

# The function of DE in Chinese RCs

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**Abstract.** De in Chinese relative clauses is commonly analyzed as a complementizer signifying a relative clause. In this paper we argue that De has two roles in RCs. Besides being a relativization marker, which is its basic function, De can also mark the realis state of the event expressed by the RC. Being a realis state marker, De needs to bind an event variable, which can be supplied by the VP in the RC. When some other operator in RCs competes with De for such an event variable, the variable will first go into that operator's interpretation and De thus fails to bind an event variable. In such a case, the RC cannot express a realis event unless Le or Guo occurs.

**Keywords:** De, relative clause, event variable, realis

## 1 Introduction

In Chinese, relative clauses cannot be connected with their head NP without De, as exemplified by (1). The nature of De has been fully discussed in recent literature ([6], among others). Usually we treat De as a complementizer signifying a relative clause, which is its basic function. One phenomenon concerning RCs which has not been discussed is that when the event expressed in the RC is a past one, the verb needs no perfective particles or time adverbs that should be used in main clauses to denote past events, as (2) and (3) show.

- (1) \*这是我在北京买(的)裙子。                      (2) 我吃了馒头。  
this is I in Beijing buy (De) skirt                      I eat *Le* mantou  
'This is the skirt that I bought in Beijing.'                      'I ate some mantou'
- (3) a. 我们吃的是馒头。                      b. 赢日本队的是澳大利亚队。  
we eat *De* is mantou                      win Japanese team *De* is Australian team  
'What we ate is maotou.'                      'The team who won Japanese team is Australian team'

Another phenomenon pertaining to RCs that is interesting and also has not been noticed is that the past state will not be kept when some adverbs such as Dou, Zong, Hai and Zhi occur in a RC where bare verbs can denote past events. Sometimes the sentences even become unacceptable with these adverbs. In such cases perfective particles need to be used to express the past event. Compare the following (a)s and (b)s, we can see that (a) sentences, which are without Le or Guo, are either odd (4a) or acceptable but has nothing to do with past events (5a, 6a, 7a).

- (4) a. ?我们都吃的是馒头。                      b. 我们都吃过的是馒头。

we all eat De is mantou                      we all eat Guo De is mantou  
 ‘The food all of us had eaten is mantou.’

(5) a. 总 找 (\*了/过) 他 的 是 他 女 朋 友。  
 always call on (Le/Guo) him De is his girl friend  
 ‘The person who always call on him is his girl friend.’

(6) a. (不仅 看 法 文 电 影 , ) 还 看 英 文 电 影 的 是 李 四。  
 (not only watch French films,) but also watch English films De is Lisi.

b. (不仅 看 了 法 文 电 影 , ) 还 看 了 英 文 电 影 的 是 李 四。  
 (not only watch Le French films,) but also watch Le English films De is Lisi.  
 ‘The person who not only watched French films, but watched English films is Lisi.’

(7) a. 只 看 英 文 电 影 的 是 李 四。 b. 只 看 了 英 文 电 影 的 是 李 四。  
 only watch English film De is Lisi                      only watch Le English film De is Lisi  
 ‘The person who only watches English films is Lisi.’

Based on the above data, we argue in this paper that De in Chinese RC has two functions: being a relativization marker and being a realis state marker. Since De is an obligatory part of the RC structure, marking relativization is its basic function. De can also mark the realis state of an event and, as a realis state marker, De needs to bind an event variable supplied by the VP in the RC. Whether such an variable is available or not decides the (ir)realis look of the RC. That is why some adverbial operators occurring in RC can block the realis state interpretation of the RC.

## 2 De as a realis state marker in RCs

The function of De in RCs reminds us of its function in emphatic sentences like ‘他是昨天去的北京’ (‘It is yesterday that he went to Beijing’). De’s function in emphatic sentences has been fully discussed in literature ([7], [9], among others). We agree on one prevailing viewpoint that De in emphatic sentences is a tense- aspect particle (cf. [7]), and in this paper we hold that De in RCs can mark the realis state of a event and such a function can be unified with De’s function in emphatic sentences.

### 2.1 The (ir)realis look of the event in RCs

We give a definition of ‘realis’ in terms of time feature of the event. What has taken place and what is in existence are all realis events. ‘What has taken place’ indicates those past events (这是我泡的茶。) and ‘what is existing’ those in-progressing events (教1班的是王老师。) and changeable or unchangeable states and properties (穿橙色球衣的是荷兰队: changeable state; 我们系有三位姓王的老师: unchangeable property). Such a definition of the ‘realis state’ covers all possible looks of the events expressed by bare VPs in RCs. This means that what expressed in RCs cannot be those which have not taken place or do not exist. Such a character of the event in RCs contrasts with that of the event expressed by bare VP in main clauses. In main clauses bare VPs can denote future events in question-answer contexts (A: 暑假你去哪儿? B: 我去北京.) or general/habitual situations in contrasting contexts (小王喝咖啡, 不喝茶.). The time features of the events in RCs are different, yet

they have something in common. That is, they are all non-future events and are not events that exist in possible world.

## 2.2 The semantic translation of De in RCs<sup>1</sup>

Given that De marks realis state of the event in RCs, De can be treated as an event variable binder. After De's binding, the event variable gets its value and becomes a realis event. The semantic translation of De in (9a), for example, can thus be described as (9b).

(9) a. 他们偷的是一把雨伞。

They steal DE is one ba-CL umbrella 'What he stole is an umbrella.'

b. De ({ e | they steal one umbrella in e }) (e'), where e and e' are event variables.

(9b) means: e' such that they steal an umbrella in e' and e' exist. The realis state marker De operates on a set of events and singles out some subset of the events in which the event happened and the umbrella was stolen.

Kratzer [2] argues that individual-level and stage-level predicates differ in argument structure, insofar as that stage-level predicates have an extra Davidsonian argument for space-time location, and individual-level predicates lack such an argument. In this paper we use 'e' variable in De's semantic representation whether the VP is a stage-level one or an individual-level one. That means both stage-level predicates and individual-level predicates can provide an event variable for De to bind, which is different from the viewpoint in Kratzer [2]. Although individual-level predicates lack typical time features like having taken place or progressing, they do have the realis state which contrasts with the irrealis state of future events or events in possible world. Hence, we think they can supply a 'e' variable for De to bind and get the value of 'realis'.

## 3 The semantic functions of adverb Dou, Zong, Hai and Zhi

Dou, Zong, Hai and Zhi are all strong semantic operators that have special effects on the interpretation of the sentence. Of these four, Dou and Zong are usually treated as A-quantifiers [4] and Hai and Zhi focus operators (Xu [8] mentions Zhi as a focus operator. We think Hai is also a focus operator.). Dou's semantics has been fully discussed in recent literature. According to Huang [1], Dou takes event variable as its argument and sums them into a plural event and Dou is at the same time the lexical licenser of the event variable for universal quantification. In Pan [3], Zong is patterned with 'always' and is treated as an adverb quantifier which quantifies over an event variable. Hai and Zhi are focus operators whose scope is the VP they modify. As a focus operator, they will bind a variable that can substitute for the focused element. Usually we take the stressed element in their scope as their semantic focus (cf. Xu [8] for 'semantic focus') and the variable they bind is a 'x' that can substitute for this stressed part. We can also, on the other hand, take the whole VP as their semantic focus for the VP is the maximal projection of any stressed part inside the VP. Given that we hold the latter, what Zhi and Hai bind is thus an event variable and such a variable x can be described as 'x ALT (VP)' (VP is what follows Hai and Zhi

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<sup>1</sup> I'd like to give my thank to Prof. Haihua Pan for in writing this part, I made much reference to Pan [3].

and ‘ALT(VP)’ means all the alternates of this VP).

#### 4 The competition of De and the adverbs for the same event variable

When preceded by Dou, Zong, Hai or Zhi, the event variable in RCs first goes into the semantic interpretation of these adverbs and becomes bounded after the operation of these adverbs. Thus De fails to get an e variable to bind and assign it the value of ‘realis state’. In (4a), ‘我们都吃的’ just has the reading of ‘the food all of us can eat or may eat’. Suppose that some of us dislike mantou or do not eat mantou because their stomachs are sensitive to it, then we can not say ‘我们都吃的是馒头’. In such a case, the bare VP ‘吃 t’ (‘t’ represents the trace of 馒头) gets a modal interpretation as shown by the ‘can/may’ in the English counterpart. Such a modal interpretation is achieved after Dou’s operation on the VP. The same occurs with Zong, Hai and Zhi. For Zhi, the reading should be a ‘general’ or ‘universal’ situation. So (7a) means whenever Lisi has a chance to watch film, he watches English film and nothing else. Hai is an addition operator and thus what is added by Hai will get the same interpretation as the first VP. The competition of De with Zong for the same event variable is the clearest of the four adverbs, for Zong is also an operator that is related to the time feature of the event. According to Pan [3], Zong binds the event variable supplied by the VP and assigns it a universal reading, and thus there is no free event variable for De to bind. Hence, we failed to get the realis reading for the event.

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