　　 you enjoy　not　enjoy　watch baseball　　CQP
　　　'Do you enjoy watching baseball or not?'

(c') A : 我 也　喜歡　看　　棒球。
　　　wo ye　xihuan kan　　bangqiu.
　　　I　also enjoy　watch baseball
　　　'I also enjoy watching baseball.'

(d) B: **你** ~~喜歡　看　　什麼~~ **呢？**
　　　ni　~~xihuan kan　　what~~　ne?

you enjoy watch what CQP
'What do you enjoy watching?'
(d') A : 我 也 喜歡 看 棒球。
wo ye xihuan kan bangqiu.
I also enjoy watch baseball
'I also enjoy watching baseball.'

The *ma*-FQs in (12b) and (13b), with a simple NP and the particle *ma*, can only be interpreted as a polar question seeking confirmation on the proposition implied by the NP. The *ne*-FQs in (12c-d) and (13c-d), with a simple NP and the particle *ne*, can only be interpreted as a constituent question seeking information to fill a gap in the proposition implied by the NP. That information gap can be either a disjunctive choice between two opposing propositions, as in (12c) and (13c), or a *wh*-element, as in (12d) and (13d). A dichotomy of fragment questions obtains, as in Table 9.

Table 9. Two-way Distinction of Fragment Questions in Mandarin Chinese

Fragment Questions		
[Fragment + *ma*] (recoverable to polar Qs)	**[Fragment + *ne*]** (recoverable to constituent Qs)	
	recoverable to disjunctive Qs	recoverable to *wh*-Qs

The two-way distinction of FQs thus faithfully reflects the dichotomy of full-fledged questions. Naturally then, only *ma*-FQs, e.g., (12b) and (13b) can be answered with the judgment verb *dui* or *shi* 'correct', just like full-fledged polar questions. *Ne*-FQs, on the other hand, like full-fledged constituent questions, expect an answer with specific information and, importantly, cannot be answered with the judgment verb *dui* or *shi* 'correct'. This generalization of *ne*-FQs is missed if disjunctive and *wh*-questions do not belong to the same category.

4.3 *The 'nandao versus daodi' distinction*

The behavior of certain attitudinal adverbials also supports this dichotomy. CS questions in Mandarin can take the adverb *nandao* 'don't tell me' but reject *daodi* 'after all', as in (14), while it is exactly the opposite in all IS questions , as in (15) (e.g., Law 2006, Huang et al 2009). Note that *nandao* conveys the speaker's incredulity about the proposition put forth (Jing-Schmidt 2008), while *daodi* expresses the inquirer's eagerness or even impatience to find out about the exact answer (Huang et al 2009: 237, Huang & Ochi 2010).

(14) (a) 你 難道 不 快樂 嗎？
ni nandao bu kuaile ma?
you don't-tell-me not happy PQP

14

'Don't tell me that you are not happy.'

(b) *你　到底　　快樂　嗎？

　　ni　daodi　　kuaile ma?

　　you after-all happy　PQP

(15) (a) 你　到底　　快樂　還是　悲傷　　呢？

　　ni　daodi　　kuaile　haishi beishang ne?

　　you after-all happy　or　　sad　　CQP

　　'Are you happy or sad, after all?'

(b) 你　到底　　為什麼　　快樂　呢？

　　ni　daodi　weishenme kuaile ne?

　　you after-all why　　　happy CQP

　　'Why are you happy after all?'

(c) *你　難道　　　快樂　還是　悲傷　　呢？

　　ni　nandao　　kuaile haishi beishang ne?

　　you don't-tell-me happy or　　sad　　CQP

(d) *你　難道　　　為什麼　快樂　呢？

　　ni　nandao　　weishenme kuaile ne?

　　you don't-tell-me why　　　happy CQP

Though the '*ma* versus *ne*' and '*nandao* versus *daodi*' distinctions have been well-documented in the literature, curiously, to our knowledge, they have not been used to justify a dichotomy of questions in Mandarin. Huang et al (2009:237) in fact state explicitly that 'in all these respects, A-not-A questions behave on a par with disjunctive questions and, in some respects, also with *wh*-questions', but ultimately, they still insist on a three-way distinction.

More importantly, this '*nandao* versus *daodi*' observation has never been fully explained satisfactorily either. Notably, B. Xu (2012, 2017) aptly points out that *nandao* is restricted to a single proposition in its denotation of a strong bias against the proposition put forth in the question, which requires either a rising intonation or the particle *ma*. This thus explains why *nandao* is not compatible with disjunctive or *wh*-questions, which by definition denote two or more propositions. The semantics that Bhatt and Dayal (2020:1136) propose for the Hindi-Urdu polar question particle *kya:* can thus be applied to the Mandarin counterpart *ma*, as in (16).

(16) $[[ma]] = \lambda Q_{(st)t} : \exists p \in Q[\forall q[q \in Q \to q = p]].Q$

This semantics restricts *ma* to questions with just one proposition, thus excluding all IS constituent questions, and it also explains why *ma* CS questions are compatible with *nandao* 'don't tell me'. On the other hand, *daodi* 'after all', also an attitudinal adverb like *nandao*, is used emphatically to seek the identification of a particular proposition among a set of multiple propositions to be the correct answer; as such, it is compatible with all IS questions, but not CS questions.

Again, an implicit dichotomy of CS and IS questions is sporadically seen in Huang et al's (2009) description of questions in Chinese. First, regarding polar questions, they state

that 'a yes-no question asks for a confirmation or denial of a single proposition' (Huang et al 2009: 236), and later in the discussion of *nandao* and *daodi*, they further state that 'while *nandao* occurs with a yes-no question, the adverb *daodi* (literally 'reach-bottom') occurs with an information-seeking question (a *wh*-, disjunctive, or A-not-A question). Note especially their use of the terms 'confirmation' and 'information-seeking' (Huang et al 2009: 240). Yet, crucially, they come out short of claiming an explicit dichotomy of questions in Chinese, and this current paper is the first after Tang (1984) in not only making the claim but also justifying it by logical argumentation based on empirical facts.

4.4 *An intervention effect*

Another piece of evidence that disjunctive questions are IS questions like *wh*-questions is found in L. Xu (2013), where he demonstrates that these two types of questions in Mandarin are all sensitive to intervention effects, meaning that the combination of a *wh*-element and a quantificational or focusing element leads to ungrammaticality in certain syntactic configurations. For example, an intervention effect by the adverbial *ye* 'too' and *you* 'again' is seen in disjunctive questions in (17) and adverbial *wh*-questions in (18).

(17) (a)*他 也 去 不 去 ？
　　　 ta   ye   qu bu   qu?
　　　 he also go not go
　　　 Intended: 'Will he also go or not go?'
　 (b)*他 又 去 不 去？
　　　 ta   you   qu   bu   qu?
　　　 he agian go not go
　　　 Intended: 'Will he go or not go again?'
(18) (a) *他 也 為什麼 來了 ？
　　　 ta   ye   weishenme   lai-le?
　　　 he also why come-ASP
　　　 Intended: 'Why did he also come?'
　 (b)*他 又 為什麼 來了 ？
　　　 ta   you   weishenme   lai-le?
　　　 he again why come-ASP
　　　 Intended: 'Why did he come again?'

However, as seen in (19), CS polar questions are immune to this intervention effect, indicating once again they form a distinct category.

(19) (a) 他 也 來了 嗎 ？
　　　 ta   ye   lai-le   ma?
　　　 he also come-ASP PQP
　　　 'Did he also come?'
　 (b) 他 又 來了 嗎 ？
　　　 ta   you   lai-le   ma?
　　　 he again come-ASP PQP

'Did he come again?'

Under Kotek's (2014:44) general account of intervention effects, a *wh*-element must be c-commanded by either a Q-particle or an interrogative complementizer without the intervention of another c-commanding focus-sensitive operator. The above facts in Mandarin suggest that disjunctive and *wh*-questions involve a similar configuration which is subject to the intervention effect, but CS polar questions do not participate in such a configuration.

4.5 *The availability of the indirect question counterpart*

Another syntactic test is whether the question as a direct question has an indirect counterpart, as all IS questions do but CS questions do not. This has also been observed in the literature, e.g., Huang et al (2009: 241) state explicitly that 'while information questions may be direct or indirect questions, yes-no questions are always direct questions', and this fact is used to explain why *nandao* 'don't tell me' can only appear in direct polar questions and *daodi* can appear in either direct or indirect constituent questions. Again, such an insightful observation has likewise not been used to justify a dichotomy of questions till now.

As shown in (20a), the CS question between the double quotes functions as a direct question, but it cannot function as an embedded clause, as in (20b). However, the disjunctive question in (21a) and the *wh*-question in (21b) both have indirect question counterparts, which serve as a clausal complement to the matrix verb *wen* 'ask'.

(20) (a) 我 問 阿妹 '你 快樂 嗎？'
  wo wen Amei, "ni kuaile ma?"
  I ask Amei you happy PQP
  'I ask Amei, "Are you happy?"'

 (b) *我 問 阿妹 她 快樂 嗎。[9]
  **wo wen Amei_i, ta_i kuaile ma.*
  I ask Amei she happy PQP
  Intended: 'I ask Amei_i whether she_i is happy.'

(21) (a) 我 問 阿妹 她 快樂 還是 悲傷。
  wo wen Amei_i ta_i kuaile haishi beishang.
  I ask Amei she happy or sad
  'I ask Amei_i whether she_i is happy or sad.'

 (b) 我 問 阿妹 她 為什麼 快樂。
  wo wen Amei_i ta_i weishenme kuaile.
  I ask Amei she why happy
  'I ask Amei_i why she_i is happy.'

---

[9] Note that this sentence is ill-formed with the embedded clause intended as an indirect question; however, the sentence is well-formed if the embedded clause is interpreted as a direct question, thus a direct quote.

  wo wen Amei "ta_i kuaile ma?"
  I ask Amei she happy PQP
  'I ask Amei "Is she happy?"'

Again, the empirical facts above have been observed but not explained in the literature. Under the two-way distinction, it receives a natural explanation, as a direct polar question seeks confirmation of a proposition and thus, as such, it cannot form an embedded clause, which by nature must represent a confirmed proposition. Under the semantics of questions proposed in section 3, all questions denote sets of propositions and polar questions are unique in requiring a singleton set. This unique property not only separates polar questions from all other questions, it also separates them from declaratives. In other words, this unique property of polar questions is the reason why they cannot be embedded clauses. The solution offered in Wu and Her's (2019) is that the single proposition denoted by a polar question is yet to be evaluated in terms of truth value, while declaratives and constituent questions all have at least one proposition that is true. As a result, a CS question can only be a direct question seeking confirmation on its truth value, and thus cannot serve as an embedded clause, which requires propositions with a truth value. This also explains why CS polar question particle *ma* must be limited to root clauses, thus taking the widest surface scope. An IS question, on the other hand, with a set of propositions, of which one must be true, can serve as the subject or the complement in the form of an indirect question.

4.6 *Interim Summary*

Guided by a dichotomy of polar versus constituent questions, we have systematically refined out the existing literature on questions in Mandarin to look for generalizations between disjunctive and *wh*-questions, exclusive of polar questions, and vice versa, and have also inferred new evidence. Thus far, five different kinds of evidence have been identified. First, polar questions alone require a polar interrogative *ma*, all other questions can take the particle *ne*. Furthermore, such a dichotomy is reflected in fragment questions (FQs), which are devided into two types, i.e., *ma*-FQs and *ne*-FQs. Third, the two-way distinction is neatly observed in the occurrence of two attitudinal adverbs *nandao* 'don't tell me' and *daodi* 'after all', as *nandao* is used exclusively in polar questions while *daodi* is compatible with all questions except polar questions. Forth, an intervention effect caused by a quantificational or focusing element is evident in IS questions, but not in CS questions. Finally, all questions except polar questions can be direct questions as well as indirect questions. .

5. Typological Implications of the Dichotomy of Questions

We have thus far argued for a dichotomy of questions along three dimensions. Semantically, all questions consist of a set of propositions to be evaluated. A question can thus have either a single proposition or multiple positions in the set. A dichotomy of polar versus constituent questions in terms of semantics thus obtains. Pragmatically, a polar question seeks confirmation on the single proposition put forth, while a constituent question seeks specific information to fill the gap indicated by the interrogative constituent, which may be either a disjunctive element or a conventional *wh*-element. Finally, such a dichotomy is encoded by different phonological and morphosyntactic means. We have further demonstrated that this dichotomy is justified in Mandarin Chinese.

Assuming that a formal category of questions is a universal feature in languages, the most important typological implication of this dichotomy is that a language can have at

most two types of questions at the top rank, and Mandarin is such a case. However, it does not imply that all languages necessarily have both types of questions. We put forth the hypothesis that there are languages without polar questions, due to the functional overlap between polar questions and certain constituent questions. Compare (22) and (23).

(22) 你　會　來　　嗎？
　　　ni　hui　lai　ma?
　　　you　will　come　PQP
　　　'You will come?'

(23) (a) 你　會　來　　還是　你　不　會　來？
　　　　　ni　hui　lai　haishi　ni　bu　hui　lai?
　　　　　you　will　come　or　　you　not　will　come
　　　　　'Will you come or will you not come?'
　　　(b) 你　會　來　　還是　不　會？
　　　　　ni　hui　lai　haishi　bu　hui?
　　　　　you　will　come　or　　not　will
　　　　　'Will you come or will you not?'
　　　(b) 你　會　不　會　來？
　　　　　ni　hui　bu　hui　come?
　　　　　you　will　not　will　come
　　　　　'Will you or won't you come?'

The polar question (22), which presents a single proposition for evaluation, is semantically different from the disjunctive questions in (23) in a formal sense, all of which present two positions with opposite polarity. And yet, the polar question in (22) is equivalent with each of the disjunctive questions in (23) in a functional or practical sense in that the addresses is asked to tell whether the proposition put forth is true or not (Gasde 2004: 295). The subtle difference is that while the polar question shows a slight presumption on the part of the speaker regarding the truthhood of the proposition, with a disjunctive question the speaker is neutral between the two choices. Similar scenarios exist between disjunctive questions and *wh*-questions.

(24) 紅　跟　藍　你　會　選　　紅　還是　藍？
　　　hong gen lan ni　hui　xuan　lan haishi lan?
　　　red　and blue you will choose red　or　　blue
　　　'Between red and blue, will you choose red or blue?'

(25) 紅　跟　藍　你　會　選　　什麼/哪　一個？
　　　hong gen lan ni　hui　xuan　sheme/na　yi-ge?
　　　red　and blue you will choose　what/which one-CL
　　　'Between red and blue, what/which one will you choose?'

Again, while the *wh*-question in (25) is formally different from the disjunctive question in (24) semantically and involves different interrogative elements, they are nonetheless functionally equivalent in presenting similar choices.

In short, given the functional overlap between CS polar questions and certain IS constituent questions, we consider it a worthwhile research question whether there are languages that do not have the major category of polar questions. In 5.1, we explore the rather controversial issue on the so-called 'embedded polar questions' and cast doubt on the putative polar questions in English and other similar languages. In 5.2, we offer a brief comparison between TSM and Hakka in terms of polar questions. We shall devote section 6 on a language genuinely without polar questions.

5.1   *On the so-called 'embedded polar questions'*

Given the semantic account that polar questions contain a single proposition, there should be no such thing as embedded polar questions cross-linguistically, as we have demonstrated in section 4 regarding Mandarin Chinese. Yet, the terms 'embedded yes-no questions' and 'embedded polar questions' are not uncommon in the literature. Some further clarification is thus needed. Two examples from English of the so-called 'embedded polar questions' are given in (26).

(26) (a) I know whether he is rich.
     (b) Whether he is rich is not an issue.

The first crucial issue is the proper status of the embedded question *whether he is rich*, i.e., is it really an indirect polar question? Or is it a (disjunctive) *wh*-question in disguise? While an in-depth deliberation and a definitive conclusion are clearly beyond the scope of the paper, the view that it is an indirect *wh*-question instead does have the support of some important works. The most prominent is Karttunen's (1977) seminal article on embedded questions, where he argues that *whether*-questions should be assigned the same syntactic category as *wh*-questions. A more recent work is Han and Romero (2004), where they argue that *whether* is subject to *wh*-movement and is thus a *wh*-element. Under this view, *whether*-questions in English have been mislabeled as 'embedded yes-no questions' and 'embedded polar questions'; they are in fact embedded *wh*-questions.

The more fundamental issue is also more contentious, i.e., are putative polar questions in English likewise disjunctive questions? Again, a thorough discussion would definitely require at least a full paper since such a view has been entertained for more than a century (Bollinger 1978), and in this paper, we will only offer three arguments to demonstrate that this view is at least worth considering. Consider first the indicative root clause in (27a) and its embedded counterpart in (27b) and (27c).

(27) (a) (*That) he is rich.
     (b) I know (that) he is rich.
     (c) *(That) he is rich is not an issue.

The standard generativist view of a declarative root clause is that it is headed by a complementizer, which may be overt or null, depending on the language. This amounts to

saying that in (27a) there is an unpronounced complementizer, in the complement clause of (27b) the complementizer can be optionally pronounced, and in the subject clause of (27c) the complementizer must be pronounced. Another way to conceptualize this null complementizer is to pose it as a silent element in the spirit of Kayne (2005, 2006, 2012) and Her and Tsai (2015). As shown in (28), under such a view, the capitalized THAT represents the silent counterpart of the canonical *that*, and examples in (27) are thus expressed as in (28a). Either way of conceptualizing the required head of the root clause is fine for our purpose.

(28) (a) THAT/*that he is rich.
    (b) I know that/THAT he is rich.
    (c) *THAT/That he is rich is not an issue.

Now compare (27) and (28) with the three corresponding interrogative clauses in (29) and (30), respectively.

(29) (a) (*Whether) is he rich?
    (b) I know *(whether) he is rich.
    (c) *(Whether) he is rich is not an issue.

(30) (a) WHETHER/*Whether is he rich?
    (b) I know *WHETHER/whether he is rich.
    (c) *WHETHER/Whether he is rich is not an issue.

The only difference between the declarative set and the interrogative set is that the embedded interrogative complement clause, unlike its declarative counterpart, must have its interrogative *wh*-element *whether* pronounced, as leaving it silent would lead to a serious ambiguity between the intended interrogative reading and the unintended declarative reading. Given that the declarative unmarked, the interrogative complementizer *whether* must be pronounced here in order to disambiguate. Following this logic, it is justifiable to pose a silent *whether*, or WHETHER, in the root clause (30a), where the inverted auxiliary pronounces the interrogative features, unlike the silent *that*, or THAT, in (28a), where its silence receives the default unmarked declarative reading.

A piece of more concrete evidence comes from Old English, where this now silent *whether* is in fact pronounced, a feature common in older Germanic languages (Aurelijus Vijūnas, *p.c.*). See the two examples in (31).

(31) (a) *Hwæðer   ge   nu   secan gold on treowum?*
        whether   you   now seek   gold in trees
        'Do you now seek gold in trees?'
        (coboeth, Bo:32.73.24.1363, quoting Ringe & Taylor (2014:506) (263a))
    (b) *Hwæðer   ic mote   lybban   oððæt ic   hine geseo?*
        whether   I   might live   until I   see him
        'Might I live until I see him?'
        (Aelfric Homilies Thorpe edition 136. 30, from Allen 1980:789)

This overt *whether* in a direct question continues from Old English into Early Modern English (e.g., Fischer et al 2000: 54, van Gelderen 2009). See the two examples in (32).

(32) (a) Faulconbridge: Whether dost thou go?
        (Shakespeare's *King John*, Scene VI)
   (b) Whether dost thou daily increase in grace, repentance and faith?)
        (Ward, Richard. 1640. *Theological questions, dogmatical observations, and evangelical essays*, p.225. London.)

It is thus plausible that the null interrogative element in a putative polar question, e.g., (30a), is a silent counterpart of the previously overt *whether*. Han and Romero (2004) argue explicitly that the syntax of disjunctive questions, e.g., (33a), and that of putative polar questions with overt *or not*, e.g., (33b), are parallel and both involve ellipsis and a focused remnant. Putative polar questions without overt *or not*, e.g., (33c), differ only in the respect that the negative alternative *or not* needs to be provided syntactically by an elliptical second disjunct or it is directly provided semantically. Note that all three types of questions have indirect question counterparts headed by *whether*, as in (33a'), (33b'), (33c'), respectively. And, as shown in (33d) and (33d'), the *whether* clause is by no means limited to two alternatives. Thus, crucially, the null counterpart of *whether* in the direct questions is a *wh*-element and is therefore subject to *wh*-movement.

(33) (a) Did John eat beans or rice?
   (a') I wonder whether John ate beans or rice.
   (b) Did John eat beans or not?
   (b') I wonder whether John ate beans or not.
   (c) Did John eat beans?
   (c') I wonder whether John ate beans.
   (d) Did John eat beans, rice, potatoes, or bread?
   (d') I wonder whether John ate beans, rice, potatoes, or bread.

Under Han and Romero's (2004) account, the semantics of putative yes-no questions in English, e.g., (33c), must be a set of exactly two propositions, e.g., *John ate beans* and its complement, *John did not eat beans*. Such questions are thus disjunctive questions, not CS polar questions. Holmberg (2016:24) thus explicitly proposes that putative English yes-no questions have essentially the same structure of a Mandarin A-not-A disjunctive question, not that of a polar question. The 'yes' or 'no' answer to (33c) therefore does not convey (dis)confirmation; rather, the answers are 'positive/negative-based'. Holmberg calls the Mandarin system 'truth-based', and the English system, 'polarity-based'. We contend that only the truth-based questions are genuine CS yes-no questions, while the so-called polarity-based questions are in fact IS disjunctive questions, where a 'yes' answer to a question like (33c) thus corresponds to the positive form of the proposition, *John ate beans*, and a 'no' answer corresponds to the negative form, *John did not eat beans*. In Moser's (2018:20) survey of 33 languages with a simple answering system to putative polar

questions, polarity-based languages are twice more than those truth-based, i.e., 17/33 (35%) versus 8/33 (17%).

Again, we have no intention to settle this century-old debate over the proper status of putative yes-no questions in English and other similar languages. However, we do hope that the arguments presented above and those available in the literature are enough to cast doubt on the so-called 'embedded polar questions', which may be a case of mistaken identity. This also suggests that the putative polar questions in many languages may need to be re-examined. Dagaare, a Mabia language of northern Ghana, for example, is conventionally seen as having two types of questions: polar questions formed with the interrogative element bee and wh-questions formed with a wh-element such as bong 'what' (Bodomo 1997:137); nonetheless, upon closer scrutiny, the bee questions may in fact be disjunctive questions and genuine polar questions are formed by means of phonological changes to the verbal or post-verbal elements in the sentence. Furthermore, if our view is correct, then the claim that polar questions are a universal feature in human language (e.g., Sadock and Zwicky 1985, König and Siemund 2007, Dryer 2013) is untenable. In section 6, we will demonstrate that Changsha Xiang is genuinely without polar questions.

5.2 *Taiwan Southern Min and Hakka*

As mentioned in section 2, the traditional four-way distinction of questions in TSM has been refuted in Hsiao and Her (2021), where a two-way distinction of polar and constituent questions is justified. However, it is important to note that Hsiao and Her (2021) also demonstrate that, under close scrutiny, most of the putative sentence-final polar interrogative particles turn out not to be the case. This long list of such particles is found in Lau (2010b): *buē/bē, bô, m̄, nih, honnh, ma, mm, sī--bô, sī--m̄ (sìm), sioh, hiòo,* and *m̄-me (me)*. Yet, only *nih* and *honnh* are identified as genuine polar interrogative particles and all the rest are A-not-A question tags. This again shows that disjunctive questions of an A-not-A nature are easily confused as polar questions, due to their functional overlap.

In recent literature on questions in Hakka, the most established taxonomy is also based on a four-way distinction, evolved from an earlier six-way distinction proposed in Lo's (1984) seminal book on Hakka grammar. Chung (2000), following the popular four distinction in Mandarin then, proposed the same for Hakka: particle questions, A-not-A, alternative questions, and *wh*-questions. This four-way taxonomy is till current in Lai's (2015) reference grammar of Hakka. In terms of polar questions, Chung lists three interrogative polar particles: *mo*, *ho*, *ka*. Interestingly, Hsieh (2013) argues convincingly that *mo* is in fact the negative part of an A-not-A question, thus not a polar particle. It is also noteworthy that, while no published works on Hakka questions have thus far argue for the simplest two-way dichotomy, Hu (2017) in an unpublished manuscript posted online proposes a dichotomy of polar versus constituent questions in Hakka.

In the history of the evolving taxonomies of questions, it has been frequently observed that certain A-not-A questions have been misidentified as polar questions. We thus conjecture that there may be Sinitic languages whose alleged polar questions are all disjunctive questions instead and such languages have only constituent questions but not polar questions. After a general survey of some of the reference grammars, we have identified Xiang as one of the candidates. In the following section we will demonstrate that

Xiang has no polar questions and all previously alleged polar questions are disjunctive questions.

6. Putative Yes-No Questions in Changsha Xiang

In Wu's (2005) important book, which 'represents a major contribution to the grammar of Xiang dialects that has not attracted the attention it deserves' (Chiang 2009:197-198), Chapter 9 focuses on the sentence-final modal particles in interrogative sentences and concludes that Xiang's indigenous structure of yes-no questions is [V + Neg + (MOD)], inherited from Archaic Chinese, the [V + Neg + (MOD)] construction have shifted to [V + fusion word] in some dialects, and the Mandarin [V + Neg +V] construction has also appeared. Altogether, there are four types of (putative) yes-no questions in Xiang. Note that Wu's 'MOD' refers to modal particles and 'fusion word' refers to a word, e.g., pa^{33}, which is formed by fusing a negator, e.g., pu^{24}, with a modal particle, e.g., la^{33}.[10]

(34) Four Types of (Putative) Yes-No Questions in Xiang (Wu 2005: 310)
(a) [V + Neg]
(b) [V + Neg + MOD]
(c) [V + fusion word]
(d) [V + Neg + V]

We will demonstrate that all of the so-called 'yes-no questions' are mislabeled, as they are not CS polar questions; rather, they are all variants of the A-not-A disjunctive question, hence all IS questions instead. Let's examine the actual examples Wu (2005) offers from the Changsha dialect (Wu 2005:310-311). Again, in order to foster better accountability and reliability of the language data and minimize disagreement over grammaticality judgments, we note that the following discussions of Xiang are based on data from the specific Changsha dialect.

(35) li^{41} $t\varepsilon^{h}ia^{24}$ fan^{21} pu^{24}? [V + Neg]
you eat meal Neg
'Are you going to eat or not?'

(36) li^{41} $t\varepsilon^{h}ia^{24}$ fan^{21} pu^{24} la^{33}? [V + Neg + MOD]
you eat meal Neg MOD
'Are you going to eat or not?'

(37) li^{41} $t\varepsilon^{h}ia^{24}$ fan^{21} pa^{33}? [V + fusion word]
you eat meal PA (fusion form)
'Are you going to eat or not?'

(38) li^{41} $t\varepsilon^{h}ia^{24}$ pu^{24} $t\varepsilon hia^{24}$ fan^{21} la^{33}? [V + Neg + V]
you eat Neg eat meal MOD
'Are you going to eat or not?'

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[10] In terms of its historical development, the polar interrogative particle *ma* may have likewise come to its present form and function via a similar path of the fusion of [Neg + Particle]. However, the fact remains that *ma* in modern Mandarin is a single morpheme whose meaning and function have nothing to do with negation.

Note that (35) is VP-neg questions, which has been considered by some grammarians as polar questions, not disjunctive questions (e.g., Hsieh 2001 and B. Li 2006). However, the well-formed question in (36) immediately casts serious doubts on such a view. Interrogative particles like the Mandarin *ma* and *ne* take the sentence-final position and thus cannot be followed by another particle, which is exactly the case in (36). Thus, the negator pu^{24} in (35) cannot be a polar particle. Note also that even VP-neg questions in Mandarin cannot be taken as A-not-A disjunctive questions, as Huang et al (2009: 259) observe: 'a VP-neg question is not a yes-no question, as it still retains the syntax, semantics, and pragmatics of an A-not-A choice question'.

Furthermore, the first three types in (35)-(37) can be reduced to one type. First, the two types exemplified by (35) and (36) are identical except for the optional sentence-final particle la^{33}. Furthermore, given that the internal structure of the fused form pa^{33} i.e., [negator pu^{24} + particle la^{33}], is still transparent in the synchronic grammar, (37) is exactly the same as (36) syntactically. The fused form pa^{33} is thus formed phonologically and has not yet grammaticalized into a polar interrogative particle like the Mandarin *ma*. In short, (35), (36), and (37) can be seen as mere variants of the same VP-neg structure in (39a), while (38) can be seen as (39b).

(39) Two Types of Putative Yes-No Questions in Xiang
    (a) [VP + Neg + (MOD)]
        i. [VP + Neg]
        ii. [VP + Neg + MOD]
        iii. [VP + Neg-MOD-fusion]
    (b) [VP + Neg + VP + (MOD)]

Note further that in (39a) the particle la^{33} is likewise optional, the same way it behaves in (39b). The Xiang interrogative particle la^{33} is thus exactly like the non-polar interrogative particle *ne* in Mandarin, which can optionally occur in a CS constituent question only. Consequently, the two types of questions in (39) can be unified under one syntactic pattern, as in (40), and Wu's (2005) putative four types in fact belong to the same category of questions.

(40) Unified Syntactic Pattern of Putative Yes-No Questions in Xiang
    [VP_i + Neg + (VP_i) + (MOD)]

We now demonstrate that all four variants of the unified pattern in (40) are IS disjunctive questions, not CS polar questions. First of all, it is important to note that, unlike Mandarin, where the polar interrogative particle *ma* can be replaced with a rising intonation, the Changsha Xiang examples in (35)-(38) can only be interrogative with the negator pu^{24} serving as the second alternative, regardless of intonation (Wu 2005:306). In other words, there are no polar questions formed with a rising intonation. Another clear indication is the uniform English translation Wu (2005) offers for all four examples, i.e., 'Are you going to eat or not?', which is unmistakably a disjunctive question.

A more substantial clue is the well-formed use of $tau^{45}ti^{41}$ 'after all' 'don't tell me' in all these questions. Recall that this adverb is allowed exclusively in IS constituent

questions.[11] The well-formedness of (41) is especially meaningful, as it further disputes the minority view that VP-neg questions, especially in the form of VP-*bu*, are polar questions (e.g., Hsieh 2001 and B. Li 2006).

(41) *li⁴¹   tau⁴⁵ti⁴¹ tɕʰia²⁴ fan²¹   pu²⁴?*   [V + Neg]
     you   after-all eat   meal   Neg
     'Are you going to eat or not, after all?'

(42) *li⁴¹   tau⁴⁵ti⁴¹ tɕʰia²⁴ fan²¹   pu²⁴ la³³?*   [V + Neg + MOD]
     you   after-all eat   meal   Neg MOD
     'Are you going to eat or not, after all?'

(43) *li⁴¹   tau⁴⁵ti⁴¹ tɕʰia²⁴ fan²¹   pa³³?*   [V + fusion word]
     you   after-all eat   meal   PA-fusion form
     'Are you going to eat or not, after all?'

(44) *li⁴¹   tau⁴⁵ti⁴¹ tɕʰia²⁴ pu²⁴ tɕhia²⁴ fan²¹   la³³?*   [V + Neg + V]
     you   afer-all eat   Neg eat   meal   MOD
     'Are you going to eat or not, after all?'

The formal status of (35)-(38) as IS questions of the A-not-A subtype is further confirmed by their ability to serve as a complement in the form of an indirect question. Note that we are excluding the sentence-final particle *la³³* and *pa³³*, the fused form of [negator *pu²⁴* + particle *la³³*], from the indirect questions, as it is well-known that a sentence ending with such sentence-final particles can only serve as a matrix clause.

(45) *ŋo⁴¹ pu²⁴ ɕiau⁴ tʁ²⁴ li⁴¹   tɕʰia²⁴ fan²¹   pu²⁴*   [V + Neg]
     I   not know   you eat   meal Neg
     'I don't know whether you are going to eat or not.'

(46) *ŋo⁴¹ pu²⁴ ɕiau⁴¹tʁ²⁴ li⁴¹   tɕʰia²⁴ pu²⁴ tɕhia²⁴ fan²¹³*   [V + Neg + V]
     I   not know   you eat   Neg eat   meal
     'I don't know whether you are going to eat or not.'

Note first that (45) offers yet another piece of evidence against the view that the VP-neg questions are polar questions. Given that all four types of putative yes-no questions are variants of one syntactic structure, the well-formed (45) and (46) indicate that all four types are fundamentally IS disjunctive questions. Changsha Xiang is thus without CS polar questions.

Recall Siemund's (2001:1012) claim that 'the differences and similarities between polar and alternative interrogatives are relatively unimportant from a typological perspective'. The fact that there are languages like Changsha Xiang proves the recognition of polar questions as an independent category is in fact very important from a typological perspective. Given the controversy over the existence of genuine polar questions in languages like English, which is discussed briefly in 3.5, we would venture to suggest that when the issues are eventually settled there should be many more languages like Changsha

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[11] All subsequent examples from Changsha Xiang have been solicited from native speakers of Changsha Xiang and verified by four speakers.

Xiang. Interestingly, some languages have a rich variety of disjunctive questions, e.g., Mandarin and Xiang, in some languages they do not exist at all (Dixon 2012: 398). To our knowledge, there has not been any claim that there are languages without *wh*-questions. It thus seems that *wh*-questions are a universal feature in languages, but polar and disjunctive questions are not. We leave these interesting questions for future research.

7. Concluding Remarks

We have demonstrated that the conventional three-way distinction of yes-no, disjunctive, and *wh*-questions should be replaced by a more revealing dichotomy of polar versus constituent questions, as shown in Table 10, where disjunctive questions and *wh*-questions belong to one overriding category. We have further argued that polar questions seek confirmation of the proposition put forth, while constituent questions seek information specifically targeted by the interrogative element.

Table 10. Two-way Distinction of Questions

Questions		
Polar (Confirmation-seeking)	**Constituent** (Information-seeking)	
	Disjunctive	*Wh-questions*

The dichotomy between confirmation-seeking polar questions and information-seeking constituent questions, when applied with rigorous formal criteria, reveals important insights in Mandarin interrogatives. There are clear syntactic features at play. CS questions require the question particle *ma* and are compatible with the adverbial *nandao* 'don't-tell-me', but not with the question particle *ne* or the adverbial *daodi* 'after all', and do not have an indirect question counterpart and thus cannot serve as a complement of a predicate. Information-seeking constituent questions are just the other way around. They can go with the question particle *ne* and the adverbial *daodi* 'after all', but not with the question particle *ma* or the adverbial *nandao* 'don't tell me', and can serve as a complement in the form of indirect questions.

As a sharp contrast to Mandarin Chinese, the Changsha dialect of Xiang, another Sinitic language, is shown to be without CS polar questions, as all alleged yes-no questions in this dialect are in fact variants of the A-not-A disjunctive question. The existence of such languages raises the serious question whether polar questions are a universal feature in human language, but also further enhances the validity of the dichotomy proposed.

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