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## Repetitive and Correlative Coordinators as Focus Particles Parasitic on Coordinators<sup>\*</sup>

### Abstract

This paper presents a cross-linguistic study of the syntax of constructions in which both conjuncts of a coordinate complex have their own coordinator-like element. It is shown that in such constructions, only one coordinator is the head of the whole complex, while the other one is a focus particle parasitic on the associate coordinator.

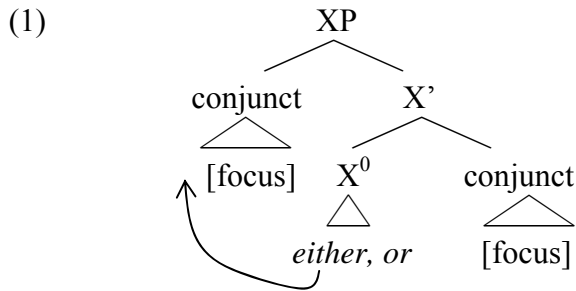
### 1. Introduction

In this paper, I analyze the syntactic derivations of constructions that contain two conjuncts and two coordinators, such as *either wine or milk*. The theoretical framework of this research is the minimalist approach of generative grammar.

I will argue that between the two coordinators, only one of them heads the complex. I will show that the two coordinators are base-generated as a cluster, and the cluster participates in the derivation of coordinate complexes only in focus contexts. The cluster is split so that each coordinator can c-command a focused element. The split is implemented via a (sideward) movement of the coordinator that is not the head of the coordinate complex. The split is shown in (1).

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Before my argumentation, I introduce the relevant terms and clarify certain issues in this section.

### 1.1 Repetitive and correlative coordinators

Cross-linguistically, identical coordinators may occur in the same coordinate complex. The phenomenon is called “conjunction doubling” in Progovac (1998a: 4). Following Dik (1968: 45), I use the term repetitive coordinator to refer to such identical coordinators. In Chinese, *you...you* ‘and...and’, as in (2a) and (2b), are conjunctive repetitive coordinators, and *huozhe...huozhe* ‘or...or’, as in (2c), are disjunctive repetitive coordinators. They are all called *Guanlian-Ciyu* ‘connector’ in Chinese grammar books (e.g. Lü et al. 1980).

- (2) a. Akiu zai nali **you** shuo **you** xiao. (Chinese)  
 Akiu at there and talk and laugh  
 ‘Akiu talked and laughed over there.’
- b. Na jiahuo **you** gao **you** pang.  
 that guy and tall and fat  
 ‘That guy is both tall and fat.’
- c. Akiu **huozhe** chi-le miantiao, **huozhe** he-le tang.  
 Akiu or eat-PRF noodle or drink-PRF soup  
 ‘Akiu either ate noodles or ate soup.’

Various types of repetitive coordinators are also seen in other languages. I list some in (3) (summarized from Payne 1985: 19–20; Schachter 1985: 47; Haspelmath 2000: sec. 3.1).

(3) Repetitive coordinators

Language	Conjunction	Language	Negative coordinator	Language	Disjunction
Albanian	<i>edhe...edhe</i>	Dutch	<i>noch...noch</i>	Basque	<i>ala...ala</i>
French	<i>et...et</i>	Italian	<i>né...né</i>	Dutch	<i>af...of</i>
Hausa	<i>da...da</i>	Latin	<i>ne-que...ne-que</i>	French	<i>ou...ou</i>
Hungarian	<i>mind...mind</i>	Russian	<i>nje...nje</i>	Lezgian	<i>ja...ja</i>
Italian	<i>e...e</i>			Polish	<i>albo...albo</i>
Japanese	<i>to...to</i>			Russian	<i>ili...ili</i>
Korean	<i>to...to</i>			Somali	<i>ama...ama</i>
Modern Greek	<i>ke...ke</i>			Spanish	<i>o...o</i>
Russian	<i>i...i</i>				
Tamil	<i>um...um</i>				
Turkish	<i>da...da</i>				

Also following Dik (1968: 45), I use the term correlative coordinator to refer to different coordinating particles that co-occur in the same coordinate complex, such as the conjunctive *both ... and*, the disjunctive *either ... or*, and the negative coordinator *neither ... nor* in English, and *ji...you* ‘and ... and’, *bu-dan ... erqie* ‘not only...but also’ in Chinese.<sup>1</sup>

- (4) a. Akiu **ji** chang ge **you** tiaowu.  
 Akiu both sing song and dance  
 ‘Akiu sang and danced.’  
 b. Daiyu **ji** congming **you** piaoliang.  
 Daiyu both smart and pretty  
 ‘Daiyu is both smart and pretty.’

I list some of correlative coordinators of other languages in (5) (summarized from Haspelmath 2000: sec. 3.1).

<sup>1</sup> In this paper, I consider only the binary coordination of *either...or*, *both...and*, and *neither...nor*. Sag et al. (1985: 139; also Gazdar et al. 1985: 173f) and Schwarzschild (1996: 139, 150) discuss the binary restriction of such correlative coordinators, whereas Dik (1986: 50) claims that “these correlative coordinators are inherently n-ary”. As acknowledged in Sag et al., there is variation among speakers of English.

## (5) Correlative coordinators

Language	Conjunction	Language	Negative coordinator	Language	Disjunction
Finnish	<i>sekä...että</i>	German	<i>weder...noch</i>	Finnish	<i>joko...tai</i>
German	<i>sowohl...als auch</i>	Maltese	<i>la...u lanqas</i>	German	<i>entweder...oder</i>
Indonesian	<i>baik...maupun</i>	Swedish	<i>varken...eller</i>		
Irish	<i>idir...agus</i>				
Polish	<i>jak...tak (i)</i>				

**1.2 Repetitive and correlative coordinators are not quantifiers**

Dougherty (1970: 866f) claims that correlative coordinators such as *both* are distributive quantifiers. As we know, quantificational nominals, quantifying determiners, and other quantifying elements have different syntactic distributions (regardless of the specific derivations). In English the same forms *both*, *either*, and *neither* are used as all of these three types of elements, in addition to the use of correlative coordinators (see Schwarzschild 1996: 144, 146):<sup>2</sup>

## Quantificational nominals

- (6) a. There were glasses of iced champagne and cigars. Unfortunately not many of either were consumed.  
 b. Miss Brown and her friend, both from Stoke, were arrested.  
 c. Neither seemed likely to be aware of my absence for long.

## Quantifiers

- (7) a. either of the boys  
 b. both of the boys  
 c. neither of the boys

## Pre-nominal determiners

- (8) a. either boy  
 b. He gripped her suddenly by both arms  
 c. neither boy

## Elements in other positions

- (9) a. There was a time, and not so long ago either, when she could walk twenty miles a day.

<sup>2</sup> Cross-linguistically, correlative coordinators could be developed from numerals or quantifiers (Stassen 2000: 16).

- b. The lawyers and the physicians disagreed about the morning's activities. But in the afternoon, they will both go downtown to the museum.
- c. If you don't go, neither shall I.

In Lakoff & Peters (1966) and Carden (1970), the correlative *both* comes from an underlying conjunction of a clausal coordinate complex. In Stockwell, Schachter & Partee (1973), *both* is included in the category QUANTifier in the section on determiners. In their section on conjunction there is a transformation called *Both* Insertion which derives among other things constructions like *both John and Mary*. Schwarzschild (1996: 144) convincingly argues that the syntactic and semantic properties of the correlative *both* and *either* are very different from the properties of *both* and *either* occurring in other contexts. We believe that the same claim can be applied to *neither*.

Cross-linguistically, repetitive and correlative coordinators do not necessarily share forms with other types of elements in all languages. In Dutch, as described in Hendriks (2003: 38), the repetitive coordinators of 'either', *en* 'both', and *noch* 'neither' "do not display any quantifier-like behavior and cannot be used to modify non-conjoined NPs". Similarly in Italian, correlative coordinators and quantificational elements are in different forms. The word *entrambi* is the counterpart of the pre-determiner *both*, and the word *sia* is the counterpart of the correlative coordinator *both* (Zamparelli 2000). In Chinese, repetitive and correlative coordinators never share forms with quantificational elements. All in all, the syntax of repetitive and correlative coordinators is tied with conjunctions and thus cannot be covered by the syntax of quantifiers or determiners.

In Ross (1967), Gazdar et al. (1985: 170), and Sag et al. (1985: 135), words such as *either*, *both*, and *neither* in coordinate constructions are claimed to be special coordinators restricted to initial conjuncts. In this paper, I analyze the syntactic properties of such words, showing that their syntactic properties are different from that of independent coordinators.

## **2. The occurrence dependency of repetitive and correlative coordinators on conjunctions**

In this section, we will first introduce prosodic variants of (repetitive) coordinators in Latin in 2.1. Then we will show the occurrence dependency of repetitive and correlative coordinators on conjunctions in 2.2.

## 2.1 Prosodic variants of (repetitive) coordinators in Latin

In this subsection I want to clarify that in Latin, although there are two conjunctive coordinators, *et* and *que*, they are prosodic variants of a single abstract coordinator, and thus show properties different from regular correlatives.

### I. The positions of *-que* and *et*

In Latin, the coordinator *et* ‘and’ can alternate with the coordinator clitic *-que* ‘and’. The former always precedes a conjunct, and the latter, as a second-position enclitic, generally follows the first word of a conjunct:

- (10) a. *senatus et populus romanus*  
 senate and people Roman  
 ‘the senate and the Roman people’  
 b. *senatus populus-que romanus*  
 senate people-and Roman  
 ‘the senate and the Roman people’

The position of *-que* is decided by prosodic conditions (Carlson 1983: 73, 80). This clitic generally follows the first word of a conjunct. However, if the conjunct begins with a monosyllabic preposition, *-que* follows the second word, i.e., to the right of the first word of the object of the preposition, as in (11). In other words, the distance between *-que* and the left edge of a conjunct cannot be as short as a single syllable. If the first word of a conjunct is monosyllabic, *-que* is attached to the right of the second word of the conjunct. However, there is an exception: if PPs with the same monosyllabic preposition are conjoined, *-que* follows the preposition, as in (12). In other words, it still occurs to the right of the first word of the conjunct, as usual.

- (11) a. *ob eas-que res*  
 because (of) these-and things  
 ‘and because of these things’  
 b. *in foro-que*  
 in forum-and  
 ‘and in the forum’  
 (12) a. [*de se*] [*de-que provincia*]  
 from himself from-and province  
 ‘from himself and from the province’

- b. [per senectutem tuam] [per-que eam]  
 through old.age your through-and 3SG.F  
 ‘through your old age and through it’

The distributions of *-que* are thus neither pure syntactic nor pure phonological. They must be the result of certain interactions between syntax and phonology. See Halpern (1995) and Embick (2006).

## II. The co-occurrence possibilities

The coordinators *et-* and *-que* can co-occur, in all possible combinations (Dik 1968: 44):

- (13) a. et Marcus et Julius  
 and Marcus and Julius  
 b. Marcus-que Julius-que  
 Marcus-and Julius-and  
 c. et singulid universis-que  
 and for.individuals for.all-and  
 ‘both for individuals and for all together’  
 d. dum Augustus seque et domum et pacem sustentavit  
 while Augustus him-and and house and peace upheld  
 ‘as long as Augustus upheld himself, his house, and peace’

This co-occurrence fact indicates that *et-* and *-que* have the same function, and they are different only in their positions with respect to conjuncts. They are therefore positional variants of the same syntactic element. They are thus different from regular correlative-conjunction pairs. In the latter type of pairs, the form of a correlative coordinator and its associate conjunction both have a stable form. Thus, when both *et-* and *-que* occur, they are more like repetitive coordinators.

### 2.2 The occurrence dependency of repetitive and correlative coordinators on conjunctions

In order to analyze the syntactic properties of the multiple occurrences of coordinators, we need to distinguish two patterns of multiple coordinators. In languages such as Malayalam, every conjunct must have a repetitive coordinator suffix (Anandan 1993: 47; Jayaseelan 2001: 64). Similarly, Chinese repetitive coordinator *yehao* ‘and’ must follow each conjunct (Lü et al. 1999: 598). We do not discuss this pattern.

What we are interested in is the following pattern: the asymmetrical occurrence of multiple coordinators. In English, French, and Chinese in general, if there is only one coordinator in a coordinate complex, it always forms a constituent with the last conjunct (Zhang 2006, among others). This means that coordinators occurring in other positions are parasitic on the presence of the final one, which heads the whole complex (Zhang 2006; 2007, among others). In the following b-sentences of Chinese, the correlative or repetitive coordinator occurs in the absence of a final coordinator, and the sentences are not acceptable.

- (14) a. Lao Li bujin mai doufu, erqie yanjiu doufu de tedian.  
 Lao Li not.only sell tofu but-also study tofu MOD property  
 ‘Lao Li not only sells tofu, but also studies its properties.’  
 b. \*Lao Li bujin mai doufu, yanjiu doufu de tedian.
- (15) a. Lao Li you mai doufu, you yanjiu doufu de tedian.  
 Lao Li and sell tofu and study tofu MOD property  
 ‘Lao Li not only sells tofu, but also studies its properties.’  
 b. \*Lao Li you mai doufu, yanjiu doufu de tedian.
- (16) a. Xiao Hong (yimian) yongxin ting-zhe, yimian ji-zhe biji.  
 Xiao Hong and carefully listen-PRG and write-PRG note  
 ‘Xiao Hong was listening carefully and making notes.’ (Lü et al. 1999: 607)  
 b. \*Xiao Hong yimian yongxin ting-zhe, ji-zhe biji.

The occurrence asymmetry is also seen in Latin. It is always the initial coordinator that is deletable, regardless of whether the coordinator form is *-que* or *et* (McCawley 1988: 525). In (17a), the coordinator *et* can precede each of the two conjuncts, and the first occurrence is optional. (17b) shows that the occurrence of the second *et* is not optional. Likewise, the coordinator clitic *-que* can follow the first word of each conjunct. If each conjunct has only one word, *-que* can follow the conjunct, as in (18a). In this example, the first occurrence of *-que* is also optional. (18b) tells us that the occurrence of the second *-que* is not optional. (18c) tells us that if there is only one coordinator in a three-conjunct complex, the coordinator is in construal with the final conjunct.

- (17) a. (et) Marcus et Julius (Latin)  
 and Marcus and Julius  
 \*et Marcus Julius  
 and Marcus Julius



- (18) a. Marcus-(que) Julius-que  
 Marcus-and Julius-and  
 \*Marcus-que Julius  
 Marcus-and Julius  
 c. viri mulieres pueri-que (Dik 1968: 43 (47b))  
 men women children-and  
 ‘men, women, and children’

In Japanese, the two conjuncts of a *-to* coordinate construction can also each be followed by a *-to* ‘and’. However, the *-to* following the first conjunct is obligatory, while the one following the second conjunct is optional (Vermeulen 2008: 349, 350). So unlike the above data, it is the final coordinator that is optional. This difference between Japanese and other languages considered here can be captured by the following contrast: the *-to* coordinate construction in Japanese is left-branching, whereas coordinate constructions in other languages such as English are right-branching (Zoerner 1995: 11; see also Zhang, forthcoming).

From now on, I will call the parasitic, or optional repetitive and correlative coordinators R-C coordinators, while keeping the term conjunction for the obligatory ones, those that R-C coordinators rely on.

### 3. The form dependency of R-C coordinators on conjunctions

The form of R-C coordinators depends on their associate conjunctions. Let us see the dependency in Chinese. Based on Lü et al. (1999) and Zhou (2002), I list some of the R-C coordinators in Mandarin Chinese in (19).

(19)

CONJUNCTIVE	DP	AP	PP	VP	clause
<i>you...you</i>	*	OK	*	OK	*
<i>ji...you</i>	*	OK	OK	OK	*
<i>yibian...yibian</i>	*	*	*	OK	*
<i>yimian...yimian</i>	*	*	*	OK	*
DISJUNCTIVE					
<i>yaome...yaome</i>	*	*	*	OK	OK
<i>huozhe...huozhe</i>	OK	OK	OK	OK	OK

This table shows that the forms of conjunctive and disjunctive elements correlate with the categories of the connected conjuncts. For instance, if the conjuncts are APs, only two possible forms of conjunctive elements may occur: *you...you* and *ji...you*. If the conjuncts are PPs, only *ji...you* may

occur. If the conjuncts are DPs, no R-C coordinator may occur, whereas if the conjuncts are VPs, any of the four forms listed may occur. For disjunctive elements, the form *huozhe...huozhe* may occur with conjuncts of various categories, whereas *yaome...yaome* may occur with VP and clausal conjuncts only.

What is important to our study here is the fact that no mismatch is allowed among various R-C coordinators. For instance, within the conjunctive group, it is not acceptable to say *\*yibian...yimian*, *\*ji...yimian*, *\*you...yibian*, etc. Similarly, within the disjunctive group, it is not acceptable to say: *\*yaome...huozhe*, *\*huozhe...yaome*.

A similar dependency can be shown by Turkish R-D coordinators (Lewis 1967: 269). In this language, four distinct groups of R-D coordinators are available: *de...de*, *hem...hem(de)*, *ha...ha*, and *gerek...gerek(se)*. Among the four groups, no mismatch is allowed.

- (20) a. ben de sen de kardeşin de (Turkish)  
 I and you and brother.your and  
 'I and you and your brother'  
 b. hem ziyaret hem ticaret  
 and pilgrimage and trade  
 'both pilgrimage and trade'  
 c. ha bağ, ha bahçe, ha tarla  
 and orchard and garden and field  
 'orchard, garden, and field'  
 d. gerek Ankara'da gerekse Vaşington'da  
 and Ankara-in and Washington-in  
 'both in Ankara and in Washington'

The strict matching of every R-C coordinator to a certain conjunction shows the form dependency of R-C coordinators on conjunctions. Such a matching has long been recognized as a co-occurrence restriction (Dougherty 1970: 867). I will give a syntactic account for the restriction in Section 7.

#### 4. The island-sensitive distance between R-C coordinators and conjunctions

Since Larson (1985), it has been recognized that the distance between R-C coordinators and conjunctions obeys the island constraints on movement.

The following data show that the surface positions of R-C coordinators can be flexible, a topic discussed in Larson (1985), Schwarz (1999), Zamparelli (2000), Johannessen (2005), Hendriks (2004), and den Dikken (2006).

- (21) a. Jane ate either rice or beans.  
 b. Jane either ate rice or beans.  
 c. Jane either ate rice or she ate beans.
- (22) a. Mary is both going to school and holding down a job.  
 b. Gianni has both eaten the apple and the pear. (Zamparelli 2000: 23)  
 c. Mary is both going to the wedding and she is attending the reception afterwards.
- (23) a. It's neither pleasant to eat nor good for you.  
 b. It was his custom, indeed, to speak calmly of his approaching dissolution, as of a matter neither to be avoided nor regretted.  
 c. The gale had neither abated in the least, nor were there any signs of its abating.

The above examples are all correlative coordinator data. The following Dutch repetitive coordinator data show a similar flexibility (Hendriks 2003: 40; see parallel Italian examples in Bianchi & Zamparelli 2004 and Norwegian examples in Johannessen 2005).

- (24) a. dat zij de rozen of geplant heeft of gesnoeid heeft.  
 that she the roses or planted has or pruned has  
 'that she has either planted or pruned the roses.'
- b. Of Jan zal de rozen snoeien of de tulpen planten.  
 Or Jan will the roses prune or the tulips plant  
 'Either Jan will prune the roses or plant the tulips.'
- c. Jan zal of de rozen snoeien of hij zal de tulpen planten.  
 Jan will or the roses prune or he will the tulips plant  
 'Jan will either prune the roses or he will plant the tulips.'

Larson (1985) shows that the position of *either* is restricted by the island effects. For instance, it cannot be away from a conjunction that is inside a definite complex DP island, as shown in (25b), a wh-island, as shown in (26b), or a tensed clause island, as shown in (27b).

- (25) a. Jane revised her decision to cook either rice or beans.  
 \*Jane either revised [<sub>DP</sub> her decision to cook rice or beans]. (Complex NP island)
- (26) a. John was wondering whether to either resign or retire.  
 b. \*John was either wondering [whether to resign or retire]. (WH island)

- (27) a. John believes that Bill said that [either Mary was drinking or playing video games]  
 b. \*John believes that Bill said either that [Mary was drinking or playing video games] (Larson 1985: 223) (Tensed Clause island)

Moreover, Hendriks's (2003: 35) following example shows that *either* itself cannot be inside a complex NP island:

- (28) \*The guy who either Jane had invited arrived or the guy who John had invited did.

We conclude that the distance between an R-C coordinator and its associate conjunction must be local: neither can relate to the other that is in a syntactic island.

The surface position of *either* in data like (21b) is derived by movement in Larson (1985). I will present the differences between my approach and Larson's in 7.2.

## 5. Syntactic properties shared by R-C coordinators and focus particles

It is generally recognized that the use of R-C coordinators always brings an emphatic effect (Dik 1968: 273; Stassen 2000: 15; Haspelmath 2000: 14; Liptak 2001: 22–34; Vermeulen 2008: 346). In Hendriks's works, such elements are directly analyzed as focus particles. Den Dikken (2006) claims that the correlative coordinator *either* cannot be a focus particle, since it can occur between a preposition and its complement (e.g. *John spoke to either Bill or Sue*), whereas focus particles cannot do so. However, Bouma, Hendriks and Hoeksema's (2004) research clarifies that focus particles can occur between a preposition and its complement in English (e.g. *They are sending eggs to {even/only} MARIE*). Other reported differences between the correlative *either* and focus markers in den Dikken (2006) can be viewed as language-specific and idiosyncratic properties of the compared elements. For instance, it is claimed that the focus marker *only* may occur to right of the focused element (e.g., *John read chapter 3 only*), whereas correlative *either* cannot do so (e.g. \**John read chapter either or chapter 4*) (ibid. 701). However, another focus marker in English, *even*, cannot occur to the right of the focused element, either (e.g. \**John read chapter 3 even*). Moreover, neither focus markers nor R-C coordinators may occur to the right of the focused element in Chinese. We thus do not think den Dikken's argument against Hendriks's focus particle

analysis of R-C coordinators is effective. In this subsection, I present five shared properties between R-C coordinators and focus particles.

### 5.1 The same distribution constraints

The categories of the sisters of R-C coordinators are as free as the focus particles *even* and *only*. The focus particles have been called “admanythings” in Herburger (2000: 87), since “they attach to almost anything”.

- (29)
- |                               |              |
|-------------------------------|--------------|
| a. only three girls           | (NP or NumP) |
| b. only to Sue                | (PP)         |
| c. only a bit sick            | (AP or DegP) |
| d. only introduce Bill to Sue | (VP)         |
| e. only that Bill was sick    | (CP)         |

Similarly, the correlative coordinator *both*, for instance, can precede elements of various categories (*either* can occur to the left of matrix clauses, whereas *neither* and *both* cannot. We will discuss this constraint in Section 8):

- (30)
- a. Jane ate both rice and beans.
  - b. She’s both clever and honest.
  - c. We’ve both eaten and slept.
  - d. Julie satisfied Curval both when she was the active member and when she was the passive member.
  - e. I’m absolutely certain that both [Tom will sing] and [Mary will dance].
  - f. I returned to the house where both [I was born] and [my parents died].

It seems that the syntactic distributions of correlative coordinators might be as free as their associated conjunctions. However, this is not the case. The patterns of coordinate complexes in which R-C coordinators occur are in fact more restricted than the corresponding patterns of coordinate complexes in which isolated conjunctions occur (Neijt 1979: 1–7). They cannot occur in the positions where focus particles cannot occur, although the corresponding coordinate constructions without them are acceptable. The following data are reformulated versions of the data in Hendriks (2004). Specifically, neither focus particles nor correlative coordinators may occur between an adjective and the noun modified, as shown by (32a), (34a), (36a), and (38a), between the word *right* and a PP, as shown by

(32b), (34b), (36b), and (38b), and between the degree word *very* and an adjective, as shown by (32c), (34c), (36c), and (38c).

- (31) a. {only/even} a small bus  
 b. {only/even} right above that little chest  
 c. {only/even} very red
- (32) a. a small (\*only/\*even) bus  
 b. right (\*only/\*even) above that little chest  
 c. very (\*only/\*even) red
- (33) a. either a small bus or a small car  
 b. either right above that little chest or right beneath it  
 c. either very red or very blue
- (34) a. a small (\*either) bus or car  
 b. right (\*either) above or beneath that little chest  
 c. very (\*either) red or blue
- (35) a. both a small bus and a small car  
 b. both right above that little chest and right beneath it  
 c. both very red and very blue
- (36) a. a small (\*both) bus and car  
 b. right (\*both) above and beneath that little chest  
 c. very (\*both) red and blue
- (37) a. neither a small bus nor a small car  
 b. neither right above that little chest nor right beneath it  
 c. neither very red nor very blue
- (38) a. a small (\*neither) bus nor car  
 b. right (\*neither) above nor beneath that little chest  
 c. very (\*neither) red nor blue

The similar restrictions on R-C coordinators in Chinese are stated in Lü et al. (1999: 283). The following data serve to illustrate the shared constraints on focus particles and R-C coordinators.

Focus particles

- (39) a. shenzhi yi liang hongse de zixingche  
 even one CL red bike  
 b. shenzhi hen hong  
 even very red
- (40) a. yi liang hongse de (\*shenzhi) zixingche  
 one CL red even bike  
 b. hen (\*shenzhi) hong  
 very even red

*huozhe...huozhe* ‘or...or’

- (41) a. *huozhe yi liang hongse de zixingch huozhe yi liang hongse de*  
 or one CL red bike or one CL red  
*motuoche*  
 motobike  
 b. *huozhe hen hong huozhe hen lan*  
 or very red or very blue
- (42) a. *yi liang hongse de (\*huozhe) zixingch huozhe motuoche*  
 one CL red or bike or motobike  
 b. *?hen (\*huozhe) hong huozhe lan*  
 very or red or blue

In addition to the subparts of DPs and APs, Zamparelli (2000) reports more types of elements that *both...and* and its Italian counterpart cannot conjoin. None of the elements is able to bear focus. For instance, auxiliaries plus participles, small clauses selected by epistemic and elective verbs, and relative CPs, are among such elements.

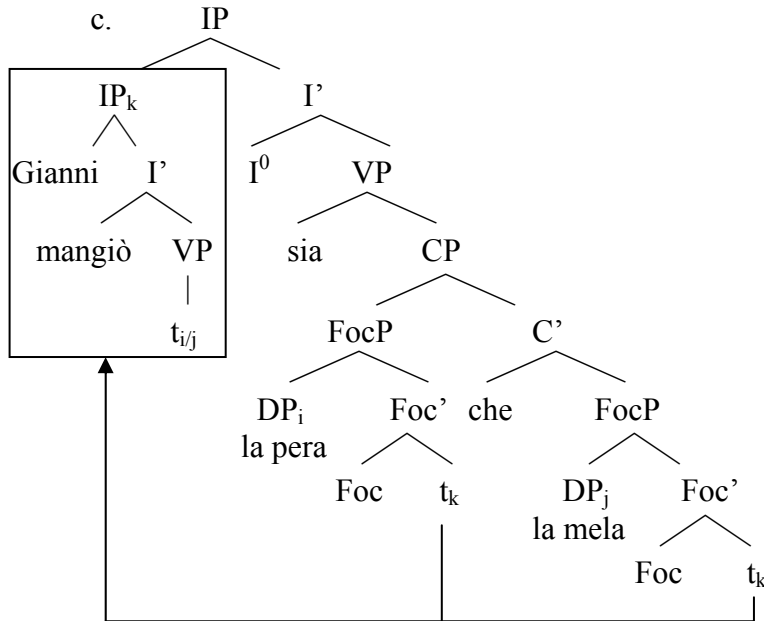
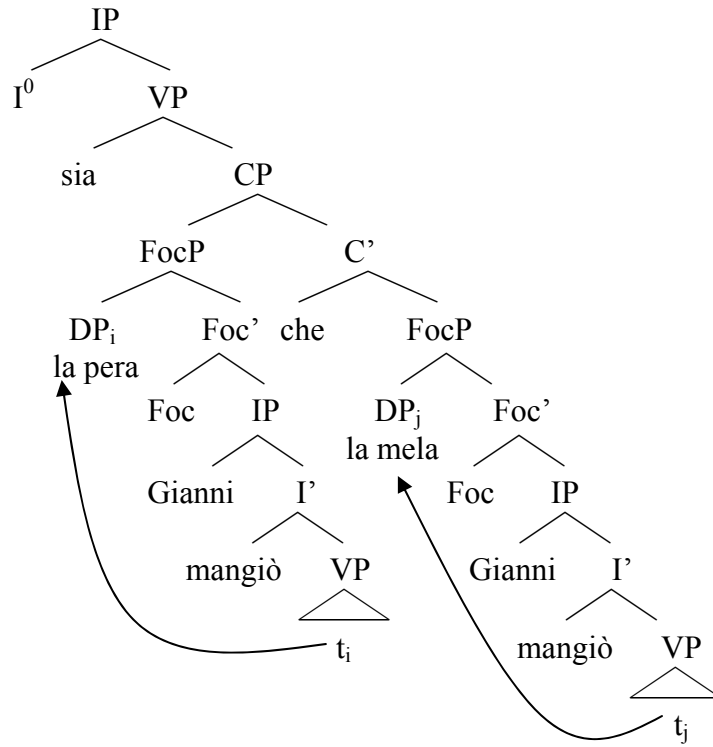
- (43) a. \*Mary both has slept and has dreamt. (Zamparelli 2000: 7)  
 \*Mary both has arrived and is getting dressed.
- (44) a. ??I consider both John very intelligent and Mary fairly nice.  
 b. \*We have appointed both John president and his son minister.
- (45) \*a man both that I know well and that respects me

Hendriks (2002; 2003; 2004), Zamparelli (2000) and Johannessen (2005) all relate the restrictions to the notion of focus. In Hendriks (2004) and Johannessen (2003), the restrictions are used to argue for the focus particle status of R-C coordinators. Hendriks claims that since the R-C coordinators cannot occur in the positions where focus particles cannot occur, they must be focus particles themselves.

Zamparelli (2000) addresses only the restrictions on the *both...and* constructions. He does not discuss the parallel restrictions on *either...or* and *neither...nor* constructions. He claims that *both...and* always conjoins clauses, that parallel elements in all conjuncts undergo focus raising, and that the remnant clausal conjuncts undergo the ATB movement. Zamparelli (2000: 13) proposes that the sentence in (46a) is derived by (46b) and (46c). In (46b), *la pera* ‘the pear’ is raised from the object position to SpecFocP with the first clausal conjunct, and *la mela* ‘the apple’ is raised from the object position to SpecFocP with the second clausal conjunct. In (46c), the IP of the first conjunct, which contains the trace of *la pera*, and

the IP of the second conjunct, which contains the trace of *la mela*, undergo the assumed ATB movement, landing at the matrix SpecIP.

- (46) a. Gianni mangio sia [la pera] che [la mela]  
 Gianni ate both the pear and the apple  
 b.





In Zamparelli’s approach, elements that cannot undergo the first step of movement, i.e., the focus raising, make the construction unacceptable. We can see that Hendriks’s analysis is a R-C coordinator-oriented analysis, whereas Zamparelli’s is a conjunct-oriented analysis.

Hendriks (2004) observes that *either*, *both*, and *neither* do not show properties of focus particles if they do not occur with a coordinator. No focused element is related to *either* in (47a) (= her (42a)), *both* in (47b) (= her (43a)), and *neither* in (47c) (= her (62a)).

- (47) a. “I am quite ashamed to confess,” I replied, “that I have never even heard the names of either gentlemen before.”  
 b. The first action of my life was the taking hold of my nose with both hands.  
 c. It is not too much to say that neither of us believe in preternatural events.

If *either*, *both*, and *neither* are not intrinsic focus particles, and they behave like focus particles in coordinate complexes only, one cannot help asking what makes them to behave like focus particles in this particular construction. The answer must be conjunctions. Then next question is how and why. These are the questions we try to answer.

## 5.2 The same scrambling triggering effects

Another shared property of R-C coordinators and focus particles is that neither of them can occur postverbally in Chinese. Among various R-C pairs, *huozhe...huozhe* is the one that can conjoin nominals (see (19)). The following data show that coordinate complexes without an R-C coordinator can occur as postverbal objects, as in the a-sentences in (48) through (50), whereas coordinate complexes with an R-C coordinator cannot, as seen in the b-sentences there (see Lü et al. 1999: 283). The latter type of complexes, however, can occur in preverbal positions, as preverbal subjects or topics, as in (48c) and (49c), or temporal expressions, as in (48d) and (49d), or preposed objects, as in (48e) and (49e).

- (48) a. Xiren kanjian-le Baoyu huozhe Daiyu.  
 Xiren see-PRF Baoyu or Daiyu  
 ‘Xiren saw Baoyu or Daiyu.’  
 b. \*Xiren kanjian-le huozhe Baoyu huozhe Daiyu.  
 Xiren see-PRF or Baoyu or Daiyu

- c. Huozhe Baoyu huozhe Daiyu na-zou-le wode qianbi.  
 or Baoyu or Daiyu take-away-PRF my pencil  
 ‘Baoyu or Daiyu took away my pencil.’
- d. Xiren huozhe mingtian huozhe houtian hui lai.  
 Xiren or tomorrow or the.day.after will come  
 ‘Xiren will come tomorrow or the day after tomorrow.’
- e. Huozhe sheng-xue, huozhe canjia gongzuo, ni ziji  
 or higher.school.going or take.part.in job you self  
 jueding.  
 decide  
 ‘Either entering a higher school or taking a job, you yourself decide.’
- (49) a. Xiren xihuan Baoyu huozhe Daiyu.  
 Xiren like Baoyu or Daiyu  
 ‘Xiren liked Baoyu or Daiyu.’
- b. \*Xiren xihuan huozhe Baoyu huozhe Daiyu.  
 Xiren like or Baoyu or Daiyu
- c. Huozhe Baoyu huozhe Daiyu xihuan wode qianbi.  
 or Baoyu or Daiyu like my pencil  
 ‘Either Baoyu or Daiyu likes my pencil.’
- d. Xiren huozhe Wuyue huozhe Liuyue yao jiehun.  
 Xiren or May or June will marry  
 ‘Xiren will get married either in May or June.’
- e. Huozhe pijiu huozhe kele, Lao Wang mei dun fan bixu he.  
 or beer or coke Lao Wang every CL meal must drink  
 ‘Either beer or coke, Lao Wang must drink in every meal.’
- (50) a. Ni jiao Baoyu huozhe Daiyu jin-lai!  
 you ask Baoyu or Daiyu enter-come  
 ‘Ask Baoyu or Daiyu to come in!’
- b. \*Ni jiao huozhe Baoyu yaome Daiyu jin-lai.  
 you ask or Baoyu or Daiyu enter-come

Parallel to this constraint, no focus particle can occur postverbally in Chinese. Focus particles such as *shenzhi*, *lian* ‘even’, and *zhi*, *zhiyou* ‘only’ occur preverbally. The following (51a) shows that the focus particle *only* in English can occur postverbally, however, (51b) shows that *zhiyou* ‘only’ in Chinese cannot occur postverbally. In (51c), the focus particle occurs preverbally and the sentence is fine. A similar acceptability pattern is seen in (52) and (53), for the focus particle *shenzhi* ‘even’.<sup>3</sup>

<sup>3</sup> A well-recognized fact is that the focus particle *shi* ‘be’ cannot occur postverbally either. In order to save the trouble of showing whether the *shi*-sentences are cleft sentences, I use the other two types of focus particles to show the same generalization.

Note that there are two focus markers in (51c) and (52c). The first one in each case is optional.

- (51) a. Albert grows only vegetables.  
 b. \*Lao Wang (cai) zhong zhiyou shucai.  
 Lao Wang only grow only vegetable  
 c. Zhiyou shucai Lao Wang cai zhong.  
 only vegetable Lao Wang only grow  
 ‘Only vegetable, Lao Wang grows.’
- (52) a. The freshmen were reminded to bring even the registration form.  
 b. \*Lao Wang (dou) dailai-le shenzhi huzhao.  
 Lao Wang all bring-PRF even passport  
 c. Shenzhi huzhao Lao Wang dou dailai-le.  
 Even passport Lao Wang all bring-PRF  
 ‘Even passport, Lao Wang brought with him.’
- (53) a. John asked even Mary to come.  
 b. \*Lao Wang jiao shenzhi Xiao Li lai.  
 Lao Wang ask even Xiao Li come

The correlation between the occurrence of the focus particles *shenzhi* ‘even’ and *zhiyou* ‘only’ and object preposing in Chinese has been studied in Zhang (2000). As for the fact that R-C coordinators cannot conjoin postverbal objects, Lü et al. (1999: 283) explicitly state that when two objects are conjoined, only one coordinator is allowed to occur. The generalization is confirmed by the unanimous responses to my data-inquiring in the SINA internet forum (Feb. 16, 2003). The fact is clear.

This fact is not isolated, cross-linguistically. Hendriks (2003: 41) reports that “the presence of the Dutch initial coordinator *of* triggers the occurrence of scrambling effects in Dutch *of-of* [‘either-or’] construction. Interestingly, the same effects can be witnessed with focus particles. Ordinary coordinate constructions, on the other hand, do not exhibit these scrambling effects.” We thus see that in both Chinese and Dutch, R-C coordinators can trigger scrambling, like focus particles.

### 5.3 The same inversion triggering effect

Horn (1996) discusses the fact that focus particles such as *only* may trigger inversion, as seen in the following sentence. The semantic conditions of this type of inversion are studied in Herburger (2000: 103–105).

- (54) Only in stories does a dropped glass betray agitation.

R-C coordinators and their associate conjunctions may also trigger subject-auxiliary inversion if they occur clause-initially (Hendriks 2004):

- (55) a. Neither had the gale abated, nor were there any signs of its abating.  
 b. The gale had neither abated in the least, nor were there any signs of its abating.

Johannessen (1998: 156 (84), 161 (99)), following Norwegian correlative data in (56), and Greek repetitive data in (57), further show the inversion possibility of R-C coordinators in other languages:

- (56) a. Per gikk til jobben, og Marit tok trikken til skolen.  
 Peter walked to the.work, and Mary took the.tram to the.school  
 ‘Peter walked to work, and Mary went by tram to school.’  
 b. Både gikk Per til jobben, og Marit tok trikken til skolen.  
 both walked Peter to the.work, and Mary took the.tram to the.school  
 ‘It is both the case that Peter walked to work, and Mary went by tram to school.’
- (57) a. [o Janis tha erthi sto parti] i [tha min spiti].  
 DEF John FUT come to.DEF party or FUT stay home  
 ‘John will come to the party or (he will) stay at home.’  
 b. i [tha erthi o Janis sto parti] i [tha min spiti].  
 or FUT come DEF John to.DEF party or FUT stay home  
 ‘Either John will come to the party or (he will) stay at home.’

#### 5.4 The same scope ambiguity

Both focus particles and R-C coordinators have ambiguous scopes, when they occur in “low” positions.

When a focus particle such as *only* and *even* attaches to a nominal, its scope can be ambiguous; however, if it attaches to a verb phrase that hosts the nominal, its scope is not ambiguous (Taglicht 1984: 150ff).

- (58) a. The man at the nursery told us to water [only the azaleas].  
 b. The man at the nursery told us to only water the azaleas.  
 c. The man at the nursery only told us to water the azaleas.
- (59) a. The freshmen were reminded to bring [even the registration form].  
 b. The freshmen were reminded to even bring the registration form.

I cite Herburger’s (2000: 88, 109) description of the above data as follows. (58a) is ambiguous. On its first reading, it says that azaleas are the only kind of plant the man at the nursery told us to water; he didn’t say anything about the rose bushes or the rhododendrons, maybe because he assumed we already knew we needed to water those. I call this reading the highlighting reading. On its second reading, (58a) says that the man explicitly told us to

water nothing else but the azaleas, saying something like “Be careful to water the azaleas only!” I call this reading the contrastive reading. In contrast with (58a), neither (58b) nor (58c) is ambiguous; (58b) has only the second reading, i.e., the contrastive reading, and (58c) only the first, i.e., the highlighting reading. Similarly, (59a) is ambiguous. On its first reading (wide-scope), it says that even the registration form is such that the freshmen were told to bring it (even though the registration forms were impossible to find, for example). On its second reading (narrow scope) (59a) says that the freshmen received a piece of advice something like this: “Bring even the REGISTRATION FORM, along with the tuition bill and your preliminary schedule. You’ll need it.” This reading is the only reading of (59b).

According to Rooth (1985: 83f) and Krifka (1992: 40), focus particles do not get wide scope of their own. But they do when they are carried ‘piggy-back’ by an expression that can get wide scope. In data like the above examples, when focus particles are adjoined to the nominals, which can get wide scope, the wide scope reading is available. However, when they are adjoined to verbal phrases, which are not scope taking expressions, no ambiguity arises.

A parallel fact is seen in R-C coordinators. The disjunction *or* has scopal properties, as shown in (60) (Rooth & Partee 1982; Larson 1985):

- (60) a. Max wants to eat (either) grapes or cherries.  
 b. Max wants to either eat grapes or cherries.  
 c. Max either wants to eat grapes, or cherries.

In the narrow scope reading of (60a), Max doesn’t care which, he’d be happy to eat either. In the wide scope reading of (60a), Max wants to eat grapes or Max wants to eat cherries – I don’t know which. Larson (1985) notes that *either* can act as a scope marker. If *either* is close to *or*, as in (60a), both readings are available. (60b), however, has only the narrow scope reading, and (60c) has only the wide scope reading.

## 5.5 The same distributiveness effect

### I. R-C coordinators exclude collective readings

One semantic function of R-C coordinators is to exclude collective readings, when such readings are possible in their absence (see Dik 1968: 272; Dougherty 1970: 866; Lang 1984: 92; Munn 1993: 173, 179–185;

Kayne 1994: 66; Progovac 1999; 2002, among others). Let us consider correlative coordinator constructions first. It is well-known that the word *both* disambiguates a sentence that can have either distributive or collective meaning. For instance:

- (61) a. John and Mary bought a car.  
 b. Both John and Mary bought a car.

(61a) has two readings. Either John and Mary bought a single car together or each of them bought a car. (61b) however has only the latter reading.

The same contrast is seen between the single coordinator constructions and the repetitive coordinator constructions. Such a contrast is discussed in Zwart (1995: 12). The following Dutch data can show the contrast (I thank Petra Hendriks and Jan-Wouter Zwart for helping me with the data).

- (62) a. A en B kochten een auto  
 A and B bought a car  
 b. en A en B kochten een auto  
 and A and B bought a car

(62a) has two readings. Either John and Mary bought a single car together or each of them bought a car. (62b) however has only the latter reading.

R-C coordinators exclude collective readings of not only nominal coordinate complexes but also non-nominal coordinate complexes. Sag et al. (1985: 151) cite Schmerling's (1975) following contrast:

- (63) a. I went to the store and bought some whiskey.  
 b. I both went to the store and bought some whiskey.

(63a) can be an Asymmetrical Coordination (Culicover & Jackendoff 1997), whereas (63b) is not. The meanings of the two conjuncts in (63a) can be related to each other. The whiskey-buying may be the purpose of the store-going. In contrast, the two conjuncts in (63b) are semantically symmetrical.

The correlation between distributiveness and R-C coordinators is shown even in morphology. Winter (2001: 170–171) presents the fact that in Hebrew, an accusative case marker occurs to the left of every conjunct of a coordinate object complex if the coordination is distributive, as in (64b) or occurs to the left of the whole coordinate complex if the coordination is either distributive or collective, as in (64a).

- (64) a. dilan avar be-mispar ha še katav et simon ve  
 Dylan exceeded in-number the-songs that wrote ACC Simon and  
 garfunkel  
 Garfunkel  
 ‘Dylan wrote more songs than Simon and Garfunkel.’
- b. dilan avar be-mispar ha še katav et simon ve  
 Dylan exceeded in-number the-songs that wrote ACC Simon and  
 et garfunkel  
 ACC Garfunkel  
 ‘Dylan wrote more songs than both Simon and Garfunkel.’

Importantly, if an R-C coordinator occurs, an accusative case marker must occur to the left of every conjunct of a coordinate object complex. In other words, R-C coordinator constructions morphologically pattern with the constructions that have an exclusive distributive reading. In the following example, *gam...ve-gam* ‘both...and’ requires the accusative case marker *et* to occur to the left of each conjunct.

- (65) a. \*dan makir et gam rina ve gam sara  
 Dan knows ACC too Rina and too Sara
- b. dan makir gam et rina ve gam et sara  
 Dan knows too ACC Rina and too ACC Sara  
 ‘Dan knows both Rina and Sara.’

Such data show that the syntax of R-C coordinators patterns with the syntax of distributiveness.

Summarizing, R-C coordinator constructions encode an exclusive distributive meaning, whereas coordinate constructions with a single conjunction can be ambiguous between distributive and collective meaning.

## II. Focus particles also exclude collective readings

Winter (1998, see Hendriks 2004: 33) uses data like the following to show that the focus particles *too*, *also*, and *as well* all can exclude a collective reading.

- (66) a. The Americans and the Russians too fought each other.  
 b. The Americans and the Russians as well fought each other.  
 c. The Americans and also the Russians fought each other.

The reading of (66a) is that the Americans fought each other and the Russians fought each other. It does not mean that the Americans fought

against the Russians. As we know, if *too* did not occur, the sentence would have the latter reading. Parallel effects are seen in (66b) and (66c).<sup>4</sup>

The above two subsections tell us that R-C coordinators and focus particles have the same semantic function, namely, to exclude possible collective readings. In this semantic sense, compared to coordinate complexes with a single conjunction, R-C coordinator constructions are not built vacuously.

### III. *Both* does not always signal a distributive reading if it is not a correlative coordinator

In contrast to the correlative coordinator use of *both*, other uses of *both* do not always signal a distributive reading. Schwarzschild (1996: 149) uses the following contrast to show the difference:

- (67) a. “Napoleon and Squealer sold Boxer to the knacker” does not imply that Napoleon sold Boxer to the knacker, nor does it imply that Squealer did so. It entails that both of them sold Boxer to the knacker.  
 b. # “Napoleon and Squealer sold Boxer to the knacker” does not imply that Napoleon sold Boxer to the knacker, nor does it imply that Squealer did so. It entails that both Napoleon and Squealer sold Boxer to the knacker.

The word *both* in (67a) is not a correlative, and it is compatible with the intended collective reading, whereas the correlative *both* (67a/b) is not compatible with a collective reading of (67b). Schwarzschild states that (67b) “makes no sense”. Once more, we see the contrasts between R-C coordinators and other elements, even when they share their phonological forms.

### IV. The occurrence of R-C coordinators with elements specified with a certain distributiveness value

It is necessary to stress that if an element has been specified to be either distributive or collective by other factors, the occurrence of *both* or an R-C coordinator does not play any role in disambiguating the element, since

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<sup>4</sup> Note that not all types of focus markers exclude collective readings. The additive focus marker *even* and *lian...dou* ‘even’ in Chinese do allow collective readings. I leave the inconsistency between different types of focus markers for future study.

- (i) Even the Georgians and the Russians fight each other.  
 (ii) Lian Baoyu gen Daiyu dou huxiang chaojiao.  
 even Baoyu and Daiyu even mutual quarrel  
 ‘Even Baoyu and Daiyu quarreled.’



there is no ambiguity at all. Two effects are seen if R-C coordinators occur with such elements. One is that the relevant coordinate complexes are emphasized, as seen in the following data.

- (68) a. Last night, John watched (both) the appearance and the disappearance of the moon. (Tsohatzidis 2001: 25)  
 b. Since the person you most admired and the person you most feared was the very same person, by killing that person, you killed (both) the person you most admired and the person you most feared. (Tsohatzidis 2001: 27)  
 c. Jean connait et Paul et Michel. (French, Kayne 1994: 58, 146 fn. 16)  
 Jean knows and Paul and Michel  
 ‘Jean knows Paul and Michel.’

In (68a) and (68b), the meanings of the two conjuncts are contrastive, therefore, a collective reading of the coordinate complex is impossible. The occurrence of *both* does not play any role in disambiguating anything. In (68c), the verb *connait* ‘know’ is intrinsically distributive. It does not select a collective object. Thus the occurrence of the repetitive coordinator *et* does not play any role in disambiguating anything, either.

When an R-C coordinator occurs with an element that has been determined to be collective by other factors, the sentence can also be simply unacceptable. There are cases where R-C coordinators cannot occur in clearly collective contexts. For instance, the predicate *to make syrup* in (69) is an intrinsic collective predicate of the material subject. *Both* cannot occur in the coordinate subject.

- (69) a. Sugar and water make syrup.  
 b. \*Both sugar and water make syrup. (Dik 1968: 272)

Similarly, the following collective predicates are in conflict with the focus particles *as well*.

- (70) a. John and Mary (\*as well) are {friends/alike}.  
 b. The bus and the van (\*as well) collided.  
 c. Water and sugar (\*as well) make syrup.

The behaviors of R-C coordinators pattern with focus particles such as *as well*.

So far, we have seen that the English data are consistent: R-C coordinators are not compatible with any collective readings. This is shown in (69) and Schwarzschild's example in (67b).<sup>5</sup>

On the other hand, as we mentioned before, there are languages in which every conjunct must be in construal with a coordinator. In such languages, since the choice of not using R-C coordinators is not available, it makes no sense to discuss any semantic contrast between using and not using such coordinators. In Kannada (or Malayalam, a sister Dravidian language), *-uu* is used both as a coordinating particle and an emphatic particle, meaning 'also'. This *-uu* must appear on both conjuncts. There is no optionality. The coordinate complex seems to be ambiguous (I thank R. Amritavalli for discussing the issue with me and giving me the example below. Similar data can be found in Sridhar 1990: 106):

- (71) raaman-uu bhiiman-uu ondu kaaru tegedaru (Kannada)  
 Rama-and Bhiima-and one car bought  
 'Rama and Bhiima bought a car each.'  
 'Rama and Bhiima bought a car together.'

The repetitive coordinators *um...um* in Tamil are also obligatory and thus they do not bring any special semantic effect (Payne 1985: 20).

In this subsection, we have presented the shared properties between focus particles and R-C coordinators. One might claim, following Hendriks (2002; 2003; 2004), that R-C coordinators are just focus particles. Our next subsection will show that the issue is not so simple.

## 6. R-C coordinator constructions: symmetrical foci in pairs

Are R-C coordinators just focus particles? If so, however, we still need to account for one crucial property of R-C coordinators, which is not shared

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<sup>5</sup> The predicate of (i), *kekconsita* 'married', is a collective predicate by default (in the absence of any distributive markers such as 'respectively'). The occurrence of the repetitive coordinator *-to* does not play any role in disambiguating.

- (i) John-to Mary-to-ga kekconsita. (Japanese, Kayne 1994: 58, 146 fn.16)  
 John-and Mary-and-NOM married  
 'John and Mary married.'

This Japanese example seems to suggest that the R-C coordinator *-to* is compatible with collective readings. However, I do not want to make any claim at this moment, since its judgment is rejected by my informant (the sentence would be fine if the second *-to* is removed, i.e., if there were no R-C coordinator).

by regular focus particles: their dependencies on conjunctions. The dependency relation is exhibited in their occurrence (2), their form (3), and their local distance from conjunctions (4). In addition to these, there is a mutual focus dependency relation between R-C coordinators and their associate conjunctions: the conjunctions also exhibit properties of focus particles. I will first of all present the fact that in the absence of R-C coordinators, there is no parallelism between conjuncts with respect to focus. Then I will show the symmetrical foci in R-C coordinator constructions.

### 6.1 Single conjunct focalization

In general, it is possible for one of the two conjuncts to bear a focus in a coordinate complex. For instance, in the following coordinate complex, the focus particle *only* occurs in the second conjunct only, and accordingly only the second conjunct is focalized.

(72) I interviewed 10 men but only 3 women. (Heycock & Zamparelli 2005)

### 6.2 The symmetrical foci in R-C coordinator constructions

The symmetrical foci in R-C coordinator constructions are observed in the following three aspects:

I. Not only there is a focused element to the right of an R-C coordinator, but also there is a focused element to the right of the associate conjunction, in the second conjunct. In other words, the foci must be in pairs. In the following data, focused elements are in capital letters.

(73) a. Either JANE will eat rice or JOHN.

b. \*Either JANE will eat rice or John.

(74) a. Jane will eat both RICE and BEANS.

b. \*Jane will eat both RICE and beans.

(75) a. Neither JANE will eat rice nor JOHN.

b. \*Neither JANE will eat rice nor John.

II. Usually, the order of the two conjuncts makes no reading difference in the R-C constructions.

(76) a. Jane ate both rice and beans. =

b. Jane ate both beans and rice.

This fact indicates that an R-C coordinator and its associate conjunction each provide a focus domain, and elements in the domain of the former and elements in the domain of the latter are equally focused. Therefore, the order of the two conjuncts is not significant with respect to information structure. The foci are symmetrical.

The above data are in contrast to the following data:

- (77) a. Jane ate rice and beans too. ≠  
 b. Jane ate beans and rice too.
- (78) a. Jane ate rice and also beans. ≠  
 b. Jane ate beans and also rice.

The focus particles *too* and *also* are related to the focused element in the second conjunct alone here. Let us ignore the syntactic positions of the focus elements, since according to Stechow (1991: 806) (also see Herburger 2000: 109), focus particles do not need to c-command the focused elements. Importantly, there is only one focused element in each of the examples in (77) and (78). The focused element in the a-sentences is *beans* and the focused element in the b-sentences is *rice*. Thus the a-sentences and the corresponding b-sentences do not have the same information-structure. This is different from the R-C constructions in (76).

So far, we have shown that descriptively, R-C coordinators exhibit properties of focus particles, and so do their associate conjunctions. In the absence of a R-C coordinator, a conjunction does not exhibit properties of focus particles. Likewise, if *either*, *both*, and *neither* do not occur in a coordinate construction, they do not exhibit properties of focus particles, either (see the end of 5.1).

III. Not only a R-C coordinator, but also its associate conjunction, can trigger subject-auxiliary inversion, patterning with focus particles. We repeat our previous two examples in (55) below:

- (79) a. Neither had the gale abated, nor were there any signs of its abating.  
 b. The gale had neither abated in the least, nor were there any signs of its abating.

In (79a), the correlative coordinator *neither* triggers the inversion, and in (79b), the conjunction *nor*, which is the associate of *neither*, triggers the inversion.

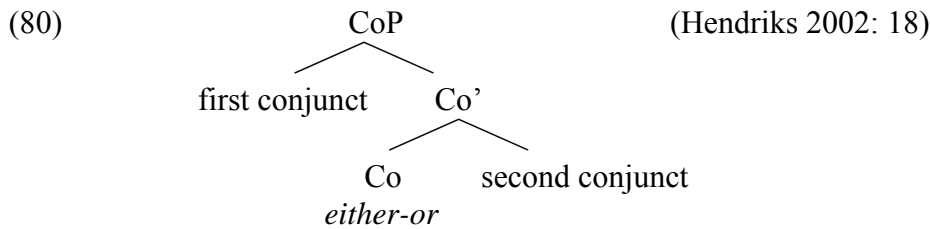
The above three points show that both R-C coordinators and their associate conjunctions exhibit properties of focus particle, and thus R-C coordinator constructions are foci in pair constructions.

## 7. A coordinator doubling approach to R-C coordinators

### 7.1 Previous approaches to the focus nature of R-C constructions

I review three syntactic approaches to the focus nature of R-C constructions.

Hendriks (2002: 18) proposes the following structure for R-C coordinate constructions, where the R-C coordinator *either* is claimed to be a focus particle.<sup>6</sup>



She assumes that *either* undergoes leftward movement, surfacing somewhere to the left of *or*. In her analysis, the structure of (81a) is (81b), and the structure of (82a) is (82b):

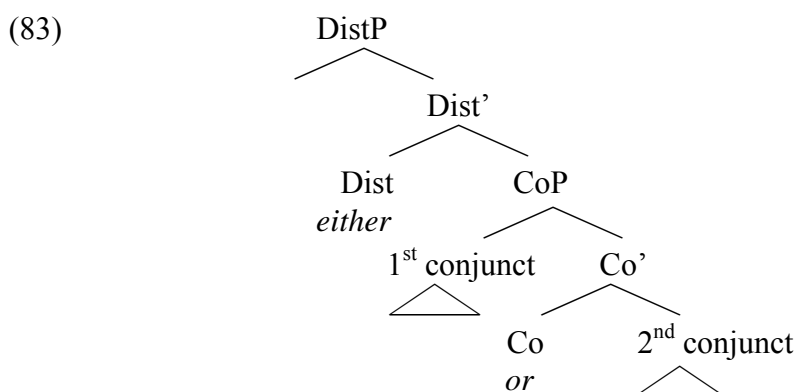
- (81) a. Jane either ate RICE or BEANS. (= (21b))  
 b. Jane *either*<sub>i</sub> ate [<sub>DP</sub> [<sub>DP</sub> RICE] [<sub>t<sub>i</sub></sub> or] [<sub>DP</sub> BEANS]]
- (82) a. Jane either ate RICE or she ate BEANS. (= (21c))  
 b. [<sub>IP</sub> [<sub>IP</sub> Jane *either*<sub>i</sub> ate RICE] [<sub>t<sub>i</sub></sub> or] [<sub>IP</sub> she ate BEANS]]

What Hendriks's analysis does not consider is the fact that the occurrence of a R-C coordinator, which she claims to be a focus particle, brings about a pair of foci rather than a single focus, in the relevant coordinate complex. The double foci nature of coordinate complexes in which R-C coordinators occur seems to be captured by Zamparelli's (2000) assumption that such complexes are derived by parallel focus raising plus ATB movement of the

<sup>6</sup> Later, Hendriks (2003: 37) expresses her doubt on this movement approach however. Her doubt is based on her worry that the surface position of R-C coordinators do not command their traces. Our sideward movement approach, to be presented in section II of this subsection, will make this worry unnecessary.

remnant clausal conjuncts (see (46)). Although the assumed parallel A-bar movement of focused elements and the ATB movement capture the co-occurrence of double foci in the R-C coordinator constructions, this analysis, however, still fails to cover the three dependencies of such coordinators on conjunctions (occurrence, form, and the island-sensitive distance).

De Vries (2005) proposes the following structure to capture the focus and distributive reading of R-C constructions:

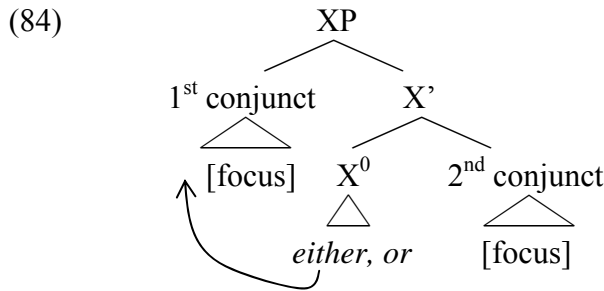


However, it is not clear how this structure represents the constructions in which an R-C coordinator occurs within the first conjunct.

## 7.2 My refining upon Hendriks's proposal

The idea that multiple coordinators of a coordinate complex form a single constituent in an earlier step of derivation, as in (80), is implied in Pesetsky (1982: 438, the 1<sup>st</sup> line). In this subsection, I advocate Hendriks's general proposal in (80) above, and refine upon it.

My analysis is the following. An R-C coordinator and its associate conjunction are always base-generated as a cluster, the head of the cluster is the associate conjunction, and the cluster is split later, causing the R-C coordinator to be away from the conjunction. The pair [*either*, *or*] in the following tree represents all types of pairs that are composed of an R-C coordinator and its associate conjunction.



Since the R-C coordinator is not the head of the cluster, it does not project in its base-position. After the splitting, it does not project, either, since it is a moved element (see Chomsky 1994; 1995 for why moved elements do not project). It simply adjoins to another element.

Importantly, the cluster is formed only under the focus environment. Technically, we can assume that the cluster selects a focus complement (the 2<sup>nd</sup> conjunct in (84)) only, and the movement of the R-C coordinator targets only a constituent with a focus feature.

Unlike Hendriks’s (80), this more transparent version of the proposal captures the fact that not only R-C coordinators, but also the associated conjunctions have properties of focus particles. Thus focus features occur in each conjunct in the constructions.

The theoretical background of this cluster proposal is the following. First of all, clusters that are composed of correlative or repetitive words are easy to find. There are quite a lot of such V-V, A-A, and N-N compounds in Chinese and other languages. The following are Chinese examples.

	Correlative cluster	Repetitive cluster	
(85) a.	da-pei correlate-match ‘match’	xiang-xiang think-think ‘think’	(V-V => V)
b.	ping-jing peace-quiet ‘quiet’	xiao-xiao small-small ‘small’	(A-A => A)
c.	zhou-wei circle-surroundings ‘surroundings’	wa-wa child-child ‘child’	(N-N => N)

Moreover, this proposal is an extension of Kayne’s (2002) cluster-splitting analysis of nominal doubles to coordinator doubles. In Kayne’s cluster-splitting analysis, a nominal double and its associate pronoun are merged as a cluster, and then the double raises alone to either a theta or non-theta

position. This cluster-splitting analysis accounts for a series of dependencies in syntax. In this theory, we see a simpler and more unified computation system than we have assumed it to be. If this cluster-splitting mechanism accounts for the derivations of nominal doubling, it seems plausible that a similar mechanism also works in the computations of other types of element doubling, including coordinator doubling.

I claim that R-C coordinators are doubles of their associate conjunctions, and their various surface positions are the landing sites of the splitting. I will not go into any technical details of the mechanism of cluster-splitting (see Kayne 2002 and Boeckx 2003 for some discussion), since I do not see any construction-specific property in this respect. As for the surface positions and other syntactic properties of R-C coordinators, they pattern with that of focus particles of the relevant language. This has been shown in 5.

The term “conjunction doubling” is used in Progovac (1998b: 4) to refer to repetitive coordinator constructions only, not including correlative coordinator constructions. In our approach, the term covers all types of R-C coordinator constructions.

This coordinator cluster hypothesis explains the existence of R-C coordinators cross-linguistically. If every conjunct always occurs with a coordinator, as in Malayalam (Anandan 1993), it is possible that the multiple coordinators are base-generated as clusters and split later. It has been found that in English, first conjuncts were also preceded by *and* or *or* in Shakespeare and Chaucer’s works (see Anandan 1993: 53 for examples).

### 7.3 Supporting facts for the doubling approach

In this subsection, we present two supporting facts for our doubling approach to R-C coordinate constructions, from the perspectives of the interaction with degree words and of the function of predicates.

One supporting fact for our doubling approach to R-C coordinate constructions is that in Chinese, neither coordinate complexes with a repetitive coordinator nor adjectives in reduplicate forms may occur with the degree word *hen* ‘very’, whereas both coordinate complexes with a single coordinator and adjectives that are not in reduplicate forms can occur with the degree word.



- (86) a. *gao de shu*  
 high MOD tree  
 ‘high trees’  
 b. *hen gao de shu*  
 very high MOD tree  
 ‘very high trees’  
 c. *gaogao de shu*  
 high MOD tree  
 ‘high trees’  
 d. \**hen gaogao de shu*
- (87) a. *gao you da de shu*  
 high and big MOD tree  
 ‘high and big trees’  
 b. *hen gao you hen da de shu*  
 very high and very big MOD tree  
 ‘very high and very big trees’  
 c. *you gao you da de shu*  
 and high and big MOD tree  
 ‘both high and big trees’  
 d. \**you hen gao you hen da de shu*
- (88) a. *zhe ke shu hen gao you hen da.*  
 this CL tree very high and very big  
 ‘This tree is both high and big.’  
 b. \**zhe ke shu you hen gao you hen da.*

The example in (86a) has a simple adjective *gao* ‘high’. This adjective can be modified by the degree word *hen* ‘very’, as seen in (86b). This adjective can also occur in a reduplication form, *gaogao*, as seen in (86c). However, the example in (86d) shows that the reduplication form cannot be modified by the degree word. A similar constraint is seen in the coordination data in (87). The example in (87a) has two adjective conjuncts, *gao* ‘high’ and *da* ‘big’. Both conjuncts can be modified by *hen*, as seen in (87b). The two adjectives can also be the conjuncts of a repetitive coordinator construction, as seen in (87c). However, the example in (87d) shows that the repetitive coordinator construction is not compatible with *hen*. The contrast between (87b) and (87d) is also seen between (88a) and (88b), where the coordinate complex occurs as predicate.

We thus see the incompatibility between reduplicative adjectives and the degree word in (86), and the incompatibility between repetitive coordinator constructions and the degree word in (87) and (88). We see that the behavior of coordinate complexes with a repetitive coordinator is similar to that of reduplicate adjectives. The similarity can be captured if

the two types of elements have undergone the same step of derivations, and they show the same restriction. Then, if a reduplicative adjective undergoes a stage in which two identical forms form a constituent, so does a repetitive coordinator and its associate conjunction.

Another supporting fact for our doubling approach to R-C coordinate constructions is that in Chinese, both coordinate complexes with a repetitive coordinator and adjectives in reduplicate forms can function as predicate, whereas neither coordinate complexes with a single conjunction nor adjectives that are not in reduplicate forms can function as predicate.

- (89) a. \*tade lian hong.  
           his face red  
       b. tade lian honghong de.  
           his face red PRT  
           ‘His face is red.’
- (90) a. \*tade lian hong you nen.  
           his face red and tender  
       b. tade lian you hong you nen.  
           his face and red and tender  
           ‘His face is both red and tender.’

It is well-known that adjectival predicates in Chinese cannot be in a simple form, as shown in (89a); instead, they can be in a reduplication form, such as (89b), or a coordinate form with a repetitive coordinator, as in (90b) (see Zhu 1980: 26–27). From (90a), we see that coordinate complexes without a repetitive coordinator cannot function as predicate, either. Again we see that the behavior of coordinate complexes without a repetitive coordinator is similar to that of reduplicate adjectives. The similarity can be captured if the two types of elements have undergone the same step of derivations, and they show the same restriction. Then, if a reduplicative adjective undergoes a stage in which two identical forms form a constituent, so do a repetitive coordinator and its associate conjunction.

The above two facts support our doubling approach to repetitive coordinator constructions.

#### 7.4 Accounting for the five properties

Empirically, the coordinator doubling analysis explains the five properties presented in Section 2 through Section 6.

### **I. The occurrence dependency relations between R-C coordinators and conjunctions**

The properties presented in 2, namely, the occurrence dependency between R-C coordinators and their associate conjunctions is captured by the definition of doubling itself. The dependency is not expected if the former are integrated into the coordinate complexes independently. Specifically, we now can account for the “born-in-pairs” nature of R-C coordinators with their associate conjunctions. Treating R-C coordinators as conjunction doubles, we realize the parallelism between the dependencies of such elements on conjunctions and the dependencies of doubles on their associates.

### **II. The form dependency relations between R-C coordinators and conjunctions**

The property presented in 3, namely, the form dependency between R-C coordinators and their associate conjunctions is also captured by the properties of doubling. The dependency is a kind of compatibility between the partners in each pair of such coordinators. As we mentioned before, such a compatibility has long been recognized as a co-occurrence restriction (Dougherty 1970: 867). Treating R-C coordinators as conjunction doubles, we can now account for the form dependency by the co-occurrence restrictions between an associate and its double, in their base-positions.

### **III. The island-sensitive distance between R-C coordinators and their associate conjunctions**

I adopt a hypothesis made by Hendriks (2002): unlike regular focus particles, R-C coordinators are never base-generated in their surface positions. The island effects observed between such coordinators and their associate conjunctions (Larson 1985, see our 4) are accounted for by our movement approach. In this movement chain, the property of the element that undergoes the movement is consistent: R-C coordinators do not project in either their base-position (i.e., within the cluster) or their landing site.

Moreover, the fact that R-C coordinators can keep different distances from the associate conjunctions can be accounted for by their multiple possible landing sites. The landing sites can be to the immediate left of the first conjunct, as in the a-sentences in (21) through (23), at a position away from the coordinate complex, as in b-sentences in (21) through (23), and inside the first conjunct, as in the c-sentences in (21) through (23). In the

first two cases, the movement of R-C coordinators is the regular forward movement, in the sense that the landing sites of the movement is free so long as they obey the island constraints.

The last case is different. I repeat the relevant data as (91) below.

- (91) a. Jane either ate rice or she ate beans. (= (21c))  
 b. Mary is both going to the wedding and she is attending the reception afterwards. (= (22c))  
 c. The gale had neither abated in the least, nor were there any signs of its abating. (= (23c))

I claim that the derivations of such data have a sideward movement involved. Before I spell out my proposal, let me briefly introduce this mode of movement. Generally speaking, the movement of X lands at a position that c-command the launching site, in the same “tree”. The movement from one tree into another tree is sideward movement. Sideward movement is discussed in Bobaljik & Brown (1997), Nunes (1995; 2001), Hornstein (2001), and Nunes & Uriagereka (2000). The existence of sideward movement is expected, if Reemerge (Move), like Merge, simply sets up new syntactic relations. As correctly pointed out by Hornstein & Nunes (2002: 27), sideward movement does not add any new constraint to our current computational system. In contrast, it removes a stipulation from the system that movement must target the syntactic object that contains the trace. Hornstein & Nunes (2002) claim that such a stipulation is actually a residue of D-structure, which is not compatible with the Minimalist Program. If no D-structure is assumed and the computational system resorts to generalized transformations to build phrasal objects, the landing site of a movement may be beyond the domain that contains the trace. “In other words, in a system that may operate with more than one single-rooted syntactic object at once, as in Chomsky 1995, only brute force would force movement to always target the same tree.” (Hornstein & Nunes 2002: 28) Sideward movement has been argued to account for a number of unrelated phenomena, such as adjunct control, *tough*-movement, and other null-operator constructions (Hornstein 2001), issues pertaining to extraction domains (Nunes & Uriagereka 2000), PRO-gate effects (Hornstein & Kiguchi 2003), donkey anaphora (Boeckx 2003), antecedent-resumptive relations (Kayne 2002), head movement (Bobaljik & Brown 1997), and others.

Return to our derivations of data like (91). I claim that the double undergoes a sideward movement from the cluster to the working site where

the first conjunct is assembled. After the first conjunct is built, the conjunct is merged at Spec of the associate conjunction and the coordinate complex is thus formed.

In data like (91), the second conjunct is a full clause, and the constituent that precedes the conjunction is also a full-clause. The R-C occurs inside this left clause.

Larson (1985: 235) claims that data like (91) are special in that they are well-formed if and only if the second clause contains an instance of nominal co-referential with the subject of the first clause. In (91a), *she* in the second conjunct is co-referential with *Jane* in the first conjunct. Hendriks (2002: 15; 2003: 30), however, convincingly shows that Larson's observation might be a tendency rather than a constraint:

- (92) a. Perhaps Wallace is under the impression that the team will either change its mind or the league will win on appeal.  
 b. Yet our invitation was either a complete hoax [...] or else we had good reason to think that important issues might hang upon our journey.

In the above examples (= Hendriks's (48) and (49)), there is no co-referential relation between the two clauses. Hendriks further argues that the real constraint on the positions of R-Cs is that they must occur to the left of a focused element. She is right.

So far, we have discussed how our movement including sideward movement analysis captures the distance between R-C coordinators and their associate conjunctions. We can see that since the position of the associate conjunctions mark the launching site of the relevant R-C coordinators, the former cannot occur in islands. However, there is still one more issue to address: why can R-C coordinators themselves not occur in islands? This in fact is a more general question: if an element can undergo sideward movement, why can it not land inside an island? The issue is brought to us by data like (28), repeated here as (93):

- (93) \*The guy who either Jane had invited arrived or the guy who John had invited did.

Such data could be derived if the sideward movement occurred very early. I believe that a timing constraint is required to rule out any sideward movement that aims to build an island inside the target working site. Nunes and Uriagereka (2000) claim that the regular island effects are caused by the lateness of the movement operation. Specifically, when an island "chunk" is sent off to PF to spell-out, there is no way to move anything out

of it. In data like (93), the assumed sideward movement occurs too early. Conceptually speaking, the two aspects of a timing issue, the too late and too early one, should both be considered. Since the issue is not restricted to coordination, I leave it for future research.

At this moment, I also leave it open whether R-C coordinators may undergo any covert movement from their surface positions so that they can c-command the focused elements at LF (see Johannessen 2005 for such an approach). Since their distributions are identical to focus particles, they may undergo whatever operations that the focus particles in the relevant language do.

In the rest of this subsection, I say more about how our analysis of the distance issue is different from other approaches to R-C coordinator constructions in the literature.

In dealing with this “floating”-like property of R-C coordinators, our analysis is superior to the two proposals made by Kayne (1994). In one proposal (ibid. 58), the French *et Paul et Michel* is analyzed as [*et* [*Paul* [*et Michel*]]], in which the first *et* takes as its complement the phrase headed by the second *et*. In the other proposal (ibid. 143 n.2), *et Paul* is taken to be in the specifier of the second *et*. Thus the assumed structure is [[*et Paul*] [*et Michel*]]. In both proposals, the positions of R-C coordinators are fixed. Neither proposal is able to capture the “floating”-like property of R-C coordinators. The two proposals cannot account for data like (91). In Collins (1988), Zwart (1995), and Progovac (1997), it is assumed that an R-C coordinator and its associate conjunction each head a projection and each projection hosts one conjunct. Such proposals cannot explain data like (91), either.

My analysis is also different from other approaches such as Larson (1985), Schwarz (1999), Munn (1993), and Winter (1998). In Larson’s analysis, the syntactic representation of (94a) is assumed to be (94b):

- (94) a. Jane either ate rice or beans. (= (21b))  
 b. Jane either<sub>i</sub> ate [<sub>t<sub>i</sub></sub> [rice] or [beans]]. (Larson 1985)

Schwarz (1999) argues against Larson’s movement approach, claiming that *either* always occurs at the left edge of the first conjunct, and deletion applies in the second conjunct. This deletion analysis is also proposed in Zamparelli (2000). For instance, in the deletion approach, (94a) is derived from (95a). Another example is (95b) (= (22b)).

- (95) a. Jane either ate rice or [~~ate~~ beans]. (See Schwarz 1999: 341)  
 b. Gianni has both eaten the pear and [~~eaten~~ the apple]. (Zamparelli 2000: 23)

One difference between Larson (1985) and Schwarz (1999) is that the latter claims that there is deletion in the second conjunct, whereas the former does not do so. Den Dikken (2006) correctly points out that in data like (91), there is nothing to elide. In (96a), however, it seems that deletion in the second conjunct, as in (96b), is a possible analysis.

- (96) a. Either this pissed Bill off or Sue. (den Dikken 2006: 695)  
 b. Either this pissed Bill off or ~~this~~-pissed Sue ~~off~~.

In this research, we care about the syntactic distance between R-C coordinators and the associated conjunctions. So long as we agree that the syntactic positions of the associate conjunctions are stable in the R-C coordinator constructions (see our comments on Munn's 1993 and Winter's 1998 approach below; also see 3.5.2 and 3.5.3), and that in languages such as English conjunctions occur between two conjuncts, what happens in the second conjunct does not affect our understanding of the distance between conjunctions and R-C coordinators, which are always outside the second conjunct. The implication of this statement is that we do not make any claim on the issue whether there is any deletion in the second conjunct of the construction. The dispute between Larson (1985) and Schwarz (1999) needs an independent study.

Another difference between Larson (1985) and Schwarz (1999) is that the former claims that the surface positions of R-C coordinators sometimes are and sometimes are not their base-generated positions, whereas the latter assumes that the surface positions are always the base-generated positions. In this paper, I study the issue of how far R-C coordinators can be away from the related conjunctions, and seek a unified account for the distance restriction and other dependencies between R-C coordinators and conjunctions. Based on their occurrence and form dependencies, I have concluded that the surface positions of R-C coordinators are never their base-positions. This conclusion is different from both that of Larson (1985) and Schwarz (1999).

A further issue involved in the R-C coordinator literature is whether the surface positions of such elements mark the left-periphery of the first conjunct. See Hendriks (2002; 2003) for a recent and comprehensive review of both Larson (1985) and Schwarz (1999), with respect to the issue. In our view, this depends on the answer of the issue above. If the

positions are landing sites of the movement of R-C coordinators, they are decided by the properties of the movement. As noted by Rooth & Partee (1982), the positions also correspond to the scope readings (see 5.4). It is possible that the positions mark the left-periphery of certain constituents, regardless of whether the constituents are the first conjuncts or not. As we know, it is not always the case that two conjuncts are of the same category (see Zhang 2007, among others). Moreover, it is well-known that not all coordinate complexes are symmetrical.

In Munn (1993) and Winter (1998), it is the coordinate complex rather than *either* that moves. Munn (1993: 187f) claims that if *either* occurs displaced from the coordinate complex, its selectional restrictions are not satisfied. If the disjunction *or* moves to the position of *either* at LF, and then the entire coordinate complex moves, he claims, the selectional restrictions will be satisfied. As we know, selectional restrictions must be satisfied in initial merge, rather than move (remerge). This approach thus runs against our basic understanding of syntactic operations.

#### **IV. The syntax of focus particles and the splitting of coordinator-clusters**

In this subsection, I describe how my new analysis accounts for the syntactic similarities between R-C coordinators and focus particles presented in Section 5.

I have adopted Hendriks's (2004) analysis in treating R-C coordinators as focus particles. However, I have further specified that they are focus particles parasitic on conjunctions. The fact that their syntax patterns with that of focus particles such as *even* and *only* (5) is thus captured. Focus particles have been claimed to be "admanythings" in Herburger (2000: 89). Compatible to Hendricks's claim, Johannessen (1998: 162) claims that R-C coordinators are not real coordinators. She argues that such elements not only do not conjoin anything, but also are phonologically stressed, unlike real coordinators, in languages such as Greek, French, and Dutch.

#### **V. The parallel focalization effect of coordinator doubling**

Finally, our approach also covers the property presented in 6: the parallel focalization effect of R-C coordinator constructions. Assuming coordinator clusters are clusters of focus-marking elements, we can explain why each element of a cluster is related to a focused element in R-C constructions.



The parallel focalization effect of R-C coordinator constructions is not mentioned in either Hendriks's nor Johannessen's (2005) focus particle approaches. Accordingly, the effect is not captured in their approaches.

I make it explicit that in languages where the occurrence of R-C coordinators is not obligatory, only focus particle-like coordinators take part in the computation of cluster formation and a sequential cluster-splitting in the derivations. In such languages, however, a regular coordinator does not take part in the computation of clusters, and it is not subject to the constraints on focus particles. The property reported in Section 6, namely, both R-C coordinators and their associated conjunctions show properties of focus particles, is captured by the assumption that both components of a coordinator cluster must occur to the left of an element with a [focus] feature. Accordingly, the syntax of both components of such clusters should pattern with that of focus particles in the language. For instance, for independent reasons, there is no post-verbal focus particle in Chinese. Accordingly, R-C coordinators do not occur postverbally in the language.

In this subsection, I have presented how my cluster-splitting analysis accounts for the five facts listed in Section 2 through Section 6.

### 8. The left-peripheral effects shown in the distribution of *both* and *neither*

In this section I address the issue of the distribution restrictions of certain R-C coordinators in English.

It has been claimed that *both...and* cannot conjoin matrix clauses (Schane 1966: 3, 4 fn. 1; Dik 1968: 273, 281):

- (97) a. Mary both [fulfilled her obligation] and [brought a bottle of wine].  
 b. \*Both [John laughed] and [he cried].  
 c. \*Both [John sang] and [Mary danced].  
 d. \*Both [I am reading] and [you are writing].

However, *both* can introduce conjoined subordinate clauses (Doughurty 1970b: 867, e.g. (155); Gazdar et al. 1985: 180 fn. 9; Sag et al. 1985: 138 fn. 10; McCawley 1988: 288):

- (98) a. Julie satisfied Curval both when she was the active member and when she was the passive member.  
 b. I'm absolutely certain that both [Tom will sing] and [Mary will dance].

- c. I returned to the house where both [I was born] and [my parents died].

The restriction is also claimed to apply to *neither...nor*. Data like the following (99c) seem to suggest that *neither...nor* cannot coordinate matrix clauses (McCawley 1988: 544 fn. 2; Schwarz 1999: 340 fn.). In contrast, *either...or* does not have this constraint, as seen in (99a) and (99b). However, *neither...nor* can coordinate embedded clauses, as seen in (100):

- (99) a. Either Mary needs a bath or something died here.  
 b. Either John laughed or he cried.  
 c. \* [(Neither) John laughed nor he cried]
- (100) a. John knows neither [who the murderer is] nor [where the body is].  
 b. John knows neither [the murderer] nor [where the body is]. (Munn 1993: 122)  
 c. John knows neither [where the body is] nor [the murderer].

However, we do find examples in which *both...and*, and *neither...nor* coordinate matrix clauses (see Johannessen 2005 sec. 4 for a discussion of the parallel observation in Norwegian and other Germanic languages):

- (101) a. Mary is both going to the wedding and she is attending the reception afterwards. (= (22c))  
 b. The gale had neither abated in the least, nor were there any signs of its abating. (= (23c)/(55b))  
 c. Neither had the gale abated, nor were there any signs of its abating. (= (55a))

In our perspective, it is not that *both...and* and *neither...or* cannot conjoin two matrix clauses. Instead, it is the correlative coordinator *both* and *neither* that are not or do not need to be spelled out at the left-peripheral position of matrix clauses. This means that if they do not move as far as to the left-periphery of a matrix clause, they can occur in matrix clauses. In (101a) and (101b), the correlative coordinators occur in non-peripheral positions of the matrix clauses.

The distribution restrictions are accounted for by the special syntactic properties of the left-periphery of matrix clauses. See Fitzpatrick (2003) for a discussion of the properties. It should not be surprising that the correlative coordinator *both*, like the complementizer *that*, cannot occur at the left-periphery of matrix clauses. The restriction of *that* is shown in (102a). As we know, matrix C can be taken by auxiliaries and modals, which have more semantic features than the complementizer *that*. Between modals and auxiliaries, the former have richer semantic features and they

cannot drop, as seen in (102b), whereas the latter have poorer semantic features and they can drop, as seen in (102c), (102d), and (102e):

- (102) a. (\*That) Mary picked up John at the airport.  
b. \*(Can) anyone pick up John at the airport?  
c. (Does) Anybody want a hot dog?  
d. (Has) Anyboody seen John today?  
e. (Is) Anybody going to the game?

I claim that the constraint on *both* and *neither* can have a unified account with other left-peripheral effects.

## 9. Summary

In this paper, I have argued that R-C coordinators and their associated conjunctions are base-generated as a cluster, which is split later in the derivation. Specifically, R-C coordinators are simply focus particles parasitic on conjunctions.

The main characteristics of this new analysis of R-C coordinator constructions are summed up as follows. This coordinator doubling approach is different from all other assumptions on R-C coordinators in that such a coordinator and its associated conjunction are base-generated in the same head position, as a cluster. This new analysis, first of all, explains the occurrence and form dependencies of R-C coordinators on conjunctions. Their parasitic nature is accounted for by their status as coordinator doubles. Moreover, we regard R-C coordinators as focus particles parasitic on conjunctions. They show the full set of properties of focus particles. Furthermore, the coordinator doubling approach also accounts for the focus particle properties of both conjunctions and R-C coordinators when they co-occur. We capture the pairing property of focalization of R-C coordinator constructions without resorting to any ATB movement of remnant and clausal conjunct hypothesis (contra Zamparelli 2000). In Zamparelli (2000), focused elements inside conjuncts move, and remnant conjuncts move later. In my approach, R-C coordinators move. Finally, the surface position variations of R-C coordinators are explained by various possible landing sites of cluster-splitting. The sites are subject to island constraints, as noted by Larson (1985).

In this approach, it is clear that unlike conjunctions, R-C coordinators do not head any projection (contra Collins 1988; Zwart 1995; Progovac

1997). Instead, they adjoin to other elements. Furthermore, their surface positions do not necessarily mark the left-periphery of coordinate complexes (see Larson 1985; contra Schwarz 1999). Instead, they occur wherever focus particles are allowed to occur, and their distance away from the associate conjunctions obey the constraints on movement chains.

## References

- Anandan, K. N. (1993) *Constraints on extraction from coordinate structures in English and Malayalam*. Ph.D. dissertation. Central Institute of English and Foreign Languages, Hyderabad, India.
- Bianchi, Valentina & Zamparelli, Roberto (2004) Edge coordinations: focus and conjunction reduction. In David Adger et al. (eds.), *Peripheries: Syntactic Edges and Their Effects*, pp. 313–327. Kluwer Academic Publishers.
- Bobaljik, Jonathan David & Brown, Sam (1997) Inter-arboreal operations: head-movement and the extension requirement. *Linguistic Inquiry* 28: 345–356.
- Boeckx, Cedric (2003) (In)Direct Binding. *Syntax* 6: 213–236.
- Bouma, Gosse, Hendriks, Petra & Hoeksema, Jack (2004) *Focus particles inside prepositional phrases: A comparison of Dutch, English and German*. Ms., University of Groningen.
- Jayaseelan, Karattuparambil A. (2001) Questions and question-word incorporating quantifiers in Malayalam. *Syntax* 4: 63–93.
- Carden, Guy (1970) The Deep Structure of “Both”. In M. Campbell et al. (ed.), *Papers from the Sixth Regional Meeting of the Chicago Linguistic Society*, pp. 178–189. Chicago: Chicago Linguistic Society.
- Carlson, Greg (1983) Marking constituents. In Frank Heny & Barry Richards (eds.), *Linguistic Categories: Auxiliaries and Related Puzzles. Vol. I: Categories*, pp. 49–68. Dordrecht: Reidel.
- Chomsky, Noam (1994) Bare Phrase Structure. *MIT Occasional Papers in Linguistics* 5.
- (1995) *The Minimalist Program*. Cambridge, MA: MIT Press.
- Collins, Christopher (1988a) *Part 1. Conjunction Adverbs*. Ms., MIT.
- (1988b) *Part 2. Alternative Analysis of Conjunction*. Ms., MIT.
- Culicover, Peter W. & Jackendoff, Ray (1997) Semantic subordination despite syntactic coordination. *Linguistic Inquiry* 28: 195–217.
- Den Dikken, Marcel (2006) Either-float and the syntax of co-ordination. *Natural Language and Linguistic Theory* 24 (3): 689–749.
- Dik, Simon C. (1968) *Coordination: Its implications for the theory of general linguistics*. Amsterdam: North-Holland publishing company.
- Dougherty, Ray C. (1970) A Grammar of Coordinate Conjoined Structures: I. *Language* 46: 850–898.
- Embick, David (2006) *Linearization and local dislocation: derivational mechanics and interactions*. Ms. University of Pennsylvania.

- Fitzpatrick, Justin M. (2003) Deletion through movement. Paper presented at the 26th GLOW Colloquium, University of Lund, Sweden.
- Gazdar, Gerald, Klein, Ewan, Pullum, Geoffrey & Sag, Ivan (1985) *Generalized phrase structure grammar*. Oxford: Basil Blackwell.
- Halpern, Aaron (1995) *On the placement and morphology of clitics*. Stanford, Palo Alto: CSLI Publications.
- Haspelmath, Martin (2007) Coordination. In Timothy Shopen (ed.) *Language typology and syntactic description, vol. II: Complex constructions*, pp. 1–51. 2nd ed. Cambridge: Cambridge University Press.
- Hendriks, Petra (2002) “Either” as a focus particle. Ms., University of Gronigen.
- (2003) “Either” as a focus particle. Ms., University of Gronigen.
- (2004) *Either, both and neither* in coordinate structures. In Alice ter Meulen & Werner Abraham (eds.), *The Composition of Meaning: from Lexeme to Discourse*, pp. 115–138. Amsterdam: John Benjamins.
- Herburger, Elena (2000) *What Counts: Focus and Quantification*. Cambridge, Mass.: The MIT Press.
- Heycock, Caroline & Zamparelli, Roberto (2005) Friends and colleagues: plurality, coordination, and the structure of DP. *Natural Language Semantics* 13.3: 201–270.
- Horn, Laurence (1996) Exclusive company: *only* and the dynamics of vertical inference. *Journal of Semantics* 13: 1–40.
- Hornstein, Norbert (2001) *Move! A Minimalist Theory of Construal*. Cambridge, Mass.: Blackwell.
- Hornstein, Norbert & Nunes, Jairo (2002) On Asymmetries Between Parasitic Gap and Across-the-Board Constructions. *Syntax* 5: 26–54.
- Hornstein, Norbert & Kiguchi, Hirohisa (2003) PRO gate and movement. In Sudha Arunachalam, Elsi Kaiser & Alexander Williams (eds.), *Proceedings of the 25th annual Penn Linguistics Colloquium. University of Pennsylvania Working Papers in Linguistics* 8.1, pp. 33–46. Pennsylvania: Penn Linguistics Club.
- Johannessen, Janne Bondi (1998) *Coordination*. Oxford: Oxford University Press.
- (2005) The syntax of correlative adverbs. *Lingua*, to appear.
- Kayne, Richard (1994) *The Antisymmetry of Syntax*. Cambridge, Mass.: The MIT Press.
- (2002) Pronoun and their Antecedents. In Samuel Epstein & Daniel Seely (eds.), *Derivation and Explanation in the Minimalist Program*, pp. 133–166. Massachusetts: Blackwell.
- Krifka, Manfred (1992) A compositional semantics for multiple focus constructions. In Joachim Jacobs (ed.), *Informationsstruktur und Grammatik*, pp. 17–53. Opladen: Westdeutscher Verlag.
- Lakoff, George & Peters, Stanley (1966) Phrasal Conjunction and Symmetric Predicates. *Mathematical Linguistics and Automatic Translation. Harvard Computation Laboratory*. Report No. NSF-17: VI-1 to VI-49.
- Lang, Ewald (1984) *The Semantics of Coordination*. Amsterdam: John Benjamins.
- Larson, Richard (1985) Bare NP Adverbs. *Linguistic Inquiry* 16: 595–621.
- Lewis, Geoffrey L. (1967) *Turkish grammar*. Oxford: Clarendon Press.
- Liptak, Aniko (2001) *On the syntax of wh-items in Hungarian*. PhD. Dissertation, University of Leiden.

- Lü, Shuxiang et al. (1980) *Xiandai Hanyu Babai Ci* [800 Words in Chinese]. (Second edition 1999.) Beijing: Shangwu Press.
- McCawley, James (1988) *The Syntactic Phenomena of English*. Chicago: Chicago University Press.
- Munn, Alan (1993) *Topics in the syntax and semantics of coordinate structures*. Doctoral dissertation, University of Maryland, College Park.
- Neijt, Anneke (1979) *Gapping: A Contribution to Sentence Grammar*. Dordrecht: Foris Publications.
- Nunes, Jairo (1995) *The Copy Theory of Movement and Linearization of Chains in the Minimalist Program*. PhD Dissertation, University of Maryland.
- (2001) Sideward Movement. *Linguistic Inquiry* 32: 303–344.
- Nunes, Jairo & Uriagereka, Juan (2000) Cyclicity and extraction domain. *Syntax* 3 (1): 20–43.
- Nunes, Jairo & Hornstein, Norbert (2002) On Asymmetries between Parasitic Gaps and Across-the-Board Constructions. *Syntax* 5: 26–54.
- Payne, John (1985) Complex Phrases and Complex Sentences. In Timothy Shopen (ed.), *Language Typology and Syntactic Description*, pp. 3–41. Cambridge: Cambridge University.
- Pesetsky, David (1982) *Paths and categories*. Doctoral dissertation, MIT.
- Progovac, Ljiljana (1997) Slavic and the Structure for Coordination. In Martina Lindseth & Steven Franks (eds.), *Formal Approaches to Slavic Linguistics: The Indiana Meeting 1996*, pp. 207–224. Ann Arbor: Michigan Slavic Publications.
- Progovac, Ljiljana (1998a) Structure of coordination. Part I. *GLOT International* 3 (7): 3–6.
- (1998b) Structure of coordination. Part II. *GLOT International* 3 (8): 3–9.
- (1999) Events and economy of coordination. *Syntax* 2: 141–159.
- (2002) Correlative conjunctions and events: A reply to a reply. *Syntax* 5: 277–283.
- Rooth, Mats (1985) *Association with focus*. Doctoral dissertation, University of Massachusetts, Amherst.
- Rooth, Mats & Partee, Barbara (1982) Conjunction, type ambiguity and wide scope *or*. In Daniel Flickenger, Marlys Macken & Nancy Wiegand (eds.), *Proceedings of the First West Coast Conference on Formal Linguistics*, pp. 353–362. Stanford: Stanford University, Linguistics Department.
- Ross, John Robert (1967) *Constraints on variables in syntax*. Ph.D. dissertation, MIT, Cambridge, Mass.
- Sag, Ivan, Gazdar, Gerald, Wasow, Thomas and Weisler, Steven (1985) Coordination and how to distinguish categories. *Natural Language and Linguistic Theory* 3: 117–171.
- Schachter, Paul (1985) Parts-of-speech systems. In Timothy Shopen (ed.), *Language typology and syntactic description, Vol. 1*, pp. 3–61. Cambridge: Cambridge University Press.
- Schane, Sanford (1966) *A schema for sentence coordination*. Information System Language Studies 10, MTP–10. Bedford: The MITRE Corporation.

- Schmerling, Susan (1975) Asymmetric Conjunction and Rules of Conversation. In Peter Cole & Jerry L. Morgan (eds.), *Syntax and Semantics, 3: Speech Acts*, pp. 210–231. New York: Academic Press.
- Schwarz, Bernhard (1999) On the Syntax of Either ... Or. *Natural Language and Linguistic Theory* 17: 339–370.
- Schwarzschild, Roger (1996) *Pluralities*. Dordrecht: Kluwer Academic Publishers.
- Sridhar, S. N. (1990) *Kannada*. New York: Routledge.
- Stassen, Leon (2000) AND-languages and WITH-languages. *Linguistic Typology* 4,1–54.
- Stechow, Arnim von (1991) Current Issue in the Theory of Focus. In Arnim von Stechow & Dieter Wunderlich (eds.), *Semantik. Ein internationales Handbuch der zeitgenössischer Forschung*, pp. 804–825. Berlin/New York: de Gruyter.
- Stockwell, Robert P., Schachter, Paul & Partee, Barbara Hall (1973) *The Major Structures of English*. New York: Holt, Rinehart and Wilson.
- Taglicht, Josef (1984) *Message and emphasis: On focus and scope in English*. London/New York: Longman.
- Tsohatzidis, Savas L. (2001) Correlative and noncorrelative conjunctions in argument and nonargument positions. *Syntax* 4: 23–33.
- Vermeulen, Reiko (2008) Nonconstituent coordination in Japanese: A case of phonological reordering. *Linguistic Inquiry* 39: 345–354.
- Vries, Mark De (2005) Coordination and syntactic hierarchy. *Studia Linguistica* 59: 83–105.
- Winter, Yoad (1998) *Flexible boolean semantics: Coordination, plurality and scope in natural language*. Doctoral Dissertation, University of Utrecht.
- (2001) *Flexibility Principles in Boolean Semantics: The interpretation of coordination, plurality, and scope in natural language*. Cambridge: MIT Press.
- Zamparelli, Roberto (2000) *Distributive coordination and sentence reduction*. Ms., Università di Bergamo.
- Zhang, Niina Ning (2000) Object Shift in Mandarin Chinese. *Journal of Chinese Linguistics* 28 (2): 201–246.
- (2006) On the Configuration Issue of Coordination. *Language and Linguistics* 7 (1): 175–223.
- (2007) On the Categorical Issue of Coordination. *Lingua et Linguistica* 1: 7–46.
- (Forthcoming) *Coordination in Syntax*. Cambridge: Cambridge University Press.
- Zhou, Gang (2002) *Lianci yu xiangguan wenti* [coordinators and the relevant issues], Hefei: Anhui Jiaoyu Press.
- Zhu, Dexi (1980) *Yufa Jiangyi* [Lectures on grammar]. Beijing: Shangwu Press.
- Zoerner, Cyril Edward (1995) *Coordination: The Syntax of &P*. Doctoral Dissertation, University of California, Irvine.
- Zwart, C. Jan-Wouter (1995) Review of Johannessen, J. B., *Coordination: A Minimalist Approach*. *Glott International* 1: 11–13.

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