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Appositives Schmappositives in Chinese*

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1. Introduction

Appositive relative clauses are “strange animals.” Linguists have made a variety of different attempts to define them, mostly syntactically, less so semantically. Still, the usual description of how an appositive relative clause differs from a restrictive relative clause is set in a linguistic meta-language that speaks quite exclusively to a “western world.” We know what an appositive relative clause is supposed to look like in English or Italian. When we turn to languages such as Chinese or Japanese, however, the demarcation line becomes blurry and facts are not so clear; at best we find that in those languages no syntactic distinction can be made between a restrictive and an appositive relative clause. Since all the languages for which such a distinction is not clear-cut have pre-nominal relatives (in most cases, exclusively), it is easy to suspect that there could be a correlation between the linear order of the relative clause with respect to its ‘head’ and the availability of an appositive interpretation.

The other reason for which appositive relative clauses are “strange” has to do with their status as nominal modifiers which behave

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like independent clauses. The paradox of the appositive is that, despite the fact that it must be strictly adjacent to its ‘head’, its subconstituents are banned from entering grammatical dependencies with material from the clause containing it. Several attempts have been made to capture the interesting behavior of appositives (Sells 1985, Fabb 1990, Demirdache 1991, Grosu 2000): In different ways, using different models, the above linguists strive to link the sentence-level properties of appositives with their discourse-level properties.

My interest in the topic stems from the observation that in Chinese the traditional distinction between an appositive relative clause and a restrictive relative clause is too subtle to consider it a real syntactic and semantic distinction (as it is for English or Italian). I show that relative clauses in Chinese can only be restrictive and I propose a semantic account for providing the right denotation to the two available constructions of relative clauses in Chinese. I claim that the unavailability of appositives in Chinese is ultimately linked to the fact that appositives are a phenomenon of E-type anaphora.

2. Chinese relative clauses

According to Chao (1968) and Hashimoto (1971) a relative in Chinese is interpreted as appositive if it follows a demonstrative, but as restrictive if it precedes it (if the demonstrative is specified):

(1) na ge [dai yanjing de] nanhai
that CL wear glasses DE boy
‘that boy, who wears glasses’

(2) [dai yanjing de] na ge nanhai
wear glasses DE that CL boy
‘the boy who wears glasses’

Huang’s (1982) account of the facts in (1)-(2) is in terms of the scope of modification: If the relative clause is in the scope of the demonstrative as in (1), the demonstrative is deictic and it fixes the reference of the ‘head’ of the relative clause. The relative clause is then used appositively. But when the demonstrative is in the scope of the relative clause as in (2), it is used ‘anaphorically’ onto the relative clause. And it is the relative clause which contributes in determining the reference of the ‘head’ noun.

In the following section I show that in Chinese the distinction between appositives and restrictives does not actually exist.¹ I demonstrate that in Chinese relative clauses can only be restrictives.

3. Chinese relatives are only restrictive

I summarize below some of the traditionally recognized properties that differentiate appositives from restrictives:

- I. in terms of categories, the antecedent of an appositive can be any maximal projection (Sells 1985, among others);
- II. sentential adverbs of modification can appear only inside appositives, not inside restrictives (Ogle 1974).
- III. only appositives can modify pronouns;²
- IV. a quantified NP cannot be the antecedent of an appositive (Ross 1967);
- V. no quantifier in the matrix clause can have scope over a pronoun in the appositive clause (Safir 1986);
- VI. appositives are affected by the presence of negation in the main clause (Sells 1985);³
- VII. appositives appear DP-finally (following all restrictive modifiers);
- VIII. restrictives allow stacking, appositives do not;⁴
- IX. appositives are used to qualify unmodified proper names, restrictives are not;
- X. appositives allow pied-piping, restrictives don't (Emonds 1979);

We can visualize the differences and similarities of appositives and restrictives with the help of a chart:

¹ Huang's (1982) account ultimately amounts to the same claim: both the pre-demonstrative and the post-demonstrative relative clauses are restrictive with respect to their 'heads'.

² Thanks to Dominique Sportiche for bringing this point to my attention.

³ More specifically, if a noun is modified by an appositive, it cannot be in the scope of a negation in the matrix clause.

⁴ But see Grosu and Landman (1998) for an opposite view.

(3)

		restrictives	appositives
I.	antecedent = any category	no	yes
II.	sentential adverbs	no	yes
III.	pronouns	no	yes
IV.	quantified NP	yes	no
V.	quantifier scope	yes	no
VI.	negation	yes	no
VII.	DP-final position	no	yes
VIII.	stacking	yes	no
IX.	proper names	no	yes
X.	pied-piping	no	yes

We can use the above classification and set up two kinds of tests:

1. We take all the phenomena allowed in restrictives but not in appositives and test the Chinese cases. If the sentences turn out to be grammatical, we can claim they are restrictive.
2. We consider all the phenomena allowed by appositives and test the Chinese examples. If in Chinese there are no appositives, we would expect ungrammaticality, regardless of the order in which the relative clause and the determiner occur.

4. Chinese RCs are restrictives

Let's start with some of the characteristics shown by appositives. Property I: The antecedent of an appositive can be any maximal projection (NP, AP, VP, PP, IP, CP), but the antecedent of a restrictive relative can only be an NP:

(4) Mary was intelligent, which John never was.

In Chinese, a relative clause can modify only an NP or a DP (no other maximal projection):

- (5) a. *Zhangsan hen [Lisi conglai jiu bu de] congming.
Zhangsan very Lisi ever just not DE smart
b. Zhangsan hen congming. Lisi conglai jiu bu congming.

Zhangsan very smart Lisi ever just not
smart.

‘Zhangsan is intelligent. Lisi never has been.’

Such a constraint on which categories a relative clause can modify would not be surprising if Chinese didn’t allow appositives.

Property II.: Emonds (1979) - following Ogle (1974) - claims that certain adverbs generally appear only in main clauses, and they also appear in non-restrictive relative clauses:

- (6) a. The boys, who have frankly lost their case, should give up.
b. *The boys who have frankly lost their case should give up.

The same point can be made with respect to speaker-oriented adverbs, such as ‘by the way’, and ‘incidentally’. In Chinese we expect that the use of these adverbs, not separated from the rest of the relative by an intonational break, would yield ungrammaticality:

- (7) a. *[Wo tanbaideshuo kai de] zhe yiliang qiche
I frankly drive DE this one-
CL car
zhuangzai bu wanhao.
condition not excellent.
b. *Zhe yiliang [wo tanbaideshuo kai de] qiche
this one-CL I frankly drive DE
car
zhuangzai bu wanhao.
condition not excellent.

The ungrammaticality of (7a-b) confirms our predictions

Property III.: It has been noted in the literature that only appositive relative clauses can modify first and second person pronouns. The example below is adapted from Delorme and Dougherty (1972):

- (8) We, who are women, think that you, who are men, should go now.

The two relative clauses in (8) are both appositives. This is shown by the ungrammaticality of the following sentence, where the pronoun ‘you’ has been changed into ‘we’, yielding a contradiction:

- (9) *We, who are women, think that we, who are men, should go now.

In the case of appositive modification, the sets of individuals denoted by the pronoun and by the relative clause completely overlap. Therefore, in (9), a contradiction results, as the individuals denoted by the pronoun 'we' cannot be at the same time 'men' and 'women'.

Notice that in Chinese the counterpart of (8) is grammatical, but the relative clauses can only be interpreted as restrictive:

- (10) [Shi nuren de] women juede [shi nanren de] nimen dei zou.
be women DE we think be men DE you should leave
'Those among us who are women think that those among you who are men should go.'

We can show that the relative clauses in (10) are indeed restrictive by having them modifying the same pronoun, in this case *tamen*, 'they'. Differing from its English counterpart, the Chinese sentence in (11) doesn't yield ungrammaticality:

- (11) [Shi nuren de] tamen juede [shi nanren de] tamen dei zou.
be women DE they think be men DE they should leave
'Those among them who are women think that those among them who are men should go.'

In order to convey the same meaning as in (8), in Chinese it is necessary to use not a relative clause but a nominal in apposition to and following the personal pronoun:

- (12) Women nuren juede nimen nanren dei zou.
we women think you men should go
'We, women, think that you, men, should go.'

In this case, the nominals *nuren* 'women', and *nanren* 'men' are truly appositives; in fact if we substitute the pronouns in (12) with *tamen*, 'they', the sentence becomes ungrammatical due to semantic contradiction:

- (13) *Tamen nuren juede tamen nanren dei zou.
 they women think they men should go

Let's turn now to what restrictives can do and see if in Chinese relative clauses allow the same processes.

Property IV.: Quantified NPs cannot usually serve as antecedents of an appositive clause; the following example is taken from Ross (1967):

- (14) a. Every student that wears socks is a swinger.
 b. *Every student, who wears socks, is a swinger.

In Chinese no difference arises if the quantifier precedes or follows the relative clause, as pointed out also by Lin (1997):

- (15) a. [Meiyige [Op_i chuan wazi de xuesheng]]_i dou shi
 every wear socks DE student
 all be
 tiaowude.
 dancers
 'Every student who wears socks is a dancer.'
 b. [Op_i chuan wazi de [meiyige xuesheng]]_i dou shi
 wear socks DE every student
 all are
 tiaowude.
 dancers
 'Every student who wears socks is a dancer.'

The grammaticality of both (15a) and (15b) indicates that the relative clauses in such examples are restrictive.

Property V.: It has also been pointed out by Safir (1986) that no quantifier in the matrix clause can have scope over a pronoun in the appositive clause:⁵

- (16) a. *Every Christian_i forgives John, who harms him_i.
 b. Every Christian_i forgives a man who harms him_i.

⁵ But under modal subordination, a quantified NP can have scope into the appositive (Sells 1985):

- (i) Every rice-grower in Korea owns a wooden cart, which he uses when he harvests the crop.

In Chinese, the ordering of the demonstrative with respect to the relative clause should yield an appositive relative in (17a) and a restrictive relative in (17b). Hence, we would expect (17a) to be ungrammatical and (17b) to be grammatical, instead they are both fine:

- (17) a. [Meiyige xuesheng]_i dou yuanliang naxie [cengjing
every student all forgives
those formerly shanghai tamen_i de] ren.
insult them DE people
- b. [Meiyige xuesheng]_i dou yuanliang cengjing [shanghai
every student all forgives
formerly insult tamen_i de] naxie ren.
them DE those people
‘Every student forgives those who insult him.’

Property VI.: Demirdache (1991), following Sells (1985), points out that appositives - but not restrictives - are affected by the presence of negation in the main clause.⁶ More specifically, no phrase modified by an appositive can be in the scope of a negative marker in the matrix clause:

- (18) a. I haven't met a girl that doesn't like to wear make up.
b. *I haven't met a girl, who doesn't like to wear make up.

The Chinese counterparts yield exactly the opposite result:⁷

⁶ It might be better to use the same sentence by Sells (1985):

- (i) *Every rice-grower in Korea doesn't own a wooden cart,
which he uses when he harvests the crop.

⁷ If we use the Chinese counterparts of Sells' example, we still get the desired result (thanks to Audrey Li for providing these examples):

- (i) Meige nongfu dou you yiliang [yonglai shoucheng de] chezi.
every farmer all have one-CL use-for harvest DE
cart
‘Every farmer has a car that he uses for harvesting.’
- (ii) Meige nongfu dou meiyou yiliang [yonglai shoucheng de]
every farmer all not-have one-CL use-for harvest
DE
chezi.
car

- (19) a. Wo meiyou kanjian yige [bu ai daban de]
 I not see one-CL not love
 make-up DE guniang.
 girl
 'I haven't seen a girl that doesn't like to wear make up.'
- b. *Wo meiyou kanjian [bu ai daban de]
 yige
 I not see not like make-up DE
 one-CL
 guniang.
 girl

The ungrammaticality of (19b) is of no concern to us, since regardless of the presence or absence of negation, when no demonstrative is present, the relative clause follows instead of preceding the numeral phrase:

- (20) a. Wo xiang zhao (yi-ge) [hui dazi de] mishu.
 I want find (one-CL) can type DE secretary
 'I want to look for a secretary that can type.'
- b. ??Wo xiang zhao [hui dazi de] yi-ge mishu.
 I want find can type DE one-CL secretary
 'I want to look for a secretary that can type.'

Audrey Li

(2000a)

Property VII.: Appositives appear DP-finally (hence, following all restrictive post-N modifiers):

- (21) a. the girl that I saw, who John dislikes, is beautiful.
 b. *the girl, who I saw, that John dislikes is beautiful.

In Chinese we would expect the appositive to precede the restrictive, but if we base the restrictive/appositive distinction on the position of the relative clause with respect to the demonstrative, then the only possible order in which we can have a restrictive and an appositive co-occurring is the following one:

'Every farmer doesn't have a cart that he uses for harvesting.'

(22) [wo kanjian de] nayige [Zhangsan bu xihuan
de] guniang
I see DE that one-CL Zhangsan not like
DE girl
hen piaoliang.
very beautiful
‘The girl that I saw, who John dislikes, is beautiful.’

In (22) the first relative clause is restrictive, since it precedes the demonstrative and the second is appositive, since it follows it. This fact goes against the generalization that appositives always occur at the edge of the DP (hence after all post-nominal modifiers, or before all pre-nominal modifiers). We can conclude from this argument that the relative order in which the relative clause and the determiner occur can't be the right criterion to distinguish appositives from restrictives in Chinese.

Property VIII.: Restrictives can stack, appositives cannot:

- (23) a. The tiger that I saw that I wanted to buy was expensive.
b. *The tiger, which was 5 weeks old, *(and) which was fed twice a day, ate only fish.

Alexiadou, Law, Meinunger and Wilder (2000)

But in Chinese, both counterparts are grammatical (as also shown by Lin 1997):

- (24) a. [Zhangsan bu xihuan de][wo zuotian mai de] nayi
ben
Zhangsan not like DE I yesterday buy DE
that CL
shu.
book
‘The book that I bought yesterday that Zhangsan doesn't like’
b. nayi ben [Zhangsan bu xihuan de] [wo zuotian mai
de]
that CL Zhangsan not like DE I yesterday
buy DE shu.
book

lit. 'That book, which I bought yesterday, which
Zhangsan doesn't like'

If the generalization about stacking is correct, the data in (24) show that regardless of the order of the relative clause with respect to the demonstrative, in both cases the relative clauses are restrictive.

Property IX.: Appositives are used to qualify unmodified proper names, but restrictives usually are not, so that for example in English we find the following contrast:

- (25) a. John, who you saw yesterday, is a good friend of mine.
b. *John who you saw yesterday is a good friend of mine.
c. The John who you saw yesterday is a good friend of mine.

In Chinese a relative clause can modify a proper name, but the interpretation is always restrictive, regardless of the order of the relative clause with respect to the demonstrative:

- (26) a. ?[Ni zuotian kanjian de] Zhangsan shi wo pengyou.
you yesterday saw DE Zhangsan is my friend
b. [Ni zuotian kanjian de] nage Zhangsan shi wo Zhangsan is my friend
you yesterday saw DE that-CL pengyou.
c. ?Nage [ni zuotian kanjian de] Zhangsan shi wo my friend
that-CL you yesterday saw DE Zhangsan is pengyou
'The Zhangsan you saw yesterday is my friend.'

Since the interpretation is restrictive, this is not evidence against the claim that appositives are disallowed in Chinese.

Property X.: Appositives allow heavy pied-piping, restrictives generally do not (Emonds 1979):

- (27) a. *Few windows here the curtains on which I really dislike let in enough light.

- b. Few windows here, the curtains on which I really dislike, let in enough light.

The correspondent of a pied-piped relative in Chinese is generated through resumption:

- (28) [Zhangsan renshi ta_i de mama de] nayige nuhai_i hen piaoliang.
 Zhangsan know her DE mum DE that girl very beautiful
 lit. 'The girl whose mother Zhangsan knows is beautiful.'

Given that pied-piping is not allowed, the grammaticality of (28) cannot be taken as a counterexample to the claim that Chinese relative clauses are only restrictive.

Summarizing, all the tests above indicate that, regardless of the order of the relative clause with respect to the determiner, relative clauses in Chinese have the properties of restrictives.

We are left with two interesting questions:

1. Can we maintain the original distinction between an appositive and a restrictive relative clause in Chinese as pointed out in the literature? And if so, how?
2. Why can't relatives in Chinese be appositive?

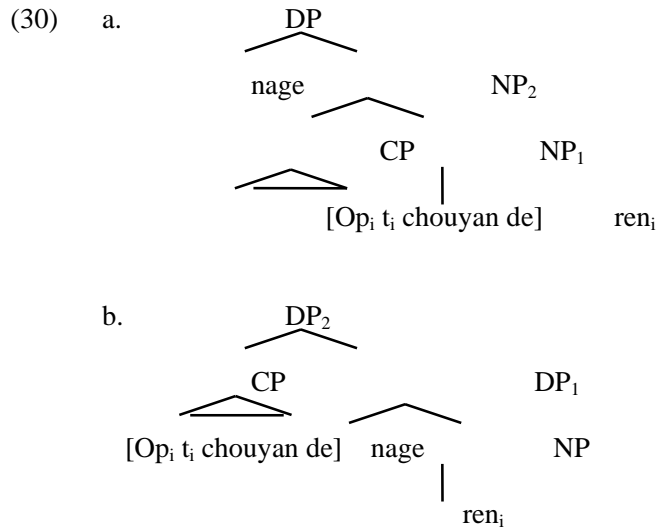
5. The semantic difference between RC + det vs. det + RC

In this section, I provide different derivations for the semantic composition of:

- (29) a. na yige [chouyan de] ren
 that one-CL smoke DE person
 lit. 'that person that smokes'
- b. [chouyan de] na yige ren
 smoke DE that one-CL person
 lit. 'the person that smokes'

Claiming that both of the above relative clauses are restrictives, I propose a solution for maintaining Huang's (1982) account in terms of the scope of modification.

Consider these structures, which represent (29a) and (29b), respectively:



Following Lin (1997), I take the demonstrative *na*, ‘that’ to be a determiner which, when combined with a predicate of the type $\langle e, t \rangle$, yields a generalized quantifier, hence $\langle \langle e, t \rangle, t \rangle$. The relative clause and the ‘head’ noun are predicates, hence of type $\langle e, t \rangle$:

$$(31) \text{[[nage]]} = \lambda f \in D_{\langle e, t \rangle} . [\lambda g \in D_{\langle e, t \rangle} . \text{there is exactly one } x \in D_e \text{ and } x \text{ is distant such that } f(x) = 1, g(x) = 1]$$

$$(32) \text{[[chouyan de]]} = \lambda x \in D_e . x \text{ smokes}$$

$$(33) \text{[[ren]]} = \lambda x \in D_e . x \text{ is a man}$$

By combining the two predicates through intersection, we obtain (34):

$$(34) \text{[[chouyan de ren]]} = \lambda y \in D_e . y \text{ is a man and } y \text{ smokes}$$

(by Predicate Modification)

The result of (34) is then combined with the determiner through functional application, yielding the following generalized quantifier:

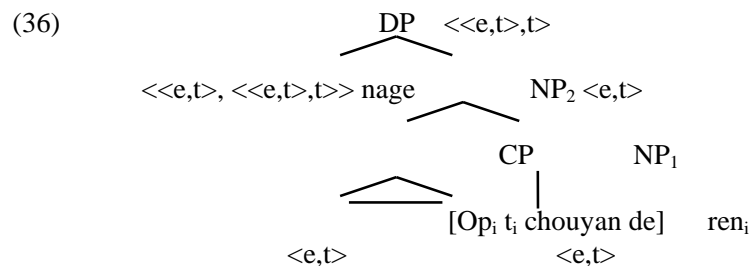
$$(35) \text{[[nage chouyan de ren]]} = \lambda g \in D_{\langle e, t \rangle} . \text{there is exactly one } x \in D_e \text{ and } x \text{ is distant such that } x \text{ is man and } x \text{ smokes and } g(x) = 1.$$

a

Application)

(by Functional

Graphically, in terms of type-driven interpretation:



A more interesting case is when the relative clause precedes the demonstrative. Bach and Cooper (1978) observe that given the different structure of relative clauses in Hittite, the computation cannot proceed as regularly done for cases like English. Their proposal is to insert a free property variable inside the denotation of the NP. I follow their proposal in spirit: in a structure such as (30b) the computation cannot proceed beyond the DP₁ node, unless we assume the existence of a free property variable inside the determiner. The denotation of the higher node DP₂ is not obtained through Predicate Modification, but through a new rule (modified, following Lin 1997):

$$(37) \quad \lambda R_1 [[DP_1]] ([[CP]])$$

The free property variable is bound by the lambda operator in (37), so that the variable is substituted by the denotation of the relative clause CP, giving the final denotation of DP₂ as a generalized quantifier, hence of type <<e,t>,t>, as desired. Let's look at the details.

I follow Bach and Cooper (1978) and Lin (1997) in assuming the existence of a free property variable inside the denotation of the determiner:

$$(38) \quad [[nage]] = \lambda f \in D_{\langle e,t \rangle} . [\lambda g \in D_{\langle e,t \rangle} . \text{there is exactly one } x \in D_e \text{ and } x \text{ is distant such that } f(x) = 1, g(x) = 1 \text{ and } h(x) = 1]$$

The denotations for [[chouyan de]] and [[ren]] are as in (32) and (33), respectively.

First, we compute the value for the lower DP node, DP₁, which is given by Functional Application:

(39) [[nage ren]] = $\lambda f \in D_{\langle e, t \rangle} . [\lambda g \in D_{\langle e, t \rangle} . \text{there is exactly one } x \in D_e \text{ and } x \text{ is distant such that } f(x) = 1, g(x) = 1 \text{ and } h(x) = 1] (\lambda y \in D_e . y \text{ is a man})$
 = $\lambda g \in D_{\langle e, t \rangle} . [\text{there is exactly one } x \in D_e \text{ and } x \text{ is distant such that } x \text{ is a man and } g(x) = 1 \text{ and } h(x) = 1]$

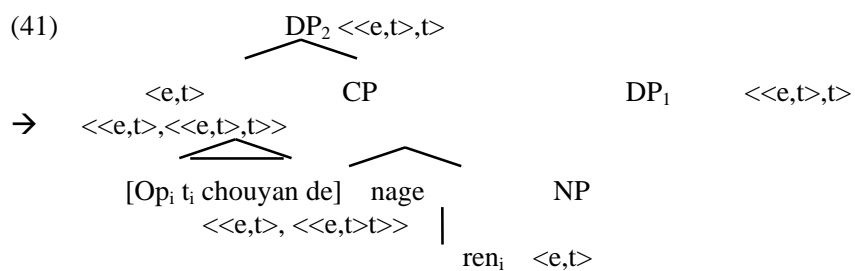
(by Functional

Application)

The next step is to combine the result of (39) with the value of the relative clause, and in order to do this, we apply the rule in (37):

(40) [[chouyan de nage ren]] = $\lambda h [DP_1] (CP) =$
 = $\lambda h \in D_{\langle e, t \rangle} . [\lambda g \in D_{\langle e, t \rangle} . \text{there is exactly one } x \in D_e \text{ and } x \text{ is distant such that } x \text{ is a man and } g(x) = 1 \text{ and } h(x) = 1] (\lambda y \in D . y \text{ smokes})$
 = $\lambda g \in D_{\langle e, t \rangle} . \text{there is exactly one } x \in D_e \text{ and } x \text{ is distant such that } x \text{ is a man and } x \text{ smokes and } g(x) = 1.$
 (by rule (37))

We can represent the derivation in terms of type-driven interpretation, as follows:



As shown in (41), the crucial difference between this derivation and the one represented in (36) is at the level of DP₁, where this node has to combine with the relative clause. Now, given that we have established in the previous section that all restrictive relative clauses have the same denotation in Chinese, we want them to always be of type <e,t> and to combine somehow with their sister nodes in such a way as to yield the same output, namely a generalized quantifier of type <<e,t>,t>.

As mentioned at the beginning of this section, the different ways of computing the semantics of the two structures capture the traditional

intuition that the semantic import of the demonstrative and the relative clause is different depending on the order in which they occur. This is how. The derivation for the nominal whose structure is represented in (30a) is no problem, it simply mirrors what we have in English: By predicate modification the NP_2 node gets the denotation of a predicate, the determiner takes it as its argument and yields the generalized quantifier. The nominal whose structure is represented in (30b) gets its reference in a different way. The addition of a free property variable into the determiner *na*, ‘that’, is the formal translation of Huang’s (1982) claim according to which *na* is ‘anaphoric’ onto the relative clause. The free property variable in DP_1 , $\langle e,t \rangle$, is bound by the lambda operator when CP and DP_1 combine. This means that the denotation of DP_2 is crucially a function of DP_1 , applied to CP. In other words, the import of the property of the relative clause CP is crucial to the denotation of DP_2 , in a different way than it is for (30a), since here the CP substitutes the free variable inside DP_1 .⁸

The two nominals schematized in (30a) and (30b) are different in terms of the semantic imports that the demonstrative and the relative clause respectively have in those two structures. The demonstrative in both (30a) and (30b) is of type $\langle \langle e,t \rangle, \langle \langle e,t \rangle, t \rangle \rangle$, but in (30b) it has an additional free property variable. Since the free property variable is substituted by the value of the relative clause, this translates the fact that in (30b) the demonstrative is ‘anaphoric’ onto the relative clause. The relative clause in both (30a) and (30b) is a predicate, hence of type $\langle e,t \rangle$. But in (30a) the relative clause simply combines with the NP by predicate modification: Its import is not crucial to the denotation of DP as a generalized quantifier. The relative clause in (30b) has an important role: It translates the free property variable. Its value is incorporated into the denotation of DP_1 , and it allows the derivation to proceed to DP_2 , leaving at that level only one variable unbound. Given the structure in (30b) and the semantic composition rule we need to apply - namely (37) - we get to the final denotation of DP_2 through a function of the relative clause, hence the different semantic import of the relative in this case.

6. Why no appositives in Chinese

6.1. More on quantification and relatives

⁸ Following Bittner (1994), I assume that type-lifting is applied only in cases of true mismatch, hence only when needed.

It is not appropriate to maintain that no quantified nominal can be the ‘head’ of an appositive relative clause.⁹ An example is given below:

(42) Only one congressman, who is very junior, admires Kennedy.

The example above contrasts with what has been observed for quantifiers such as *every* and *no*:

(43) *Every congressman, who is very junior, admires Kennedy.

(44) *No congressman, who is very junior, admires Kennedy.

We know that the restrictive counterparts of (43) and (44) are perfectly grammatical:

(45) Every congressman who is very junior admires Kennedy.

(46) No congressman who is very junior admires Kennedy.

As for the restrictive relative clause version of (42), we find that it is grammatical - which is not surprising - but that it has different truth conditions:¹⁰

(47) Only one congressman who is very junior admires Kennedy.

So, for example, (47) can be uttered in a context in which there are some congressmen who admire Kennedy and they are senior. But the same doesn’t hold for (42): in that case no other congressmen admire Kennedy, regardless of their being junior or senior.

The reading we get for (42) is exactly the same reading in a case of inter-sentential anaphora:

⁹ It is also not correct to say that no quantifier in the matrix can have scope over a pronoun in the appositive clause:

- (i) Most students_i forgave the Dean who had acted unjustly towards them_i.
- (ii) Most students_i forgave the Dean, who had acted unjustly towards them_i.

The example in (ii) contrasts with:

- (iii) *Every Christian_i forgives John, who harms him_i.

¹⁰ I thank Philippe Schlenker for pointing out this fact to me.

(48) [Only one congressman]_i admires Kennedy. He_i is very junior.

Given that in Chinese only the order [quantifier + relative clause] yields grammaticality (the other order is out for independent reasons, see Li 2000a), here is what we find:

(49) Zhiyou yige [toupiao zancheng ta de] zhongyiyuan hen zanshang
 him DE only-have one-CL vote for Kennedy.
 congressman very admire Kennedy
 ‘Only one congressman who voted for him admires Kennedy.’

Interestingly, the only interpretation available for (49) is the restrictive one. The same holds with *few*:

(50) Henshao [toupiao zancheng ta de] zhongyiyuan hen
 few very vote for him DE
 congressmen very zanshang Kennedy.
 admire Kennedy
 ‘Few congressmen who voted for him admire Kennedy’.

These facts further confirm the hypothesis that Chinese relative clauses do not allow appositive readings, as shown by the only interpretation available for (49) and (50).

The interaction of quantifiers with relativization sheds some light on the status of appositives. When an appositive relative clause is able to take a quantified nominal as its ‘head’,¹¹ the reading we get is the same as that of an independent following sentence, as in (48). This leads to the proposal that appositives are instances of the phenomenon called ‘E-type anaphora’ (Evans 1977, Sells 1985, Neale 1990, Demirdache 1991).

6.2. E-type anaphora

¹¹ What remains to be explained are the conditions that determine exactly which quantified nominals are allowed as ‘heads’ of appositives and which are not:

(i) a. Most professors came to the party. They had a good time.

b. *Most professors, who came to the party, had a good time.

Notice also that (ib) above contrasts with (ii) of footnote 9.

Heim and Kratzer (1998) observe that the pronouns *he* and *it* in the sentences below must vary with the assignment given to a certain denotation (the first sentence is embedded in a matrix sentence whose subject is a quantified NP):

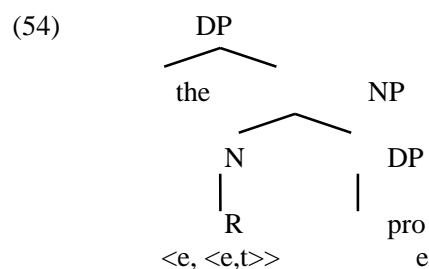
(51) Every president thought that only one congressman admired him and he was very junior.

(52) Every host bought just one bottle of wine and served it with the dessert.

They analyze *he* and *it* in (51) and (52) as E-type pronouns, following Cooper's (1979) account. E-type pronouns (Evans 1977, 1980) are neither free variables nor bound variables and can always be paraphrased with definite descriptions:

(53) Every host bought just one bottle of wine and served the bottle of wine he had bought with the dessert.

On Cooper's (1979) analysis, the LF representation of an E-type pronoun is made up of a definite article and a predicate composed of two variables. The first variable is of type $\langle e, \langle e, t \rangle \rangle$ and is free. The second is of type e and typically gets bound in the sentence:



The variable *pro* in (54) is bound by the quantified NP of the preceding sentence, thus capturing the fact that the interpretation of the E-type pronoun varies according to the assignment. The R variable receives a denotation from the context of utterance: it requires that the context specify a salient 2-place relation. In the example (52) the R variable denotes the relation which holds between people and bottles they have bought.

My proposal is to extend the theory of E-type anaphora to the facts we noted above about apposition. Namely, I propose to consider the operator or relative pronoun inside an appositive relative clause to be either a referential pronoun or an E-type pronoun (à la Demirdache 1991). The appositive pronoun is referential when it receives its denotation from the antecedent quantified NP, as in, for example, (42); it is E-type when its denotation varies with the assignment, as in (51). In both cases, the antecedent itself is not the subject of the property predicated in the appositive relative clause. The denotation for the subject of such property is calculated based on the restriction of the antecedent and its nuclear scope.¹²

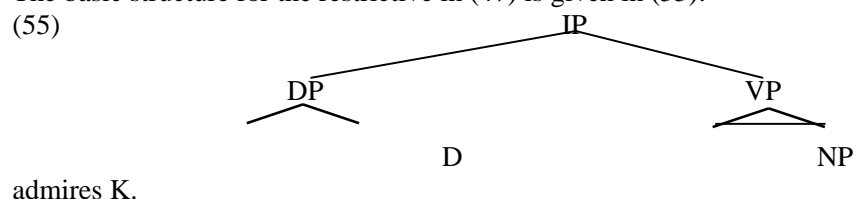
The only difference between discourse anaphora and appositive relative clauses would be that in relative clauses the relative pronoun or operator must be anaphoric on an antecedent in the previous discourse, while in cases of inter-sentential anaphora a pronoun can be anaphoric, but doesn't have to.

The obvious question that arises at this point is what is the advantage of such a proposal with respect to the unavailability of appositive readings for Chinese relative clauses.

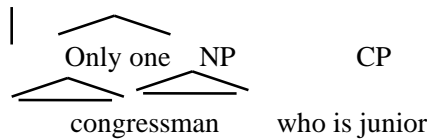
6.3. Why no appositives in Chinese

This section is devoted to answering the question: why do relative clauses in Chinese only allow restrictive readings?

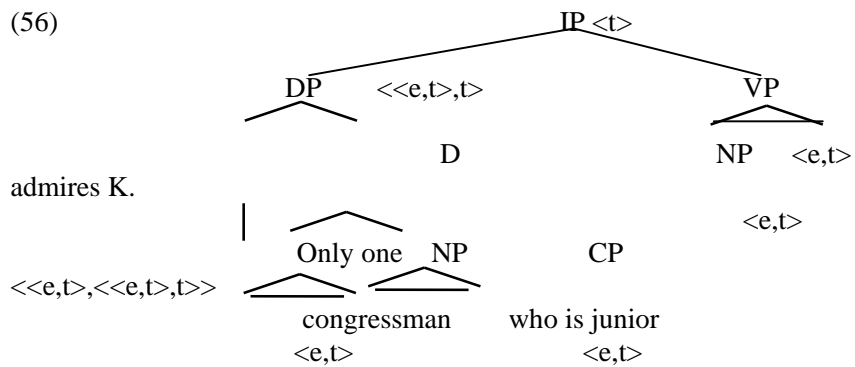
I assume the following structural difference between appositives and restrictives: appositives adjoin to DP, while restrictives adjoin to NP. The basic structure for the restrictive in (47) is given in (55):



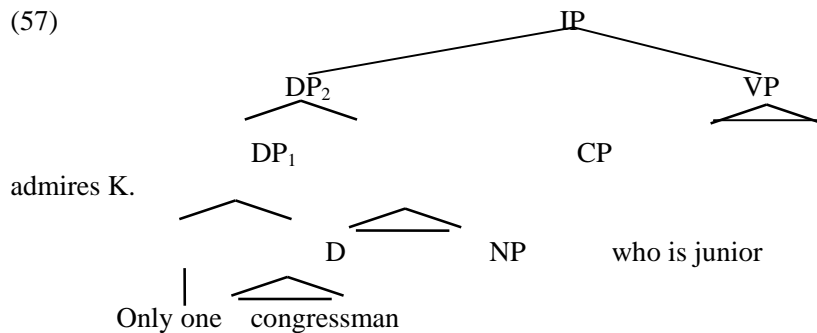
¹² Strictly speaking, I refer to E-type anaphora when an E-type pronoun is involved, and to discourse anaphora, when a referential pronoun is involved. But in the subsequent discussion I will use the term “E-type” more loosely, hence for both cases. This shouldn't be problematic for our purposes, as far as we understand that the difference between E-type and referential is that inside the E-type pronoun there is a variable bound by the higher quantified NP and such a binding allows the denotation of the E-type pronoun to vary with the assignment.



In (55), the semantic composition is straightforward. Both the NP *congressman* and the CP *who is junior* denote predicates; they combine by Predicate Modification, yielding *congressman who is junior*. This predicate is then combined with the determiner by functional application, giving the generalized quantifier in DP. The last step is to combine this DP with the predicate in VP, yielding a truth value. The type-driven derivation is given in (56):



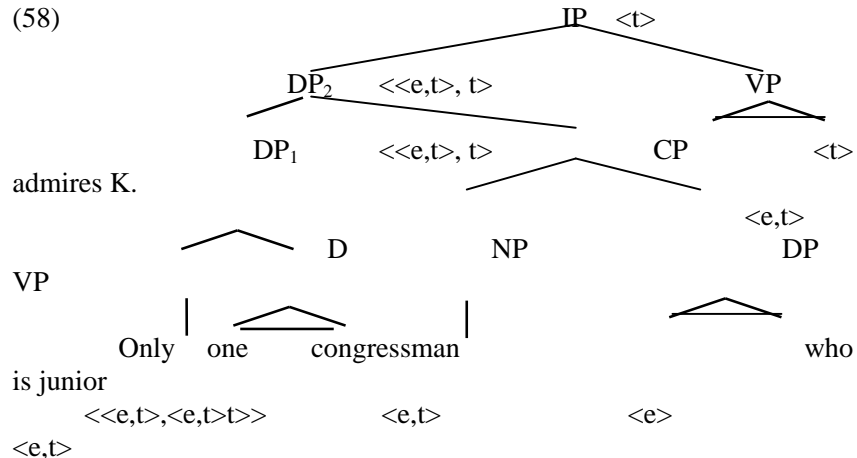
As for the appositive in (42), the basic structure is given below:



The first question that comes to mind in this case is about the semantic type of the appositive relative clause. Both Cornilescu (1981) and Rodman (1976) treat appositives as conjunctions, semantically. Still, if we assume that an appositive relative clause is of the same semantic type

as a restrictive relative clause, hence $\langle e, t \rangle$, it is not clear how to conjoin it with the DP *only one congressman*, in the structure above. If we combine the two types by functional application, the derivation would stop at the level of DP_2 , having already reached a truth value at that point.

The approach I propose is to treat the appositive relative clause as an independent clause, but also to incorporate the idea that the relative pronoun in the appositive relative clause is either a referential pronoun or an E-type pronoun. If referential, the relative pronoun gets its denotation from the antecedent in the previous discourse; if E-type, the relative pronoun is interpreted following the strategy described in section 6.2. The appositive behaves like an independent sentence, by virtue of being semantically self-contained. As in the case of a parenthetical, once we get to its truth value, there is no reason to compose it with the DP subject. The details of the semantic composition are in the following structure:



As represented in (58), the type of DP_1 passes on to DP_2 , and it combines with the matrix predicate, yielding a final truth value.

In sum, I propose to treat appositives as an instance of discourse or E-type anaphora, following in spirit both Demirdache (1991) and Sells (1985). The appositive pronoun gets its denotation from the context. Notice that in order for an anaphoric link between a quantified NP and a referential or an E-type pronoun to hold, the sentence that contains the quantified NP needs to precede the sentence that contains the E-type pronoun. Observe the following sequences of sentences:

(59) [Only one congressman]_i admires Kennedy. He_i is junior.

(60) He_{i*/j} is junior. [Only one congressman]_i admires Kennedy.

For E-type anaphora to hold, the pronoun has to receive its interpretation from an antecedent in the preceding utterance. In (59) the context of utterance *only one congressman admires Kennedy* is responsible for making the referent of *he* suitably salient. But in (60), the pronoun can only be interpreted deictically, because the context doesn't provide a salient referent.

In English appositive relative clauses, the condition for the anaphoric link is partially respected, since the relative clause that contains the E-type pronoun temporally follows the 'head' of the relative and subject of the matrix clause. This seems to be sufficient for the appositive pronoun to pick up its reference:¹³

(61) Only one congressman, who_i t_i is junior, admires Kennedy.

In Chinese, relative clauses are pre-nominal. The 'head' of the relative clause follows the relative operator, and this prevents the relative operator from getting its denotation from the context. As a consequence, in Chinese relative clauses the appositive interpretation is ruled out, leaving only the restrictive one.

(62) Henshao [Op_i hen nianqing de] zhongyiyuan_i
few very young DE congressmen
hen zanshang Kennedy.
very admire Kennedy
'Few congressmen who are junior admire Kennedy'.

¹³ Notice that when two E-type pronouns are present, the appositive needs to follow the matrix sentence:

- (i) Only one host bought a bottle of wine.
He served it with dessert.
- (ii) Only one host bought a bottle of wine, which he served with dessert.
- (iii) *Only one host, who served it with dessert, bought a bottle of wine.

I don't have an explanation for the contrast above at this point.

Hence, what seems to be important is some sort of precedence relationship between the 'head' and the pronoun in the relative clause. The appositive pronoun needs to have a context that provides the appropriate reference. In (61) this is partially possible, since the 'head' of the relative - which is the subject of the matrix sentence - precedes the relative clause itself. But in (62) both the 'head' of the relative clause and the matrix sentence follow the relative operator, making it impossible for it to refer anaphorically to *the congressman who admires Kennedy*.

7. Conclusion

In this paper I claim that appositive relative clauses should be analyzed as an instance of E-type anaphora. Such a proposal explains a surprising similarity between appositives and E-type anaphora with respect to quantification. At the level of discourse interpretation a precedence relationship between the antecedent and the E-type pronoun is needed. The claim that appositives are a phenomenon of E-type anaphora explains why they are unavailable in Chinese.

My claim that the unavailability of appositives in Chinese is linked to the fact that they are pre-nominal and that apposition is in fact E-type anaphora awaits a cross-linguistic confirmation. A whole set of languages, such as Japanese and Korean, only have pre-nominal relatives as well. My prediction is that in these languages relative clauses can only be restrictive. Interesting data come from Tagalog (Schachter and Otnes 1972), where both pre-nominal and post-nominal relatives are available, but crucially only the post-nominal ones allow an appositive interpretation.

Getting rid of the distinction appositive vs. restrictive for Chinese relative clauses doesn't imply, in my account, that the semantic difference between a relative clause that precedes a demonstrative and a relative clause that follows a demonstrative is actually null. I propose that such a distinction boils down to the different semantic import of the relative clause and the determiner, in the two constructions.

Much work remains to be done. Perhaps the most interesting unresolved issue revolves around backward E-type anaphora. In order to find out to what extent referential or E-type pronouns can precede their antecedents, we definitively need to investigate what restrictions apply on backward E-type anaphora.

This problem represents the next obligatory step of an investigation on pre-nominal relative clauses and the licensing of appositive readings.

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