

# Two types of Chinese donkey pronouns

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**Abstract:** Cheng and Huang's paper on donkey sentences has a great influence on analyzing the anaphoric relation in Chinese conditionals[1]. They propose that there are two types of conditionals: bare conditionals and *ruguo/dou* conditionals. These two conditionals have different anaphoric elements in relevant clauses and can be analyzed through two distinct strategies, namely unselective binding and E-type pronoun strategies [2]. However, exceptions exist. This paper aims to find out exceptions. After analyzing apparent exceptions both on bare conditionals and *ruguo/dou* conditionals, a possible solution provided by Pan and Jiang as a makeup to Cheng and Huang' paper will be shown [3]. They proposed that *wh*-phrases are preferential bound variables and most appropriate for showing a bare conditional, while pronouns are preferential to be an E-type pronoun and for most cases, which are appropriate for *ruguo/dou* conditionals. With the help of "Bound Variable Hierarchy", people will see not only a sentence itself but also see its context playing a role in its interpretation.

**Key words:** donkey sentences; bare conditionals; *ruguo/dou* conditionals; anaphoric relation

## 1 Introduction

Like many languages, there are different types of donkey anaphora in Chinese. Cheng and Huang argue that there are two paradigms of conditionals that have the semantics of donkey sentences, namely "bare conditionals" and "ruguo 'if' /dou 'all' conditionals".

## 2 Commonality

### 2.1 Bare conditionals

On the one hand, bare conditionals are conditionals that do not have connective words like *ruguo* "if" or *dou* "all". In bare conditionals, the structure of the "*wh* ... , *wh* ..." appears, disallowing the use of other anaphoric elements. The following are some examples of bare conditionals:

(1) a. **shei** xian lai, **shei** xian chi.

Who first comes, who first eats

"If X comes first, X eats first."

b. \***shei** xian lai, **ta** xian chi.

Who first comes, she/he first eats

Only the example (1a) is grammatical because the same *wh*-words need to be present in not only the antecedent clause but also the consequent clause whereas the other sentence (1b) is ungrammatical since the anaphoric elements in the consequent clause is a pronoun. On the other hand, *ruguo* conditionals are defined by the presence of the leading element

*ruguo* "if" in the antecedent clause and in *dou* conditionals, the quantifier *dou* "all" exists in the consequent clause. Compared with bare conditionals, *ruguo/dou* conditionals present an entirely opposite pattern. The word in the consequent clause which refers back to the *wh*-word in the antecedent clause cannot be a *wh*-word; on the contrary, it must be a pronoun. Here are some instances of *dou* conditionals:

(2) a. \*ni jiao **shei** jin-lai, wo **dou** jian **shei**.

You ask who enter, I all see who

"Whoever you ask to come in, I'll see him/her."

b. ni jiao **shei** jin-lai, wo **dou** jian **ta**.

You ask who enter, I all see him/her

"Whoever you ask to come in, I'll see him/her."

These two examples of *dou* conditionals represent a clear contrast to bare conditionals. The sentence (2a) is ungrammatical because of the same *wh*-word in the consequent clause whereas the other sentence (2b) with a pronoun is totally fine.

To analyze them, they employ unselective binding and E-type pronoun strategies. They argue that pronouns of *ruguo* and *dou* conditionals are E-type pronouns while the anaphoric phenomenon of bare conditionals can be explained as unselective binding through "Discourse Representative Theory". Let us first have a look at unselective binding. Chinese *wh*-words are polarity items which do not have inherent quantificational force but instead acquire their quantificational force in context, through the external elements that license and/or bind them. Therefore, *wh*-words are treated not as quantifiers but as variables bound by the implicit necessity operator, which in turn give rise to the force of wide-scope universal quantification. Take the sentence (1a) as an example, it should be like this:

(3) NEC  $x$  ( $x$  comes first  $\rightarrow$   $x$  eats first)

From the line above, we can see that the *wh*-words in both clauses are directly bound by the necessity operator. The *wh*-words have the same index and are anaphorically related. This kind of binding is apparently unselective since the operator binds all of the variables in that sentence at the same time.

## 2.2 *Ruguo/dou* conditionals

On the contrary, *ruguo* and *dou* conditionals have an opposite feature. Instead of the same *wh*-words in consequent clause, they require a pronoun. Cheng and Huang argue that *wh*-words in *ruguo/dou* conditionals are not bound by an operator external to the antecedent clause. On the contrary, they are treated as an existential quantifier which has scope internal to the antecedent clause. As a result, it is not necessary that the same *wh*-word has to appear in the consequent clause. Actually, the pronoun in the consequent clause is a kind of E-type pronoun. We can see clearly from the following sentence:

(4) a. **ruguo** ni kan-jian le **shei**, jiu jiao **ta** lai jian wo.

If you see ASP who then tell him/her to come and see me

b. *ruguo* [*shei*<sub>i</sub> [*ni kan-jian le t<sub>i</sub>*], [*jiu jiao ta lai jian wo*]

c. If (for some  $x$ , ( $x$  a person) (you see  $x$ )), then tell him/her to come and see me.

From (4b), we can see that the *wh*-word "shei" undergoes a "Quantifier Raising", leaving a trace after "le". The leading element "if" is the licenser which binds the *wh*-word and its trace in the antecedent clause. Since the binding relation is already complete in the antecedent clause, there is no need for an additional *wh*-word in the consequent clause. Therefore, a pronoun is allowable in the consequent clause. From (4c), we can deduce that the pronoun in the consequent clause of *ruguo/dou* conditionals is an E-type pronoun because (4c) is equivalent to: If you see someone, please ask the one

you see to come and see me. From this interpretation, we can see this is exactly E-type pronoun's feature.

This paper is organized as the following ways: Section 3 will present some exceptional factors of the two types of donkey sentences in Chinese. All of the three conditionals have counterexamples. It is feasible having a pronoun in a bare conditional and a *wh*-phrase in the other two conditionals. Section 4 will argue the distribution of the two classes of donkey sentences in Chinese, giving some reasonable explanations. Then, possible solutions will be presented in this section. Section 5 will conclude this paper, which stresses that context plays a big part when we explain sentences.

### 3 Exceptions

Thanks to Cheng and Huang's distributional analysis on Chinese donkey sentences, people have a clearer understanding of these two conditionals. However, language is not always completely definable. It is common that once a distinction is worked out, exceptions will appear after that. In this section, exceptions of bare conditionals as well as *ruguo/dou* conditionals will be presented.

#### 3.1 Bare conditionals

In Cheng and Huang's analysis, only the same *wh*-word can appear in the bare conditionals except when there is *jiu* "then" in the consequent clause. The following sentences indicate possible alternations between a *wh*-word and a pronoun in bare conditionals:

(5) **shei** yao xiangmu, **jiu** rang gei **ta/shei**.

Who wants project, then give it to him(her)/who

"Whoever wants the project, give it to him/her."

What is more, there are still other sentences without *jiu* allowing a pronoun in bare conditionals, as the following sentence:

(6) **Shei** yao zhe xiangmu, rang gei **ta** hao le.

Who wants this project, give to him (her) good PRT

"Then give this project to whoever wants it."

These two sentences are the so-called bare conditionals since there is no *ruguo* or *dou* within the sentences. According to native speakers, they are grammatical even if pronouns show in the consequent clause. So, they are obviously exceptions.

#### 3.2 *Ruguo/dou* conditionals

Apart from exceptions in bare conditionals, it is applicable that a *wh*-phrase appear in the consequent clause of *ruguo*- and *dou*- conditionals, which can be shown in the next two sentences:

(7) **Ruguo shei** yao zhe xiangmu, **jiu** rang **shei** lai zhao wo.

If who wants this project, then let who come and find me.

"Whoever wants this project, let him/her come to me."

(8) Gei **shei** kan, **shei dou** hui shuo hao.

Give who look who all will say good

"Whoever you give to have a look, she/he will say good."

Sentence (7) is a *ruguo* conditional and sentence (8) is a *dou* conditional. In the both conditionals, *wh*-words appear in consequent clauses. The grammaticality of these two sentences are tested by native speakers. Therefore, it is feasible to appear *wh*-words in the consequent clause of *ruguo/dou* conditionals, which means they are exceptions, too.

### 4 Analysis on distributional facts

Although it has been proved in Section 3 that there exist exceptions in Cheng and Huang's claim on Chinese donkey sentences, it does not mean that their proposal is wrong. On the contrary, we have to admit that their proposal is basically

correct. Clearly speaking, what they argue and debate is the ideal pattern of the usage about pronouns and *wh*-words in bare conditionals and *ruguo/dou* conditionals. In most cases, it has to be related to the typical contexts. In the following section, I will present typical contexts respectively for the three conditionals. At the end of this section, a possible solution will be given.

#### 4.1 Typical contexts

According to Cheng and Huang, one cannot translate the second *wh*-word in bare conditionals as an E-type pronoun since the necessity operator shorted as NEC must bind the same variable in the restrictor and the nuclear scope. However, evidence shows that it is entirely possible to treat the second *wh*-word as an E-type pronoun in some typical contexts. If we take the situation variable *s* into account, we can presuppose that the operator NEC have the ability to bind the situation variable *s* in both the restrictor and the nuclear scope, leaving the variable *x* existentially bound in the antecedent clause. The sentence (1a) can be interpreted as the following:

(9) NEC [*s*] [ $\exists x$  come(*x*) first in *s*] [eat (he/she) first in *s*]

What the interpretation (9) conveys is that, for every possible situation *s*, if there is someone *x* which comes first in *s*, then the people *x* coming first in *s* would like to eat first in *s*. Then, there is no problem to regard the second *wh*-word as an E-type pronoun. The following sentence with a preferential reading where there is only one person who has the relevant feature also proves that E-type pronoun strategy can be applied to explain *shei* in the consequent clause:

(10) **Shei** zuo cuo le shi, piping **shei** hao le.

Who do wrong PRT thing, criticize who ok PRT

"Whoever did something wrong, you criticize him/her."

Here, in the sentence (10), it is possible that occurrence of the second *shei* can be substituted by the third person singular pronoun *ta*, as it will not cause any change of meaning to this sentence. This fact suggests that *shei* in the consequent clause can play a similar role to the pronoun *ta* in this typical context. As mentioned in the introduction, the necessity operator NEC is not only the licenser but also the binder of a bare conditional, therefore another *shei* is indispensable in the consequent clause so as to avoid a violation of "Prohibition Against Vacuous Quantification" [4]:

(11) For every quantifier Q, there must be a variable *x* such that Q binds an occurrence of *x* in both its restrictive clause and its nuclear scope.

However, the first *shei* can, as a matter of fact, be bound by an existential operator, as explained in (11). Therefore, the interpretation of the second *shei* as an E-type pronoun is unproblematic since the situation variable *s* plays a role. The first *shei* can be licensed by the existential operator and the necessity operator NEC can bind the situation variable *s* in both clauses.

As for *ruguo/dou* conditionals, Cheng and Huang think that the *wh*-phrase in the antecedent clause is always existentially bound, therefore the pronoun in the consequent clause cannot be a bound variable. Because *wh*-phrases are bound variables, they cannot show in the consequent clause of a *ruguo/dou* conditional. However, as shown in Section 3, we can have *wh*-words in the consequent clause of *ruguo/dou* conditionals, which implies that it is feasible to use unselective binding to analyze *wh*-words in the relevant clause.

Firstly, let us look at the previous sentences (6). If we read that sentence carefully, we can find it does not necessarily assume that there is a person who wants the project, and it is completely compatible with a situation in which there is no one who wants the project. In this condition, the sentence suggests a situation that the speaker is going to give up the project.

And more important here is that it is not the existence of at least one people who wants the project, but the condition

for the speaker to give up the project. Everyone will do, as long as she/he has the relevant feature, that is to say wanting the project. This interpretation can be explained by using unselective binding, as the first *shei* and the second *shei* can be bound by the necessity operator NEC. The sentence (6) can be analyzed through the same way even if it is a pronoun. Therefore, the pronouns of *ruguo/dou* conditionals can also be bound variables.

#### 4.2 A possible solution

As argued in Section three, it seems that we can have pronouns in bare conditionals and E-type pronoun strategy can be used for analysis and *wh*-words can exist in the *ruguo/dou* conditionals with unselective binding as their interpretation. To account for this confusion, the "Bound Variable Hierarchy" (BVH) is proposed by Pan and Jiang: *wh*-phrases >> pronouns. This formula illustrates that their proposed *wh*-phrases are preferential bound variables and most appropriate for showing a bare conditional, while pronouns are preferential to be an E-type pronoun and for most cases, which are appropriate for *ruguo/dou* conditionals. Actually, their proposal does not deny Cheng and Huang' analysis, but rather they take that pattern as the most preferred strategies for Chinese conditionals. What they propose is that the bound variable interpretation is most appropriate for bare conditionals through unselective binding while *ruguo/dou* conditionals are most appropriate for the E-type pronoun strategy. However, sentences do not exist alone and there are always contexts around them. The existence of exceptions proves that contexts play an important role in sentence interpretation. If someone wants to deviate from the preferential patterns, then accommodation is demanded. It means that much context is needed for the non-preferential patterns. According to viewpoint above, it is neither true that only *wh*-phrases are allowed to be bound variables, nor true that only pronouns are allowed to be an E-type pronoun.

### 5 Conclusion

Linguists come to realize that context is a crucial factor with reference to interpreting the meaning of sentences. Cheng and Huang's analysis summarizes the most prevalent and popular pattern of anaphoric relation when treating these two types of conditionals. Pan and Jiang's analysis of BVH is a good attempt to take context into consideration. It is evident that context plays an important part in Chinese donkey sentences.

#### Conflicts of interest

The author declares no conflicts of interest regarding the publication of this paper.

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