

## On the Status of Null Objects in Chinese

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Huang (1984) observed the subject-object asymmetry in the interpretation of the null elements in the subject and object position in an embedded clause in Mandarin Chinese:

(1) Zhangsan<sub>i</sub> xiwang [ei keyi kanjian Lisi].

Zhangsan hope can see Lisi

‘Zhangsan<sub>i</sub> hopes that [he<sub>i</sub>] can see Lisi.’

(2)\* Zhangsan<sub>i</sub> xiwang [Lisi keyi kanjian ei].

Zhangsan hope Lisi can see

‘Zhangsan<sub>i</sub> hopes that Lisi can see [him<sub>i</sub>].’

The contrast of (1) and (2) shows that in an independent utterance with no context, the null subject in the embedded clause can be interpreted as co-index with the subject of the matrix clause, Zhangsan, whereas the null object in the embedded clause is most naturally interpreted as referring to anyone else but the subject of the matrix clause, Zhangsan.

In a discourse-bound (or discourse linked, D-Linked) context, however, (2) can be interpreted as co-refer with the subject of the matrix clause, Zhangsan:

(3)A: Shui kanjian-le Zhangsan?

who see LE Zhangsan

‘who saw Zhangsan?’

B: Zhangsan<sub>i</sub> shuo Lisi kanjian-le ei.

Zhangsan say Lisi see LE

‘Zhangsan<sub>i</sub> said Lisi saw him<sub>i</sub>.’

Based on the observation above, Huang (1984; 1989) derived an analysis treating the null object in Chinese as a variable bound by a topic (old information, salient in discourse, =D-Linked):

(4)[nage ren]<sub>i</sub> Zhangsan shuo [Lisi bu renshi e<sub>i</sub>].

that man Zhangsan say Lisi not know

‘That man<sub>i</sub>, Zhangsan said Lisi didn’t know e<sub>i</sub>.’

In (4), therefore, the null object of the embedded clause is co-indexed with the topic, and the sentence is grammatical. Based on (4), Huang (1984) proposed the following structure to account for all the null object pronouns in Chinese:

(5)[Top  $e_i$ ], Zhangsan shuo Lisi bu renshi  $e_i$ .

Zhangsan say Lisi not know

\*[Him], Zhangsan said Lisi didn't know  $e_i$ .

In this formulation, all null object pronouns are seen not as genuine *pro*, but as a variable bound by the topic. Therefore, the null object in Chinese can be viewed as topic deletion: while Chinese allows such deletion, a language like English does not, therefore accounting for the contrast between allowing null object or not. Through a brief cross-linguistic analysis of null objects in English, Spanish/Italian, Huang argues that while *pro*-drop in subject positions are available in a number of languages, genuine null object pronouns as *pro* is allowed in none of the languages we studied(including those listed in (6)), and he classifies the language typology based on null-object as:

(6)a.English and French, neither zero-topic nor *pro*-drop;

b.Italian and Spanish, *pro*-drop, but not zero-topic;

c.Chinese,Japanese,Portuguese, etc., are both *pro*-drop and zero-topic;

d.German, zero-topic but non *pro*-drop.

Huang's (1984) analysis is obviously in contrast with Rizzi's (1986) framework and a theory for *pro* in the null objects. Although one may attribute the differences between the two to cross-linguistic differences, I argue that there are reasons to believe that a more unified treatment of the status of null object is still desired: as shown above in (6), Huang's analysis does not only apply to Chinese but also extends to all the languages in regard to null objects, including Italian. In the following discussion I take the very first step of applying some of Rizzi's analysis to the case of Chinese. Specifically, I apply two of Rizzi's tests to probe the structural projection (theory of syntactic saturation) of the null objects in Chinese: Control and Binding.

### 1. Null Object in Chinese:*pro* vs. variable

First I provide an initial characterization on the status of null object in Chinese (as *pro* or as variable). I start by reconsidering (2), reproduced here as (7):

(7).\* Zhangsani xiwang [Lisi keyi kanjian  $e_i$ ]. (=1b)

‘Zhangsan hope Lisi can see

‘Zhangsani hopes that Lisi can see [himi].’

The ungrammaticality of (7) is repaired by depriving the co-indexing of the subject of matrix clause and the null object in the embedded clause, while yields (4), here reproduced as (8):

(8) Zhangsan<sub>i</sub> shuo [Lisi keyi kanjian e<sub>j</sub>].

'Zhangsan<sub>i</sub> says Lisi can see [him]<sub>j</sub>. (=4)

Intuitively, although (8) is grammatical, contrasting with a similar sentence with overt object like (9) (similar to (10) in English), differences still emerge between (8) and (9):

(9) Zhangsan<sub>i</sub> xiwang [Lisi keyi kanjian taj].

'Zhangsan hopes Lisi can see him'.

(10) John said that Bill knows him.

As shown here, despite the grammaticality of (8), it contrasts with (9) in that there is no restriction in (9) in co-indexing with the subject of the matrix clause. In other words, (9) is a genuine pronoun that can be bound outside of its binding domain (i.e., the embedded clause), according to Binding Theory Condition B. The null object in (8), on the other hand, behaves more like a variable, which must be free in all domains (unless in a D-Linked scenario). This is the initial characterization of the null objects in Chinese.

## 2. Rizzi's (1986) Theory on Syntactic Saturation

According to Rizzi, the first question to ask in dealing with empty category such as the null object, is to decide whether or not the empty category is a genuine null object, or it is an "understood object", or a gap (Rizzi did not make this clear explicitly; however, from my reading this is crucial for the purpose of the current analysis). In other words, while a gap or 'understood' object is not structurally projected and represented, a genuine null object has a structural presentation even though it is overt. This is shown in the contrast below in English and Italian in (10) and (11), and further illustrated in (12):

(10)a. This leads \_\_\_\_\_ (people) to the following conclusion.

b. This leads people [PRO to conclude what follows].

c. \*This leads \_\_\_\_\_ [PRO to conclude what follows].

(11)a. Questo conduce \_\_\_\_\_ alla seguente conclusione.

b. Questo conduce la gente a [PRO concludere quanto segue].

c. Questo conduce \_\_\_\_\_ a [PRO concludere quanto segue].

(12)a. Un dottore serio visita \_\_\_\_\_ nudi.

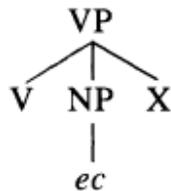
'A serious doctor visits \_\_\_\_\_ nude([+pl])'.

b. Di solito, Gianni fotografa \_\_\_\_ seduti.

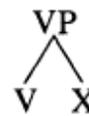
‘ In general, Gianni photographs \_\_\_\_ seated([+pl]).’

In this case, (10)a and (11)a both involve a gap, and are both grammatical. But this does not tell us anything about the differences in their structural representation. However, the contrast between (10)b/(10)c vs. (11)b/(11)c especially speaks of the structural representation: in (10)b, the gap from (10)a is filled overtly by 'people'; yet (10)c shows that an empty category in this position cannot serve as an antecedent to control the PRO in the embedded clause; Rizzi hypothesized that the structural position is not there (not projected) in the first place. This is further supported by (11)c, which shows that in Italian, the empty element can serve as a valid (covert) antecedent of PRO and therefore must be structurally represented. This difference is illustrated in the following tree structure:

(13)



(14)



According to Rizzi (1986), a distinction between lexical vs. syntactic processes is involved in this situation: assuming a verb has a valence structure that requires saturation: Projection Principle create the structural slots, and theta criterion fills the slots. Rizzi proposes that the saturation can be done either in lexicon (before Projection, "assign arb[=arbitrary interpretation] to the direct object theta role<sup>1</sup>"), or it can be done in syntax after the structure is projected. Therefore, the Projection Principle only operates on theta roles that have not been previously saturated by lexical rules. If a theta role is saturated in lexicon, it is not projected; hence, it never reaches syntax, and it appears to be inert in this component. This would be a characterization of the English case (corresponding to (14)).

Rizzi devised five tests to prove the structural presence or absence of the null objects: Control, Binding, Adjunct Small Clauses, Argument Small Clauses, and Productivity. Here I apply the first two to Chinese according to the syntactic properties of the language.

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<sup>1</sup> Rizzi's analysis on Italian shows that the arbitrary interpretation of null object lies not in indexation, but in [+generic, +human,+plural].For details in his discussion see Rizzi (1986:510-512).

### 3. Control

Our intention is to ask whether the null objects in the Chinese case is a (13) or (14), i.e., whether it is structurally represented in syntax. The intuition would be to say that it is, like Italian, since it seems to have a great degree of freedom in terms of null object. In the case of Control, another question to ask is the existence and distribution of the PRO structure in Chinese<sup>2</sup>. Here I use (17) an example in Chinese, in parallel to Rizzi's example shown above in (10) and (11), that involves an object gap in the matrix clause and a PRO in the subject position of the embedded clause ((16) and by extension, (17) are identified by Huang 1989:192 as exemplifies the PRO structure in Chinese):

(15) Zhangsan shuo Lisi kanjian \_\_\_\_ le.

Zhangsan say Lisi see            PERF

"Zhangsan said Lisi saw (him)".

(16) Zhangsan shuo Lisi kanjian ta [PRO gen ni zou le].

Zhangsan shuo Lisi see    him        with you go PERF

"Zhangsan said that Lisi saw him leaving with you".

(17)?\*Zhangsan shuo Lisi kanjian \_\_\_\_ [PRO gen ni zou le].

"Zhangsan said that Lisi saw (him) leaving with you."

Whereas (15) is a simple sentence similar to those discussed in the beginning of this paper, (16) and (17) exemplify cases involving control and PRO structure. The ungrammaticality of (17)<sup>3</sup>, especially when contrasted with (15) (as well as with (16) of course) therefore indicates that under Rizzi's theory, the structural position for the null object is not projected in syntax, but actually remained an "understood object", or a gap. If that is correct, then the null object in this case can be still analyzed as a variable (Rizzi 1986:512), and it is therefore consistent with our initial analysis above (null object as variable that must be free in all domains).

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<sup>2</sup> This is beyond the scope of this paper. Therefore, I take a sample sentence exhibiting PRO structure in Huang's analysis (1989).

<sup>3</sup> A brief information collection from native speakers of Chinese (subject number < 10) shows that while the absolute ungrammaticality of (17) is not agreed by all, it is definitely questionable and not as good as (15). More thorough analysis and data collection needs to be carried out, including the effect of choice of different words.

#### 4. Binding

Rizzi identified sentences in binding condition where the null object in Italian can act as the antecedent of a reflexive expression (Condition A) in both specific and arbitrary interpretation<sup>4</sup>:

(18) La Buona musica riconcilia \_\_\_\_\_ con se stessi.

"Good music reconciles \_\_\_\_\_ with oneself".

In Chinese, I apply this test with a similar sentence involving binding ((19) with overt object and (20) with null object):

(19) Ganxing de jiang, yinyue tiaohu wo he wozi.

"Emotionally speaking, music reconciles me with myself".

(20)\*Ganxing de jiang, yinyue tiaohu \_\_\_ he (wo)zi.

"Emotionally speaking, music reconciles me with myself".

The ungrammaticality of (20) is further supported by the contrast of (21) and (22):

(21) Ta dui wo haoguo wozi.

He treat me better than myself

"He treats me better than (I treat) myself."

(22)\*Ta dui \_\_\_ haoguo wozi.

"He treats (me) better than (I treat) myself".

Therefore, the Binding test shows that the structural representation in the null object is not projected but rather saturated in lexicon before the syntactic projection. This is consistent with the Control test.

#### 5. Discussion

My current analysis shows that within Rizzi's framework, the structural slot of null object in Chinese is saturated in lexicon, before the syntactic projection that assigns it a slot in the structural representation, as shown in tree structure (14). Rizzi(1986:509) proposed two processes that formally describe the lexical and syntactic saturation (saturation of the valence of the verb's thematic structure):

(23) Assign *arb* to the direct theta-role(*arb*=arbitrary interpretation, [+human, +generic, ±plural]).

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<sup>4</sup> In the latter interpretation, Rizzi points out that if there is no available antecedent *se stessi* cannot be rescued by any sort of pragmatic or discourse control even in generic statements: (18)a \*La buona musica piace a se stessi./'Good music pleases oneself'.

(24)Categorical structure reflects lexically unsaturated thematic structure at all syntactic levels.

While my current analysis of Chinese fits in this framework, it is worth asking what it means for the valence to be saturated at the lexical level instead of syntactic level in terms of the understanding of null object. A direct consequence is observed, of course, in examples like (17) and (20), which show that the null object cannot be understood as controlling the PRO or as the antecedent in a binding structure involving anaphors. Further implications on the analysis of null objects in Chinese as topic-bound variables (Huang 1984) or as pro will be addressed in further studies.

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