Dedicated Bias Word *nandao* as an Illocutionary Modifier

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1. Introduction

In Mandarin, questions containing the adverb *nandao* (*Nandao-Qs*) have been show to have rhetorical (Yu, 1984; Qi & Ding, 2006; Yu, 2006; Xu, 2012) as well as information-seeking bias uses (Gong, 1995; Su, 2000; Sun, 2007; Xu, 2013). Both uses **necessarily** express a bias, as shown in (1).

(1)   Nandao zhe jiushi shichang jingji   (ma)?
        nandao this be   market   economy Y/N-Q

        (Rhetorical) 'This isn't a market economy.'
        (Biased) 'This isn't a market economy, right?'

Although (1) has the form of a question, it can express a meaning similar to a negative statement which the speaker fully believed or assumed to be true, or it can convey the speaker's bias, i.e. lesser degree of belief, toward the negative polar answer. The first interpretation is a typical rhetorical question reading which is not information seeking (rhetorical questions in the sense of Rohde 2006; Caponigro & Sprouse 2007). The second interpretation is a typical information-seeking biased question reading which favors a particular answer.

In this paper, an analysis of Mandarin *nandao*-Qs is presented with a view to address the following questions: Are there dedicated words to express bias in natural languages? What is the nature of that bias? What is the syntactic and semantic properties of the dedicated bias words?[1]

2. Semantic and discourse properties of *nandao*-Qs

The difference between the two readings of the *nandao*-Q in (1) lies in the degree to which the speaker is committed to the negative polar answer, belief vs. bias. In the rhetorical question reading of *nandao-p?* question, the speaker is **fully committed to**, i.e. (near) 100% sure of, ¬*p*. In the biased question reading of *nandao-p?*, the speaker is **less committed to**, more than 50% but less than 100% sure of, ¬*p*. In both readings, *nandao*-Qs **necessarily** express the speaker's bias, whether strong (belief) or weak (bias). They cannot appear in a situation where the speaker has no idea of the answer and there is no contextual evidence for any possible answers, when the speaker seeks information from others, *nandao*-Qs are still not felicitous.

(2)   (A sits in a windowless room working. A doesn't know anything about the weather outside and does not have any expectation about the weather. At 10, B enters the room. Then A asks B:)

        Waimian xiayu-le ma?
        outside   rain-ASP Y/N-Q

        'Is it raining outside?'

	#	Nandao waimian xiayu-le ma?		#	Nandao waimian mei xiayu ma?

       # Nandao waimian xiayu-le ma?   # Nandao waimian mei xiayu ma?
          nandao outside rain-ASP Y/N-Q   nandao outside not rain Y/N-Q
          'It is not raining outside, right?'   'It is raining outside, right?'

The above examples also show that the necessary bias carried by *nandao*-Qs is contributed by the use of *nandao*, in that the only difference between *nandao*-Qs and normal Y/N-Qs lies in the occurrence of *nandao*.

    As has been proposed in the literature, there are two kinds of bias in questions, an epistemic bias and an evidential/contextual bias (see Romero & Han 2002, Romero & Han 2004, Romero 2006, Asher & Reese 2007, Reese 2007 for epistemic bias; see Büring & Gunlogson 2000 for contextual bias; see Sudo 2013 for both). In the cases of *nandao*-Qs, the bias conveyed is an **epistemic** one. The bias is not from context or evidence, but is based on the speaker's belief. This can be supported by the fact that *nandao*-Qs are still infelicitous if we add contextual evidence for raining (e.g. *B enters the room with a dripping wet raincoat*) to the context of (2). According to Büring & Gunlogson (2000) and Sudo (2013), such a context has a [-negative] evidential bias. The infelicity of *nandao*-Qs in such a context indicates that when there is only evidential bias available in the context, the speaker is not entitled to ask a *nandao*-Q.

    Knowing that the bias conveyed in *nandao*-Qs is an epistemic one is the first step. The second step is to find out toward which answer those questions are biased. If the speaker thinks that the answer is more likely to be p than $\neg p$, then under any circumstances (s)he cannot use the form *nadao-p?* to express such a bias.

(3)   (The speaker believes that there is no one in a house.)

    a. # Nandao wuli   mei ren?
          nandao room.in no person
          (Intended) 'There is no one in the room, right?'

    b. Nandao wuli   you ren?
        nandao room.in exist person
        'There is no one in the room, right?'

This suggests that the speaker is always **biased toward the negative polar answer** in *nandao*-Qs. To be more specific, a *nandao-p?* with the positive question nucleus p conveys an epistemic bias toward $\neg p$ on the part of the speaker. Similarly, a *nandao-$\neg p$?* with the negative question nucleus $\neg p$ conveys a bias toward p. This is what Han (2002) and Xu (2012) called "polarity reversal" effects.

    Apart from bias, *nandao*-Qs also exhibit discourse and semantic properties that are distinct from normal Y/N-Qs. First of all, the bias of *nandao*-Qs can convey **new information**.

(4)   (A is a poor guy who never thinks about investing in stocks to earn money. On the other hand, C has been investing in the stock market for many years. A and C are not familiar with each other, but B is a friend of both A's and C's. B knows A and C quite well. One day, A approaches B and asks B,)

    A: Can you help me ask C how to open an account in the stock market?

    B: Why are you asking this question?

    A: Nandao wo buneng ye chaogu   ma?
        nandao I   not.can too invest.stock Y/N-Q
        'I can make investment in stocks too, right?'

    B: A... Yuanlai ni ye xiang chaogu   a!
        ah so   you too think invest.stock ah
        'Ah...So you want to make investment in stocks too!'

In (4), although B didn't reply to the *nandao*-Q, B immediately becomes aware of A's biased attitude towards the answers (i.e. *A thinks he can invest in stocks too*) when he hears the *nandao*-Q. From the

exclamatory expression *Ah* in B's response, we get to know that the speaker's attitude toward stock investment is unexpected and new to him.

Moreover, although the bias of *nandao*-Qs can convey new information, it is also felicitous to use them in a context where the information of the speaker's bias has already been established (5).

(5)   (A and B are talking about the war in Afghanistan. A thinks the US should retreat, while B disagrees. They know each other's stance quite well.)

A: The US government cannot spend more money to keep the troops in Afghanistan.

B: But Al-Qaeda is still in power. We need the US troops to eliminate them once and for all.

A: More than two thousand soldiers have died!

Nandao meijun   yinggai jixu   zai Afuhan   zhujun?
Nandao US.troop should continue at Afghanistan station.troop

'The US troops shouldn't continue to stay in Afghanistan, right?'

Lastly, the bias conveyed via *nandao* is **speaker-oriented**.

(6)   A: Nandao Zhangsan bu xihuan shuiguo ma?
   nandao Zhangsan not like   fruit   Y/N-Q

Bias = 'A believes that it is more likely that Zhangsan likes fruits'.
Bias ≠ '(Generally/In fact), It is more likely that Zhangsan likes fruits.'
Bias ≠ 'From what you (addressee) believe it is more likely that Zhangsan likes fruits.'

The core part of the meaning of the bias conveyed in (6) is an epistemic evaluation of the possible answer(s), i.e. the negative polar answer is more likely than the positive one. Such a bias is on the part of the speaker. It is not about a general fact or objective epistemic evaluation of the answers, nor can it be an epistemic evaluation on the part of the addressee.

Besides the above discourse properties, *nandao* has a special semantic property, viz. it **scopes over negation and all other quantifiers**.

(7)   *Nandao* > negation

A: Nandao Zhangsan bu xihuan shuiguo ma?   (= (6))
   nandao Zhangsan not like   fruit   Y/N-Q

Bias = 'A believes that it is more likely that Zhangsan likes fruits'.   *nandao* > ¬
(Intended) Bias = 'A doesn't believes that it is more likely that Zhangsan likes fruits.'
                                                                          * ¬ > *nandao*

(8)   *Nandao* > ∀

A: Nandao meige   ren   dou yao qu?
   nandoa each.CL person DOU need go

'It is not the case that everyone needs to go, right?'   *nandao* > ∀
(Intended) 'For every person *x*, *nandao* does *x* need to go?'   * ∀ > *nandao*

(9)   *Nandao* > ◊

A: Nandao Zhangsan keneng   qu Meiguo ma?
   nandao Zhangsan possibly go America Y/N-Q

Bias = 'A believes that *it is impossible that Zhangsan goes to America* is more likely.'
                                                                          nandao > ◊
(Intended) Bias = 'It is possible that A believes that it is more likely that *Zhangsan goes to America*.'   * ◊ > *nandao*

3. What *nandao* is and what it is not

The bias meaning contributed by *nandao* in many ways resembles presupposition, conventional implicature (henceforth CI), and illocutionary modifier (hereafter IM).

For example, like presupposition, CI, and IM, *nandao* can pass "*Hey, wait a minute*" test (see Shanon 1976, von Fintel 2004, Amaral et al. 2007, Koev 2013, Faller 2014 for examples of presupposition, CI, and IM passing the test).

(10)　A:　Nandao Zhangsan bu　xihuan shuiguo ma?
　　　　　nandao Zhangsan not like　　fruit　　Y/N-Q

　　　　'Zhangsan likes fruits, right?'

　　　B:　Wei, dengdeng. Ni　renwei Zhangsan bu xihuan chi shuiguo de　ba!
　　　　　hey　wait.wait　You believe Zhangsan no like　　eat fruit　　DE BA

　　　　'Hey, wait a minute. You think Zhangsan doesn't like fruits at first.'

　　　B':　# Wei, dengdeng. Zhangsan bu　xihuan chi shuiguo.
　　　　　　hey　wait.wait　Zhangsan not like　　eat fruit

　　　　(Intended) 'Hey, wait a minute. Zhangsan doesn't like fruits.'

The "*Hey, wait a minute*" test is a well-established diagnostic for not-at-issue content (Shanon 1976, von Fintel 2004, Amaral et al. 2007, Koev 2013, Faller 2014). The logic behind the test concerns conversational flow. Unlike at-issue content which can be directly accepted or denied, not-at-issue content which are "not the main point of the utterance" (Tonhauser 2012: 240) cannot be directly addressed in the discourse. Thus, when the not-at-issue content are falsified or rejected by other discourse participant(s), a pause to stop the conversation like *Hey, wait a minute* will be used to prevent the false not-at-issue content from slipping by (Roberts, 2006).

The fact that the bias meaning of *nandao*-Qs passes the "*Hey, wait a minute*" test suggests that *nandao*, like presuppositions, CIs, and IMs, expresses not-at-issue content. More evidence supporting this conclusion is provided below.

Another typical property of not-at-issue content encodes like CIs and presuppositions is that they cannot be part of the answers to the questions containing them (Amaral et al. 2007, Tonhauser 2012 and Koev 2013). Koev (2013) designs the Question Formation Test based on this property. The test can be used as a diagnostic for at-issue content, because "[i]n questions, only at-issue content determines the set of alternative answers" (Koev 2013: 22). Like those typical not-at-issue content encoders, the epistemic bias contributed by *nandao* cannot be part of the answers either (11).

(11)　A:　Nandao Yuehan shi ge yisheng?
　　　　　nandao John　　be CL doctor

　　　　'John is not a doctor, right?'

　　　B_1:　# Shia,　ni　juede ta bushi yige　　yisheng.
　　　　　　Yes.ah you think he not.be one-CL doctor

　　　　(Intended) 'Yes, you think John is not a doctor.'

　　　B_2:　# Bu, ni　juede ta　shi ge yisheng.
　　　　　　no　you think he be　CL doctor

　　　　(Intended) 'No, you think that he is a doctor.'

To summarize, we have the following syntactic facts about *nandao*.

(12)　　*nandao* > IntP, FocP

In terms of scope relations with other operators, *nandao* is also quite similar to other not-at-issue content triggers. We know that *nandao* takes global scope (7-9). Or, we may interpret the conclusion as *nandao* cannot be interpreted within the scope of operators in at-issue content. This is a typical phenomenon widely found in presupposition triggers (Keenan 1971, Karttunen 1971, Karttunen 1973,

Beaver 2001), CI encoders (Potts 2003), appositives (Koev 2013), and IMs (e.g. evidential) (Faller (2014)).

With all the above evidence, we can state with confidence that *nandao* is **a not-at-issue content encoder**. The not-at-issue meaning it encodes is the bias meaning on the part of the speaker.

Although *nandao*, the newly-joined not-at-issue content encoder, much resembles presupposition triggers, CI encoders, and IMs, it is still not clear what type of not-at-issue content encoder it exactly is. In the following, I will show that *nandao* are not presupposition triggers or CI encoders but **a kind of Illocutionary Modifiers**.

Presupposition, as discussed in great detail in Stalnaker (1974), conveys old, backgrounded information that both discourse participants know or assume to be true and is in the common ground (CG). In this case, as argued by Potts (2003), presupposition shows a *backgrounding effect* (see also Faller 2014).

(13)   John has children and *his children* are bald. (van der Sandt 1992: 334)

(14)   Lance Armstrong survived cancer. And most riders know that Lance Armstrong is a cancer survivor. (adapted from Potts 2003: 42)

On the other hand, as discussed in §2, the not-at-issue content conveyed by *nandao*-Qs can be new information (see (4) as an example). It does not show a similar *backgrounding effect*.

The other difference between the content conveyed by *nandao* and presupposition lies in it being speaker oriented. Potts (2003) regards all presuppositions to be lexical and not speaker-oriented. They can find references in the current discourse or context whose identities are independent of the discourse participants. Hence, a speaker may reject subsequently the presupposition set up in the prior discourse.

(15)   Sue wrongly believes that Conner stopped smoking. However, he never smoked in the first place. (Faller 2014: 69)

However, the not-at-issue content in *nandao*-Qs is necessarily speaker-oriented (see (6) as an example).

Given these two key differences, we can conclude that the not-at-issue content encoded in *nandao*-Qs is not presupposition.

Unlike presuppositions, CIs do not exhibit the *backgrounding effect* and are (mostly) speaker-oriented. Although the *nandao* meaning and CIs pattern alike in *backgrounding effect*, CIs show a stricter requirement on *anti-backgrounding*: "in cases where the content of a supplement is part of the initial context, the result is infelicity due to redundancy" (Potts 2003: 41).

(16)   # Lance Armstrong survived cancer. When reporters interview Lance, a cancer survivor, he often talks about the disease. (adapted from Potts 2003: 42)

Nandao doesn't pattern with CIs in this respect. As already shown in §2, though *nandao* conveys new not-at-issue information, it is still felicitous to use it in a context where such at-issue content has already been established (see (5) for an example). In this sense, *nandao* shows neither the *backgrounding effect* nor the *anti-backgrounding effect*. Thus, *nandao* does not convey conventional implicature.

A typical biased questions that has been widely discussed in the literature is questions with VERUM focus (Romero & Han 2002, Romero & Han 2004, Romero (2006), Domaneschi et al. (2017), a.o.), e.g. polar questions with *really*. Given the question nucleus p, it can also be represented as *Really-p?*. According to Romero & Han (2002, 2004), Romero (2006), and Domaneschi et al. (2017), the adverb *really* denotes VERUM which introduces the negative epistemic bias of the speaker, e.g. $\neg p$ in *Really-p?* under Gricean Principles and Economy Principle. In terms of the form and the epistemic bias conveyed, *nandao-p?* is very similar to *Really-p?*. In this regard, we may wonder if *nandao* could also denote the epistemic conversational operator VERUM.

There are at least two reasons to reject such an assumption. First and foremost, VERUM is not restricted to polar questions like *nandao*. It can appear across a wide variety of sentence types. According to Höhle (1992),[2] at least in German, VERUM focus is found in declaratives, polar questions, WH-Qs,

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[2] The VERUM focus analysis is first proposed by Höhle (1992). His idea inspires Romero & Han's (2002, 2004) VERUM-analysis of biased polar questions.

and even in imperatives. But, *nandao* in Mandarin has a much narrower distribution. As shown in Xu (2012), *nandao* is only compatible with polar questions. If we try to analyze *nandao* as denoting a VERUM focus, we then have to assume that at the level of syntax *nandao* has a [+wh] feature which prevents it from occurring in declaratives and other [-wh] sentence types. But, again, in order to account for its incompatibility in WH-Qs, we have to stipulate a sub-type of [+wh] feature which solely checks Y/N-Qs. This kind of solution seems undesirable and *ad-hoc*, lacking explanatory power and theoretical grounding.

Next, as we can see from the experimental results from Domaneschi et al. (2017) (Table 1), *Really-p?* doesn't necessarily carry an epistemic bias. This is quite different from *nandao*-Qs which necessarily convey the speaker's bias.

Domaneschi et al. (2007: Table 20)			**ORIGINAL BIAS**	
		p	**Neutral**	**¬p**
CONTEXTUAL	**p**		PosQ/*Really*-PosQ	*Really*-PosQ
EVIDENCE	**Neutral**	HiNQ(outer)[3]	PosQ	
	¬p	HiNQ(outer/inner)	LowNQ	

Table 1: Overview of the primary choices in English and German.

In summary, a comparison among presuppositions, Conventional Implicatures (CIs), and Illocutionary Modifiers (IMs) and the not-at-issue content conveyed by *nandao*-Qs is shown in Table 2.[4]

	P	**CI**	**IM (*alas*)**	**IM (evidential)**	*nandao*
Convey new information	×	✓	✓	✓	✓
Scope over operators	✓	✓	✓	✓	✓
Participant-oriented	×	✓	✓	✓	✓
***Hey, wait a minute* test**	✓	✓	✓	✓	✓
Backgrounding effect	✓	×	×	×	×
Antibackgrounding effect	×	✓	×	×	×
Question Formation Test	×	×	×	×	×

Table 2: Comparison among different kinds of not-at-issue content

According to the table, *nandao* patterns with Illocutionary Modifiers (IMs) in all the tests, which suggests that *nandao* is a type of IM. The problem now moves from what *nandao* is to how *nandao* modifies illocutionary force.

4. Syntactic properties of *nandao*

Within *nandao*-Qs, generally, can surface freely in before the predicate.

(17) (Nandao) Zhangsan (nandao) bu (*nandao) renshi Lisi (*nandao) ma?
　　 nandao Zhangsan nandao not nandao know Lisi nandao Y/N-Q

　　 'Zhangsan knows Lisi, right?'

But, this free pattern cannot be found when *nandao* meets a focus DP (cf. Huang et al. 2009).

(18) (*Zhiyou/jiu [Zhangsan]$_F$) nandao (zhiyou/jiu [Zhangsan]$_F$) bu renshi Lisi ma?
　　 only/just Zhangsan nandao only/just Zhangsan not know Lisi Y/N-Q

　　 'It is not the case that only/just [Zhangsan]$_F$ doesn't know Lisi, right?'

This suggests that *nandao* > Focus.

Nandao can occasionally appear sentence finally in colloquial Mandarin.

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[4] Data are drawn from Beaver (2001), Faller (2002), Potts (2003), Amaral et al. (2007), Tonhauser (2012), Faller (2014).

(19) Zhangsan bu renshi Lisi ma(,) nandao?
     Zhangsan not know Lisi Y/N-Q nandao
     'Zhangsan knows Lisi, right?'

Comparing (19) with (17), we can see that *nandao* must be placed after the Y/N-Q particle *ma*. Following the analysis of Japanese question particle *-ka* which marks the scope of the question containing it (Nishigauchi, 1990), we may conclude that *nandao* is outside of the scope of Y/N-Qs, or we can also say that *nandao* is syntactically higher than the embedded question. If we assume Rizzi's (2001) cartography (attested in Tsai (2008) for Mandarin) (20), IntP is the functional projection for Y/N-Qs (FocP for focus).

(20) Force   (Top*)   Int   (Top*)   Foc   Top*   Fin   IP (Rizzi 2001: 289)

We may now claim that *nandao* > IntP.

A further piece of evidence for *nandao* > IntP comes from the Y/N-Q scope test (Zimmermann 2008). In the standard analysis of Y/N-Qs (Hamblin, 1973), Y/N-*op* takes all the propositional content in its scope as its question nucleus and turns it into a set of all possible answers. Thus, if a lexical item within the scope of a Y/N-Q contributes to the propositional content of the question nucleus, the lexical item should be part of the input for the whole question formation. (21) exemplifies such a case.

(21) A: Is John possibly a doctor?
      B: Yes/No.

When B replies *Yes*, he doesn't mean *John is a doctor*, but rather he acknowledges the possibility of *John being a doctor*. When he says *No*, he intends to deny the possibility that *John is a doctor*.

Following the same line of reasoning, in a *nandao*-Q, if *nandao* contributes to the propositional content within the scope of Y/N-*op*, we would expect that the epistemic bias meaning of *nandao* (i.e. a discourse participant, such as the speaker, believes that the negative polar answer is more likely than the positive one) should appear in the answers. However, such answers are infelicitous (see previous example (11)).

Since *nandao* contributes to *nandao*-Qs an epistemic bias, expressing that the negative polar answer is more likely than its alternative, I assume *nandao* to be an epistemic modal adverb. According to Lyons (1977), there are two kinds of epistemic modalities in natural languages (see also Kratzer (1981) for a semantic discussion).

> In principle, two kinds of epistemic modality can be distinguished: objective* and subjective*... [O]bjective modalization differs from subjective modalization, the very essence of which is to express the speaker's reservation about giving an unqualified, or categorical, "I-say-so" to the factuality of the proposition embedded in his utterance. Subjectively modalized statements... are statements of opinion, or hearsay, or tentative inference, rather than statements of fact; and they are reported as such... Subjective epistemic modality can be accounted for... in terms of the speaker's qualification of the I-say-so component of his utterance. Objectively modalized utterances... can be described as having an unqualified I-say-so component, but an it-is-so component that is qualified with respect to a certain degree of probability, which, if quantifiable, ranges between 1 and 0. (Lyons 1977: 797-800)

In his framework, Lyons (1977) assumes a tripartite structure of utterances:

(22)   .. *p*

The first full stop stands for the *I-say-so* part, the second one for the *it-is-so* part. *p* is the propositional content. According to the schema, the *I-say-so* part scopes over the *it-is-so* part. Combining the schema with the information in the quote, we reach an important conclusion: subjective modals which qualify the *I-say-so* part of an utterance have wider scope than objective modals that qualify the *it-is-so* part of the utterance. In Lyons's proposal, the *I-say-so* part provides illocutionary force, including interrogation, and the *it-is-so* part is propositional content.

This structure much resembles the syntactic CP-IP distinction. The *I-say-so* part corresponds to Force in the C domain, which is a head hosting illocutionary forces, such as interrogation, assertion and imperative, while the *it-is-so* component includes all the projections that are in the complement of ForceP.

Since *nandao* does not contribute to the propositional meaning of Y/N-Qs and has wide scope with respect to it, it must be a subjective epistemic modal rather than an objective one. A further piece of support for *nandao* being a subjective epistemic modal comes from (23).

(23)　Zhangsan is a Chinese policeman. He strongly believes that a criminal he has been chasing is still lingering around. One day, when he searches the criminal's house, he finds a flight booking confirmation email in the criminal's computer. It is a ticket to the U.S. with the criminal's name on it. But the date shown on it is the day before that day. He asks his colleague:

　　　Z: Nandao ta pao dao　Meiguo qu-le?
　　　　 nandao　he run arrive America go-ASP

　　　　 'He didn't escape to America, right?'

In this situation, even if there is strong evidence (i.e. *the booking record of a flight to America*) against the speaker's prior belief that *the criminal still lingered around*, the speaker can still utter the *nandao*-Q to imply his continuing belief against the objective evidence. In that case, the question still conveys that *the criminal didn't escape to America* is more likely to be true than *he did*.[5] If *nandao*-Qs expressed an objective epistemic modal meaning, it should have been biased towards the positive answer *the criminal escaped to America*, which is not the case as shown in (23). The bias towards the negative answer, namely the speaker's belief, in (23) suggests *nandao*-Qs express subjective epistemic modal meaning.

Thus, it can be concluded that *nandao* is a subjective epistemic modal adverb and hence qualifies the illocutionary force of interrogation. Syntactically speaking, I assume that the illocutionary modifier *nandao* is **an adjunct to ForceP**.

The idea of modal particles/adverbs as modifiers of illocutionary force is not novel. Hengeveld (1987), Hengeveld (1988), Jacobs (1991), Waltereit (2001), von Fintel (2003), and Zimmermann (2008) all analyze modal particles/adverbs from a speech-act-theoretic perspective. Speech acts are especially good hosts for subjective epistemic modification, as noted by Krifka (2014): "in speech acts the speaker expresses some attitude, like a belief or desire." (5)

In our case, *nandao*, as a subjective epistemic modal adverb, qualifies the degree of speaker's belief towards the possible answers of *nandao*-Qs, and expresses the bias meaning as a not-at-issue content.

Following the common practice of Chomsky-adjunction in X-bar theory (Chomsky 1986) and Krifka's (2014) syntax for speech-act-modifying adverbials, I propose the following syntactic configuration for *nandao-p?* questions (QUEST is the illocutionary force operator for interrogative acts).

(24)

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                        ForceP
                       /      \
                  nandao      ForceP
                             /      \
                        Force        IntP
                          |            |
                        QUEST        Int'
                                    /    \
                                  Int    FocP
                                 [+wh]     |
                                          IP
                                         /\
                                          p
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[5]　In a *nandao-p?*, the contextual evidence against the speaker's belief (i.e. against ¬p) will increase the possibility of *p*. The presence of the counter-evidence shifts the "focus" (in a non-technical sense) of the *nandao-p?* from the speaker's belief to the increased possibility of *p*. That's why, the question is asked to seek the confirmation of either ¬p is true (his belief is more reliable) or *p* is true (the contextual evidence is more reliable), although the speaker's bias still holds.

References

Amaral, Patricia, Craige Roberts & E Allyn Smith (2007). Review of the logic of conventional implicatures by chris potts. *Linguistics and Philosophy* 30:6, 707–749.

Asher, Nicholas & Brian Reese (2007). Intonation and discourse: biased questions. *Interdisciplinary Studies on Information Structure* 8, 1–38.

Beaver, David I. (2001). *Presupposition and Assertion in Dynamic Semantics*. CSLI Publications.

Büring, Daniel & Christine Gunlogson (2000). Aren't positive and negative polar questions the same? MS., UCSC.

Caponigro, I. & J. Sprouse (2007). Rhetorical questions as questions. PuigWaldmüller, E. (ed.), *Proceedings of Sinn und Bedeutung 11*, Universitat Pompeu Fabra, Barcelona, 121–133.

Chomsky, Noam (1986). *Barriers*. MIT Press, Cambridge, MA.

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, 1–28.

Faller, Martina (2002). *Semantics and Pragmatics of Evidentials in Cuzco Quechua*. Ph.D. thesis, Stanford University.

Faller, Martina (2014). Reportativity, (not-)at-issueness, and assertion. *Proceedings of the Annual Meeting of Berkeley Linguistics Society (BLS) 40*, BLS, 62–84.

von Fintel, Kai (2003). Epistemic modals and conditionals revisited. Talk for UMass Linguistics Colloquium, UMass.

von Fintel, Kai (2004). Would you believe it? The King of France is back! (Presuppositions and truth-value intuitions). Bezuidenhout, Anne & Marga Reimer (eds.), *Descriptions and beyond: An interdisciplinary collection of essays on definite and indefinite descriptions and other related phenomena*, Oxford University Press, Oxford, 315–341.

Gong, Jiazhen (1995). "nandao" de duoyixing yu "nandao"ju de qiyixing (on polysemy of "nandao" and ambiguity of "nandao"-sentences). *Cishu Yanjiu (Lexicographical Studies)* :2, 125–129.

Hamblin, Charles L. (1973). Questions in Montague English. *Foundations of Language* 10, 41–53.

Han, Chung-Hye (2002). Interpreting interrogatives as rhetorical questions. *Lingua* 112, 201–229.

Hengeveld, Kees (1987). Clause structure and modality in Functional Grammar. van der Auwera, Johan & Louis Goossens (eds.), *Ins and Outs of the Predication*, Foris Pulications, Dordrecht, 53–66.

Hengeveld, Kees (1988). Illocution, mood and modality in a functional grammar of spanish. *Journal of Semantics* 6, 227–269.

Höhle, Tilman N. (1992). Über verum-fokus im deutschen. Jacobs, Joachim (ed.), *Informationsstruktur und Grammatik*, VS Verlag für Sozialwissenschaften, Wiesbaden, 112–141.

Huang, James, Audrey Li & Yafei Li (2009). *The Syntax of Chinese*. Cambridge Syntax Guides, Cambridge University Press.

Jacobs, Joachim (1991). On the semantics of modal particle. Abraham, W. (ed.), *Discourse particles: Descriptive and theoretical investigations on the logical, syntactic and pragmatic properties of discourse particles in German*, Benjamins, Amsterdam, 141–162.

Karttunen, Lauri (1971). Some observations on factivity. *Paper in Linguistics* 4:1, 55–69.

Karttunen, Lauri (1973). Presuppositions of compound sentences. *Linguistic Inquiry* 4:2, 169–193.

Keenan, Edward L. (1971). Two kinds of presupposition in natural language. Fillmore, Charles J. & D. Terence Langndoen (eds.), *Studies in Linguistic Semantics*, Irvington, 45–54.

Koev, Todor K (2013). *Apposition and the Structure of Discourse*. Ph.D. thesis, Rutgers, The State University of New Jersey.

Kratzer, Angelika (1981). The notional category of modality. Eikmeyer, H.-J. & H. Rieser (eds.), *Words, Worlds, and Contexts: New Approaches in Word Semantics*, Walter de Gruyter, Berlin, 38–74.

Krifka, Manfred (2014). Embedding illocutionary acts. Roeper, Tom & Margaret Speas (eds.), *Recursion: Complexity in Cognition*, Springer International Publishing, 59–87.

Lyons, John (1977). *Semantics*, vol. 2. Cambridge University Press.

Nishigauchi, Taisuke (1990). *Quantification in the Theory of Grammar*, vol. 37 of *Studies in Linguistics and Philosophy*. Kluwer Acadamic Publishers, Dordrecht.

Potts, Christopher (2003). *The Logic of Convertional Implicatures*. Ph.D. thesis, UCSC.

Qi, Huyang & Chanchan Ding (2006). Fanjielei yuqi fuci de fouding gongneng fenxi (a study on negative function of interrogative modal adverbs). *Hanyu Xuexi (Chinese Language Learning)* :5, 3–13.

Reese, Brian Jon (2007). *Bias in Questions*. Ph.D. thesis, The University of Texas at Austin.

Rizzi, Luigi (2001). On the position INT(ERROGATIVE) in the left periphery of the clause. Cinque, G. & G. Salvi (eds.), *Current Studies in Italian Syntax*, Elsevier, Amsterdam, 287–296.

Roberts, Craige (2006). *Only*, presupposition and implicature. Ms., Ohio State University.

Rohde, Hannah (2006). Rhetorical questions as redundant iterrogatives. *San Diego Linguistic Papers* 2, 134–168.

Romero, Maribel (2006). Biased yes/no questions: The role of verum. *Sprache und Datenverarbeitung* 30:1, 9–24.

Romero, Maribel & Chung-Hye Han (2002). Verum focus in negative Yes/No questions and Ladd's *p*/¬*p* ambiguity. Jackson, Brenda (ed.), *Proceedings of Semantics and Linguistics Theory (SALT) 12*, 204–224.

Romero, Maribel & Chung-Hye Han (2004). On negative yes/no questions. *Linguistics and Philosophy* 27:5, 609–658.

van der Sandt, Rob (1992). Presupposition projection as anaphora resolution. *Journal of Semantics* 9:4, 333–377.

Shanon, Benny (1976). On the two kinds of presuppositions in natural language. *Foundations of Language* 14:2, 247–249.

Stalnaker, Robert (1974). Pragmatic presupposition. Munitz, Milton & Peter Unger (eds.), *Semantics and Philosophy*, New York University Press, New York, 197–213.

Su, Yingxia (2000). "Nandao" ju doushi fanwenju ma? (Are "nandao"-sentences all rhetorical questions?). *Yuwen Yanjiu (Linguistic Research)* 74, 56–60.

Sudo, Yasutada (2013). Biased polar questions in English and Japanese. Gutzmann, Daniel & Hans-Martin Gaertner (eds.), *Beyond Expressives: Explorations in Use-Conditional Meaning*, no. 28 in Current Research in the Semantics/Pragmatics Interface (CRiSPI), Brill, Leiden, 275–296.

Sun, Jüfang (2007). Fuci "nandao" de xingcheng (the formation of "nandao"). *Yuyan Jiaoxue Yu Yanjiu (Language Teaching and Linguistic Studies)* :4, 48–53.

Tonhauser, Judith (2012). Diagnosing (not-)at-issue content. *Proceedings of Semantics of Under-represented Languages of the Americas (SULA) 6*, 239–254.

Tsai, Wei-Tien Dylan (2008). Left periphery and how-why alternations. *Journal of East Asian Linguistics* 17:2, 83–115.

Waltereit, Richard (2001). Modal particles and their functional equivalents: A speech-act-theoretic approach. *Journal of Pragmatics* 33, 1391–1417.

Xu, Beibei (2012). *Nandao*-Question as a special kind of Rhetorical Question. Chereches, Anca (ed.), *Semantics and Linguistic Theory (SALT) 22*, 508–526.

Xu, Beibei (2013). An experimental study on *nandao*-Questions in Mandarin. Ms., Rutgers (presented at the joint conference of 22nd IACL and NACCL-26).

Xu, Beibei (2017). *Question bias and biased question words in Mandarin, German and Bangla*. Ph.D. thesis, Rutgers University.

Yu, Genyuan (1984). Fanwenju de xingzhi he zuoyong (the nature and function of rhetorical questions. *Zhongguo Yuwen (Studies of The Chinese Language)* 6, 1–7.

Yu, Tianyu (2006). Xiandai hanyu fanwenju de fanjiedu (intensity of the rhetorical question about modern chinese). *Neimenggu Minzu Daxue Xuebao (Shehui kexue ban) (Journal of Inner Mongolia University for Nationalities (Social Sciences))* 32:4, 102–104.

Zimmermann, Malte (2008). Discourse particles in left periphery. Cook, P., W. Frey, C. Maienborn & B. Shaer (eds.), *Dislocated Elements in Discourse: Syntactic, Semantic, and Pragmatic Perspectives*, Routledge, Oxford, 200–231. Ms., Humboldt University.

Proceedings of the 35th West Coast Conference on Formal Linguistics

edited by Wm. G. Bennett, Lindsay Hracs, and Dennis Ryan Storoshenko

Cascadilla Proceedings Project   Somerville, MA   2018

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This paper can be cited as:

Xu, Beibei. 2018. Dedicated Bias Word *nandao* as an Illocutionary Modifier. In *Proceedings of the 35th West Coast Conference on Formal Linguistics*, ed. Wm. G. Bennett et al., 448-457. Somerville, MA: Cascadilla Proceedings Project. www.lingref.com, document #3418.