

# The Semantics and Pragmatics of Mandarin Concessive Conditionals with *Jiusuan*<sup>\*</sup>

I-ta Chris Hsieh

Graduate Institute of Linguistics  
National Tsing Hua University

Huang Shao-yu<sup>\*\*</sup>

Graduate Institute of Linguistics  
National Tsing Hua University

## ABSTRACT

In this paper we discuss the semantics and pragmatics of the Mandarin concessive conditional with *jiusuan*, which is usually taken to be the counterpart of English *even-if*-conditionals (e.g., *Even if John drank one ounce of whisky, he would be fired*). One remarkable characteristic of this Mandarin *jiusuan*-conditional is the obligatory presence of the additive particle, be it *ye* ‘also’ or *haishi* ‘still’. At first glance, it seems that these two additive particles alternate freely in this construction. We however observe that (i) these two particles are not in free alternation, and (ii) the choice between these two particles depends on the number of the alternatives in the alternative set. In addition to a compositional semantics of this construction, we further provide an account for the alternation between *ye* and *haishi* in this construction, which is built on the principle *Maximize Presupposition!* (Heim 1991; Percus 2006; Chemla 2008; Singh 2011, and others).

**Keywords:** concessive conditional, *Maximize Presupposition!*, additivity, scalarity, additive particle, semantics-pragmatics interface

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\*\* I-ta Chris Hsieh, email address: ita.hsieh@mx.nthu.edu.tw; Huang Shao-yu, Master of Graduate Institute of Linguistics, National Tsing Hua University, email address: ipos0724@gmail.com

## 1. Introduction

It has been claimed in the literature (Pollock 1976; Bennett 1982; Lycan 1991; 2001; Guerzoni & Lim 2007, and others) that the meaning of the English concessive conditional (1) has two components: (i) the scalar inference, according to which it is the least likely, compared to other situations, that Mary would come if John didn't come, and (ii) the conditional inference, according to which Mary would come if John didn't come. In most of the research mentioned above, the scalar inference has been taken to be presuppositional and the conditional meaning to be assertive.

- (1) *Even if John didn't come, Mary would (still) come.*

Presupposition: It is the least likely that Mary would come if John didn't come.

Assertion: Mary would come if John didn't come.

The situations that are in comparison (with those described by the *even-if*-clause) when asserting (1) depends on the focus inside the *even-if*-clause. One possibility, as noted by, for instance, Guerzoni & Lim (2007) and others, is that with *John* in focus, John is in comparison with other individuals with respect to the relevant likelihood; hence, (1) may be interpreted with an alternative set like (2).

- (2) {that if John didn't come Mary would come,  
that if Sue didn't come Mary would come,  
that if Bill didn't come Mary would come, . . . }

On the other hand, with the polarity operator *not* in focus, we are comparing the situations in which John comes and those in which John doesn't come (see the alternative set in (3)).

- (3) {that if John didn't come Mary would come,  
that if John came Mary would come}

In current semantic theories, several analyses have been developed to capture these observations with the semantic contribution from conditionals and the semantic effect from the focus particle *even*; for instance, see Kratzer (1991; 2012), von Stechow (2001), Kaufmann & Kaufmann (2015) for the discussion of conditionals, and Bennett (1982), Lycan (1991; 2001), Guerzoni (2003), Guerzoni & Lim (2007) for *even*.

In Mandarin, the counterpart of the English *even-if*-conditional, such as *even if Zhangsan did not come, Lisi would still come*, is expressed with an additive particle *ye* ‘also’ or *haishi* ‘still’ in the consequent, along with the morpheme *jiusuan* ahead the antecedent. Throughout this paper, we just call this construction the *jiusuan*-conditional.

- (4) *Jiusuan* Zhangsan bu lai, Lisi *ye/haishi* hui lai.  
 even.if Zhangsan NEG come Lisi also/still will come  
 ‘Even if Zhangsan didn’t come, Lisi would (still) come.’

(4) carries a scalar inference, according to which compared to other alternative situations, it is less likely that Lisi would come if Zhangsan didn’t come; along with the research mentioned above, we take this inference to be a presupposition. We also follow these researches and assume that (4) asserts that if Zhangsan didn’t come, Lisi would come. It is also observed that (4) may be interpreted in multiple ways, and these multiple possibilities in interpretation may be seen as the result from focus association with different elements in the consequent and hence may be captured in the way sketched above for the English concessive conditional (1).

One remarkable characteristic of the Mandarin concessive conditional with *jiusuan* such as (4) is the presence of the additive particles *ye/haishi*. At first glance, it seems that the two particles are in free alternation in this construction. Nonetheless, as we will see below, it appears that these two particles do not alternate as freely as it might initially seem to be. As we will report below, the alternation of these two particles seems to be constrained by the size of the alternative set, and to the best of our knowledge, this is a novel observation. To the extent that this observation is accurate, an adequate semantics of the Mandarin concessive conditional with *jiusuan* should provide an account for it.

This paper is hence devoted to providing such an account. The discussion is

structured as follows. In Section 2 we will report our observation and show how the size of the alternative set may affect the choice between *ye* and *haishi*. In Section 3 we develop a compositional semantics of *jiusuan*-conditionals. In Section 4, we lay out an analysis of the alternation between *ye* and *haishi* on the basis of the compositional semantics developed in Section 3; the core assumption in our analysis is that *ye* and *haishi* are in pragmatic competition in the way suggested by Heim's (1991) *Maximize Presupposition!* (see also Percus 2006; Chemla 2008; Sauerland 2008; Schlenker 2012). The conclusion is in Section 5.

## 2. The Alternation between *Ye* 'also' and *Haishi* 'still'

At first glance, it seems that *ye* and *haishi* alternate freely in a *jiusuan*-conditional. Nevertheless, when this construction is uttered with more contextual information in the background, it seems that the alternation between these two additive particles is rather constrained.

Let's start with the contrast between (5) and (6). In both examples, the context of utterance is made explicit for the *jiusuan*-conditional; the *jiusuan*-conditional uttered in these two examples presupposes that the alternative is less likely to be true that we will be late if we take a taxi and asserts that this alternative is true. While these two particles alternate freely in (5), the use of *ye* leads to oddity in (6).

- (5) [Context: *Wang and Li are going to attend Chen's wedding, and they have two transportation methods to get to the venue: the bus and taxi. Between these two, the bus would take more time than the taxi. Now, the wedding is going to begin in just ten minutes. Meanwhile, Wang and Li just left home, and are talking about which possibility they should take while rushing to the venue.*]

- a. W: *Da gongche dehua, women yiding hui chidao.*  
       take bus if we definitely will late  
       'If we take the bus, we will definitely be late.'
- b. L: *Jiusuan da [jichengche]<sub>F</sub>, women ye/haishi hui chidao.*  
       even.if take taxi we also/still will late

‘Even if we take a taxi, we will still be late.’

- (6) [Context: *Wang and Li are going to attend Chen’s wedding, and they have the following three transportation methods to choose to get to the venue: the bus, MRT and taxi. Among these three, the bus would take the most time, and the taxi would take the least time . . .* ]

- a. W: *Da gongche dehua, women yiding hui chidao; da jieyun dehua*  
 take bus if we definitely will late take MRT if  
*women ye hui chidao.*  
 we also will late  
 ‘If we take the bus, we will definitely be late; if we take the MRT, we  
 will be late, too.’
- b. L: *Jiusuan da [jichengche]<sub>F</sub>, women <sup>#</sup>ye/haishi hui chidao.*  
 even.if take taxi we also/still will late  
 ‘Even if we take a taxi, we will still be late.’

The context of utterance in (5) and that in (6) differ in the size of the alternative set. In (5), there are two alternatives provided, namely, the bus and the taxi, whereas in (6), there are three: the bus, the taxi and the MRT. This contrast suggests that the alternation between *ye* and *haishi* in a *jiusuan*-concessive conditional may be connected to the size of the contextually determined alternative set.

The contrast between (7) and (8) makes the same point: in (7), the provided alternatives are Zhongshan Road and Xinyi Road, and in (8), the alternatives are Zhongshan Road, Xinyi Road and Guangfu Road (i.e., **two** alternatives in (7) and **three** in (8)).

- (7) [Context: *Hongkai and Tingshun are roommates and colleagues. They always drive together between work and home, and there are two roads they can choose on their commute: Xinyi Road and Zhongshan Road. Between these two, Xinyi Road is usually less busy than Zhongshan Road. Today, they get off work early and hence hit rush hour. Therefore, they have to find out a way to avoid the traffic jam.*]

- a. H: *Xianzai women zou Zhongshan lu dehua, juehui hui yudao*  
 now we go Zhongshan Road if absolutely will encounter  
*saiche.*  
 traffic.jam  
 ‘Now, if we take Zhongshan Road, we will absolutely encounter the  
 traffic jam.’
- b. T: *Zhe-ge shidian, jiusuan women zou [Xinyi lu]<sub>F</sub>, women **ye/haishi***  
 this-CL timing even.if we go Xinyi Road we also/still  
*hui yudao saiche.*  
 will encounter traffic.jam  
 ‘At this moment, even if we take Xinyi Road, we will still encounter the  
 traffic jam.’
- (8) [Context: Hongkai and Tingshun are roommates and colleagues. They always  
 drive together between work and home, and there are three roads for them to  
 choose on their commute: Xinyi Road, Zhongshan Road, and Guangfu Road.  
 Among these three, Xinyi Road is usually the least busy, and Zhongshan Road  
 is usually the busiest. Today, . . . ]
- a. H: *Xianzai women zou Zhongshan lu dehua, juehui hui yudao*  
 now we go Zhongshan Road if absolutely will encounter  
*saiche, zou Guangfu lu dehua, ye hui yudao saiche.*  
 traffic.jam go Guangfu Road if also will encounter traffic.jam  
 ‘Now, if we take Zhongshan Road, we will absolutely encounter the  
 traffic jam; if we take Guangfu Road, we will encounter the traffic jam,  
 too.’
- b. T: *Zhe-ge shidian, jiusuan women zou [Xinyi lu]<sub>F</sub>, women <sup>#</sup>**ye/haishi** hui*  
 this-CL timing even.if we go Xinyi Road we also/still will  
*yudao saiche.*  
 encounter traffic.jam  
 ‘At this moment, even if we take Xinyi Road, we will still encounter the  
 traffic jam.’

In sum, as shown above, the alternation between *ye* and *haishi* in a *jiusuan*-concessive conditional is, contrary to previous research, not as free and random as it might initially seem to be. The generalization we have seen suggests that: (i) the use of *ye* in this construction is infelicitous when the set of alternatives the conditional is asserted and interpreted against contains more than two alternatives, and (ii) the use of *haishi* in this construction, however, is not subject to this constraint. To the best of our knowledge, this observation has not been noticed in the literature and hence is novel. To the extent that this is accurate, any analysis of the *jiusuan*-conditional should provide an account for such a constraint. In the following sections, we will lay out the assumptions for our proposal.

One note is in order before we proceed. One reviewer wonders in the examples like (6) and (8), the replacement of *ye* with *haishi* in A's utterance would affect the choice of the additive particles in the *jiusuan*-concessive conditional uttered by B. To be more specific, this reviewer notes that if in (6a) (see (9a) below) *haishi* is used in W's utterance instead of *ye*, the use of *haishi* is felicitous in the *jiusuan*-concessive conditional uttered in L's reply, as shown in (9b).

- (9) [Context: Wang and Li are going to attend Chen's wedding, and they have three ways to get to the venue: the bus, MRT and taxi. Among these three, the bus takes the most time, and the taxi takes the least . . . ]
- a. W: *Da gongche dehua, women yiding hui chidao; da jieyun*  
       take bus if we definitely will late take MRT  
       *dehua women haishi hui chidao.*  
       if we still will late  
       'If we take the bus, we will definitely be late; if we take the MRT, we  
       will be late, too.'
- b. L: *Jiusuan da [jichengche]<sub>F</sub>, women haishi hui chidao.*  
       even.if take taxi we still will late  
       'Even if we take a taxi, we will still be late.'

The felicitous use of *haishi* in (9b) is simply consistent with our observation and, as

shown below, expected by the analysis proposed below. Our observation and proposal below only concern the alternation between *ye* and *haishi* in the *jiusuan*-concessive conditional. Nevertheless, as already shown, the use of *haishi* is not sensitive to the size of the alternative set. Therefore, this reviewer's observation in (9) simply follows from our observation. Consequently, nothing extra needs to be said about such a case.

### 3. The Semantic Composition of a *Jiusuan*-Conditional

Since the *jiusuan*-conditional is the Mandarin counterpart of an English *even-if*-conditional, below we will review Guerzoni & Lim's (2007) analysis of *even-if*-conditional so that the reader may have a clearer picture about the types of conditional construction and a good comparison between its counterparts in these two languages.

#### 3.1 English *Even If*

In line with Pollock (1976), Bennett (1982), Lycan (1991; 2001) and others, Guerzoni & Lim (2007) argue that the meaning of an *even-if*-conditional, e.g., (10), may be decomposed and seen as the combination from the semantic contribution of *even* and that of a conditional. Intuitively, (10) asserts its prejacent, namely that if John drank one ounce of whisky, he would be fired. Additionally, (10) triggers two presuppositions: the additive presupposition, which says that John would be fired if he drank another amount than one ounce (of whisky), and the scalar presupposition, which says that compared to all the other (contextually relevant) amounts of whisky, it is the least likely that John would be fired if he drank one ounce of whisky.

(10) *Even if John drank [one]<sub>F</sub> ounce of whisky, he would be fired.*

- a. Assertion: If John drank one ounce of whisky, he would be fired.
- b. Additive presupposition: There is some amount other than one ounce, if  
John drinks this amount of whisky, he will be  
fired.



- c. Scalar presupposition: In comparison to all the other amounts, it is the least likely that if John drinks one ounce of whisky, he will be fired.

The particle *even* is focus-sensitive and associated with a focalized constituent inside the *if*-clause (see the LF in (11)); (10) is then interpreted with a set of alternatives as in (12).

(11) LF of (10): [ *even* [ if John drank [one]<sub>F</sub> ounce of whisky he would be fired ] ]

- (12) {that if John drank one ounce of whisky he would be fired,  
that if John drank two ounces of whisky he would be fired,  
that if John drank three ounces of whisky he would be fired,  
...  
that if John drank *n* ounces of whisky he would be fired}

With the denotation of *even* in (13) (see Guerzoni & Lim 2007: 278 (4)) and the alternative set in (12), the additive presupposition and the scalar presupposition are derived as in (14).

- (13)  $\llbracket \text{even} \rrbracket^w(p_{\langle s, t \rangle})$  is defined iff:  
 (i)  $\exists q \in \text{ALT}(p)[q \neq p \wedge q(w)=1]$  (Additive presupposition)  
 (ii)  $\forall q \in \text{ALT}(p)[q \neq p \rightarrow p_{\langle \text{likely} \rangle} q]$ ; (Scalar presupposition)  
 if defined,  $\llbracket \text{even} \rrbracket^w(p)=1$  iff  $p(w)=1$

- (14) Assertion: It is true in *w* that if John drank one ounce of whisky, he would be fired.

Additive presupposition: There is at least one amount *n* other than *one* such that it is true in *w* that if John drank *n* amount of whisky, he would be fired.

Scalar presupposition: Compared to all the other amounts of whisky, it is less likely to be true in *w* that if John drank one ounce of whisky, he would be fired.

A Mandarin *jiusuan*-conditional carries a meaning that is very similar to that of an English *even-if*-conditional. Nevertheless, given that these two constructions differ in their morpho-syntactic make-up, we should seek an alternative for the Mandarin *jiusuan*-concessive conditional. One crucial difference between these two constructions, as already mentioned above, is the presence of the additive particles: while the presence of an additive particle such as *ye* ‘also’ or *haishi* ‘still’ is obligatory in a Mandarin *jiusuan*-concessive conditional, it is optional in an English *even-if*-conditional (e.g., *Even if John drank one ounce of whisky, he would (still) be fired*). Below we will lay out our assumptions for the semantic composition of a Mandarin *jiusuan*-conditional.

### 3.2 Mandarin *Jiusuan*-Conditionals

As mentioned above, a Mandarin *jiusuan*-conditional intuitively carries a meaning very similar to an English *even-if*-conditional; for instance, with the constituent *Zhangsan* being in focus, (4) intuitively has the interpretation paraphrased in (15).

- (4) ***Jiusuan*** *Zhangsan bu lai, Lisi ye/haishi hui lai.*

even.if Zhangsan NEG come Lisi also/still will come

‘Even if Zhangsan didn’t come, Lisi would come.’

- (15) Assertion: If Zhangsan didn’t come, Lisi would (still) come.

Additive presupposition: There is at least one alternative *x* other than

*Zhangsan* such that if *x* didn’t come, Lisi would come.

Scalar presupposition: Compared to another alternative individual *x*, that Lisi

would come if Zhangsan didn’t come is less likely to be true than that Lisi would come if *x* didn’t come.

Given the morpho-syntactic make-up of a Mandarin *jiusuan*-conditional, we assume that *jiusuan* gives rise to the scalar presupposition, whereas the additive presupposition is attributed to the additive particles *ye* ‘also’/ *haishi* ‘still’. Additionally, we assume that in a *jiusuan*-conditional, the particle *jiusuan* operates on a hidden conditional structure *if p then q*. Based on these assumptions, a preliminary semantics of *jiusuan* is given in (16).

This semantics, informally, delivers the assertion and the scalar presupposition of (4) as in (17).

- (16)  $\llbracket jiusuan\ p,\ q \rrbracket^w$  is defined iff:  
 for all  $p'$  such that  $p' \in \text{Alt}(p)$  and  $p' \neq p$ , if  $p$  then  $q$  is less likely to be true in  $w$  than if  $p'$  then  $q$   
 if defined,  $\llbracket jiusuan\ p,\ q \rrbracket^w = 1$  iff:  
 for all  $p'$  such that  $p' \in \text{Alt}(p)$ , if  $p'$ , then  $q$ ;
- (17) Assertion: For all the alternatives  $x$  to Zhangsan, if  $x$  didn't come, Lisi would come.

Scalar presupposition: For all the alternatives  $x$  to Zhangsan such that  $x$  is not Zhangsan, it is less likely to be true in  $w$  that Lisi would come if Zhangsan didn't come than that Lisi would come if  $x$  didn't come.

Given the set of alternatives to Zhangsan also includes Zhangsan itself, the assertion in (17) entails that if Zhangsan didn't come, Lisi would come.

We assume that the particles *ye* and *haishi* scope over the hidden conditional in a *jiusuan*-conditional sentence. The semantics of *ye* and *haishi* are given in (18) and (19). *Ye* triggers a presupposition that there is an alternative other than the prejacent (i.e., ' $p$ ' in (18)) that is true (see Rooth (1992), and others); for specific proposals on Mandarin *ye*; see, for instance, Hole (2004). On the other hand, *haishi* triggers a presupposition that all the alternatives other than the prejacent are true. The additive presupposition of (4) is then derived as in (20).

- (18) For any  $p_{\langle s, t \rangle}$ ,  
 $\llbracket ye \rrbracket^w(p)$  is defined iff there is some  $p'$  such that  $p' \neq p$  and  $p'(w)=1$ ;  
 if defined,  $\llbracket ye \rrbracket^w(p)=1$  iff  $p(w)=1$
- (19) For any  $p_{\langle s, t \rangle}$ ,  
 $\llbracket haishi \rrbracket^w(p)$  is defined iff for all  $p'$  such that  $p' \neq p$ ,  $p'(w)=1$ ;  
 if defined,  $\llbracket haishi \rrbracket^w(p)=1$  iff  $p(w)=1$

- (20) a. The additive presupposition of (4) with *ye*:

There is some alternative  $x$  to Zhangsan such that  $x \neq \text{Zhangsan}$  and if  $x$  didn't come, Lisi would come.

- b. The additive presupposition of (4) with *haishi*:

For all the alternatives  $x$  such that  $x \neq \text{Zhangsan}$ , if  $x$  didn't come, Lisi would come.

As shown in (18)–(20), *ye* and *haishi* differ in the quantificational force in the presuppositions they trigger. This would be crucial for our account for the alternation of these two particles in this construction.

Putting all the pieces together, a formal semantic composition of a *jiusuan*-concessive conditional is represented as follows. Following Kratzer (1991; 2012) and others, we assume that a conditional *if p then q* contains a covert epistemic modal *Mod*, the semantic contribution of which is given in (22); the particles *jiusuan*, *ye* and *haishi* all operate on this conditional structure, which is shown in the LF representation in (21). Coupled with the final version of the semantics of *jiusuan* in (23), the truth conditions of (4) are derived as in (24). For convenience, in the discussions we refer to  $\text{Sim}(p) \subseteq q$  as 'if  $p$  then  $q$ '.

- (21) LF of (4):

$[[\text{jiusuan} [\text{Zhangsan not come}]] [\lambda p'_4 [\text{ye/haishi} [\text{Mod-pro}_4 [\text{Lisi come}]]]]]$

- (22) For any  $p_{\langle s, t \rangle}$  and  $q_{\langle s, t \rangle}$ ,

$[[\text{Mod}]]^w(p)(q) = 1$  iff  $\text{Sim}_w(p) \subseteq q$ , where  $\text{Sim}_w(p) = \{w' \in p : \text{there is no } w'' \in p \text{ such that } w'' \text{ is more similar to } w \text{ than } w'\}$

(i.e., all the  $p$ -worlds that are the maximally similar to  $w$  are  $q$ -worlds)

- (23) For any  $p_{\langle s, t \rangle}$  and  $f_{\langle \langle s, t \rangle, \langle s, t \rangle \rangle}$ ,

$[[\text{jiusuan}]]^w(p)(f)$  is defined iff for all  $p'$  such that  $p' \in \text{Alt}(p)$  and  $p' \neq p$ ,  $[\lambda w. \text{Sim}_w(p) \subseteq q]^{<_{\text{likelihood}(w)}}[\lambda w. \text{Sim}_w(p) \subseteq q]$ , where for any  $p$  and  $q$ ,  $p^{<_{\text{likelihood}(w)}}q$

iff  $p$  is less likely to be true in  $w$  than  $q$ ;

if defined,  $[[\text{jiusuan}]]^w(p)(f) = 1$  iff for all  $p' \in p$ ,  $f(p')$

(24) Truth conditions of (4):

- a. Assertion: For all the alternatives *x* to Zhangsan, in all *w'* such that *w'* is the most similar to *w* and *x* didn't come in *w'*, Lisi comes in *w'*.
- b. Scalar presupposition: For all the alternatives *x* to Zhangsan such that *x* ≠ Zhangsan, it is less likely to be true in *w* that Lisi would come if Zhangsan didn't come than that Lisi would come if *x* didn't come.
- c. Additive presupposition with *ye*: as in (20a)
- c'. Additive presupposition with *haishi*: as in (20b)

In the following, our account for the alternation between *ye* and *haishi* will be on the basis of the semantic composition given above.

One note is in order before we proceed: in the literature, the meaning of an English concessive conditional with *even if* is derived via the conditional meaning contributed by *if* and the focus-sensitivity of *even* (Lycan 1991; Guerzoni & Lim 2007, and others). Nevertheless, in our analysis of Mandarin concessive conditionals with *jiusuan*, the conditional component, together with the focus-sensitivity, which is brought in by *even* in English, is encoded in one single lexical item, namely *jiusuan*. This is due to the fact that the meaning of an English concessive conditional with *even if* cannot just be expressed via the use of the Mandarin counterpart of *if* (namely, *ruguo*) and that of *even* (namely, *shenzhi* or *lian . . . dou*). This however does not mean that a compositional analysis of a Mandarin concessive conditional is not plausible. In contrast, a compositional analysis is essential to account for the presence of *ye* and *haishi* and the alternation between these two particles in this construction. What this suggests is simply that English and Mandarin have different labor division in forming a concessive conditional: in English, *if* contributes the conditional meaning and *even* brings in the focus-sensitivity and additivity; in Mandarin, on the other hand, the conditional meaning and focus-sensitivity are encoded in one single lexical item, namely *jiusuan*, and additivity is introduced via the presence of an additive particle, be it *ye* or *haishi*.

#### 4. Accounting for the Alternation

As already shown above (see (5)–(6) (repeated below) and (7)–(8)), although the presence of the additive particle *ye* or *haishi* in a *jiusuan*-concessive conditional is obligatory, their alternation is rather constrained.

- (5) [Context: Wang and Li are going to attend Chen's wedding, and they have two transportation methods to get to the venue: the bus and taxi. Between these two, the bus would take more time than the taxi. Now, the wedding is going to begin in just ten minutes. Meanwhile, Wang and Li just left home, and are talking about which possibility they should take while rushing to the venue.]

a. W: *Da gongche dehua, women yiding hui chidao.*

take the bus if we definitely will late

'If we take bus, we will definitely be late.'

b. L: *Jiusuan da [jichengche]<sub>F</sub>, women **ye/haishi** hui chidao.*

even.if take taxi we also/still will late

'Even if we take a taxi, we will still be late.'

- (6) [Context: Wang and Li are going to attend Chen's wedding, and they have the following three transportation methods to choose to get to the venue: the bus, MRT and taxi. Among these three, the bus would take the most time, and the taxi would take the least time . . . ]

a. W: *Da gongche dehua, women yiding hui chidao; da jieyun dehua*

take bus if we definitely will late take MRT if

women *ye* hui chidao.

we also will late

'If we take the bus, we will definitely be late; if we take the MRT,

we will be late, too.'

b. L: *Jiusuan da [jichengche]<sub>F</sub>, women <sup>#</sup>**ye/haishi** hui chidao.*

even.if take taxi we also/still will late

'Even if we take a taxi, we will still be late.'

As hinted above, the crucial factor that determines which additive particle can be used seemingly has to do with the size of the alternative set: if there are two alternatives, then either *ye* or *haishi* may be used; if there are more than two alternatives, only the use of *haishi* is felicitous.

While both of *ye* and *haishi* contribute the additive presuppositions in a *jiusuan*-concessive conditional, these two particles differ in the quantificational force in the presupposition they trigger (see (18)–(19)). Specifically, the one triggered by *haishi* asymmetrically entails that triggered by *ye* (see, for instance, (20a, b)). Below we will show how this difference can be connected to the size of the alternative set and consequently leads to the constraint on the presence of these two particles in the *jiusuan*-concessive conditional. Our account is based on two theoretical assumptions: one is *Maximize Presupposition!* (henceforth, MP!), as suggested by Heim (1991) and others, and the other is the pruning of the lexical scale with respect to MP!, which is along the lines of Fox & Katzir (2011), Ivlieva (2012) and Chierchia (2013).

#### 4.1 *Maximize Presupposition!* and the Blocking of *Ye* ‘also’

##### 4.1.1 *Maximize Presupposition!*

In order to account for the contrast between (25a, b), Heim (1991) suggests that the choice between the definite and indefinite articles in an environment where either of them can be used truthfully is subject to the pragmatic principle *Maximize Presupposition!*.

(25) a. *The father of the victim just came.*

a'. Presupposition: There is some x such that x is a father of the victim.

Assertion: The unique x such that x is a father of the victim just came.

b. <sup>#</sup>*A father of the victim just came.*

b'. Presupposition: There is some x such that x is a father of the victim.

Assertion: The unique x such that x is a father of the victim just came.

As we could see from the paraphrase given in (25a', b'), in a context of utterance where (25a) is used truthfully, (25b) is expected to be so. Nevertheless, the use of (25b)

intuitively is infelicitous. Heim (1991) suggests that the infelicity of (25b) may be accounted for with MP!, which says that if two utterances  $\psi$  and  $\phi$  may be used truthfully in a given context of utterance  $c$  and  $\psi$  carries a stronger presupposition than  $\phi$ , then  $\psi$  should be chosen and consequently  $\phi$  is excluded.

Other than the contrast between definite and indefinite articles shown in (25), it has been suggested in the subsequent research that MP! may be employed to account for other phenomena, including the contrast between *believe* and *know* (see (26)) and that between *all* and *both* (see (27)). While both *believe* and *know* assert that their complement is true in all the worlds compatible with the attitude holder's (i.e., *John* in (26)) belief, *know* carries an additional factivity presupposition according to which its complement is true in the context of utterance. In view of MP!, *know* hence is chosen, and consequently the use of *believe* is blocked.

- (26) [Context: *Paris is in France.*]  
 a. <sup>#</sup> *John believes that Paris is in France.*  
 b. *John knows that Paris is in France.*

Both *all* and *both* in (27) universally quantify over John's eyes; nevertheless, *both* carries an additional duality presupposition, according to which John has exactly two eyes. In light of MP!, *both*, rather than *all*, is chosen in (27).

- (27) [Context: *People have two eyes.*]  
 a. <sup>#</sup> *All of John's eyes are open.*  
 b. *Both of John's eyes are open.*

There have been several variants of the formalization of Heim's (1991) MP! (e.g., Percus 2006; Chemla 2008; Sauerland 2008; Singh 2011; Schlenker 2012, and others). In the following discussion, we will adopt the one suggested by Singh (2011) (see (28)).



(28) **Maximize Presupposition!** (Singh 2011: 152)

If  $\phi$ ,  $\psi$  are contextually equivalent alternatives, and the presuppositions of  $\psi$  are stronger than those of  $\phi$  and are met in the context of utterance  $c$ , then one should use  $\psi$ .

For convenience, we will simply follow Percus (2006) and assume that the context of utterance  $c$  is a set of possible worlds. Consequently, as suggested by Singh (2011), which borrows the idea and insight from Sauerland (2008) and Schlenker (2012), contextual equivalence between two sentences  $\phi$  and  $\psi$  may be defined as in (29).

(29) Two sentences  $\phi$  and  $\psi$  are contextually equivalent with respect to context  $c$  iff:

$$\{w \in c: \llbracket \phi \rrbracket(w)=1\} = \{w \in c: \llbracket \psi \rrbracket(w)=1\} \quad (\text{Singh 2011: 151})$$

In several researches subsequent to Heim (1991), such as Chemla (2008) and Singh (2011), it has been assumed that the lexical items that are in competition with respect to MP! form scales based on the strength of the presuppositions they carry; for instance,  $\langle a/an, the \rangle$ ,  $\langle all, both \rangle$ ,  $\langle believe, know \rangle$ , where the lexical item at the right in these pairs carries a stronger presupposition than the one at the left.<sup>1</sup> In a context of utterance in which the presupposition of the lexical item with greater strength on such a lexical scale is satisfied, this lexical item is chosen and consequently the one with less presuppositional strength is excluded.

As mentioned in the introduction, this paper attributes the infelicity of the use of *ye* ‘also’ in cases such as (6b) to the operation of MP!, just like the infelicity of using *believe* and *all* in (26a) and (27a). That is, in Mandarin *ye* and *haishi* ‘still’ form a presuppositional scale (i.e.,  $\langle ye, haishi \rangle$ ), just like  $\langle a/an, the \rangle$ ,  $\langle all, both \rangle$ ,  $\langle believe, know \rangle$ , when a *jiusuan*-concessive conditional is uttered. In the next subsection, we will show how the blocking of *ye* in a *jiusuan*-concessive conditional in certain contexts may be accounted for with these assumptions.

<sup>1</sup> Note that this assumption does not exclude the possibility that such a competition may take place at the level higher than the lexical one.

#### 4.1.2 The Blocking of *Ye* ‘also’

One of the observations to be accounted for is that in a *jiusuan*-concessive conditional with more than two contextually relevant alternatives, the use of the additive particle *ye* is blocked, and hence only *haishi* ‘still’ may be used, as already shown in (6) and (8) (repeated below).

- (8) [Context: Hongkai and Tingshun are roommates and colleagues. They always drive together between work and home, and there are three roads for them to choose on their commute: Xinyi Road, Zhongshan Road, and Guangfu Road. Among these three, Xinyi Road is usually the least busy, and Zhongshan Road is usually the busiest. Today, . . . ]

- a. H: *Xianzai women zou Zhongshan lu dehua, juedui hui yudao*  
 now we go Zhongshan Road if absolutely will encounter  
*saiche, zou Guangfu lu dehua, ye hui yudao saiche.*  
 traffic.jam go Guangfu Road if also will encounter traffic.jam  
 ‘Now, if we take Zhongshan Road, we will absolutely encounter the  
 traffic jam; if we take Guangfu Road, we will encounter the traffic jam,  
 too.’
- b. T: *Zhe-ge shidian, jiusuan women zou [Xinyi lu]<sub>F</sub>, women <sup>#</sup>ye/haishi hui*  
 this-CL timing even.if we go Xinyi Road we also/still will  
*yudao saiche.*  
 encounter traffic.jam  
 ‘At this moment, even if we take Xinyi Road, we will still encounter the  
 traffic jam.’

The blocking of the use of *ye* in such a case, according to the principle MP!, may be accounted for as follows. Although both *ye* and *haishi* trigger an additive presupposition in a *jiusuan*-concessive conditional, these presuppositions differ in their quantificational strength; while *ye* triggers an existential additive presupposition, *haishi* triggers a universal one. Therefore, the two particles in the *jiusuan*-concessive conditional in (8) trigger the additive presuppositions in (30) respectively.

- (30) a. The additive presupposition from *ye*:

There is some road *x* that is an alternative to Xinyi Road and *x* is not Xinyi Road such that if we take *x*, we will encounter the traffic jam.

- b. The additive presupposition from *haishi*:

For all roads *x* such that *x* is an alternative to Xinyi Road and *x* is not Xinyi Road, if we take *x*, we will encounter the traffic jam.

Assuming that these two particles form a lexical scale  $\langle ye, haishi \rangle$ , (30) shows that the additive presupposition triggered by *haishi* is stronger than the one by *ye*. Crucially, whenever the additive presupposition (30b) is satisfied, (30a) is also satisfied.<sup>2</sup> Given that the pragmatic principle MP! (see (28)) requires that the stronger item on the presuppositional scale should be used when both members of the scale may be used truthfully, *haishi* is chosen in (8). Consequently, the use of *ye* is blocked in this case.

## 4.2 Free Alternation between *Ye* ‘also’ and *Haishi* ‘still’

### 4.2.1 Scale Truncation

With the pragmatic principle MP!, however, we only account for half of the observation. As shown in (5) and (7) (repeated below), these two particles, namely *ye* ‘also’ and *haishi* ‘still’, are in free alternation when the alternative set contains exactly two alternatives.

- (7) [*Context: Hongkai and Tingshun are roommates and colleagues. They always drive together between work and home, and there are two roads they can choose on their commute: Xinyi Road and Zhongshan Road. Between these two, Xinyi Road is usually less busy than Zhongshan Road. Today, they get off work early and hence hit rush hour. Therefore, they have to find out a way to avoid the traffic jam.*]

<sup>2</sup> This surely is established on the assumption that there is another member in the alternative set other than the semantic object denoted by the focalized constituent, which follows from the Rooth-style focus semantics.

- a. H: *Xianzai women zou Zhongshan lu    dehua, juehui    hui yudao*  
 now    we    go Zhongshan Road if    absolutely will encounter  
*saiche.*  
 traffic.jam  
 ‘Now, if we take Zhongshan Road, we will absolutely encounter the  
 traffic jam.’
- b. T: *Zhe-ge shidian, jiusuan women zou [Xinyi    lu]<sub>F</sub>, women ye/haishi*  
 this-CL timing even.if we    go Xinyi Road we    also/still  
*hui yudao saiche.*  
 will encounter traffic.jam  
 ‘At this moment, even if we take Xinyi Road, we will still encounter the  
 traffic jam.’

The account with MP!, as outlined above, wrongly predicts that in this case, the use of *ye* is blocked, given that it triggers an existential additive presupposition, which is weaker than the universal one triggered by *haishi*. It is then expected that only *haishi* can be used, which is contrary to what we have seen.

We would like to suggest that in a context of utterance like (7), where the alternative set contains exactly two alternatives, there is an option to remove *haishi* from the lexical scale  $\langle ye, haishi \rangle$ ; we call such a process **scale truncation**. Once scale truncation takes place, there is no competitor against *ye* and hence no competition at all with respect to the strength of the presupposition triggered. The use of *ye* is then allowed. Scale truncation need not apply; hence, the free alternation between *ye* and *haishi* in a context like (7), where the context of utterance only provides two alternatives, is captured. In other words, if scale truncation does not take place, we see the presence of *haishi* in the *jiusuan*-concessive conditional uttered in a context where there are exactly two alternatives, given that according to MP!, the use of *ye* is blocked due to its weaker presupposition. On the other hand, if scale truncation does take place, then we see *ye* in this construction, given that scale truncation has removed its competitor.

Note that the idea of removing some alternatives in a pragmatic reasoning is not novel. In the accounts for scalar implicatures and free choice phenomena (e.g., Fox &

Katzir 2011; Ivlieva 2012; Chierchia 2013, and others), it has been suggested that some alternatives may be removed before the exhaustification operation takes place. For instance, when deriving the implicature  $\neg(p \wedge q)$  from the disjunction  $(p \vee q)$ , the alternatives  $p$  and  $q$  are removed from the alternative set before the exhaustification operation takes place; in other words, the exhaustification operation only applies on the alternative set  $\{p \wedge q, p \vee q\}$  and consequently the stronger alternative  $(p \wedge q)$  is negated; therefore, the implicature  $\neg(p \wedge q)$  arises. In Chierchia (2013) and many others, such a process has been termed **alternative pruning**. Needless to say, alternative pruning is subject to certain constraints. Given the scope of this paper, we could only refer the reader to the references mentioned above and those cited therein.<sup>3</sup> The operation **scale truncation** we suggest, as far as we could see, has the same spirit as alternative pruning: during a pragmatic operation, some alternatives are removed from consideration.

#### 4.2.2 Constraining Scale Truncation

While scale truncation accounts for the optionality of *ye* ‘also’ and *haishi* ‘still’ in a *jiusuan*-conditional in contexts where there are exactly two alternatives, the application of this operation needs to be constrained. Otherwise, we would run into the wrong prediction that these two particles are in free alternation in a *jiusuan*-concessive conditional across the board. The comparison between (7), where the context of utterance provides exactly two alternatives, and (8), where the context of utterance provides more than two alternatives, seems to suggest that the application of scale truncation in a *jiusuan*-concessive conditional is constrained by contextual equivalence between the additive presuppositions triggered by the additive particles in competition. To be more specific, it depends on the contextual equivalence of the additive presuppositions triggered by these two particles whether scale truncation can take place in a given context of utterance.

Take (7) and (8) for instances; in the *jiusuan*-concessive conditionals uttered in these two contexts, *ye* and *haishi* trigger an existential and a universal presupposition respectively, as already shown in (30).

<sup>3</sup> The comparison between the process **alternative pruning** suggested in these works and our **scale truncation** is beyond the scope of this paper and hence should be left for another occasion.

- (30) a. The additive presupposition from *ye*:

There is some road *x* that is an alternative to Xinyi Road and *x* is not Xinyi Road such that if we take *x*, we will encounter the traffic jam.

- b. The additive presupposition from *haishi*:

For all roads *x* such that *x* is an alternative to Xinyi Road and *x* is not Xinyi Road, if we take *x*, we will encounter the traffic jam.

Semantically, these two presuppositions differ in their quantificational strength, and the one triggered by *haishi* (see (30b)) is stronger than that triggered by *ye* (see (30a)). Nevertheless, these two presuppositions are contextually equivalent in the context of utterance in (7): in this context of utterance, other than the one asserted (namely, *if we take Xinyi Road, we will encounter the traffic jam*), there is only one alternative (namely, *if we take Zhongshan Road, we will encounter the traffic jam*). Assuming that these alternatives exhaust all the possible worlds in the context of utterance, the presuppositions (30a) and (30b) are equivalent in this context, given that the existential quantification in (30a) and the universal quantification in (30b) both operate on the alternative that is not the prejacent. In other words, the additive presuppositions in (30a, b) end up being equivalent in this context: once (30a) is satisfied in this context, so is (30b); and vice versa.

The situation is, however, quite different in (8). In this case, the context of utterance provides more than two alternatives. Other than the prejacent (again, namely, *if we take Xinyi Road, we will encounter the traffic jam*), quantification in (30a, b) operates on more than one alternative. In this case, (30a, b) cannot be equivalent. Furthermore, as we have seen, (30b) entails and hence is stronger than (30a).

Given the comparison above, we conclude that the availability of scale truncation in a *jiusuan*-concessive conditional is subject to the contextual equivalence on the additive presuppositions triggered by *ye* and *haishi*. Along these lines, the constraint on scale truncation may be formalized as in (31).<sup>4</sup>

<sup>4</sup> In this paper, we follow Percus' (2006) theory of presuppositions, and simply posit that if a sentence *S* has presuppositions *p, p', . . .*,  $\text{Dom}(\llbracket S \rrbracket) = \{w \in D_s : p(w)=1 \ \& \ p'(w)=1 \ \& \ . . . \}$ . On this view, the contextual domain of *S* is a subset furthermore restricted by the context *c*, i.e.,  $\{w \in c : p(w)=1 \ \& \ p'(w)=1 \ \& \ . . . \}$ . For instance, *John knows that Paris is in France* triggers a factivity presupposition about the value of the

(31) **Constraint on scale truncation**

- a. Given a context  $c$  and a presuppositional scale  $\langle \alpha, \beta \rangle$ ,  $\beta$  can be removed from being the competitor of  $\alpha$  in a sentence  $S$  iff  $[_S \dots \alpha \dots]$  and  $[_S \dots \beta \dots]$  are presuppositionally equivalent in  $c$ .
- b.  $[_S \dots \alpha \dots]$  and  $[_S \dots \beta \dots]$  are **presuppositionally equivalent** in  $c$  iff:  $\{w \in c: w \in \text{Dom}(\llbracket [_S \dots \alpha \dots] \rrbracket)\} = \{w \in c: w \in \text{Dom}(\llbracket [_S \dots \beta \dots] \rrbracket)\}$ , where  $\text{Dom}(\llbracket [_S \dots x \dots] \rrbracket)$  is the presupposition triggered by  $x$  in  $S$ .

In a context of utterance like (7), where the context provides exactly two alternatives, the additive presuppositions triggered by *ye* and *haishi* respectively end up being contextually equivalent; therefore, scale truncation may take place and remove *haishi* from the competition with respect to the principle MP!. Hence, we see the presence of *ye* in the *jiusuan*-concessive conditional uttered in such a context. On the other hand, if scale truncation does not apply, then we see the presence of *haishi*. In a context of utterance like (8), where there are more than two alternatives, such contextual equivalence between the additive presuppositions triggered by the two additive particles in competition does not exist. Hence, scale truncation cannot apply, and given the principle MP!, the use of *ye* is blocked in such a context.

As noted above, the account laid out above is built on the assumption that scale truncation is a mechanism available for use in achieving a pragmatically well-formed representation. Nevertheless, by no means does this mean that the use of scale truncation is optional across the board. Instead, scale truncation is best characterized as a ‘last resort’ to rescue a representation that might be pragmatically ill-formed. From this perspective, the application of scale truncation is in fact obligatory; otherwise, a *jiusuan*-concessive conditional with the additive particle *ye* should be excluded across the board. Along with these lines, it is plausible that such an operation is subject to constraints like (31).<sup>5</sup>

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embedded clause, and its contextual domain is:  $\{w \in c: \text{Paris is in France in } w\}$ .

<sup>5</sup> In an exhaustification-based theory of scalar implicatures, as briefly reviewed in 4.2.1 (e.g., Fox & Katzir 2011; Chierchia 2013, and others), alternative pruning is subject to some constraints and cannot be applied randomly, even though this operation is, to a certain extent, optional. For details, see the references mentioned above and those cited therein.

## 5. The Conclusion and Remarks

In this paper we have provided a semantic and pragmatic analysis of the Mandarin concessive conditional with *jiusuan* and discussed the issues related to the presence of the additive particles *ye* ‘also’/*haishi* ‘still’ in this construction. We have observed that the choice between these two additive particles is connected to the size of the set of contextually relevant alternatives: these two particles are in free alternation when the alternative set contains exactly two alternatives; on the other hand, if the alternative set contains more than two alternatives, the use of *ye* is infelicitous. We have shown that in the latter case, the choice between these two particles follows from Heim’s (1991) *Maximize Presupposition!*. On the other hand, the free alternation of the two additive particles in the former case, as we have shown, results from the equivalence on the additive presuppositions they trigger in a given context of utterance.

In the account presented above, the size of the alternative set a *jiusuan*-concessive conditional is asserted and interpreted against plays an important role in the alternation between *ye* and *haishi* in this construction. One reviewer then wonders whether the speaker would still use *ye* or *haishi* in this construction if he did not know the size of the alternative set. In other words, when there is no prior knowledge of the alternative set, will this affect the choice between *ye* and *haishi* in a *jiusuan*-concessive conditional?

As already shown above, a *jiusuan*-conditional must be asserted and interpreted against a set of alternatives, and the presence of an additive particle, be it *ye* or *haishi*, is obligatory in this construction. Alternative sets are contextually determined, and hence, as assumed in current theories on context dependency, the size of the alternative set and its members should be part of the common grounds and hence should be part of the knowledge shared by the speaker and the addressee. Therefore, it is quite unlikely that the speaker has no knowledge about the alternative set when uttering a *jiusuan*-concessive conditional. That is to say, if a speaker did not know that there are alternatives to what has been addressed in a *jiusuan*-conditional, it would be highly unlikely that this concessive conditional construction would be uttered at all. Hence, there should not exist any worry that a speaker might not have the knowledge about the alternative set when a



*jiusuan*-conditional is uttered.

Another reviewer notes that the analysis of the alternation between *ye* and *haishi* is reminiscent of the alternation between *ye* and *dou* ‘all’ in the *lian*-construction.

- (32) *Laoli lian libaitian ye/dou gongzuo.*  
 Laoli even Sunday also/all work  
 ‘Laoli even works on Sundays.’

In analyses such as Hole (2004), *ye* introduces an existential additive presupposition, just as what we have suggested; for instance, (32) with *ye* says that there is at least one day other than Sunday when Laoli works. On the other hand, with *dou*, all the other alternatives are quantified along with the focalized constituent; for instance, (32) with *dou* says that Laoli works every day (see also Xiang (2008) for a similar view on *dou*). To the extent that our analysis is on the right track, it is expected to be extended to cases like (32), and the prediction would be that (i) *dou* patterns with *haishi* in the *lian*-construction, and (ii) *ye* and *dou* alternate in the same way as *ye* and *haishi* in the *jiusuan*-concessive conditional. Specifically, our analysis predicts that in a scenario in which Laoli works 7 days a week, the use of *dou* blocks that of *ye* in (32). It is unclear to us at this moment whether this prediction is borne out; further investigations are hence needed, and we would like to leave it for future research.

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## 漢語帶「就算」讓步條件句之語意與語用分析

謝易達

國立清華大學語言學研究所

ita.hsieh@mx.nthu.edu.tw

黃紹瑜

國立清華大學語言學研究所

ipos0724@gmail.com

### 摘 要

本文從語意與語用的角度切入，討論漢語中帶「就算」的表讓步條件句（如：「就算天氣不好，活動也／還是會照常舉行」）。在此一句型中，附加性助詞 (additive particle) 「也」或「還是」必須出現。過去認為，這兩者在此一句型中可以自由互換。然而在此一研究中，我們透過更精準的語境控制發現，這兩者在此一句型中的出現，並非如一般認為地可以任意互換，而是被語境中所提供的選項 (alternative) 數量所制約。本文除了對帶「就算」讓步條件句的語意構成進行分析之外，也透過語用的角度解析「也」／「還是」在此一句型中的出現與這兩者和語境的互動，以 Heim (1991) 所提出的「前設最大化」(Maximize Presupposition!) 來解釋所觀察到的相關限制。

**關鍵詞：**讓步條件句，前設最大化，添加性，層級性，添加性助詞，語意—語用介面

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